A REVISION OF THE AUSTRALASIAN GROUND SPIDERS OF THE FAMILIES AMMOXENIDAE, CITHAERONIDAE, GALLIENIELLIDAE, AND TROCHANTERIIDAE (ARANEAE: GNAPHOSOIDEA)

NORMAN I. PLATNICK

Peter J. Solomon Family Curator of Spiders
Division of Invertebrate Zoology
American Museum of Natural History;
Adjunct Professor, Department of Biology
City College, City University of New York;
Adjunct Professor, Department of Entomology
Cornell University;
Adjunct Senior Research Scientist
Center for Environmental Research
and Conservation, Columbia University

BULLETIN OF THE AMERICAN MUSEUM OF NATURAL HISTORY
CENTRAL PARK WEST AT 79TH STREET, NEW YORK, NY 10024
Number 271, 243 pp., 661 figures, 50 maps
Issued September 19, 2002

Copyright © American Museum of Natural History 2002 ISSN 0003-0090

CONTENTS

Abstract 3
Introduction 4
  Collections Examined 4
Relationships 5
Ammoxenidae Simon 10
  Key to Genera and Species 10
    Austrammo, new genus 12
    Barrowammo, new genus 18
Cithaeronidae Simon 20
    Cithaeron O. P.-Cambridge 20
Gallieniellidae Millot 21
  Key to Genera 21
    Meedo Main 21
    Neato, new genus 39
    Oreo, new genus 49
    Peeto, new genus 56
    Questo, new genus 58
Trochanteriidae Karsch 60
  Key to Genera 60
  Trochanteriinae Karsch, new rank 63
    Platyoides O. P.-Cambridge 63
    Tinytrema, new genus 65
    Olin Deeleman-Reinhold 71
    Desognaphosa, new genus 72
  Trachycosminae, new subfamily 107
    Trachycosmus Simon 107
    Trachytrema Simon 117
    Trachyspina, new genus 123
  Morebilinae, new subfamily 129
    Morebilus, new genus 129
    Longrita, new genus 149
    Pyrnus Simon 163
    Platorish, new genus 174
    Fissarena Henschel, Davies, and Dickman 181
    Boolathana, new genus 193
    Hemicloeina Simon 199
    Rebilus Simon 208
Acknowledgments 235
Supplement 235
References 240
Index of Specific Names 243

ABSTRACT

The Australasian ground spiders belonging to the ''lower gnaphosoid'' families (i.e., those gnaphosoids that retain a plesiomorphic, complete distal article on the anterior lateral spinnerets) are monographed. The families Ammoxenidae and Cithaeronidae are newly recorded from Australia, and the Australian fauna of the family Gallieniellidae is documented for the first time. Australia is thus the only continent known to house members of all seven currently recognized gnaphosoid families.

Ammoxenids, previously known only from southern Africa, are represented in Australia by the new genera *Austrammo* (described for four new species) and *Barrowammo* (described for one new species). Cithaeronids are represented by the widespread type species, *Cithaeron praedonius* O. P.-Cambridge, newly recorded from the Northern Territory.

The Australian gallieniellid fauna consists of five genera: *Meedo* Main, here transferred from the Clubionidae, and four new genera: *Neato* (described for seven new species), *Oreo* (described for six new species), and *Peeto* and *Questo* (each described for one new species). The male of *Meedo houstoni* Main is described for the first time, as are 12 new species of that genus.

The world trochanteriid fauna consists of 18 genera, of which 15 occur in Australasia; the 18 genera are newly assigned to subfamilies (the relimited Trochanteriinae plus the new subfamilies Trachycosminae and Morebilinae). Within the Trochanteriinae, *Corimaethes* Simon is newly synonymized with *Platyoides* O. P.-Cambridge, and its Western Australian type species, *C. campestratus* Simon, is placed as a junior synonym of the African species *P. walteri* (Karsch); the species is presumed to have been introduced into Australia prior to 1905 but seems not to have become established. The genus *Olin* Deeleman-Reinhold, recently described for a species from Sulawesi, is newly recorded from an Australian Indian Ocean territory, Christmas Island. The new genera *Tinytrema* and *Desognaphosa* are described for five and 26 new species, respectively. *Tinytrema* is known only from Australia (including Tasmania); *Desognaphosa* species occur primarily in northern Queensland, but one extends into New South Wales and one is described from the Solomon Islands.

The subfamily Trachycosminae includes the Australian genera *Trachycosmus* Simon and *Trachytrema* Simon, both newly transferred from the Gnaphosidae, plus the new genus *Trachyspina* (described for seven new species). The male of *Trachytrema castaneum* Simon is newly described, as are one new species of that genus and three of *Trachycosmus*.

The subfamily Morebilinae includes four described and four new genera. *Hemicloeina* Simon and *Pyrnus* Simon are transferred to the Morebilinae from the Gnaphosidae, and *Fissarena* Henschel, Davies, and Dickman is transferred from the Liocranidae. *Hemicloea plagusia* (Walckenaer), *H. fumosa* L. Koch, *H. cineracea* L. Koch, *Rebilus diversus* (L. Koch), *R. praesignus* (L. Koch), and *R. swarbrecki* Dunn and Dunn are transferred to the new genus *Morebilus*; *M. cineraceus* and *M. praesignis* are placed as junior synonyms of *M. fumosus* and *M. diversus*, respectively; and nine new species of *Morebilus* are described. *Hemicloea insidiosa* Simon is transferred to the new genus *Longrita*, its male is described for the first time, and eight new species of *Longrita* are described. *Hemicloea plana* L. Koch and *Rebilus obscurus* Berland are transferred to *Pyrnus*; six new species of *Pyrnus* are described from Australia, Lord Howe Island, and New Caledonia. *Pyrnus flavitarsis* (L. Koch) is transferred to the new genus *Platorish*, its male is described for the first time, and four new species of *Platorish* are described. *Rebilus castaneus* Simon and *Hemicloea longipes* Hogg are transferred to *Fissarena*, and the male of the former species is described for the first time, as are six new species of *Fissarena* and 16 new species of *Rebilus* Simon (which is newly assigned to the Morebilinae). The genus *Boolathana* is described for two new species from Western Australia. Adults of *Hemicloeina somersetensis* (Thorell) are described for the first time, and seven new species from Australia and New Guinea are assigned to *Hemicloeina*. The lamponid generic name *Centrina* Platnick is preoccupied and is replaced by *Centroina*. A supplement adds new records for many species, as well as descriptions of the new species *Trachyspina daunton* and *Longrita nathan* and of the first known male of *Morebilus blackdown*, new species.

INTRODUCTION

Gnaphosoids represent a significant fraction of the world's spider diversity; the true Gnaphosidae alone comprise almost 2000 currently valid species and thus constitute the seventh largest spider family (Platnick, 2001). Despite their diversity, abundance, and importance as predators of other nonvertebrates, the higher-level classification of gnaphosoids has remained tenuous throughout the history of systematic work on the group. The current classification of the superfamily was based largely on a survey of spinneret spigot morphology (Platnick, 1990). Although that classification has worked reasonably well for gnaphosoids from most parts of the world, numerous problems have been encountered in attempting to place members of the Australasian fauna. An attempt to solve some of those problems was presented by Platnick (2000), who radically relimited the previously monogeneric family Lamponidae and suggested that lamponids are more closely related to the Gnaphosidae and Prodidomidae than to the other currently recognized gnaphosoid families.

The present paper attempts to deal similarly with the Australasian representatives of the ''lower gnaphosoid'' families—i.e., those spiders that appear to be gnaphosoids but still retain a complete distal article on the anterior lateral spinnerets. The best-founded synapomorphy for gnaphosoids seems to be their highly modified posterior median eyes, in which the normal dome-shaped focusing lens has been lost and the flattened, irregularly shaped eye surface is frequently ridged. It seems clear that these highly modified posterior median eyes do not function in normal vision (i.e., do not focus an image). Dacke et al. (1999) suggested that they function instead as filters for polarized light and that the spiders use cues from the direction of polarization to return to their retreats after foraging trips. Unfortunately, Dacke et al., despite advice to the contrary from one of the coauthors of that paper (D. Blest, in litt.), implied a link between the presence of canoe-shaped tapeta and this specialized sensitivity to polarized light. Canoe-shaped tapeta are found in a vastly larger set of spider families, including thousands of species whose posterior median eyes have normal, light-focusing lenses. It seems likely that the sensitivity to polarized light is associated with the posterior median eye modifications of gnaphosoids, rather than with canoe-shaped tapeta per se.

The gnaphosoids that retain a distal article on the anterior lateral spinnerets (i.e., have the spigots of those spinnerets surrounded by a ring of seta-bearing cuticle that separates the spigot area from the soft cuticle proximal to the ring) are currently assigned to four families: the Ammoxenidae, Cithaeronidae, Gallieniellidae, and Trochanteriidae. Both the Ammoxenidae and Cithaeronidae are here newly recorded from Australia; ammoxenids have previously been known only from southern Africa, and cithaeronids only from other parts of the Old World. Although the existence of Australian gallieniellids has been known for some time (Platnick, 1990), the only previously described Australian representative of the family (*Meedo houstoni* Main) was misplaced in the Clubionidae. Australia is thus the only continent known to house members of all seven currently recognized gnaphosoid families.

Of all these taxa, it is probably those assigned below to the trochanteriid subfamily Morebilinae that pose the most serious questions for higher-level gnaphosoid interrelationships, as their posterior median eyes are only slightly, if at all, flattened. Functional studies of the eyes of these taxa, designed to determine whether their lenses can focus an image, or whether those eyes are used for polarized light detection, or both, would be most welcome. Pending such information, the many similarities of these taxa to the new genus *Trachyspina* and other trochanteriids suggest that the subfamily is best placed here, even if eventually a reversal in the posterior median eye function character must be posited in order to retain the morebilines within the Gnaphosoidea.

COLLECTIONS EXAMINED

AMNH	American Museum of Natural History
AMS	Australian Museum, Sydney, M. Gray
ANIC	Australian National Insect Collection, Canberra, R. Halliday

BMNH	Natural History Museum, London, J. Beccaloni
CAS	California Academy of Sciences, San Francisco, C. Griswold
CBB	B. Baehr, München
CCD	C. Deeleman, Ossendrecht, Netherlands
CSID	CSIRO, Darwin, T. Churchill
CVIC	Central Victoria Regional Insect Collection, La Trobe University, Bendigo, Victoria, J. Shield
FCTH	Tasmanian Forest Invertebrate Collection, Hobart, R. Bashford
FMNH	Field Museum of Natural History, Chicago, P. Sierwald
FSCA	Florida State Collection of Arthropods, Gainesville, G. Edwards
HNHM	Hungarian Natural History Museum, Budapest, S. Mahunka, J. Balogh
MNHN	Muséum National d'Histoire Naturelle, Paris, C. Rollard
MNT	Museum and Art Gallery of the Northern Territory, Darwin, G. R. Brown, G. Dally
MONZ	Museum of New Zealand, P. Sirvid
NMV	Museum of Victoria, Abbotsford, G. Milledge
NMVS	Museum of Victoria survey collection, A. Yen
NRS	Naturhistoriska Riksmuseet, Stockholm, T. Kronestedt
OMD	Otago Museum, Dunedin, J. Darby
QMB	Queensland Museum, Brisbane, R. Raven
QVM	Queen Victoria Museum, Launceston, L. McGowan
SAM	South Australian Museum, Adelaide, D. Hirst
TMH	Tasmanian Museum, Hobart, E. Turner
USNM	National Museum of Natural History, Smithsonian Institution, Washington, J. Coddington, S. Larcher
WAM	Western Australian Museum, Perth, M. Harvey, J. Waldock
ZMB	Museum für Naturkunde, Berlin, M. Moritz
ZMH	Zoologisches Museum, Hamburg, H. Dastych

RELATIONSHIPS

Platnick (1990) allocated those gnaphosoids with unmodified piriform gland spigots to five families (the Cithaeronidae, Gallieniellidae, Trochanteriidae, Ammoxenidae, and Lamponidae) and suggested that the other two gnaphosoid families (the Gnaphosidae and Prodidomidae) might be sister groups, united by the loss of a sclerotized ring on the anterior lateral spinnerets. The sclerotized ring apparently represents the remnants of a plesiomorphically present distal article on those spinnerets. Such a ring is found in the various ''clubionoid'' families that presumably include the closest relatives of gnaphosoids. Platnick (2000) argued that lamponids have an intermediate condition, in which the sclerotized ring is present but incomplete, and that they represent the sister group of Gnaphosidae plus Prodidomidae. The name of one of the lamponid genera included in that analysis, *Centrina* Platnick, is a homonym of the fish name *Centrina* Cuvier and is therefore here replaced by *Centroina* (**NEW NAME**).

To investigate the interrelationships of the members of the remaining four families, a data matrix was compiled that includes 42 taxa: the 33 genera assigned below to the Ammoxenidae, Cithaeronidae, Gallieniellidae, and Trochanteriidae, plus nine outgroup taxa. Three genera represent the family Gnaphosidae: *Gnaphosa* Latreille and *Zelotes* Gistel, as typical gnaphosids, and *Hemicloea* Thorell (included because of the historical confusion between hemicloeine gnaphosids and trochanteriids). The Prodidomidae are represented by *Prodidomus* Hentz and *Lygromma* Simon, and the Lamponidae by *Lampona* Thorell and *Centrothele* L. Koch. Two genera of the family Corinnidae are used to root the tree: the type genus *Corinna* C. L. Koch and the tracheline genus *Trachelas* L. Koch. Both *Corinna* and *Trachelas* have historically been heterogeneous groups, and comparisons in each case have been made with their type species (and not, for example, with the New World taxa currently misplaced in *Trachelas*).

An extensive search was made for new characters that might be relevant to resolving the relationships of these taxa, and some have been found. The data matrix (fig. 1) comprises 34 characters (plus an initial all-zero dummy character, no. 0).

CHARACTERS

The flattened posterior median eyes of gnaphosoids, which lack dome-shaped, light-focusing lenses, were coded as character 1.

	Character Number						
	5	1	1	2	2	3	
Genus		0	5	0	5	0	
Corinna	00000	00000	00010	00001	01000	00000	00000
Trachelas	00000	00000	00010	01001	00000	00000	00000
Ammoxenus	01102	--001	11000	01000	00000	11000	00000
Rastellus	01102	--000	10000	00000	00000	11000	00000
Austrammo	01100	00000	10000	00001	00000	11000	00000
Barrowammo	01100	00000	11000	00000	00000	11000	00000
Cithaeron	01100	00001	01000	00000	10000	00000	00000
Inthaeron	01100	00001	01000	01000	10000	00000	00000
Gallieniella	01100	00010	00010	00001	00100	00010	00000
Legendrena	01100	00010	00010	00001	00100	00010	00000
Drassodella	01100	00010	00010	01001	00100	00010	00000
Galianoella	01100	00010	00010	01000	00100	00000	00000
Meedo	01100	00012	01000	11000	00100	00100	00000
Neato	01100	00012	01010	01000	00100	00100	00000
Oreo	01100	00012	01000	01000	00100	00100	00000
Peeto	01100	00012	00000	01000	00100	00100	00000
Questo	01100	00012	00010	01000	00100	00100	00000
Desognaphosa	01100	00000	00120	00001	01100	00000	00001
Olin	01100	00000	00120	01001	01100	00000	00001
Doliomalus	01100	00000	00121	11000	01000	00001	00000
Plator	01100	00000	00121	11000	01000	00000	00000
Platyoides	01100	00000	00111	11000	01110	00001	00000
Trochanteria	01100	00000	00111	11000	01110	00001	00000
Tinytrema	01100	00000	00121	00000	01110	00000	00000
Trachycosmus	01100	00000	00110	11001	01100	00000	10100
Trachytrema	01100	00000	00110	?1001	01100	00000	10110
Trachyspina	01100	00000	00110	01001	01100	00000	10110
Morebilus	01100	00000	00101	11111	01101	00001	10000
Longrita	01100	00000	00101	11111	01101	00001	10000
Pyrnus	01100	00000	00101	01111	01101	00001	10000
Platorish	01100	00000	00101	11111	01001	00000	10000
Rebilus	01100	00000	00101	01111	01100	00000	11000
Hemicloeina	01100	00000	00101	11111	01100	00000	11000
Fissarena	01100	00000	00101	11111	01100	00000	11000
Boolathana	01100	00000	00101	11111	01100	00000	11000
Lampona	01110	00100	00010	00001	00000	00000	00000
Centrothele	01110	00100	00010	00001	00100	00000	00000
Prodidomus	01111	01000	01010	10001	00100	01000	00000
Lygromma	01111	01000	00010	00000	00000	00000	00000
Gnaphosa	01111	10000	00010	01001	00000	00000	00000
Zelotes	01111	10000	00010	01001	00000	00000	00000
Hemicloea	01111	10000	00111	00001	00010	00001	00000

Fig. 1. Character matrix for 42 genera; see text for character descriptions.

For the purposes of this analysis, the eight morebiline genera were not coded differently from other gnaphosoids. Although they may prove to have an intermediate (or even reversed) state of this character, when functional studies of their eyes can be carried out, it seemed preferable to allow other characters to speak to the issue of morebiline monophyly.

A second putative gnaphosoid synapomorphy, oblique depressed endites, was coded as character 2; although less obvious in flattened animals like trochanteriids and hemicloeines than in typical gnaphosoids, it does seem to be present throughout the group (with homoplasy in some clubionoids, however). The flattened carapace, with eye rows widespread across its width, found in those forms was coded as character 12. Some taxa have the eye rows narrow and set on a tubercle (character 28; the eye tubercle of *Ammoxenus* Simon is situated much more posteriorly than in other taxa, and it was not coded as homologous). The posterior margin of the carapace, when reflected anteriorly, was coded as character 13 (with the reflected margin coded as either a narrow rim, in state 1, or a broad ledge, in state 2).

The chelicerae contributed five characters: the tubuliform, porrect chelicerae typical of gallieniellids (character 8); the enlarged, desid-like chelicerae found in *Olin* Deeleman-Reinhold and *Desognaphosa*, new genus (character 34); the loss of cheliceral teeth in some taxa (character 11); the presence of a deep constriction across the base of the paturon (fig. 352; character 21); and an elongated fang (character 22).

The loss of a serrula on the palpal endites was coded as character 15 (both states occur within *Trachytrema* Simon, which was therefore coded as unknown). A greatly shortened labium (character 27) is found in Australian gallieniellids. An inclined anterior sternal lip (fig. 351) constituted character 29, and the presence of detached intercoxal extensions of the sternum (fig. 351) was coded as character 30.

The internally invaginated postepigastric abdominal sclerites characteristic of lamponids were coded as character 7. Spinneret morphology contributed several characters: anterior lateral spinnerets composed of only one article (character 3); enlarged piriform gland spigots that are larger than the major ampullate gland spigots (character 4, state 1); piriform gland spigots lost (character 4, state 2); greatly widened piriform gland spigots (character 5); piriform gland spigots with elongated bases accompanied by plumose setae (character 6); anteriorly advanced posterior median spinnerets (character 10); and female posterior median spinnerets with two parallel rows of cylindrical gland spigots (character 16).

Leg tarsi subdivisions were coded as pseudosegmented when regular (character 9, state 1) or ''cracked'' when irregular (as in Australian gallieniellids; character 9, state 2). Laterigrade legs were coded as character 14; the independence of this character from general body flattening is demonstrated by the trachycosmine genera, which have a flattened carapace and wide eye rows but lack laterigrade legs.

A greatly elongated trochanter IV, which is at least 1.5 times longer than trochanter III, constituted character 23; although the family name Trochanteriidae reflects this bizarre character, it is found in only a few of the flattened trochanteriid genera (and also in some hemicloeine gnaphosids).

A female palpal tarsus bearing a distal group of short, wide, whorled macrosetae (figs. 3–8) was coded as character 25, and the reduction of the female palpal claw to a nubbin that is shorter than the terminal macrosetae constituted character 26. The peculiar distal setae on the palpal tarsus of ammoxenid females (character 25) should not be confused with the dorsal pad of thick setae found, for example, on the palpal tarsus in both sexes of the new genus *Austrammo* (fig. 21).

Male palpal morphology contributed several characters: a basal apophysis on the tibia (character 17); a bipartite median apophysis (character 18); a dorsal cymbial scopula (character 19); a cymbium prolonged as a straight, narrow tube as long as the palpal bulb (character 20); a longitudinally oriented, massive, thickened embolus situated medially on the palpal bulb (character 24); and a posteriorly situated paracymbium (character 33). The type of palpal conformation found in *Rebilus* Simon and similar genera, in

which the embolus is squeezed between the median apophysis and conductor, was coded as character 31, and a conformation involving a distally protruding terminal apophysis, found in *Trachycosmus* Simon and similar genera, constituted character 32.

Analysis

Because initial runs indicated that this data matrix, like most others, includes substantial amounts of homoplasy, analysis using equally weighted characters was clearly inappropriate; the homoplasy itself provides ample evidence that the assumption that each character deserves equal weight is simply false. The data were therefore analyzed using implied weighting (Goloboff, 1993), as implemented in Pee-Wee, version 2.7 (Goloboff, 1997); the states of the few multistate characters were each presumed to be independent modifications and were therefore considered unordered. The program lowers the weight of homoplasious characters using a concave function; the full range of settings (1–6) for that function was used, together with the mult*20 command, to randomize the taxon order, construct a weighted cladogram, and apply tree-bisection and reconnection algorithms, with the process repeated 20 times using a different random number seed. The program produced the same three cladograms (with different total weights, of course) at concavity settings 1–5; at concavity setting 6, three additional cladograms were found.

Of these cladograms, one found at all concavities (fig. 2) was selected as the preferred hypothesis. The other two cladograms also found at all settings differ only in minor details within the Australian gallieniellids: one resolves node 70 (showing *Meedo* Main and *Oreo*, new genus as sister groups), whereas the other resolves node 72 (placing *Neato*, new genus as the sister group of node 70).

As a check on these results, an alternative, if somewhat less sophisticated, method of a posteriori character weighting (successive approximations weighting; Farris, 1969) was applied to the matrix, using Hennig86, version 1.5 (Farris, 1988). This implementation is not completely satisfactory, as it sometimes assigns characters a weight of 0 (i.e., ignores them altogether), but it does provide a useful comparison. Initial runs (using the h, h*, m, and m* tree-generating algorithms together with the bb* branch swapper) each found 120 cladograms of length 76 (consistency index 0.48, retention index 0.82). Four rounds of successive approximations character weighting stabilized on two cladograms. Again, the differences were minor. One cladogram differs from the preferred arrangement (fig. 2) in showing trichotomies at nodes 45 and 57 (i.e., nodes 44 and 56 are not resolved) and resolving node 77 (with *Barrowammo*, new genus as the sister group of node 42). The other merely shows the same two trichotomies.

Conclusions

The superfamily Gnaphosoidea is resolved at node 80, on the basis of the modified posterior median eyes and obliquely depressed endites (but is not seriously tested by this analysis, especially given the uncertain nature of morebiline eyes). The ''higher gnaphosoids,'' as resolved by Platnick (2000), appear as node 59, supported by the loss of a distal article on the anterior lateral spinnerets, with the expected relationships among lamponids, prodidomids, and gnaphosids (including true hemicloeines).

Novel in this analysis are two groupings of the ''lower gnaphosoid'' families, with the Ammoxenidae and Cithaeronidae clustering at node 78, and the Gallieniellidae and Trochanteriidae clustering at node 75. Support for the first grouping is extremely weak (a homoplasious change from a narrow posterior rim on the carapace to none). The second grouping is better supported, as the two homoplasious characters involved (parallel rows of cylindrical gland spigots on the female posterior median spinnerets, and an elongated fang) are uncoordinated elsewhere in the cladogram (note, though, that the spigot character is a synapomorphy of clade 75 for only some resolutions of the basal trichotomy at node 80, whereas all other synapomorphies reported here are common to all dichotomous resolutions). Cithaeronids are united at node 43 by pseudosegmented tarsi and a prolonged male cymbium. Ammoxenids are united at node 77 by anteriorly advanced posterior median spinnerets (most

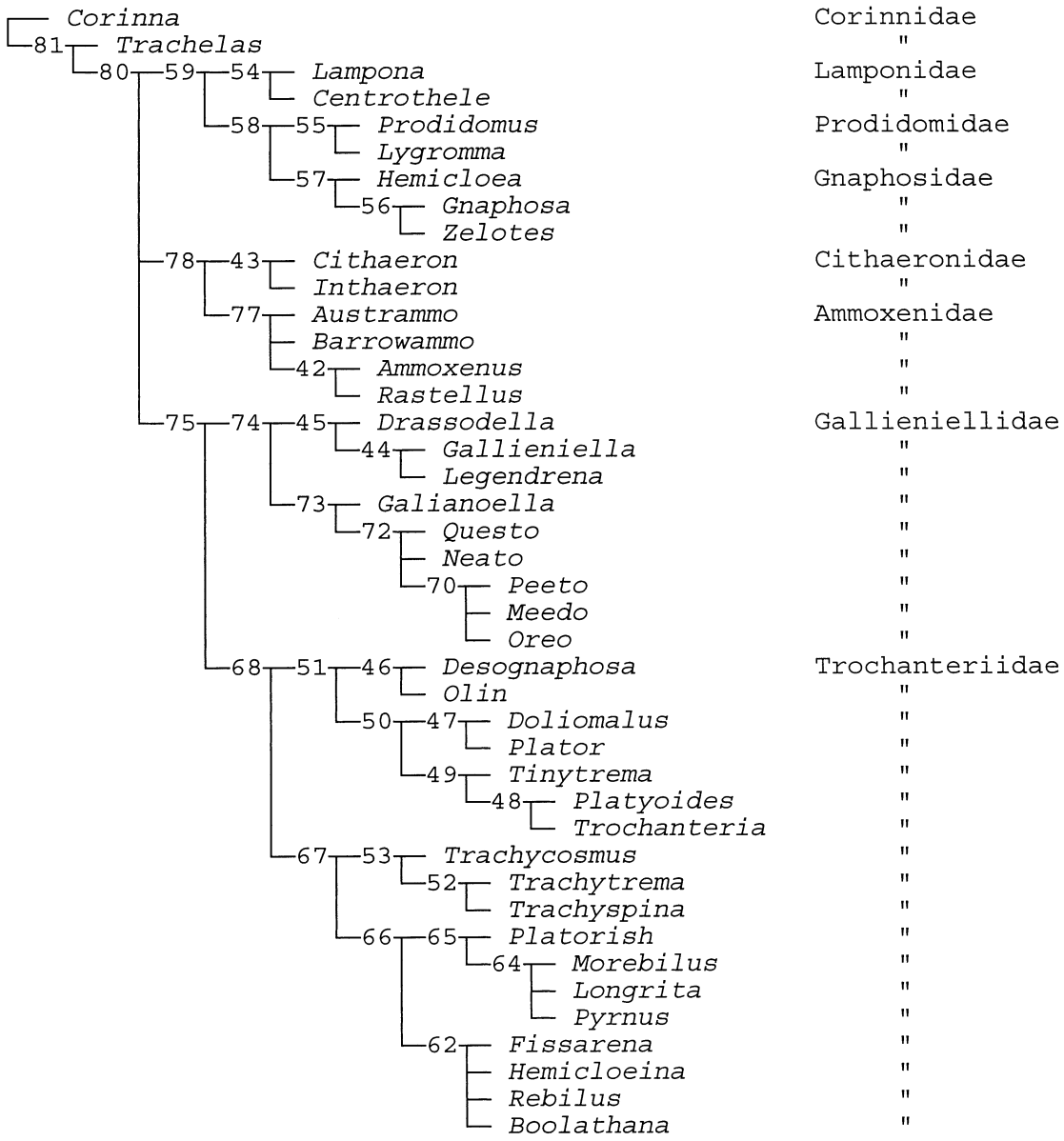


Fig. 2. Preferred cladogram for 42 genera; see text for discussion.

strongly shown in *Ammoxenus* itself) and the two female palpal tarsal characters (reduced claw, and highly modified terminal macrosetae). The two African ammoxenid genera (*Ammoxenus* and *Rastellus* Platnick and Griffin) are united by the loss of piriform gland spigots.

The Gallieniellidae are united at node 74 by their characteristic, mygalomorph-like cheliceral shape; the two genera from Madagascar (*Gallieniella* Millot and *Legendrena* Platnick) are united by a reversal in the female posterior median spinneret cylindrical gland spigot arrangement, and they cluster with the African genus *Drassodella* Hewitt at node 45 because of their narrowed eye rows set on a tubercle. The only New World genus of the group, *Galianoella* Goloboff,

clusters with the Australian fauna at node 73, based only on the loss of a cymbial scopula. The monophyly of the Australian gallieniellid genera, including *Meedo*, is strongly supported by both the cracked tarsi and the greatly shortened labium.

The diverse trochanteriid genera cluster at node 68 on the basis of the expected characters (flattened carapace with wide eye rows, deep basal constriction on the cheliceral paturon). Two of the three trochanteriid subgroups are exclusively Australasian. The morebiline genera cluster at node 66, with a characteristic basal apophysis on the male palpal tibia and a bipartite median apophysis as well as some homoplasious somatic features. The three trachycosmine genera are united at node 53 by their palpal conformation, with a protruding terminal apophysis (but see below). These two Australasian groups cluster at node 67 on the basis of their unusual, detached intercoxal extensions of the sternum.

The remaining trochanteriids cluster at node 51 on the basis of the wide posterior marginal rim on the carapace (putatively reversed in the highly autapomorphic pair of sister genera, the South American *Trochanteria* Karsch and African *Platyoides* O. P.-Cambridge). Those two genera have greatly elongated fourth trochanters, a feature also found (to a lesser extent) in the extremely flattened Australian ant-mimicking *Tinytrema*, new genus. The Asian genus *Plator* Simon and the Chilean *Doliomalus* Simon are united by a putative reversal to short fangs, and they join with the long-trochanter group at node 50 because of their laterigrade legs and another implied loss of the cymbial scopula.

At least two problems require further investigation. Most obviously, the posterior median eyes of the morebiline genera need to be studied both anatomically and physiologically. In addition, there is at least one possible counterindication to the trochanteriid arrangement preferred here. *Desognaphosa* and *Trachycosmus* each show a peculiar, anteriorly directed projection along the midline of the chilum (the small sclerite situated between the clypeus and the chelicerae). There are differences in the structures, and their homology is dubious, but they are a very unusual feature.

AMMOXENIDAE SIMON

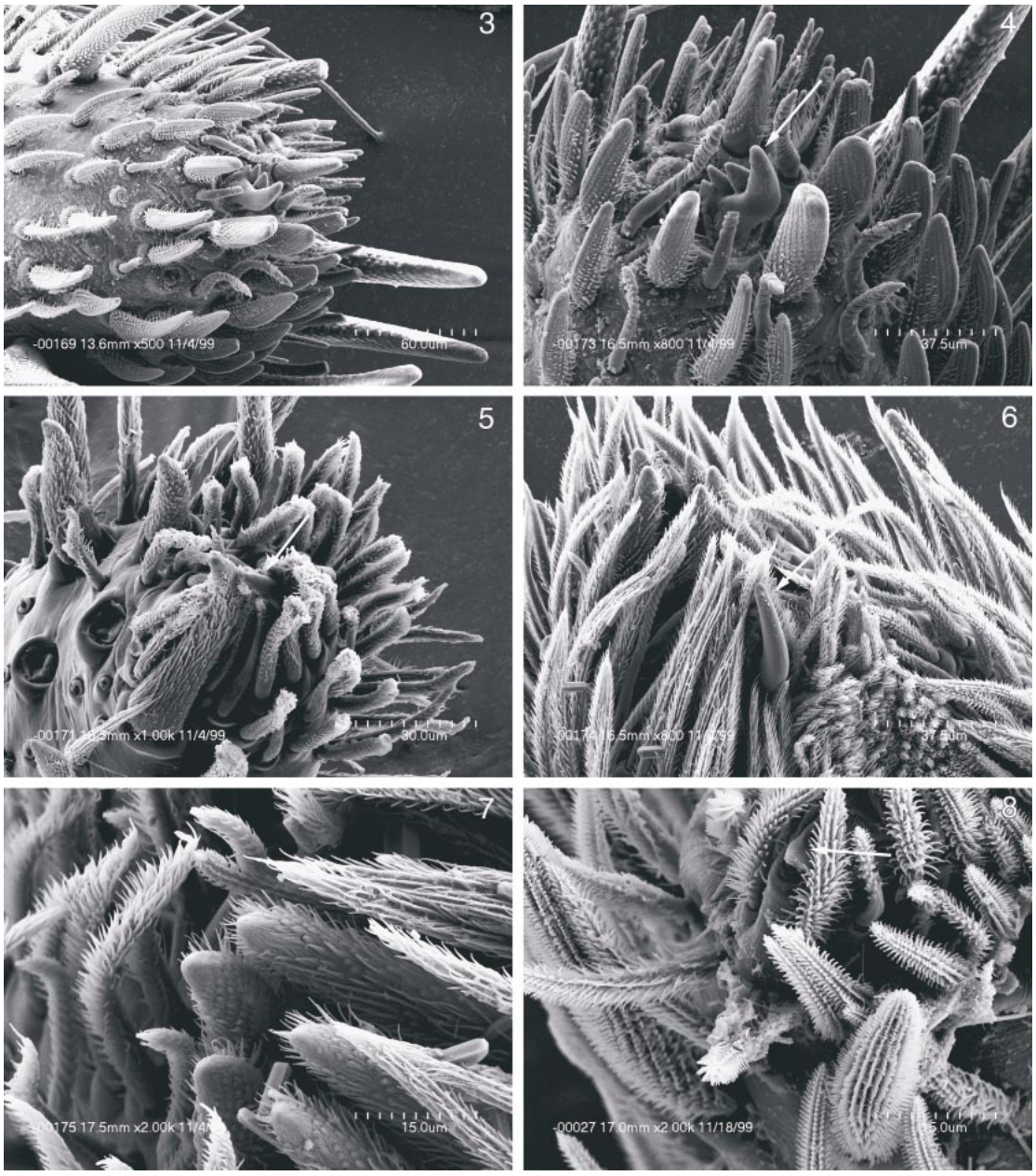
Ammoxenidae Simon, 1893: 452 (type genus *Ammoxenus* Simon).

DIAGNOSIS: Ammoxenids resemble cithaeronids, gallieniellids, and trochanteriids in retaining a distal article on the anterior lateral spinnerets, but differ in having a greatly reduced female palpal claw that is shorter than the peculiar wide, whorled setae found around the tip of the palpal tarsus in both sexes (figs. 3–8). Members of the Australian genera lack the elongated fangs of gallieniellids and trochanteriids, and the pseudosegmented tarsi of cithaeronids, and have the posterior median spinnerets more anteriorly situated than is typical for other gnaphosoids.

DISCUSSION: The family classically included only the type genus *Ammoxenus* from southern Africa, but its limits were considerably expanded to include a second genus from that area, *Rastellus*, by Platnick and Griffin (1990). The two new genera discussed below, *Austrammo* and *Barrowammo*, are the first putative representatives of the family found outside of southern Africa. Their placement has been problematic, not least because each was initially represented by very few specimens. *Austrammo* certainly, and *Barrowammo* apparently, retain a distal segment on the anterior lateral spinnerets, but in at least the first genus, small and unmodified piriform gland spigots seem still to be present (they are apparently lost in both African genera). As indicated above, however, the reduction of the female palpal claw in all four genera seems to provide evidence linking these taxa and justifying the enlargement of the familial concept to include these odd Australian species.

KEY TO GENERA AND SPECIES OF AUSTRALIAN AMMOXENIDAE

1. Palpal tarsus with distinct dorsal pad of setae near tip (fig. 21) . . . . . *Austrammo*, 2
– Palpal tarsus without dorsal pad of setae . . . . . *Barrowammo waldockae*
2. Males (those of *A. hirsti* unknown) 3
– Females 5



Figs. 3–8. Ammoxenidae, female palpal tarsi, distal view; arrows point to reduced tarsal claws. **3, 4.** *Ammoxenus psammodromus* Simon. **5.** *Rastellus struthio* Platnick and Griffin. **6, 7.** *Austrammo monteithi*, new species. **8.** *Barrowammo waldockae*, new species.

3. Retrolateral tibial apophysis relatively short (fig. 29) . . . . . *Austrammo rossi*
– Retrolateral tibial apophysis relatively long (figs. 16, 25) 4
4. Retrolateral tibial apophysis relatively wide (fig. 16) . . . . . *Austrammo monteithi*
– Retrolateral tibial apophysis relatively narrow (fig. 25) . . . . . *Austrammo harveyi*
5. Epigynal septum narrow, v-shaped (fig. 19); spermathecae massive . . . . . *Austrammo hirsti*
– Epigynal septum otherwise (figs. 17, 30, 26); spermathecae smaller 6
6. Anterior portions of spermathecae widely separated (figs. 18, 27) 7
– Anterior portions of spermathecae approximate (fig. 31) . . . . . *Austrammo rossi*
7. Spermathecae widest posteriorly (fig. 18) . . . . . *Austrammo monteithi*
– Spermathecae widest anteriorly (fig. 27) . . . . . *Austrammo harveyi*

Austrammo, new genus

TYPE SPECIES: *Austrammo monteithi*, new species.

ETYMOLOGY: The generic name is a contraction of Australian ammoxenid, considered masculine in gender.

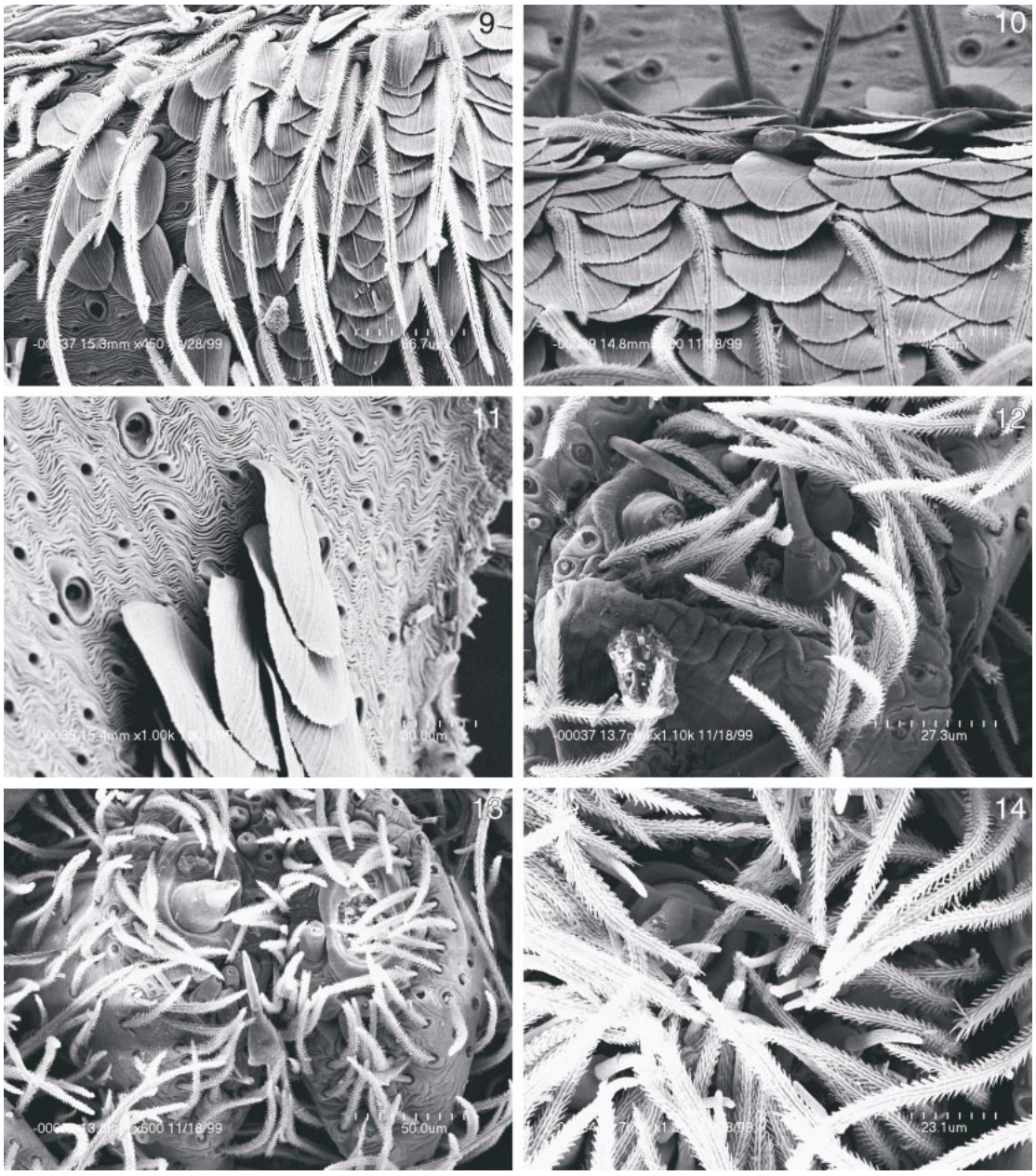
DIAGNOSIS: Both males and females can easily be separated from members of the three other known ammoxenid genera by the presence of a distinct dorsal pad of setae near the tip of the palpal tarsus (fig. 21).

DESCRIPTION: Small ecribellate, entelegyne, gnaphosoid spiders, total length of males 3.3–3.7, of females 3.5–6.4. Carapace oval in dorsal view, widest between coxae II and III, truncated anteriorly, medially invaginated posteriorly, very slightly narrowed at level of palpi, without tubercles, with numerous evenly spaced, long, club setae; cephalic area low, smoothly sloping to longitudinal thoracic groove. From above, anterior eye row slightly recurved, posterior row slightly procurved; from front, both rows strongly procurved; AME circular, dark, ALE and PLE oval, light; PME flattened, irregularly rectangular, light; all eyes subequal in size; AME separated by more than their radius, closer to ALE; PME separated by less than their radius, farther from PLE; lateral eyes of each side separated by less than their radius; MOQ wider than long, wider in back than in front. Clypeal height equal to AME diameter.

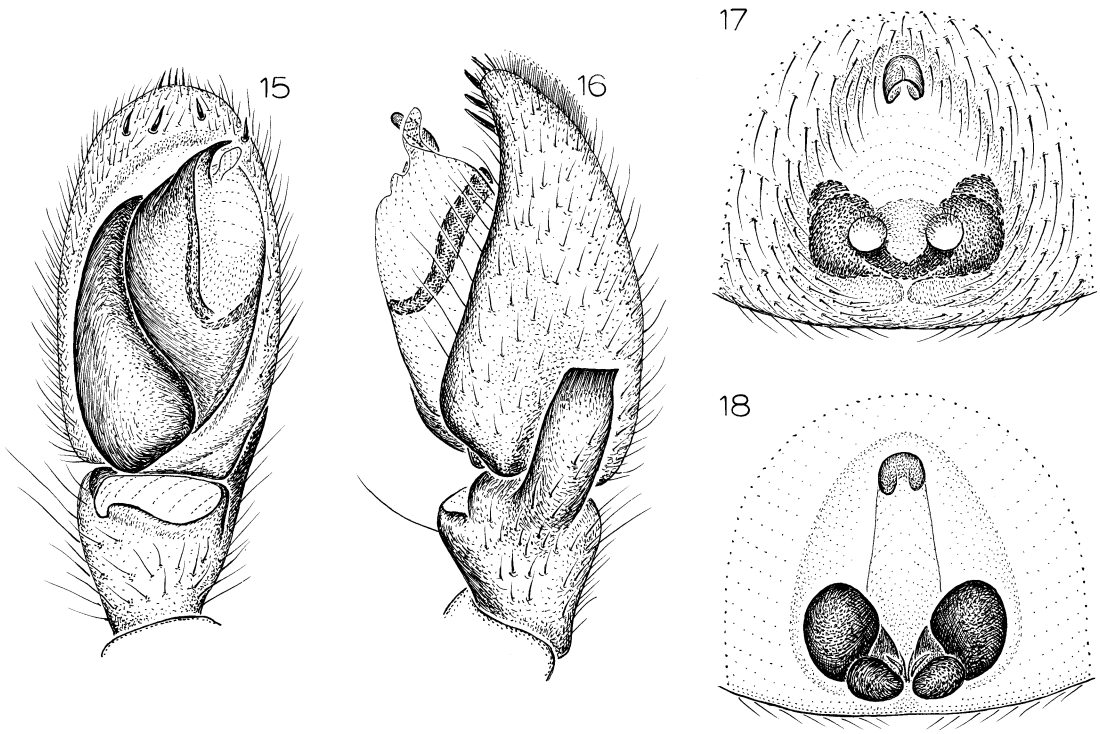
Chelicerae without digging adaptations, with narrow lateral boss; fang not enlarged; chilum triangular, distal two-thirds weakly sclerotized along midline, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); promargin with row of unmodified setae and four closely spaced teeth, second tooth from base largest, retromargin with 2–4 well-separated teeth. Endites relatively short, rectangular, with oblique depression; serrula normal, not reduced as in *Ammoxenus*; labium slightly wider than long, rebordered; sternum shield-shaped, with heavily sclerotized lateral margins, sparsely coated with dark, recumbent setae, with sclerotized extensions to but not between coxae; coxae IV separated by half their width; female palpal femur, patella, and tibia with large club setae; tarsus wide at base, steeply narrowed at tip, where dorsal surface bears distinct oval pad of setae reaching fully to tip of segment, ventral surface with long spines, tip with 4–6 short, thick, specialized macrosetae situated just ventral of palpal claw, claw reduced, smaller than macrosetae (figs. 6, 7).

Abdomen iridescent, thickly coated with closely overlapping scales (figs. 9–11), dorsum and sides also with scattered large, club setae; males with vaguely delimited scutum restricted to anterior surface of abdomen; six spinnerets (figs. 12–14), colulus present, wide, bearing numerous setae; anterior lateral spinnerets separated by roughtly their width, bisegmented, distal segment apparently with single major ampullate gland spigot and several small piriform gland spigots, posterior medians conical, closely appressed, with flattened median surfaces, apparently with one large and several smaller spigots, slightly advanced anteriorly, with posteromedian surfaces of anterior lateral spinnerets slightly excavated to accommodate shape of posterior median pair; posterior lateral spinnerets bisegmented, distal segment with several small spigots. Tracheal spiracle just in advance of colulus.

Leg formula 4123; femora, patellae, and tibiae with longitudinal rows of large, club setae. Typical leg spination pattern (only surfaces bearing spines listed: femora: I d0-1-1, p0-0-1; II d0-1-1; III, IV d0-1-1, p0-1-0; tib-



Figs. 9–14. *Austrammo monteithi*, new species, female. **9, 10.** Scales from abdominal dorsum, dorsal views. **11.** Scales from abdominal side, dorsal view. **12.** Anterior lateral spinneret, distal view. **13.** Posterior median spinneret, distal view. **14.** Posterior lateral spinneret, distal view.



Figs. 15–18. *Austrammo monteithi,* new species. **15.** Left male palp, ventral view. **16.** Same, retrolateral view. **17.** Epigynum, ventral view. **18.** Same, dorsal view.

iae: III p0-1-1, v2-2-2, r0-0-1; IV v1p-1p-2; metatarsi: III p0-0-2, r0-0-2; IV p0-0-2, r0-0-1. Tarsi weakly scopulate, not pseudosegmented, with two weak, dentate claws and claw tufts; trochanters very slightly notched; metatarsi with distal preening brushes; few trichobothria present on tarsi and metatarsi.

Male palpal femur unmodified; tibia with long retrolateral apophysis; bulb relatively flat, with large subtegulum, prolaterally originating embolus, and membranous, retrolateral functional conductor. Epigynum long, with triangular anterior hood, openings situated posteriorly; spermathecae bipartite.

Austrammo monteithi, new species

Figures 6, 7, 9–18; Map 1

TYPES: Male holotype and female allotype taken in a pitfall trap in open forest at an elevation of 340 m on the summit of Mount Gayndah, 25°36′S, 151°32′E, Queensland (Dec. 18, 1998–Jan. 27, 1999; G. Monteith, Gough), deposited in QMB (S49852).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Geoff Monteith of the Queensland Museum, collector of the types and many other important gnaphosoid specimens.

DIAGNOSIS: Males have a wider retrolateral tibial apophysis than do those of *A. harveyi* (fig. 16); females have distinctively plump, posteriorly widened spermathecae (fig. 18).

MALE: Total length 3.7. Carapace olive brown, darkest anteriorly; abdomen shiny olive gray; legs olive brown, tarsi lighter than other segments. Leg spination: femora: I p0-0-0; II d0-1-0; III, IV p0-0-0; tibiae III, IV p0-0-0, v0-0-1p; metatarsi III, IV p0-0-1, r0-0-1. Palpal tibia with cup-shaped distoventral invagination, retrolateral tibial apophysis wide, tip chisel-shaped (fig. 16); palpal cymbium with group of about four thick macrosetae at tip, embolus with curved tip (fig. 15).

FEMALE: Total length 6.0. Coloration as in male. Leg spination typical for genus. Epigynum relatively large, triangular, with widely separated, posteriorly situated openings (fig. 17); spermathecae bipartite, anterior portion plump, widest posteriorly (fig. 18).

OTHER MATERIAL EXAMINED: **Australian Capital Territory:** Cotter River Dam, 35°20′S, 148°54′E, Dec. 8, 1962, elev. 500 m (E. Ross, D. Cavagnaro, CAS), 1♀. **South Australia:** 19 km N Renmark, 34°00′S, 140°47′E, Jan. 24–Feb. 20, 1996, flight intercept trap (K. Pullen, QMB), 1♀. **Queensland:** 16 mi N Eidsvold, 25°22′S, 151°08′E, Nov. 22, 1962, elev. 200 m (E. Ross, D. Cavagnaro, CAS), 1♀; Hervey Range, Townsville, 19°30′S, 146°37′E, Nov. 17, 1996, in nest of *Polyrhacis turneri* (S. Robson, QMB S34278), 1♀; Mount Molloy, 16°41′S, 145°20′E, Sept. 6, 1969 (N. Coleman, AMS KS15690), 1♀; Undarra Lava Tunnels, 100 Mile Swamp, 18°13′S, 144°34′E, Sept. 15, 1989, granite, open woodland (Operation Raleigh Expedition, QMB S32490), 1♀.

DISTRIBUTION: Widespread in eastern Australia (map 1).

Austrammo hirsti, new species

Figures 19, 20; Map 1

TYPE: Female holotype taken under rock along salt lake, 3 km S of Mount Sturt, 32°46′S, 135°24′E, South Australia (Dec. 13, 1989; D. Hirst), deposited in SAM (N1997/153).

ETYMOLOGY: The specific name is a patronym in honor of Mr. David Hirst of the South Australian Museum, collector of the holotype and many other important gnaphosoid specimens.

DIAGNOSIS: Males are unknown, but females can easily be distinguished from those of congeneric species by the narrow, v-shaped epigynal septum (fig. 19) and massive spermathecae (fig. 20).

MALE: Unknown.

FEMALE: Total length 3.5. Carapace light brown, only slightly darkened anteriorly. Leg spination: femora I, III, IV p0-0-0; tibiae: III p0-0-0, v0-0-2, r0-0-0; IV v0-0-2; metatarsi: III r0-0-1. Epigynum with wide, semicircular anterior hood and narrow, v-shaped median septum (fig. 19); spermathecae massive, with large median ducts (fig. 20).

OTHER MATERIAL EXAMINED: **Tasmania:** Ben Lomond National Park, 41°30′S, 147°38′E, Feb. 5, 1987, open forest (J. Gallon, QMB S11635), 2♀.

DISTRIBUTION: Known only from South Australia and Tasmania (map 1).

Austrammo harveyi, new species

Figures 21, 24–27; Map 1

TYPE: Male holotype from 100 Anzac Road, Mount Hawthorn, 31°55′S, 115°50′E, Western Australia (June 1, 1998; M. Harvey), deposited in WAM (99/385).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Mark Harvey of the Western Australian Museum, collector of the holotype and many other important gnaphosoid specimens.

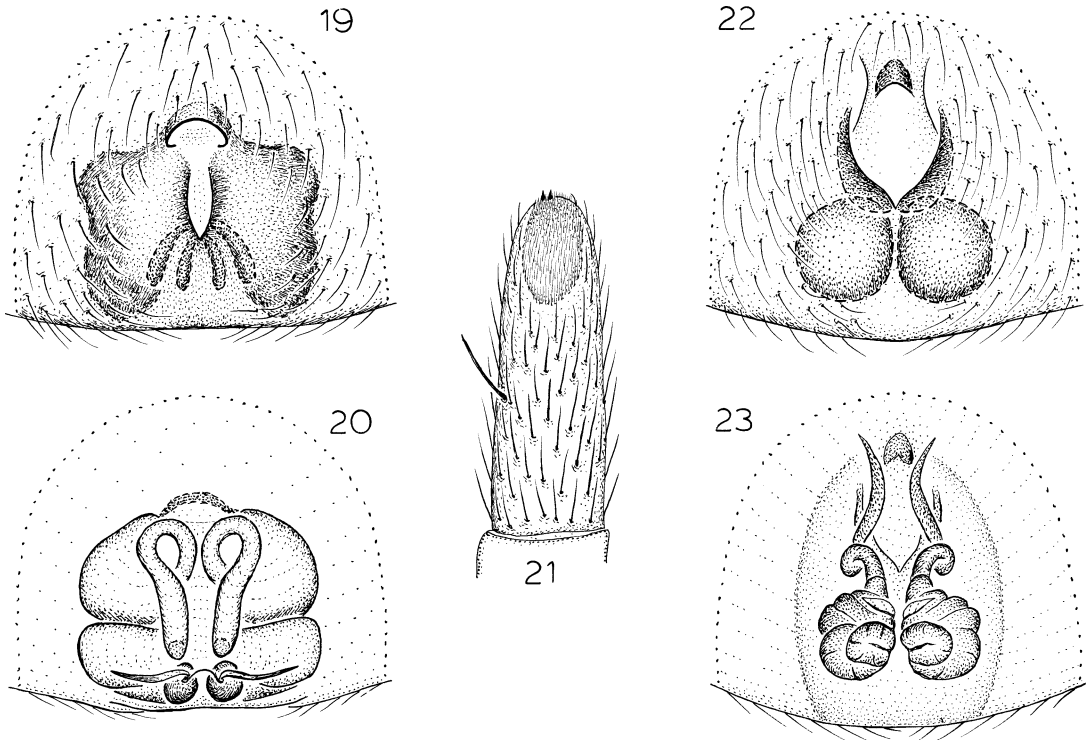
DIAGNOSIS: This species resembles *A. monteithi*; males have a narrower tibial apophysis (fig. 25), and females have narrower spermathecae that are widest anteriorly rather than posteriorly (fig. 27).

MALE: Total length 3.3. Coloration as in *A. monteithi* except abdominal venter pale white. Leg spination: femora I, III, IV p0-0-0; tibiae: III p0-0-1, v0-1p-2; IV p0-0-1, v0-1p-2, r0-0-1; metatarsi III r0-0-1. Retrolateral tibial apophysis relatively narrow, tip recurved (fig. 25); palpal cymbium with group of at least two thick macrosetae at tip, embolus with straight, distally directed tip (fig. 24).

FEMALE: Total length 3.5. Coloration as in



Map 1. Records of *Austrammo monteithi*, new species (circles), *A. hirsti*, new species (squares), and *A. harveyi*, new species (diamonds).

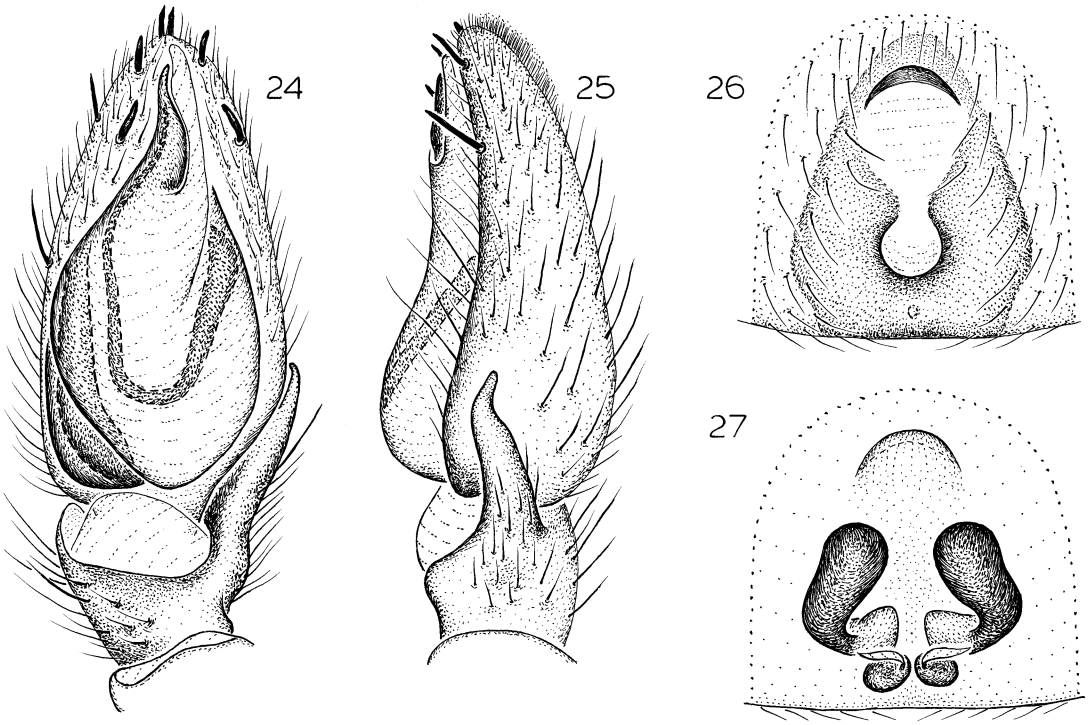


Figs. 19–23. **19.** *Austrammo hirsti*, new species, epigynum, ventral view. **20.** Same, dorsal view. **21.** *A. harveyi*, new species, female palpal tarsus, dorsal view. **22.** *Meedo ovtsharenkoi*, new species, epigynum, ventral view. **23.** Same, dorsal view.

male. Leg spination: femora I, III, IV p0-0-0; tibiae: III p0-0-1, v0-1p-2; IV p0-0-1, v0-1p-2, r0-0-1; metatarsi III r0-0-1. Epigynum relatively small, triangular, with narrowly separated, posteriorly situated openings (fig. 26); spermathecae bipartite, anterior portion tubular, widest anteriorly (fig. 27).

NOTE: A label with one male (WAM 99/400) indicates that in life the carapace was golden, the abdominal dorsum silvery black with a white crescent posteriorly, and the legs silvery.

OTHER MATERIAL EXAMINED: **South Australia:** 12.2 km NW Cheesman Peak, 27°20′S, 130°14′E, Oct. 1996, pitfall (SAM NN9393), 1♀; 3.1 km WNW Mount Lindsay, 27°01′S, 129°51′E, Oct. 1997, pitfall (SAM NN9390–9392 (1♂, 2♀). **Western Australia:** East Victoria Park, 31°59′S, 115°54′E, Sept. 3, 1994, inside house at night (J. Waldock, WAM 99/386), 1♀; Fitzgerald River National Park, 0.6 km WNW Twertup Field Study Centre, 34°01′S, 119°22′E, Nov. 1996, pitfall (A. Sanders, WAM 99/402), 1♀; Francois Peron National Park, 25°49′S, 113°32′E, May 24–Aug. 30, 1995, pitfalls (N. Hall, WAM 99/404–407), 2♂, 2♀; Hepburn Heights, 31°49′S, 115°46′E, July 13–Sept. 25, 1995, pitfall (M. Harvey, J. Waldock, WAM 99/399), 1♂; Kings Park, Perth, 31°57′S, 115°52′E, May 29, 1979 (S. Curry, WAM 99/401), 1♀; W Monkey Mia, 25°48′S, 113°43′E, Nov. 7, 1998, diesel vibration (J. Waldock, WAM 99/394), 1♀; Mount Lawley, 124 Third Ave., 31°56′S, 115°53′E, Oct. 10, 1999, on garden fence (J. Waldock, WAM 99/393), 1♀, Mar. 19, 2000, among papers on floor in house (J. Waldock, WAM 99/400), 1♂; Nanga Station, 26°31′S, 115°00′E, Aug. 23–Oct. 16, 1994, pitfalls (P. West, WAM 99/395–397), 1♂, 2♀; Rivervale, 31°58′S, 115°55′E, June 1989 (J. Powdrill, WAM 99/390), 1♀; Trigg Dune Bush, 31°53′S, 115°46′E, Nov. 26, 1995–Jan. 29, 1996, pitfall (M. Harvey, J. Waldock, WAM 99/398), 1♀; Western Austra-



Figs. 24–27. *Austrammo harveyi*, new species. **24.** Left male palp, ventral view. **25.** Same, retrolateral view. **26.** Epigynum, ventral view. **27.** Same, dorsal view.

lian Museum building, Perth, 31°57′S, 115°52′E, Dec. 13, 1996 (J. Waldock, WAM 99/392), 1♀; Yundamindra, 29°16′S, 122°24′E, Oct. 1980, pitfall, low *Atriplex* (W. Humphreys, WAM 99/391), 1♀.

DISTRIBUTION: Known only from Western and South Australia (map 1).

Austrammo rossi, new species

Figures 28–31; Map 2

TYPE: Female holotype taken at an elevation of 100 m at Windjana Gorge, 17°25′S, 124°55′E, Western Australia (Oct. 17, 1962; E. Ross, D. Cavagnaro), deposited in CAS.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype.

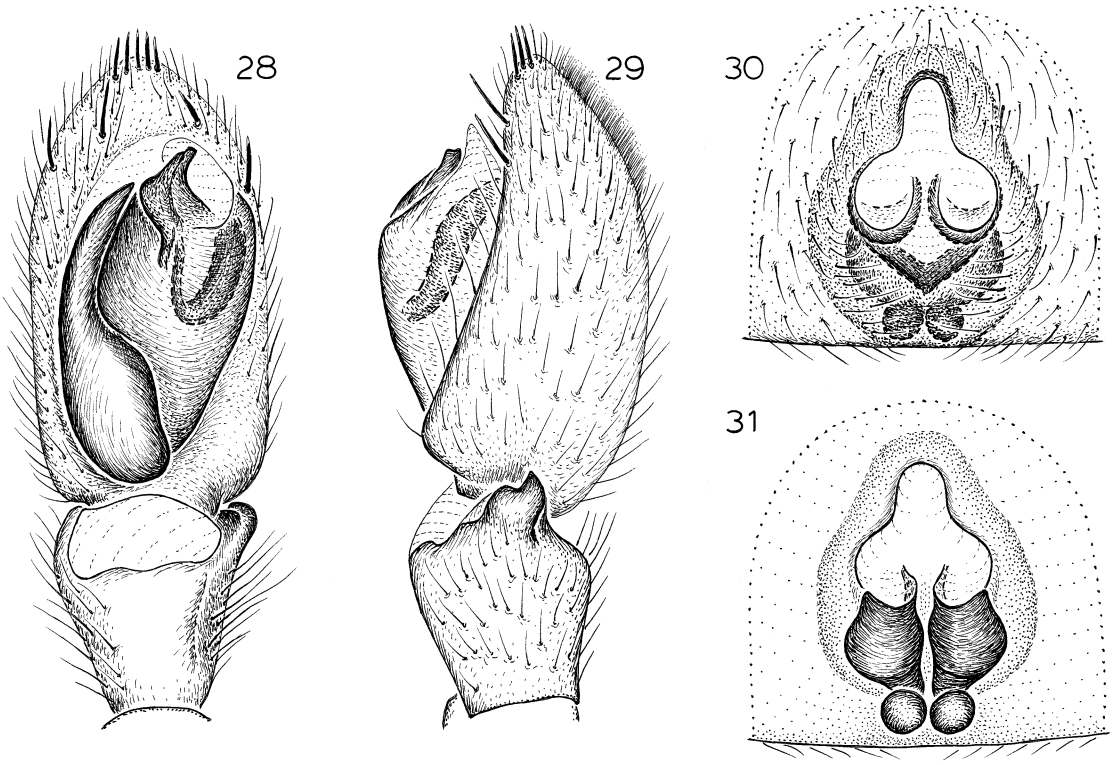
DIAGNOSIS: The single known male and female are from widely separated localities, but are tentatively matched here in accordance with the null hypothesis strategy outlined by Platnick (2000). Males can easily be distinguished from congenerics by their very short retrolateral tibial apophysis (fig. 29), females by having the lateral epigynal margins connected to the anterior epigynal hood (fig. 30).

MALE: Total length 4.3. Leg spination: femur IV p0-0-0, r0-0-1; tibiae: III v0-1p-2; IV p0-0-1, v0-1p-2; metatarsi III, IV p0-1-2. Retrolateral tibial apophysis very short, hooked (fig. 29); embolus relatively short, wide (fig. 28).

FEMALE: Total length 6.4. Carapace yellow, abdominal dorsum pale yellow, venter white, legs pale yellow. Leg spination: femur IV p0-0-0, r0-0-1; tibiae: III v1p-2-2; IV p0-1-1, r0-0-1; metatarsi: III p0-0-1; IV r0-0-2. Epigynal hood large, arch-shaped, connected via lateral epigynal margins to margins of median septum (fig. 30); spermathecae bipartite (fig. 31).

OTHER MATERIAL EXAMINED: **Western Australia:** Nerren Nerren Station, 27°00′S, 114°32′E, Jan. 11–May 11, 1995, pitfall (P. West, WAM 99/408), 1♂.

DISTRIBUTION: Known only from Western Australia (map 2).



Figs. 28–31. *Austrammo rossi*, new species. **28.** Left male palp, ventral view. **29.** Same, retrolateral view. **30.** Epigynum, ventral view. **31.** Same, dorsal view.

Barrowammo, new genus

TYPE SPECIES: *Barrowammo waldockae*, new species.

ETYMOLOGY: The generic name is a contraction of Barrow Island ammoxenid, considered masculine in gender.

DIAGNOSIS: Both males and females lack the dorsal pad of setae on the palpal tarsus that characterizes *Austrammo* specimens; they also lack the large, club setae on the carapace. Males have a dorsal abdominal scutum and a median apophysis on the palpal bulb that are not found in *Austrammo*; females have a rectangular rather than triangular abdomen.

DESCRIPTION: Small ecribellate, entelegyne, gnaphosoid spiders, total length 2.0–2.2. Carapace oval in dorsal view, widest between coxae II and III, truncated anteriorly, medially invaginated posteriorly, very slightly narrowed at level of palpi, without tubercles, without club setae; cephalic area low, smoothly sloping to longitudinal thoracic groove. From above, anterior eye row slightly recurved, posterior row very slightly procurved; from front, anterior row slightly, posterior row strongly procurved; AME circular, dark, ALE and PLE oval, light; PME flattened, irregularly triangular, light; all eyes subequal in size; AME separated by about their radius, almost touching ALE; PME separated by more than their radius, about as far from PLE; lateral eyes of each side separated by more than their radius; MOQ almost as long as wide in back, wider in back than in front. Clypeal height equal to AME diameter.

Chelicerae without digging adaptations, with narrow lateral boss; fang not enlarged; chilum small, wide, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); promargin with row of unmodified setae but fang furrow apparently without teeth. Endites relatively short, rectangu-

lar, anteriorly convergent, with deep oblique depression; serrula strong, not reduced as in *Ammoxenus*; labium slightly wider than long, rebordered; sternum shield-shaped, with weakly sclerotized lateral margins, sparsely coated with dark, recumbent setae, with small sclerotized extensions to but not between coxae; coxae IV separated by almost their width; female palpal femur, patella, and tibia with spines, without large club setae; tarsus not widened at base, gradually narrowed at tip, where dorsal surface lacks pad of setae, tip with at least one greatly thickened, specialized macroseta, claw reduced, apparently to tiny nubbin (fig. 8).

Abdomen not iridescent, thickly coated with strong, dark (but not club) setae except on bare patch above spinnerets; males with distinct, triangular dorsal scutum; six spinnerets, colulus apparently represented only by numerous setae; anterior lateral spinnerets separated by roughly their width, seemingly bisegmented, distal segment apparently with single major ampullate gland spigot and few small piriform gland spigots, posterior medians conical, closely appressed, with flattened median surfaces, apparently with one large and several smaller spigots, slightly advanced anteriorly, where anterior laterals are widely separated; posterior lateral spinnerets bisegmented, distal segment with several small spigots. Tracheal spiracle just in advance of colular setae.

Leg formula 4123; femora, patellae, and tibiae without longitudinal rows of large, club setae. Typical leg spination pattern (only surfaces bearing spines listed: femora: I, II d0-1-1, p0-0-1; III d0-1-1; IV d0-1-1, r0-0-1; patellae III, IV p0-0-1, r0-0-1; tibiae: III d1-0-0, p0-1-1, v0-1p-2, r0-0-1; IV d1-0-0, p1-1-1, v1p-1p-2, r0-0-1; metatarsi: III p1-1-2, r0-0-2; IV p1-1-2, v0-0-1p, r0-1-2. Tarsi weakly scopulate, not pseudosegmented, with two weak, dentate claws but without claw tufts; trochanters very slightly notched; metatarsi with distal preening brushes; trichobothria not apparent.

Male palpal femur unmodified; tibia with long retrolateral apophysis; bulb relatively flat, with long subtegulum, prolaterally originating embolus, hook-shaped median apophysis, and membranous, retrolateral functional conductor. Epigynum rectangular, with transverse anterior hood, openings situated posteriorly; spermathecae bipartite, with lateral and medially directed ducts.

Barrowammo waldockae, new species

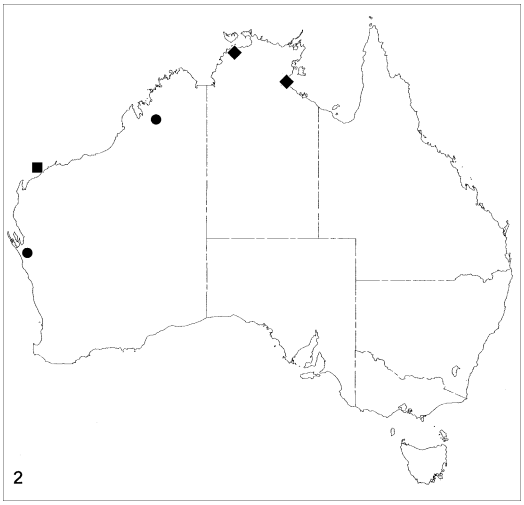
Figures 8, 32–35; Map 2

TYPES: Male holotype, female allotype, and female paratype taken in pitfall traps at Bandicoot Bay, Barrow Island, 20°52′S, 115°20′E, Western Australia (Nov. 4–Dec. 3, 1993; M. Harvey, J. Waldock), deposited in WAM (99/387–389).

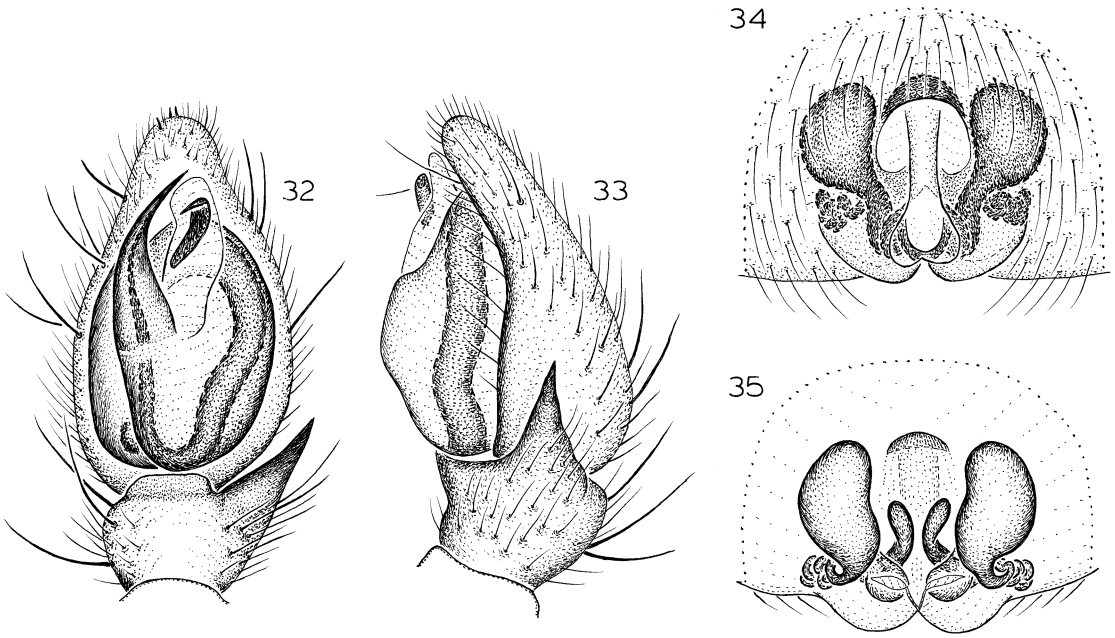
ETYMOLOGY: The specific name is a patronym in honor of Ms. Julianne Waldock of the Western Australian Museum, collector of the holotype and many other important gnaphosoid specimens.

DIAGNOSIS: With the characters of the genus, a triangular retrolateral tibial apophysis that is as long as the tibia itself (fig. 33), and both medial and lateral pairs of epigynal ducts (fig. 35).

MALE: Total length 2.0. Carapace pale yellow except ocular area light brown; abdomen white but dorsum covered with dark gray setae except on bare patch above spinnerets, venter light gray except epigastric area pale yellow; femora light brown, other leg segments light yellow. Leg spination: tibiae: III p1-1-1; IV r0-1-1; metatarsus IV v1p-1p-1p.



Map 2. Records of *Austrammo rossi*, new species (circles), *Barrowammo waldockae*, new species (square), and *Cithaeron praedonius* O. P.-Cambridge (diamonds).



Figs. 32–35. *Barrowammo waldockae*, new species. **32.** Left male palp, ventral view. **33.** Same, retrolateral view. **34.** Epigynum, ventral view. **35.** Same, dorsal view.

Palpal tibia very short, shorter than patella, retrolateral tibial apophysis long, triangular, wide at base (fig. 33); embolus abruptly constricted at about half its length (fig. 32).

FEMALE: Total length 2.2. Coloration as in male except abdominal venter pale white. Leg spination typical for genus. Epigynum rectangular, with transverse anterior margin, openings situated medially (fig. 34); spermathecae bipartite, attenuated at origin of median and lateral ducts (fig. 35).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Barrow Island, off the west coast of Western Australia (map 2).

CITHAERONIDAE SIMON

Cithaeroninae Simon, 1893: 384 (type genus *Cithaeron* O. P.-Cambridge).
Cithaeronidae: Caporiacco, 1938: 63.

DIAGNOSIS: The presence of long, pseudosegmented tarsi separates cithaeronids from the other lower gnaphosoid families. Cithaeronids lack the elongated fangs of gallieniellids and trochanteriids, and differ from ammoxenids in having a normal, rather than reduced, female palpal claw.

DISCUSSION: Only two genera of cithaeronids are known, *Cithaeron* and *Inthaeron* (Platnick, 1991). The latter genus is known only from India, but the former ranges widely from West Africa to Singapore, and is here newly recorded from the Northern Territory.

Cithaeron O. P.-Cambridge

Cithaeron O. P.-Cambridge, 1872: 272 (type species by monotypy *Cithaeron praedonius* O. P.-Cambridge).
Tephlea Simon, 1878: 207 (type species by monotypy *Tephlea agelenoides* Simon). First synonymized by Simon, 1893: 384.

DIAGNOSIS: Females can be distinguished from those of *Inthaeron* by having the cylindrical gland spigots on the posterior median spinnerets arranged in a dense cluster (Platnick, 1990: fig. 171) rather than in two longitudinal rows. Males lack the highly coiled embolus found in *Inthaeron* (Platnick and Gajbe, 1994). The combined presence of a distal segment on the anterior lateral spinnerets and curled, pseudosegmented tarsi distinguishes *Cithaeron* from all other Australian gnaphosoids.

DESCRIPTION: See Platnick (1990).

Cithaeron praedonius O. P.-Cambridge

Figures 36–40; Map 2

Cithaeron praedonium O. P.-Cambridge, 1872: 273 (two female syntypes in Hope Department of Entomology, Oxford University, not re-examined; according to the original description, they are from ''under a stone on the Lebanon'' and ''a similar situation at Hasbeiya,'' Lebanon, but both specimens are actually penultimate females rather than adults).

NOTE: Although the syntypes of *C. praedonius* are penultimate females and cannot be identified with certainty, that name is used for this taxon because it is the only cithaeronid species known from the Middle East. For a full synonymy, see Platnick (1990).

DIAGNOSIS: This species is similar to *C. delimbatus* Strand but can be distinguished by the larger median apophysis on the male palp (figs. 36–38) and the more highly coiled epigynal ducts of females (figs. 39, 40).

MALE: See Platnick (1990).

FEMALE: See Platnick (1990).

NEW RECORDS: **Northern Territory:** Roper River region, ca. 14°43′S, 135°27′E, 1991 (B. Harvey, NMV K3653), 1♀; Sunter Road, Humpty Doo, 12°38′S, 131°15′E, Sept. 22, 1998, in house (T. Churchill, CSID A0026), 1♂.

DISTRIBUTION: Formerly known from Greece, northeastern Africa, and the Middle East east to Malaysia and Singapore, newly recorded from the Northern Territory (map 2).

GALLIENIELLIDAE MILLOT

Gallieniellidae Millot, 1947: 159 (type genus *Gallieniella* Millot).

DIAGNOSIS: Gallieniellids can easily be distinguished from other gnaphosoids by the elongated, mygalomorph-like chelicerae bearing long, longitudinally oriented fangs.

DISCUSSION: The family was originally thought to be endemic to Madagascar (Platnick, 1984a), but representatives were subsequently found in southern Africa (Platnick, 1990) and South America (Goloboff, 2000). The only previously described Australian genus, *Meedo* Main, was placed by Main (1987: 78) in the family Clubionidae, although she noted that ''The genus shares some distinctive characters with the Gallieniellidae, namely the porrect, paraxial chelicerae with very long fang, the medially depressed endites (maxillae), the fourth legs longer than the first and the toothed tarsal claws.'' Although aberrant in some respects, such as the loss of the serrula, *Meedo* shares with the other Australian gallieniellid genera, newly described below, such features as the cracked tarsi and greatly shortened labium.

KEY TO AUSTRALIAN GENERA OF GALLIENIELLIDAE

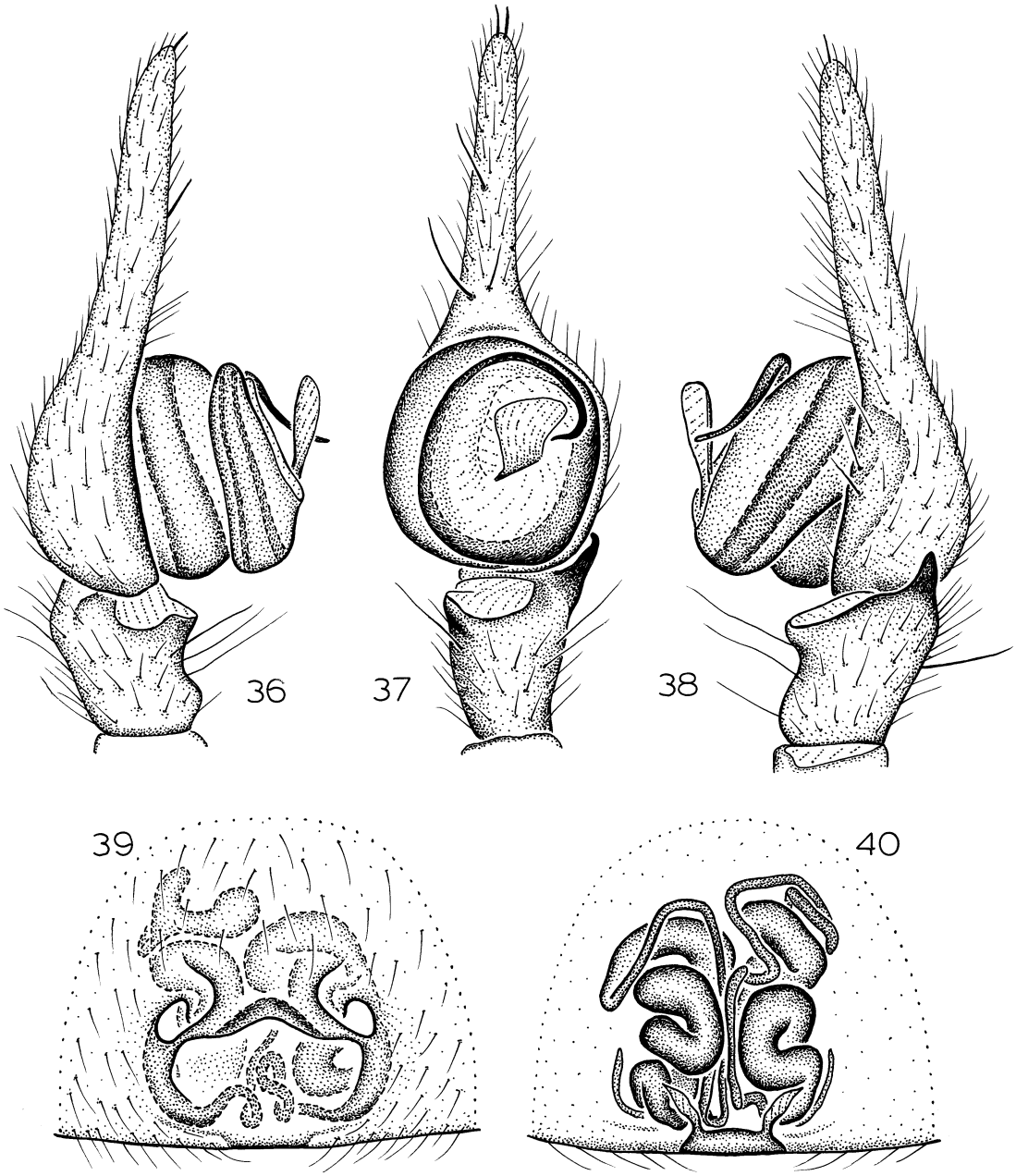
1. Legs entirely devoid of spines; tarsi greatly thickened, cylindrical . . . . . *Meedo*
– Tibiae or metatarsi III or IV with at least one ventral spine; tarsi normal 2
2. Cheliceral teeth absent 3
– Cheliceral teeth present 4
3. Males with embolus greatly thickened (figs. 93, 97); females with spermathecae highly crenulated, often flanked by pair of long lateral epigynal margins (figs. 95, 99) . . . . . *Neato*
– Males with normal embolus (figs. 121, 125); females with spermathecae less highly crenulated, not flanked by pair of long lateral epigynal margins (figs. 124, 136) . . . . . *Oreo*
4. Males with complex retrolateral tibial apophysis bearing three prongs (fig. 142); females with large U-shaped epigynal septum (figs. 143) . . . . . *Peeto*
– Males with simple, rectangular tibial apophysis (fig. 146); females with small, rectangular epigynal septum (fig. 147) . . . . . *Questo*

Meedo Main

Meedo Main, 1987: 78 (type species by original designation *Meedo houstoni* Main).

DIAGNOSIS: The total absence of leg spines separates members of this genus from all other known gallieniellids. The tarsi (especially those of leg IV) are distinctively thick and cylindrical.

DESCRIPTION: Medium-sized spiders, total length of males 3.7–6.8, of females 4.2–8.9. Carapace glabrous, without tubercles, with short setae on posterior declivity, longer setae on clypeus; thoracic groove short, deep, wider anteriorly than posteriorly. Eight eyes in two rows, anterior medians largest, cir-



Figs. 36–40. *Cithaeron praedonius* O. P.-Cambridge. **36.** Left male palp, prolateral view. **37.** Same, ventral view. **38.** Same, retrolateral view. **39.** Epigynum, ventral view. **40.** Same, dorsal view.

cular, dark, posterior medians smallest, irregularly rectangular, flattened, laterals subequal in size, oval; from above and in front, both eye rows procurved; anterior medians separated by their radius or less, slightly closer to anterior laterals; posterior medians separated by much more than their diameter, separated by about their diameter from posterior laterals; anterior and posterior laterals separated by about their diameter; median ocular quadrangle wider in back than in front, almost as long as wide. Chelicerae vertical or

porrect, anterior surface with longitudinal rows of stiff setae; chilum bipartite, consisting of two small, triangular sclerites, accompanied by second, elongated, posterior chilum (extremely narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of short setae originating in line along base of fang plus two long, thick seta originating near base of fang, extending far from base before bending toward midline; promargin and retromargin of fang furrow toothless. Labium wide, very short, extending only about one-third length of endites, bipartite, posterior portion short, flat, anterior portion steeply inclined; posterolateral corners heavily sclerotized, anterior margin invaginated at middle. Endites with very weak oblique depression, without median groove; serrula absent (fig. 149); apex bearing narrow patch of long, stiff, dark setae. Sternum flat, with weak lateral margins, not expanded anteriorly, without extensions to or between coxae; surface smooth, with few long setae. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of butterfly-shaped dorsal sclerite and weak, inverted v-shaped ventral sclerite, not reaching posterior tip of sternum.

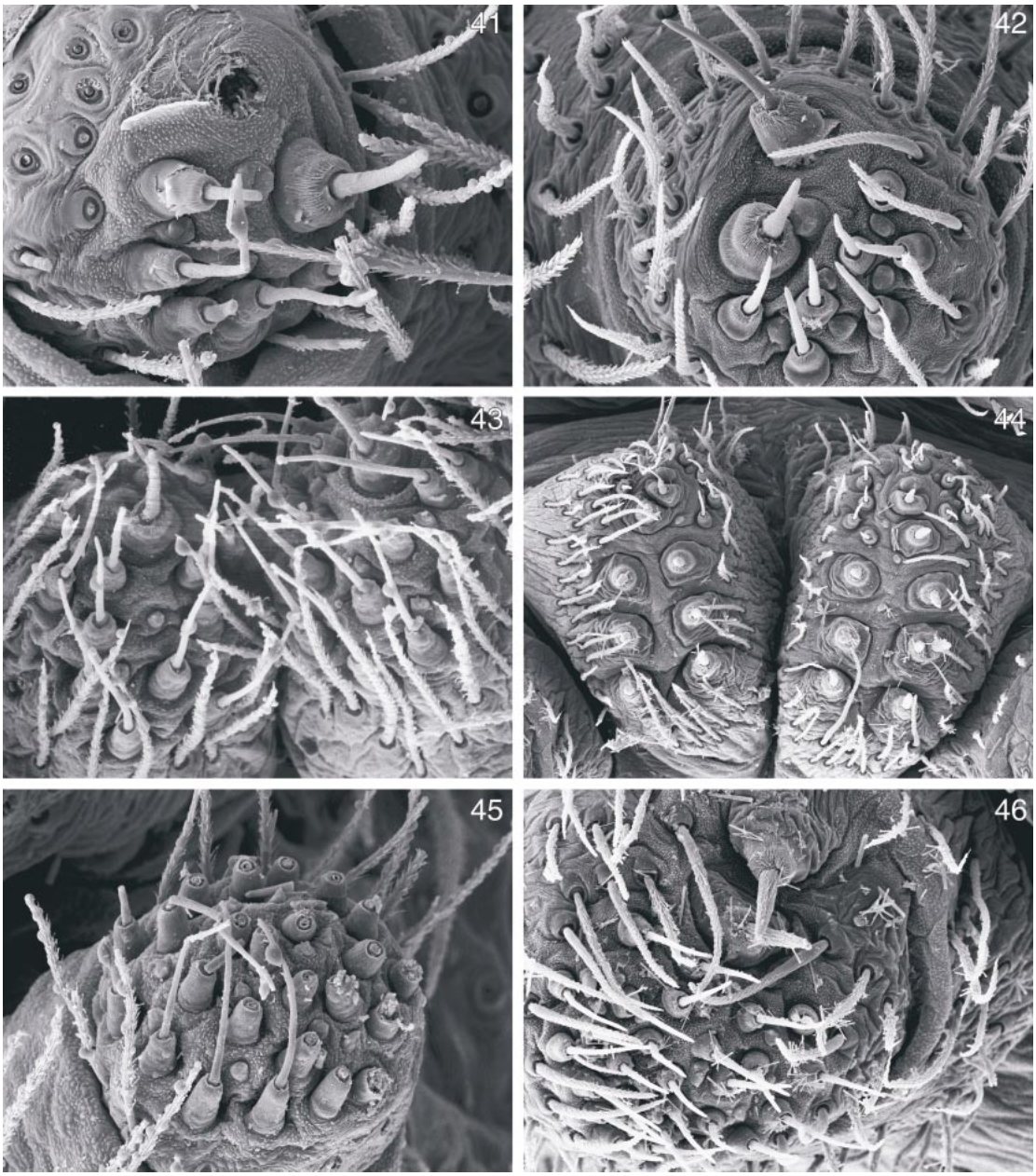
Abdomen without dorsal scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, that of males with posteriorly produced margin at middle, with very narrow spiracles at sides, without postepigastric sclerites; colulus represented by setae; posterior spiracle wide, anterior of colular setae. Six spinnerets (figs. 41–46), anterior laterals large, separated by less than their diameter at base, with two articles, distal article with two major ampullate gland spigots and numerous small, unmodified piriform gland spigots (Platnick, 1990: fig. 167); posterior medians of males triangular, of females bipartite, anterior portion with one large minor ampullate gland spigot and few tiny aciniform gland spigots, posterior portion with five or more large cylindrical gland spigots (Platnick, 1990: fig. 168); posterior laterals with two articles, those of females with two large cylindrical gland spigots (Platnick, 1990: fig. 169).

Leg formula 4123; legs spineless; most surfaces with extremely short setae; coxae and trochanters without dorsal tubercles; anterior coxae without protuberant posterolateral corners; trochanters unnotched, relatively long; metatarsi and tarsi with undivided scopulae composed of short, straight setae; posterior metatarsi with slight distal preening brushes; tarsi with two dentate claws, weak claw tufts composed of narrow setae; at least tarsi III of males (often other tarsi as well, in both sexes) with cuticular cracks at about two-thirds their length; trichobothria present, in two rows on tarsi and tibiae, single row on metatarsi, with bases set in relatively lightly sclerotized cuticle (hence conspicuous under light microscopy). Female palpal tibia and tarsus without spines; tarsus with thick dentate claw and thick ventral scopula.

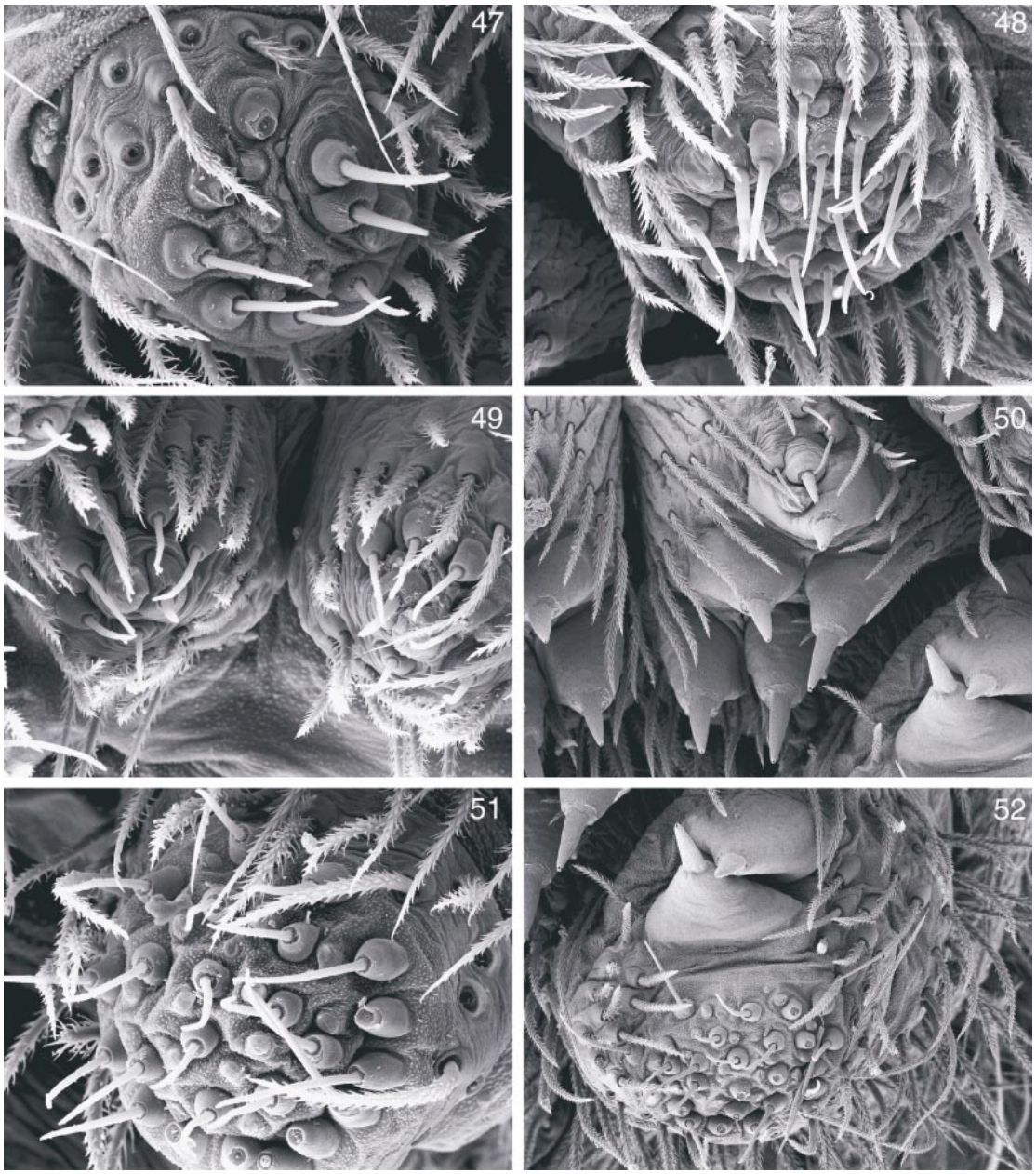
Male palp with or without retrolateral tibial apophysis; cymbial surface slightly flattened at base retrolaterally; tegulum rounded, with prolaterally situated embolus, medially situated conductor, without median apophysis. External epigynum often small, inconspicuous; spermathecae compact, crenulate, fertilization ducts situated at about half of spermathecal length.

Key to Species of *Meedo*

1. Males (those of *ovtsharenkoi*, *flinders*, and *bluff* unknown) 2
– Females 11
2. Embolus long, originating on retrolateral side of bulb (fig. 57) . . . . . *yarragin*
– Embolus shorter, not originating on retrolateral side of bulb 3
3. Embolus originating at proximal edge of bulb (fig. 53) . . . . . *houstoni*
– Embolus originating more distally 4
4. Retrolateral tibial apophysis absent (figs. 66, 90) 5
– Retrolateral tibial apophysis sometimes small (fig. 82) but present 6
5. Embolus straight (fig. 65) . . . . . *mullaroo*
– Embolus sinuous (fig. 89) . . . . . *gympie*
6. Retrolateral tibial apophysis directed dorsally (figs. 70, 74) 7
– Retrolateral tibial apophysis directed distally 8
7. Embolus relatively short, conductor twisted (fig. 69) . . . . . *cohuna*
– Embolus relatively long, conductor lobate (fig. 73) . . . . . *broadwater*



Figs. 41–46. *Meedo houstoni* Main, spinnerets of male (left) and female (right), distal views. **41, 42.** Anterior lateral spinnerets. **43, 44.** Posterior median spinnerets. **45, 46.** Posterior lateral spinnerets.



Figs. 47–52. *Neato walli*, new species, spinnerets of male (left) and female (right), distal views. **47, 48.** Anterior lateral spinnerets. **49, 50.** Posterior median spinnerets. **51, 52.** Posterior lateral spinnerets.

8. Retrolateral tibial apophysis relatively small (figs. 82, 86) 9
– Retrolateral tibial apophysis relatively large (figs. 62, 78) 10
9. Retrolateral tibial apophysis a narrow spike (fig. 82) . . . . . *booti*
– Retrolateral tibial apophysis smaller, rounded (fig. 86) . . . . . *munmorah*
10. Embolus situated prolaterally (fig. 77) . . . . . *yeni*
– Embolus situated medially (fig. 61) . . . . . *harveyi*
11. Epigynal atrium relatively wide, occupying most of epigynal width (figs. 83, 87, 91, 127) 12
– Epigynal atrium narrower 15
12. Epigynal atrium divided medially (figs. 83, 87) 13
– Epigynal atrium not divided (figs. 91, 127) 14
13. Spermathecae widened anteriorly (fig. 88) . . . . . *munmorah*
– Spermathecae not widened anteriorly (fig. 84) . . . . . *booti*
14. Spermathecae widened anteriorly (fig. 92) . . . . . *gympie*
– Spermathecae not widened anteriorly (fig. 128) . . . . . *bluff*
15. Epigynal atrium relatively long (figs. 55, 63) 16
– Epigynal atrium relatively short (figs. 71, 75) 19
16. Epigynal atrium relatively wide (figs. 22, 63) 17
– Epigynal atrium relatively narrow (figs. 55, 59) 18
17. Anterior portion of epigynal ducts wide (fig. 64) . . . . . *harveyi*
– Anterior portion of epigynal ducts narrow (fig. 23) . . . . . *ovtsharenkoi*
18. Epigynal atrium relatively long (fig. 55) . . . . . *houstoni*
– Epigynal atrium relatively short (fig. 59) . . . . . *yarragin*
19. Spermathecae with large, thumb-shaped anterior projections (figs. 71, 72) . . . . . *cohuna*
– Spermathecae without such projections 20
20. Spermathecae extending anteriorly of epigynal atrium (fig. 68) . . . . . *mullaroo*
– Spermathecae not extending anteriorly of atrium 21
21. Epigynal atrium relatively wide, slit-shaped (fig. 75) . . . . . *broadwater*
– Epigynal atrium narrower (figs. 79, 115) 22
22. Epigynal atrium triangular (fig. 79) . . . *yeni*
– Epigynal atrium not triangular (fig. 115) . . . . . *flinders*

Meedo houstoni Main

Figures 41–46, 53–56; Map 3

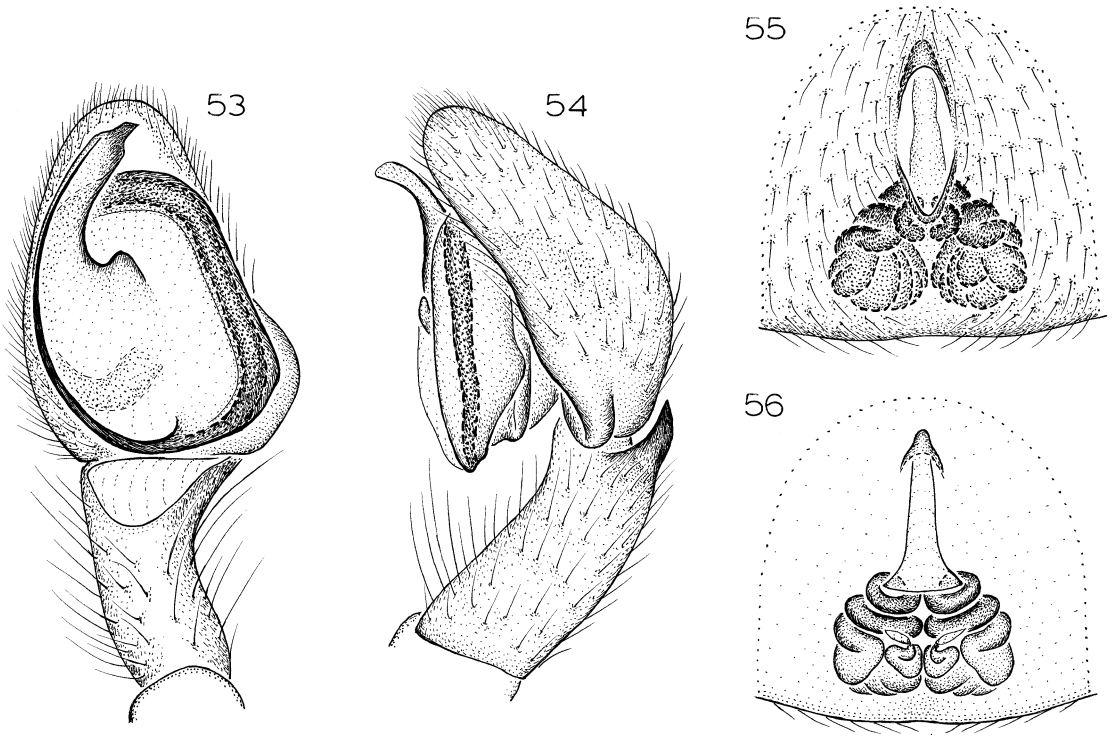
Meedo houstoni Main, 1987: 79, figs. 1–8 (female holotype from Meedo Station, Western Australia, in WAM, examined).

DIAGNOSIS: Males resemble those of *M. yarragin* in having a triangular retrolateral tibial apophysis (fig. 54), but have a shorter embolus, which originates proximally on the palpal bulb (fig. 53); females also resemble those of *M. yarragin* but have a longer epigynal atrium (fig. 55).

MALE: Total length 4.1. Carapace pale yellow, ocular area darkened; abdomen pale white, dorsum with vague traces of dark patterning; legs pale yellow proximally, slightly darker distally. Chelicerae porrect, endites relatively long. All tarsi with cuticular cracks. Retrolateral tibial apophysis short, triangular (fig. 54); embolus originating at proximal end of bulb, extending past distal end of bulb, resting in groove of arched conductor (fig. 53).

FEMALE: Total length 7.0. Abdominal dorsum with dark gray markings occupying most of surface, paler above cardiac area, interrupted by scattered small white areas. Only tarsi II, III with cuticular cracks. Epigynum elongate, anterior half with narrow atrium (fig. 55); anterior spermathecal ducts transverse or semicircular (fig. 56).

MATERIAL EXAMINED: **Western Australia:** Bidgemia Station, Gasgoyne Junction, 25°13′S, 115°31′E, Aug. 17–Oct. 4, 1994, pitfalls (A. Sampey, WAM 99/261–263), 3♂, Oct. 4, 1994–Jan. 13, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/260), 1♂, Jan. 13–June 5, 1995, pitfalls (J. Waldock, WAM 99/258, 259), 2♂; Boolathana Station, 24°25′S, 113°45′E, Aug. 20–Sept. 30, 1994, pitfall (A. Sampey, WAM 99/264), 1♀, Jan. 15–May 31, 1995, pitfalls (J. Waldock, WAM 99/281, 282), 2♀; Boolathana Station, 24°25′S, 113°46′E, Aug. 20–Sept. 30, 1994, pitfall (A. Sampey, WAM 99/283), 1♀, May 31–Aug. 25, 1995, pitfall (N. Hall, WAM 99/280), 1♀; Bush Bay, 25°05′S, 113°43′E, Aug. 16–Sept. 30, 1994, pitfalls (M. Harvey, WAM 99/277–279), 2♂, 1♀, Sept. 30,



Figs. 53–56. *Meedo houstoni* Main. **53.** Left male palp, ventral view. **54.** Same, retrolateral view. **55.** Epigynum, ventral view. **56.** Same, dorsal view.

1994–Jan. 16, 1995, pitfalls (N. McKenzie, J. Rolfe, WAM 99/268–276), 5♂, 4♀, Jan. 16–May 23, 1995, pitfall (P. West, WAM 99/265), 1♂, May 23–Aug. 23, 1995, pitfalls (N. Hall, WAM 99/266, 267), 1♂, 1♀; Kennedy Range National Park, 24°33′S, 114°57′E, Aug. 18–Oct. 4, 1994, pitfalls (M. Harvey, WAM 99/289, 290), 1♂, 1♀; Mardathuna Station, 24°24′S, 114°27′E, May 24–Aug. 28, 1995 (N. Hall, WAM 99/291), 1♂; Meedo Station, 25°37′S, 114°42′E, Oct. 11, 1994–Jan. 12, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 96/1600), 1♂; Meedo Station, 25°39′S, 114°38′E, Aug. 22–Oct. 11, 1994, pitfall (P. West, WAM 96/1597), 1♂, Oct. 11, 1994–Jan. 12, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 96/1598), 1♀; Meedo Station, 25°43′S, 114°36′E, Jan. 12–May 19, 1995, pitfall (A. Sampey, WAM 96/1599), 1♂; 10 km ESE Meedo Station Homestead, 25°42′S, 114°43′E, Aug. 23–26, 1980, pitfall, red sand dune (C. Howard, T. Houston, WAM 84/654), 1♀ (holotype); Mundabullagana Station, 20°31′S, 118°04′E, Aug. 9–30, 1981 (D. Hirst, SAM N1998/928), 1♀; WAPET Camp, Barrow Island, 20°50′S, 115°27′E, Nov. 5–Dec. 3, 1993, pitfall (M. Harvey, J. Waldock, WAM 96/1582), 1♂; Woodleigh Station, 26°12′S, 114°25′E, Jan. 12–May 17, 1995, pitfall (P. West, WAM 99/288), 1♂; Woodleigh Station, 26°12′S, 114°31′E, Oct. 10, 1994–Jan. 12, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/287), 1♂; Woodleigh Station, 26°13′S, 114°35′E, Aug. 22–Oct. 12, 1994, pitfall (M. Harvey, WAM 99/284), 1♀; Woodleigh Station, 26°13′S, 114°36′E, Oct. 11, 1994–Jan. 12, 1995, pitfalls (N. McKenzie, J. Rolfe, WAM 99/285, 286), 1♂, 1♀.

DISTRIBUTION: Known only from Western Australia (map 3).

Meedo yarragin, new species

Figures 57–60; Map 3

TYPE: Male holotype taken under granite slab at Yarragin Rock, 31°02′S, 117°57′E,

Western Australia (Sept. 7, 1999; J. Waldock), deposited in WAM (99/403).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *M. houstoni* but have a longer embolus, which originates retrolaterally on the palpal bulb (fig. 57); females also resemble those of *M. houstoni* but have a shorter epigynal atrium (fig. 59).

MALE: Total length 4.7. Coloration as in *M. houstoni* except abdominal dorsum gray with paler cardiac area and muscle impressions. Chelicerae porrect, endites relatively short. All tarsi with cuticular cracks. Retrolateral tibial apophysis short, triangular (fig. 58); embolus long, originating on retrolateral side of bulb, extending past distal end of bulb, resting in groove of arched conductor (fig. 57).

FEMALE: Total length 4.6. Coloration as in male. Chelicerae porrect, endites relatively long. Tarsi II–IV with cuticular cracks. Epigynum elongate, anterior half with short, narrow atrium (fig. 59); anterior spermathecal ducts forming full circle (fig. 60).

OTHER MATERIAL EXAMINED: **Western Australia:** Durokoppin Nature Reserve, 31°30′S, 117°44′E, Nov. 1–13, 1987 (D. Mitchell, WAM 99/292), 1♀, Dec. 10–21, 1987 (D. Mitchell, WAM 99/293), 1♀; 40 km N Johnston Lakes, S Coolgardie, 32°25′S, 120°30′E, Jan. 1, 1977 (A., M. Douglas, WAM 99/294), 1♂.

DISTRIBUTION: Known only from Western Australia (map 3).

Meedo ovtsharenkoi, new species

Figures 22, 23; Map 3

TYPE: Female holotype from Sinker Reef Road, Two Peoples Bay Nature Reserve, Albany, 34°58′S, 118°09′E, Western Australia (Nov. 14, 1998; V. Ovtsharenko), deposited in WAM.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: Females have a distinctive epigynum, with an anteromedian hood and short atrium (fig. 22) and laterally bent spermathecal extensions (fig. 23).

MALE: Unknown.

FEMALE: Total length 4.2. Carapace light brown with dark gray reticulations; abdominal dorsum dark gray with transverse white hairlines, venter white; legs light brown proximally, darker distally. Chelicerae vertical, endites relatively short. All tarsi entire. Epigynum long, with small anteromedian hood (fig. 22); anterior spermathecal extensions bent laterally (fig. 23).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Southwestern Australia (map 3).

Meedo harveyi, new species

Figures 61–64; Map 4

TYPES: Male holotype and female allotype taken in pitfall traps at Zuytdorp, 27°16′S, 114°01′E, Western Australia (Aug. 26–Oct. 15, 1994; A. Sampey), deposited in WAM (99/295, 296).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Mark Harvey of the Western Australian Museum, who first recognized the species as new.

DIAGNOSIS: Males can easily be distinguished from those of all other species by the small, hook-shaped retrolateral tibial apophysis (fig. 62) and wide, tapered embolus (fig. 61), females by the posteriorly rounded epigynal atrium (fig. 63).

MALE: Total length 5.0. Coloration as in *M. houstoni*. Chelicerae vertical, endites relatively short. Tarsi III with cuticular cracks. Retrolateral tibial apophysis short, hook-shaped (fig. 62); embolus wide, uniformly tapered from base to point near tip, tip distinctly narrowed (fig. 61).

FEMALE: Total length 6.2. Coloration and mouthparts as in male. All tarsi entire. Epigynum with anteromedian hood and pocket, atrium posteriorly rounded (fig. 63); anterior spermathecal extensions large, extending anteriorly to level of epigynal hood (fig. 64).

OTHER MATERIAL EXAMINED: **Western Australia:** Edel Land, 26°32′S, 113°32′E, Jan. 17–May 9, 1995, pitfall (A. Sampey, WAM 99/304), 1♀; Trigg Dune Bush, 31°53′S, 115°45′E, Nov. 28, 1995–Jan. 29, 1996, pitfall (M. Harvey, J. Waldock, WAM 99/305), 1♂; Zuytdorp, 27°16′S, 114°01′E, Aug. 26–Oct. 15, 1994, pitfalls (A. Sampey, WAM 99/297–303), 5♂, 1♀; Zuytdorp, 27°16′S, 114°02′E, Aug. 26–Oct. 15, 1994,

pitfalls (A. Sampey, WAM 99/306–309), 3♂, 1♀.

DISTRIBUTION: Known only from Western Australia (map 4).

Meedo mullaroo, new species

Figures 65–68, 149; Map 3

TYPE: Male holotype taken in a drift fence pitfall trap 8.3 km SE of the confluence of Lindsay River and Mullaroo Creek, 34°11′S, 141°10′E, Victoria (Nov. 1985; A. Yen), deposited in NMV.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by having the tip of the embolus enclosed in the palpal conductor (fig. 65), females by the L-shaped spermathecae (fig. 68).

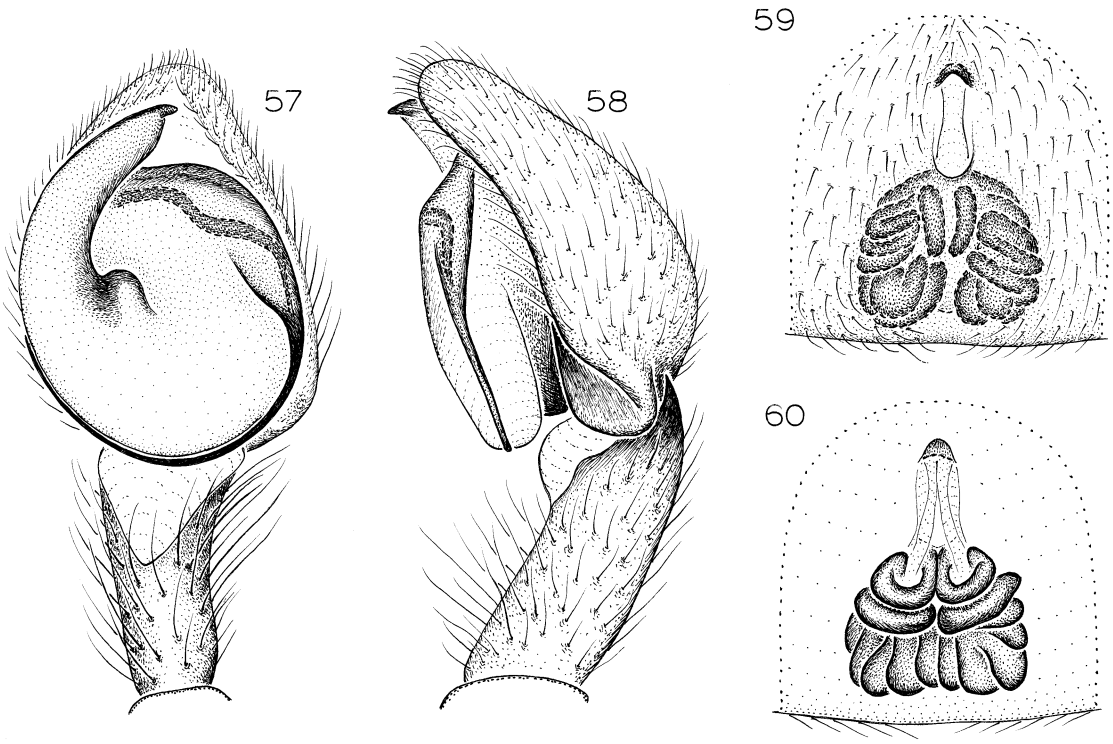
MALE: Total length 5.3. Coloration as in *M. houstoni* except abdomen with transverse dark gray markings occupying most of dorsum, interrupted over cardiac area and muscle impressions. Chelicerae vertical, endites relatively short. Tarsi II–IV with cuticular cracks. Retrolateral tibial apophysis lacking (fig. 66); embolus with triangular base, tip enclosed by twisted conductor (fig. 65).

FEMALE: Total length 8.9. Carapace darker than in male. Chelicerae vertical, endites relatively short. Tarsi III, IV with cuticular cracks. Epigynum with triangular anteromedian atrium (fig. 67); spermathecae almost L-shaped (fig. 68).

OTHER MATERIAL EXAMINED: **Queensland:** Osbourne Mine site, SSE Mount Isa, 22°07′S, 140°34′E, Dec. 1996 (A. Nicholson, QMB S34517), 1♀. **South Australia:** 7.89 km N Coongie, 27°06′S, 140°09′E, Feb. 6–Mar. 14, 1987, pitfall (J. Reid, SAM N1998/902–905), 4♀, May 7, 1987, pitfall (J. Reid, SAM N1998/900, 901), 1♂, 1♀; 9.42 km NNE Coongie, 27°06′S, 140°09′E, Feb. 6–Mar. 14, 1987, pitfall (J. Reid, SAM N1998/906, 907), 2♀; 10 km ENE Dulkaninna Station, 28°59′S, 138°33′E, Nov. 4, 1994 (SAM N1998/911), 1♀; 10 km WSW Johnson Bore, 29°35′S, 136°08′E, Oct. 6, 1995, pitfall (SAM N1998/913), 1♀; Lake Werta Wert, 33°57′S, 140°52′E, Oct. 10, 1988, under *Eucalyptus camaldulensis* bark (S. Lewer, SAM N1998/366), 1♀; 3.7 km WNW Marsella Hill, Arcoona Station, 31°13′S, 136°53′E, pitfall (SAM N1998/914–918), 2♂, 3♀; 6.1 km S Mount Bray, 28°13′S, 134°48′E, Sept. 18–21, 1996, pitfall (SAM N1998/919), 1♀; 4.7 km NE Mount Gow, 26°31′S, 140°44′E, Nov. 4, 1994, pitfall (SAM N1998/912), 1♀; 5.5 km NW Mount Minyalcooroo, Arckaringa Station, 27°57′S, 135°07′E, Sept. 15–20, 1996, pitfall (SAM N1998/920), 1♂; Tirrawarra, adjacent to Embartia Swamp, 27°43′S, 140°08′E, Sept. 1983 (M. Thompson, G. Medlin, SAM N1998/383–385), 3♀; 1 km N White Bull Yard, Kalamurina Station, 27°52′S, 137°55′E, Oct. 2–8, 1999, pitfall (D. Hirst, SAM NN9451–9452), 2♂. **Victoria:** 8.8 km N Cullulleraine, 34°12′S, 141°35′E, Feb.–June 1986, drift fence pitfall (A. Yen, NMV K4638), 7♀, Oct. 1986, drift fence pitfall (A. Yen, NMVS), 1♂, Feb. 1987, drift fence pitfall (A. Yen, NMVS), 3♀; 7.7 km ENE confluence of Lindsay River and Mullaroo Creek, 34°07′S, 141°12′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♀; 7.9 km SE confluence of Lindsay River and Mullaroo Creek, 34°10′S, 141°11′E, Feb. 1986, drift fence pitfall (A. Yen, NMV K4636), 1♀; 8.3 km SE confluence of Lindsay River and Mullaroo Creek, 34°11′S, 141°10′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂.



Map 3. Records of *Meedo houstoni* Main (circles), *M. yarragin*, new species (squares), *M. ovtsharenkoi*, new species (diamond), and *M. mullaroo*, new species (stars).



Figs. 57–60. *Meedo yarragin*, new species. **57.** Left male palp, ventral view. **58.** Same, retrolateral view. **59.** Epigynum, ventral view. **60.** Same, dorsal view.

DISTRIBUTION: South Australia, western Queensland, and western Victoria (map 3).

Meedo cohuna, new species

Figures 69–72; Map 4

TYPES: Male holotype and female allotype taken in shelterbelt pitfall trap at Barr Creek, Cohuna, 35°50′S, 144°11′E, Victoria (Nov. 16–21, 1996; J. Shield, J. Hooper), deposited in NMV courtesy of J. Shield.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

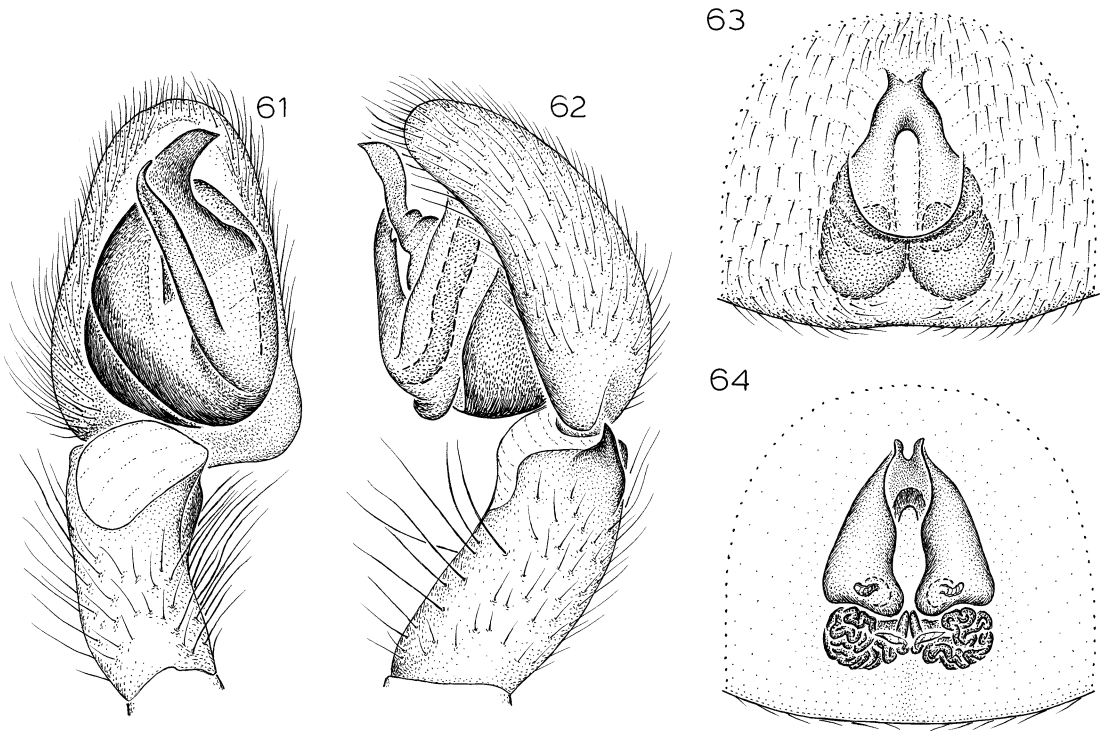
DIAGNOSIS: This species seems to be the western and southern sister species of *M. broadwater,* sharing with it a blade-shaped retrolateral tibial apophysis in males and thumb-shaped anterior spermathecal extensions in females. Males can be distinguished by the simple, untwisted conductor (fig. 69), females by the tiny epigynal atrium of females (fig. 71).

MALE: Total length 4.2. Coloration as in *M. mullaroo*. Chelicerae porrect, endites relatively long. Tarsi III with cuticular cracks. Retrolateral tibial apophysis blade-shaped, very narrow in lateral view (fig. 70); embolus with long, narrow base, conductor arched (fig. 69).

FEMALE: Total length 7.3. Coloration and mouthparts as in male. All tarsi entire. Epigynal atrium tiny, poorly defined anteriorly (fig. 71). Spermathecae with thumb-shaped anterior extensions (fig. 72).

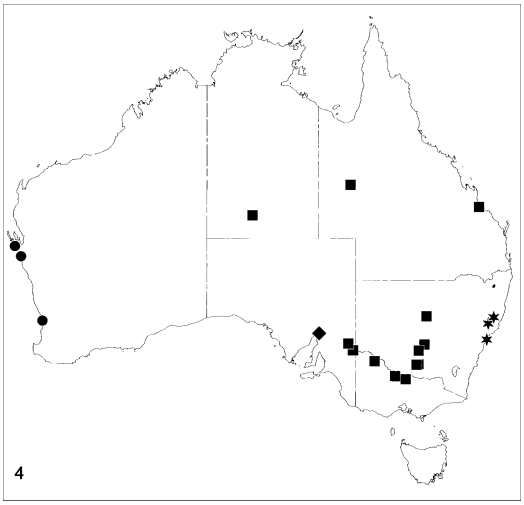
VARIATION: The two males from western Queensland are very small (total length 2.9), and may have matured after fewer instars than is normal for the group, but their palpi (aside from size) seem to show all the characters of this species.

OTHER MATERIAL EXAMINED: **New South Wales:** 83 km E Cobar, ca. 31°33′S, 146°43′E, May 27, 1979, pitfall, woodland, grass tussocks (B. Main, WAM 99/311), 1♀; Coleambally Irrigation Area, 34°59′S, 146°04′E, Dec. 16, 1998, pitfall (L. Wilkie, S. Priday, AMS KS58139), 1♀; Coleambally

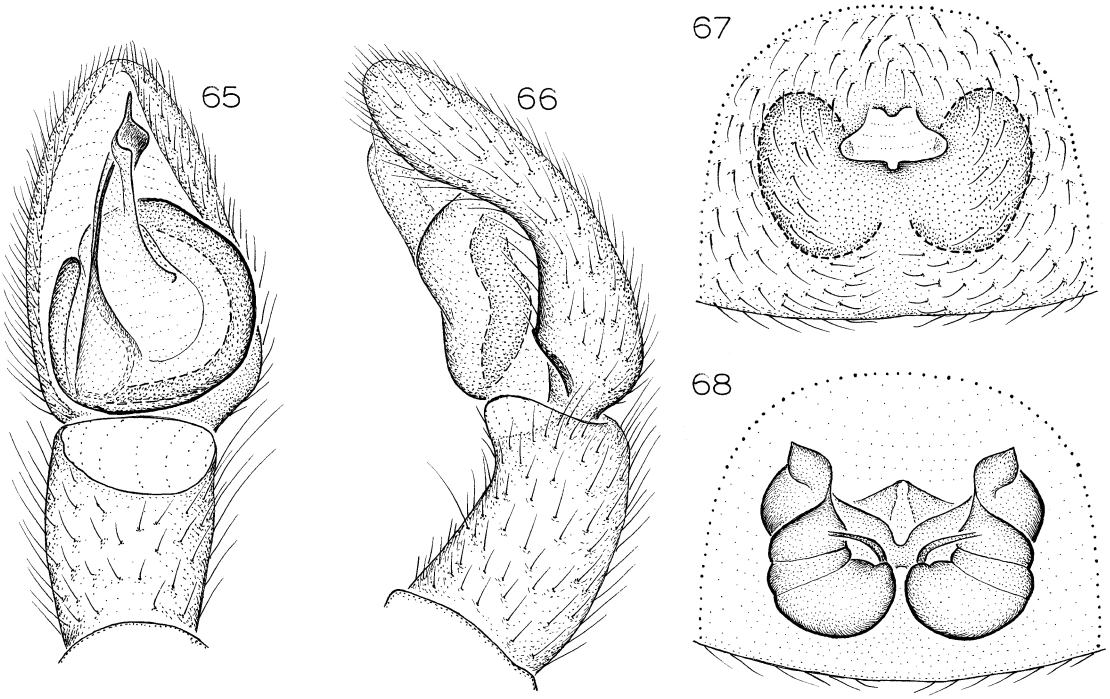


Figs. 61–64. *Meedo harveyi*, new species. **61.** Left male palp, ventral view. **62.** Same, retrolateral view. **63.** Epigynum, ventral view. **64.** Same, dorsal view.

Irrigation Area, 35°02′S, 145°55′E, Dec. 14, 1998, pitfall (L. Wilkie, S. Priday, AMS KS68659), 1♀; Gubatta, 33°35′S, 146°33′E, Oct. 12–18, 1999, pitfall, roadside, spinifex (D. Driscoll, QMB S53295), 1♀; Pulletop, 34°01′S, 146°05′E, Nov. 3–8, 1999, pitfall, roadside, no spinifex (D. Driscoll, QMB S52643), 1♀. **Northern Territory:** Illamurta Spring, 24°19′S, 132°41′E, Feb. 23, 1993, pitfall (D. Hirst, SAM N1998/922), 1♀. **Queensland:** 8 km N Ambrose, 23°43′S, 150°56′E, Dec, 15, 1999–Mar. 20, 2000, pitfall, vine scrub, elev. 20 m (G., S. Monteith, QMB S52757), 2♀; Osbourne Mine site, SSE Mount Isa, 22°07′S, 140°34′E, Dec. 1996 (A. Nicholson, QMB S34516), 2♂. **South Australia:** 19 km N Renmark, 34°00′S, 140°47′E, Dec. 14–21, 1995, pitfall, saltbush (K. Pullen, S. Dominelli, ANIC), 1♀; 79 km NNW of Renmark, 33°31′S, 140°24′E, Nov. 8–22, 1995, pitfall, casuarina (A. Lambie, K. Pullen, QMB S30948), 1♂. **Victoria:** Barr Creek, Cohuna, 35°50′S, 144°11′E, Nov. 16–21, 1996, shelterbelt pit-



Map 4. Records of *Meedo harveyi*, new species (circles), *M. cohuna*, new species (squares), *M. flinders*, new species (diamond), and *M. munmorah*, new species (stars).



Figs. 65–68. *Meedo mullaroo*, new species. **65.** Left male palp, ventral view. **66.** Same, retrolateral view. **67.** Epigynum, ventral view. **68.** Same, dorsal view.

fall (J. Shield, J. Hooper, CVIC), 1♂, Dec. 1996–Jan. 1997, pitfalls (J. Hooper, CVIC 482, 493), 2♂, 1♀; 5 km SE Lower Moira, 36°05′S, 145°03′E, Apr. 10–17, 1994, pitfall (G. Milledge, P. Lillywhite, NMV K4631), 1♂; McDonalds Road, 1.8 km S Shepparton-Barmah Road, 36°04′S, 145°02′E, Jan. 17–22, 1994, pitfall (G. Milledge, NMV K4630), 1♀; 9.7 km NW junction of MV Highway and Annuello Road, 34°46′S, 142°32′E, Oct. 1985, drift fence pitfall (A. Yen, NMVS), 1♀.

DISTRIBUTION: Widespread in eastern Australia (map 4).

***Meedo broadwater*, new species**

Figures 73–76; Map 5

TYPES: Male holotype and female allotype taken in pitfall traps at Lake Broadwater, via Dalby, 27°21′S, 151°06′E, Queensland (Jan. 3–Feb. 25, 1986; M. Bennie), deposited in QMB.

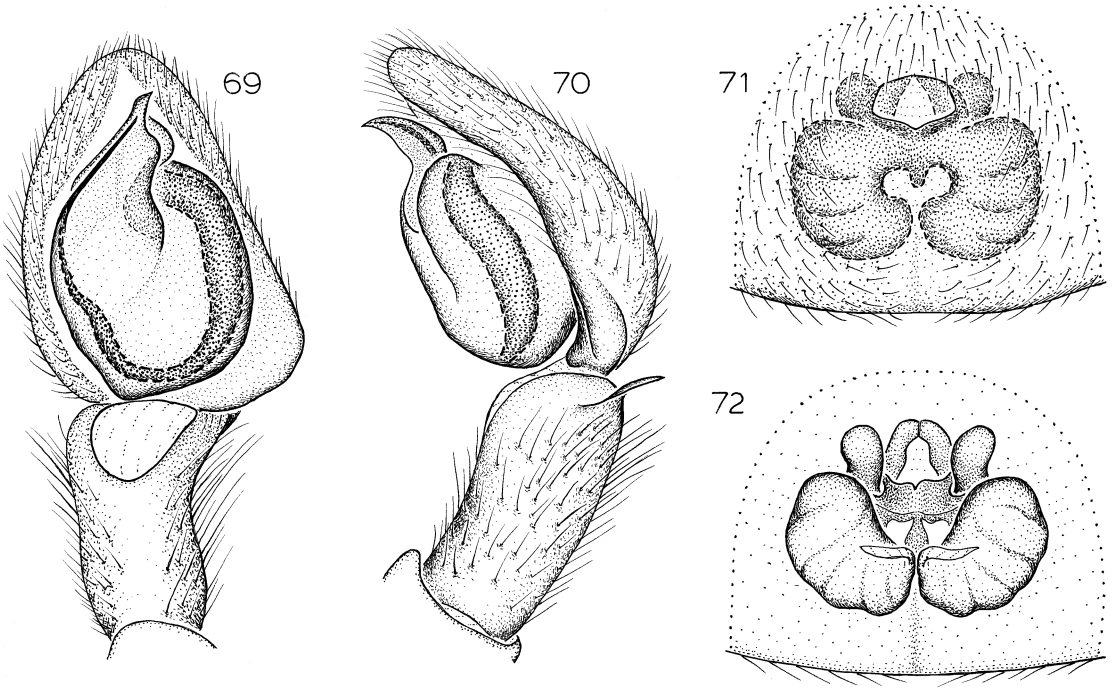
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This seems to be the eastern and northern sister species of *M. cohuna* (see above). Males can be distinguished by the prolateral lobe on the palpal conductor (figs. 73, 74), females by the much wider epigynal atrium (fig. 75)

MALE: Total length 4.9. Carapace yellow, with scattered dark gray maculations; abdominal dorsum gray with scattered tiny, white spots, legs yellow proximally, light brown distally. Chelicerae porrect, endites relatively long. Tarsi III with cuticular cracks. Retrolateral tibial apophysis blade-shaped, very narrow in lateral view (fig. 74); embolus very narrow throughout most of its length, conductor with twisted prolateral lobe (fig. 73).

FEMALE: Total length 4.4. Coloration and mouthparts as in male. All tarsi entire. Epigynal atrium relatively wide, procurved (fig. 75); spermathecae with long, anterior, thumb-shaped extensions (fig. 76).

OTHER MATERIAL EXAMINED: **Queensland:** Braemar State Forest, 27°13′S, 150°50′E, Oct. 15–19, 1979, pitfall, cypress (R. Raven, QMB), 2♀, Feb. 4–8, 1980, pitfall (G., S.



Figs. 69–72. *Meedo cohuna*, new species. **69.** Left male palp, ventral view. **70.** Same, retrolateral view. **71.** Epigynum, ventral view. **72.** Same, dorsal view.

Monteith, QMB S26822), 1♀; Bushley Station, 23°32′S, 150°15′E, Mar. 21–Oct. 22, 1990, pitfall, open forest (D. Wallace, R. Raven, K. Williams, QMB S34475), 1♀; Deepwater Creek, via Rosedale, 24°32′S, 151°58′E, May 6–July 24, 1975, rainforest pitfall, elev. 10 m (G., S. Monteith, QMB), 1♀; Lake Broadwater, via Dalby, 27°21′S, 151°06′E, Mar. 26–May 17, 1985, pitfall (M. Bennie, QMB), 1♂, May 17–Nov. 24, 1985, pitfalls (M. Bennie, QMB S34510, 34512), 3♂, 1♀; Mount Cleveland, 19°16′S, 147°03′E, Jan.–Mar. 12, 1991, blady grass traps, elev. 500 m (A. Graham, QMB S17990), 1♂, Mar. 23–May 13, 1991, pitfall, open forest, summit (D. Cook, QMB S34526), 1♂; Mount Gayndah, summit, 25°36′S, 151°32′E, Jan. 27–June 2, 1999, open forest pitfall, elev. 340 m (G. Monteith, G. Thompson, QMB S51126), 1♂; Mount Rose Station, Boggomoss No. 15, site not located, June–Nov. 10, 1996 (P. Lawless, QMB S36618), 1♂; Orchid Beach, Fraser Island, 24°58′S, 153°19′E, Mar. 7–Oct. 1, 1996, pitfall, heath, banksia, eucalypt (R. Raven, QMB S31293), 2♂; Taroom District, Boggomoss No. 1, 7, 25°26′S, 150°02′E, Sept. 9–Nov. 12, 1996, pitfall, open forest (P. Lawless, QMB S34514, 34515), 1♂, 1♀; Taroom District, Boggomoss No. 8, 25°27′S, 150°02′E, Nov. 11, 1996–Jan. 1997, pitfall, open forest (P. Lawless, QMB S36671), 1♀; Taroom District, Boggomoss No. 21, 25°27′S, 150°03′E, Sept. 9–Nov. 10, 1996, pitfall (P. Lawless, QMB S34513), 1♀; Windermere, near Glenmorgan, 27°17′S, 149°45′E, July–Sept. 1991, pitfall, open forest (R. Raven, D. Smyth, QMB ex S30361), 1♀.

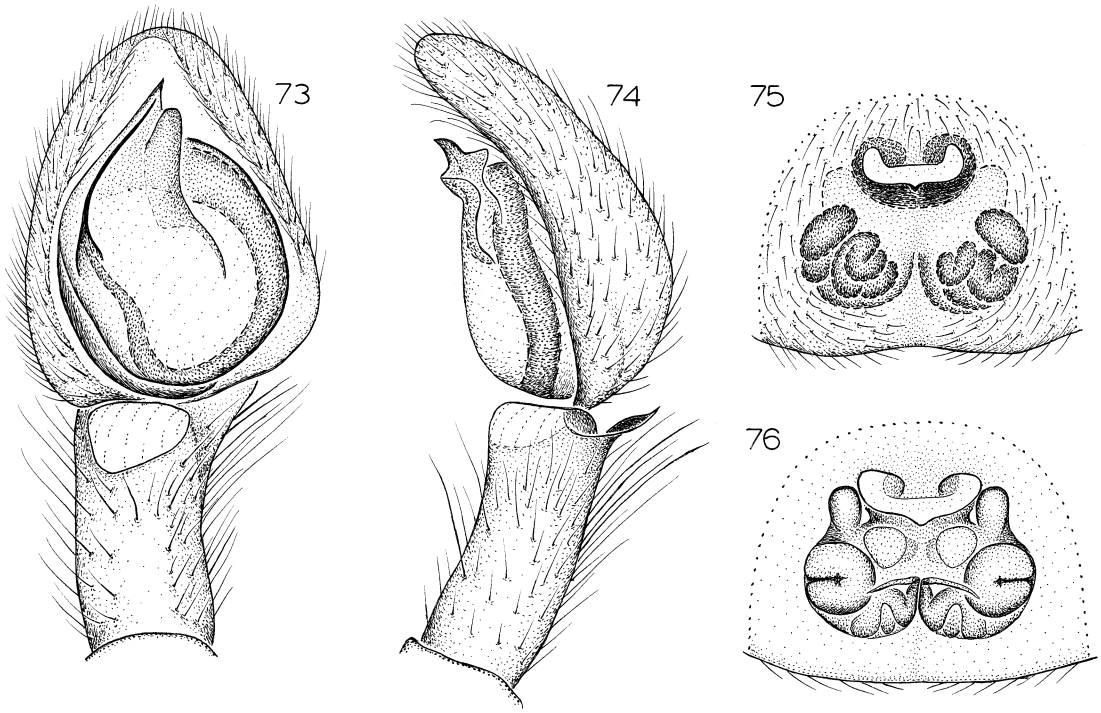
DISTRIBUTION: Widespread in eastern Queensland (map 5).

***Meedo yeni*, new species**

Figures 77–80; Map 5

TYPE: Female holotype taken in drift fence pitfall trap 13.6 km SSW of Murrayville, 35°23′S, 141°09′E, Victoria (Nov. 1985; A. Yen), deposited in NMV.

ETYMOLOGY: The specific name is a patronym in honor of Dr. A. L. Yen of the Mu-



Figs. 73–76. *Meedo broadwater*, new species. **73.** Left male palp, ventral view. **74.** Same, retrolateral view. **75.** Epigynum, ventral view. **76.** Same, dorsal view.

seum of Victoria, whose mallee pitfall trapping program produced the holotype.

DIAGNOSIS: Males have not been collected with females, but the South Australian adults listed below are all similar in size and coloration. Males have a triangular retrolateral tibial apophysis, similar to that of *M. houstoni*, but have a much shorter embolus, restricted to the prolateral edge of the palpal bulb (figs. 77, 78). Females can be recognized by the small anterolateral projections on the spermathecal ducts (fig. 80).

MALE: Total length 3.7. Coloration as in *M. houstoni*. Chelicerae inclined, endites relatively short. Tarsi III with cuticular cracks. Retrolateral tibial apophysis short, triangular (fig. 78); embolus relatively short, restricted to prolateral surface of bulb (fig. 77).

FEMALE: Total length 5.5. Coloration as in *M. houstoni*. Chelicerae almost vertical, endites relatively short. Tarsi III with cuticular cracks. Epigynal atrium small, triangular (fig. 79); spermathecal ducts with anterolaterally directed anterior projections (fig. 80).

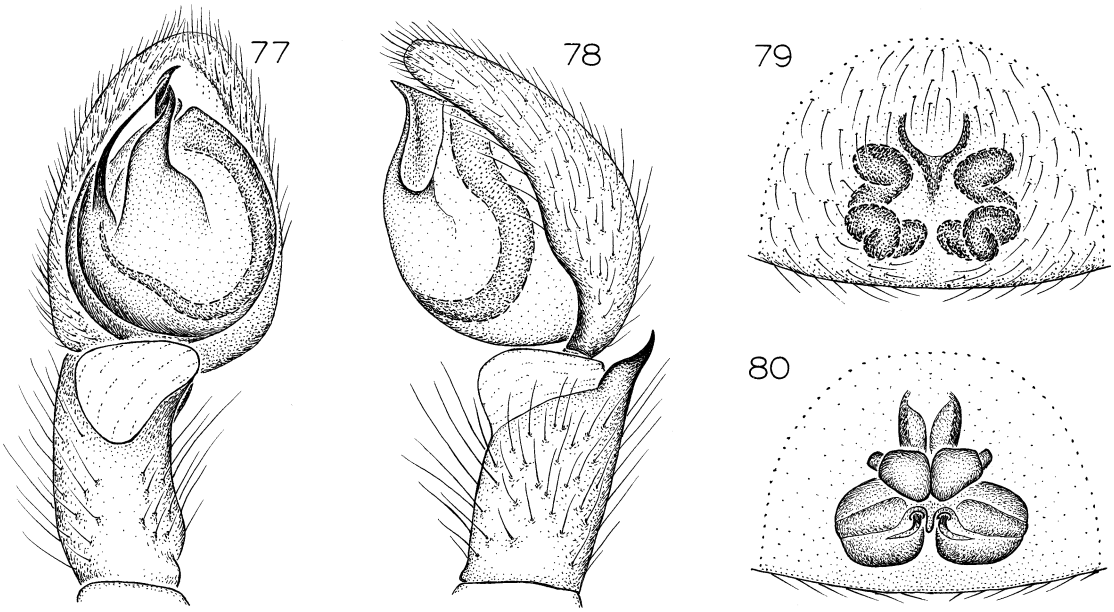
OTHER MATERIAL EXAMINED: **South Australia:** Aldinga Scrub, 35°18′S, 138°27′E, Sept. 15–22, 1987, pitfall (E. Matthews, SAM N1998/925), 1♂; Ferries McDonald Conservation Park, 35°14′S, 139°08′E, Oct. 5–Nov. 9, 1977–1978, pitfalls (E. Matthews, SAM N1998/923, 924), 2♂; Kelly Hill Caves, Kangaroo Island, 36°01′S, 136°55′E, Nov. 9–10, 1987, pitfall, camp area (D. Hirst, SAM N1998/926), 1♀; South Island, Greenly Islands, c. 34°38′S, 134°47′E, under log (SAM N1998/927), 1♀. **Western Australia:** Hampton Microwave Repeater Tower, Roe Plain, 31°57′S, 127°32′E, Oct. 17, 1992, under limestone (A. Longbottom, WAM 99/310), 1♀.

DISTRIBUTION: Drier parts of southern Australia (map 5).

Meedo flinders, new species

Figures 115, 116; Map 4

TYPE: Female holotype from pitfall trap in blue gum open woodland over acacias 4.5 km NNW Mount Cavern, Mount Remarkable National Park, Flinders Ranges, 32°47′S,



Figs. 77–80. *Meedo yeni*, new species. **77.** Left male palp, ventral view. **78.** Same, retrolateral view. **79.** Epigynum, ventral view. **80.** Same, dorsal view.

138°04′E, South Australia (Nov. 20–25, 1999), deposited in SAM (NN9450).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *M. yeni* but have a wider epigynal atrium (fig. 115) and larger anterior spermathecal ducts (fig. 116).

MALE: Unknown.

FEMALE: Total length 4.4. Coloration as in *M. broadwater*. Chelicerae vertical, endites relatively short. All tarsi entire. Epigynal atrium short, wide, posterior margin produced anteriorly at midline (fig. 115); anterior spermathecal ducts relatively large, extending anteriorly of atrium (fig. 116).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from South Australia (map 4).

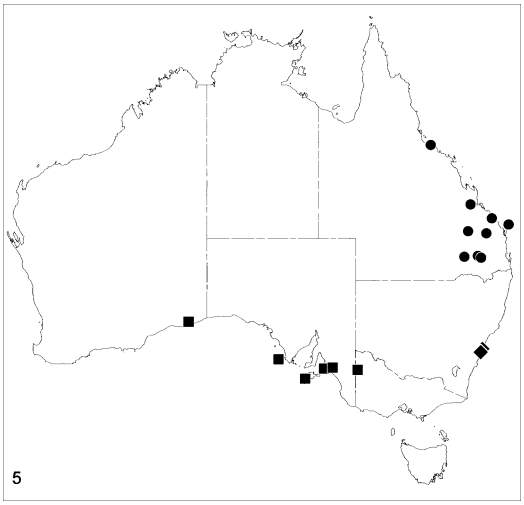
Meedo bluff, new species

Figures 127, 128; Map 5

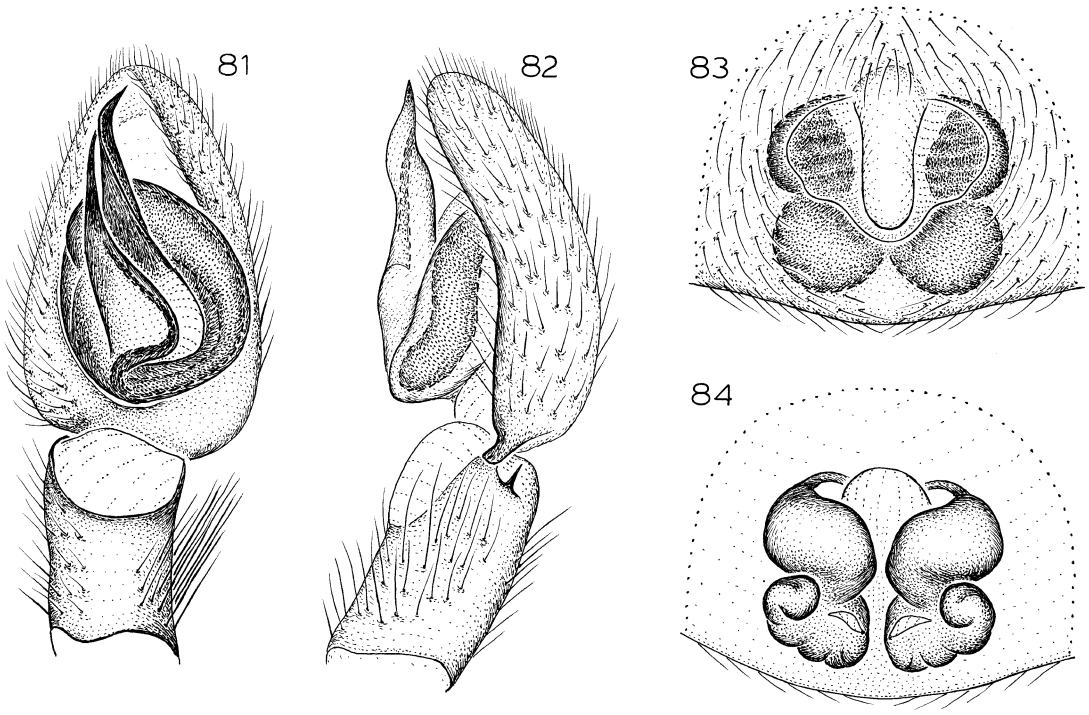
TYPE: Female holotype taken in pitfall trap on Sir Bertram Stevens Drive, ca. 0.7 km S Red Bluff, Royal National Park, 34°07′S, 151°04′E, New South Wales (Dec. 6–20, 1999; M. Gray, G. Milledge, H. Smith), deposited in AMS (KS63265).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The wide, anteriorly situated



Map 5. Records of *Meedo broadwater*, new species (circles), *M. yeni*, new species (squares), and *M. bluff*, new species (diamonds).



Figs. 81–84. *Meedo booti*, new species. **81.** Left male palp, ventral view. **82.** Same, retrolateral view. **83.** Epigynum, ventral view. **84.** Same, dorsal view.

epigynal atrium (fig. 127) and long spermathecae (fig. 128) are diagnostic.

MALE: Unknown.

FEMALE: Total length 6.8. Carapace light brown, abdominal dorsum dark gray with darker cardiac mark and scattered, tiny white spots, legs light brown proximally, orange brown distally. Chelicerae vertical, endites relatively short. All tarsi entire. Epigynal atrium situated anteriorly, extending almost full width of epigynum (fig. 127); spermathecae long, anterior portions with projections at their posterolateral corners (fig. 128).

OTHER MATERIAL EXAMINED: **New South Wales:** Sir Bertram Stevens Drive, ca. 0.3 km E Artillery Hill, Royal National Park, 34°05′S, 151°04′E, pitfall (M. Gray, G. Milledge, H. Smith, AMS KS63172), 1♀; Sir Bertram Stevens Drive, ca. 0.7 km S Red Bluff, Royal National Park, 34°07′S, 151°04′E, Dec. 6–20, 1999, pitfalls (M. Gray, G. Milledge, H. Smith, AMS KS63265), 1♀; Sydney area (''probably Audley National Park''), 1973 (possibly R. Moran, ANIC), 1♀.

DISTRIBUTION: Known only from New South Wales (map 5).

Meedo booti, new species

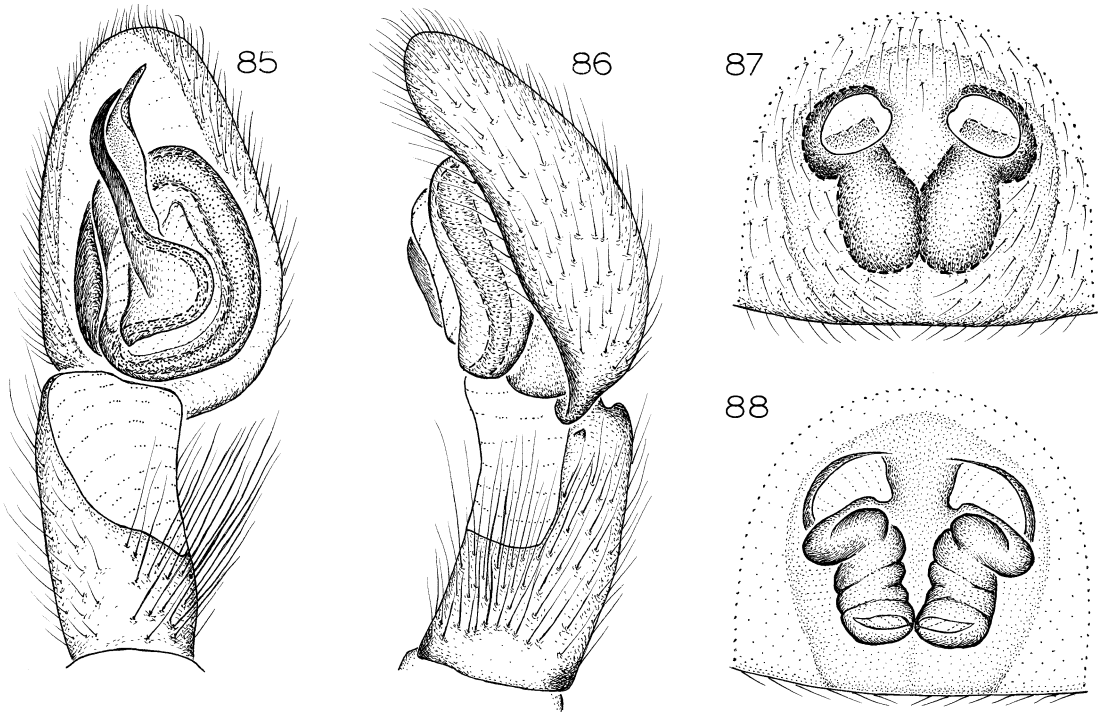
Figures 81–84; Map 6

TYPES: Male holotype and female allotype from Booti Booti National Park, 32°16′S, 152°32′E, New South Wales (Nov. 25, 1997; L. Wilkie), deposited in AMS (KS57618).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *M. bluff* but have a distinct epigynal septum (fig. 83) and s-shaped anterior epigynal ducts with anteromedian extensions (fig. 84); males resemble those of *M. munmorah* and *M. gympie* in having a peculiar elongation of the distal unsclerotized portion of the palpal tibia (cf. figs. 81, 85, 89), but can be distinguished by the moderately expanded embolar base and narrow, recurved conductor tip (figs. 81, 82).

MALE: Total length 4.1. Carapace light brown with scattered dark reticulations



Figs. 85–88. *Meedo munmorah*, new species. **85.** Left male palp, ventral view. **86.** Same, retrolateral view. **87.** Epigynum, ventral view. **88.** Same, dorsal view.

(heaviest at rear of pars cephalica), abdomen as in *M. mullaroo*, coxae, trochanters, and basal quarter of femora yellow, remainder of femora, patellae, and tibiae light brown, metatarsi and tarsi orange brown. Chelicerae vertical, endites relatively short. Tarsi III, IV with cuticular cracks. Retrolateral tibial apophysis reduced to thin, sharp prong (fig. 82), unsclerotized portion of tibia occupying almost half of ventral surface; embolar base moderately wide, embolus relatively long (fig. 81).

FEMALE: Total length 5.1. Coloration and mouthparts as in male. All tarsi entire. Anterior half of epigynum with distinct median septum (fig. 83); anterior portion of epigynal ducts s-shaped, with anteromedian extensions (fig. 84).

OTHER MATERIAL EXAMINED: **New South Wales:** Booti Booti National Park, 32°16′S, 152°32′E, Dec. 13, 1996 (L. Wilkie, AMS KS57619), 1♀, May 30, 1997 (L. Wilkie, AMS KS61380, 61381), 2♂, 1♀, Oct. 9, 1997 (L. Wilkie, AMS KS61382), 1♀; Myall Lakes National Park, 32°38′S, 152°12′E, Nov. 26, 1997 (L. Wilkie, AMS KS61383), 1♀.

DISTRIBUTION: Known only from New South Wales (map 6).



Map 6. Records of *Meedo booti*, new species (squares) and *M. gympie*, new species (circles).

Meedo munmorah, new species

Figures 85–88; Map 4

TYPE: Male holotype taken in litter at Lake Munmorah State Recreation Reserve, Geebung, 33°13′S, 151°34′E, New South Wales (Oct. 30, 1987; M. Gray), deposited in AMS (KS17800).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species resembles *M. gympie* (see below); males can easily be distinguished by the much wider embolar base (fig. 85), females by the more elongate posterior and smaller anterior portions of the spermathecae (fig. 88).

MALE: Total length 5.0. Carapace light brown with scattered dark reticulations (heaviest at rear of pars cephalica), abdomen as in *M. mullaroo*, only coxae and trochanters yellow, distal leg segments light brown. Chelicerae vertical, endites relatively short. Tarsi III, IV with cuticular cracks. Retrolateral tibial apophysis reduced to tiny denticle (fig. 86), unsclerotized portion of tibia occupying more than half of ventral surface; embolar base relatively wide, embolus relatively short (fig. 85).

FEMALE: Total length 6.2. Carapace as in male, abdomen and legs as in *M. mullaroo*. Chelicerae inclined, endites relatively short. Tarsi I–III entire, tarsi IV missing. Epigynal atrium wide, restricted to anterior half of epigynum (fig. 87); posterior portion of spermathecae long, anterior portion short (fig. 88).

OTHER MATERIAL EXAMINED: **New South Wales:** Gloucester Road, Barrington Tops National Park, 32°04′S, 151°41′E, Nov. 12–14, 1981, rainforest (Weir, Calder, ANIC), 1♂; 600 m N Homewoods Road, 2.8 km W Knodingbul Road, Bulga State Forest, 31°37′S, 152°07′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 650 m (M. Gray, G. Cassis, AMS KS42520), 1♀.

DISTRIBUTION: Known only from New South Wales (map 4).

Meedo gympie, new species

Figures 89–92; Map 6

NOTE: Scanning electron micrographs of the spinnerets of this species were provided by Platnick (1990, figs. 167–169).

TYPES: Male holotype and female allotype taken in pitfall traps in rainforest at an elevation of 183 m in Marys Creek State Forest, via Gympie, 26°15′S, 152°35′E, Queensland (Aug. 11–Nov. 10, 1974; G., S. Monteith), deposited in QMB.

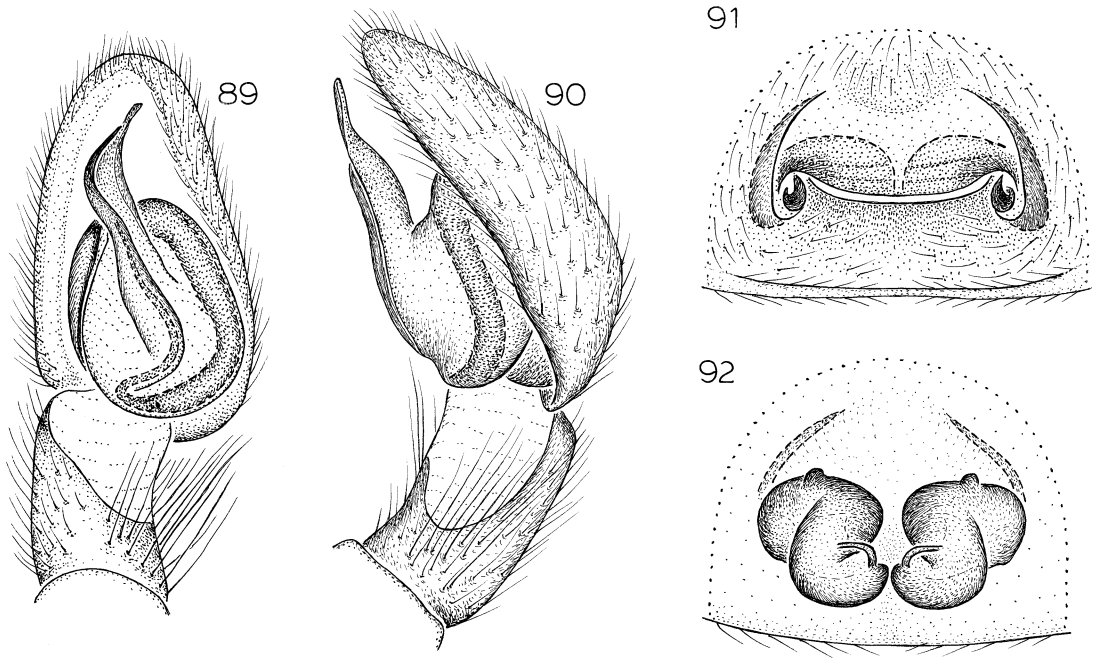
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species resembles *M. munmorah*; males have a much narrower embolar base (fig. 89), and females have a distinctive epigynum, with a wide, oval atrium (fig. 91) and transversely oriented anterior portions of the spermathecae (fig. 92).

MALE: Total length 5.4. Coloration, mouthparts, and tarsi as in *N. munmorah*. Retrolateral tibial apophysis absent (fig. 90), unsclerotized portion of tibia occupying more than half of ventral surface; embolar base relatively narrow (fig. 89).

FEMALE: Total length 8.1. Carapace dark brown with black reticulations, abdominal dorsum dark gray, femora, patellae, and tibiae dark brown, metatarsi and tarsi brown. Mouthparts as in *N. munmorah*. All tarsi entire. Epigynum with wide, oval atrium bearing transverse ridge, broken portions of embolus often protruding from posterolateral corners (fig. 91); spermathecae anteriorly wide, approximate (fig. 92).

OTHER MATERIAL EXAMINED: **New South Wales:** Cherry Tree State Forest, via Mallanganee, 28°53′S, 152°45′E, May 27–Oct. 2, 1978 (G., S. Monteith, QMB), 1♂; Cherry Tree North State Forest, 28°58′S, 152°15′E, Dec. 17, 1988, pitfall, dry rainforest, exposed slope. elev. over 300 m (Smith, Hines, Pugh, Webber, AMS KS55284), 1♀; New Brighton Beach, via Brunswick Heads, 28°29′S, 153°33′E, Aug. 3–Nov. 16, 1975, rainforest pitfall, elev. 10 m (G., S. Monteith, QMB), 2♀; Rocky Waterholes Road, Beaury State Forest, 28°32′S, 152°20′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 705 m (M. Gray, G. Cassis, AMS KS37833), 1♂; Stotts Island, 28°14′S, 153°31′E, Nov. 19, 1978 (R. Raven, QMB), 1♀. **Queensland:** Archookoora, via Nanango, 26°43′S, 151°46′E, Oct. 26, 1975–Jan. 25, 1976, rainforest pitfall, elev. 580 m (G., S. Monteith, QMB), 1♀; Bellbowrie, Brisbane, 27°33′S, 152°53′E, July 1988 (J. Gallon, QMB S28267), 1♀; Burleigh Headland, Gold Coast, 28°10′S, 153°33′E, May



Figs. 89–92. *Meedo gympie*, new species. **89.** Left male palp, ventral view. **90.** Same, retrolateral view. **91.** Epigynum, ventral view. **92.** Same, dorsal view.

25–Oct. 13, 1975, rainforest pitfall, elev. 10 m (G., S. Monteith, QMB), 1♀; Calamvale, Brisbane, 27°28′S, 153°03′E, June 3, 1988 (E. Dahms, QMB S7002), 1♂; Carina Heights, Brisbane, 27°28′S, 153°01′E, Feb 1983 (F. Bedford, QMB), 1♀; Cooloola, 26°12′S, 153°03′E, Oct. 1978, pitfall, high dune (K. Plowman, QMB), 1♀; Elginvale, 30 km NE Nanango, 27°58′S, 152°22′E, Mar. 26–Oct. 28, 1977, rainforest pitfall, elev. 610 m (G., S. Monteith, QMB), 1♂; Finch Hatton Gorge, Eungella National Park, 21°05′S, 148°39′E, July 28–Dec. 3, 1992, pitfall (R. Raven, P., E. Lawless, M. Shaw, QMB S24791), 1♀, Dec. 3, 1992–Apr. 23, 1993, pitfall (R., J., S. Raven, P., E. Lawless, QMB S24615), 1♀; Freshwater Road, Cooloola, 25°58′S, 153°10′E, Nov. 10–Dec. 26, 1974, rainforest pitfall, elev. 183 m (G., S. Monteith, QMB), 1♀; Gold Creek Reservoir, Brookfield, 27°30′S, 152°55′E, Nov. 9, 1975–Feb. 27, 1976, rainforest pitfall, elev. 110 m (G., S. Monteith, QMB), 1♀, Oct. 1–15, 1980, pitfall, closed forest (V. Davies, R. Raven, QMB), 1♀; Hugh Nelson Range, 17°27′S, 145°29′E, Jan. 3–Feb. 4, 1995, pitfall, elev. 1150 m (P. Zborowski, QMB), 1♀; Marys Creek State Forest, via Gympie, 26°15′S, 152°35′E, Mar. 28–June 16, 1975, rainforest pitfall, elev. 183 m (G., S. Monteith, QMB), 1♂; Mount Coolum, 26°34′S, 153°05′E, Jan. 1984, pitfall (B. Jahnke, QMB), 1♀; Mount Cotton, Scott's Dam, 27°36′S, 153°13′E, Dec. 12, 1997–May 7, 1998, rainforest pitfall, elev. 120 m (G. Monteith, QMB S42480), 1♂; Rockhampton, 23°22′S, 150°32′E, 1991, pitfall (D. Wallace, R. Raven, QMB S36054), 1♀; Wongabel State Forest, 17°20′S, 145°30′E, July 23–Nov. 26, 1992, pitfall (R. Raven, P., E. Lawless, M. Shaw, QMB S22620), 1♀; 3 km E Yarraman, 26°50′S, 151°59′E, Aug. 17–Nov. 10, 1974, rainforest pitfall, elev. 518 m (G., S. Monteith, QMB), 2♀.

DISTRIBUTION: Northeastern Queensland south to northeastern New South Wales (map 6).

Neato, new genus

TYPE SPECIES: *Neato walli*, new species.

ETYMOLOGY: The generic name is an arbitrary combination of letters considered masculine in gender.

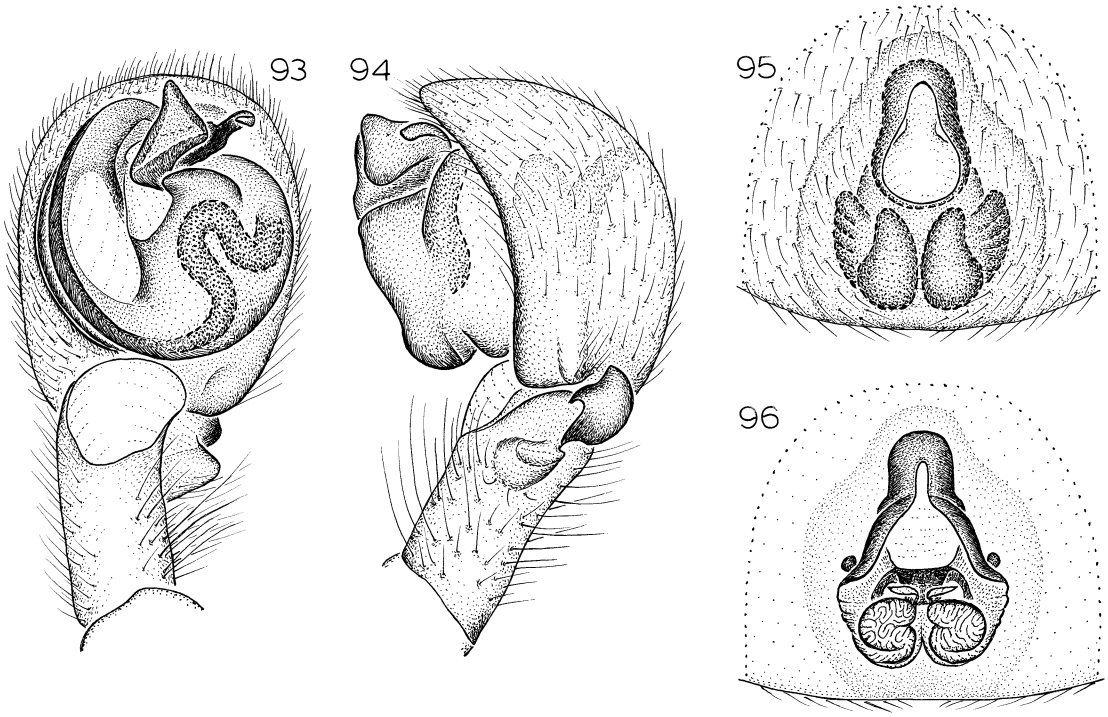
DIAGNOSIS: The extremely wide embolus of males (figs. 93, 97) is diagnostic; the female epigyna resemble those of *Oreo* but the spermathecae are more highly crenulated (fig. 96) and (except in *N. beerwah*) are flanked by a pair of lateral margins (fig. 100).

DESCRIPTION: Small spiders, total length of males 2.9–4.8, of females 3.2–5.4. Carapace glabrous, without tubercles, with sparsely scattered, short, recumbent, dark setae and longer, erect setae on clypeus; thoracic groove long, longitudinal, not expanded anteriorly. Eight eyes in two rows, anterior medians largest, circular, dark, posterior medians smallest, irregularly rectangular, flattened, laterals subequal in size, oval; from above, anterior row almost straight, posterior row slightly procurved, from front, both rows procurved; anterior medians separated by about their radius, about as far from anterior laterals; posterior medians separated by much more than their diameter, separated by about their diameter from posterior laterals; anterior and posterior laterals separated by about their diameter; median ocular quadrangle wider in back than in front and than long. Chelicerae porrect, anterior surface with few scattered, strong setae; chilum unipartite, triangular, fused to clypeus, accompanied by second, elongated, posterior chilum (extremely narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of short setae originating in line along base of fang plus two long, thick seta originating near base of fang, extending far from base before bending toward midline; promargin and retromargin of fang furrow toothless. Labium wide, very short, extending only about one-third length of endites, bipartite, posterior portion short, flat, anterior portion steeply inclined; posterolateral corners heavily sclerotized, anterior margin invaginated at middle. Endites with very weak oblique depression, without median groove, serrula present (fig. 150), apex bearing narrow patch of long, stiff, dark setae. Sternum flat, with weak lateral margins, not expanded anteriorly, with slight extensions between coxae I–III; surface smooth, with few long setae. One weakly sclerotized epimeric sclerite on each side, with heavily sclerotized triangles above coxae I–III but not extending between them, not fused to carapace. Pedicel composed of two narrow dorsal sclerites and weak, inverted v-shaped ventral sclerite, reaching almost to posterior tip of sternum.

Abdomen without dorsal scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, that of males with posteriorly produced margin at middle, with very narrow spiracles at sides, without postepigastric sclerites; colulus represented by setae; posterior spiracle wide, anterior of colular setae. Six spinnerets (figs. 47–52), anterior laterals small, widely separated at base, with two articles; posterior medians of males triangular, of females bipartite, posterior portion with four or five large cylindrical gland spigots; posterior laterals with two articles, those of females with at least one large cylindrical gland spigot.

Leg formula 4123; leg spination greatly reduced, typical leg spination pattern (only surface bearing spines listed): tibiae III, IV v0-0-2 (spines weak on IV); metatarsi III, IV v0-0-2; most surfaces with normal, long setae; coxae and trochanters without dorsal tubercles; anterior coxae without protuberant posterolateral corners; trochanters unnotched, relatively long; metatarsi and tarsi I, II with weak, undivided scopulae; posterior metatarsi without distal preening brushes; tarsi with two basally dentate claws, weak claw tufts composed of few, narrow setae; tarsi I–IV of both sexes sometimes with cuticular cracks at about two-thirds of their length, cracking occupying more of segment on tarsi III, IV; trichobothria present, in two rows on tarsi and tibiae, single row on metatarsi. Female palpal tibia with weak dorsal spines; female palpal tarsus with thick dentate claw and ventral brush of long, stiff setae.

Male palp with elaborate retrolateral tibial apophysis; cymbial surface excavated at base, opposite tibial apophysis; tegulum rounded, with prolaterally situated, unusually wide embolus, medially situated, elaborate conductor, without median apophysis. External epigynum with heavily margined atrium; spermathecae compact, highly crenulate, with elongate lateral extensions.



Figs. 93–96. *Neato walli*, new species. **93.** Left male palp, ventral view. **94.** Same, retrolateral view. **95.** Epigynum, ventral view. **96.** Same, dorsal view.

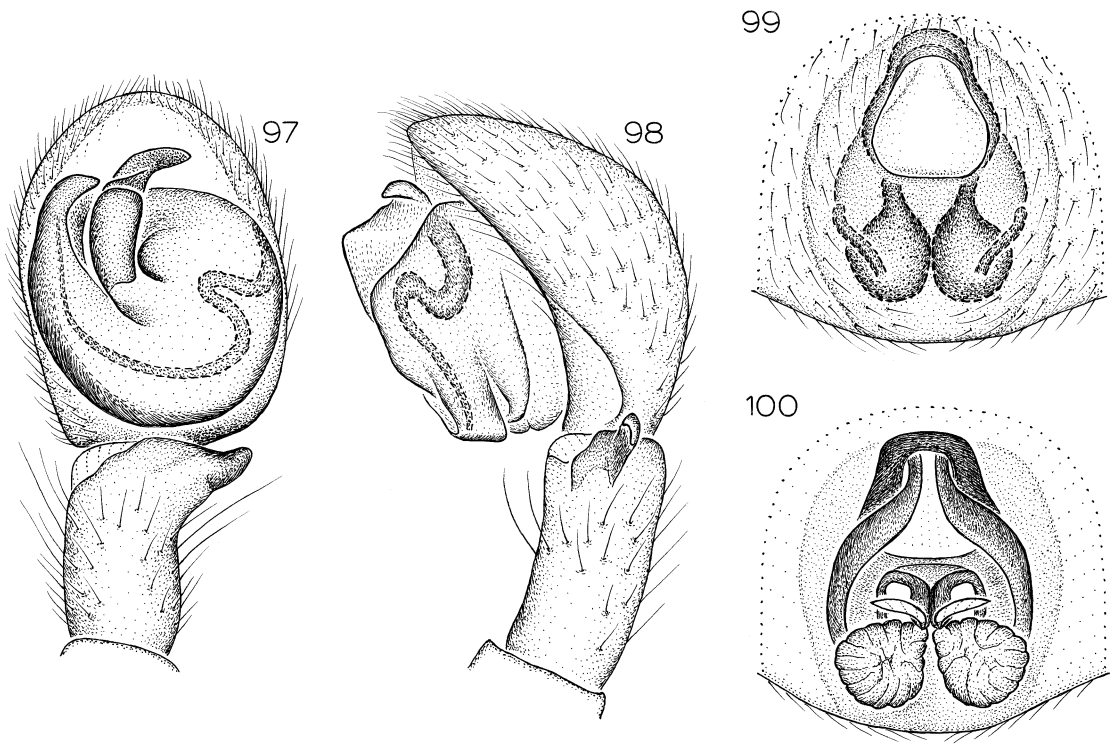
KEY TO SPECIES OF *NEATO*

1. Males 2
– Females (those of *arid* unknown) 8
2. Retrolateral tibial apophysis a large, dorsally rounded knob (fig. 94) . . . . . *walli*
– Retrolateral tibial apophysis smaller, not rounded 3
3. Embolus relatively short, not reaching distal tip of bulb (figs. 113, 117) 4
– Embolus longer, reaching tip of bulb 5
4. Palpal conductor straight (fig. 117) . . . . . *beerwah*
– Palpal conductor bent (fig. 113) . . . . . *arid*
5. Retrolateral tibial apophysis relatively wide (fig. 110) . . . . . *barrine*
– Retrolateral tibial apophysis narrower (figs. 98, 102, 106) 6
6. Embolus relatively wide subdistally (figs. 101, 105) 7
– Embolus relatively narrow subdistally (fig. 97) . . . . . *raveni*
7. Retrolateral tibial apophysis expanded at tip (fig. 102) . . . . . *kioloa*
– Retrolateral tibial apophysis not expanded at tip (fig. 106) . . . . . *palms*
8. Spermathecae much wider than epigynal atrium (figs. 112, 120) 9
– Spermathecae only slightly wider than epigynal atrium 10
9. Spermathecae relatively large (fig. 120) . . . . . *beerwah*
– Spermathecae relatively small (fig. 112) . . . . . *barrine*
10. Epigynal atrium relatively large (fig. 103) . . . . . *kioloa*
– Epigynal atrium smaller (figs. 95, 99, 107) 11
11. Epigynal atrium greatly narrowed anteriorly (fig. 95) . . . . . *walli*
– Epigynal atrium wider anteriorly (figs. 99, 107) 12
12. Epigynal atrium widened posteriorly (fig. 99) . . . . . *raveni*
– Epigynal atrium not widened posteriorly (fig. 107) . . . . . *palms*

Neato walli, new species

Figures 47–52, 93–96; Map 7

TYPES: Male holotype and female allotype taken under a stone in the twilight zone of Deep Hole cave, Walli, 33°33′S, 148°55′E, New South Wales (June 15, 1995; S. Eberhard), deposited in AMS (KS55283).



Figs. 97–100. *Neato raveni*, new species. **97.** Left male palp, ventral view. **98.** Same, retrolateral view. **99.** Epigynum, ventral view. **100.** Same, dorsal view.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The knob-shaped dorsal extension of the male retrolateral tibial apophysis (fig. 94) and the small, round, lateral spermathecal extensions (fig. 96) are diagnostic.

MALE: Total length 4.4. Carapace light brown with dark gray reticulations; abdominal dorsum gray, posterior half marked with six pairs of paramedian white spots, last two pairs of which fuse with white sides and venter; coxae, trochanters, and proximal halves of femora yellow, more distal segments brown, patellae and tibiae lighter near base. Chelicerae inclined, endites relatively short. Leg spination: metatarsi IV v0-0-1p. All tarsi with cuticular cracks, zone of cracking increasing in length from legs I–IV (very narrow on tarsus I, occupying most of distal half of tarsus IV). Retrolateral tibial apophysis elaborate, with rounded dorsal knob (fig. 94); embolus relatively short, conductor cup-shaped, with long retrolateral extension (fig. 93).

FEMALE: Total length 4.3. Coloration and mouthparts as in male. Leg spination typical for genus. Tarsal cracking as in male. Epigynum with flask-shaped atrium (fig. 95), lateral spermathecal ducts with small, rounded lateral extensions at about half of epigynal length (fig. 96).

OTHER MATERIAL EXAMINED: **Queensland:** Lake Broadwater, via Dalby, 27°21′S, 151°06′E, May 17–Nov. 24, 1985, pitfalls (M. Bennie, QMB ex S34510), 3♀. **Victoria:** Barr Creek, Cohuna, 35°49′S, 144°11′E, May 1, 1999, watering (J. Hooper, D., J. Shield, J. Woodman, CVIC 738), 2♂, 1♀; Barr Creek, Cohuna, 35°50′S, 144°11′E, Nov. 16–21, 1996, shelterbelt pitfall (J. Shield, J. Hooper, CVIC 601), 1♀, Apr. 18, 1998, collected during watering (J. Hooper, CVIC 480), 2♂, 1♀; LaTrobe University, Bendigo, 36°47′S, 144°18′E, Aug. 10–15, 1995, pitfall (J. Smith, CVIC 474), 1♂; 6.3 km ENE confluence Lindsay River and Mullaroo Creek, 34°07′S, 141°11′E, June 1986, drift fence pitfall (A. Yen, NMV K4637),

1♀; Warby Range State Park, 10 km W Wangaratta, 36°18′S, 146°11′E, July 28, 2000, pitfall, dry sclerophyll, old growth (M. Scholes, QMB S54131), 1♂.

DISTRIBUTION: Southeastern Queensland south to Victoria (map 7).

Neato raveni, new species

Figures 97–100; Map 7

TYPES: Male holotype and female allotype taken in pitfall traps at Olsens Caverns, The Caves, 23°10′S, 150°28′E, Queensland (Apr. 21–July 18, 1990; D. Wallace, R. Raven), deposited in QMB (S30408).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Robert Raven, one of the collectors of the types and many other fascinating Australian gnaphosoids.

DIAGNOSIS: Males can be recognized by the scoop-shaped dorsal extension of the retrolateral tibial apophysis (fig. 98), females by the triangular epigynal atrium (fig. 99) and short spermathecae (fig. 100).

MALE: Total length 2.9. Carapace as in *N. walli*; abdominal dorsum as in *N. walli* except posterior paramedian white spots enclosed in dark pigment; coxae and trochanters yellow, femora entirely brown, patellae and metatarsi light brown proximally, brown distally, metatarsi IV brown, metatarsi I–III and all tarsi yellow. Chelicerae slightly inclined, endites relatively short. Leg spination: metatarsi III p0-0-1. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis with low ventral lobe and scoop-shaped dorsal extension (fig. 98); embolus relatively short, conductor folded, with hook-shaped retrolateral extension (fig. 97).

FEMALE: Total length 3.3. Coloration and mouthparts as in male. Leg spination: tibiae III, IV v0-0-1p; metatarsi III p0-0-1. Tarsal cracking as in *N. walli*. Epigynal atrium triangular, restricted to anterior half of epigynum (fig. 99); spermathecae restricted to posterior one-third of epigynum (fig. 100).

OTHER MATERIAL EXAMINED: **Queensland:** summit, Pine Mountain, 21°45′S, 148°50′E, June 1, 2000, Berlese, sieved litter, vine scrub, elev. 620 m (G. Monteith, G. Thompson, QMB S52770), 1♀.

DISTRIBUTION: Known only from mid-eastern Queensland (map 7).

Neato kioloa, new species

Figures 101–104, 150; Map 8

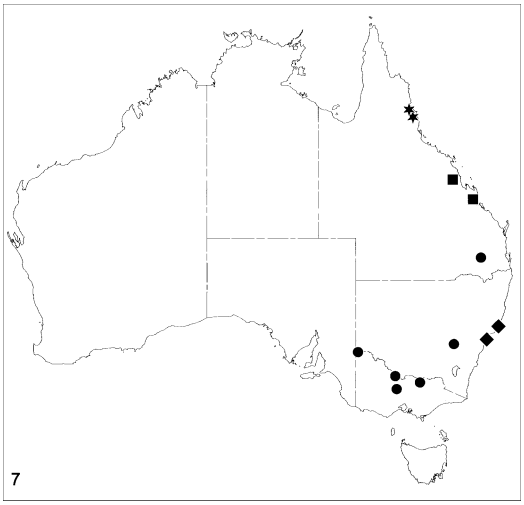
TYPE: Male holotype taken in a pitfall trap in litter on Kioloa State Forest Drive, 8 km N Bateman's Bay, 35°37′S, 150°16′E, New South Wales (Apr. 23–May 17, 1979; C. Horseman), deposited in AMS (KS3014).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

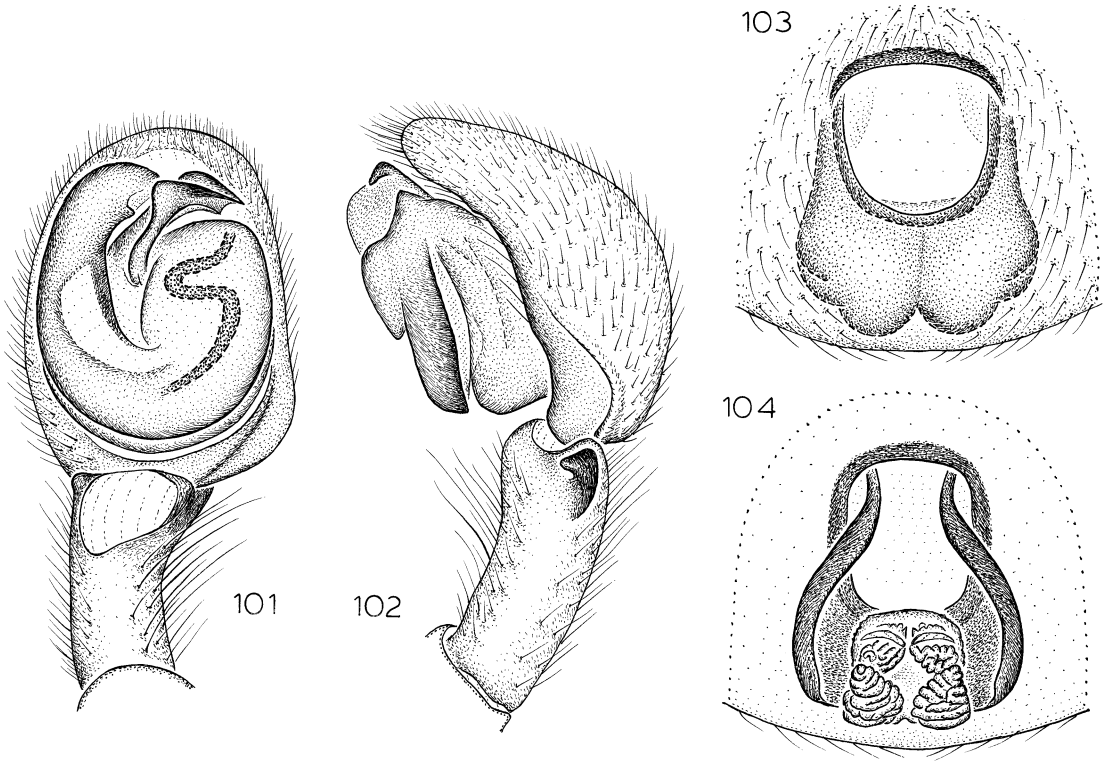
DIAGNOSIS: Males can easily be recognized by the ventrally directed tip of the retrolateral tibial apophysis (fig. 102), females by the squared epigynal atrium (fig. 103).

MALE: Total length 4.8. Carapace as in *N. walli*; abdominal dorsum dark gray, with scattered tiny white spots posteriorly, venter light gray with four longitudinal rows of white spots; coxae and trochanters pale yellow, femora dark brown with two dorsal light stripes, remaining segments orange, darker on posterior legs than on anteriors. Chelicerae inclined, endites relatively long. Leg spination: tibiae III, IV v0-0-1p; metatarsi III, IV p0-0-1. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis ventrally excavated, with ventrally directed tip (fig. 102); embolus very wide, with subdistal projection, conductor distally twisted, arrow-shaped (fig. 101).

FEMALE: Total length 4.5. Coloration and



Map 7. Records of *Neato walli*, new species (circles), *N. raveni*, new species (squares), *N. palms*, new species (diamonds), and *N. barrine*, new species (stars).



Figs. 101–104. *Neato kioloa*, new species. **101.** Left male palp, ventral view. **102.** Same, retrolateral view. **103.** Epigynum, ventral view. **104.** Same, dorsal view.

mouthparts as in male. Leg spination: tibiae: III v0-0-1p; IV v1p-0-2; metatarsi: III p0-0-1; IV v1p-1p-2, p0-0-1. Tarsal cracking as in *N. walli*. Epigynal atrium squared (fig. 103); spermathecae bipartite, posterior portion elevated relative to anterior (fig. 104).

OTHER MATERIAL EXAMINED: **New South Wales:** Benandarah State Forest, 8 km N Bateman's Bay, 35°40′S, 150°14′E, Oct. 5–Nov. 2, 1978, pitfall, litter (C. Horseman, AMS KS2038), 1♀; Blue Mountains, road to Ingar Picnic Area, 33°46′S, 150°29′E, Oct. 3, 1996, pitfall (AMS KS51704), 1♀; Kioloa State Forest Drive, 15 km N Bateman's Bay, 35°37′S, 150°16′E, May 17–June 14, 1979, pitfall, litter (C. Horseman, AMS KS3119), 1♂; 4 km N Mount Wog Wog, 17 km SE Bombala, 37°05′S, 149°28′E, May 1985, pitfall (C. Margules, ANIC), 1♀. **Victoria:** Cobon South Coupe, 37°25′S, 148°56′E, May 6–11, 1992, midslope pitfall (R. Coy, NMV K4634), 1♂; Cobon South Coupe, 37°25′S, 148°58′E, Nov. 10–17, 1991, upslope pitfall (R. Coy, NMV K3608), 1♀; Rotamah Island, The Lakes National Park, 37°58′S, 147°45′E, June 11, 1990, sieved banksia litter and decayed wood (D. Black, WAM 96/1583–1586), 4♀; Sardine Coupe, 37°24′S, 148°31′E, May 10–15, 1992, upslope pitfall (R. Coy, NMV K4635), 1♂; Sardine Coupe, 37°25′S, 148°31′E, May 4–10, 1992, midslope pitfall (R. Coy, NMV K3586), 1♂.

DISTRIBUTION: Eastern Victoria and southeastern New South Wales (map 8).

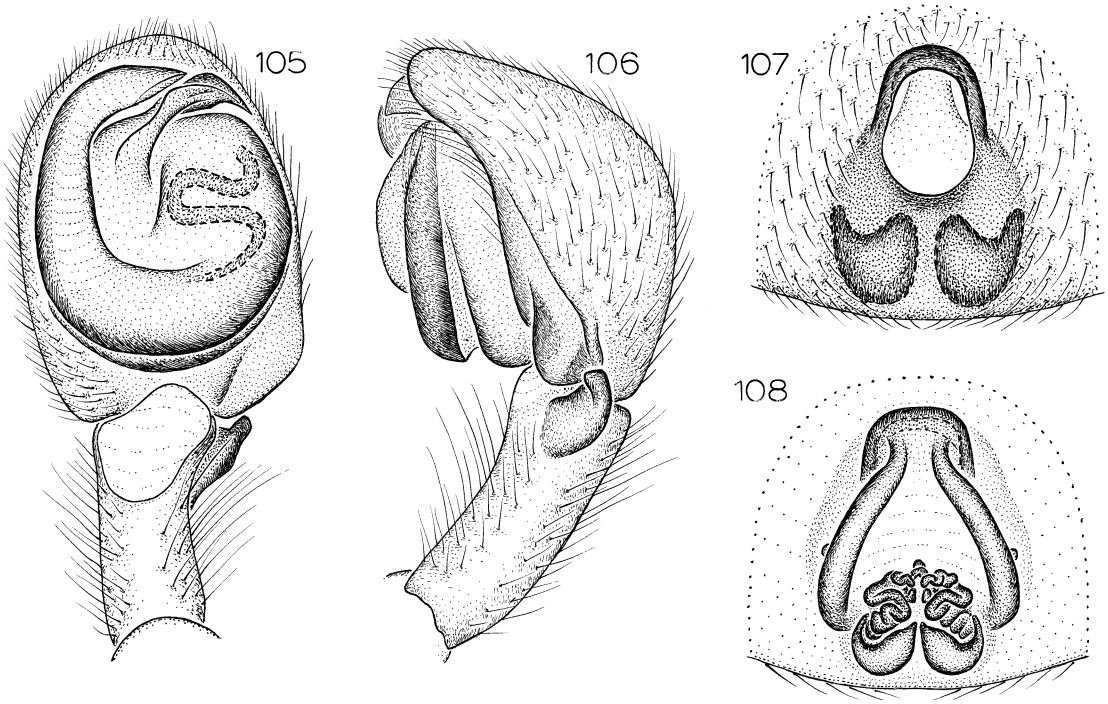
Neato palms, new species

Figures 105–108; Map 7

TYPE: Male holotype taken in pitfall trap at Pacific Palms, 32°21′S, 152°31′E, New South Wales (May 11–25, 1992; C. Peterson), deposited in AMS (KS55276).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males closely resemble those of *N. kioloa,* but have a narrower tip on the



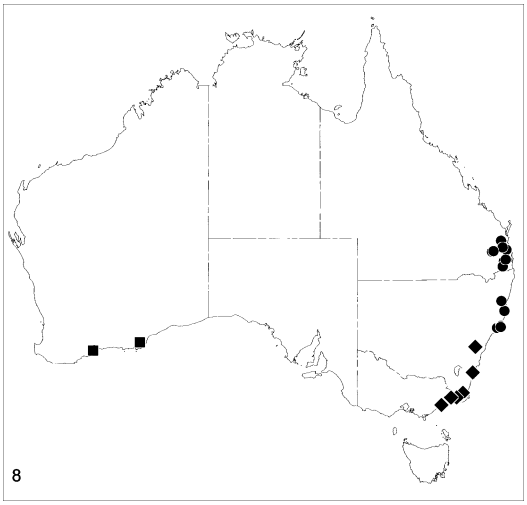
Figs. 105–108. *Neato palms*, new species. **105.** Left male palp, ventral view. **106.** Same, retrolateral view. **107.** Epigynum, ventral view. **108.** Same, dorsal view.

retrolateral tibial apophysis (fig. 106), a much narrower embolus, which does not have a subdistal projection, and a basally narrower conductor (fig. 105); females also resemble those of *N. kioloa* but have a longer, narrower epigynal atrium (fig. 107).

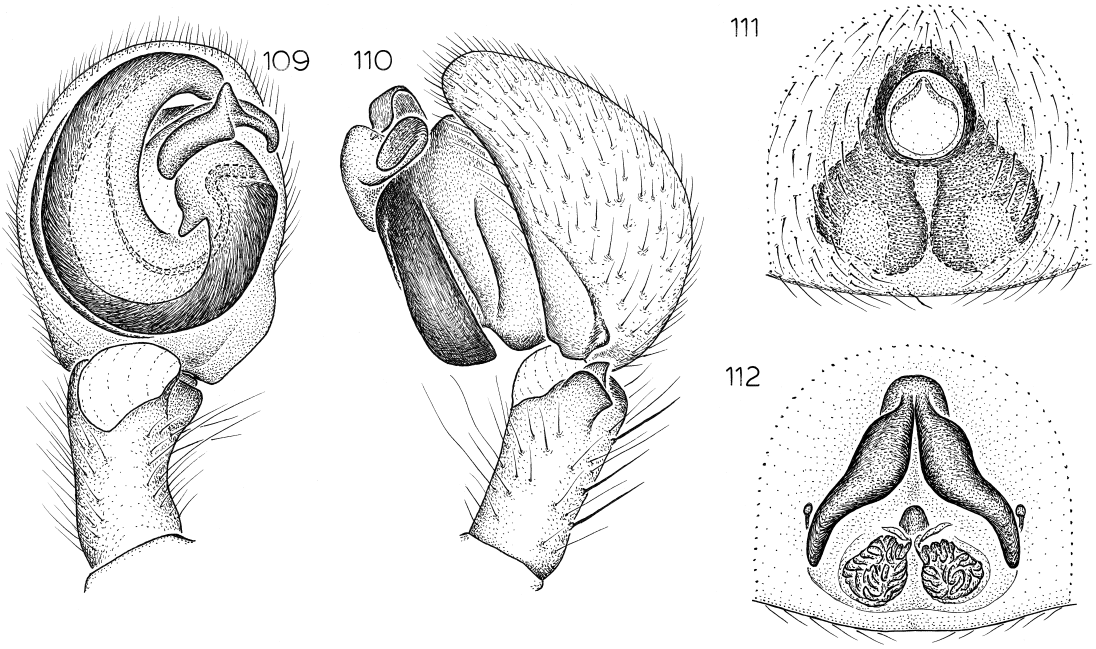
MALE: Total length 4.4. Coloration and mouthparts as in *N. kioloa*. Leg spination: tibiae III, IV v0-0-1p; metatarsi III, IV p0-0-1. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis ventrally excavated, with short, ventrally directed tip (fig. 106); embolus relatively narrow, bent at right angle, conductor relatively narrow, tip arrow-shaped (fig. 105).

FEMALE: Total length 5.4. Coloration and mouthparts as in *M. kioloa*. Leg spination: tibiae III v0-0-1p, IV v0-0-0; metatarsi III p0-0-1, v0-1p-2; IV p0-0-1. Epigynal atrium long, rectangular, midpiece tongue-shaped (fig. 107); spermathecae bearing triangular anteromedian extension (fig. 108).

OTHER MATERIAL EXAMINED: **New South Wales:** Booti Booti National Park, 32°16′S,



Map 8. Records of *Neato kioloa*, new species (diamonds), *N. arid*, new species (squares), and *N. beerwah*, new species (circles).



Figs. 109–112. *Neato barrine*, new species. **109.** Left male palp, ventral view. **110.** Same, retrolateral view. **111.** Epigynum, ventral view. **112.** Same, dorsal view.

152°32′E, May 25, 1998 (L. Wilkie, AMS KS61396), 1♂; Booti Booti National Park, 32°17′S, 152°31′E, Nov. 25, 1997 (L. Wilkie, AMS KS57632), 1♀; Munmorah State Recreation Area, 33°13′S, 151°34′E, May 1, 1997 (L. Wilkie, AMS KS57631), 1♂.

DISTRIBUTION: Known only from eastern New South Wales (map 7).

Neato barrine, new species

Figures 109–112; Map 7

TYPE: Male holotype taken from bark, fungi, and litter in a rainforest at an elevation of 750 m at Lake Barrine, Atherton, 17°16′S, 145°38′E, Queensland (July 29, 1982; S. and J. Peck), deposited in QMB.

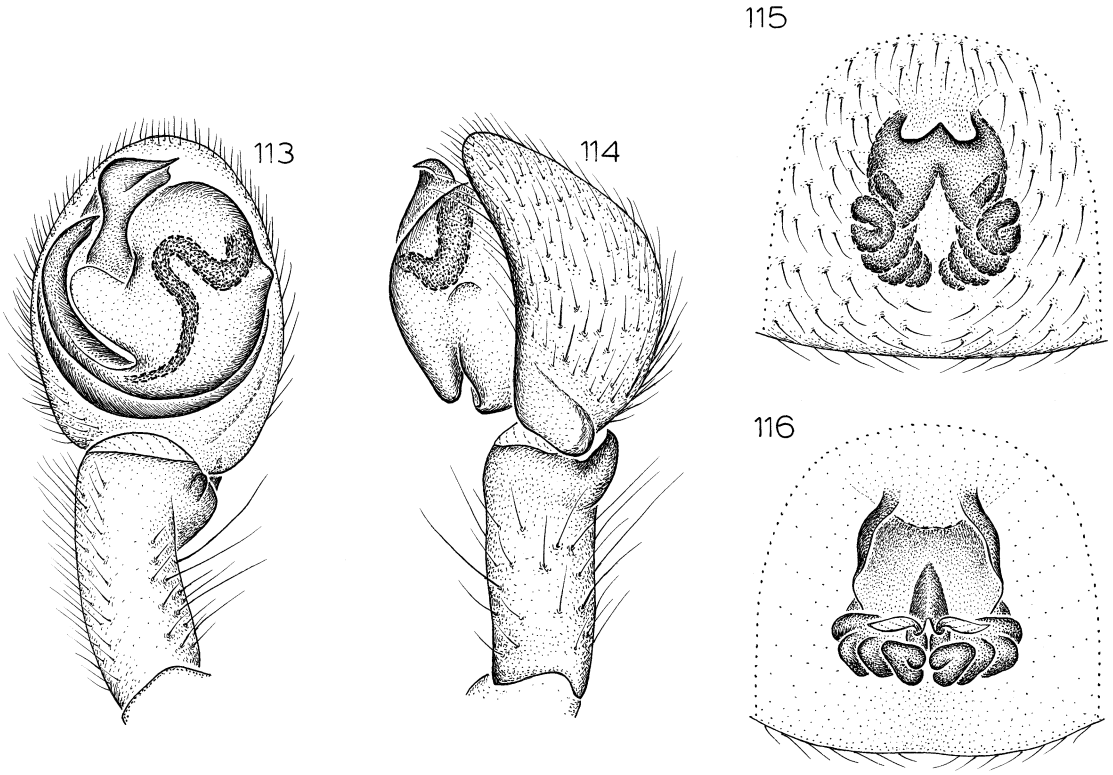
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the two dorsal projections on the retrolateral tibial apophysis and the thumb-shaped distal portion of the conductor (figs. 109, 110), females by the small, oval epigynal atrium (fig. 111) and the anteriorly widened lateral epigynal ducts (fig. 112).

MALE: Total length 3.3. Carapace as in *N. walli*, abdominal dorsum gray, posterior half marked with six pairs of paramedian white spots, sides light gray, venter white; legs as in *N. kioloa* except femora without dorsal stripes. Chelicerae inclined, endites relatively long. Leg spination: tibiae: III v0-0-1p; IV v0-0-0; metatarsi III p0-0-1. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis with two dorsal projections (fig. 110); embolus arched distally, conductor with long, thumb-shaped distal projection (fig. 109).

FEMALE: Total length 3.3. Carapace as in *N. walli*, abdominal dorsum gray, posterior half with only faint traces of two pairs of paramedian white spots, sides light gray, venter white; legs with femora, distal tips of patellae, tibiae, and fourth metatarsi brown, other segments light orange. Chelicerae inclined, endites relatively long. Leg spination: tibiae III v1p-0-1p; IV v1p-0-2; metatarsi IV v0-1p-2. Epigynal atrium relatively small, oval, containing triangular septum (fig. 111); spermathecae bipartite, posterior portion elevated relative to anterior, lateral ducts widened anteriorly (fig. 112).

OTHER MATERIAL EXAMINED: **Queensland:**



Figs. 113–116. 113, 114. *Neato arid*, new species. 115, 116. *Meedo flinders*, new species. **113.** Left male palp, ventral view. **114.** Same, retrolateral view. **115.** Epigynum, ventral view. **116.** Same, dorsal view.

Mount Molloy, 16°44′S, 145°19′E, summer 1992–1993, pitfall, riparian/woodland, elev. 400 m (S. Barnett, QMB S30454), 1♀.

DISTRIBUTION: Known only from northeastern Queensland (map 7).

Neato arid, new species

Figures 113, 114; Map 8

TYPE: Male holotype taken in pitfall trap on Mount Ragged, Cape Arid National Park, 33°26′S, 123°28′E, Western Australia (May 1, 1996; S. Barrett), deposited in WAM (96/1587).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

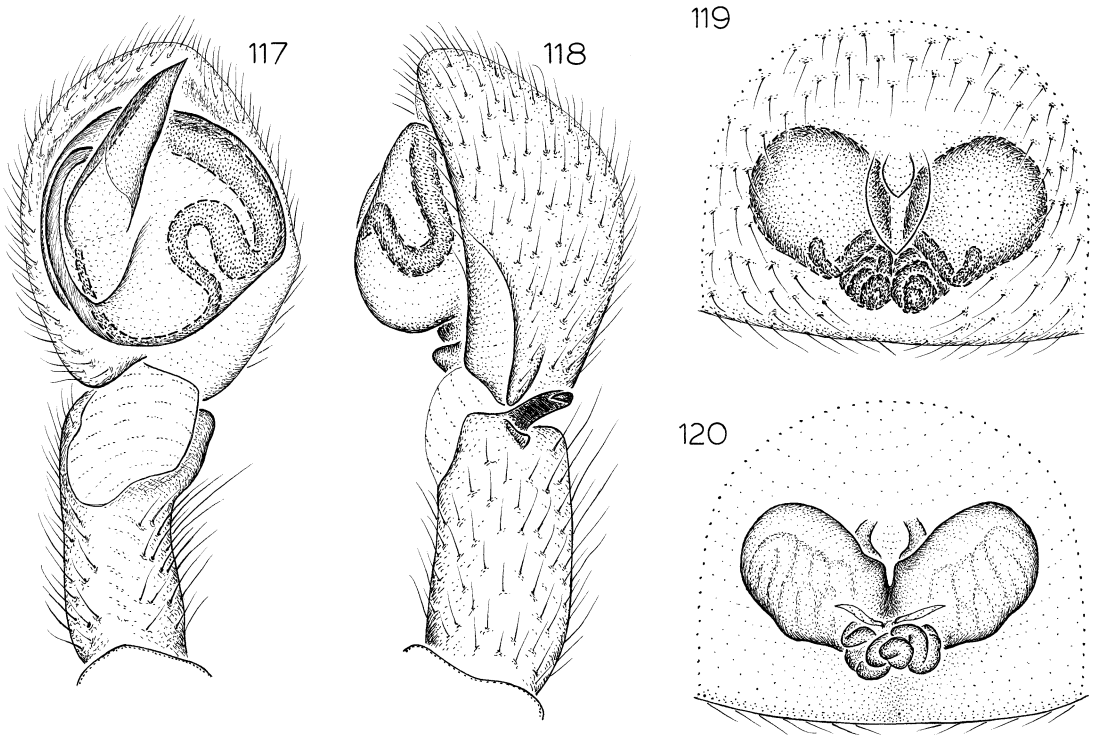
DIAGNOSIS: Males can easily be recognized by the short embolus, which does not reach the tip of the palpal bulb (fig. 113).

MALE: Total length 2.9. Carapace as in *N. walli*; abdominal dorsum dark gray, with scattered tiny white spots posteriorly, venter light gray; coxae and femora light yellow, femora and distal portions of patellae, tibiae, and metatarsi dark gray, proximal portions of patellae, tibiae, and metatarsi, and all of tarsi, yellow. Chelicerae inclined, endites relatively long. Leg spination: tibiae III v0-0-1p; metatarsi III, IV p0-0-1. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis ventrally excavated, tip directed distally (fig. 114); tegulum with distinct retrolateral projection, embolus short, not extending full length of bulb, conductor with sharply pointed tip (fig. 113).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: **Western Australia:** Thumb Peak, Fitzgerald River National Park, 34°02′S, 119°43′E, Apr. 27, 1996, pitfall (S. Barrett, WAM 96/1588–1590), 3♂.

DISTRIBUTION: Known only from southwestern Australia (map 8).



Figs. 117–120. *Neato beerwah*, new species. **117.** Left male palp, ventral view. **118.** Same, retrolateral view. **119.** Epigynum, ventral view. **120.** Same, dorsal view.

Neato beerwah, new species
Figures 117–120; Map 8

TYPE: Female holotype taken in pitfall trap in heath at Beerwah Forestry Reserve, 26°51′S, 152°57′E, Queensland (Aug. 8, 1990; M. Glover), deposited in QMB (S19153).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the narrow, dorsally directed retrolateral tibial apophysis (fig. 118), females by the lack of lateral epigynal margins (fig. 119).

MALE: Total length 3.0. Carapace as in *N. walli*; abdominal dorsum and sides uniformly dark gray, venter pale gray; legs bicolored, coxae, trochanters, basal portions of posterior patellae and tibiae, metatarsi and tarsi all yellow, other surfaces dark gray (posterior metatarsi slightly darkened distally). Mouthparts as in *N. walli*. Leg spination: tibiae III, IV v0-0-1p. Tarsal cracking as in *N. walli*. Retrolateral tibial apophysis very narrow, directed dorsally (fig. 118); embolus restricted to prolateral surface of bulb (fig. 117).

FEMALE: Total length 3.2. Coloration and mouthparts as in male. Leg spination: tibiae III v0-0-1p; metatarsi III, IV r0-0-1. Epigynum with small, oval median septum (fig. 119); spermathecae bipartite, anterolaterally massive, not flanked by lateral margins (fig. 120).

OTHER MATERIAL EXAMINED: **New South Wales:** Booti Booti National Park, 32°16′S, 152°31′E, July 12, 1996, pitfall, heath (L. Wilkie, AMS KS50679), 1♂; 11 km NE Bulahdelah, O'Sullivan Gap Reserve, 32°25′S, 152°13′E, Aug. 27, 1982, rainforest litter (S., J. Peck, AMNH), 1♀; Grey Gums Forest Road, 1.1 km from Doyles River Road, Bulga State Forest, 32°16′S, 152°31′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 620 m (M. Gray, G. Cassis, AMS KS42519), 1♂; Kempsey, Maria State Forest picnic area, 31°11′S, 152°50′E, Apr. 23, 1974, in retreat under log in tall eucalypt forest (M. Gray, AMS

KS55313), 1♀; 15 km S Kempsey, 31°12′S, 152°49′E, July 18, 1992, leaf, bark litter, dry sclerophyll forest (G. Hunt, AMS KS49479), 1♀; Oakes State Forest, Sirius Road, ca. 2 km from junction or Horseshoe Road, 30°29′S, 152°35′E, Nov. 11–24, 1999, pitfall (M. Gray, G. Milledge, H. Smith, AMS KS61656), 1♀; Pacific Palms, 32°21′S, 152°31′E, June 11–23, 1992, pitfall (C. Peterson, AMS KS55281), 1♀. **Queensland:** Beerwah Forestry Reserve, 26°51′S, 152°57′E, Sept. 19, 1990, pitfall, heath (M. Glover, QMB S33541), 1♀; Boldery Park, via Cooyar, 26°56′S, 151°49′E, Oct. 25, 1975–May 1, 1976, rainforest pitfall, elev. 580 m (G., S. Monteith, QMB), 2♀; Ewan Maddock Dam, 26°48′S, 152°59′E, Mar. 24–July 18, 1993, pitfall (M. Glover, QMB S37545), 1♂; Flinton Hill, via Ipswich, 27°37′S, 152°47′E, Aug. 20–Nov. 9, 1995, rainforest pitfall, elev. 120 m (G., S. Monteith, QMB S28424), 1♀, May 20–Aug. 11, 1976, rainforest pitfall, elev. 120 m (G., S. Monteith, QMB), 1♀; Glastonbury Creek, 26°09′S, 152°33′E, Aug. 17, 1997, rainforest, stick brushing, elev. 70 m (G. Monteith, QMB S43910), 1♀; Kenilworth State Forest, 5.2 km by road SW Kenilworth, 26°37′S, 152°41′E, May 5, 1998, rainforest (G. Milledge, AMS KS52283), 1♂; Mount French, via Boonah, 28°00′S, 152°41′E, Aug. 15–Oct. 10, 1976, rainforest pitfall, elev. 245 m (G., S. Monteith, QMB), 1♀; Upper Brookfield, 27°30′S, 152°55′E, Apr. 23, 1981, litter, vine forest with auracaria (V. Davies, R. Raven, QMB), 3♂, 1♀, June 2–July 3, 1981, rainforest litter (R. Raven, V. Davies, QMB S26920), 2♀; Upper Yarraman State Forest, via Maidenwell, 26°53′S, 151°56′E, June 1–Aug. 17, 1975, rainforest pitfall, elev. 610 m (G., S. Monteith, QMB), 1♀.

DISTRIBUTION: Known only from southeastern Queensland and New South Wales (map 8).

Oreo, new genus

TYPE SPECIES: *Oreo renmark*, new species.

ETYMOLOGY: The generic name is taken from that of a black and white cookie, refers to the black and white abdominal coloration pattern found in the type species and many other gallieniellids, and is considered masculine in gender.

DIAGNOSIS: Males differ from those of *Meedo* by having some leg spines, from those of *Peeto* by lacking cheliceral teeth, and from those of *Neato* by having a distally thin embolus, the tip of which rests in a heavily sclerotized conductor (figs. 121, 125); females can be recognized by the small, rectangular anterior epigynal atrium and by the bipartite spermathecae (figs. 123, 124).

DESCRIPTION: Small spiders, total length of males and females 2.9–3.4. Carapace rugose, without tubercles, with sparsely scattered, short, erect, dark setae and longer, erect setae on clypeus; thoracic groove long, longitudinal, not expanded anteriorly. Eight eyes in two rows, anterior medians smallest, circular, dark, posterior medians irregularly rectangular, flattened, laterals subequal in size, oval; from above, anterior row almost straight, posterior row straight, from front, both rows procurved; anterior medians separated by about their radius, about as far from anterior laterals; posterior medians separated by much more than their diameter, separated by more than their diameter from posterior laterals; anterior and posterior laterals separated by about their diameter; median ocular quadrangle wider in back than in front and than long. Chelicerae porrect, anterior surface with few scattered, strong setae; chilum unipartite, triangular, fused to clypeus, accompanied by second, elongated, posterior chilum (extremely narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of short setae originating in line along base of fang plus one longer seta originating near base of fang, extending far from base before bending toward midline; promargin and retromargin of fang furrow toothless. Labium wide, very short, extending only about one-fourth length of endites, bipartite, posterior portion short, flat, anterior portion steeply inclined; posterolateral corners heavily sclerotized, anterior margin invaginated at middle. Endites with weak oblique depression, without median groove, serrula present, apex bearing narrow patch of long, stiff, dark setae. Sternum flat, with weak lateral margins, not expanded anteri-

orly, with slight extensions between coxae I–III; surface smooth, with few long setae. One weakly sclerotized epimeric sclerite on each side, with heavily sclerotized triangles above coxae I–III but not extending between them, not fused to carapace. Pedicel composed of two narrow dorsal sclerites and weak, inverted v-shaped ventral sclerite, reaching almost to posterior tip of sternum.

Abdomen without dorsal scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, that of males with posteriorly produced margin at middle, with very narrow spiracles at sides, without postepigastric sclerites; colulus represented by setae; posterior spiracle wide, anterior of colular setae. Anterior lateral spinnerets small, widely separated at base, with two articles; posterior median spinnerets of males cylindrical, of females triangular, posterior portion with about three large cylindrical gland spigots; posterior lateral spinnerets with two articles, those of females with at least one large cylindrical gland spigot.

Leg formula 4123; leg spination greatly reduced, typical leg spination pattern (only surface bearing spines listed): tibiae III, IV p0-0-1, v2-2-0, r0-1-1; metatarsi III p0-1-1, v2-0-1p, r0-1-1; IV p1-1-0, v1p-0-1p, r1-2-0; most surfaces with normal, long setae; coxae and trochanters without dorsal tubercles; anterior coxae without protuberant posterolateral corners; trochanters unnotched, relatively long; metatarsi and tarsi I, II with weak, undivided scopulae; posterior metatarsi without distal preening brushes; tarsi with two basally dentate claws, no claw tufts; tarsi I–IV of both sexes sometimes with cuticular cracks at about two-thirds of their length, cracking occupying more of segment on tarsi III, IV; trichobothria present, in two rows on tarsi and tibiae, single row on metatarsi. Female palpal tibia with weak dorsal spines; female palpal tarsus with thick dentate claw and ventral brush of long, stiff setae.

Male palp with one or two pronglike retrolateral tibial apophyses; cymbial surface excavated at base, opposite tibial apophysis; tegulum rounded, with retrolaterally originating, threadlike embolus, prolaterally situated, elaborate conductor, median apophysis membranous. External epigynum with narrow, anteriorly situated atrium; spermathecae compact, crenulate, with lobate anterolateral extensions.

KEY TO SPECIES OF *OREO*

1. Males 2
– Females (those of *O. muncoonie* and *O. kidman* unknown) 6
2. Two retrolateral tibial apophyses (as in figs. 126, 130) 3
– One retrolateral tibial apophysis (as in figs. 134, 138) 5
3. Tegulum with wide ridge situated posteriorly of translucent median apophysis (figs. 121, 125) 4
– Tegulum with narrow ridge (fig. 129) . . . . . *kidman*
4. Tegular ridge expanded, crenulate prolaterally (fig. 125) . . . . . *muncoonie*
– Tegular ridge not expanded, crenulate prolaterally (fig. 121) . . . . . *renmark*
5. Embolus relatively short (fig. 133) . . . . . *capensis*
– Embolus relatively long (fig. 137) . . . . . *bushbay*
6. Posterior epigynal ducts, as viewed ventrally, y-shaped (fig. 135) . . . . . *capensis*
– Posterior epigynal ducts otherwise 7
7. Posterior portion of spermathecae highly crenulated (fig. 124) . . . . . *renmark*
– Posterior portion of spermathecae only slightly crenulated (fig. 140) . . . . . *bushbay*

***Oreo renmark*,** new species

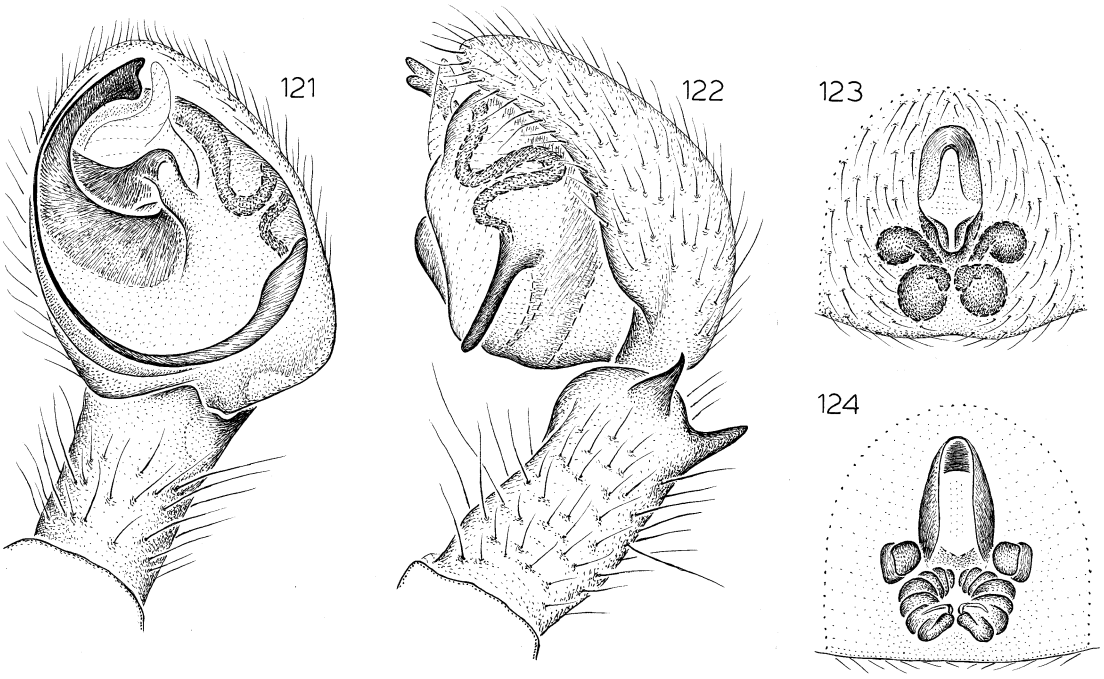
Figures 121–124; Map 9

TYPE: Male holotype taken in flight intercept trap 79 km NNW Renmark, 33°31′S, 140°24′E, South Australia (July 5–Aug. 10, 1995; K. Pullen), deposited in QMB.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be separated from those of *O. muncoonie* and *O. kidman* by the wide but not prolaterally expanded ridge situated on the tegulum, just posterior of the translucent median apophysis (fig. 121); females of the latter two species are unknown.

MALE: Total length 2.9. Carapace chestnut brown with black reticulations; abdomen black, dorsum with anterior and median pairs of lateral white spots, posterior white chevron, anterior pair of spots extending around sides to venter; legs chestnut brown except coxae pale yellow, patellae, tibiae, and posterior metatarsi and tarsi with proximal or-



Figs. 121–124. *Oreo renmark*, new species. **121.** Left male palp, ventral view. **122.** Same, retrolateral view. **123.** Epigynum, ventral view. **124.** Same, dorsal view.

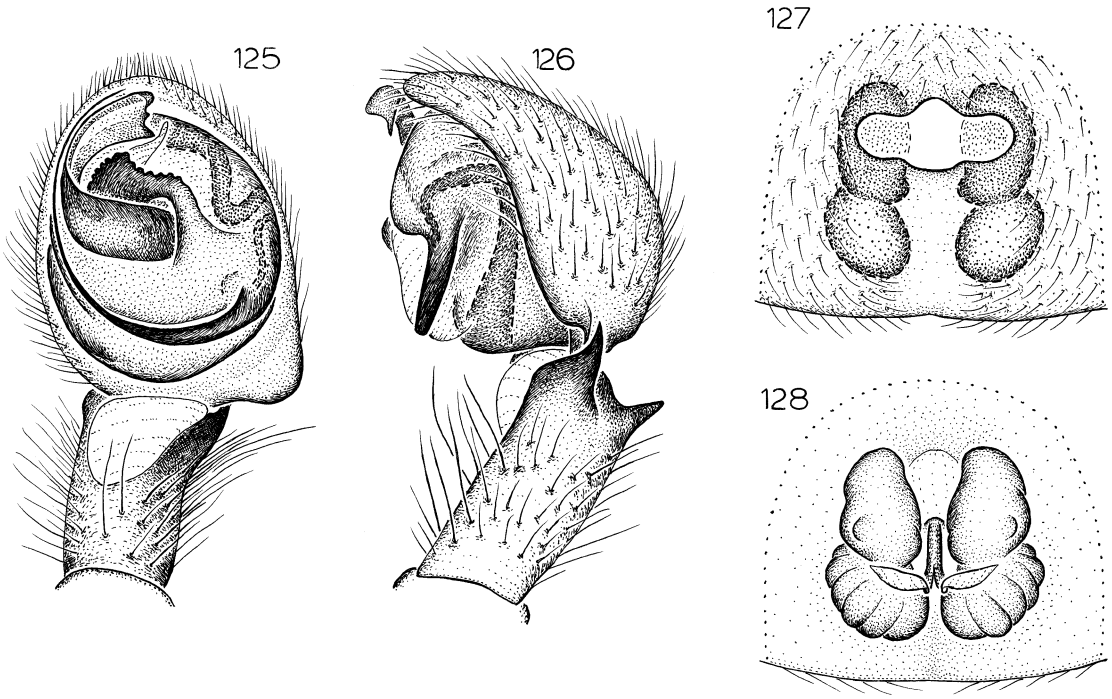
ange rings, rings expanded on anterior metatarsi and tarsi, those segments yellow for most of their length. Chelicerae porrect, endites relatively long. Leg spination: metatarsi: III r0-1-0; IV v1p-1p-1p. Tarsi I–IV cracked at about half their length. Retrolateral tibial apophysis with two triangular prongs (fig. 122); tegular ridge situated proximally of median apophysis wide, occupying about half of tegular width, not expanded or highly crenulated prolaterally (fig. 121).

FEMALE: Total length 5.1. Coloration, chelicerae, and tarsi as in male. Leg spination typical for genus. Epigynum with long, triangular atrium containing anterior hood (fig. 123); spermathecae bipartite, posterior portion crenulate (fig. 124).

OTHER MATERIAL EXAMINED: **New South Wales:** Coleambally Irrigation Area, 34°55′S, 145°52′E, Dec. 14, 1998, pitfall (L. Wilkie, S. Priday, AMS KS58171), 1♀; Coleambally Irrigation Area, 34°56′S, 145°46′E, Dec. 14, 1998, pitfall (L. Wilkie, S. Priday, AMS KS68904), 1♀. **Queensland:** Gayndah, Burnett River, 25°37′S, 151°36′E, Nov. 22, 1998, litter, wooded area



Map 9. Records of *Oreo renmark*, new species (circles), *O. muncoonie*, new species (square), and *O. capensis*, new species (diamonds).



Figs. 125–128. 125, 126. *Oreo muncoonie*, new species. 127, 128. *Meedo bluff*, new species. **125.** Left male palp, ventral view. **126.** Same, retrolateral view. **127.** Epigynum, ventral view. **128.** Same, dorsal view.

(D. Silva, AMNH), 1♀; Lake Broadwater, via Dalby, 27°21′S, 151°06′E, Jan. 26–Feb. 18, 1985, pitfall (QMB), 1♀, Feb. 15–Mar. 25, 1985, pitfall (QMB), 1♀, Mar. 25–May 16, 1985, pitfall (QMB), 1♂, May 16–Nov. 24, 1985, pitfalls (M. Bennie, QMB S34511, ex S34512), 5♂, 7♀, Nov. 24, 1985–Jan. 3, 1986, pitfalls (M. Bennie, QMB), 3♀, Jan. 3–Feb. 25, 1986, pitfalls (M. Bennie, QMB), 1♂, 1♀. **South Australia:** 79 km NNW Renmark, 33°31′S, 140°24′E, May 3–June 6, 1995, flight intercept (K. Pullen, QMB), 1♀, June 6–Sept. 7, 1995, flight intercept (K. Pullen, QMB), 3♂, Sept. 6–Oct. 12, 1995, flight intercept (K. Pullen, QMB), 3♀; 3.5 km N St. Aubins Homestead, 36°39′S, 140°52′E, Dec. 4–8, 1995 (SAM N1999/142), 1♂; Scott Creek, Morgan, 34°06′S, 139°40′E, Sept. 18–21, 2000, pitfalls, leaf litter under acacia, sparse ground cover under lignum, leaf litter under red gum (T. Steggles, SAM NN9958–9961), 4♂. **Victoria:** Eyensbury, 38°48′S, 144°33′E, Nov. 13–20, 1991, pitfall, grey box woodland (B. Van Praagh, R. Kay, A. Kobelt, NMVS), 1♂; 12.1 km ESE confluence of Lindsay River and Mullaroo Creek, 34°09′S, 141°15′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂; Schwenkes Road, Cohuna, 35°50′S, 144°11′E, Nov. 16–21, 1996, pitfall (J. Shield, J. Hooper, CVIC 592), 1♀.

DISTRIBUTION: Southeastern Australia (map 9).

Oreo muncoonie, new species

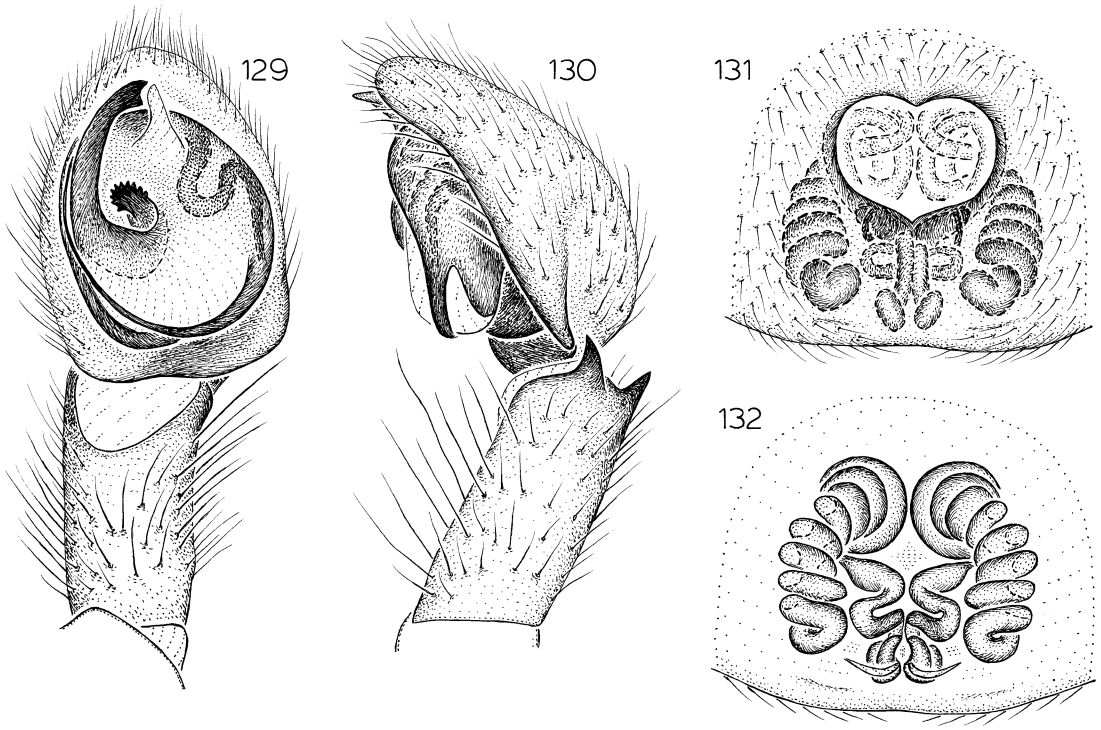
Figures 125, 126; Map 9

TYPE: Male holotype taken under cow dung at Lake Muncoonie, NW Birdsville, 25°12′S, 138°41′E, Queensland (Nov. 17, 1976; R. Raven), deposited in QMB.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be separated from those of *O. renmark* and *O. kidman* by the prolaterally expanded and crenulated tegular ridge (fig. 125).

MALE: Total length 3.4. Carapace light brown with black reticulations; abdomen



Figs. 129–132. 129, 130. *Oreo kidman*, new species. 131, 132. *Tinytrema yarra*, new species. **129.** Left male palp, ventral view. **130.** Same, retrolateral view. **131.** Epigynum, ventral view. **132.** Same, dorsal view.

dark gray with anterior and median pairs of lateral spots, almost conjoined, extending to sides but not to venter, posterior white chevron absent; coxae, trochanters, proximal three-quarters of femora, and tarsi yellow, remaining leg surfaces gray (except tibiae and metatarsi with proximal yellow rings). Chelicerae and tarsal cracking as in *O. renmark*. Leg spination: tibiae: III v2-1p-0, r0-0-1; IV v2-2-1r, r2-0-1; metatarsi: III p0-0-1, r0-1-0; IV p1-0-0, v1p-1p-1p, r1-1-0. Distal prong of retrolateral tibial apophysis more sharply pointed than subdistal prong (fig. 126); tegular ridge expanded, crenulated prolaterally (fig. 125).

FEMALE: Unknown.

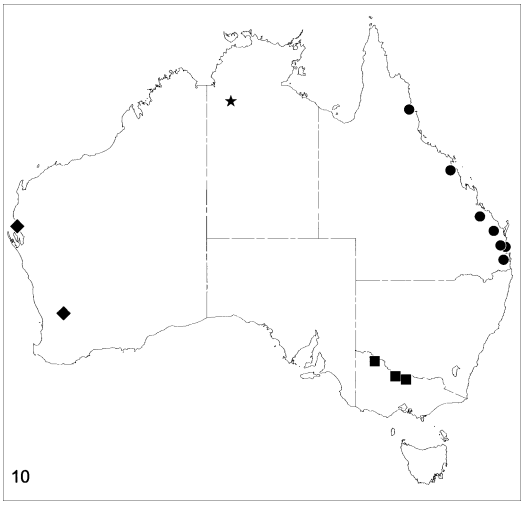
OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from southwestern Queensland (map 9).

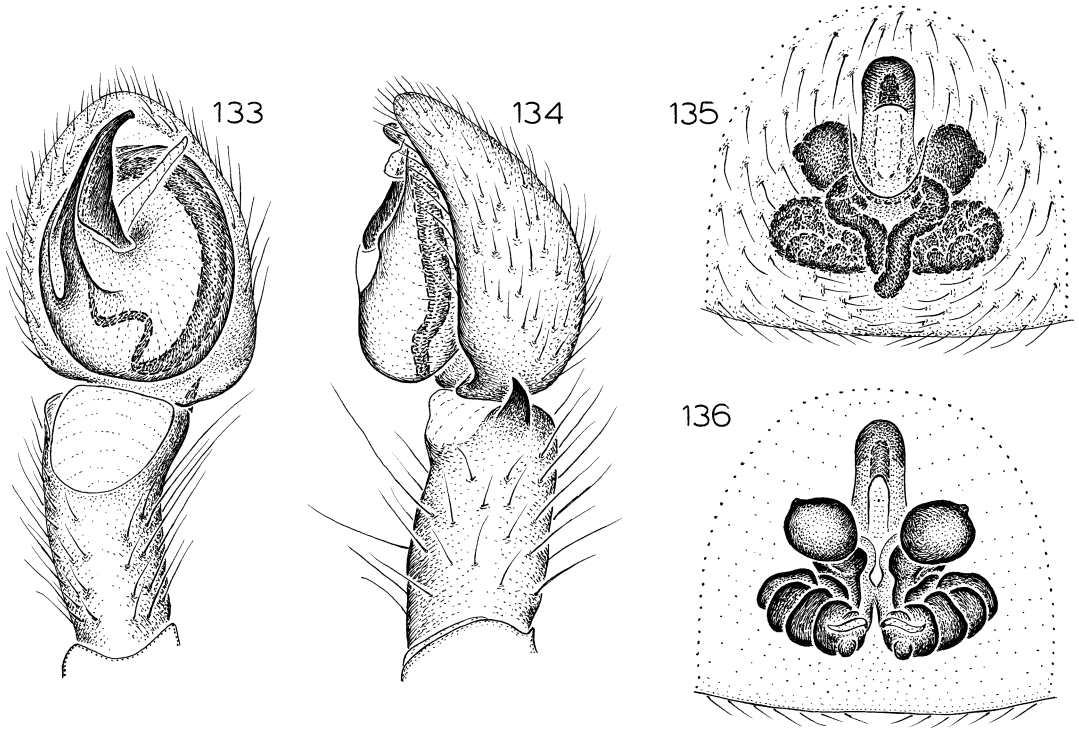
Oreo kidman, new species

Figures 129, 130; Map 10

TYPE: Male holotype taken in pitfall trap in clay site at Kidman Springs, 16°07′S,



Map 10. Records of *Oreo kidman*, new species (star), *O. bushbay*, new species (diamonds), *Peeto rodmani*, new species (circles), and *Questo annuello*, new species (squares).



Figs. 133–136. *Oreo capensis*, new species. **133.** Left male palp, ventral view. **134.** Same, retrolateral view. **135.** Epigynum, ventral view. **136.** Same, dorsal view.

130°57′E, Northern Territory (July 3–9, 1996; T. Churchill), deposited in CSID (A0277).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be separated from those of *O. renmark* and *O. muncoonie* by the narrow tegular ridge accompanying the base of the conductor (fig. 129).

MALE: Carapace length 1.5 (abdomen missing). Carapace yellow; coxae, trochanters, and femora yellow, distal segments gray, those of leg I darkest. Chelicerae and tarsal cracking as in *O. renmark*. Leg spination: tibiae: III p0-0-0, v1p-2-0, r0-0-0; IV p0-0-0, v1p-0-0, r0-0-0; metatarsi: III p0-0-1, v1p-0-1p, r0-0-0; IV p0-0-0, r0-0-0. Both prongs of retrolateral tibial apophysis short (fig. 130); tegular ridge narrow, crenulate, restricted to area near base of conductor (fig. 129).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Northern Territory (map 10).

Oreo capensis, new species

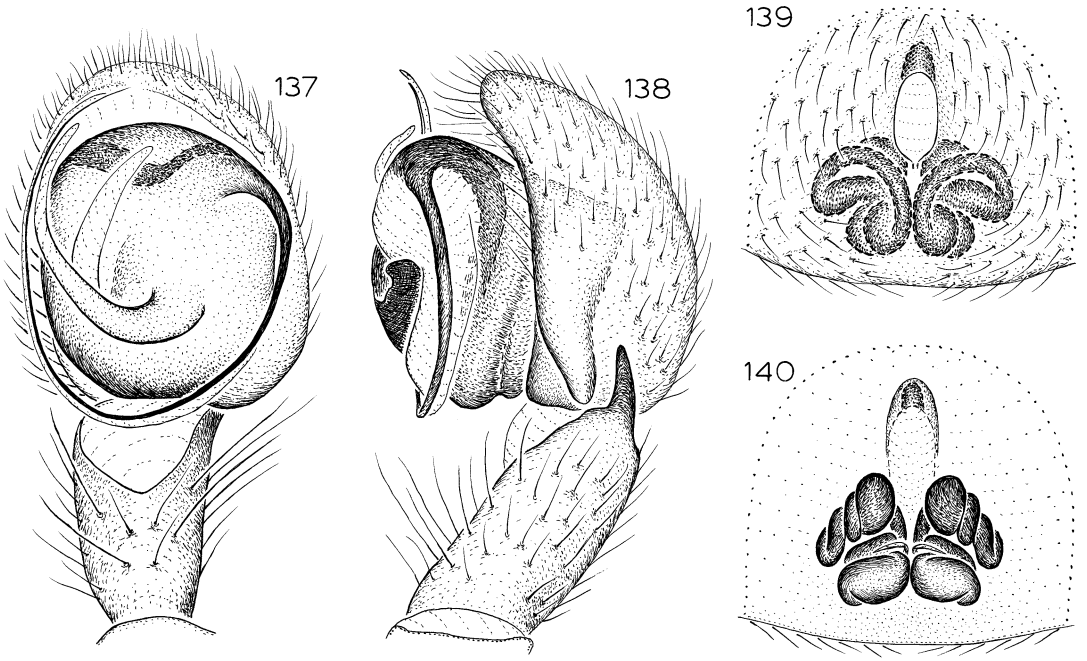
Figures 133–136; Map 9

TYPE: Female holotype from Cave C-15, Cape Range, 22°13′S, 113°59′E, Western Australia (July 17, 1991; W. Humphreys), deposited in WAM (99/409).

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Males can be recognized by the combination of a relatively short embolus and a single retrolateral tibial apophysis (figs. 133, 134), females by the y-shaped appearance of the posterior epigynal ducts (in ventral view, fig. 135).

MALE: Total length 3.3. Coloration, chelicerae, and mouthparts as in *O. renmark*. Leg spination: metatarsus III v1p-0-0, r1-1-0. Tarsi I–IV cracked at about three-quarters their length. Single, small, triangular retro-



Figs. 137–140. *Oreo bushbay*, new species. **137.** Left male palp, ventral view. **138.** Same, retrolateral view. **139.** Epigynum, ventral view. **140.** Same, dorsal view.

lateral tibial apophysis (fig. 134), embolus relatively short, originating prolaterally (fig. 133).

FEMALE: Total length 4.9. Coloration as in *O. renmark*, except abdominal white spots almost obsolete, all metatarsi and tarsi yellow. Chelicerae, endites, and tarsal cracking as in male. Leg spination: tibiae III p0-0-0, v1p-1p-0, r0-0-0; metatarsi: III p1-0-1, v1p-0-1p, r1-0-0; IV p1-0-0, r1-1-0. Epigynum with posterior ducts y-shaped in ventral view (fig. 135); anterior portion of spermathecae large, rotund (fig. 136).

OTHER MATERIAL EXAMINED: **Western Australia:** Cave C-15, Cape Range, 22°13′S, 113°59′E, June 25, 1989 (M. Harvey, WAM 90/508, 509), 1♂, July 16, 1989 (W. Humphreys, WAM 90/496), 1♂; Cave C-118, Cape Range, 22°09′S, 113°59′E, July 23, 1989, surface pitfall (E. Pryor, WAM 91/985), 1♂, Aug. 3, 1989, drop trap (E. Pryor, WAM 91/983), 1♂; Cave C-156, Cape Range, 22°07′S, 114°00′E, Aug. 16, 1989 (A. Humphreys, WAM 90/493), 1♀; Cave C-162, Cape Range, 22°09′S, 114°00′E, Sept. 10–12, 1988 (W. Humphreys, WAM 89/370, 371), 2♀, Sept. 22, 1988 (J. Waldock, WAM 99/410), 1♂, June 20, 1989 (M. Harvey, WAM 90/503–505), 3♀, Sept. 4, 1989 (W. Humphreys, WAM 90/491, 492), 2♀; Cave C-300, Cape Range, 22°17′S, 113°57′E, Aug. 20, 1989 (R. Wood, WAM 90/494), 1♀; Kennedy Range National Park, 24°31′S, 114°58′E, May 29–Aug. 28, 1995, pitfalls (N. Hall, WAM 99/411, 412), 2♂; Quobba Station, Cape Cuvier, 24°15′S, 113°33′E, Aug. 21–Sept. 29, 1994, pitfall (P. West, WAM 99/413), 1♀.

DISTRIBUTION: Known only from the Cape Range region of Western Australia (map 9).

***Oreo bushbay*,** new species

Figures 137–140; Map 10

TYPE: Male holotype taken in pitfall trap at Bush Bay, 25°05′S, 113°43′E, Western Australia (May 23–Aug. 23, 1995; N. Hall), deposited in WAM (99/414).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males of this tiny species resemble those of *O. capensis* in having only a single retrolateral tibial apophysis, but have a much longer embolus (fig. 137). Females,

here matched only by size (and parsimony, as there is no direct evidence that there are more than five species of *Oreo*) have the posterior epigynal ducts m-shaped in ventral view (fig. 139) and relatively small anterior spermathecal bulbs (fig. 140).

MALE: Total length 1.8. Coloration, chelicerae, and mouthparts as in *O. renmark* except anterior pair of abdominal white spots faint, small, not extending to sides or venter, all tarsi and metatarsi yellow. Leg spination: tibiae: III p0-0-0, v0-1p-0, r0-0-0; IV p0-0-0, v1p-1p-0, r0-0-0; metatarsi III, IV p0-0-0, v0-0-0, r0-0-0. Tarsi I–IV cracked at about two-thirds their length. Retrolateral tibial apophysis relatively long (fig. 138); embolus long, originating retrolaterally (fig. 137).

FEMALE: Total length 2.2. Specimen depigmented, coloration uncertain. Chelicerae and mouthparts as in male. Leg spination: tibiae: III p0-0-0, v0-1p-0, r0-0-0; IV p0-0-0, v0-2-0, r0-1-1; metatarsi: III p0-0-0, v0-0-1p, r0-0-0; IV p-0-0, v0-0-1p, r1-1-0. Tarsi I, II missing; III, IV cracked at about half their length. Epigynum with posterior ducts m-shaped in ventral view (fig. 139); anterior portion of spermathecae small, accompanied by twisted ducts (fig. 140).

OTHER MATERIAL EXAMINED: **Western Australia:** Bush Bay, 25°05′S, 113°43′E, Jan. 16–May 23, 1995, pitfall (P. West, WAM 99/415), 1♂; Elashgin Nature Reserve, N side on Maitland Road, 31°20′S, 117°27′E, Mar. 29–June 30, 1999, pitfall (M. Harvey, WAM 99/416), 1♀.

DISTRIBUTION: Known only from Western Australia (map 10).

Peeto, new genus

TYPE SPECIES: *Peeto rodmani*, new species.

ETYMOLOGY: The generic name refers to the National Science Foundation's PEET (Partnerships for Enhancing Expertise in Taxonomy) program, which has supported this work, and is considered masculine in gender.

DIAGNOSIS: Members of this genus resemble those of *Questo* in having cheliceral teeth, but can be distinguished by the complex retrolateral tibial apophysis of males (fig. 142) and the large, u-shaped epigynal septum of females (fig. 143).

DESCRIPTION: Small spiders, total length of males and females 2.8–4.3. Carapace glabrous, without tubercles, with sparsely scattered, short, erect, dark setae and longer, erect setae on clypeus; thoracic groove long, longitudinal, not expanded anteriorly. Eight eyes in two rows, anterior medians smallest, circular, dark, posterior medians irregularly rectangular, flattened, laterals subequal in size, oval; from above, both eye rows slightly recurved, from front, both rows procurved; anterior medians separated by about their radius, about as far from anterior laterals; posterior medians separated by more than their diameter, separated by more than their diameter from posterior laterals; anterior and posterior laterals separated by less than their diameter; median ocular quadrangle wider in back than in front and than long. Chelicerae porrect, anterior surface with few scattered, strong setae; chilum unipartite, triangular, fused to clypeus, accompanied by second, elongated, posterior chilum (extremely narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of short setae originating in line along base of fang plus three longer setae originating near base of fang, extending far from base before bending toward midline; promargin with five teeth, retromargin with two denticles, one near base of fang, second at level between two most proximal promarginal teeth. Labium wide, very short, extending only about one-third length of endites, bipartite, posterior portion short, flat, anterior portion steeply inclined; posterolateral corners heavily sclerotized, anterior margin invaginated at middle. Endites with weak oblique depression, without median groove, serrula present, apex bearing narrow patch of long, stiff, dark setae. Sternum flat, with weak lateral margins, not expanded anteriorly, without extensions to or between coxae; surface smooth, with few long setae. One weakly sclerotized epimeric sclerite on each side, with heavily sclerotized strips above coxae I, II but not extending between them, not fused to carapace. Pedicel composed of two narrow dorsal sclerites and weak, inverted y-shaped ventral sclerite, reaching almost to posterior tip of sternum.

Abdomen without dorsal scutum; cuticle

with weak, recumbent setae; epigastric scutum weakly sclerotized, that of males with posteriorly produced margin at middle, with very narrow spiracles at sides, without postepigastric sclerites; colulus represented by setae; posterior spiracle wide, anterior of colular setae. Anterior lateral spinnerets small, widely separated at base, with two articles; posterior median spinnerets of males cylindrical, of females triangular, posterior portion with about three large cylindrical gland spigots; posterior lateral spinnerets with two articles, those of females with at least one large cylindrical gland spigot.

Leg formula 4123; leg spination not greatly reduced, typical leg spination pattern (only surface bearing spines listed): femora I–IV d1-0-0; tibiae: I v0-1p-0; III d1-0-0, p1-1-0, v1p-2-1p, r1-1-1, IV d1-1-0, p1-1-0, v2-2-1p, r1-1-1; metatarsi: I, II v2-0-0; III d0-1-0, p0-1-1, v2-1p-2, r0-1-2; IV p2-2-1, v2-2-1p, r1-2-2; most surfaces with normal, long setae; coxae and trochanters without dorsal tubercles; anterior coxae without protuberant posterolateral corners; trochanters unnotched; metatarsi and tarsi I, II with weak, undivided scopulae; posterior metatarsi without distal preening brushes; tarsi with two basally dentate claws, no claw tufts; at least tarsi IV with cuticular cracks at about two-thirds of their length; trichobothria present, in two rows, on tarsi, metatarsi, and tibiae. Female palpal tibia with weak dorsal spines; female palpal tarsus with long dentate claw and scattered spines.

Male palp with large, complex retrolateral tibial apophysis bearing three prongs (two distal, one proximal); cymbial surface deeply excavated at base, opposite tibial apophysis; tegulum rounded, with proximally originating, gradually narrowing embolus closely associated with partially translucent conductor, median apophysis absent. External epigynum with wide, u-shaped median septum; spermathecae bipartite, situated posteriorly.

Peeto rodmani, new species

Figures 141–144, Map 10

TYPE: Female holotype taken in pitfall trap on Mount Coolum, Fern Gully, 26°34′S, 153°05′E, Queensland (Jan. 1984; B. Jahnke), deposited in QMB (S26830).

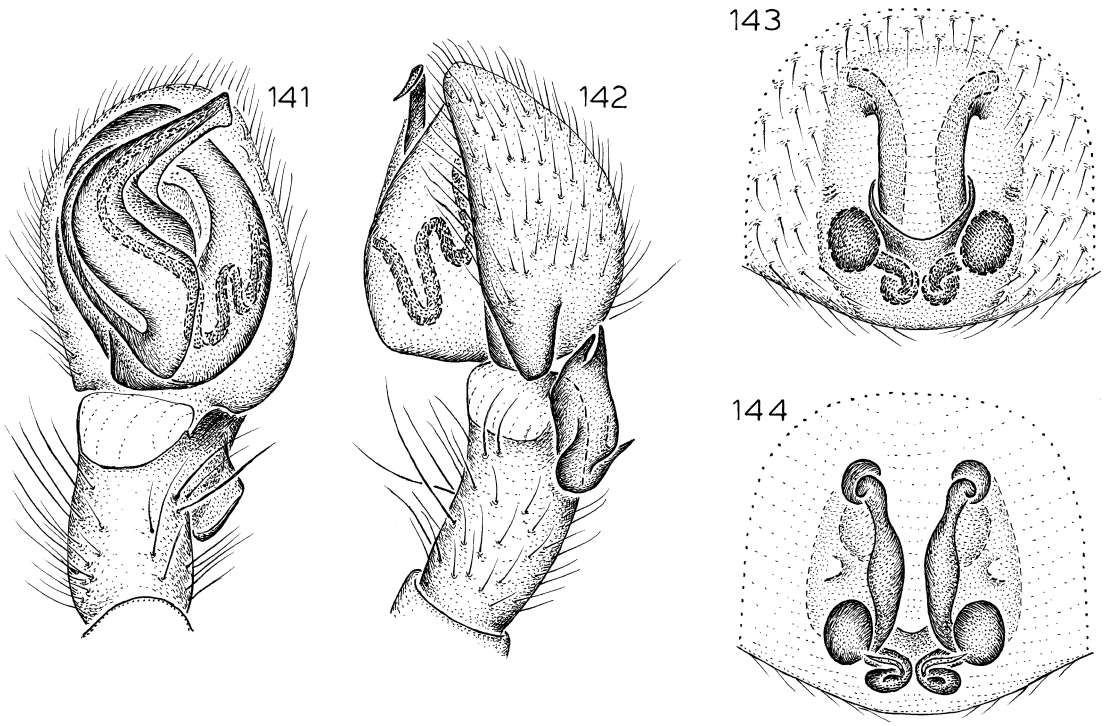
ETYMOLOGY: The specific name is a patronym in honor of Dr. James Rodman, the founder of PEET.

DIAGNOSIS: Males can easily be recognized by the complex retrolateral tibial apophysis (fig. 142), females by the large, u-shaped median epigynal septum (fig. 143).

MALE: Total length 2.8. Carapace olive brown, lighter medially than laterally; abdomen dark gray with scattered small white spots; legs olive brown except metatarsi and tarsi pale yellow. Chelicerae not porrect or inclined, endites relatively short. Leg spination: femora I–IV d1-0-1; tibiae: I v2-1p-0; II v1p-2-0; III d0-1-0, p0-1-0, v1r-2-1p, r1-1-0; IV p0-1-1, v2-2-2; metatarsi: III v2-1r-2; IV p1-2-2. Tarsi III and IV cracked at about half their length. Retrolateral tibial apophysis with proximodorsal and two distal prongs (fig. 142); embolus closely associated with conductor (fig. 141).

FEMALE: Total length 4.3. Carapace coloration as in male, abdominal dorsum with larger, paired white spots, legs with only femora darker than more distal segments. Chelicerae inclined, endites relatively short. Leg spination typical for genus. Only tarsi IV cracked. Epigynum with u-shaped posterior margin and large median septum (fig. 143); spermathecae with rounded lateral and crenulated posterior lobes (fig. 144).

OTHER MATERIAL EXAMINED: **Queensland:** Calliope Range, Kroombit Tops, 45 km SSW Calliope, 24°22′S, 151°01′E, Dec. 13–18, 1983, pitfall, open forest (G. Monteith, V. Davies, J. Gallon, G. Thompson, QMB S28254), 1♀; Cold Creek, via Imbil, 26°28′S, 152°41′E, Dec. 31, 1974–Mar. 27, 1975, rainforest pitfall, elev. 122 m (G., S. Monteith, QMB S12102), 1♂; Finch Hatton Gorge, Eungella National Park, 21°05′S, 148°39′E, Nov. 9, 1991–July 28, 1992, pitfall (P. Lawless, R. Raven, M. Shaw, QMB S24803), 1♀, July 28–Dec. 3, 1992, pitfall (R., Raven, P., E. Lawless, M. Shaw, QMB S24775), 1♂; Gap Creek Road, Brookfield, 27°30′S, 152°55′E, Sept. 10, 1982 (M. Walter, QMB), 1♀; Kroombit Tops, 24°22′S, 151°01′E, Feb. 23–25, 1982, pitfall, open forest with casuarina on sand (G. Monteith, R. Raven, G. Thompson, QMB S28259), 1♀; Lower Dry Creek, Kroombit Tops, 45 km SSW Calliope, 24°24′S, 151°01′E, Dec. 11–



Figs. 141–144. *Peeto rodmani*, new species. **141.** Left male palp, ventral view. **142.** Same, retrolateral view. **143.** Epigynum, ventral view. **144.** Same, dorsal view.

18, 1983, pitfall, rainforest (G. Monteith, V. Davies, J. Gallon, G. Thompson, QMB S28254, 28262), 1♂, 1♀; Mount Goonaneman, near Childers, 25°26′S, 152°08′E, Nov. 3–7, 1980, rainforest litter, elev. 670 m (V. Davies, R. Raven, QMB), 1♂, 3♀; Mount Molloy, 16°44′S, 145°19′E, summer 1992–1993, pitfall, riparian woodland, elev. 400 m (S. Burnett, QMB S53326), 1♂.

DISTRIBUTION: Widespread in eastern Queensland (map 10).

Questo, new genus

TYPE SPECIES: *Questo annuello*, new species.

ETYMOLOGY: The generic name is an arbitrary combination of letters considered masculine in gender.

DIAGNOSIS: Members of this genus resemble those of *Peeto* in having cheliceral teeth, but can be distinguished by the simple, rectangular retrolateral tibial apophysis of males (fig. 146) and the small, rectangular epigynal septum of females (fig. 147).

DESCRIPTION: Medium-sized spiders, total length of males and females 4.0–4.4. Carapace glabrous, without tubercles, with sparsely scattered, short, erect, dark setae and longer, erect setae on clypeus; thoracic groove long, longitudinal, not expanded anteriorly. Eight eyes in two rows, anterior medians smallest, circular, dark, posterior medians irregularly rectangular, flattened, laterals subequal in size, oval; from above, both eye rows slightly recurved, from front, both rows procurved; anterior medians separated by about their radius, closer to anterior laterals than to each other; posterior medians separated by twice their diameter from each other and from posterior laterals; anterior and posterior laterals separated by their diameter; median ocular quadrangle wider in back than in front and than long. Chelicerae porrect, anterior surface with few scattered, strong setae; chilum unipartite, triangular, fused to clypeus, accompanied by second, elongated, posterior chilum (extremely narrow, I-shaped sclerite separating bases of chelicerae poste-

riorly); chelicerae with distinct lateral boss, promargin with series of short setae originating in line along base of fang plus one much longer seta originating near base of fang, extending far from base before bending toward midline; promargin with six large, subequally spaced teeth, retromargin bare. Labium wide, very short, extending only about one-fourth length of endites, bipartite, posterior portion short, flat, anterior portion steeply inclined; posterolateral corners heavily sclerotized, anterior margin invaginated at middle. Endites with weak oblique depression, without median groove, serrula present, apex bearing narrow patch of long, stiff, dark setae. Sternum flat, with weak lateral margins, not expanded anteriorly, with small extensions between coxae; surface smooth, with few long setae. One weakly sclerotized epimeric sclerite on each side, with heavily sclerotized strips above coxae I, II but not extending between them, not fused to carapace. Pedicel composed of two narrow dorsal sclerites and weak, inverted y-shaped ventral sclerite, reaching almost to posterior tip of sternum.

Abdomen without dorsal scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, that of males with posteriorly produced margin at middle, with very narrow spiracles at sides, without postepigastric sclerites; colulus represented by setae; posterior spiracle wide, anterior of colular setae. Anterior lateral spinnerets small, widely separated at base, with two articles; posterior median spinnerets of males cylindrical, of females triangular, posterior portion with at least three large cylindrical gland spigots, arranged in triangle; posterior lateral spinnerets with two articles, those of females with at least one large cylindrical gland spigot.

Leg formula 4123; leg spination not greatly reduced, typical leg spination pattern (only surface bearing spines listed): femora I, II d1-1-0; III d1-1-1, p0-0-1, r0-0-1; tibiae: II v0-1p-0; III d1-0-0, p0-1-1, v2-2-2, r1-1-1, IV d1-1-0, p1-1-1, v2-2-2, r1-1-1; metatarsi: II v1p-0-0; III d0-1-0, p0-1-2, v2-0-1p, r0-1-2; IV d1-0-0, p2-1-2, v2-2-1p, r1-2-2; most surfaces with normal, long setae; coxae and trochanters without dorsal tubercles; anterior coxae without protuberant posterolateral corners; trochanters unnotched; metatarsi and tarsi I, II with weak, undivided scopulae; posterior metatarsi without distal preening brushes; tarsi with two basally dentate claws, no claw tufts; all tarsi with cuticular cracks at about two-thirds of their length; trichobothria present, in two rows, on tarsi, metatarsi, and tibiae. Female palpal tibia with weak dorsal spines; female palpal tarsus with long dentate claw and scattered spines.

Male palp with simple, rectangular retrolateral tibial apophysis; cymbial surface only slightly excavated at base, opposite tibial apophysis; tegulum rounded, with distally originating, gradually narrowing embolus closely associated with heavily sclerotized conductor, median apophysis absent. External epigynum with narrow, rectangular anteromedian septum; spermathecae bipartite, posterior portion highly crenulated.

Questo annuello, new species

Figures 145–148; Map 10

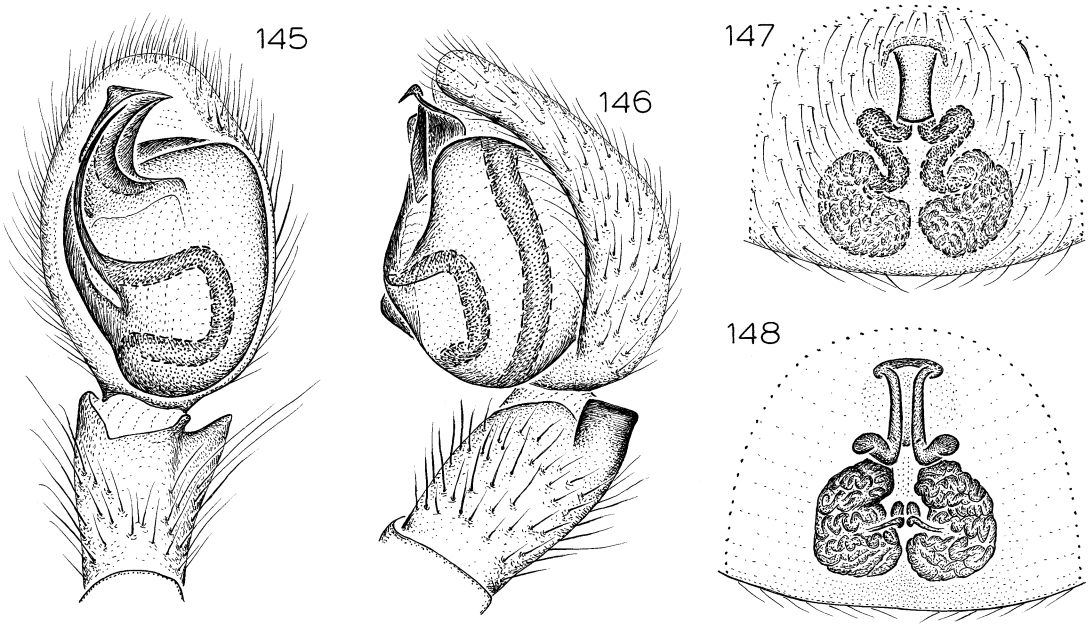
TYPE: Holotype male taken in drift fence pitfall trap 10.4 km NW junction of Murray Valley Highway and Annuello Road, 34°46′S, 142°31′E, Victoria (Oct. 1985; A. Yen), deposited in NMV.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the rectangular retrolateral tibial apophysis (fig. 146), females by the small, rectangular epigynal septum (fig. 147).

MALE: Total length 4.4. Carapace light brown, abdominal dorsum gray with two longitudinal rows of paramedian white spots, venter pale gray, legs light brown. Chelicerae porrect, endites relatively long. Leg spination typical for genus. All tarsi cracked at about two-thirds their length. Retrolateral tibial apophysis rectangular, flat (fig. 146); embolus resting in large, prolaterally situated conductor (fig. 145).

FEMALE: Total length 4.0. Coloration, mouthparts, and tarsal cracking as in male. Leg spination: tibiae II v0-0-0; metatarsi: II v0-0-0; III d0-0-0, v2-2-1p. Epigynum with small, rectangular, longitudinal, anteromedian septum (fig. 147); posterior portion of spermathecae highly crenulated, anterior portion tiny (fig. 148).



Figs. 145–148. *Questo annuello*, new species. **145.** Left male palp, ventral view. **146.** Same, retrolateral view. **147.** Epigynum, ventral view. **148.** Same, dorsal view.

OTHER MATERIAL EXAMINED: **Victoria:** Barr Creek, Cohuna, 35°49′S, 144°10′E, Nov. 24–Dec. 1, 1996, pitfalls (J. Hooper, CVIC 711), 1♂, 1♀, Apr. 9, 2000, watering (J. Hooper, J., D. Shield, CVIC 742), 2♂, 1♀; Brooms Road, 7.5 km NE Yambuna, 36°06′S, 145°05′E, Apr. 10–17, 1994, pitfall (G. Milledge, NMV K4632, 1♀, Dec. 2–7, 1994, sweep net (J. Evans, M. Griffiths, S. Hinkley, NMV K4633), 2♂; Cohuna, 35°50′S, 144°11′E, Nov. 16–21, 1996, pitfall, shelterbelt (J. Shield, J. Hooper, CVIC 605, 610), 2♂; 5 km ESE Lower Moira, 36°05′S, 145°03′E, Jan. 17–22, 1994, pitfall (G. Milledge, P. Lillywhite, NMV), 1♂; 9.7 km NW junction Murray Valley Highway and Annuello Road, 34°46′S, 142°32′E, Oct. 1985, drift fence pitfall (A. Yen, NMVS), 1♀.

DISTRIBUTION: Known only from Victoria (map 10).

TROCHANTERIIDAE KARSCH

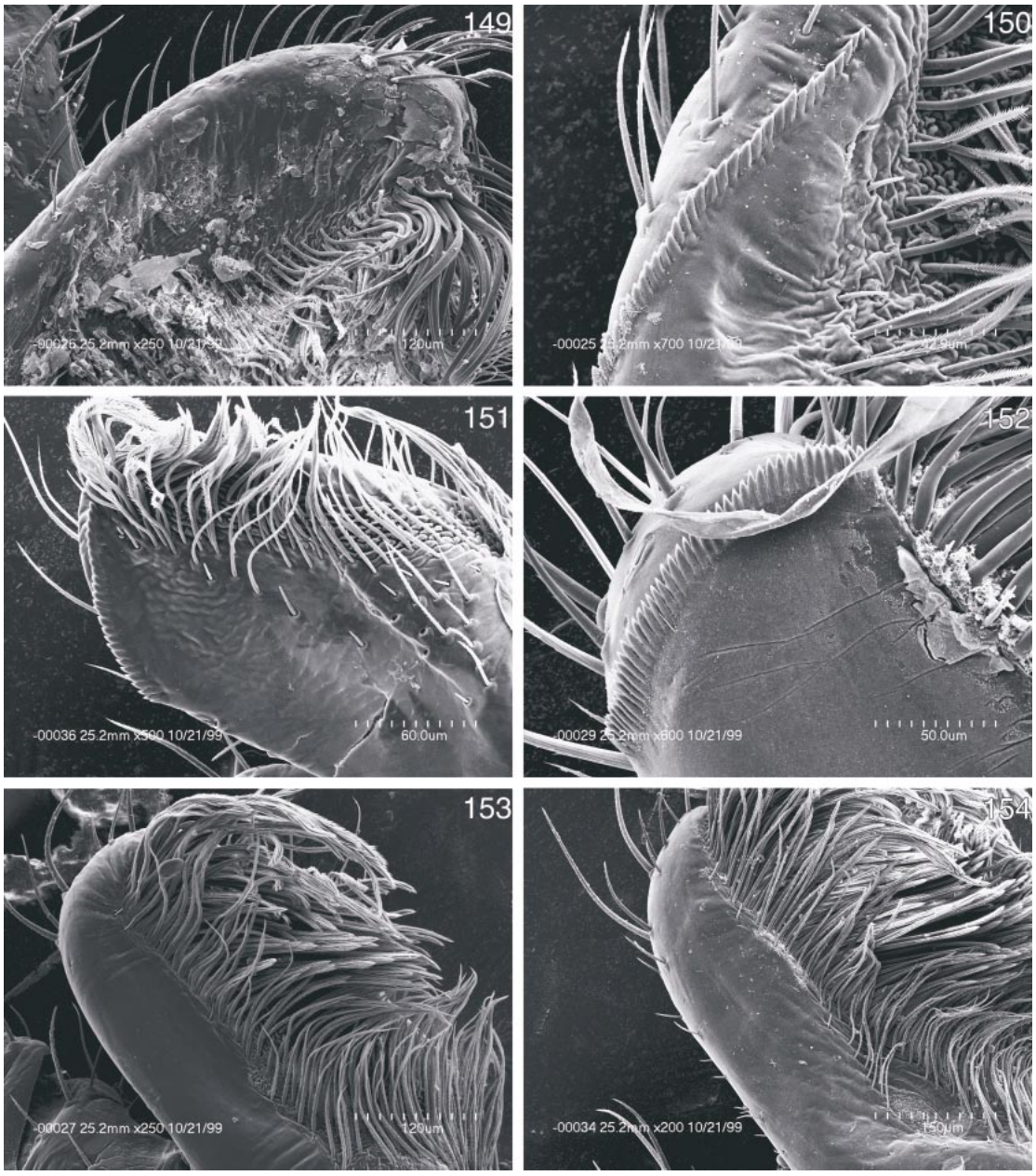
Trochanterioidae Karsch, 1879: 536 (type genus *Trochanteria* Karsch).
Platoridae Simon, 1890: 82 (type genus *Plator* Simon). First synonymized by Platnick, 1990: 38.
Trochanteriidae: Mello-Leittao, 1938: 107.

DIAGNOSIS: Trochanteriids can be distinguished from ammoxenids, cithaeronids, and gallieniellids by their greatly flattened carapace, with the eyes occupying most of the carapace width. They can easily be distinguished from the Australasian gallieniellids, which have similarly enlarged chelicerae, by the absence of tarsal cracks.

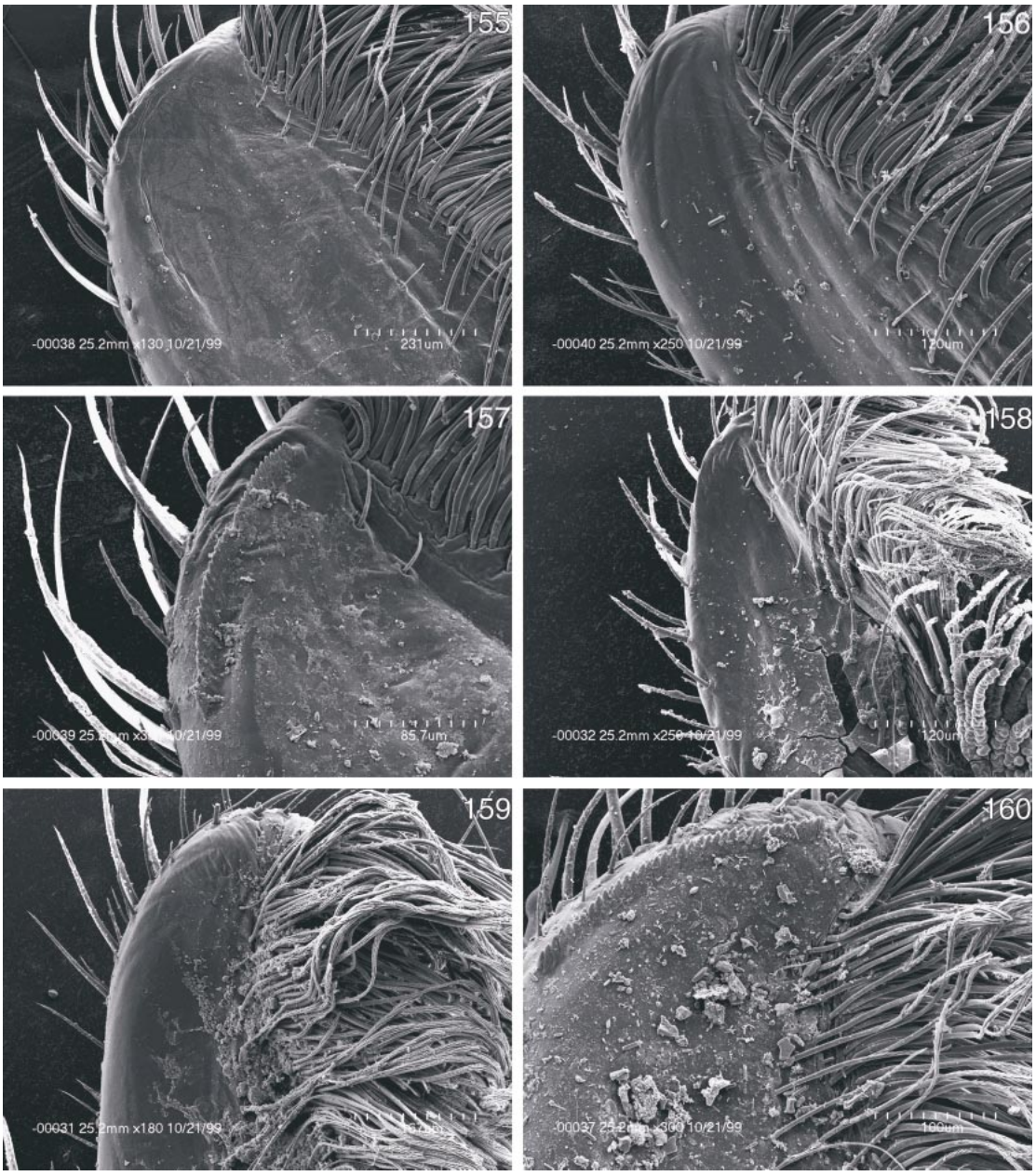
DISCUSSION: Because members of the Australasian gnaphosid subfamily Hemicloeinae have similarly flattened bodies with laterigrade legs, the two groups have been thoroughly confused in the past. True hemicloeines have normal gnaphosid anterior lateral spinnerets composed of a single segment and bearing greatly enlarged and widened piriform gland spigots. About half of the species previously placed in the Hemicloeinae are actually trochanteriids that have been misplaced at the family level, and are treated below.

KEY TO AUSTRALASIAN GENERA OF TROCHANTERIIDAE

1. Trochanter IV twice as long as trochanter III . . . . . *Platyoides*
– Trochanter IV at most about 1.5 times as long as trochanter III 2



Figs. 149–154. Palpal endites of females, anterior views. **149.** *Meedo mullaroo*, new species. **150.** *Neato kioloa*, new species. **151.** *Tinytrema bondi*, new species. **152.** *Desognaphosa yabbra*, new species. **153.** *Trachycosmus sculptilis* Simon. **154.** *Trachytrema castaneum* Simon.



Figs. 155–160. Palpal endites of females, anterior views. **155.** *Morebilus plagusius* (Walckenaer). **156.** *Longrita insidiosa* (Simon). **157.** *Pyrnus planus* (L. Koch). **158.** *Platorish gelorup*, new species. **159.** *Fissarena castanea* (Simon). **160.** *Rebilus lugubris* (L. Koch).

2. Chelicerae massive, thickened, resembling those of desids, about half the length of carapace 3
– Chelicerae smaller, one-third of carapace length or less 4
3. Tarsal claws with normal teeth set on ventral edge of claw; Queensland, New South Wales, Solomon Islands . . . . . *Desognaphosa*
– Tarsal claws with teeth resembling those of zodariids, set laterally on inner margins of claw; Christmas Island (south of Java) . . . . . *Olin*
4. Body extremely flat, abdomen as thin as carapace; epimeric sclerites with extensions between leg coxae . . . . . *Tinytrema*
– Body more robust, abdomen thicker than carapace; epimeric sclerites without extensions between leg coxae 5
5. Apex of chelicerae directed ventrally, so that only the basal portion of the paturon is visible in dorsal view 6
– Most or all of cheliceral paturon visible in dorsal view 8
6. Carapace, abdomen, and legs with thick, club setae . . . . . *Trachyspina*
– Body and legs without club setae 7
7. Leg spines absent . . . . . *Trachycosmus*
– Leg spines present . . . . . *Trachytrema*
8. Carapace greatly widened, much wider than long . . . . . *Platorish*
– Carapace normal 9
9. Sternum with anterior lip accompanied by large triangular sclerite on each side (fig. 351) (N.B.: although the sternal lip is usually fairly long and obvious, it can be very short, especially in *Pyrnus magnet*, but even then it is accompanied by lateral sclerites that are much larger than the other intercoxal sclerites) 10
– Sternum without anterior lip or enlarged lateral sclerites 12
10. Proclaw of tarsus I smooth 11
– Proclaw of tarsus I dentate . . . . . *Pyrnus*
11. Retrolateral tibial apophysis extending almost to tip of cymbium; epigynum extending almost to pedicel . . . . . *Longrita*
– Retrolateral tibial apophysis much shorter; epigynum normal, not extending so far anteriorly . . . . . *Morebilus*
12. Anterior lateral eyes enlarged, on low mounds; tip of male palp with full coil (fig. 533); epigynal ducts of females coiled (fig. 536) . . . . . *Boolathana*
– Anterior lateral eyes normal; tip of male palp without coil; epigynal ducts not coiled 13
13. Males with single retrolateral tibial apophysis (fig. 502); females with long, often highly convoluted epigynal ducts (figs. 504, 516, 520) . . . . . *Fissarena*
– Males with proximal and distal retrolateral tibial apophyses (fig. 580); females with shorter, less highly convoluted epigynal ducts (as in figs. 582, 586, 590) 14
14. Males with claw-shaped, deeply incised palpal conductor tip (figs. 541, 545); spermathecae simple, massive, without secondary bulbs (figs. 544, 548) . . . . . *Hemicloeina*
– Male palpal conductor tip not claw-shaped; spermathecae and ducts twisted, with secondary bulbs (as in figs. 582, 586) . . . . . *Rebilus*

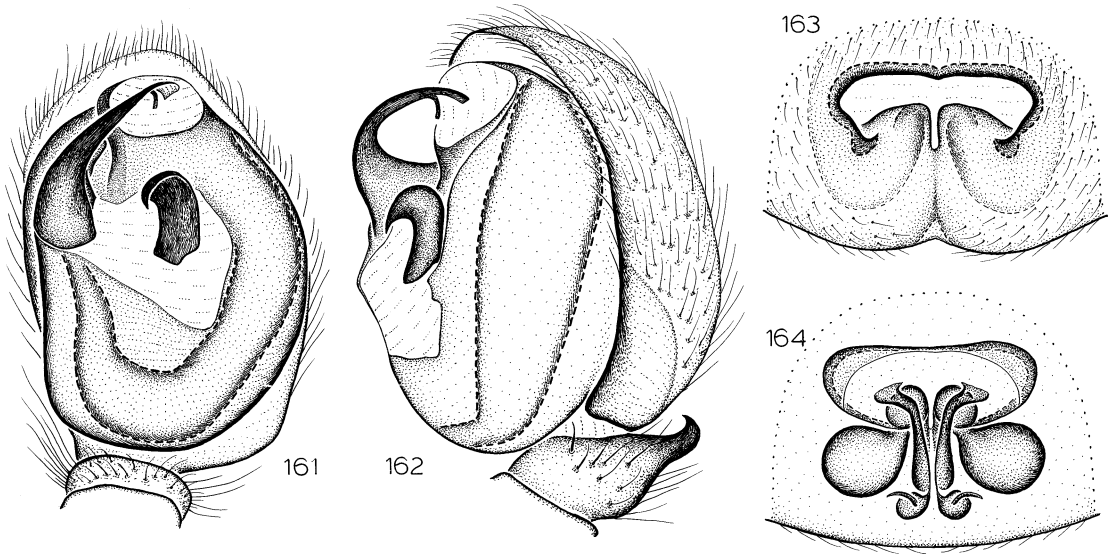
TROCHANTERIINAE KARSCH, NEW RANK

DIAGNOSIS: Subfamilies have not previously been recognized within the Trochanteriidae. The nominate subfamily is here relimited to include only those genera in which the posterior margin of the carapace is strongly reflexed anteriorly, producing a wide posterior carina readily visible in dorsal view (Platnick, 1976a: fig. 8; 1976b: fig. 5). As here relimited, trochanteriines are widespread. Four genera occur far from Australia: *Trochanteria* Karsch from Brazil, Paraguay, and Argentina (see Platnick, 1986), *Doliomalus* Simon from Chile (see Platnick, 1976b, 1984b), *Platyoides* O. P.-Cambridge from Africa and surrounding islands (see Platnick, 1985), and *Plator* Simon from India, China, Korea, and Japan (see Platnick, 1976a). Among these genera, *Platyoides* and *Trochanteria* are presumably sister groups, united by the greatly elongated fourth pair of trochanters (Canals, 1933; Platnick, 1985), and by an implied reduction in the relative size of the posterior carina on the carapace.

Within Australasia, the subfamily is represented by one (presumably introduced but not established) species of *Platyoides*, one species of *Olin* Deeleman-Reinhold (2001, originally described from Sulawesi and here reported from Christmas Island in the Indian Ocean), and two new genera, *Tinytrema* and *Desognaphosa*.

Platyoides O. P.-Cambridge

Platyoides O. P.-Cambridge, 1890: 624 (type species by monotypy *Platyoides abrahami* O. P.-Cambridge [=*P. walteri* (Karsch)]).



Figs. 161–164. *Platyoides walteri* (Karsch). **161.** Left male palp, ventral view. **162.** Same, retrolateral view. **163.** Epigynum, ventral view. **164.** Same, dorsal view.

Pseudoplatyoides Strand, 1908: 36, type species, designated by Bonnet, 1958: 3819, *Platyoides bidentatus* Strand). First synonymized by Roewer, 1955: 350.

Corimaethes Simon, 1908: 385 (type species by monotypy *Corimaethes campestratus* Simon [=*P. walteri* (Karsch)]. NEW SYNONYMY.

DIAGNOSIS: Members of this genus can easily be distinguished from all other Australian trochanteriids by the greatly elongated trochanter IV, which is about twice as long as trochanter III.

DESCRIPTION: See Platnick, 1985: 5.

SYNONYMY: When the syntypes of the Western Australian taxon *Corimaethes campestratus* Simon were first examined for this study, they seemed extremely perplexing, as I was unable to find any similar specimens in any modern Australian collections. Eventually, I realized that the specimens actually belong to the most common and widely distributed species of the African genus *Platyoides*. In his original description of *Corimaethes*, Simon (1908) compared the two genera, and I initially hypothesized that he might inadvertently have switched specimens between two vials. However, there are syntypes of *Corimaethes campestratus* in four different museums (including a juvenile in WAM), constituting a considerable series and leaving little doubt that these spiders were indeed collected during the Hamburg southwest-Australian expedition of 1905. I can only surmise that the species was introduced into Western Australia, presumably under the bark of timber imported from Africa. Since the species has not subsequently been recollected in Australia, there is little reason to suppose that any Australian populations persist today, but the taxon is included here in case specimens should be re-discovered in Australia.

It is ironic that *Platyoides walteri* would have been the particular African species introduced into Australia, for it is the only member of *Platyoides* to have been originally described as a member of the Australian genus *Hemicloea* (where it was, in fact, still listed in the catalog of Bonnet, 1958)!

Platyoides walteri (Karsch)

Figures 161–164; Map 11

Hemicloea walteri Karsch, 1886: 151 (female holotype from Botsabelo, Transvaal, South Africa, in ZMB, examined).

Corimaethes campestratus Simon, 1908: 385 (female syntypes from Day Dawn, Western Australia, in MNHN, ZMB, and ZMH, examined). NEW SYNONYMY.

Platyoides walteri: Roewer, 1955: 351.—Platnick,

1985: 6, figs. 11–14 (with details on several additional African synonyms).

DIAGNOSIS: With the characters of the genus and genitalia as in figures 161–164.

MALE: See Platnick (1985).

FEMALE: See Platnick (1985).

MATERIAL EXAMINED: **Western Australia:** Day Dawn, 27°29′S, 117°51′E, July 9–10, 1905 (W. Michaelsen, R. Hartmeyer, ZMH), 1♀ (syntype), same data (ZMB 28745), 1♀ (syntype), same data (MNHN 19648), 9♀ (syntypes).

DISTRIBUTION: Widespread in southern and east Africa, apparently introduced into Western Australia (map 11).

SYNONYMY: See above.

Tinytrema, new genus

TYPE SPECIES: *Tinytrema bondi*, new species.

ETYMOLOGY: The generic name is an arbitrary combination of letters considered feminine in gender.

DIAGNOSIS: These small, extremely flattened (almost paper-thin) spiders are easily distinguished from all other trochanteriids by having the leg coxae separated by sclerotized extensions of the epimeric sclerite. At least some species are behavioral ant mimics (M. Harvey, pers. commun.); the white spots on the abdomen of some species may enhance the illusion by simulating the appearance of a thorax/abdomen separation.

DESCRIPTION: Small spiders, total length of males 2–3, of females 2–4. Carapace greatly flattened, with numerous tubercles, with rebordered lateral margins and broadly reflexed posterior margin, setae numerous, recumbent; thoracic groove almost obsolete, transverse; cephalic groove almost obsolete. Eight subequal eyes in two rows; anterior medians circular, dark, posterior medians irregularly rectangular, lenses flattened, canoe-shaped tapetum present, laterals oval; from above, both eye rows straight, from front, both rows slightly procurved; anterior medians separated by more than their diameter, closer to anterior laterals; posterior medians separated by more than their diameter, farther from posterior laterals; anterior and posterior laterals separated by more than their diameters; median ocular quadrangle slightly wider in back than in front or than long. Chelicerae inclined, parallel, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum wide, triangular, unipartite, entire, fused to carapace, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with few long setae originating in line along base of fang, those nearest base of fang not bent; promargin with four or five small, closely spaced teeth, second most proximal largest; retromargin with two low teeth near base of fang; cheliceral gland openings not obvious under light microscopy. Labium greatly elongated, extending about three-quarters of endite length, flat, triangular, with slight invaginations just beyond posterior margin, anterior margin narrow, not invaginated near midline. Endites long, slightly convergent, with oblique depression shallow, restricted to their median edge; serrula present (fig. 151), sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, shield-shaped, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with triangular extensions to and be-



Map 11. Records of *Platyoides walteri* (Karsch) (star), *Tinytrema bondi*, new species (circles), *Desognaphosa kirrama*, new species (squares), and *D. finnigan*, new species (diamonds).

tween coxae; surface smooth, with few long setae, posterior margin wide, separating coxae IV, not fused to ventral pedicel sclerite. One heavily sclerotized epimeric sclerite on each side, extending between coxae, not fused to carapace or each other. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and strong, ventral sclerite with transverse anterior margin.

Abdomen with shiny, narrow dorsal scutum in male; cuticle with sparse, erect setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides, without postepigastric sclerotizations, booklung covers not ridged; spinnerets and colulus tiny, details difficult to document with light microscopy. Anterior lateral spinnerets short, conical, separated by about their diameter at base, apparently with two articles bearing relatively few spigots; posterior median spinnerets of females wider than those of males, apparently with two large cylindrical gland spigots; posterior lateral spinnerets with two articles, those of females apparently with one cylindrical gland spigot.

Legs long, laterigrade, leg formula 1243, with sparse setae and few, weak spines; anterior coxae with dorsal tubercles, fourth trochanters about 1.5 times longer than third; anterior coxae without protuberant posterolateral corners; trochanters not notched; metatarsal and tarsal scopula weak; posterior metatarsi with weak distal preening brushes; tarsi with two relatively short claws bearing few teeth; claw tufts represented only by few scattered setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of cuticle with narrow, u-shaped sclerotization followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, apparently in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with single dorsal bristle, distal segments with few long bristles; female palpal tarsus with small, apparently toothed claw, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): tibiae III, IV v1p-1p-0.

Male palpal tibia with relatively huge retrolateral apophysis, embolus relatively short. Epigynum with coiled or convoluted ducts.

KEY TO SPECIES OF *TINYTREMA*

1. Males (those of *yarra* unknown) 2
– Females 5
2. Retrolateral tibial apophysis long, narrow (fig. 178) . . . . . *sandy*
– Retrolateral tibial apophysis shorter, wider 3
3. Retrolateral tibial apophysis widest ventrally (fig. 174) . . . . . *wombat*
– Retrolateral tibial apophysis widest dorsally 4
4. Tip of retrolateral tibial apophysis oriented dorsoventrally (fig. 166) . . . . . *bondi*
– Tip of retrolateral tibial apophysis oriented laterally (fig. 170) . . . . . *kangaroo*
5. Epigynal ducts highly coiled (figs. 131, 132) . . . . . *yarra*
– Epigynal ducts convoluted but not coiled 6
6. Epigynum with distinct posterior margin (fig. 179) . . . . . *sandy*
– Epigynum without distinct posterior margin 7
7. Epigynum with distinct median septum (fig. 167), ducts almost linear (fig. 168) . . . . . *bondi*
– Epigynum without distinct median septum, ducts not linear 8
8. Anterior portion of epigynal ducts obliquely oriented (figs. 171, 172) . . . . . *kangaroo*
– Anterior portion of epigynal ducts longitudinally oriented (figs. 175, 176) . . . *wombat*

Tinytrema bondi, new species

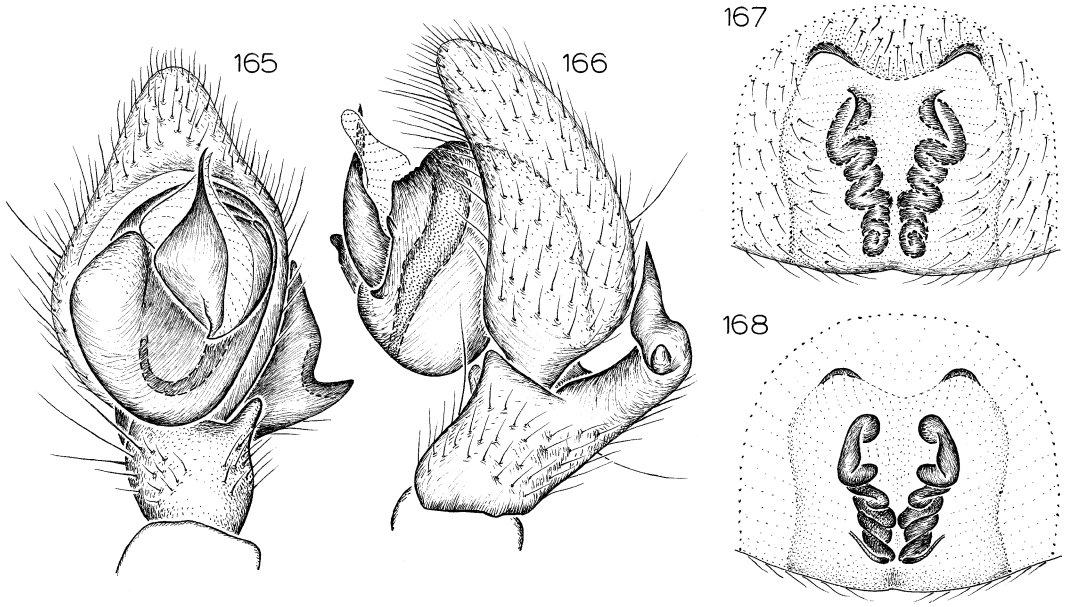
Figures 151, 165–168; Map 11

TYPE: Male holotype from Bondi State Forest, 37°07′S, 149°08′E, New South Wales (Nov. 28, 1980; G. Gowing), deposited in AMS (KS69129).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the retrolaterally directed prong situated at about half the length of the retrolateral tibial apophysis (figs. 165, 166), females by the narrow, convoluted epigynal ducts (figs. 167, 168).

MALE: Total length 2.8. Carapace dark chestnut brown, abdominal dorsum dark gray



Figs. 165–168. *Tinytrema bondi*, new species. **165.** Left male palp, ventral view. **166.** Same, retrolateral view. **167.** Epigynum, ventral view. **168.** Same, dorsal view.

with pair of transverse white marks at about half of length and third white mark above spinnerets, paired marks extending around sides to venter; anterior legs with coxae and trochanters light brown, femora and patellae dark brown, distal segments orange, posterior legs with coxae and trochanters white, remaining segments as in anterior legs. Leg spination typical for genus. Retrolateral tibial apophysis enormous, longer than tibia itself, basal portion directed dorsally, distal portion directed ventrally, bearing retrolateral prong at base (fig. 166), embolus situated medially, short, with curved tip (fig. 165).

FEMALE: Total length 3.5. Coloration as in male. Leg spination typical for genus. Epigynum with bipartite anterior margin (fig. 167), ducts narrow, convoluted, anterior portion c-shaped (fig. 168).

OTHER MATERIAL EXAMINED: **Tasmania:** Woodsdale, 42°28′S, 147°34′E, Feb. 7, 1986, pitfall (R. Bashford, FCTH 162), 1♀. **Victoria:** Airey's Inlet, 38°28′S, 144°06′E, May 13–14, 1992, under eucalypt bark (M. Harvey, M. Blosfelds, WAM 99/633, 634), 2♀; Cobon South Coupe, 37°25′S, 148°56′E, Feb. 19–26, 1992, pitfall (R. Coy, NMV K3592), 1♂; Coranderrk Reserve, Healesville, 37°39′S, 145°31′E, Mar. 4–5, 1980, under bark of *Eucalyptus viminalis* (M. Harvey, ANIC), 2♀ (with ant models), Feb. 24, 1981 (M. Harvey, ANIC), 1♀; Lerderberg River, 3.8 km WNW Blackwood, 37°29′S, 144°20′E, Sept. 13, 1982, under bark of *Eucalyptus rubida* (M. Harvey, ANIC), 1♂; Separation Creek, 38°38′S, 143°54′E, Aug. 28, 1988, under eucalypt bark (M. Harvey, M. Blosfelds, WAM 99/632), 1♀, Sept. 19–21, 1989; under eucalypt bark (M. Harvey, M. Blosfelds, WAM 99/635–641), 5♂, 2♀; Werribee River, 15 km NNW Ballan, 37°36′S, 144°15′E, Sept. 13, 1982, under bark of *Eucalyptus rubida* (M. Harvey, ANIC), 1♀.

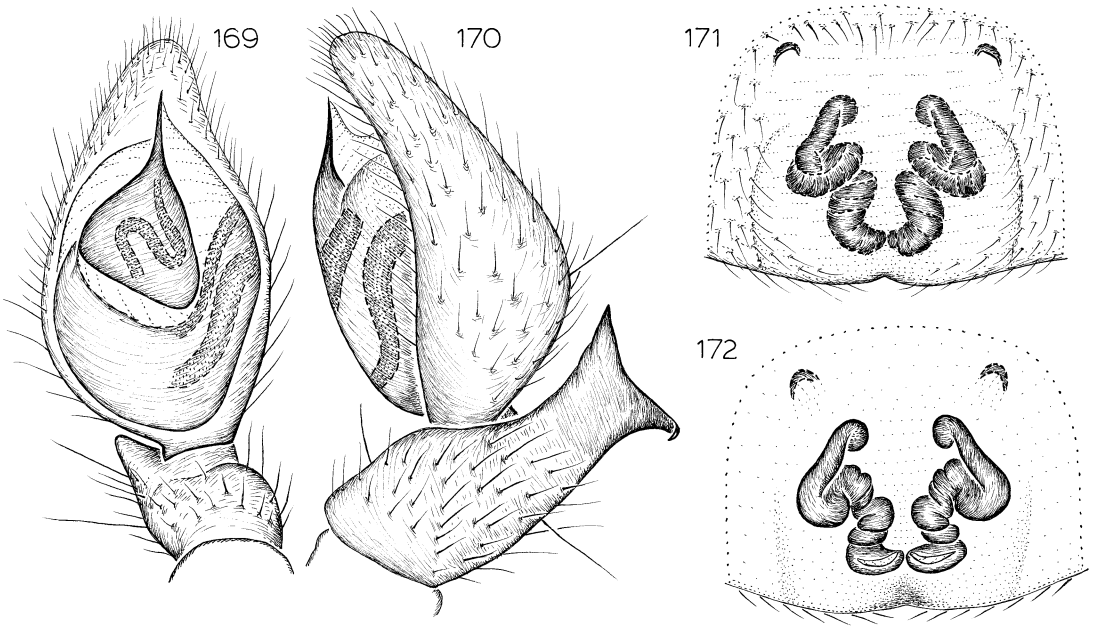
DISTRIBUTION: Southeastern Australia, including Tasmania (map 11).

Tinytrema kangaroo, new species

Figures 169–172

TYPES: Male holotype and female allotype taken under bark of *Eucalyptus rubida* at Kangaroo Ground, 37°41′S, 145°12′E, Victoria (winter 1974; J. Wainer), deposited in QMB (S26726).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.



Figs. 169–172. *Tinytrema kangaroo*, new species. **169.** Left male palp, ventral view. **170.** Same, retrolateral view. **171.** Epigynum, ventral view. **172.** Same, dorsal view.

DIAGNOSIS: Males resemble those of *T. bondi* but have subequal prongs on the retrolateral tibial apophysis (fig. 170) and a prolaterally much less protuberant tegulum (fig. 169); females also resemble those of *T. bondi* but have the epigynal ducts more widely separated (fig. 172).

MALE: Total length 2.4. Coloration as in *T. bondi* except white mark on abdominal dorsum above spinnerets much reduced. Leg spination: tibiae III, IV v1p-0-0. Retrolateral tibial apophysis directed dorsally, distally bifid, prongs subequal in size (fig. 170); tegulum not produced prolaterally, embolus situated medially (fig. 169).

FEMALE: Total length 3.3. Coloration and leg spination as in male. Epigynal ducts recurved, widely separated, especially anteriorly, where obliquely oriented (fig. 171, 172).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in Victoria.

Tinytrema wombat, new species

Figures 173–176; Map 12

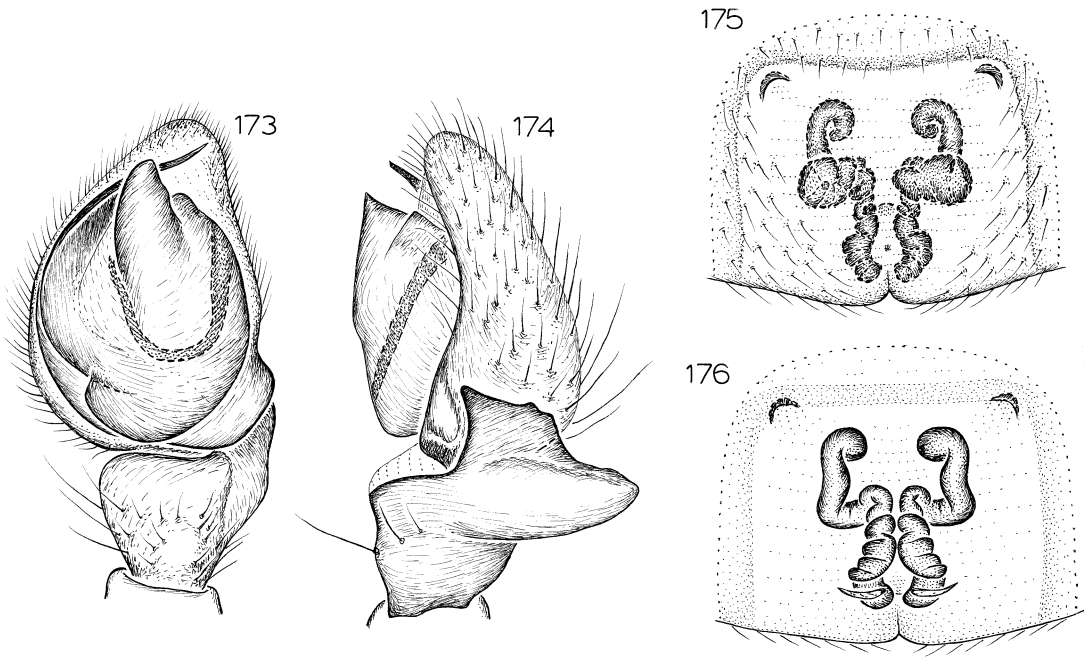
TYPE: Male holotype taken at an elevation of 750 m at Wombat Creek, 6 km NE Piccadilly Circus, 35°19′S, 148°51′E, Australian Capital Territory (Feb. 1984; J. Lawrence, Weir, Johnson), deposited in ANIC.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *T. bondi* in having the basal portion of the retrolateral tibial apophysis directed dorsally (fig. 174), but have a prolaterally situated embolus (fig. 173); females have not been collected with males, but also closely resemble those of *T. bondi*, differing primarily in the relative width of the epigynum (fig. 175) and the longer epigynal ducts (fig. 176).

MALE: Total length 2.8. Carapace light brown, abdominal dorsum dark gray with pair of transverse white marks at about half of length, those marks continuing around sounds to dark gray venter; legs as in *T. bondi* but posterior legs less distinctly bicolored. Leg spination typical for genus. Basal portion of retrolateral tibial apophysis directed dorsally, distal portion appearing as translucent flange (fig. 174); embolus relatively long, situated prolaterally (fig. 173).

FEMALE: Total length 2.5. Carapace dark brown, coloration otherwise as in male. Leg spination: tibia IV v1p-0-0. Epigynum slight-



Figs. 173–176. *Tinytrema wombat*, new species. **173.** Left male palp, ventral view. **174.** Same, retrolateral view. **175.** Epigynum, ventral view. **176.** Same, dorsal view.

ly wider than long (fig. 175), posterior portion of epigynal ducts expanded, interpolated between anterior portions (fig. 176).

OTHER MATERIAL EXAMINED: **Australian Capital Territory:** Piccadilly Circus, 35°22′S, 148°48′E, Mar. 1984, elev. 1240 m (J. Lawrence, T. Weir, M. Johnson, ANIC), 1♂. **New South Wales:** Brassknocker Road, Bodalla State Forest, 36°18′S, 149°46′E, Mar. 12, 1999 (L. Wilkie, R. Harris, H. Smith, AMS KS63873), 1♀; Lowden Forest Park, 30 km NE Captains Flat, 35°35′S, 149°26′E, Sept. 16, 1982 (J. Doyen, CAS), 2♀.

DISTRIBUTION: Known only from southeastern New South Wales and the Australian Capital Territory (map 12).

Tinytrema sandy, new species

Figures 177–180; Map 13

TYPE: Male holotype taken in building at Sandy Bay, 42°54′S, 147°20′E, Tasmania (Mar. 28, 1967; J. Hickman), deposited in AMS (KS29305).

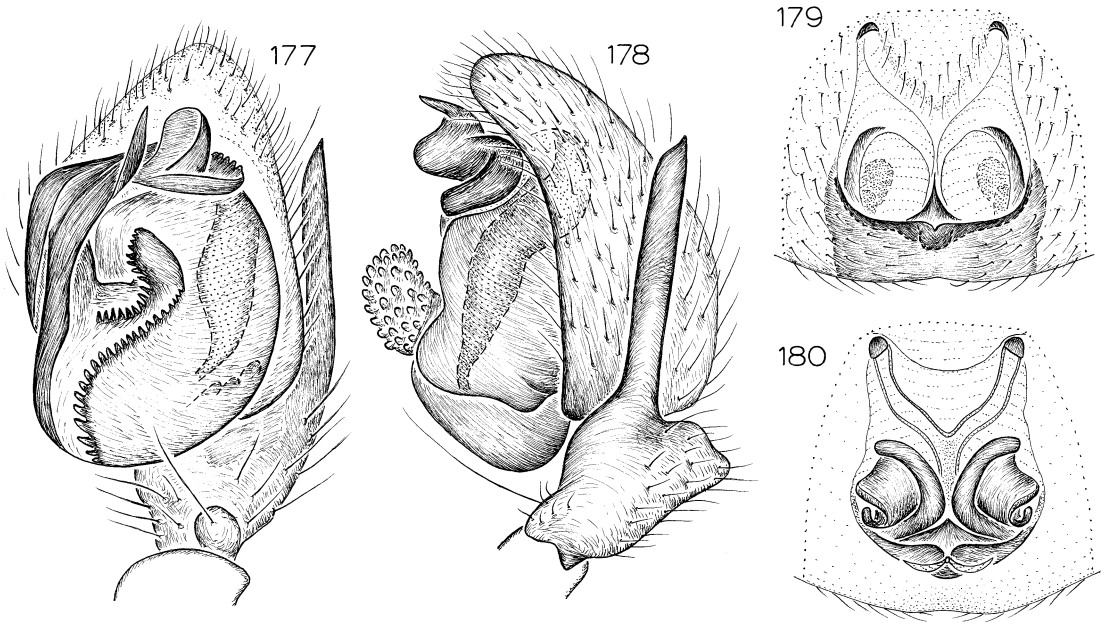
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the long, narrow retrolateral tibial apophysis (fig. 178), females by the paired epigynal atria (fig. 179).

MALE: Total length 2.6. Carapace brown;



Map 12. Records of *Tinytrema wombat*, new species (stars), *T. yarra*, new species (square), and *Desognaphosa millaa*, new species (circles).



Figs. 177–180. *Tinytrema sandy*, new species. **177.** Left male palp, ventral view. **178.** Same, retrolateral view. **179.** Epigynum, ventral view. **180.** Same, dorsal view.

abdominal dorsum gray, darkened along lateral margins, venter pale gray; anterior legs brown, posterior legs grayish brown. Legs spineless, but palpal femur with strong spine near dorsal apex. Retrolateral tibial apophysis extending almost entire length of cymbium (fig. 178), embolus situated prolaterally (fig. 177).

FEMALE: Total length 2.6. Coloration as in male except abdominal dorsum with pair of white marks at about one-third its length. Legs spineless. Epigynum with median septum originating from semicircular posterior ridge (fig. 179), ducts expanded, lobate laterally (fig. 180).

OTHER MATERIAL EXAMINED: **Australian Capital Territory:** Black Mountain, 35°16′S, 149°06′E, Dec, 29, 1984 (M. Harvey, R. Moran, A. Hastings, ANIC), 1♂; 23 Grylls Crescent, Cook, 35°16′S, 149°04′E, Nov. 10, 1984 (M. Harvey, ANIC), 1♂, Jan. 1, 1985 (M. Harvey, ANIC), 1♀; Kaleen, 35°14′S, 149°06′E, Apr. 23, 1994 (R. Leech, ANIC), 1♂; 14 Pera Place, Red Hill, 35°20′S, 149°07′E, Feb. 25, 1982, in house, on ceiling, daytime (M. Harvey, ANIC), 1♀, Nov. 8, 1982, dead on floor (M. Harvey, ANIC), 1♂; 42 Wheadon Street, Monash, 35°25′S, 149°06′E, Aug. 5–6, 1983 (R. Moran, ANIC), 1♂. **Queensland:** Camira, 27°38′S, 152°55′E, Mar. 27, 1994 (R. Raven, QMB S31006), 1♂; 1 km along road 3.5 km E Pikedale, 28°38′S, 151°38′E, June 28, 1986 (M. Harvey, P. Vaughan, NMV Ent. 362), 1♀. **South Australia:** Amber Gully, Black Hill, Adelaide, 34°55′S, 138°42′E, July 14, 1984, under bark (D. Hirst, SAM N1999/150), 1♀; 1 km W Vokes Hill corner, 28°34′S, 130°41′E, Apr. 14–19, 1994, pitfall (D. Hirst, SAM N1999/149), 1♂. **Tasmania:** Exeter, 41°18′S, 146°56′E, Feb. 2, 1963, in house (QVM 13:24584), 1♀. **Victoria:** Hamilton, 37°45′S, 142°02′E, Aug. 29, 1948 (G. Stephens, NMV K3469), 1♂; Lara, 38°01′S, 144°24′E, Jan. 17, 1981, dead on ground (M. Harvey, ANIC), 1♂; Nunawading, 37°49′S, 145°10′E, Sept. 19, 1956 (Neboiss, NMV Ent. 362), 1♀. **Western Australia:** on Mockerdillup Road, 15 km SW Bridgetown, 33°57′S, 116°08′E, Nov. 28, 1986, found crawling on arm in garden (J. Waldock, WAM 99/642), 1♂.

DISTRIBUTION: Widespread in southern Australia, including Tasmania (map 13).

***Tinytrema yarra*, new species**
Figures 131, 132; Map 12

TYPE: Female holotype taken under the bark of a log at the junction of the Great Southern Highway and Yarra Road, 31°51′S, 116°28′E, Western Australia (Aug. 13, 1994; M. Harvey, M. Blosfelds), deposited in WAM (99/643).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the anteriorly situated epigynal atrium (fig. 131) and highly coiled epigynal ducts (fig. 132).

MALE: Unknown.

FEMALE: Total length 2.7. Coloration as in *T. bondi* except abdominal dorsum without white mark above spinnerets. Leg spination typical for genus. Epigynal atrium restricted to anterior half of epigynum (fig. 131); lateral ducts highly coiled (fig. 132).

OTHER MATERIAL EXAMINED: None.

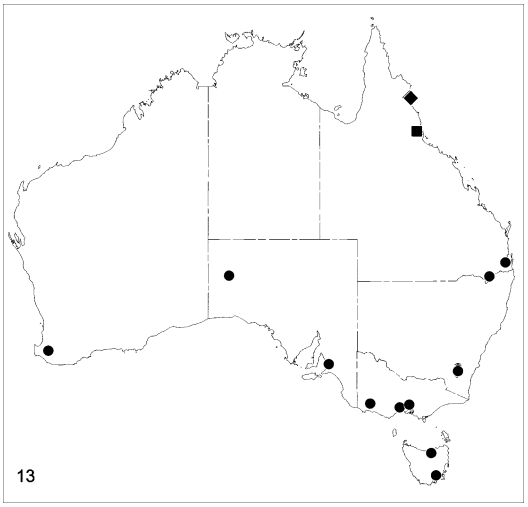
DISTRIBUTION: Known only from the type locality in Western Australia (map 12).

Olin Deeleman-Reinhold

Olin Deeleman-Reinhold, 2001: 565 (type species by original designation *O. platnicki* Deeleman-Reinhold).

DIAGNOSIS: Members of this genus can be separated from those of *Platyoides* by the normal, rather than greatly elongated, fourth trochanters, from those of *Tinytrema* by the relatively unflattened body, and from those of *Desognaphosa* by the teeth on the tarsal claws, which resemble those of zodariids in being implanted on the inner sides of the claws.

DESCRIPTION: Medium-sized spiders, total length 5–7. Carapace only slightly flattened, without tubercles, with rebordered lateral margins and broadly reflexed posterior margin, setae few long, dark, weak, most abundant on ocular area and clypeus; thoracic groove long, longitudinal; cephalic groove obsolete. Eight or no eyes. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum wide, triangular, unipartite, entire, accompanied by second, elongated, posterior chilum (narrow, T-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang not bent; promargin with four large, widely spaced teeth, second most distal smallest; retromargin with single low tooth near base of fang; cheliceral gland openings not obvious under light microscopy. Labium rectangular, flat, abruptly narrowed, deeply rebordered along posterior one-fourth of length, anterior margin slightly invaginated near midline. Endites long, divergent, with oblique depression not restricted to their median edge; serrula present, sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with triangular extensions to and between coxae; surface smooth, with few long setae, posterior margin separating coxae IV, fused to ventral pedicel sclerite (at least in specimen discussed below). One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and strong, inverted y-shaped ven-



Map 13. Records of *Tinytrema sandy*, new species (circles), *Desognaphosa pershouse*, new species (square), and *D. homerule*, new species (diamonds).

tral sclerite with anteriorly expanded head surrounded by less heavily sclerotized cuticle fused with posterior sternal margin.

Abdomen reportedly with dorsal scutum in male; cuticle with sparse, erect setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides, with flat postepigastric sclerotizations, booklung covers slightly ridged; colulus represented only by scattered setae situated posterior of wide posterior spiracle. Anterior lateral spinnerets short, conical, separated by about their diameter at base, with two articles, distal article apparently with two major ampullate gland spigots and many small, unmodified piriform gland spigots; posterior median spinnerets of females with about seven medium-sized cylindrical gland spigots in two longitudinal rows; posterior lateral spinnerets with two articles, those of females with at least one cylindrical gland spigot.

Legs long, slightly laterigrade, leg formula 4123, with sparse setae and long spines; coxae and trochanters without dorsal tubercles, fourth trochanters only very slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters not notched; metatarsal and tarsal scopula strong on anterior legs, weak on posteriors; posterior metatarsi with distal preening brushes; tarsi with two long claws bearing long rows of teeth implanted on inner sides of claw, teeth reduced in size but still present on tarsi IV (at least in female discussed below); weak claw tufts composed of rows of about six spatulate setae; tarsi without cuticular cracks, not shortened; morphologically dorsal surface with modified proximal margin consisting of patch of cuticle with v-shaped sclerotization followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with single dorsal spine near distal end, distal segments with long spines; female palpal tarsus with long, apparently smooth claw, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora I–IV d1-0-0; tibiae: I, II v0-1r-0; III d1-0-0, p0-1-1, v2-2-2, r0-1-1; IV d1-0-1, p0-1-1, v2-2-2, r0-1-1; metatarsi: I, II v2-0-0; III, IV p1-1-0, v2-2-2, r1-1-0.

Male palpal tibia with retrolateral apophysis, embolus and median apophysis short (per Deeleman-Reinhold, 2001). Epigynum with semicircular anterior margin, spermathecae short, with secondary bulbs.

Olin platnicki Deeleman-Reinhold

Figures 191, 192

Olin platnicki Deeleman-Reinhold, 2001: 565, figs. 980–989 (holotype male and paratype female from Pulau Talata Koh, Togian Islands, Sulawesi, not examined).

DIAGNOSIS: With the characters of the genus. This species was originally described on the basis of a male and female taken in a cave on an island off the east coast of Central Sulawesi; the female recorded below is also from the dark zone of a cave, on Christmas Island (an Australian territory off the southern coast of Java). The Christmas Island female differs obviously from the type specimens in lacking eyes (those of the type specimens were described as ''possibly reduced in size as a consequence of the lightless environment of the cave''). However, the details of the female epigynum (figs. 191, 192) match well with the drawings provided by Deeleman-Reinhold. It seems likely that these animals will also be found to occur in epigean sites on Indian Ocean islands, and the degree of eye reduction may well vary within and/or between cave populations. Until additional specimens become available, it seems best to regard the three specimens as conspecific.

MALE: See Deeleman-Reinhold (2001).

FEMALE: See Deeleman-Reinhold (2001).

MATERIAL EXAMINED: **Christmas Island:** Jedda Cave (CI-5), Mar. 29, 1998, dark zone (S. Eberhard, WAM 98/1469), 1♀.

DISTRIBUTION: Known only from Christmas Island (near Java) and the Togian Islands off the east coast of Sulawesi.

Desognaphosa, new genus

TYPE SPECIES: *Desognaphosa yabbra*, new species.

ETYMOLOGY: The generic name is an arbitrary combination of letters taken from the informal, hybrid family name used for sort-

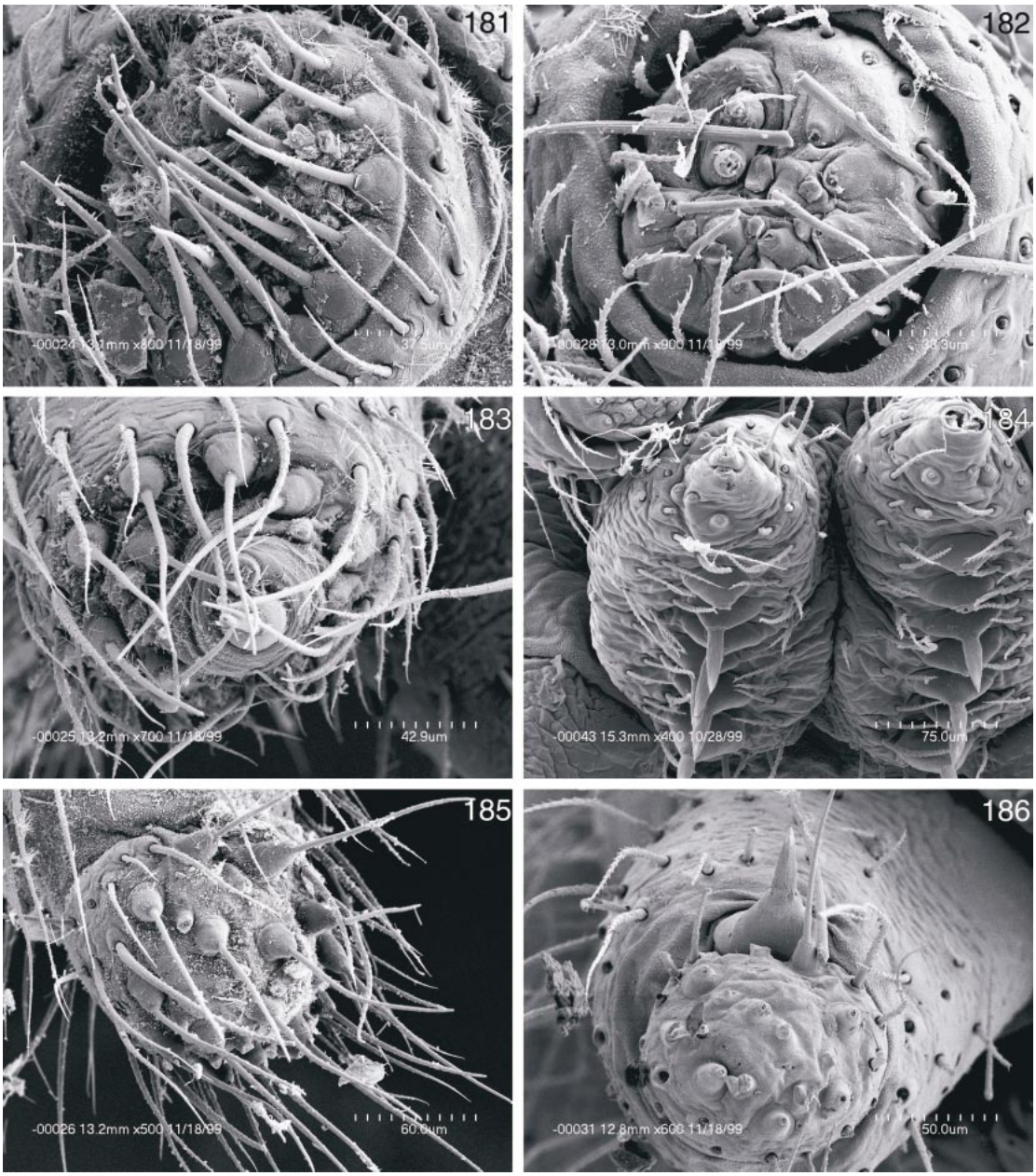
ing these odd animals at the Queensland Museum, and is feminine in gender.

DIAGNOSIS: Members of this genus can be separated from those of *Platyoides* by the normal, rather than greatly elongated, fourth trochanters, from those of *Tinytrema* by the relatively unflattened body, and from those of *Olin* by the normal teeth on the tarsal claws, which are implanted ventrally rather than on the inner sides of the claws.

DESCRIPTION: Medium-sized spiders, total length of males 4–8.5, of females 3.5–9. Carapace only slightly flattened, without tubercles but with pits surrounding setal bases, with rebordered lateral margins and broadly reflexed posterior margin, setae long, dark, weak, arranged in rows radiating from thoracic groove; thoracic groove long, longitudinal; cephalic groove obsolete. Eight eyes in two rows; anterior medians smaller than other, subequal eyes, circular, dark, posterior medians irregularly oval, lenses flattened, canoe-shaped tapetum present, laterals oval; from above, anterior eye row very slightly recurved, posterior row strongly recurved; from front, both rows almost straight; anterior medians separated by more than their diameter, much farther from anterior laterals; posterior medians separated by more than three times their diameter, farther from posterior laterals; anterior and posterior laterals separated by about twice their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum wide, triangular, unipartite, entire, with projecting protrusion at midline, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang not bent; promargin with five large, widely spaced teeth, second most distal smallest; retromargin with single low tooth near base of fang; cheliceral gland openings not obvious under light microscopy but retromarginal side of fang furrow distinctly ridged. Labium rectangular, flat, abruptly narrowed, deeply rebordered along posterior one-fourth of length, anterior margin slightly invaginated near midline. Endites long, divergent, with oblique depression not restricted to their median edge; serrula present (fig. 152), sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, deeply depressed lateral margins, not expanded anteriorly, with triangular extensions to and between coxae; surface smooth, with few long setae originating from pits, posterior margin separating coxae IV, not fused to ventral pedicel sclerite. One heavily sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and strong, triangular ventral sclerite reaching almost to posterior sternal margin.

Abdomen without dorsal scutum; cuticle with sparse, erect setae; epigastric scutum heavily sclerotized, with well-marked booklung openings at sides, with flat postepigastric sclerotizations, booklung covers slightly ridged; colulus represented only by scattered setae on rounded patch of sclerotized cuticle situated posterior of wide posterior spiracle. Six spinnerets (figs. 181–186), anterior laterals short, tubular, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and several small, unmodified piriform gland spigots; posterior medians of females with about six large cylindrical gland spigots in single longitudinal row; posterior laterals with two articles, those of females with single large cylindrical gland spigot.

Legs long, only slightly laterigrade, leg formula 4123, with sparse setae and few spines; coxae and trochanters without dorsal tubercles, fourth trochanters only very slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters not notched; metatarsal and tarsal scopula weak on all legs; posterior metatarsi with weak distal preening brushes; tarsi with two long claws bearing long rows of teeth implanted ventrally on claw, teeth reduced in size but still present on tarsi IV; weak claw tufts composed of numerous, only slightly spatulate setae; tarsi without cuticular cracks, not shortened, higher subdistally than basally;



Figs. 181–186. *Desognaphosa yabbra*, new species, spinnerets of male (left) and female (right), distal views. **181, 182.** Anterior lateral spinnerets. **183, 184.** Posterior median spinnerets. **185, 186.** Posterior lateral spinnerets.

morphologically dorsal surface with modified proximal margin consisting of patch of cuticle with u-shaped sclerotization followed by strong cuticular ridge, that ridge opposing distinct distal extension situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palp with weak spines on tibiae and tarsi only; female palpal tarsus with long, dentate claw, with ventral scopula of stiff setae. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: III d0-0-1; IV d1-0-1; tibiae: III v1p-0-2; IV v1p-1p-2; metatarsi: III v0-0-1p; IV 1p-1p-2.

Male palpal tibia with basal retrodorsal protrusion, retrolateral apophysis short, shifted dorsally, opposite deeply invaginated retrolateral cymbial margin; embolus long, extending along prolateral side of bulb, terminating near sclerotized median apophysis and membranous conductor (separation of those sclerites sometimes indistinct). Epigynum relatively simple, with complexly arranged ducts.

SPECIES GROUPS: Two informal but putatively monophyletic species groups are recognized below, along with a small group of species of uncertain relationship. Within each group, the species are listed in geographic order, proceeding from south to north.

IDENTIFICATION: Because of the size of the genus, separate keys are presented for those species from northern Queensland (north of 20°S) and those from southern Queensland (south of 20°S) and New South Wales.

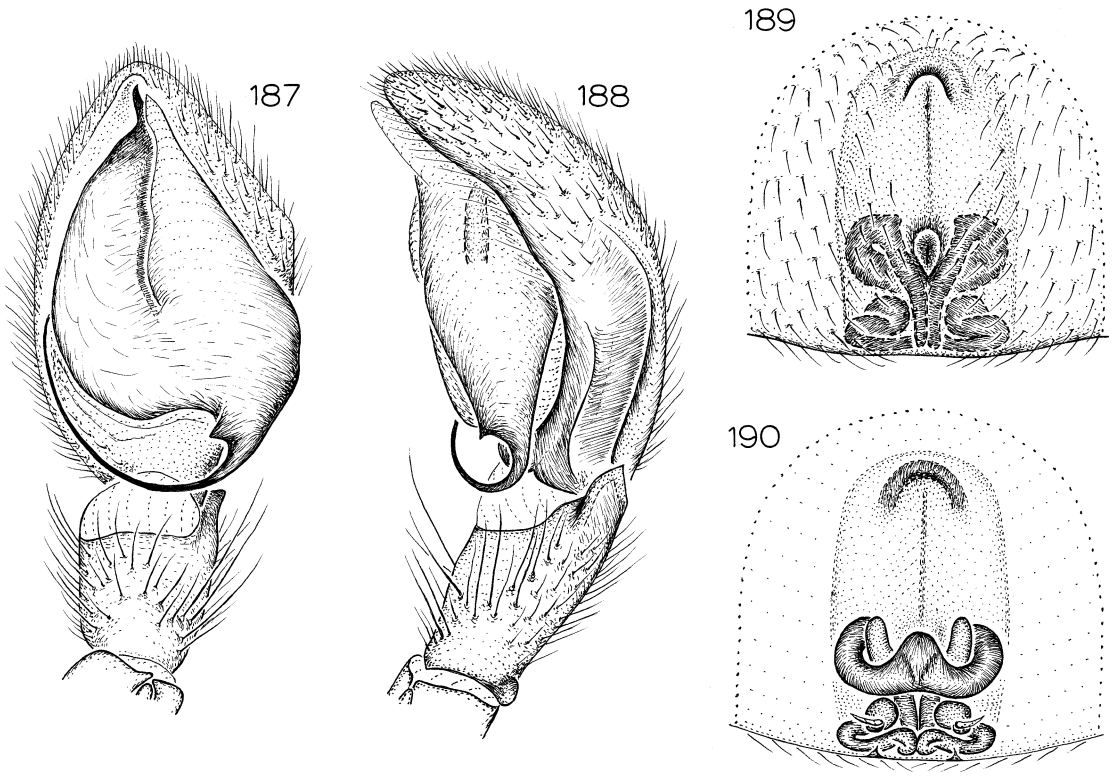
KEY TO SPECIES OF *DESOGNAPHOSA* KNOWN FROM SOUTHERN QUEENSLAND AND NEW SOUTH WALES

1. Males (those of *bulburin*, *kroombit*, *funnel*, and *goonaneman* unknown) 2
– Females 4
2. Retrolateral tibial apophysis longer at middle than dorsally or ventrally (fig. 188) . . . . . *yabbra*
– Retrolateral tibial apophysis longer dorsally than at middle or ventrally (figs. 204, 208) 3
3. Embolus relatively short, originating near ventral edge of palpal bulb (fig. 203) . . . . . *eungella*
– Embolus relatively long, originating near retrolateral edge of palpal bulb (fig. 207) . . . . . *dryander*
4. Epigynum without distinct anterior margin, with rounded atrium (fig. 193) . . . . . *bulburin*
– Epigynum with distinct anterior margin, without rounded atrium 5
5. Anterior epigynal margin distinctly bipartite (figs. 197, 205, 217) 6
– Anterior epigynal margin unipartite (figs. 189, 195, 209) 8
6. Spermathecae greatly reduced, far from anterior epigynal margin (figs. 217, 218) . . . . . *goonaneman*
– Spermathecae not reduced (figs. 198, 206) 7
7. Anterior epigynal ducts coiled (fig. 198) . . . . . *funnel*
– Anterior epigynal ducts not coiled (fig. 206) . . . . . *eungella*
8. Anterior epigynal margin relatively wide (fig. 195) . . . . . *kroombit*
– Anterior epigynal margin relatively narrow (figs. 189, 209) 9
9. Anterior epigynal margin relatively far from epigynal ducts (figs. 189, 190) . . . . . *yabbra*
– Anterior epigynal margin situated closer to epigynal ducts (figs. 209, 210) . . . . . *dryander*

KEY TO SPECIES OF *DESOGNAPHOSA* KNOWN FROM NORTHERN QUEENSLAND

1. Males (those of *tribulation* unknown) . . . 2
– Females 18
2. Distinct protuberance present at base of embolus (fig. 211), cymbial invagination extending almost full length of cymbium (fig. 212) . . . . . *millaa*
– Base of embolus without protuberance, cymbial invagination restricted to proximal half of cymbium 3
3. Basal portion of cymbium bearing paracymbial apophysis (as in figs. 224, 228, 232) 4
– Cymbium without paracymbial apophysis (fig. 220) . . . . . *malbon*
4. Paracymbial apophysis relatively short, wide, retrolateral tibial apophysis with dorsally and ventrally directed points (figs. 244, 248) 5
– Paracymbial apophysis longer and not as wide, retrolateral tibial apophysis otherwise 6
5. Palpal bulb expanded proximally (fig. 243) . . . . . *bellenden*

– Palpal bulb not expanded proximally (fig. 247) . . . . . *kuranda*
6. Retrolateral tibial apophysis relatively short, directed distally (as in figs. 224, 232, 236) 7
– Retrolateral tibial apophysis relatively long, directed dorsally (as in figs. 228, 240, 264) 12
7. Terminal palpal elements appearing chelate (figs. 223, 251) 8
– Terminal palpal elements not chelate (figs. 231, 235, 255, 279) 9
8. Embolus relatively short (fig. 251), retrolateral tibial apophysis situated dorsally (fig. 252) . . . . . *karnak*
– Embolus relatively long (fig. 223), retrolateral tibial apophysis situated medially (fig. 224) . . . . . *kirrama*
9. Terminal palpal elements with prolateral protuberance (fig. 231) . . . . . *tyson*
– Prolateral protuberance absent 10
10. Terminal palpal elements relatively short (fig. 255) . . . . . *spurgeon*
– Terminal palpal elements relatively long (figs. 235, 279) 11
11. Tip of terminal palpal elements directed retrolaterally (fig. 235) . . . . . *bartle*
– Tip of terminal palpal elements directed ventrally (fig. 279) . . . . . *homerule*
12. Retrolateral tibial apophysis simple, narrow (fig. 260) . . . . . *windsor*
– Retrolateral tibial apophysis wider, bearing at least one protuberance 13
13. Retrolateral tibial apophysis with two dorsally directed protuberances (figs. 264, 272, 276) 14
– Retrolateral tibial apophysis otherwise (figs. 228, 240, 268) 16
14. Paracymbial apophysis relatively short (fig. 276) . . . . . *boolbun*
– Paracymbial apophysis relatively long (figs. 264, 272) 15
15. Terminal palpal elements relatively wide (fig. 263) . . . . . *halcyon*
– Terminal palpal elements relatively narrow (fig. 271) . . . . . *finnigan*
16. Terminal palpal elements relatively wide (figs. 227, 267) 17
– Terminal palpal elements relatively narrow (fig. 239) . . . . . *massey*
17. Palpal bulb relatively short (fig. 267) . . . . . *carbine*
– Palpal bulb relatively long (fig. 227) . . . . . *pershouse*
18. Epigynal ducts forming transverse bar at about half of epigynal length (figs. 200, 214) 19
– Epigynal ducts not forming transverse bar 20
19. Epigynum with v-shaped atrium (fig. 199) . . . . . *tribulation*
– Epigynum without atrium (fig. 213) . . . . . *millaa*
20. Epigynal atrium with pair of oblique posterior ridges (fig. 221); anterior epigynal ducts in u-shaped pattern (fig. 222) . . . . . *malbon*
– Epigynal atrium without oblique ridges 21
21. Epigynal atrium a broad oval (figs. 253, 265, 269, 273) 22
– Epigynal atrium otherwise 25
22. Epigynal atrium extending farther laterally than spermathecae (fig. 265) . . . . *halcyon*
– Epigynal atrium extending no farther than spermathecae 23
23. Spermathecae extending farther laterally than epigynal atrium (fig. 269) . . . . . *carbine*
– Spermathecae extending no farther laterally than atrium 24
24. Epigynal atrium almost rectangular (fig. 253) . . . . . *karnak*
– Epigynal atrium more rounded (fig. 273) . . . . . *finnigan*
25. Epigynal atrium and anterior margins forming incomplete rectangle (figs. 225, 233, 237, 241) 26
– Epigynal atrium otherwise 29
26. Epigynal atrium longer than wide (fig. 241) . . . . . *massey*
– Epigynal atrium at least as wide as long 27
27. Anterior epigynal ducts greatly widened (figs. 226, 234) 28
– Anterior epigynal ducts normal (fig. 238) . . . . . *bartle*
28. Anterior epigynal ducts recurved (fig. 226) . . . . . *kirrama*
– Anterior epigynal ducts straight (fig. 234) . . . . . *tyson*
29. Epigynal atrium triangular (figs. 229, 245, 261, 281) 30
– Epigynal atrium otherwise 33
30. Epigynal atrium relatively long (figs. 245, 281) 31
– Epigynal atrium relatively short (figs. 229, 261) 32
31. Epigynal atrium widest anteriorly (fig. 281) . . . . . *homerule*
– Epigynal atrium widest posteriorly (fig. 245) . . . . . *bellenden*
32. Median epigynal ducts fused (fig. 230) . . . . . *pershouse*



Figs. 187–190. *Desognaphosa yabbra*, new species. **187.** Left male palp, ventral view. **188.** Same, retrolateral view. **189.** Epigynum, ventral view. **190.** Same, dorsal view.

– Median epigynal ducts not fused (fig. 262) . . . . . *windsor*

33. Median epigynal ducts situated entirely along midline (fig. 258) . . . . . *spurgeon*
– Anterior portion of median epigynal ducts reaching sides of epigynum (figs. 250, 278) 34

34. Anterior portion of median epigynal ducts greatly thickened (fig. 278) . . . . *boolbun*
– Anterior portion of median epigynal ducts not thickened (fig. 250) . . . . . *kuranda*

The *yabbra* Group

The *yabbra* group includes eight species in which the known males have a distinct protuberance at the base of the embolus (figs. 187, 203) and the known females have a transverse bar at about half the length of the vulva (figs. 190, 206). The group ranges from northern New South Wales north to Cape Tribulation, but most of the species occur in mideastern and southeastern Queensland. Males are known so far for only half



Map 14. Records of *Desognaphosa yabbra*, new species (circles), *D. malbon*, new species (square), and *D. boolbun*, new species (diamonds).

the species; one of the species known only from females (*D. bulburin*) has a sufficiently atypical epigynum that its males may prove to be quite different from those currently available.

Desognaphosa yabbra, new species

Figures 152, 181–190; Map 14

TYPES: Female holotype and male allotype taken in pitfall trap in Yabbra State Forest, 28°30′S, 152°40′E, New South Wales (Feb. 7–Mar. 15, 1992; M. Gray, P. Croft), deposited in AMS (KS38455).

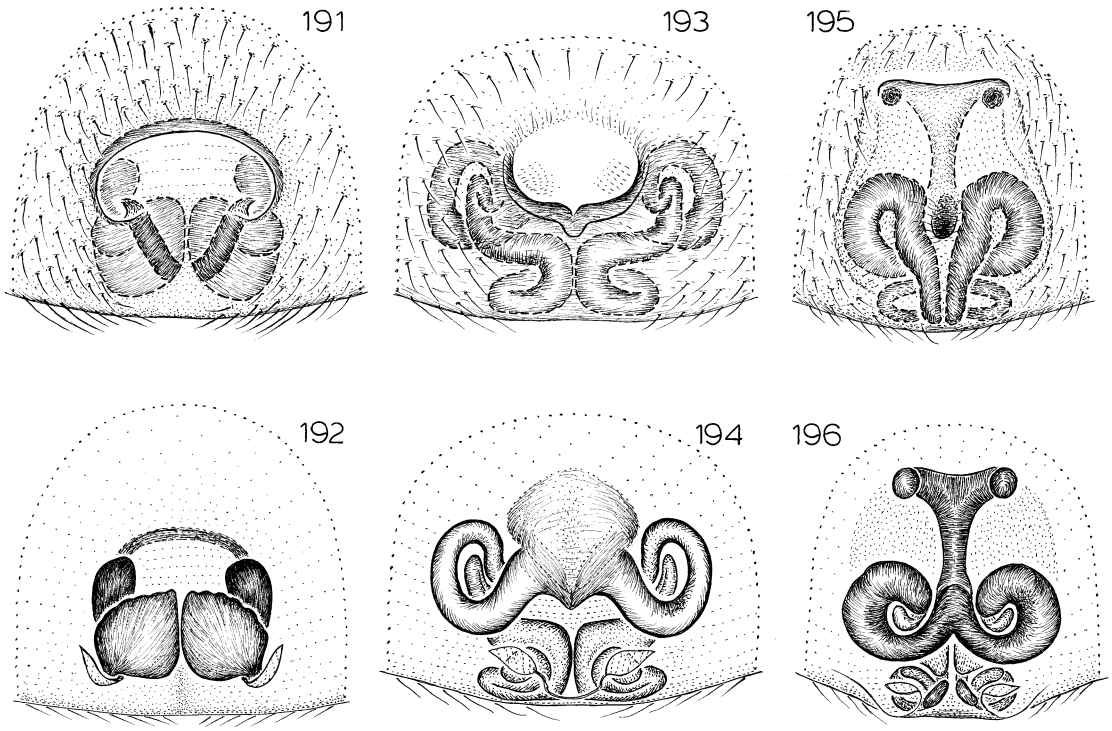
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *D. dryander* in having a moderately long embolus (fig. 187), but have a larger retrolateral tibial apophysis (fig. 188); females also resemble those of *D. dryander* in having a relatively narrow anterior epigynal margin (fig. 189), but have a much more elongated epigynum, with the anterior margin far removed from the ducts (fig. 190).

MALE: Total length 5.7. Carapace dark reddish brown; abdominal dorsum gray with two paramedian longitudinal rows of white spots, most anterior pair of spots much longer than others, posterior pairs grading into chevrons, sides gray, venter white with three longitudinal gray stripes; legs light reddish brown, femora darkest. Leg spination: tibiae: III v1p-1p-2; IV r0-1-1; metatarsi: III p0-0-1, v2-0-1p; IV p0-0-1, v2-1p-1p, r1-0-0. Retrolateral tibial apophysis triangular, thickened, cymbial excavation deep, extending over half length of segment (fig. 188); embolus extending posterior of tibial margin, with prominent, prolaterally directed protuberance at base (fig. 187).

FEMALE: Total length 5.3. Coloration as in male. Leg spination: tibia IV d1-0-0, r0-1-1; metatarsi: III v2-0-2; IV v2-1p-2, r1-0-0. Epigynum with elevated anterior margin, openings medially situated (fig. 189); ducts bridged by w-shaped, transverse bar (fig. 190).

OTHER MATERIAL EXAMINED: **New South Wales:** Blue Gum Lookout, via Mallanganee, 28°47′S, 152°43′E, Oct. 12, 1977–Feb. 7, 1978, rainforest pitfall, elev. 580 m (G. Monteith, QMB S26658), 1♀; Cambridge Plateau, Richmond Range State Forest, 28°47′S, 152°45′E, Dec. 17, 1988, subtropical rainforest pitfall, elev. 300–600 m (Smith, Hines, Pugh, Webber, AMS KS44244, 44816, 57716), 3♂; Elkhorn Road, Ewingar State Forest, 29°06′S, 152°26′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 670–710 m (M. Gray, G. Cassis, AMS KS40471, 40472), 7♂, 2♀; Ewingar Creek, Elkhorn Road, Ewingar State Forest, 29°05′S, 152°26′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 640 m (M. Gray, G. Cassis, AMS KS40470), 5♂, 1♀; Fosters Road, 300 m from Running Road, Whian Whian State Forest, 28°36′S, 153°20′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 310 (M. Gray, G. Cassis, AMS KS35795), 2♀; Gibburgunyah Range Road, 150 m W Rocky Creek crossing, Big Scrub Flora Reserve, 28°38′S, 153°19′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 180 (M. Gray, G. Cassis, AMS KS35796), 4♂, 1♀; Lionsville Road, Ewingar State Forest, 29°11′S, 152°25′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 740 m (M. Gray, G. Cassis, AMS KS42184), 2♂, 1♀; NW Rocky Creek crossing, Big Scrub Flora Reserve, 28°38′S, 153°19′E, Feb. 4–Apr. 9, 1993 (M. Gray, G. Cassis, AMS KS35794), 1♂; Running Road, 100 m E Rocky Creek, Whian Whian State Forest, 28°36′S, 153°21′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 250 (M. Gray, G. Cassis, AMS KS35797), 2♀; Sheepstation Creek, Wiangaree State Forest, 28°24′S, 153°04′E, Feb. 29–Mar. 3, 1980, Berlese, leaf and log litter, subtropical rainforest, elev. 600 m (A. Newton, M. Thayer, AMNH), 2♀; Solferino Creek, track off Lionsville Road, Ewingar State Forest, 29°10′S, 152°26′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 520 m (M. Gray, G. Cassis, ex AMS KS40463), 1♀; Terania Creek, N Lismore, 28°34′S, 153°19′E, Apr.–May, 1976, rainforest litter, elev. 340 m (M. Gray, C. Horseman, AMS KS10070), 1♀; Tributary Grasstree Creek, Nogrigar Road, Ewingar State Forest, 29°08′S, 152°25′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 720 m (M. Gray, G. Cassis, AMS KS40473), 3♂; Tucker Box Road, Beaury State Forest, 28°28′S, 152°24′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 740 m (M. Gray, G. Cassis, AMS KS36076), 3♂; Tweed Range Road, 4.6 km SW Bridle Creek Road, Border Ranges National Park, 28°24′S, 153°02′E, Feb. 4–Apr. 9, 1993, pit-



Figs. 191–196. Epigyna, ventral (top row) and dorsal (bottom row) views. **191, 192.** *Olin platnicki* Deeleman-Reinhold. **193, 194.** *Desognaphosa bulburin*, new species. **195, 196.** *D. kroombit*, new species.

fall, elev. 580 m (M. Gray, G. Cassis, AMS KS40460), 1♀; Victoria Park, via Alstonville, 28°53′S, 153°23′E, Dec. 26, 1974–Mar. 23, 1975, rainforest pitfall, elev. 213 m (G., S. Monteith, QMB S26624), 1♂, Aug. 3–Nov. 16, 1975, rainforest pitfall (G., S. Monteith, QMB S26629), 1♀; N along Wallaby Creek, Beaury State Forest, 28°26′S, 152°27′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 830 m (M. Gray, G. Cassis, AMS KS36087), 4♂, 1♀; Whian Whian State Forest, 28°41′S, 153°19′E, Dec. 26, 1974–Mar. 23, 1975, rainforest pitfall (G., S. Monteith, QMB S26638), 1♀, Sept. 12, 1976, rainforest litter (R. Raven, QMB S34522), 2♀; Woobah Fire Trail, Bundjalung National Park, 29°15′S, 153°17′E, Feb. 4–Apr. 9, 1993, pitfall (M. Gray, G. Cassis, AMS KS40459), 1♂; Yabbra State Forest, 28°30′S, 152°40′E, Feb. 7–Mar. 15, 1992, pitfall (M. Gray, P. Croft, AMS KS38447, 38463, 38798), 1♂, 2♀. **Queensland:** Booloumba Creek, Conondale Range, 26°39′S, 152°39′E, Nov. 29, 1974–



Map 15. Records of *Desognaphosa bulburin*, new species (circle), *D. tyson*, new species (square), and *D. carbine*, new species (diamonds).

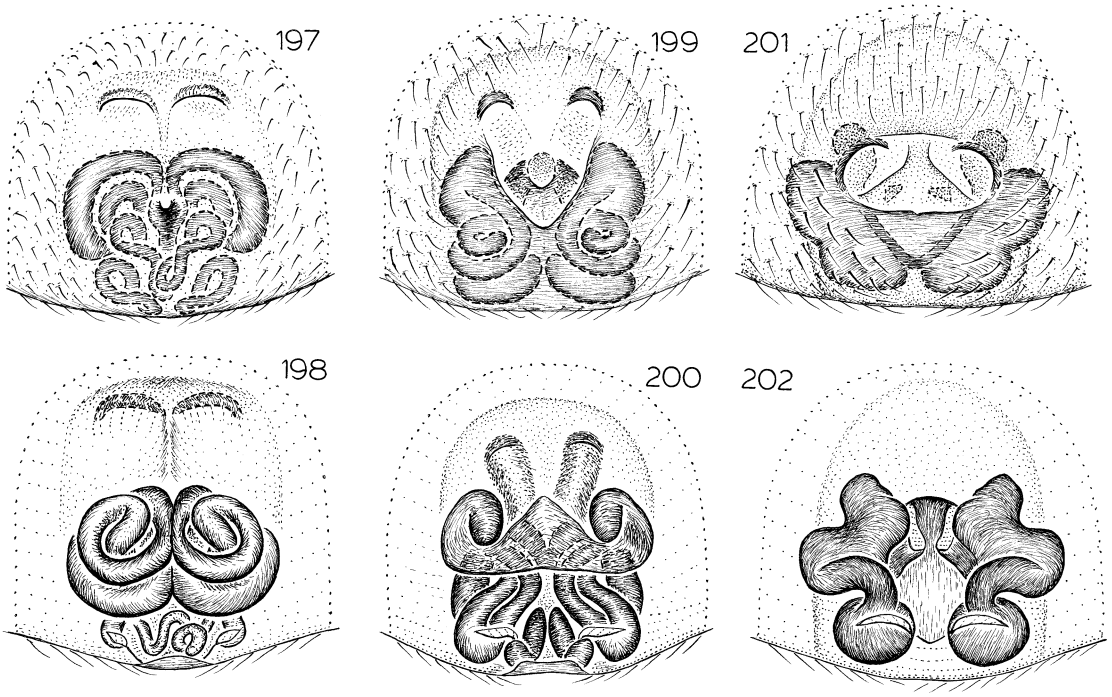
Feb. 22, 1975, rainforest pitfall, elev. 518 m (G., S. Monteith, QMB S26625), 1♀, Feb. 22–Apr. 19, 1975, rainforest pitfall, elev. 550 m (G., S. Monteith, QMB S26630), 1♂, May 13–18, 1976, rainforest litter (R. Raven, QMB S28770), 2♂, 9♀; Booloumba Creek Road, Kenilworth State Forest, 4 km W Cambroon, 26°38′S, 152°39′E, May 5, 1998, wet sclerophyll forest (G. Milledge, AMS KS52278), 3♀; Cold Creek, via Imbil, 26°28′S, 152°41′E, Nov. 9–Dec. 31, 1974, rainforest pitfall, elev. 122 m (G., S. Monteith, QMB S26633), 1♂; Conondale Range, 26°50′S, 152°45′E, May 1–3, 1976 (R. Raven, AMS S29330), 1♀; Cooran Plateau, via Traveston, 26°21′S, 152°47′E, Mar. 28–Aug. 13, 1975, rainforest pitfall, elev. 366 m (G., S. Monteith, QMB S26627), 1♂; Cunninghams Gap, 28°03′S, 152°24′E, Dec. 28, 1974–Mar. 30, 1975, rainforest pitfall, elev. 762 m (G., S. Monteith, QMB S26626, 26662), 1♂, 1♀, June 28, 1991, dry forest litter (D. Black, WAM 99/647, 648), 1♂, 1♀, Jan. 6–Mar. 1, 1992, rainforest pitfall, elev. 790 m (D. Cook, QMB S25045), 1♂; Hiller property, Mount Glorious, 27°20′S, 152°46′E, Nov. 18, 1977-Jan. 20, 1978, rainforest pitfall (G., S. Monteith, QMB S26701), 1♀, June 26–Nov. 18, 1978, same (QMB S26704), 1♀; Kenilworth State Forest, 5.2 km SW Kenilworth, 26°37′S, 152°41′E, May 5, 1998, rainforest (G. Milledge, AMS KS52289), 2♀; Levers Plateau, 28°19′S, 152°15′E, Feb. 29–Apr. 11, 1993, rainforest pitfall, elev. 720 m (D. Cook, QMB S43395), 1♂; Little Yabba Creek, 26°37′S, 152°41′E, Aug. 10–Dec. 29, 1974, rainforest pitfall, elev. 152 m (G., S. Monteith, QMB S26622, 26639), 2♂, 2♀, Jan. 27, 1980 (V. Davies, QMB S26668), 1♀; Marys Creek State Forest, via Gympie, 26°15′S, 152°35′E, Aug. 11–Nov. 10, 1974, rainforest pitfall, elev. 183 m (G., S. Monteith, QMB S40714), 1♂, 1♀, Dec. 31, 1974–Mar. 28, 1975, same (QMB S26637), 1♀, June 16–Aug. 23, 1975, same (QMB S26623), 1♀; Mount Coolum, Fern Gully, 26°34′S, 153°05′E, Jan. 1984, pitfall (B. Jahnke, QMB S26670), 1♂; Mount Cotton, upper gully, 27°36′S, 153°13′E, May 7, 1988, Berlese, rainforest litter, elev. 150 m (G. Monteith, G. Thompson, QMB S42445), 1♀; Mount Cotton, Scott's Dam, 27°36′S, 153°13′E, May 7, 1988, Berlese, rainforest litter, elev. 120 m (G. Monteith, G. Thompson, QMB S42444), 1♀; Mount Cotton, 27°37′S, 153°13′E, Sept. 13, 1997, Berlese, rainforest litter, elev. 200 m (G. Monteith, QMB S43873), 1♀; Mount Glorious, 27°20′S, 152°46′E, Sept. 20, 1979, rainforest, Berlese, stick brushings (G. Monteith, QMB S26686), 1♂; Mount Mee, Neurum Creek, 27°05′S, 152°42′E, Jan. 20–Feb. 26, 1978, rainforest pitfall, elev. 210 m (G., S. Monteith, QMB S26697), 1♀; Mount Mee, via Samford, 27°05′S, 152°47′E, Mar. 20–June 1, 1975, rainforest pitfall (G., S. Monteith, QMB S26635, 26636), 2♂; Mount Mee, top, 27°05′S, 152°41′E, Oct. 28, 1977–Jan. 20, 1978, rainforest pitfall, elev. 550 m (G., S. Monteith, QMB S26659), 2♂, Feb. 26–June 26, 1978, same (QMB S26664), 1♂; Mount Tamborine, 27°56′S, 153°12′E, July 10, 1974 (C. Wilton, V. Davies, R. Raven, QMB S26707), 1♀; N side, Mount Tamborine, near Curtis Falls, 27°58′S, 153°12′E, May 8, 1953, rainforest litter (T. Woodward, OMD), 2♀; Mount Tenison Woods, 27°18′S, 152°45′E, Mar. 22, 1979, rainforest, Berlese, stick brushings (G. Monteith, QMB S26666), 1♂, 1♀; Mount Tenison Woods, 27°19′S, 152°44′E, May 15, 1997, Berlese, rainforest litter (G. Monteith, QMB S43876), 1♀; Palm Grove, Mount Tamborine, 27°56′S, 153°12′E, Oct. 26–Dec. 14, 1974, rainforest pitfall, elev. 670 m (G., S. Monteith, QMB S26628), 1♀; Sunday Creek, 26°40′S, 152°34′E, Jan. 20–May 15, 1997, rainforest pitfalls (G. Monteith, QMB S38078, 38091), 2♂; Sunday Creek Road, junction with Gigher Creek Road, Kenilworth State Forest, 26°42′S, 152°33′E, May 7, 1998, wet sclerophyll forest (G. Milledge, AMS KS52282), 2♀; Upper Tallebudgera Valley, below Springbrook, 28°15′S, 153°16′E, Jan. 8–Mar. 17, 1985, rainforest pitfall, elev. 550 m (G. Monteith, G. Thompson, D. Cook, QMB S26653), 1♀; Yabba Creek forest, 7 km SW Kenilworth, 26°35′S, 152°44′E, Aug. 15, 1982, rainforest litter, elev. 150 m (S., J. Peck, AMNH), 1♀.

DISTRIBUTION: Southeastern Queensland and adjacent New South Wales (map 14).

Desognaphosa bulburin, new species

Figures 193, 194; Map 15

TYPE: Female holotype taken in a pitfall trap in rainforest at an elevation of 609 m on



Figs. 197–202. Epigyna, ventral (top row) and dorsal (bottom row) views. **197, 198.** *Desognaphosa funnel*, new species. **199, 200.** *D. tribulation*, new species. **201, 202.** *Trachyspina goongarrie*, new species.

the Bulburin Plateau, via Miriamvale, Bulburin State Forest, 24°30′S, 151°35′E, Queensland (June 1–Oct. 5, 1974; G., S. Monteith), deposited in QMB (S26634).

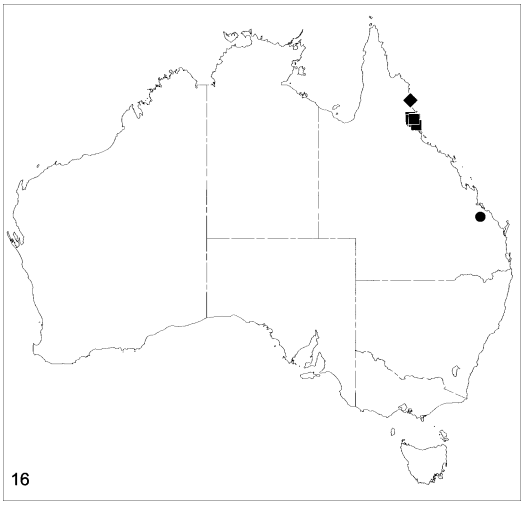
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females of this distinctive species can easily be recognized by the oval, medially situated epigynal atrium (fig. 193).

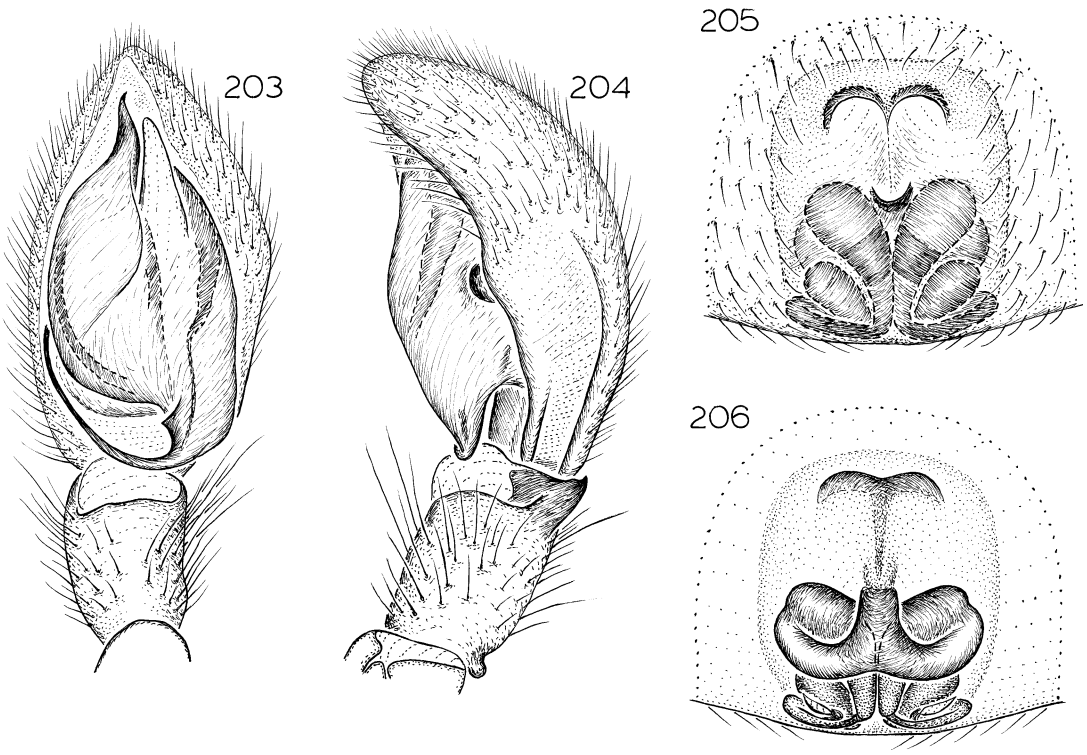
MALE: Unknown.

FEMALE: Total length 4.5. Coloration as in *D. yabbra*, except pars thoracica with dark markings, legs with dark markings distally on femora and patellae, proximally and distally on tibiae. Leg spination: tibiae: III v1p-1p-2; IV r0-1-1; metatarsi: III v1p-0-2; IV v2-1p-2, r1-0-0. Epigynum with transverse, oval atrium (fig. 193); anterolateral portion of ducts making complete coil (fig. 194).

OTHER MATERIAL EXAMINED: **Queensland:** Bulburin State Forest, 24°30′S, 151°35′E, Mar. 17–24, 1975, rainforest litter (V. Davies, R. Kohout, QMB S28302), 1♀, Mar. 25–28, 1977 (R. Raven, V. Davies, ex QMB S26953), 1♀.



Map 16. Records of *Desognaphosa kroombit*, new species (circle), *D. bartle*, new species (squares), and *D. halcyon*, new species (diamond).



Figs. 203–206. *Desognaphosa eungella*, new species. **203.** Left male palp, ventral view. **204.** Same, retrolateral view. **205.** Epigynum, ventral view. **206.** Same, dorsal view.

DISTRIBUTION: Known only from Bulburin State Forest in mideastern Queensland (map 15).

Desognaphosa kroombit, new species

Figures 195, 196; Map 16

TYPE: Female holotype taken in a Berlese sample of sieved rainforest litter at an elevation of 860 m at Beauty Spot 98 on Kroombit Tops, SSW Calliope, 24°22′S, 150°59′E, Queensland (Sept. 29, 1985; G. Monteith), deposited in QMB (S28754).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females differ from those of *D. yabbra* in having a much wider anterior epigynal margin (fig. 195).

MALE: Unknown.

FEMALE: Total length 6.3. Coloration as in *D. yabbra*. Leg spination: tibiae: III v1p-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV 2-1p-2, r0-1-0. Epigynum with wide anterior margin and deeply depressed central atrium (fig. 195); median ducts making more than one complete coil on each side (fig. 196).

OTHER MATERIAL EXAMINED: **Queensland:** Kroombit Tops, 45 km SSW Calliope, 24°25′S, 151°03′E, Dec. 15, 1985, Berlese, sieved rainforest litter, elev. 940 m (G. Monteith, V. Davies, J. Gallon, G. Thompson, QMB S26677), 2♀; Three Moon Scrub, Kroombit Tops, SSW Calliope, 24°25′S, 151°03′E, Sept. 30, 1985, Berlese, sieved rainforest litter, elev. 940 m (G. Monteith, QMB S26647), 1♀.

DISTRIBUTION: Known only from Kroombit Tops in mid-eastern Queensland (map 16).

Desognaphosa funnel, new species

Figures 197, 198; Map 17

TYPE: Female holotype taken in flight intercept trap in rainforest at an elevation of 250 m on Upper East Funnel Creek ridge, 21°34′S, 149°12′E, Queensland (Nov. 16,

1992–mid April, 1993; D. Cook, G. Monteith), deposited in QMB (S31320).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the extra coil of the anteromedian epigynal ducts (fig. 198).

MALE: Unknown.

FEMALE: Total length 4.6. Coloration as in *D. yabbra*. Leg spination: tibia IV r0-1-1; metatarsi: III v2-0-2; IV 2-1p-2, r1-0-0. Anterior epigynal margin relatively wide, bipartite, connected to narrow median septum (fig. 197); anterolateral portion of ducts hypertrophied, forming additional coil (fig. 198).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in mideastern Queensland (map 17).

Desognaphosa eungella, new species

Figures 203–206; Map 18

TYPE: Female holotype and male allotype taken in pitfall trap in rainforest at schoolhouse, Eungella, 21°08′S, 148°29′E, Queensland (Feb. 11–15, 1986; R. Raven, J. Gallon), deposited in QMB (S7050).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be distinguished from the other known *yabbra* group males by the relatively short embolus (fig. 203), females by the narrow epigynal septum (fig. 205).

MALE: Total length 5.6. Coloration as in *D. yabbra*. Leg spination: tibia IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-1p-2, r1-0-0. Retrolateral tibial apophysis short hook on wide ledge, cymbial excavation deep, extending almost half length of segment (fig. 204); embolus not extending posterior of tibial margin, with prominent, prolaterally directed protuberance at base (fig. 203).

FEMALE: Total length 6.3. Coloration as in *D. yabbra*. Leg spination: tibia IV r1-1-1; metatarsi: III v2-0-2; IV 2-1p-2, r1-0-0. Epigynum with wide, bipartite anterior margin connected to narrow median septum (fig. 205); anteromedian portion of ducts greatly widened (fig. 206).

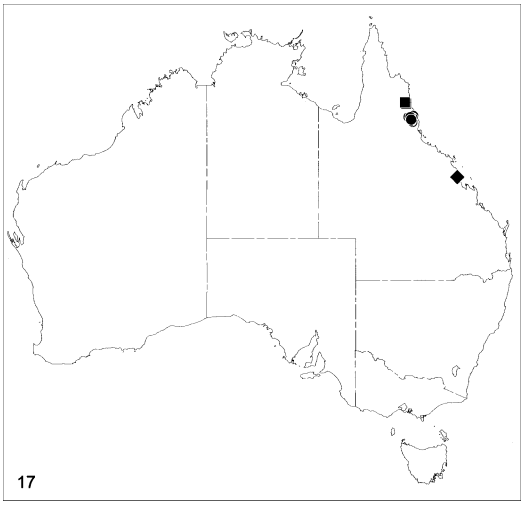
OTHER MATERIAL EXAMINED: **Queensland:** Broken River, Eungella National Park, 21°10′S, 148°31′E, July 29–Dec. 4, 1992, rainforest pitfall (R. Raven, P., E. Lawless, QMB S40719), 2♂; Crediton, 21°12′S, 148°32′E, Apr. 14–21, 1975, litter (V. Davies, R. Kohout, QMB S28305), 3♀; Dalrymple Heights, Eungella National Park, 21°08′S, 148°30′E, Nov. 1976, litter (M. Bishop, QMB S28301), 2♀; Dalrymple Heights, near Eungella, 21°04′S, 148°35′E, Mar.–Apr. 1975, rainforest litter, elev. 1000 m (M. Gray, C. Horseman, AMS KS6382), 1♂, 1♀; Dalrymple Road, 5.6 km SW Snake Road junction, Eungella National Park, 21°06′S, 148°32′E, Apr. 19, 1998, rainforest (G. Milledge, AMS KS55321), 1♀; schoolhouse, Eungella, 21°08′S, 148°29′E, Feb. 11–15, 1986 (R. Raven, J. Gallon, QMB S7030), 1♂; Mount Macartney, Cathu State Forest, 20°51′S, 148°33′E, Apr. 20, 1979, Berlese, stick brushings, rainforest, elev. 750 m (G. Monteith, QMB S30345), 1♀.

DISTRIBUTION: Known only from mideastern Queensland (map 18).

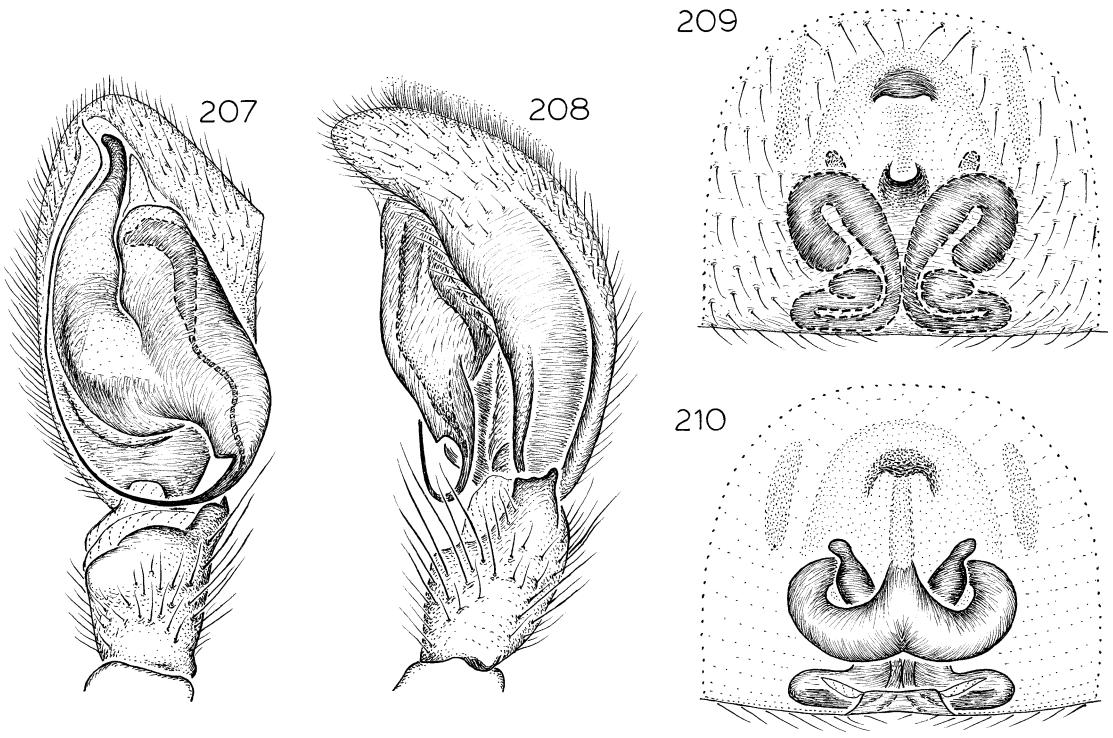
Desognaphosa dryander, new species

Figures 207–210; Map 19

TYPES: Female holotype and male allotype taken in a Berlese sample of sieved litter from Mount Dryander, 20°15′S, 148°33′E, Queensland (Apr. 29, 1979; G. Monteith), deposited in QMB (S23822).



Map 17. Records of *Desognaphosa funnel*, new species (diamond), *D. massey*, new species (circles), and *D. windsor*, new species (squares).



Figs. 207–210. *Desognaphosa dryander*, new species. **207.** Left male palp, ventral view. **208.** Same, retrolateral view. **209.** Epigynum, ventral view. **210.** Same, dorsal view.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *D. yabbra* in having a moderately long embolus (fig. 207), but have a smaller retrolateral tibial apophysis (fig. 208); females also resemble those of *D. yabbra* in having a relatively narrow anterior epigynal margin (fig. 209), but have a much shorter epigynum, with the anterior margin situated near the ducts (fig. 210).

MALE: Total length 4.7. Coloration as in *D. yabbra*. Leg spination: tibiae: III v1p-1p-2; IV r0-1-1; metatarsi: III v1p-0-1p; IV v2-1p-2, r1-0-0. Retrolateral tibial apophysis short hook on distally projecting ledge, cymbial excavation deep, extending almost two-thirds length of segment (fig. 208); embolus extending posterior of tibial margin, with prominent, prolaterally directed protuberance at base (fig. 207).

FEMALE: Total length 5.1. Coloration as in *D. yabbra*. Leg spination: tibia IV r0-1-1; metatarsi: III v2-0-2; IV v2-1p-2, r1-0-0. Anterior epigynal margin narrow, connected to narrow median septum (fig. 209); anteromedian ducts with projecting lobes (fig. 210).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Mount Dryander in mideastern Queensland (map 19).

Desognaphosa millaa, new species

Figures 211–214; Map 12

TYPES: Female holotype and male allotype taken in Berlese sample of sieved rainforest litter at an elevation of 1000 m on Kjellberg Road, Mount Fisher, 7 km SW Millaa Millaa, 17°33′S, 145°33′E, Queensland (May 3, 1983; G. Monteith, D. Yeates), deposited in QMB (S26676).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

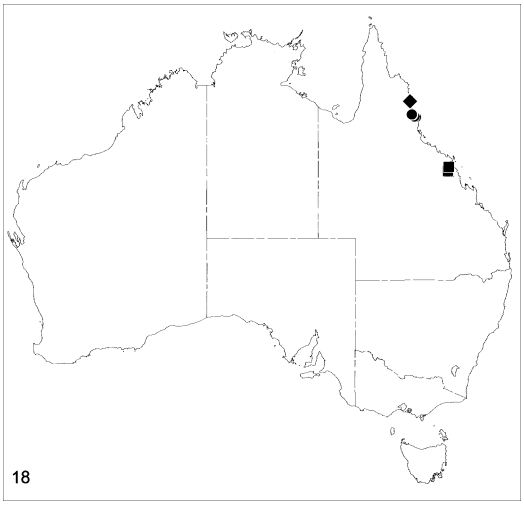
DIAGNOSIS: Males can easily be recognized by the long cymbial invagination, which extends almost the full length of the cymbium

(fig. 212), females by the very narrow, paired anterior epigynal margins (fig. 213).

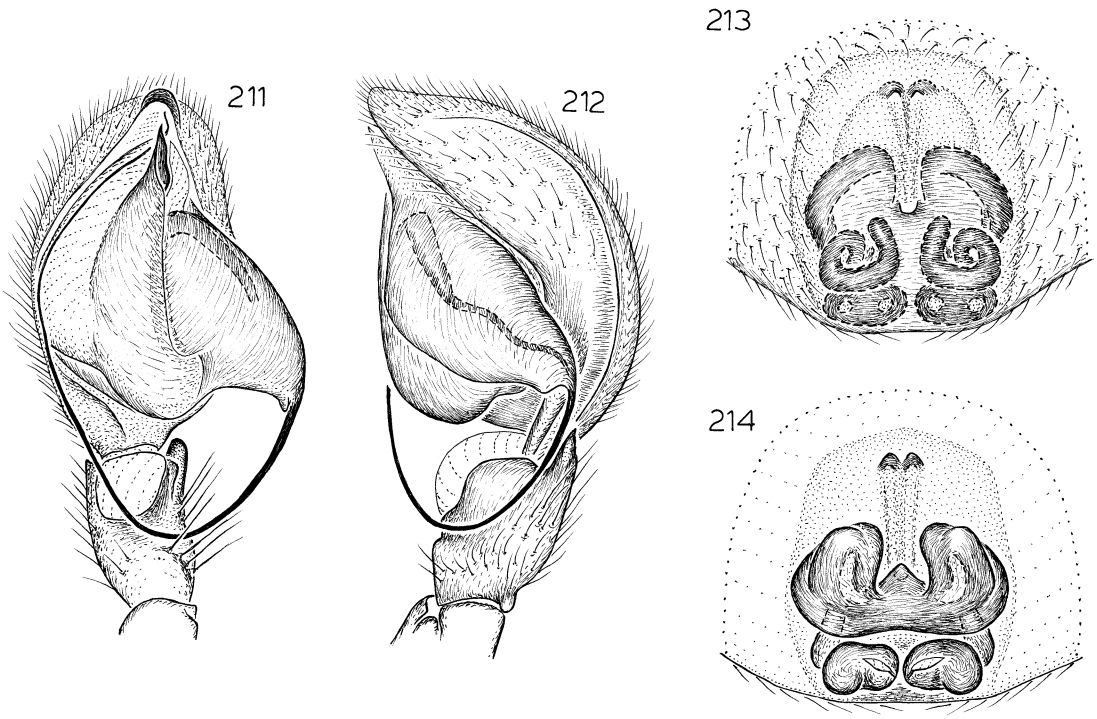
MALE: Total length 4.0. Coloration as in *D. bulburin*. Leg spination: tibiae: III v0-0-2; IV v1p-0-2, r0-1-0; metatarsi: III v0-0-0; IV v0-0-1p, r1-0-0. Palpal femur with ventral hump at about half its length, retrolateral tibial apophysis triangular, dorsoventrally flattened, cymbial excavation deep, extending almost full length of segment (fig. 212); embolus greatly elongated, extending far posterior of tibial margin, with prominent, proximally directed protuberance at base (fig. 211).

FEMALE: Total length 3.8. Coloration as in male. Leg spination: tibiae: III v0-0-2; IV v1p-0-2, r0-1-0; metatarsi: III v0-0-0; IV v1p-0-1p, r1-0-0. Anterior epigynal margin narrow, bipartite, connected to short median septum (fig. 213); anteromedian ducts greatly widened (fig. 214).

OTHER MATERIAL EXAMINED: **Queensland:** Bellenden Ker Range, 0.5 km S Cable Tower No. 7, 17°16′S, 145°51′E, Oct. 17–24, 1981, rainforest pitfall, elev. 500 m (QMB 28776), 5♂, 5♀; The Bluff, 11 km W Mossman, 16°27′S, 145°16′E, Nov. 2, 1984, Berlese, rainforest litter, elev. 1000 m (G. Monteith, D. Yeates, G. Thompson, QMB S26687), 1♂; Boulder Creek, via Tully, 17°50′S, 145°54′E, Oct. 27, 1983, Berlese, sieved rainforest litter, elev. 650 m (G. Monteith, D. Yeates, G. Thompson, QMB S28748), 1♀; Clacherty Road, via Julatten, 16°37′S, 145°20′E, Sept. 10, 1981, Berlese, rainforest, sieved litter, elev. 450 m (G. Monteith, D. Cook, QMB S26655), 1♂, 1♀; Hughes Road, Topaz District, 17°26′S, 145°42′E, Dec. 5, 1993, Berlese, sieved rainforest litter, elev. 650 m (G. Monteith, H. Janetzki, QMB S28743), 1♂; Kjellberg Road, Mount Fisher, 7 km SW Millaa Millaa, 17°33′S, 145°33′E, May 3, 1983, Berlese, sieved litter, rainforest, elev. 1000 m (G. Monteith, D. Yeates, ex QMB S26665, 26676), 6♂, 1♀; Malaan State Forest, 17°35′S, 145°35′E, July 30, 1956, rainforest litter, elev. ca. 2000 ft (T. Woodward, OMD), 2♀, Apr. 20–24, 1978, rainforest, in or under logs, red soil (R. Raven, V. Davies, QMB S26669, 26710), 4♂, 3♀; Malaan State Forest, 17°36′S, 145°37′E, July 25–Nov. 26, 1992, pitfall (R. Raven, P., E. Lawless, M. Shaw, QMB S24481), 1♂; S Malanda, Topaz National Park, 17°25′S, 145°43′E, July 28, 1982, rainforest litter, elev. 720 m (S., J. Peck, AMNH), 1♂; Massey Creek, 12 km SW Millaa Millaa, 17°35′S, 145°33′E, May 4, 1983, Berlese, sieved rainforest litter, elev. 1000 m (G. Monteith, D. Yeates, QMB S28746), 1♀; McDowall Range, 17 km N Daintree, 16°06′S, 145°20′E, Nov. 27, 1985, Berlese, sieved rainforest litter, elev. 520 m (G. Monteith, ex QMB S28739), 1♂; Mossman Bluff Track, 5–10 km W Mossman, 16°28′S, 145°22′E, Dec. 16–30, 1988, pitfall, elev. 360 m (G. Monteith, G. Thompson, QMB S28731), 1♂; Mossman Gorge, 16°25′S, 145°20′E, Aug. 1, 1956, rainforest litter (T. Woodward, OMD), 1♂, Oct. 20, 1980, Berlese, sieved rainforest litter (G. Monteith, QMB S26673), 1♂; W base, Mount Bartle Frere, 17°23′S, 145°46′E, Jan. 10-Mar. 31, 1995, pitfall, elev. 700 m (G. Monteith, Hasenpusch, QMB S40186), 1♂; Mount Boolbun South, 15°57′S, 145°08′E, Nov. 5, 1995–Jan. 11, 1996, intercept trap, elev. 850 m (G. Monteith, D. Cook, Roberts, QMB S41347), 1♂, Nov. 6, 1995, Berlese, rainforest litter, elev. 850–1000 m (G. Monteith, QMB S28752), 1♂, 1♀; Mount Father Clancy, 9 km S Millaa Millaa, Malaan State Forest, 17°35′S, 145°38′E, Apr. 21, 1978, litter (R.



Map 18. Records of *Desognaphosa eungella*, new species (squares), *D. tribulation*, new species (diamond), and *D. bellenden*, new species (circles).



Figs. 211–214. *Desognaphosa millaa*, new species. **211.** Left male palp, ventral view. **212.** Same, retrolateral view. **213.** Epigynum, ventral view. **214.** Same, dorsal view.

Raven, QMB S26709), 1♀, Dec. 6, 1988, Berlese, sieved rainforest litter, elev. 1000 m (G. Monteith, G. Thompson, QMB S28740), 1♀; Mount Finnigan, via Helenvale, 15°49′S, 145°17′E, Dec. 3–5, 1990, pitfall (D. Cook, G. Thompson, Roberts, ex QMB S28761), 1♀; Mount Halcyon, 16°03′S, 145°25′E, Nov. 24, 1993, Berlese, rainforest litter, elev. 870 m (G. Monteith, H. Janetzki, QMB S28751), 1♂; SW slope, Mount Hartley, 15°46′S, 145°19′E, July 3, 1982, rainforest litter, elev. 700 m (S., J. Peck, AMNH), 2♂, Nov. 8, 1995–Jan. 16, 1996, pitfall, elev. 750 m (G. Monteith, D. Cook, Roberts, QMB S34547), 1♀; 2.5 km SW Mount Hartley, 15°47′S, 145°19′E, Apr. 24, 1983, Berlese, rainforest, sieved litter, elev. 610 m (G. Monteith, D. Yeates, D. Cook, QMB S26684, 26700), 2♂, Dec. 8, 1993–Feb. 2, 1994, pitfall (L. Roberts, QMB S28738), 1♂; Mount Lewis, 20 km S Mossman, 16°35′S, 145°17′E, July 10, 1982, rainforest litter, elev. 1000 m (S., J. Peck, AMNH), 1♀, Sept. 4, 1983, rainforest, litter, elev. 3000 ft (A. Williamson, QMB S26696), 1♀; summit, Mount Misery, 15°52′S, 145°14′E, Dec. 6, 1990–Jan. 17, 1991, pitfalls, elev. 850 m (QMB S28720, 28723), 2♂; Mount Sampson, 15°48′S, 145°12′E, Dec. 27, 1990–Jan. 19, 1991, pitfall, intercept traps, elev. 600–790 m (QMB S28728, 28729), 2♂; 4 km E Mount Spurgeon, 16°27′S, 145°14′E, Nov. 22, 1997, Berlese, sieved rainforest litter, elev. 1100 m (D. Cook, QMB S43896), 1♀; Mount Tyson, 2 km W Tully, 17°55′S, 145°54′E, May 7, 1983, Berlese, sieved rainforest litter, elev. 650 m (D. Yeates, QMB S26693), 1♀; Thornton Peak, N Daintree, 16°10′S, 145°22′E, Nov. 1975, rainforest litter, elev. 610 m (M. Gray, AMS KS69730), 2♀; Windin Falls, NW Mount Bartle Frere, 17°19′S, 145°45′E, Oct. 9, 1980, Berlese, rainforest, sieved litter, elev. 580 m (G. Monteith, QMB S26685), 1♂, 1♀; Wrights Creek, Atherton, Lake Eacham National Park, 17°18′S, 145°37′E, July 26–30, 1982, rainforest carrion trap, elev. 720 m (S., J. Peck, AMNH), 1♀.

DISTRIBUTION: Known only from northeastern Queensland (map 12).

Desognaphosa tribulation, new species
Figures 199, 200; Map 18

TYPE: Female holotype taken in a Berlese sample of sieved litter from a rainforest at an elevation of 400 m at a site 2.7 km W of Cape Tribulation, 16°05′S, 145°27′E, Queensland (Jan. 1983; G. Monteith), deposited in QMB (S26683).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the anteriorly advanced transverse vulval bar (fig. 200).

MALE: Unknown.

FEMALE: Total length 3.5. Coloration as in *D. bulburin*. Leg spination: femur III d0-0-0; tibiae: III v0-0-2; IV v1p-0-2, r0-1-1; metatarsi: III v0-0-0; IV v1p-0-2. Epigynum with wide anterior margin at wide end of depressed, triangular atrium (fig. 199); transverse bar situated in anterior half of epigynum (fig. 200).

OTHER MATERIAL EXAMINED: **Queensland:** 2.5 km W Cape Tribulation, 16°05′S, 145°27′E, Oct. 2, 1982, Berlese, sieved rainforest litter, elev. 180 m (G. Monteith, QMB S 26646), 1♀, Jan. 2, 1983, same (G. Monteith, QMB S26692), 2♀; Noah Creek, Cape Tribulation, 16°08′S, 145°26′E, Oct. 16, 1980, Berlese, sieved rainforest litter, elev. 5 m (G. Monteith, QMB S26643), 2♀.

DISTRIBUTION: Known only from the Cape Tribulation area of northeastern Queensland (map 18).

Unplaced Species

The following three species are seemingly not members of either of the putatively monophyletic species groups here recognized.

Desognaphosa goonaneman, new species
Figures 217, 218; Map 20

TYPE: Female holotype taken in rainforest litter at an elevation of 670 m on Mount Goonaneman, near Childers, 25°26′S, 152°08′E, Queensland (Nov. 3–7, 1980; V. Davies, R. Raven), deposited in QMB (S26456).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females of this distinctive species can easily be recognized by the enormously elongated epigynum (fig. 217) and short, reduced ducts (fig. 218). The internal genitalia are so reduced that it seems possible that the single known specimen might be teratological, but the extremely long external epigynum seems normal as well as distinctive.

MALE: Unknown.

FEMALE: Total length 6.4. Coloration as in *D. bulburin*. Leg spination: femora: III d0-0-0; IV d0-0-1; tibiae IV r0-1-1; metatarsi: III v1p-0-2; IV v2-1p-2, r1-0-0. Epigynum greatly elongated, with ducts restricted to posterior one-third of length (fig. 217); transverse bar of vulva restricted to base of pair of narrow ducts forming oval (fig. 218).

OTHER MATERIAL EXAMINED: None.

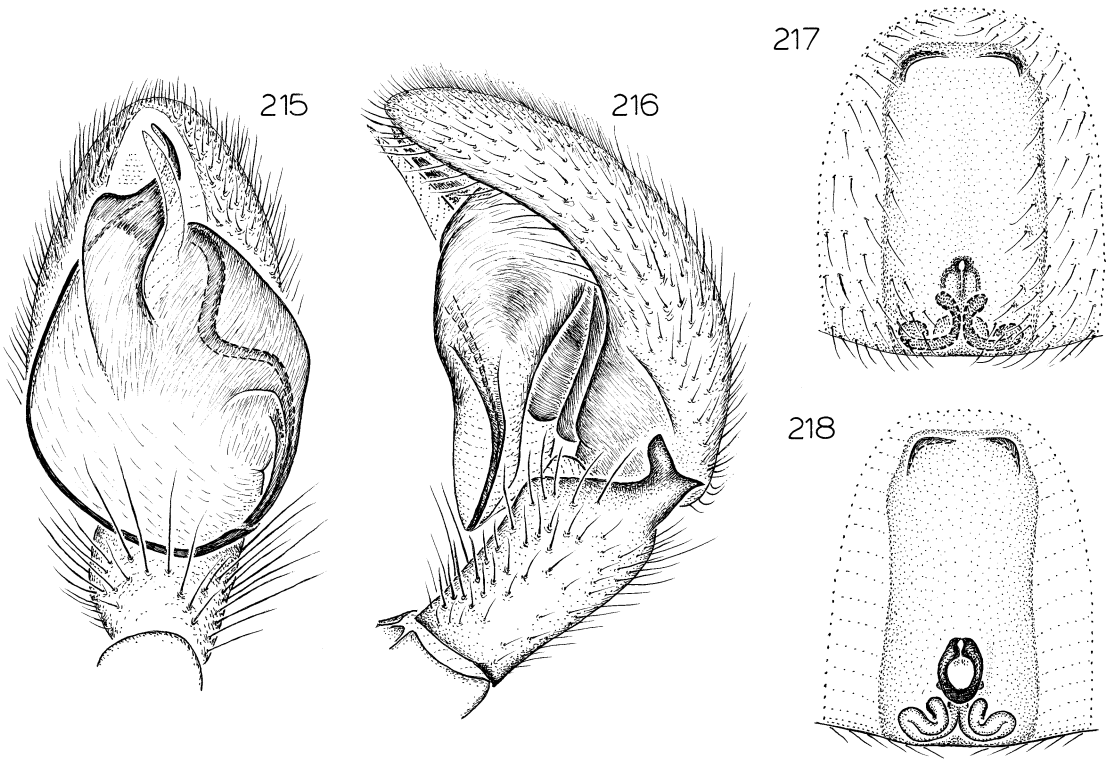
DISTRIBUTION: Known only from Mount Goonaneman in southeastern Queensland (map 20).

Desognaphosa malbon, new species
Figures 219–222; Map 14

TYPE: Female holotype taken at an elevation of 800–1000 m on North Bell Peak, Malbon Thompson Range, 17°07′S,



Map 19. Records of *Desognaphosa dryander*, new species (diamond) and *D. kuranda*, new species (squares).



Figs. 215–218. 215, 216. *Desognaphosa solomoni*, new species. 217, 218. *D. goonaneman*, new species. **215.** Left male palp, ventral view. **216.** Same, retrolateral view. **217.** Epigynum, ventral view. **218.** Same, dorsal view.

145°54′E, Queensland (Nov. 19–22, 1990; G. Monteith, G. Thompson), deposited in QMB (S40717).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by having only a slight retrolateral cymbial depression, without a paracymbial apophysis (fig. 220) and an angular, prolaterally directed tip of the relatively unsclerotized median apophysis (fig. 219); females are easily recognized by the v-shaped median septum on the epigynum (fig. 221).

MALE: Total length 7.7. Coloration as in *D. yabbra* except white markings on abdominal dorsum almost obsolete. Leg spination: tibia IV v2-2-2, r0-1-1; metatarsus IV v2-2-2, r0-1-0. Retrolateral tibial apophysis bipartite, ventral portion broad, rounded, dorsal portion short, triangular, retrolateral surface of tibia with long setae (fig. 220); embolus not extending proximad of tegulum, sheathed for most of its length in distally widened conductor, median apophysis weakly sclerotized but with distinct, angular, prolaterally directed tip (fig. 219).

FEMALE: Total length 8.5. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynum with triangular atrium, posterior half mostly occupied by triangular median septum (fig. 221); anterior ducts situated along sides of septal plate (fig. 222).

OTHER MATERIAL EXAMINED: **Queensland:** North Bell Peak, Malbon Thompson Range, 17°07′S, 145°54′E, Nov. 20, 1990, pitfall, elev. 1000 m (G. Monteith, G. Thompson, QMB S28759), 1♂.

DISTRIBUTION: Known only from the Malbon Thompson Range in northeastern Queensland (map 14).

Desognaphosa solomoni, new species
Figures 215, 216

TYPE: Male holotype from Mount Austen, Guadalcanal, Solomon Islands (Apr. 24, 1965; P. Greenslade), deposited in BMNH.

ETYMOLOGY: The specific name is a patronym in honor of Mr. Peter J. Solomon, in recognition of his support of this and other projects, and of the eponymous type locality.

DIAGNOSIS: Males can easily be recognized by the y-shaped retrolateral tibial apophysis (fig. 216) and narrow, elongated median apophysis (fig. 215).

MALE: Total length 4.4. Coloration as in *D. bulburin*. Leg spination: tibiae: III v2-1p-2; IV p0-0-1, v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p1-1-0, v2-2-2, r1-1-0. Retrolateral tibial apophysis relatively long, distally bifid, y-shaped (fig. 216); median apophysis narrow, elongated, crossing terminal apophysis (fig. 215).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Solomon Islands.

The *kirrama* Group

The *kirrama* group includes 15 species, all known only from northeastern Queensland. The monophyly of the group is strongly supported by the presence of a bizarre, lobe-shaped paracymbial extension originating from within a deep retrolateral cymbial invagination (as in fig. 224). The females also share a common epigynal configuration, with a pair of median ducts extending anterior of the lateral spermathecae.

Desognaphosa kirrama, new species
Figures 223–226; Map 11

TYPE: Female holotype and male allotype taken in pitfall traps in a rainforest at an elevation of 800 m on Douglas Creek Road, Kirrama Range, 18°12′S, 145°45′E, Queensland (Dec. 10, 1986–Jan. 11, 1987; G. Monteith, G. Thompson, S. Hamlet), deposited in QMB (S28774).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the s-shaped terminal apophysis (fig. 223), females by the eyebrow-and-socket-shaped epigynal atrium (fig. 225).

MALE: Total length 5.2. Coloration as in *D. malbon*. Leg spination: tibiae: III v1p-1p-2; IV r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis short, with bifid tip, paracymbial apophysis relatively short (fig. 224); translucent median apophysis situated on prolateral side of terminal apophysis (fig. 223).

FEMALE: Total length 6.6. Coloration as in male. Leg spination: tibiae: III v1p-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-1p-2; IV v2-2-2, r0-1-0. Epigynum with pair of semicircular openings separated by narrow septum, bordered anteriorly by eyebrow-shaped anterior margins (fig. 225); median ducts expanded, translucent, recurved anteriorly (fig. 226).

OTHER MATERIAL EXAMINED: **Queensland:** Mount Graham, 8 km N Abergowrie, 18°24′S, 145°52′E, Dec. 26, 1986- Jan. 17, 1987, rainforest pitfalls, elev. 600–700 m (S. Hamlet, QMB S14156), 2♀.

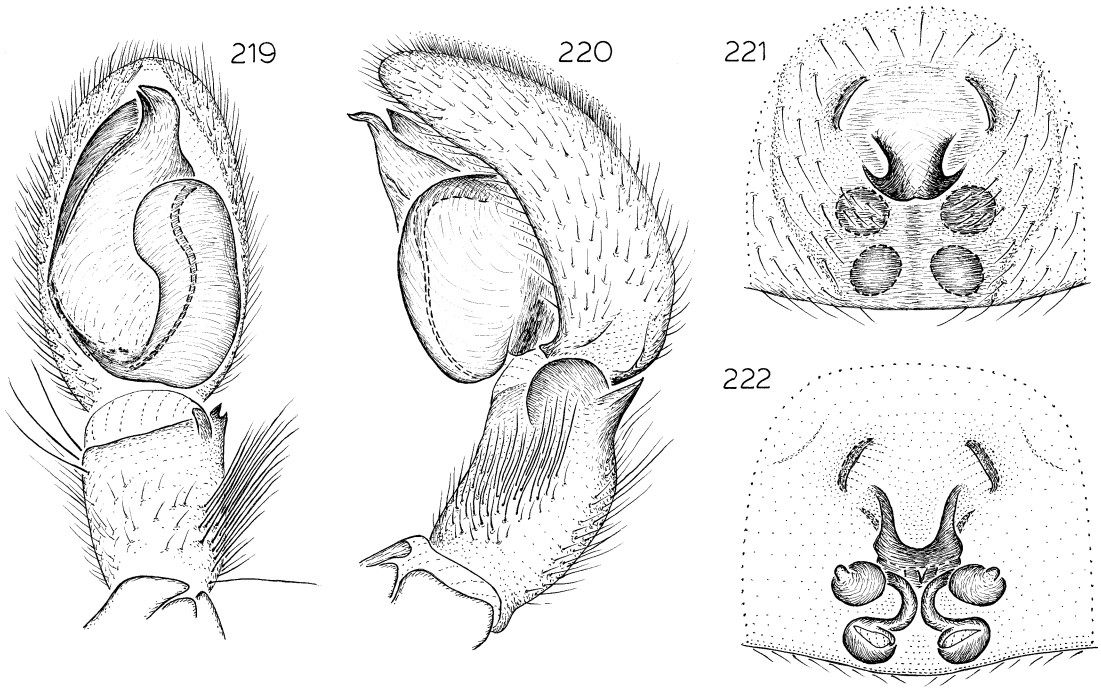
DISTRIBUTION: Known only from northeastern Queensland (map 11).

Desognaphosa pershouse, new species
Figures 227–230; Map 13

TYPES: Female holotype and male allotype taken in a Berlese sample of sieved rainforest



Map 20. Records of *Desognaphosa goonaneman*, new species (diamond) and *D. karnak*, new species (circle).



Figs. 219–222. *Desognaphosa malbon*, new species. **219.** Left male palp, ventral view. **220.** Same, retrolateral view. **221.** Epigynum, ventral view. **222.** Same, dorsal view.

litter from an elevation of 930 m on Mount Pershouse, Kirrama Range, 18°12′S, 145°45′E, Queensland (Dec. 12, 1986; G. Monteith, G. Thompson), deposited in QMB (S28741).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the relatively long retrolateral tibial apophysis, which has two subdistal protuberances (fig. 228), females by the relatively long median epigynal ducts, which have a pair of anterior protuberances (fig. 230).

MALE: Total length 5.2. Coloration as in *D. malbon*. Leg spination: tibiae: III v1p-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-1p; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis relatively long, with two subdistal protuberances, paracymbial apophysis oblique (fig. 228); tip of terminal apophysis directed obliquely, retroventrally (fig. 227).

FEMALE: Total length 6.2. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Anterior epigynal margin wide (fig. 229); median epigynal ducts very long, with anterior protuberances (fig. 230).

OTHER MATERIAL EXAMINED: **Queensland:** Mount Pershouse, Kirrama Range, 18°12′S, 145°45′E, Dec. 12, 1986, Berlese, sieved rainforest litter, elev. 930 m (G. Monteith, G. Thompson, QMB S28735), 1♀; 15 km W Kennedy, Kirrama State Forest, 18°13′S, 145°48′E, May 8, 1983, Berlese, sieved rainforest litter, elev. 800 m (D. Yeates, QMB S28749), 1♀.

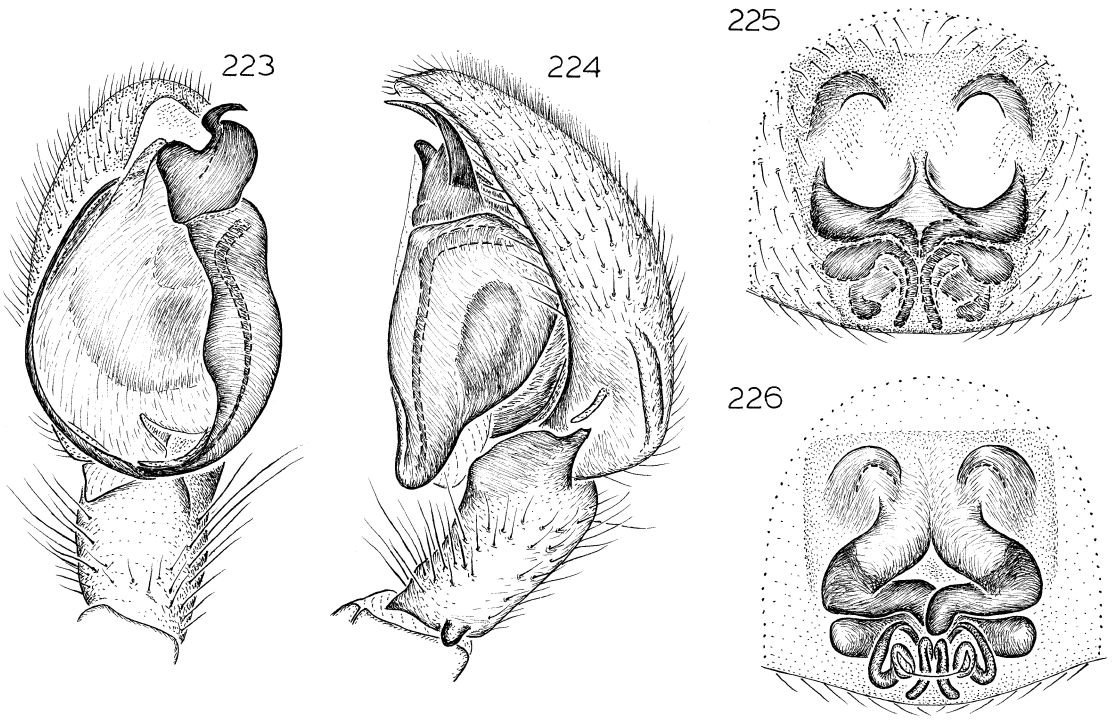
DISTRIBUTION: Known only from northeastern Queensland (map 13).

Desognaphosa tyson, new species

Figures 231–234; Map 15

TYPE: Female holotype taken in a Berlese sample of sieved rainforest litter from an elevation of 650 m on Mount Tyson, 2 km W of Tully, 17°55′S, 145°54′E, Queensland (May 7, 1983; D. Yeates), deposited in QMB (S26693).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.



Figs. 223–226. *Desognaphosa kirrama*, new species. **223.** Left male palp, ventral view. **224.** Same, retrolateral view. **225.** Epigynum, ventral view. **226.** Same, dorsal view.

DIAGNOSIS: Males resemble those of *D. pershouse* but have a smaller retrolateral tibial apophysis (fig. 232) and a subdistal protuberance on the tip of the embolus (fig. 231); females resemble those of *D. kirrama* but have much wider epigynal openings (fig. 233) and anteriorly widened median ducts (fig. 234).

MALE: Total length 5.3. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r0-1-0. Retrolateral tibial apophysis short, triangular, with hooked tip, paracymbial apophysis arched at middle, expanded at tip (fig. 232); embolus with subdistal, prolaterally directed protuberance (fig. 231).

FEMALE: Total length 7.7. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynum with paired, almost circular openings extending laterally beyond anterior margins (fig. 233); median ducts anteriorly expanded, occupying most of epigynal width (fig. 234).

OTHER MATERIAL EXAMINED: **Queensland:** Upper Boulder Creek, via Tully, 17°50′S, 145°54′E, Oct. 26, 1983, rainforest, pyrethrum knockdown (G. Monteith, D. Yeates, G. Thompson, QMB S26699), 1♂.

DISTRIBUTION: Known only from northeastern Queensland (map 15).

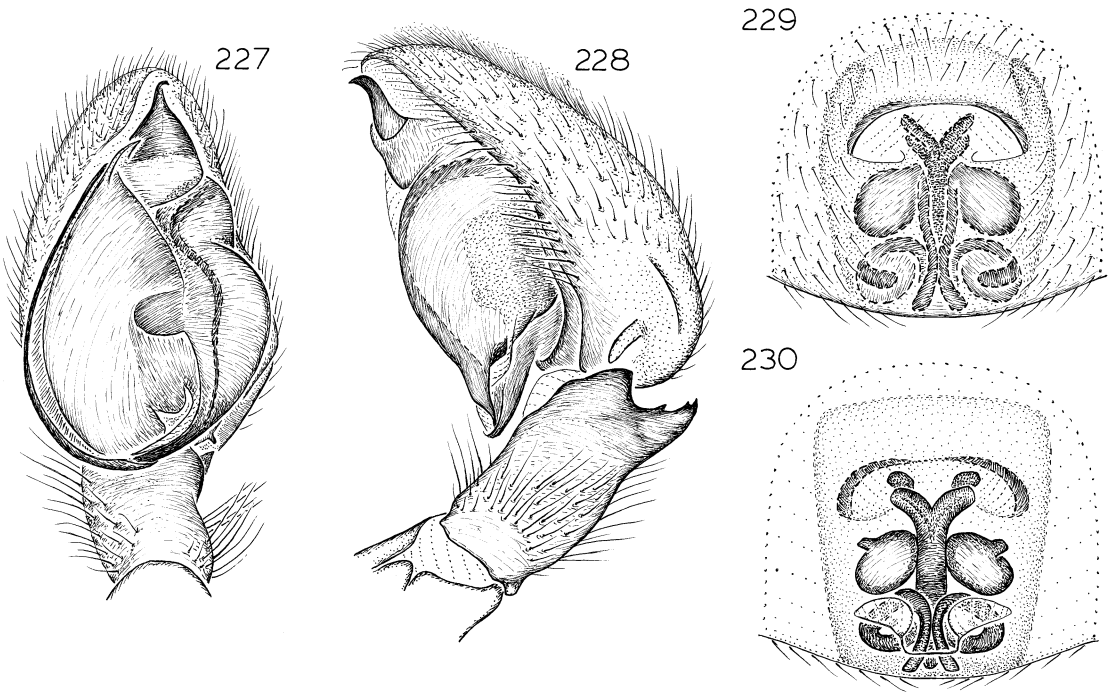
Desognaphosa bartle, new species

Figures 235–238; Map 16

TYPE: Female holotype taken in a pitfall trap at an elevation of 50 m on the West base of Mount Bartle Frere, 17°23′S, 145°46′E, Queensland (Jan. 10–Mar. 31, 1995; G. Monteith, Hasenpusch), deposited in QMB (S28775).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the combination of a wide, medially invaginated retrolateral tibial apophysis (fig. 236) and the s-shaped terminal elements on the palpal bulb (fig. 235), females by the ante-



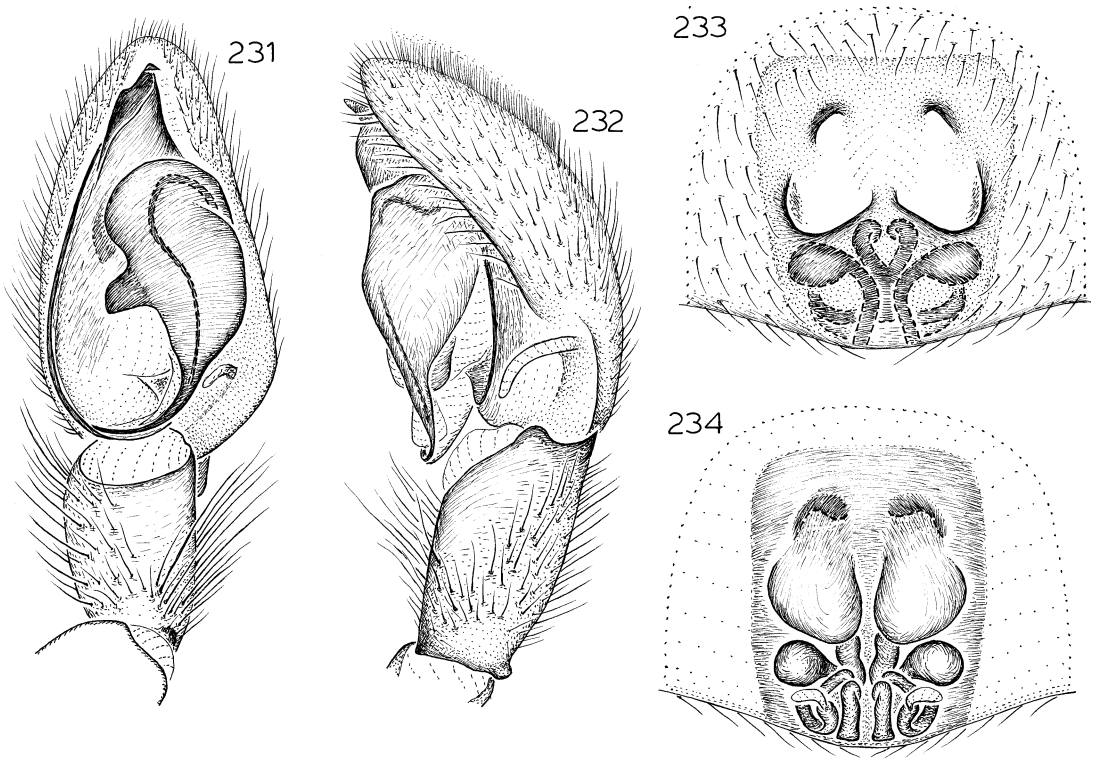
Figs. 227–230. *Desognaphosa pershouse*, new species. **227.** Left male palp, ventral view. **228.** Same, retrolateral view. **229.** Epigynum, ventral view. **230.** Same, dorsal view.

riorly sharply angled median epigynal ducts (figs. 237, 238).

MALE: Total length 5.5. Coloration as in *D. bulburin*. Leg spination: tibiae: III v2-0-2; IV v0-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis wide, dorsal portion triangular, with subdistal tubercle, ventral portion rounded, paracymbial apophysis relatively short (fig. 236); distal palpal sclerites wrapped around each other, with retrolaterally directed tip (fig. 235).

FEMALE: Total length 6.2. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium with oblique lateral margins, medially weak anterior margin (fig. 237); median ducts long, making 90-degree turn anterolaterally (fig. 238).

OTHER MATERIAL EXAMINED: **Queensland:** Baldy Mountain Road, 7 km SW Atherton, 17°17′S, 145°24′E, Dec. 9, 1988, Berlese, sieved rainforest litter, elev. 1150 m (G. Monteith, G. Thompson, QMB S28750), 1♂; W base, Mount Bartle Frere, 17°23′S, 145°46′E, July 30, 1982, rainforest litter, elev. 700 m (S., J. Peck, AMNH), 1♀, Jan. 10–Mar. 31, 1995, pitfall, elev. 50 m (G. Monteith, Hasenpusch, QMB ex S28775), 1♀, intercept trap, elev. 700 m (G. Monteith, Hasenpusch, QMB S28725), 1♂; Mount Fisher, 17°33′S, 145°32′E, Dec. 1, 1994–Jan. 3, 1995, elev. 1150 m (P. Zborowski, QMB S46228), 1♂, Jan. 3–31, 1996, pitfall, elev. 1150 m (L. Umback, QMB), 1♂, Mar. 26–May 2, 1996, pitfall, elev. 1150 m (P. Zborowski, QMB), 1♂; Mount Fisher, 7 km SW Millaa Millaa, 17°34′S, 145°34′E, Apr. 27, 1982, Berlese, sieved rainforest litter, elev. 1050 m (G. Monteith, D. Yeates, D. Cook, QMB S26680), 1♀, Berlese, stick brushings, elev. 1100 m (same collectors, QMB S26681), 1♀; Palmerston National Park, 17°36′S, 145°42′E, July 25–Nov. 30, 1992, rainforest pitfall, elev. 670 m (R. Raven, P., E. Lawless, M. Shaw, QMB S21929), 1♂; Tower, near The Crater National Park, 17°27′S, 145°29′E, Nov. 25, 1994–Jan. 10, 1995, intercept trap, elev. 1230 m (G. Monteith, Hasenpusch, QMB S28767, 28769), 2♂, Jan. 10–Mar. 31, 1995, same (QMB S37863), 1♂; Upper Boulder Creek, 11 km



Figs. 231–234. *Desognaphosa tyson*, new species. **231.** Left male palp, ventral view. **232.** Same, retrolateral view. **233.** Epigynum, ventral view. **234.** Same, dorsal view.

NNW Tully, 17°50′S, 145°54′E, Oct. 27, 1983, Berlese, sieved rainforest litter, elev. 900 m (G. Monteith, D. Yeates, Thompson, QMB S26642), 1♀, Dec. 6, 1989, pyrethrum knockdown, mossy rocks, elev. 1000 m (G. Monteith, G. Thompson, H. Janetzki, QMB S28757), 1♀; Westcott Road, Topaz, 17°25′S, 145°42′E, July–Dec. 1993, pitfall, elev. 680 m (G. Monteith, QMB S28726), 1♂.

DISTRIBUTION: Known only from northeastern Queensland (map 16).

Desognaphosa massey, new species

Figures 239–242; Map 17

TYPE: Female holotype taken in a pitfall trap at an elevation of 1000 m at Massey Creek, 17°37′S, 145°34′E, Queensland (Nov. 30, 1995–Jan. 3, 1996; L. Umback), deposited in QMB.

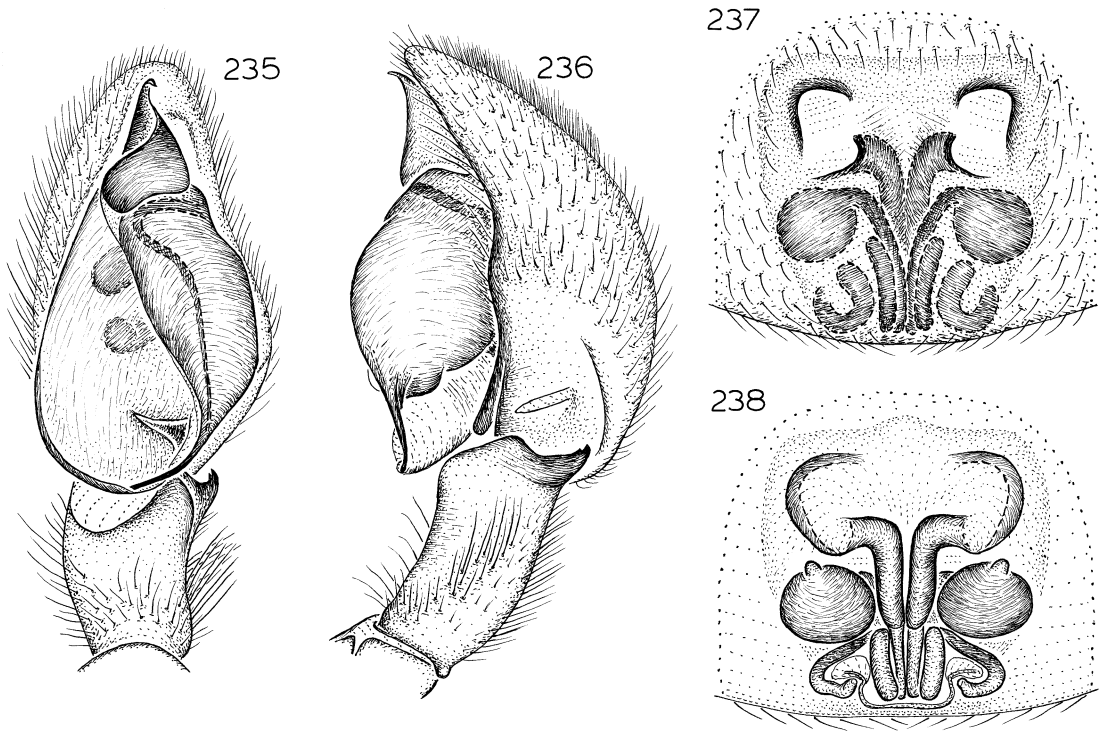
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the relatively prolonged distal palpal elements (fig. 239), females by the anteriorly expanded median epigynal ducts, which follow the atrial channels (fig. 242).

MALE: Total length 7.2. Coloration as in *D. bulburin*. Leg spination: tibiae: III v2-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis with retrolaterally directed protuberance below bifid tip, paracymbial apophysis relatively long (fig. 240); distal palpal sclerites wrapped around each other, with long, largely straight tip (fig. 239).

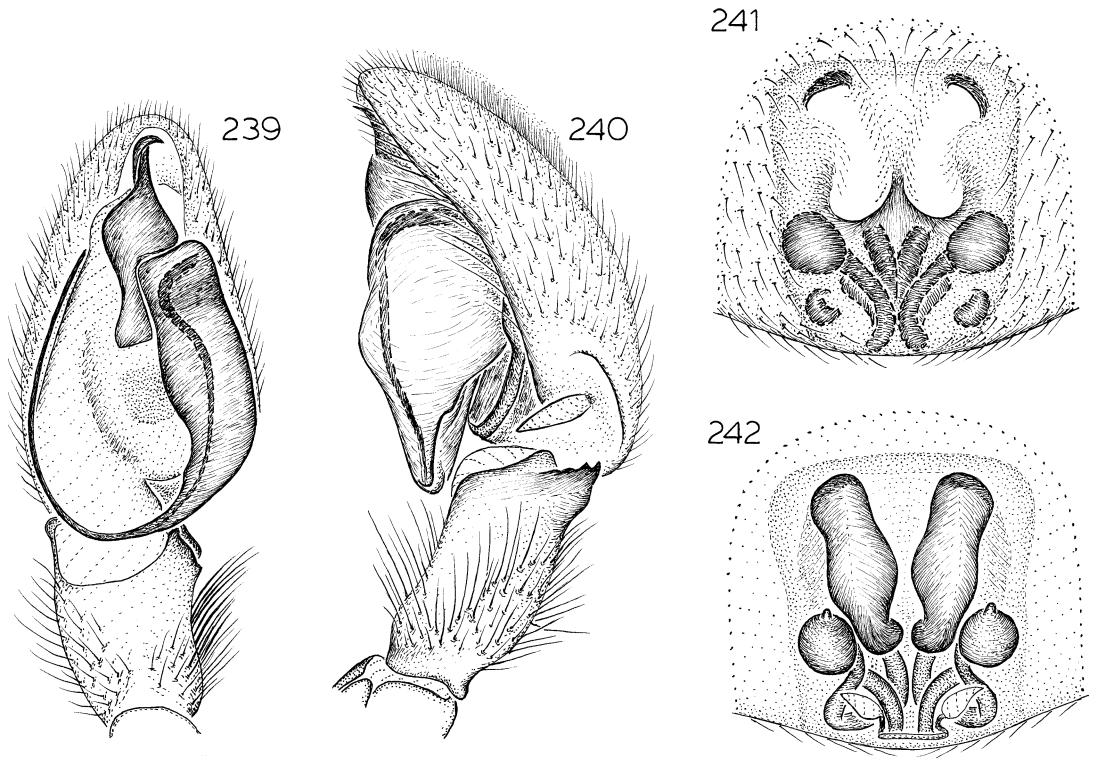
FEMALE: Total length 7.7. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium with posteromedian septum separating two deep, longitudinal channels (fig. 241); median ducts expanded along atrial channels (fig. 242).

OTHER MATERIAL EXAMINED: **Queensland:** Baldy Mountain Road, 5 km SW Atherton, 17°16′S, 145°16′E, Nov. 25, 1985, Berlese,



Figs. 235–238. *Desognaphosa bartle*, new species. **235.** Left male palp, ventral view. **236.** Same, retrolateral view. **237.** Epigynum, ventral view. **238.** Same, dorsal view.

sieved rainforest litter, elev. 1100 m (D. Yeates, D. Cook, QMB S16730), 1♀; Baldy Mountain Road, 7 km SW Atherton, 17°17′S, 145°24′E, Dec. 9, 1988, Berlese, sieved rainforest litter, elev. 1150 m (G. Monteith, G. Thompson, QMB S28745), 1♀; ''Cairns District'' (locality vague, not mapped), (AMS KS32476), 1♀; Cathedral Fig, 13 km NW Yungaburra, 17°11′S, 145°39′E, Dec. 10, 1988, Berlese, sieved rainforest litter, elev. 750 m (G. Monteith, G. Thompson, QMB S28747), 1♀; The Crater National Park, 17°26′S, 145°29′E, July 23, 1992–Apr. 15, 1993, rainforest pitfall (R., S. Raven, P., E. Lawless, QMB S19822, 24837), 3♀; Henry Rankine Drive, Evelyn, 17°30′S, 145°29′E, Nov. 30, 1997–Feb. 5, 1998, rainforest pitfall, elev. 1120 m (G. Monteith, D. Cook, QMB S43886), 1♀; Kjellberg Road turnoff, 17°32′S, 145°36′E, Nov. 25, 1994–Jan. 10, 1995, pitfall, elev. 750 m (G. Monteith, Hasenpusch, QMB S28771), 2♂, Jan. 10-Mar. 31, 1996, same (QMB S30962), 1♂; Longlands Gap, 17°28′S, 145°29′E, June 1–July 3, 1995, Malaise trap, elev. 1150 m (P. Zborowski, QMB), 1♂, Nov. 30, 1995–Jan. 3, 1996, pitfall, elev. 1150 m (L. Umback, QMB), 1♂, Feb. 5–27, 1996, intercept trap, elev. 1150 m (L. Umback, QMB), 1♂; Majors Mountain, 17°38′S, 145°32′E, Apr. 14–20, 1978, rainforest, in or under logs (R. Raven, V. Davies, QMB S26657), 1♂, 1♀; 14 km SW Malanda, Mount Hypipamee National Park, 17°26′S, 145°29′E, July 24, 1982, streamside rainforest litter, elev. 960 m (S., J. Peck, AMNH), 1♂; Malanda Falls Reserve, Malanda, 17°21′S, 145°36′E, Oct. 6, 1980, rainforest, stick brushing, elev. 750 m (G. Monteith, QMB S26672), 1♀, July 22, 1982, rainforest log litter and fungi, elev. 750 m (S., J. Peck, AMNH), 1♀; Massey Creek, 12 km SW Millaa Millaa, 17°37′S, 145°33′E, May 4, 1983, Berlese, sieved rainforest litter, elev. 1000 m (G. Monteith, D. Yeates, QMB S28746), 1♂; Massey Creek, 17°37′S, 145°34′E, Dec. 1, 1994–Jan. 3, 1995, elev. 1000 m (P. Zborowski, QMB S46229), 1♂,



Figs. 239–242. *Desognaphosa massey*, new species. **239.** Left male palp, ventral view. **240.** Same, retrolateral view. **241.** Epigynum, ventral view. **242.** Same, dorsal view.

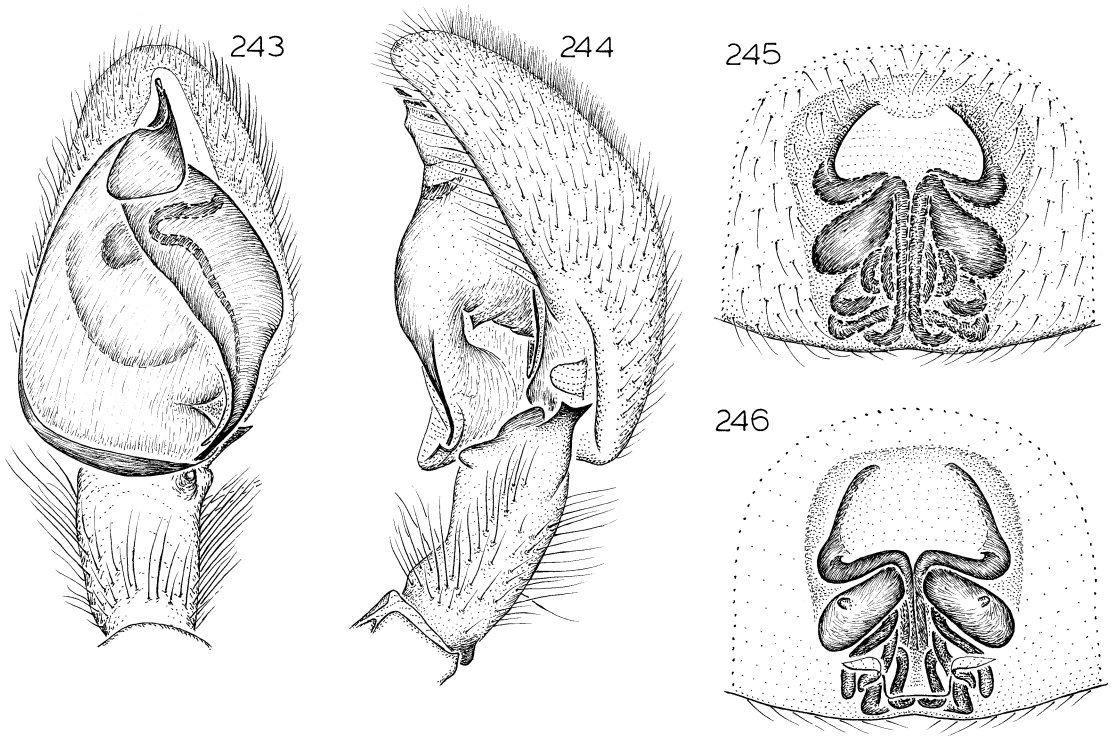
Jan. 3–Feb. 5, 1995, pitfall, elev. 1000 m (P. Zborowski, QMB), 2♂, Nov. 2–30, 1995, pitfall, elev. 1000 m (L. Umback, QMB), 1♂, Nov. 30, 1995–Jan. 3, 1996, pitfalls, intercept traps, elev. 1000 m (L. Umback, QMB), 2♂, Jan. 3–31, 1996, pitfall, intercept traps, elev. 1000 m (L. Umback, QMB), 2♂, Jan. 31–Feb. 27, 1996, pitfall, elev. 1000 m (L. Umback, QMB), 1♂, Mar. 26–May 2, 1996, pitfalls, elev. 1000 m (P. Zborowski, QMB), 3♂, May 2–30, 1996, pitfall, elev. 1000 (P. Zborowski, QMB), 1♂; Mount Hypipamee National Park, The Crater, 17°25′S, 145°29′E, Apr. 25–May 2, 1998, rainforest (G. Milledge, AMS KS55300, 55301), 1♂, 2♀; Millstream Conservation Park, 17°32′S, 145°29′E, Feb. 4–Apr. 15, 1999, pitfall, wet sclerophyll forest, elev. 1040 m (G., S. Monteith, QMB S49843, 49844), 1♂, 2♀; Plath Road, 17°23′S, 145°28′E, Nov. 30, 1997, Berlese, sieved rainforest litter, elev. 1150 m (G. Monteith, QMB S43924), 1♀, Nov. 30, 1997–Feb. 5, 1998, rainforest pitfall, elev. 1100 m (G. Monteith, D. Cook, QMB S43931), 1♀; Rifle Range Road, 7 km W Herberton Road, Atherton area, 17°17′S, 145°25′E, Apr. 26, 1998, rainforest (G. Milledge, AMS KS55297), 2♀; Tower, near The Crater National Park, 17°27′S, 145°29′E, Nov. 23, 1994, Berlese, sieved rainforest litter, elev. 1230 m (G. Monteith, QMB S28755), 1♂.

DISTRIBUTION: Known only from northeastern Queensland (map 17).

Desognaphosa bellenden, new species

Figures 243–246; Map 18

TYPES: Female holotype and male paratype taken by pyrethrum knockdown from logs, stones, and trunks at an elevation of 500 m at a site 0.5 km S Cable Tower 7, Bellenden Ker Range, 17°16′S, 145°51′E, Queensland (Oct. 17–24, 1981), deposited in QMB (S28777).



Figs. 243–246. *Desognaphosa bellenden*, new species. **243.** Left male palp, ventral view. **244.** Same, retrolateral view. **245.** Epigynum, ventral view. **246.** Same, dorsal view.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

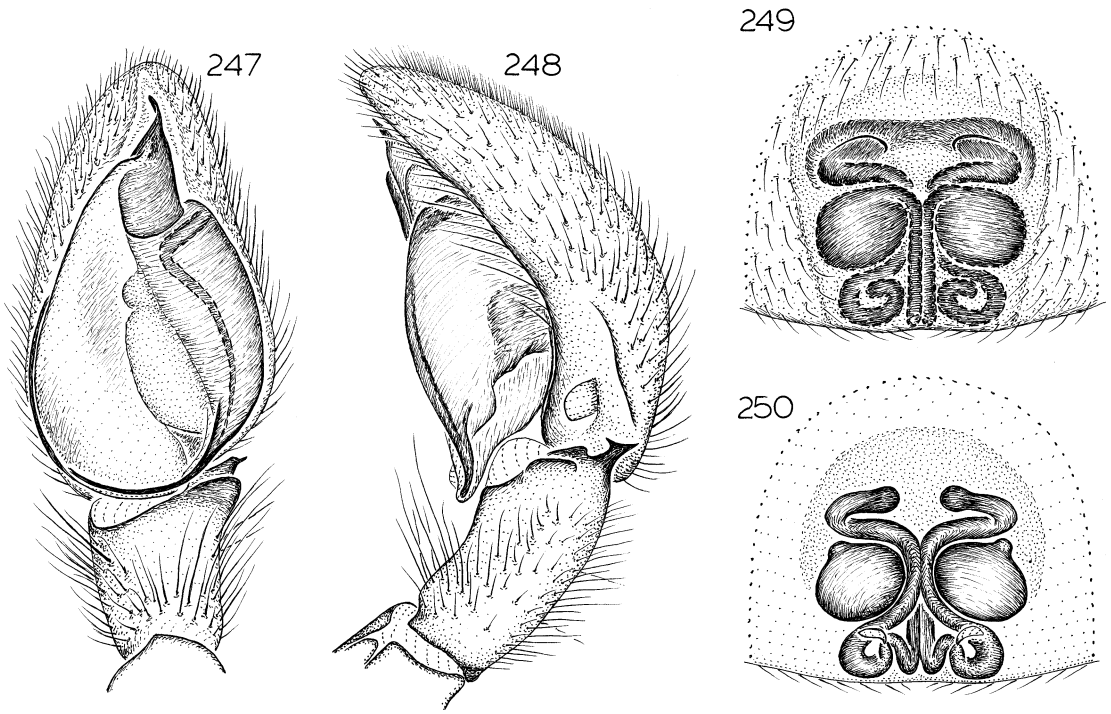
DIAGNOSIS: This appears to be the southern sister species of *D. kuranda*, sharing with it a distinctive shape of the retrolateral tibial apophysis (figs. 244, 248); males can be distinguished by their longer embolus (figs. 243, 244), females by the almost triangular epigynal atrium (fig. 245).

MALE: Total length 5.9. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis almost arrow-shaped, with short ventral and long distal tips, paracymbial apophysis relatively short (fig. 244); distal palpal sclerites wrapped around each other, with tip directed slightly to prolateral side (fig. 243).

FEMALE: Total length 7.5. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium situated anteriorly, triangular (fig. 245), median ducts extending fully to sides of atrium (fig. 246).

OTHER MATERIAL EXAMINED: **Queensland:** Bellenden Ker Range, Cableway Base Station, 17°16′S, 145°54′E, Oct. 17–24, 1981, pyrethrum knockdown, logs, stones, trunks, elev. 100 m (QMB S27801), 1♀; above Kearny's Falls, 17°14′S, 145°47′E, Oct. 12, 1991, elev. 550 m (G. Monteith, H. Janetzki, D. Cook, QMB S28762), 1♀; Mount Haig, 17°06′S, 145°36′E, Feb. 4–Mar. 17, 1995, pitfall, elev. 1150 m (P. Zborowski, QMB), 1♂; Robson Creek Road, 9 km by road from Danbullah Forest Drive, Danbullah State Forest, 17°06′S, 145°38′E, Apr. 26, 1998, rainforest (G. Milledge, AMS KS52292), 1♀; Robson Creek Road, 18.3 km by road from Danbullah Forest Drive, Danbullah State Forest, 17°05′S, 145°34′E, Apr. 26, 1998, rainforest (G. Milledge, AMS KS52291), 2♀.

DISTRIBUTION: Known only from northeastern Queensland (map 18).



Figs. 247–250. *Desognaphosa kuranda*, new species. **247.** Left male palp, ventral view. **248.** Same, retrolateral view. **249.** Epigynum, ventral view. **250.** Same, dorsal view.

Desognaphosa kuranda, new species
Figures 247–250; Map 19

TYPE: Female holotype, male allotype, and female paratype taken in pitfall traps on Kuranda Range Road, 0.5 km up from Henry Ross Lookout, 16°50′S, 145°40′E, Queensland (Oct. 29, 1991–Nov. 26, 1992; P. Lawless, R. Raven, M. Shaw), deposited in QMB (S21774).

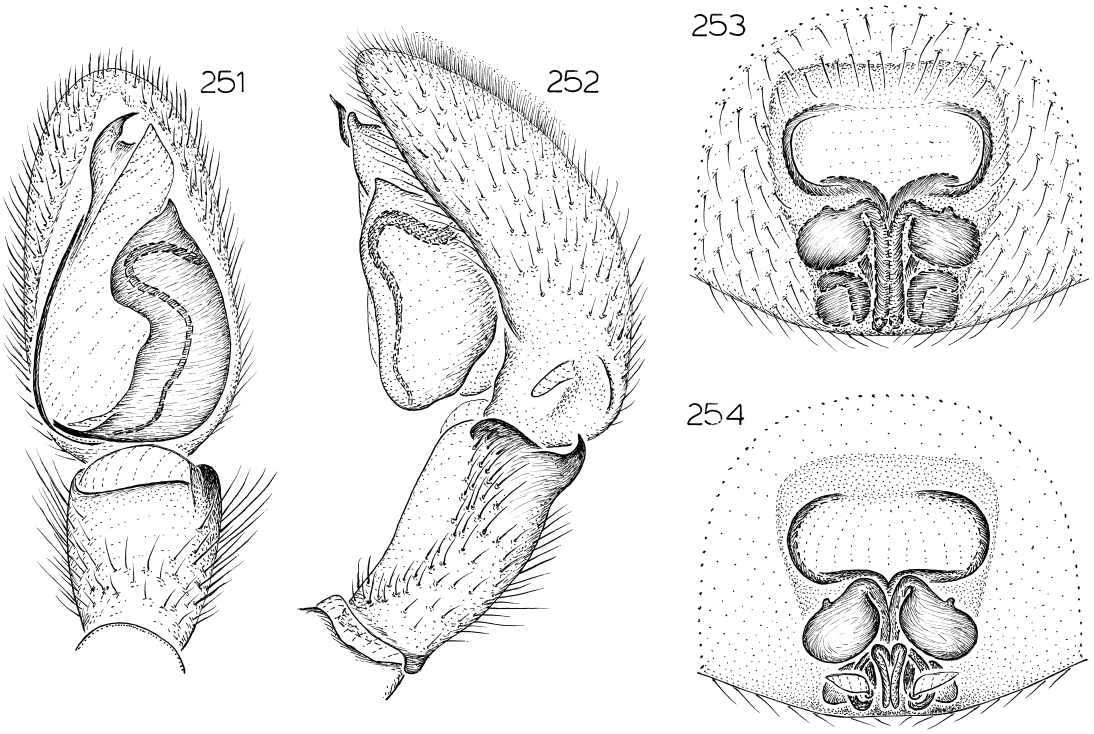
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This appears to be the northern sister species of *D. bellenden*, sharing with it a distinctive shape of the retrolateral tibial apophysis (figs. 244, 248); males can be distinguished by their shorter embolus (figs. 247, 248), females by the very short epigynal atrium (fig. 249).

MALE: Total length 5.6. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-0-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-1p-2, r0-1-0. Retrolateral tibial apophysis almost arrow-shaped, with short ventral and long distal tips, paracymbial apophysis relatively short (fig. 248); distal palpal sclerites wrapped around each other, with tip directed slightly to ventral side (fig. 247).

FEMALE: Total length 6.6. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium very short, reduced to transverse band (fig. 249); median ducts anteriorly recurved (fig. 250).

OTHER MATERIAL EXAMINED: **Queensland:** Black Mountain Road, 5 km N Kuranda, 16°47′S, 145°38′E, Dec. 2, 1988, Berlese, sieved rainforest litter, elev. 1200 m (G. Monteith, G. Thompson, QMB S28742), 2♀; Black Mountain Road, Kuranda, 16°49′S, 145°38′E, July 31, 1956, rainforest litter (T. Woodward, OMD), 2♀, June 8, 1980, Berlese, rainforest litter, elev. 360 m (G. Monteith, QMB S26698), 4♀; Copperlode Dam Road, 16°59′S, 145°43′E, Oct. 27, 1991–July 23, 1992, rainforest pitfall (P. Lawless, R. Raven, M. Shaw, QMB S28727), 2♂, 2♀; Crystal Cascades car park, 16°58′S, 145°41′E, July 23–Nov. 26, 1992, pitfall (R.



Figs. 251–254. *Desognaphosa karnak*, new species. **251.** Left male palp, ventral view. **252.** Same, retrolateral view. **253.** Epigynum, ventral view. **254.** Same, dorsal view.

Raven, P., E. Lawless, M. Shaw, QMB S19984, 24006), 1♂, 1♀; Jumrum Creek Environmental Park, Kuranda, 16°49′S, 145°38′E, July 27, 1992, rainforest (C. Griswold, CAS), 1♀; Kuranda Range Road, 0.5 km up from Henry Ross Lookout, 16°50′S, 145°40′E, Oct. 29, 1991–July 23, 1992, pitfalls (P. Lawless, R. Raven, M. Shaw, QMB S24654), 2♂, 8♀; Kuranda State Forest, Kuranda, 16°49′S, 145°39′E, July 27, 1982, rainforest litter, elev. 360 m (S., J. Peck, AMNH), 1♀; Mount Murray Prior, 16°56′S, 145°51′E, Oct. 31–Dec. 8, 1995, intercept trap, elev. 770 (G. Monteith, D. Cook, QMB S28717), 1♀, Dec. 7, 1995, Berlese, rainforest litter, elev. 770 m (G. Monteith, QMB S28716), 1♀; summit, Saddle Mountain, 16°49′S, 145°40′E, Nov. 21, 1994, Berlese, sieved rainforest litter, elev. 650 m (G. Monteith, QMB S28744), 3♀, Nov. 3, 1995–Feb. 7, 1996, pitfalls, elev. 640 m (G. Monteith, D. Cook, QMB S28772, 34549), 3♀; Spear Creek, near Mount Molloy, 16°42′S, 145°24′E, Nov. 3–10, 1975, litter, pitfalls (R. Raven, V. Davies, QMB S26691), 2♂, 3♀.

DISTRIBUTION: Known only from northeastern Queensland (map 19).

Desognaphosa karnak, new species

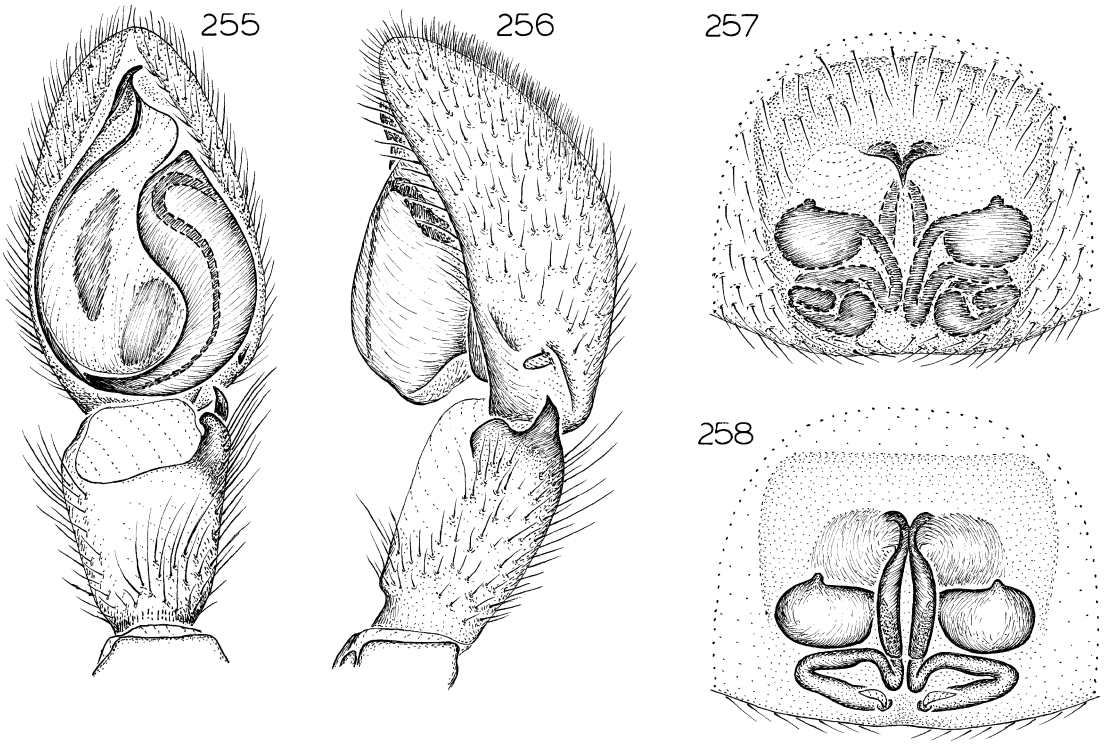
Figures 251–254; Map 20

TYPE: Female holotype taken in a pitfall trap at an elevation of 180 at Karnak-Devils Thumb, 8–12 km NW Mossman, 16°23′S, 145°17′E, Queensland (Dec. 26, 1989–Jan. 15, 1990), deposited in QMB (S28718).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the claw-shaped terminal elements on the male palp (fig. 251), females by the broadly rectangular epigynal atrium (fig. 253).

MALE: Total length 4.4. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-0-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis with narrow, distally rounded dorsal prong,



Figs. 255–258. *Desognaphosa spurgeon*, new species. **255.** Left male palp, ventral view. **256.** Same, retrolateral view. **257.** Epigynum, ventral view. **258.** Same, dorsal view.

paracymbial apophysis small, triangular (fig. 252); embolus short, terminal elements of bulb claw-shaped (fig. 251).

FEMALE: Total length 4.4. Coloration as in male. Leg spination (legs III missing): tibia IV v2-1p-2, r0-1-1; metatarsus IV v2-2-2, r0-1-0. Epigynal atrium broadly rectangular, with rounded sides (fig. 253); median ducts extending almost to sides of atrium (fig. 254).

OTHER MATERIAL EXAMINED: **Queensland:** Karnak-Devils Thumb, 8–12 km NW Mossman, 16°23′S, 145°17′E, Dec. 26, 1989–Jan. 15, 1990, pitfall, elev. 300 m (QMB S28763), 1♂.

DISTRIBUTION: Known only from the Mossman region of northeastern Queensland (map 20).

***Desognaphosa spurgeon*,** new species

Figures 255–258; Map 23

TYPES: Female holotype, male allotype, and male paratype taken in pitfall traps in open forest at an elevation of 1080 m on Mount Spurgeon, 16°27′S, 145°11′E, Queensland (Nov. 19, 1997–Feb. 8, 1998; G. Monteith, D. Cook), deposited in QMB (S43899).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the basally widened terminal elements of the palpal bulb (fig. 255), females by the pair of anteromedian epigynal hoods (fig. 257).

MALE: Total length 4.8. Coloration as in *D. bulburin*. Leg spination: tibiae: IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r1-1-0. Retrolateral tibial apophysis short, triangular, paracymbial apophysis short (fig. 256); embolus short, twisted terminal elements of bulb basally widened, basal portion translucent (fig. 255)

FEMALE: Total length 6.1. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r1-1-0. Margins of epigynal atri-

um indistinct except at pair of paramedian anterior hoods (fig. 257); median ducts extended longitudinally to height of epigynal hoods (fig. 258).

OTHER MATERIAL EXAMINED: **Queensland:** Bakers Blue Mountain, 17 km W Mount Molloy, 16°42′S, 145°10′E, Jan. 1–18, 1990, pitfalls, elev. 900–1100 m (QMB S16731, 28758, 28768), 3♂; Black Mountain, 17 km ESE Julatten, 16°39′S, 145°29′E, Apr. 29–30, 1982, rainforest, elev. 800–1000 m (G. Monteith, D. Yeates, D. Cook, QMB S26689), 1♀; Black Mountain, lower slopes, 16°40′S, 145°30′E, Dec. 2, 1997–Feb. 6, 1998, rainforest pitfall, intercept trap, elev. 530 m (G. Monteith, D. Cook, QMB S43881, 43895), 1♂, 1♀; Black Mountain Road, 28.1 km NW by road of Kuranda, 16°40′S, 145°30′E, Apr. 28, 1998, rainforest (G. Milledge, AMS KS55298), 1♀; Lambs Head, 10 km W Edmonton, 17°02′S, 145°38′E, Dec. 10–12, 1989, elev. 1200 m (G. Monteith, G. Thompson, H. Janetzki, QMB S28760), 1♀; Mossman Bluff, 5–10 km W Mossman, 16°28′S, 145°22′E, Dec. 18, 1988, pyrethrum knockdown, trees, rocks, elev. 1300 m (G. Monteith, G. Thompson, QMB S28732), 1♂, Jan. 1–17, 1989, pitfall, elev. 1180 m (G. Monteith, G. Thompson, QMB S27725), 1♀, Dec. 21, 1989, elev. 1300 m (G. Monteith, G. Thompson, QMB S28733), 1♀; summit, Mount Demi, 16°30′S, 145°19′E, Dec. 17, 1995–Jan. 25, 1996, pitfalls, elev. 1100 m (G. Monteith, G. Thompson, Ford,. QMB S34548), 2♀; 7.5 km N Mount Lewis, via Julatten, 16°34′S, 145°16′E, Sept. 8, 1991, rainforest, elev. 1200 m (G. Monteith, D. Cook, QMB S26661), 1♂; 18 km N Mount Lewis, 16°30′S, 145°16′E, Nov. 23, 1998, Berlese, rainforest moss, litter, elev. 1300 m (G. Monteith, QMB S47787), 1♀; Mount Spurgeon, summit, 16°26′S, 145°11′E, Nov. 22, 1997, Berlese, sieved rainforest litter, elev. 1300 m (G. Monteith, QMB), 1♂; Mount Spurgeon, 16°27′S, 145°11′E, Nov. 19, 1997–Feb. 8, 1998, pitfalls, open forest, elev. 1080–1100 m (G. Monteith, D. Cook, QMB S43899, 43941), 3♂, 1♀; Mount Spurgeon, 16°28′S, 145°12′E, Nov. 20, 1997–Feb. 8, 1998, pitfalls, intercept trap, open forest, elev. 1140 m (G. Monteith, D. Cook, QMB S43897, 44766), 2♂, 1♀; summit, Mount Williams, 16°55′S, 145°40′E, Dec. 2–3, 1993, elev. 900–1000 m (D. Cook, G. Monteith, H. Janetzki, QMB S28736), 1♂, 1♀, Nov. 27, 1997–Feb. 6, 1998, rainforest pitfall, elev. 1000 m (G. Monteith, D. Cook, QMB S43909), 1♀, Nov. 28, 1997, Berlese, rainforest moss on trees, elev. 1000 m (G. Monteith, QMB S43893), 1♀; head, Roots Creek, 12 km WNW Mossman, 16°27′S, 145°23′E, Dec. 28, 1989–Jan. 11, 1990, pitfall, elev. 1200 m (QMB S28719), 1♂; Sandy Creek, Mount Spurgeon, 16°28′S, 145°12′E, Nov. 20–22, 1997, dung trap, elev. 1100 m (G. Monteith, QMB S43900), 1♂; Stewart Creek, 4 km NNE Mount Spurgeon, 16°24′S, 145°13′E, Oct. 15–20, 1991, elev. 1250–1300 m (G. Monteith, H. Janetzki, D. Cook, Roberts, QMB S28765), 1♀; Windsor Tableland, 5.7 km past barracks, 16°14′S, 145°00′E, Nov. 24, 1977, pyrethrum knockdown, trees and logs, elev. 1300 m (G. Monteith, QMB S43883), 2♀; NW Windsor Tableland, 16°13′S, 144°59′E, Nov. 24, 1997-Feb. 9, 1998, pitfall, open forest, elev. 1180 m (G. Monteith, D. Cook, QMB S43887), 1♂.

DISTRIBUTION: Known only from northeastern Queensland (map 23).

Desognaphosa windsor, new species

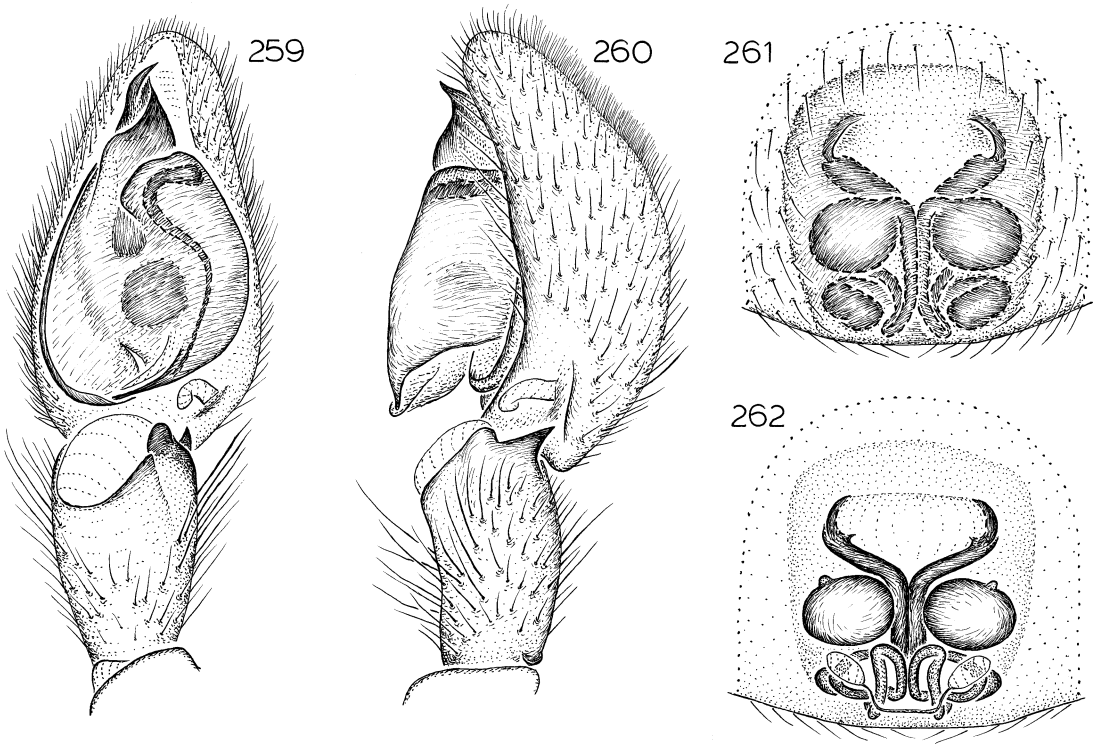
Figures 259–262; Map 17

TYPE: Female holotype taken in a pitfall trap in open forest at an elevation of 900 m on the SE Windsor Tableland, 16°18′S, 145°05′E, Queensland (Nov. 25, 1997–Feb. 9, 1998; G. Monteith, D. Cook), deposited in QMB (S43914).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the small, triangular retrolateral tibial apophysis, which is shorter than the medially bent paracymbial apophysis (fig. 260), females by the oblique anterior portions of the median epigynal ducts, which are widened at the posterolateral margins of the epigynal atrium (figs. 261, 262).

MALE: Total length 4.5. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r1-1-0. Retrolateral tibial apophysis small, triangular, shorter than medially bent paracymbial apophysis (fig. 260);



Figs. 259–262. *Desognaphosa windsor*, new species. **259.** Left male palp, ventral view. **260.** Same, retrolateral view. **261.** Epigynum, ventral view. **262.** Same, dorsal view.

embolus short, twisted terminal elements of palpal bulb with short, beak-shaped tip (fig. 259).

FEMALE: Total length 4.9. Coloration as in male. Leg spination: tibiae: III v2-1p-2; IV p0-0-1, v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-1, v2-2-2, r1-1-0. Epigynal atrium short, lateral margins semicircular (fig. 261); median ducts in y-shaped configuration, reaching sides of epigynal atrium (fig. 262).

OTHER MATERIAL EXAMINED: **Queensland:** SE Windsor Tableland, 16°18′S, 145°05′E, Feb. 9–May 17, 1998, intercept trap, open forest, elev. 850 m (G. Monteith, D. Cook, QMB S42436), 1♂; Mount Windsor Tableland, Whypalla State Forest, 16°13′S, 144°59′E, summer 1992–1993, pitfall, open forest, elev. 1120 m (S. Burnett, QMB S33167), 1♀.

DISTRIBUTION: Known only from the Mount Windsor Tableland, northeastern Queensland (map 17).

Desognaphosa halcyon, new species

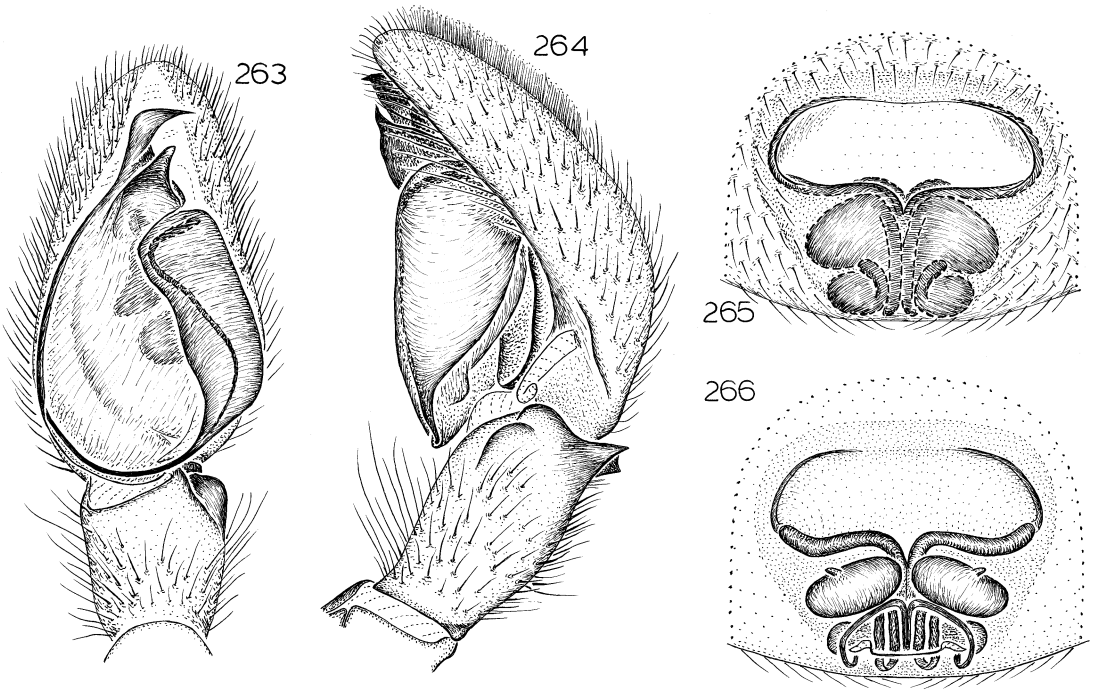
Figures 263–266; Map 16

TYPES: Female holotype and female paratype taken in a Berlese sample of rainforest litter from a site at an elevation on 870 m on Mount Halcyon, 16°03′S, 145°25′E, Queensland (Nov. 24, 1993; G. Monteith, H. Janetzki), deposited in QMB (S28751).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the beak-shaped tip of the terminal palpal elements (fig. 263), females by the broadly oval epigynal atrium (fig. 265).

MALE: Total length 7.4. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r0-1-0. Retrolateral tibial apophysis directed dorsally, with bifid tip, paracymbial apophysis long, with recurved tip (fig. 264); embolus short, twisted terminal



Figs. 263–266. *Desognaphosa halcyon*, new species. **263.** Left male palp, ventral view. **264.** Same, retrolateral view. **265.** Epigynum, ventral view. **266.** Same, dorsal view.

elements of bulb with beak-shaped tip (fig. 263).

FEMALE: Total length 6.5. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r0-1-0. Epigynal atrium broadly oval (fig. 265), median ducts reaching fully to side of atrium (fig. 266).

OTHER MATERIAL EXAMINED: **Queensland:** 4.5–5.0 km W Cape Tribulation, 16°05′S, 145°26′E, Oct. 1, 1982, Berlese, sieved rainforest litter, elev. 760–780 m (G. Monteith, D. Yeates, G. Thompson, QMB S26675), 1♀; Mount Halcyon, 16°03′S, 145°25′E, Nov. 22–24, 1993, pitfalls, elev. 870 m (D. Cook, G. Monteith, H. Janetzki, Roberts, QMB S28766), 2♂; Mount Pieter Botte, 16°04′S, 145°24′E, Nov. 21, 1993, pyrethrum knockdown, trees, logs, rocks, elev. 950 m (G. Monteith, H. Janetzki, QMB S28756), 1♀; Mount Sorrow plateau, 16°05′S, 145°26′E, Dec. 10, 1993, Berlese, sieved rainforest litter, elev. 750 m (G. Monteith, QMB S28753), 1♀; Mount Sorrow summit, Cape Tribulation, 16°06′S, 145°26′E, Oct. 19, 1980, Berlese, sieved rainforest litter, elev. 800 m (G. Monteith, QMB S26649), 1♀; Roaring Meg Valley, 16°04′S, 145°25′E, Nov. 20–22, 1993, pitfall, elev. 680 m (G. Monteith, D. Cook, H. Janetzki, Roberts, QMB S28764), 1♂.

DISTRIBUTION: Known only from the Cape Tribulation area of northeastern Queensland (map 16).

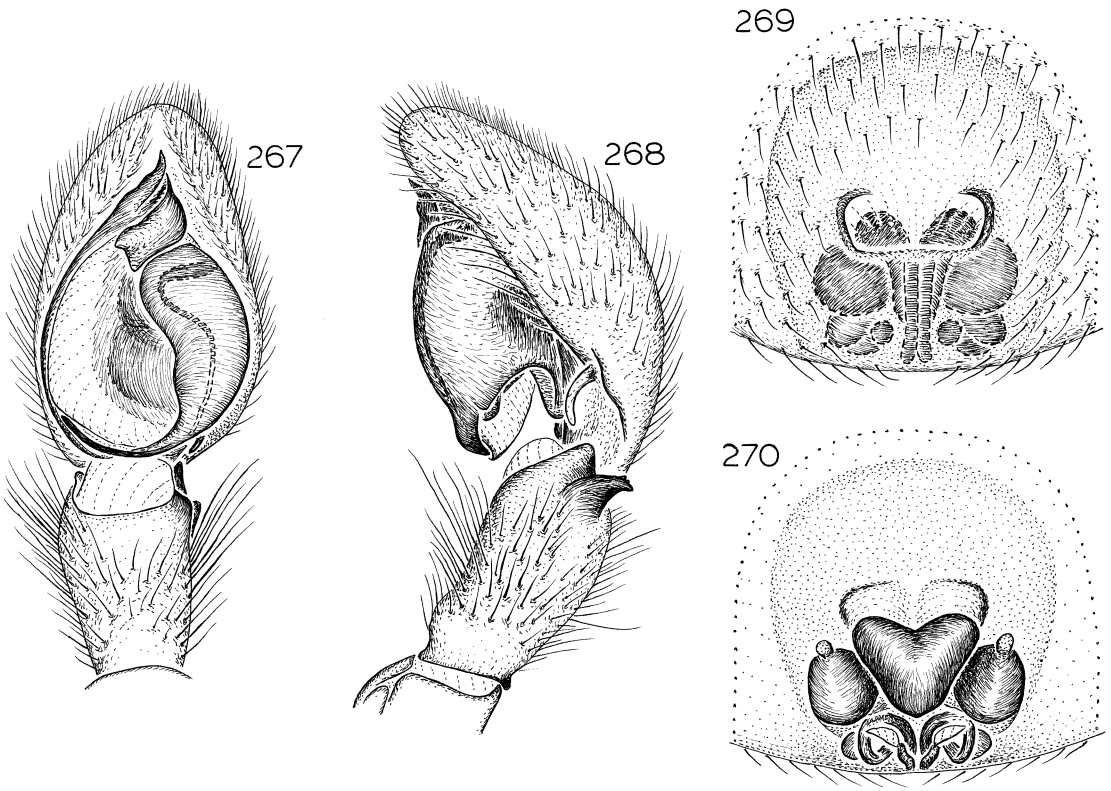
Desognaphosa carbine, new species

Figures 267–270; Map 15

TYPE: Female holotype from Windsor Tableland, 35 km NNW of Mount Carbine, 16°12′S, 145°05′E, Queensland (Apr. 15–18, 1982; G. Monteith, D. Yeates, D. Cook), deposited in QMB (S26667).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males of this large species can be recognized by the wide, heavily sclerotized terminal elements of the palpal bulb (fig. 267), females by the wide, heavily sclerotized median epigynal ducts (fig. 269).



Figs. 267–270. *Desognaphosa carbine*, new species. **267.** Left male palp, ventral view. **268.** Same, retrolateral view. **269.** Epigynum, ventral view. **270.** Same, dorsal view.

MALE: Total length 8.1. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis with subequal ventral and dorsal lobes, paracymbial apophysis long, medially bent (fig. 268); embolus short, twisted terminal elements of bulb wide, very heavily sclerotized (fig. 267).

FEMALE: Total length 8.7. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium short, with semicircular lateral margins (fig. 269); median ducts distinctively widened, in v-shaped conformation (fig. 270).

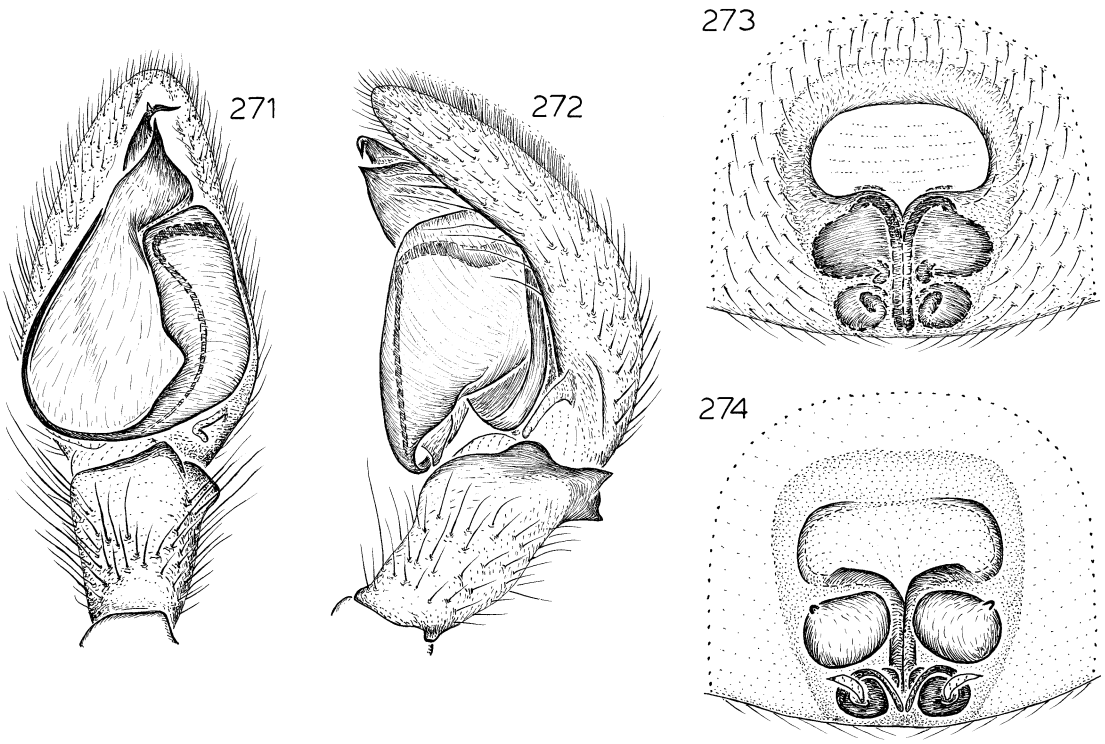
OTHER MATERIAL EXAMINED: **Queensland:** Bargoo Creek, Windsor Tableland, 35 km NNW Mount Carbine, 16°14′S, 145°08′E, Apr, 18, 1982, Berlese, sieved rainforest litter, elev. 850 m (G. Monteith, D. Yeates, D. Cook, QMB S26705), 1♂; 1 km WNW Cape Tribulation, 16°04′S, 145°28′E, May 31–June 28, 1996, pitfall, elev. 10 m (P. Zborowski, QMB), 1♂; 2 km WSW Cape Tribulation, 16°05′S, 145°27′E, Mar. 27–May 1, 1996, intercept trap, elev. 30 m (P. Zborowski, QMB), 1♂; 40 km N Daintree, Cape Tribulation, ca. 15°50′S, 145°20′E, July 12, 1982, rainforest litter, elev. 10 m (S., J. Peck, AMNH), 1♀.

DISTRIBUTION: Known only from the Cape Tribulation area of northeastern Queensland (map 15).

Desognaphosa finnigan, new species

Figures 271–274; Map 11

TYPE: Male holotype taken in a pitfall trap at an elevation of 850–950 m on Mount Finnigan, via Helenvale, 15°49′S, 145°17′E, Queensland (Dec. 3–5, 1990; D. Cook, G. Thompson, Roberts), deposited in QMB (S28761).



Figs. 271–274. *Desognaphosa finnigan*, new species. **271.** Left male palp, ventral view. **272.** Same, retrolateral view. **273.** Epigynum, ventral view. **274.** Same, dorsal view.

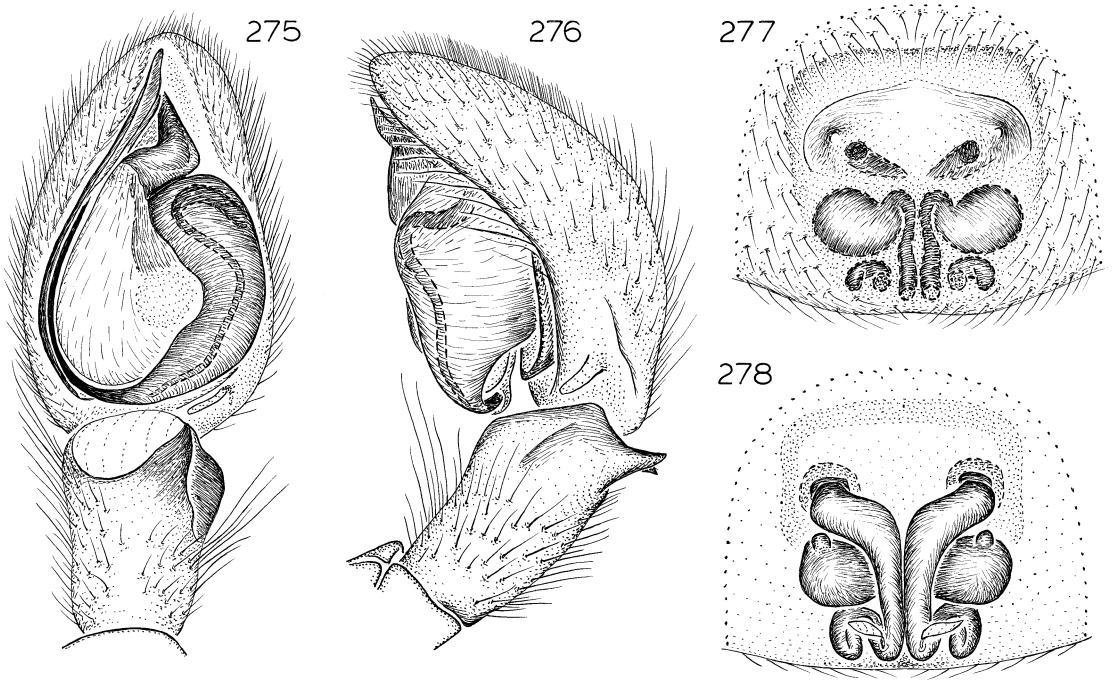
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males of this smaller species, found in the same general region as the preceding one, can easily be recognized by the prolateral projection at the tip of the terminal palpal elements (fig. 271); females resemble those of *D. halcyon* but have a much narrower and smaller epigynal atrium (fig. 273).

MALE: Total length 4.6. Coloration as in *D. malbon*. Leg spination: tibiae: III v2-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Retrolateral tibial apophysis with subequal ventral, dorsodistal, and dorsoproximal prongs, paracymbial apophysis long, with recurved tip (fig. 272); embolus short, tip of twisted terminal palpal elements narrow, with prolaterally directed tubercle (fig. 271).

FEMALE: Total length 4.2. Coloration as in male. Leg spination: tibiae: III v2-0-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV p0-1-0, v2-2-2, r0-1-0. Epigynal atrium with sinuous posterior margin (fig. 273); median epigynal ducts extending almost to sides of atrium (fig. 274).

OTHER MATERIAL EXAMINED: **Queensland:** 2.5 km W Cape Tribulation, 16°05′S, 145°27′E, Jan. 1983, Berlese, sieved rainforest litter, elev. 180 m (G. Monteith, QMB S26682), 1♀; 2.7 km W Cape Tribulation, 16°05′S, 145°27′E, Jan. 1983, Berlese, sieved rainforest litter, elev. 400 m (G. Monteith, QMB S26679), 1♂; Mossman Bluff Camp, Carbine Tableland, 16°27′S, 145°16′E, Nov. 30, 1990, pitfall, elev. 1000 m (G. Monteith, H. Janetzki, QMB S28730), 1♂; Mossman Bluff Track, 5–10 km W Mossman, 16°28′S, 145°22′E, Dec. 30, 1989–Jan. 15, 1990, pitfall, elev. 650 m (G. Monteith, G. Thompson, QMB S28734), 1♂; Mount Finnigan, via Helenvale, 15°49′S, 145°17′E, Nov. 20–21, 1998, dung trap, rainforest on summit, elev. 1100 m (G. Monteith, QMB S47771), 1♂; Mount Halcyon, 16°03′S, 145°25′E, Nov. 22–24, 1993, pitfalls, elev. 870 m (D. Cook, G. Monteith, H. Janetzki, Roberts, ex QMB S28766), 1♂.



Figs. 275–278. *Desognaphosa boolbun*, new species. **275.** Left male palp, ventral view. **276.** Same, retrolateral view. **277.** Epigynum, ventral view. **278.** Same, dorsal view.

DISTRIBUTION: Known only from the Cape Tribulation area of northeastern Queensland (map 11).

***Desognaphosa boolbun*,** new species
Figures 275–278; Map 14

TYPES: Female holotype, male allotype, and female paratype taken in pitfall traps at an elevation of 800 m on Mount Boolbun South, 15°57′S, 145°08′E, Queensland (Nov. 5, 1995–Jan. 11, 1996; G. Monteith, D. Cook, Roberts), deposited in QMB (S34552).

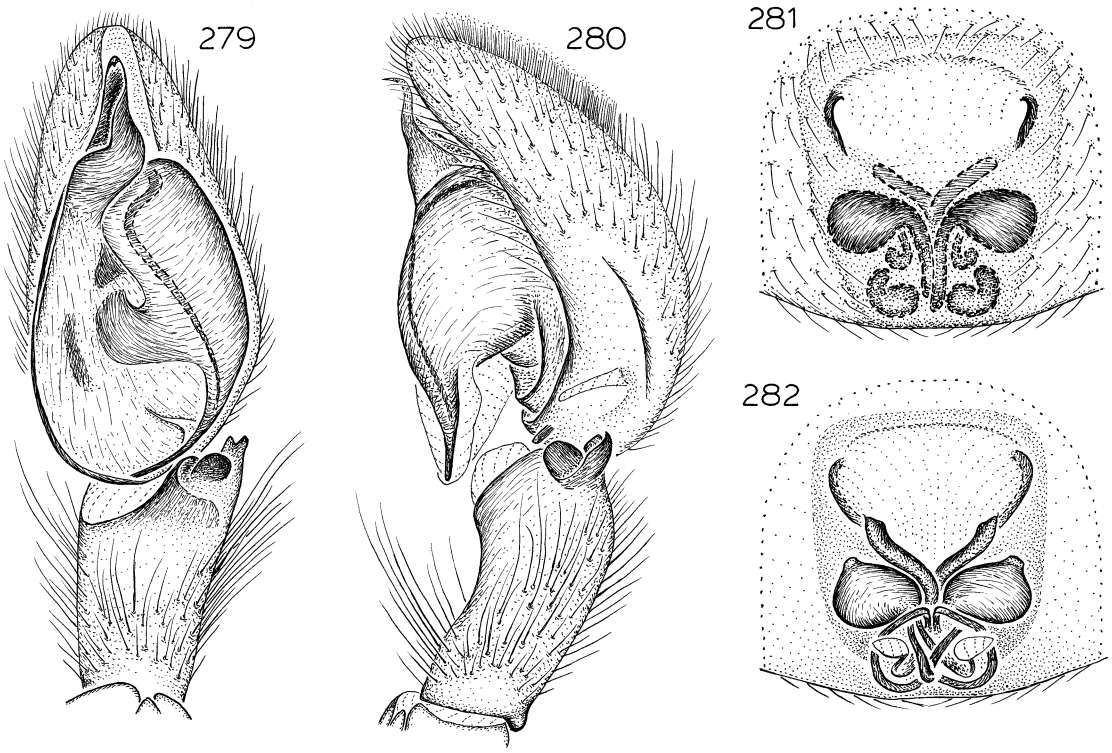
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the subdistal tubercle on the retrolateral tibial apophysis (fig. 276) and by the prolonged prolateral terminal elements of the palpal bulb (fig. 275), females by the widened, Y-shaped median epigynal ducts (fig. 278).

MALE: Total length 6.9. Coloration as in *D. malbon*. Leg spination: tibiae: IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Tip of retrolateral tibial apophysis directed dorsally, with subdistal tubercle, paracymbial apophysis strong, unbent (fig. 276); twisted terminal elements of palpal bulb distally extended on prolateral side (fig. 275).

FEMALE: Total length 6.4. Coloration as in male. Leg spination: tibiae: III v2-0-2; IV v2-1p-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Margins of epigynal atrium indistinct (fig. 277), median epigynal ducts widened, in Y-shaped conformation (fig. 278).

OTHER MATERIAL EXAMINED: **Queensland:** McDowall Range, 17 km N Daintree, 16°06′S, 145°20′E, Nov. 27, 1985, Berlese, sieved rainforest litter, elev. 520 m (G. Monteith, QMB S28739), 1♀; Mount Boolbun South, 15°57′S, 145°08′E, Nov. 4–6, 1995, dung pitfall, elev. 850 m (G. Monteith, QMB S28773), 1♀; summit, Mount Misery, 15°52′S, 145°14′E, Dec. 6, 1990–Jan. 17, 1991, flight intercept trap, pitfalls, elev. 850 m (QMB S28721–28723), 3♀; Mount Misery road, 15°53′S, 145°13′E, Dec. 6, 1990–Jan. 17, 1991, pitfalls, elev. 730 m (QMB S28724), 3♂; Shiptons Flat, 15°48′S, 145°15′E, Nov. 16–21, 1975, litter (R. Mon-



Figs. 279–282. *Desognaphosa homerule*, new species. **279.** Left male palp, ventral view. **280.** Same, retrolateral view. **281.** Epigynum, ventral view. **282.** Same, dorsal view.

roe, V. Davies, QMB S26656), 1♀; 14.4 km N Wudjl Wudjl, 15°52′S, 145°19′E, Nov. 4, 1991–July 20, 1992, pitfall (P. Lawless, R. Raven, M. Shaw, QMB S24388), 1♂.

DISTRIBUTION: Known only from northeastern Queensland (map 14).

Desognaphosa homerule, new species

Figures 279–282; Map 13

TYPES: Female holotype taken in molting chamber in curled leaf, and male allotype taken in pitfall trap, at Home Rule, 15°44′S, 145°18′E, Queensland (Oct. 28–Nov. 18, 1974; V. Davies), deposited in QMB (S28292).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the distally directed, bifid tip of the retrolateral tibial apophysis (fig. 280), females by the posteriorly narrowed epigynal atrium (fig. 281).

MALE: Total length 6.0. Coloration as in *D. malbon*. Leg spination: tibiae: III v1p-1p-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-1p-2, r0-1-0. Retrolateral tibial apophysis with heavily sclerotized ventral ledge, tip directed distally, bifid, paracymbial apophysis strong, straight (fig. 280); terminal elements of palp with ventrally directed tip (fig. 279).

FEMALE: Total length 6.9. Coloration as in male. Leg spination: tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-2; IV v2-2-2, r0-1-0. Epigynal atrium wider anteriorly than posteriorly, depressed along lateral margins (fig. 281); median ducts not extending to sides of atrium (fig. 282).

OTHER MATERIAL EXAMINED: **Queensland:** Fritz Creek, N Bloomfield, 15°52′S, 145°21′E, Dec. 1975, rainforest litter (M. Gray, AMS KS7503, 8166), 1♂, 2♀; Gap Creek, 0.5 km ESE Mount Finnigan, 15°44′S, 145°18′E, May 13–16, 1981 (I. Naumann, ANIC), 1♀; Mount Finlay, 15°49′S, 145°21′E, Nov. 29–Dec. 5, 1975, litter pitfall (R. Monroe, V. Davies, QMB

S26694), 1♀; 2.5 km SW Mount Hartley, 15°47′S, 145°19′E, Apr. 24, 1982, Berlese, sieved rainforest litter, elev. 610 m (G. Monteith, D. Yeates, D. Cook, QMB S26684), 1♀; Mount Sampson, 15°48′S, 145°12′E, Dec. 27, 1990–Jan. 19, 1991, pitfall, elev. 600–790 m (ex QMB S28729), 1♀; Twelve Mile Scrub, 15°50′S, 145°19′E, Nov. 22–28, 1975, litter, sealed under rock with egg sac (R. Monroe, V. Davies, QMB S26651, 26652), 2♂, 3♀.

DISTRIBUTION: Known only from northeastern Queensland (map 13).

TRACHYCOSMINAE, NEW SUBFAMILY

TYPE GENUS: *Trachycosmus* Simon

DIAGNOSIS: The three genera here assigned to the Trachycosminae differ from most other trochanteriids in having only slightly laterigrade legs, and less enlarged chelicerae, with the apex directed ventrally so that only the base of the paturon is visible in dorsal view. Trachycosmines share with morebilines the presence of detached, triangular intercoxal sclerites, but lack the basal retrolateral tibial apophysis found in morebiline males. The trachycosmine genera share a similar male palpal conformation, with an elongated embolus (sometimes largely hidden, in unexpanded palps, between the bulb and cymbium) and a prolaterally situated projection on the terminal apophysis.

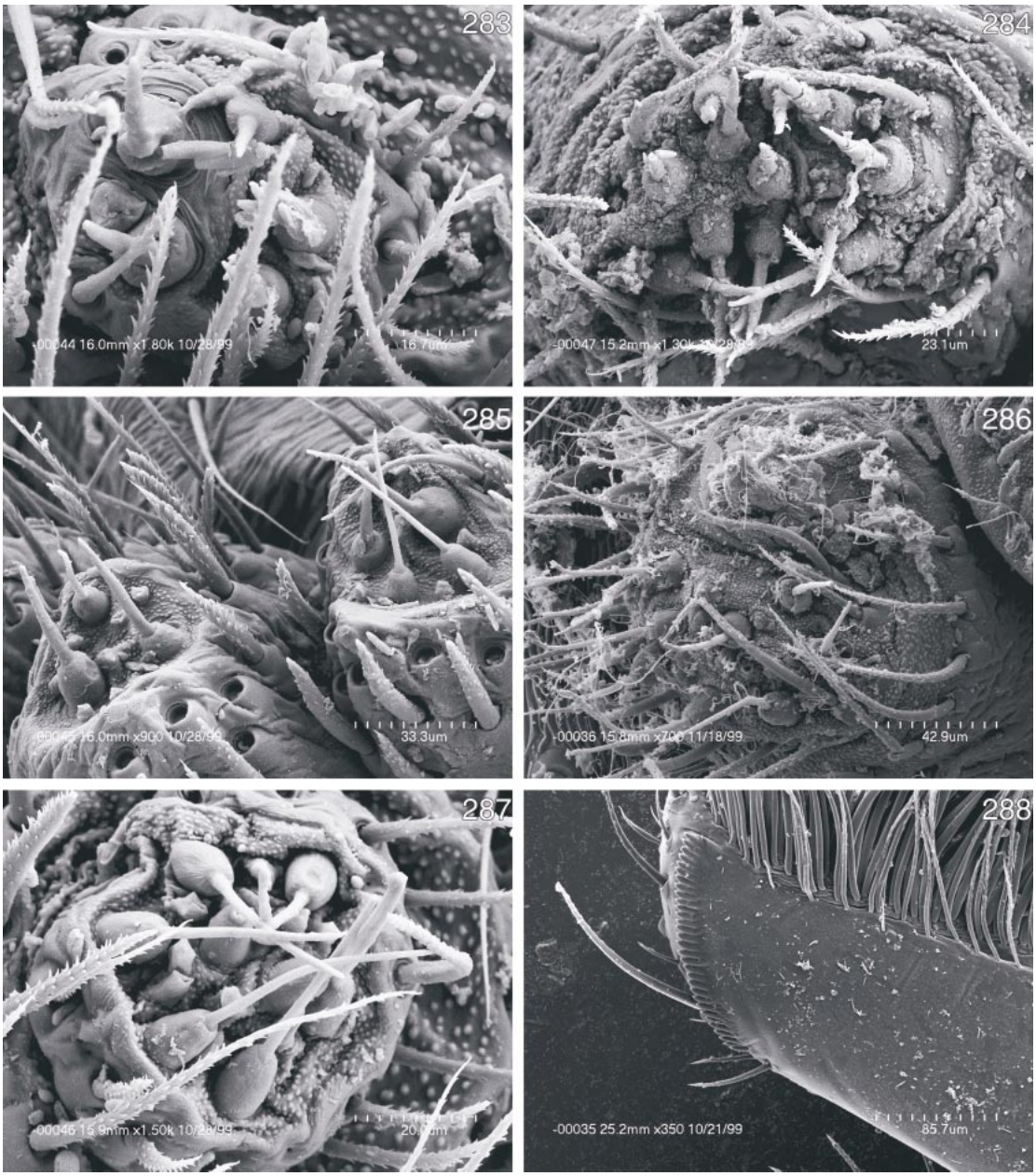
Trachycosmus Simon

Trachycosmus Simon, 1893: 347 (type species by original designation *Trachycosmus sculptilis* Simon).

DIAGNOSIS: The absence of leg spines readily separates members of this genus from those of *Trachytrema* and *Trachyspina*; males have the apex of the cymbium prolonged into a functional conductor (figs. 289, 293).

DESCRIPTION: Medium-sized spiders, total length 3–6. Carapace flattened, with numerous tubercles, with rebordered lateral and posterior margins, with long, dark setae largely confined to ocular area and clypeus; thoracic groove short, Y-shaped, wider anteriorly than posteriorly, greatly deepened anteriorly; cephalic groove indistinct. Eight subequal eyes in two rows; anterior medians circular, dark, posterior medians irregularly rectangular, lenses flattened, canoe-shaped tapetum present, laterals oval; from above, both eye rows recurved, from front, both rows procurved; anterior medians separated by about their diameter, farther from anterior laterals; posterior medians separated by their radius, by about three times their diameter from posterior laterals; anterior and posterior laterals separated by less than twice their diameters; median ocular quadrangle slightly wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum wide, with anteriorly directed tubercle at midline, accompanied by second, elongated, posterior chilum (narrow, T-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with three closely spaced, long, subequal teeth, retromargin with two closely spaced teeth; presumptive cheliceral gland openings proximal to base of proximal tooth. Labium rectangular, posterior quarter narrowed, depressed, anterior margin slightly invaginated near midline. Endites long, divergent, with oblique depression restricted to their median edge; serrula absent (fig. 153), sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, detached triangular sclerites between coxae; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted y-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle sparsely coated with short, dark setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at



Figs. 283–288. 283–287. *Trachycosmus sculptilis* Simon, spinnerets, distal views. **283.** Male, anterior lateral spinneret. **284.** Female, anterior lateral spinneret. **285.** Male, posterior median spinnerets. **286.** Female, posterior lateral spinneret. **287.** Male, posterior lateral spinneret. **288.** *Trachytrema garnet*, new species, female endite, anterior view.

sides, posterior rim of booklung openings without postepigastric sclerites, booklung covers not ridged; colulus represented only by scattered setae clustered near tip of projecting area of sclerotized cuticle situated posterior of wide posterior spiracle; males apparently with scattered short epiandrous spigots. Six spinnerets (figs. 283–287), anterior laterals short, conical, with posterior surface flattened, separated by almost their diameter at base, with two articles, distal article apparently with two major ampullate gland spigots and many small, unmodified piriform gland spigots; posterior medians apparently with few aciniform gland spigots and one enlarged minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with about five enlarged cylindrical gland spigots in two parallel rows, inner row with two, outer row of three; posterior laterals with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with at least one large cylindrical gland spigot in addition.

Legs slightly laterigrade, leg formula 4123, with scattered setae; coxae and trochanters with few dorsal tubercles, fourth trochanters slightly enlarged, elongated; anterior coxae without protuberant posterolateral corners; trochanters not notched; scopula very weak on all legs; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws; weak claw tufts composed of two pads of widened setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palp without spines; female palpal tarsus with long, smooth claw, without ventral scopula. Leg spines absent.

Male palpal tibia with retrolateral apophysis reduced to low knob or ridge; retrolateral basal corner of cymbium produced into large bulge but without distinct hook (paracymbium); embolus originating on distal surface of bulb, coiling around most of ventral surface of bulb, tip near terminally situated apophysis. Epigynum relatively flat, with anteriorly elaborated ducts.

KEY TO SPECIES OF *TRACHYCOSMUS*

1. Males 2
– Females 5
2. Cymbium greatly elongated (fig. 289) . . . . . *sculptilis*
– Cymbium shorter (figs. 293, 297, 301) . . 3
3. Retrolateral tip of median apophysis broad, rounded (figs. 301, 302) . . . . . *cockatoo*
– Retrolateral tip of median apophysis sharply pointed (figs. 293, 297) 4
4. Embolus relatively long, extending far proximal of palpal bulb (fig. 297) . . . . . *turramurra*
– Embolus shorter, not extending proximal of palpal bulb . . . . . *allyn*
5. Epigynal atrium extended anteriorly, with narrow anterior margin (fig. 291), median ducts coiled (fig. 292) . . . . . *sculptilis*
– Epigynal atrium not extended anteriorly, with wide anterior margin (figs. 295, 299), median ducts not coiled (figs. 296, 300) . . 6
6. Epigynal atrium a deeply excavated, anteriorly narrowed triangle (fig. 295) . . . *allyn*
– Epigynal atrium not deeply excavated . . . 7
7. Epigynal septum relatively wide, bearing posteriorly originating ridge along midline (fig. 303) . . . . . *cockatoo*
– Epigynal septum relatively narrow, preceded posteriorly by pair of semicircular posterior margins (fig. 299) . . . . . *turramurra*

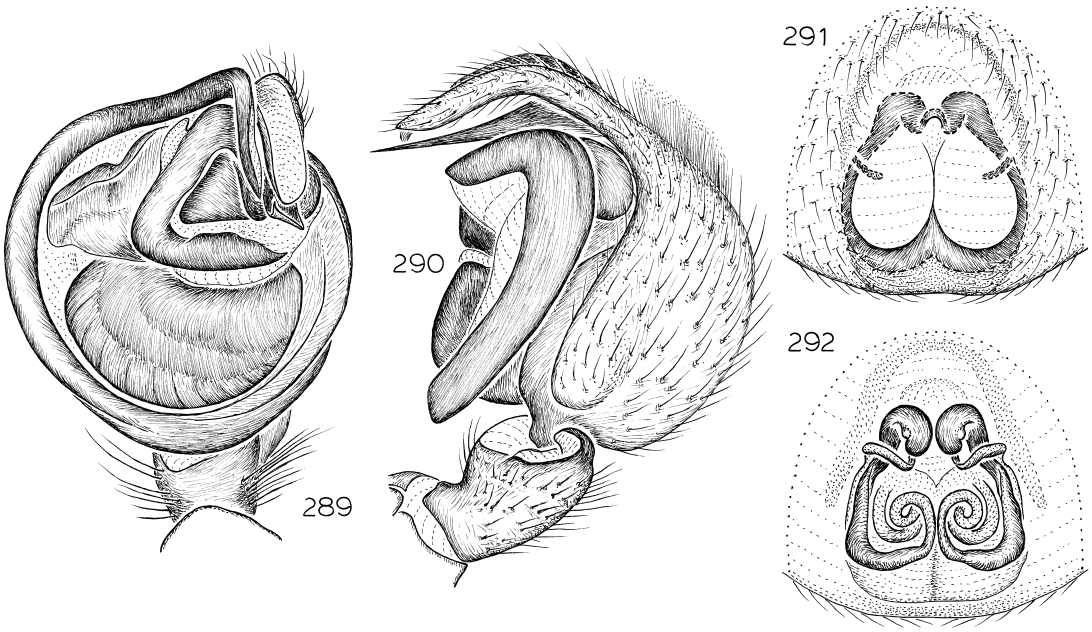
Trachycosmus sculptilis Simon

Figures 153, 283–287, 289–292; Map 21

Trachycosmus sculptilis Simon, 1893: 347, fig. 311 (female holotype from Launceston, Tasmania, in MNHN, examined).—Hickman, 1967: 91, figs. 159, 160 (first description of male).

DIAGNOSIS: Males are easily recognized by the greatly elongated tip of the palpal cymbium (figs. 289, 290), females by the kidney-shaped anterior ends of the epigynal ducts (figs. 291, 292).

MALE: Total length 3.3. Carapace dark reddish brown, abdomen dark gray with white chevrons, legs light reddish brown, posterior tibiae and metatarsi darkened proximally. Legs spineless. Palpal femur without ventral enlargement at distal end; retrolateral tibial apophysis short, knob-shaped (fig. 290); tip



Figs. 289–292. *Trachycosmus sculptilis* Simon. **289.** Left male palp, ventral view. **290.** Same, retrolateral view. **291.** Epigynum, ventral view. **292.** Same, dorsal view.

of cymbium greatly elongated, tube-shaped (fig. 289).

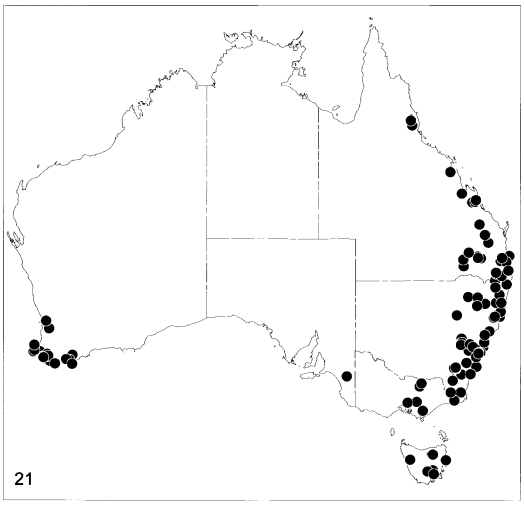
FEMALE: Total length 4.0. Coloration and legs as in male. Epigynum flat, with narrow median septum (fig. 291), epigynal ducts expanded, kidney-shaped anteriorly (fig. 292).

MATERIAL EXAMINED: **Australian Capital Territory:** Black Mountain, 35°16′S, 149°06′E, Nov. 29, 1967, Berlese, dry sclerophyll litter, elev. 2400 ft (C. Brooks, ANIC), 1♂; Brindabella Mountains, near Uriarra Creek, ca. 15 km W Canberra, 35°15′S, 148°57′E, Aug. 6, 1990, Berlese, eucalypt litter, elev. 700 m (C. Griswold, T. Meikle, USNM), 1♀; Gininderra Falls, 35°12′S, 149°05′E, July 10, 1999, under rock (L. Boutin, TMH), 1♀. **New South Wales:** Badja Fire Trail, Badja State Forest, 33°07′S, 149°33′E, Mar. 13, 1999 (J. Tarnawski, S. Lassau, AMS KS63876), 1♀; Baronne Creek, near The Spire, Warrumbungle Mountains, 31°27′S, 149°10′E, Nov. 4, 1982 (J. Doyen, CAS), 1♀; 11 mi E Bathurst, 33°25′S, 149°34′E, Dec. 23, 1962, elev. 900 m (E. Ross, D. Cavagnaro, CAS), 1♀; Blood Filly Creek near Jenolan Caves, Kanangra-Boyd National Park, 33°59′S, 150°08′E, Mar. 27, 1976, eucalypt litter (M. Gray, G. Hunt, J. McDougall, AMS KS29867), 1♀; Bondi State Forest, S Bombala, 37°08′S, 149°09′E, May 6, 1980, litter, open eucalypt forest (G. Gowing, AMS KS12173. 12229), 2♂, Oct. 15, 1980, open forest, litter (G. Gowing, AMS KS11361), 1♂; Nov. 14, 1980, eucalypt litter (G. Gowing, AMS KS11734, 11781), 1♂, 1♀, Dec. 13, 1980 (G. Gowing, AMS KS18038), 1♂, Jan. 26, 1981, litter, open eucalypt forest (G. Gowing, AMS KS12145), 1♀; Booderee National Park, southern headland of Jervis Bay, 35°09′S, 150°45′E, Feb. 6–10, 1999, pitfall (L. Gibson, AMS KS62984), 1♂; Bulls Ground State Forest, near Wauchope, 31°33′S, 152°38′E, Mar. 1996, litter (A. York, AMS KS59456, 59463), 2♀, Feb. 21–25, 1999, pitfalls (A. York, AMS KS57646), 1♂, 1♀; Bungonia, 34°52′S, 149°57′E, Dec. 1989–Feb. 1990, pitfalls (G. Hunt, AMS KS22732), 5♂; Cherry Tree North State Forest, 28°58′S, 152°15′E, Dec. 17, 1988 (Smith et al., AMS KS49843), 1♂; Coolangubra State Forest, 37°00′S, 149°30′E, Jan. 1985 (G. Webb, AMS KS42730), 1♂; Cooperabung Range Road, ca. 1.1 km S Narang Road, Ballenga State Forest, 31°12′S, 152°42′E, Feb. 4–Apr. 9, 1993, pitfall, elev.

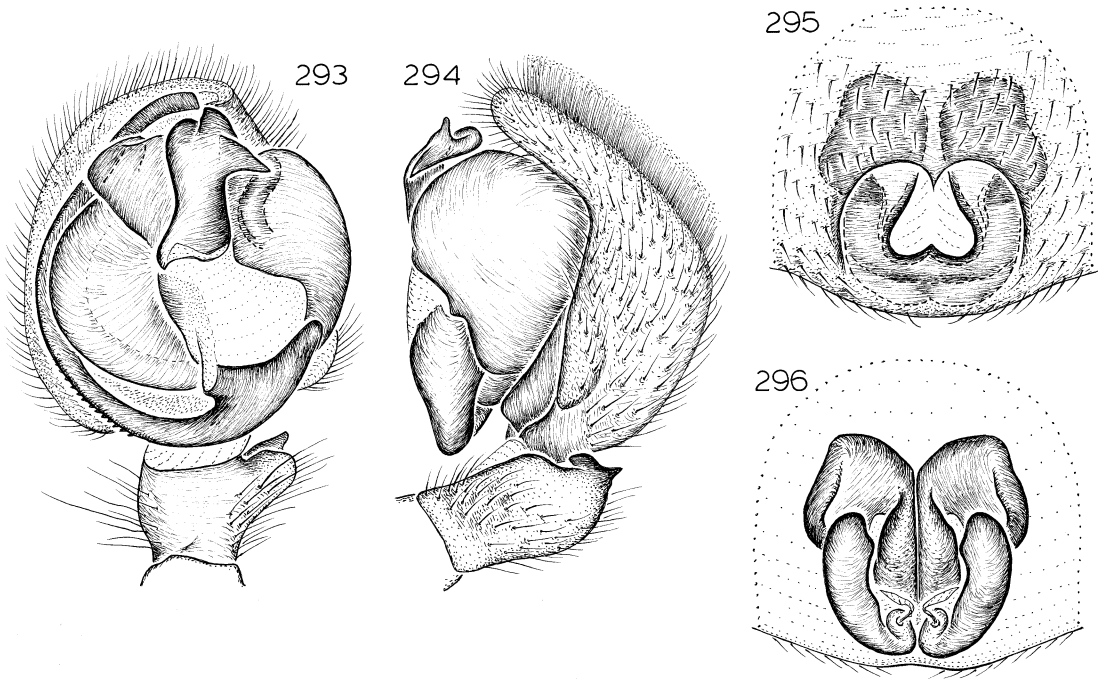
200 m (M. Gray, G. Cassis, AMS KS40278), 1♂; Cow Flat, S Bathurst, 33°35′S, 149°30′E, Nov. 13, 1988, litter at tree base (G. Hunt, AMS KS29941), 3♂, 5♀; 0.3 km S along Cox's Fence Trail from Boundary Road, Nerong State Forest, 31°38′S, 152°09′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 70 m (M. Gray, G. Cassis, AMS KS40275), 1♂; off Cunnawarra Trail, 800 m N Cunnawarra Creek, Styx River State Forest, 30°33′S, 152°19′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 950 m (M. Gray, G. Cassis, AMS KS35376), 1♀; 100 m S junction Dilli and Boundary Creek Roads, Boundary Creek State Forest, 29°58′S, 152°36′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 540 m (M. Gray, G. Cassis, AMS KS40279), 1♂; Flaggy Creek, 0.95 km along Ripleys Trail from Clarence Town Road, Wallaroo State Forest, 32°36′S, 151°48′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 20 m (M. Gray, G. Cassis, AMS KS40277), 1♂; Frying Pan, Cooma, 36°09′S, 148°50′E, Dec. 1, 1993 (J. Noble, AMS KS55333), 1♂; Gladstone State Forest, Rickerbys Road, 30°33′S, 152°45′E, Nov. 12–25, 1999, pitfall (M. Gray, G. Milledge, H. Smith, AMS KS61115), 1♀; Grey Gums Fire Road, 1.1 km from Doyles River Road, Bulga State Forest, 31°33′S, 152°14′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 620 m (M. Gray, G. Cassis, AMS KS40274), 1♀; Hartley Vale, 33°32′S, 150°14′E, Apr. 1992, litter at base of eucalypt (G. Hunt, AMS KS65723), 4♀; Hazelbrook, Winbourne Road, 33°43′S, 150°28′E, Oct. 3, 1996, pitfall (AMS KS55312), 1♀; Jamieson Park, Narrabeen, 33°43′S, 151°18′E, Nov. 6–20, 1995, pitfall, angophora woodland, elev. 20 m (M. Gray, H. Smith, AMS KS49610), 1♂; Killarney Gap, Mount Kaputar National Park, 30°08′S, 150°05′E, June 27, 1991, sieved litter, open forest (D. Black, WAM 99/593), 1♀; MacFayden's Road, 1.2 km E junction Range Road, Doubleduke State Forest, 29°13′S, 153°13′E, Feb. 4–Apr. 9, 1993, pitfall (M. Gray, G. Cassis, AMS KS40273), 1♂; Moonby Lookout, 30 km N Tamworth, 30°47′S, 150°48′E, Feb. 4, 1971, litter, open forest (J. Thompson, AMS KS29838), 1♀; Mount Kembla, Sydney Catchment Authority Reserve, 34°27′S, 150°44′E, Dec. 16–20, 1998, pitfall (L. Gibson, AMS KS63032), 1♂; Mount Myall, Wattagan Mountains, 32°52′S, 151°25′E, May 7, 1990 (G. Hunt, AMS KS23464), 1♀; Nandewar Range, 40 km E Narrabri on Bingara-Narrabri Road, 30°10′S, 150°51′E, Oct. 1, 1990, litter, open forest (J. Thompson, AMS KS29913), 1♀; North West Fire Trail, Washpool National Park, 29°27′S, 152°17′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 950 m (M. Gray, G. Cassis, AMS KS40276), 1♀; junction, Range Road and Lockleys Road, Doubleduke State Forest, 29°14′S, 153°11′E, Feb. 4–Apr. 9, 1993, pitfall (M. Gray, G. Cassis, AMS KS40272), 1♂; Reids Flat, Royal National Park, 34°08′S, 151°04′E, Aug. 25, 1988, eucalypt forest (C. Horseman, M. Zabka, M. Sanchez, AMS KS27952), 1♀; Richmond Beach Road, Murramarang National Park, 35°41′S, 150°17′E, Mar. 17, 1999 (L. Wilkie, R. Harris, H. Smith, AMS KS63877), 1♀; South Forest Way, Tallaganda State Forest, 35°42′S, 149°33′E, Mar. 15, 1999 (J. Tarnawski, S. Lassau, AMS KS63875), 1♂; Taylor Road, between Tapley and Oliver Roads, E Niarara, 33°24′S, 151°23′E, pitfalls (M. Gary, G. Milledge, H. Smith, AMS KS63301), 3♂; 1.9 km along Tucker Box Road from Tooloom Rest Area, Beauty State Forest, 28°28′S, 152°24′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 760 m (M. Gray, G. Cassis, AMS KS36105), 1♀; 16 km S Uralla, 30°37′S, 151°27′E, Feb. 4, 1991, litter (J. Thompson, AMS KS29840), 1♀; Wattamolla Picnic Area, Royal National Park, 34°08′S, 151°04′E, Nov. 8, 1989, litter (C. Horseman, J. Little, AMS KS22624), 1♂; Wattle Creek Road, Richmond Range State Forest, 28°38′S, 152°46′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 220 m (M. Gray, G. Cassis, AMS KS36066), 1♂; Woronora Dam Catchment, Fire Road No. 9, E Bee Creek, 34°09′S, 150°56′E, Dec. 8–22, 1999, pitfall (M. Gray, G. Milledge, H. Smith, AMS KS63199), 1♂; Woronora Dam Catchment, Fire Road No. 9, 34°12′S, 150°55′E, Oct. 26–Nov. 14, 2000, pitfall (G. Milledge, H. Smith, AMS KS69369), 1♂. **Queensland:** The Bluff, Keysland, 26°14′S, 151°42′E, Nov. 24, 1995–Feb. 3, 1996, open forest pitfall, elev. 500 m (G. Monteith, QMB S45652), 1♂; Braemar State Forest, 27°13′S, 150°50′E, Oct. 15–19, 1979, wilga, litter (R. Raven, QMB S26521), 1♀; Camp Mountain District, Samford Valley, 27°24′S, 152°53′E, Dec. 7,

1952, dry litter (T. Woodward, OMD), 1♂; 6 mi E Condamine, 26°56′S, 150°08′E, June 1, 1956, leaf litter (F. Perkins, OMD), 1♀; Endfield Station, 64.4 km W Westmar, 27°55′S, 149°43′E, Jan. 10, 1979, mulga (R. Raven, V. Davies, QMB S26530), 1♀; Evelyn, Byers Road, 17°28′S, 145°27′E, Nov. 30, 1997–Feb. 5, 1998, open forest pitfall (G. Monteith, D. Cook, QMB S43884), 2♀; Fig Tree Pocket, Brisbane, 27°28′S, 153°01′E, Dec. 6, 1977, litter (V. Davies, QMB S26529), 1♀; Finch Hatton Gorge, Eungella National Park, 21°05′S, 148°39′E, Dec. 3, 1992–Apr. 23, 1993, rainforest pitfall (R., J., S. Raven, P., E. Lawless, QMB S24614), 1♂; Finch Hatton National Park, 21°09′S, 148°38′E, Feb. 14, 1986, rainforest (R. Raven, J. Gallon, QMB S9940), 1♂, 1♀; Frenchville, 23°20′S, 150°24′E, Mar. 21, 1991, open forest pitfall (D. Wallace, R. Raven, K. Williams, QMB S22150), 1♂, Mar. 21–Sept. 3, 1991, open forest pitfall (D. Wallace, R. Raven, QMB S40713), 1♂; The Head, via Killarney, 28°23′S, 152°19′E, Dec. 27, 1974–Mar. 31, 1975, rainforest pitfall, elev. 760 m (G., S. Monteith, QMB S26528), 1♂; Humphery Racetrack, 25°38′S, 151°30′E, Oct. 11–Dec. 18, 1998, pitfall, open forest, elev. 140 m (G. Monteith, Gough, QMB S47805), 2♂, 1♀; Hurdle Gully, 14.8 km WSW Monto, 24°55′S, 150°59′E, Dec. 19–21, 1997, open forest (G. Monteith, G. Thompson, D. Cook, QMB S44191), 1♂; Kumbarilla, W Dalby, 27°19′S, 150°52′E, Feb 1979 (T. Adams, QMB S26522), 1♀; Lake Broadwater, via Dalby, 27°21′S, 151°06′E, Jan. 26–Feb. 19, 1985, pitfall (M. Bennie, QMB S34483, 34489), 3♂, 1♀, May 17–Nov. 24, 1985, pitfall (M. Bennie, QMB S34490), 1♀, Nov. 19, 1985, logs (QMB S30197), 1♀, Nov. 24, 1985–Jan. 3, 1986, pitfall (M. Bennie, QMB S34487), 1♀, Jan. 3–Feb. 25, 1986, pitfall (M. Bennie, QMB S34494), 1♂, 1♀, Apr. 22–June 12, 1986, pitfall (M. Bennie, QMB S34486), 1♀; adjacent to Millstream Conservation Park, 17°32′S, 145°29′E, Feb. 5, 1999, dung trap, open forest (G. Monteith, QMB S49853), 1♂; Moreton Island, The Wrecks, sandhills, 27°11′S, 153°24′E, Nov. 25, 1976, litter (V. Davies, N. Hall, QMB S26524), 1♀; Mount Chalmers, Coleby property, 23°18′S, 150°38′E, Oct. 23, 1990 (R. Raven, K. Williams, QMB S25572), 1♀; Nipping Gully, 25°40′S, 151°26′E, Oct. 9–Dec. 18, 1998, open forest intercept, elev. 200 m (G. Monteith, Gough, QMB S47785), 1♀, Dec. 18, 1998–Jan. 25, 1999, open forest pitfall, elev. 280 m (G. Monteith, Gough, QMB S50378), 1♀; Pine Mountain, 27°33′S, 152°42′E, Jan. 13–May 16, 1999, open forest pitfall, elev. 90 m (G. Monteith, QMB S50377), 1♂; Plath Road, 17°23′S, 145°28′E, Nov. 30, 1997–Feb. 5, 1998, pitfall, open forest, elev. 1060 m (G. Monteith, D. Cook, QMB S43905), 3♂, 4♀; Rochedale State Forest, Brisbane, 27°37′S, 153°09′E, Dec. 20, 1979 (V. Davies, R. Raven, QMB S26527), 1♂, Jan. 17, 1980 (V. Davies, R. Raven, QMB S26526), 1♀; Stony Creek, via Samford, 27°20′S, 152°48′E, Feb. 2–Apr. 8, 1995, open forest pitfall (G. Monteith, H. Janetzki, QMB S32475), 1♂; 2 km SW Tully Falls, 17°48′S, 145°33′E, Feb. 4–Apr. 15, 1999, open forest pitfall, elev. 760 m (G., S. Monteith, QMB S49846), 2♀; Upper Tallebudgera, 28°14′S, 153°19′E, Jan. 2–Feb. 17, 1995, intercept trap, elev. 330 m (D. Cook, QMB S32231), 1♀; Tooloombah Creek, 22°42′S, 149°34′E, July 29–Nov. 24, 1992, eucalypt woodland pitfall (R. Raven, P., E. Lawless, M. Shaw, QMB S24646), 2♀; Webster Road, Evelyn, 17°27′S, 145°27′E, Nov. 30, 1997–Feb. 5, 1998, open forest pitfall, elev. 990 m (G. Monteith, D. Cook, QMB S43894), 1♂; Windemere Station, Glenmorgan, 27°27′S, 149°41′E, Dec. 1990–Sept. 1991 (R. Raven, D. Smyth, QMB S32522), 3♂, 2♀; 6.2 km W Yeppoon, 23°10′S, 150°42′E, May 20, 2000, beachfront, semidry scrub (G. Milledge, H. Smith, AMS KS66412), 1♀. **South Australia:** Jimmys Well, Mount Rescue Conservation Park, 35°51′S, 140°18′E, Mar. 17, 1992, litter (D. Hirst, SAM N1999/86), 1♀. **Tasmania:** Bicheno Lookouts, 41°52′S, 148°18′E, Jan. 31, 1998, under rocks, dry eucalypt forest on granite (L. Boutin, TMH), 1♂, 3♀; Cataract Gorge, Launceston, 41°27′S, 147°10′E, Sept. 1, 1990, under rocks (M. Harvey, M. Blosfelds, WAM 99/594, 595), 2♀; Chauncyvale Wildlife Sanctuary, 42°36′S, 147°15′E, Dec. 18, 1998, under rock (L. Boutin, TMH), 1♀; Glen Dhu, 41°27′S, 147°10′E, Nov. 8, 1929, under stones (V. Hickman, AMS KS29268), 1♂, 1♀; Launceston, 41°25′S, 147°08′E (MNHN 4707), 1♀ (holotype), (V. Hickman,

TMH), 1♀, Feb. 25, 1924 (V. Hickman, AMS KS32432), 1♂, Nov. 20, 1925 (V. Hickman, AMS KS32431), 1♂; Launceston Gorge, 41°28′S, 147°15′E, Nov. 21, 1997, under rock (L. Boutin, TMH), 1♀; W Mount Field National Park, 42°41′S, 146°49′E, Jan. 9, 1998, under rock (L. Boutin, TMH), 2♀; Queens Domain, Hobart, 42°52′S, 147°19′E, May 1948 (V. Hickman, AMS KS29343), 3♀, June 5, 1948 (V. Hickman, AMS 29350), 1♀, June 14, 1963, under stones (V. Hickman, AMS KS29281), 4♀, June 2, 1965, under stones (V. Hickman, AMS KS29283), 2♀, Oct. 27, 1966, in grass tussocks (V. Hickman, AMS KS29282), 2♂, 3♀; Serpentine Hill, 41°50′S, 145°25′E, Dec. 7, 1997, under rock, serpentine outcrop (L. Boutin, TMH), 2♂, 1♀. **Victoria:** Churchill, 38°19′S, 146°26′E, May 23, 1993 (R. de Souza-Daw, SAM N1999/88), 1♀; Dingo Creek, Lind National Park, 37°35′S, 148°58′E, June 18, 1987, Berlese, litter (N. Platnick, R. Raven, AMNH), 1♀; Little River, ca. 10 km E Walgulmerang, S road near entrance Tingaringy National Park, 37°00′S, 148°41′E, Feb. 15, 1990, litter, open eucalypt forest (D. Black, WAM 99/596), 1♀; 9.6 km E McMahons Creek, 37°41′S, 145°56′E, Nov. 14–24, 1988 (L. Lumsden, NMV K3633), 1♂, 1♀; Upper Lurg, 36°35′S, 146°11′E, Nov. 2, 1994, in house (J. Strudwick, CVIC 651), 1♂, Jan. 14, 1997, leaf litter (J. Strudwick, CVIC 667), 1♂, Apr. 4, 2000, vibration (J. Shield, J. Strudwick, CVIC 751), 1♀; Wangaratta, 36°21′S, 146°19′E, Dec. 10, 1973, moss near rocks (F. Aslin, SAM N1999/87), 1♀; Yarra Valley Park, 37°44′S, 145°12′E, Jan. 21–Feb. 1, 1991, pitfall (S. Larwill, NMV K3642), 1♀. **Western Australia:** Cascades, 8 km SSW Pemberton, 34°30′S, 116°00′E, May 3, 1990, under bark of *Eucalyptus diversicolor* (M. Harvey, J. Waldock, WAM 99/617), 1♀; Crowea Block, Pemberton, 34°28′S, 116°10′E, Nov. 16–Dec. 6, 1978–1979, pitfalls, closed forest (S. Curry, WAM 84/685, 686, 688, 689, 710–714), 4♂, 3♀, Nov. 21, 1980, pitfalls, closed forest (S. Curry, WAM 99/598–600), 1♂, 2♀; Darlington, 31°55′S, 116°04′E, May 1975–Mar. 1966 (G. Lowe, WAM 87/1140), 1♀; 3 km W Darradup, 34°05′S, 115°34′E, Oct. 14, 1991, karri, jarrah, banksia, river gum, red gum litter (J. Bannister, WAM 99/608, 611), 1♂, 1♀, Nov. 10, 1991, litter, base of red gums (J. Bannister, WAM 99/698), 1♀; Devils Slide walking trail, Porongorup National Park, 34°41′S, 117°56′E, Feb. 5, 1979, under rock (M. Gray, AMS KS14502), 1♀; Dog Pool on Shannon River, 34°46′S, 116°22′E, Apr. 27–30, 1990, night collecting (M. Harvey, J. Waldock, WAM 93/622), 1♀, under bark of *Eucalyptus diversicolor* (M. Harvey, J. Waldock, WAM 93/624, 629), 2♀; Karri Valley Resort, 34°26′S, 115°51′E, Oct. 21, 1997, pitfall, karri litter (J. Waldock, WAM 99/607), 1♀; Mammoth Cave Reserve, 34°04′S, 115°02′E, July 20–22, 1980, dung trap, karri forest (S., J. Peck, WAM 99/628), 1♀; 54 km SE Manjimup, 34°15′S, 116°09′E, June 22–July 4, 1980, jarrah forest litter (S., J. Peck, WAM 99/612), 1♀; 4.75 km ESE Margaret River, 33°58′S, 115°07′E, Feb. 8–14, 1992, litter, marri forest (M. Peterson, WAM 99/613–616), 4♀; Meelup Reserve, Dunsborough, 33°36′S, 115°06′E, litter (C. Deeleman, CCD), 1♂, 1♀; Mount Barker, Lookout, 34°39′S, 117°39′E, Nov. 17, 1992, under granite rock (A. Longbottom, WAM 99/621), 1♀; Mount Barker, 16 Osborne Road, 34°38′S, 117°40′E, Nov. 18, 1994, on kitchen wall at night (A. Longbottom, WAM 99/602), 1♂; Mount Cooke, 32°25′S, 116°18′E, June 16–Sept. 19, 1991, pitfalls (M. Harvey, J. Waldock, WAM 99/610, 625), 2♀, July



Map 21. Records of *Trachycosmus sculptilis* Simon.



Figs. 293–296. *Trachycosmus allyn*, new species. **293.** Left male palp, ventral view. **294.** Same, retrolateral view. **295.** Epigynum, ventral view. **296.** Same, dorsal view.

31–Sept. 19, 1991, pitfall, Sept. 19–Nov. 28, 1991, pitfall (J. Waldock, C. Car, WAM 99/597, 627), 1♂, 1♀, Sept. 10, 1991, under rock (M. Harvey, J. Waldock, WAM 99/603), 1♀, Nov. 28, 1991–Feb. 25, 1992, pitfall (M. Harvey, J. Waldock, WAM 99/601, 623), 1♂, 1♀; Pemberton, 34°27′S, 116°02′E, 1971 (J. Springett, AMS KS35541, 35542, 35544, 35545), 2♂, 2♀; near Quininup, 29 km SSE Manjimup, 34°23′S, 116°14′E, July 13–16, 1980, karri litter (S., J. Peck, WAM 99/619), 1♀; Shedley Drive, Walpole-Nornalup National Park, 34°56′S, 116°46′E, June 22, 1980, fungi, bark litter (S., J. Peck, WAM 99/618), 1♀; Sinker Reef Road, Two Peoples Bay Nature Reserve, Albany, 34°58′S, 118°09′E, Nov. 14, 1998 (V. Ovtsharenko, AMNH), 1♀; Stirling Range Caravan Park, 34°19′S, 118°11′E, Dec. 16–20, 1996 (M. Harvey, J. Waldock, B. Main, WAM 99/620), 1♀; Talbot Road Reserve, 31°52′S, 116°03′E, Sept. 24–Nov. 18, 1993, pitfalls (J. Waldock, WAM 99/604–606), 2♂, 1♀; Warren National Park, Pemberton, 34°30′S, 115°50′E, July 12, 1980, litter, mossy karri bases (S., J. Peck, WAM 99/627), 1♀.

DISTRIBUTION: Widespread in Australia (map 21), although not yet known from the northwest.

***Trachycosmus allyn*, new species**

Figures 293–296; Map 22

TYPES: Female holotype and male allotype taken in pitfall traps set at an elevation of 770 m along Mount Allyn Road, 2.3 km N of Shellbrook Forest Road, Chichester State Forest, 31°52′S, 151°27′E, New South Wales (Feb. 4–Apr. 9, 1993; M. Gray, G. Cassis), deposited in AMS (KS404034).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This appears to be the northern sister species of *T. turramurra*, and the two species are quite similar, sharing a serrate embolus. Males of this species have a shorter embolus and a shorter retrolateral prong on the median apophysis (fig. 293); females have a deep, triangular epigynal atrium with the septum reduced to a narrow anterior ridge (fig. 295) and much wider median epigynal ducts (fig. 296).

MALE: Total length 4.4. Coloration as in *T. sculptilis* except posterior femora darkened laterally, posterior patellae only slightly darkened proximally. Legs spineless. Palpal femur with only slight ventral enlargement at distal end; retrolateral tibial ridge-shaped, bifid (fig. 294); tip of cymbium not greatly elongated, but forming functional conductor (fig. 293).

FEMALE: Total length 5.3. Coloration and legs as in male. Epigynum with deep, anteriorly narrowed atrium (fig. 295), epigynal ducts expanded, recurved anterolaterally (fig. 296).

OTHER MATERIAL EXAMINED: **New South Wales:** Allyn River Forest Road, 500 m S Mount Allyn Road, Chichester State Forest, 32°09′S, 151°28′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 385 m (M. Gray, G. Cassis, AMS KS40436), 3♂, 1♀; midway between Boorook Creek and Gilcurry Creek on Conlongan Road, 1 km N Borook Creek junction, 28°51′S, 152°11′E, Feb. 4–Apr. 9, 1993, pitfall (M. Gray, G. Cassis, AMS KS40431), 1♂; Bruxner Park, Coffs Harbour, 30°18′S, 153°08′E, June 25, 1967, litter Berlese (R. Taylor, ANIC), 1♀, Apr. 1–2, 1995, yellow pan trap (D. Bickle, AMS KS51719), 1♀; Bruxner Park Floral Reserve, 30°15′S, 153°06′E, May 31, 1993, rainforest litter (V. Lorimer, AMS KS45962), 1♀; Bulls Ground State Forest, near Wauchope, 31°33′S, 152°38′E, Feb. 1994 (A. York, AMS KS59453, 59454, 59465), 3♂, 1♀, Mar. 1996, litter (A. York, AMS KS59455, 59457, 59459–59461, 59464, 59466), 3♂, 5♀, Feb. 21–25, 1999, pitfall (A. York, AMS KS57641, 57645, 57646), 1♂, 2♀; bottom end, Cliffs Trail, ca. 2.8 km from Oxley Road, Styx River State Forest, 30°33′S, 152°21′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 1130 m (M. Gray, G. Cassis, AMS KS35364), 2♂; main N/S ridgeline along Colongon Road, 1 km NW Boorook Creek junction, Boorook State Forest, 28°50′S, 152°10′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 970 m (M. Gray, G. Cassis, AMS KS40432), 1♀; Cooperabung Range Road, ca. 1.4 km N Narang Road, Ballengarra State Forest, 31°11′S, 152°42′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 140 m (M. Gray, G. Cassis, AMS KS40443), 1♂; Cooperabung Range Road, ca. 4.5 km N Narang Road, Ballengarra State Forest, 31°11′S, 152°42′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 90 m (M. Gray, G. Cassis, AMS KS40442), 1♂; off Cunnawarra Trail, Styx River State Forest, 30°32′S, 152°20′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 1130 m (M. Gray, G. Cassis, AMS KS35366), 3♂; Daisy Patch Fire Trail, 1.9 km S Enfield Road, Enfield State Forest, 31°20′S, 151°54′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 1130 m (M. Gray, G. Cassis, AMS KS40437), 3♂; Dodds Fire Trail, 2 km from Enfield Road, Enfield State Forest, 31°23′S, 151°52′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 930 m (M. Gray, G. Cassis, AMS KS40438), 1♂; Dodds Fire Trail, ca. 3 km from Enfield Road, Enfield State Forest, 31°24′S, 151°52′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 910 m (M. Gray, G. Cassis, AMS KS40439), 1♂; Fifes Knob Road, 2 km from Fifes Fire Trail, Carrai State Forest, 30°54′S, 152°22′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 800 m (M. Gray, G. Cassis, AMS KS40440), 1♂, 1♀; Gerringong, 34°44′S, 150°50′E, Dec. 13, 1996, on rock in forest (G. Wishart, AMS KS49448), 1♀; Grey Gums Forest Road, 1.1 km from Doyles River Road, Bulga State Forest, 31°33′S, 152°14′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 620 m (M. Gray, G. Cassis, AMS KS40445), 1♂; Grey Gums Forest Road, 2.1 km from Doyles River Road, Bulga State Forest, 31°33′S, 152°14′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 560 m (M. Gray, G. Cassis, AMS KS40444), 1♂; Homewoods Road, 2.8 km W Knodingbul Road, Bulga State Forest, 31°37′S, 152°07′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 690 m (M. Gray, G. Cassis, AMS KS40447), 2♂; 600 m N Homewoods Road, 2.8 km W Knodingbul Road, Bulga State Forest, 31°37′S, 152°07′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 650 m (M. Gray, G. Cassis, AMS KS40446), 1♂; NE facing slope above Kunderang Station Creek, 30°48′S, 152°06′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 410 m (M. Gray, G. Cassis, AMS KS40441), 1♀; Lorne State Forest, near Taree, 31°35′S, 152°57′E, Oct. 29–Dec. 14, 1978, litter pitfall (D. Milledge, AMS KS15977), 1♀; junction, Mount Allyn Road and Allyn River Forest Road, Chichester State Forest, 32°08′S, 151°28′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 355 m (M. Gray, G. Cassis, AMS KS40435), 1♂; Mountain Road, 0.2 km S junction with Kunungra

Road, 32°08′S, 151°44′E, Feb. 4–Apr. 9, 1993, pitfall (M. Gray, G. Cassis, AMS KS40433), 1♂. **Queensland:** Binna Burra, Lamington National Park, 28°12′S, 153°11′E, Oct. 31, 1999 (R. Raven, D. Wilson, QMB S51309), 1♀; south summit, Mount Aberdeen, 20°12′S, 147°55′E, Dec. 6, 1999, rainforest, elev. 900 m (G. Monteith, D., I. Cook, QMB S40181), 3♀; NW Windsor Tableland, 16°13′S, 144°59′E, Nov. 23–24, 1977, open sclerophyll forest, elev. 1100 m (G. Monteith, D. Cook, C. Burwell, QMB S43882), 2♀, Nov. 24, 1977–Feb. 9, 1998, open forest pitfall, elev. 1180 m (G. Monteith, D. Cook, QMB S43911), 1♀.

DISTRIBUTION: Northeastern Queensland south to New South Wales (fig. 22).

Trachycosmus turramurra, new species

Figures 297–300; Map 23

TYPE: Female holotype from Turramurra, 33°44′S, 151°08′E, New South Wales (June 12, 1979; Williams), deposited in AMS (KS3059).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This appears to be the southern sister species of *T. allyn*, although they may not be completely allopatric. Males of this species have a longer embolus and a longer retrolateral prong on the median apophysis (fig. 297), as well as a pronounced distal rim on the ventral surface of the palpal femur; females have a shallow, triangular epigynal atrium, most of which is occupied by a wide septum (fig. 299) and much narrower median epigynal ducts (fig. 300).

MALE: Total length 5.3. Coloration as in *T. sculptilis* except no leg segments darkened. Legs spineless. Palpal femur with distinct ventral enlargement at distal end; retrolateral tibial apophysis expanded, ridge-shaped (fig. 298); embolus relatively long, extending far proximal of palpal bulb (fig. 297).

FEMALE: Total length 6.2. Coloration as in male. Legs spineless. Epigynum with narrow, anteriorly narrowed atrium mostly filled by median septum that grades into atrium posteriorly, in advance of two procurved posterior margins (fig. 299); median epigynal ducts narrow (fig. 300).

OTHER MATERIAL EXAMINED: **New South Wales:** 4 mi N Eden, 37°04′S, 149°54′E, Dec. 15, 1962, elev. 150 m (E. Ross, D. Cavagnaro, CAS), 1♀; Galston Gorge, 33°44′S, 151°05′E, Feb. 18, 1997 (AMS KS51721), 1♀; Highway 54, 32 km NW Batemans Bay, 35°33′S, 150°00′E, Mar. 16, 1999 (J. Tarnawski, S. Lassau, AMS KS63866, 63871), 1♂, 2♀; Hornsby, Waitara Creek, 33°42′S, 151°06′E, Oct. 8, 2000, under rock (G. Milledge, AMS KS68317), 1♀; Mount Colah, 33°41′S, 151°07′E, Aug. 28, 1988, on bamboo (M. Gray, AMS KS19446), 1♀; Nerrigundah Mountain Road, Dampier State Forest, 36°08′S, 149°58′E, Mar. 10, 1999 (R. Harris, H. Smith, AMS KS67955), 1♀; North Head Road, Murramarang National Park, 35°42′S, 150°17′E, Mar. 17, 1999 (L. Wilkie, R. Harris, H. Smith, AMS KS63872), 1♀; Somersby, near dam, 33°22′S, 151°17′E, Jan. 19, 1982 (M. Gray, AMS KS8827), 1♀; Woodford, Blue Mountains, 33°44′S, 150°29′E, July 11, 1997, leaf litter (B. Lillemets, AMS KS55291), 1♀. **Victoria:** SW Arm Road, 11 km NW Mallacoota, Croajingalong National Park, 37°31′S, 149°41′E, Feb. 10, 1993, Berlese, leaf and log litter, banksia/eucalypt woodland, elev. 20 m (A. Newton, M. Thayer, FMNH), 1♂; Grampian Mountains, 37°24′S, 142°15′E, Nov. 1997 (E. Ross, CAS), 1♀; Jones Creek Track, Lind National Park, 37°29′S, 149°35′E, Apr. 15, 1978 (M. Gray, AMS KS45620), 2♂; Wingan River Inlet, 37°38′S, 149°29′E, May 23, 1978, Berlese, fungi and eucalypt bark (S., J. Peck, AMNH), 1♀.

DISTRIBUTION: Known only from New South Wales and Victoria (map 23).

Trachycosmus cockatoo, new species

Figures 301–304; Map 22

TYPE: Female holotype from Cockatoo, 37°57′S, 145°29′E, Victoria (Apr. 9, 1973; M. Gray), deposited in AMS (KS55288).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *T. allyn* and *T. turramurra* but have a broad rather than sharp retrolateral tip on the median apophysis (fig. 301); females have a wide median septum bearing, along the midline, a posteriorly originating ridge (fig. 303).

MALE: Total length 5.3. Coloration as in *T.*

sculptilis except posterior femora and tibiae darkened laterally. Legs spineless. Palpal femur with only slight ventral enlargement at distal end; retrolateral tibial apophysis expanded, ridge-shaped (fig. 302); embolus relatively long, extending far proximal of palpal bulb, median apophysis with rounded retrolateral tip (fig. 301).

FEMALE: Total length 5.7. Coloration as in male. Legs spineless. Epigynum relatively flat, with wide median septum bearing, along midline, posteriorly originating ridge (fig. 303); median epigynal ducts relatively wide, recurved (fig. 304).

OTHER MATERIAL EXAMINED: **Victoria:** Airey's Inlet, 38°28′S, 144°96′E, May 13–14, 1992, under rock (M. Harvey, M. Blosfelds, WAM 99/630), 1♀, under eucalypt bark (M. Harvey, M. Blosfelds, WAM 99/631), 1♀; Cobon North Coupe, 37°23′S, 148°56′E, Feb. 16–22, 1992, pitfalls (R. Coy, NMV K3615), 1♀; Cobon South Coupe, 37°25′S, 148°56′E, Feb. 19–26, 1992, pitfalls (R. Coy, NMV K3591), 1♂, 1♀; Kinglake, 37°31′S, 145°21′E, Aug. 15, 1972 (V. Salanitri, QMB S26772), 1♀; Lower Darwin, site not located, Nov. 1925 (P. Hill, NMV K3743), 1♀; Macclesfield district, 37°53′S, 145°29′E, Aug. 1904 (E. J., NMV K3742, 3744), 2♀; Sardine Coupe, 37°25′S, 148°31′E, Feb. 18–25, 1992, pitfalls (R. Coy, NMV K3576, 3581), 2♂; Waygara State Forest, 20 km N Orbost in Buchanan Road, 37°42′S, 148°19′E, Mar. 25–Apr. 14, 1978, open stringy bark forest pitfall (M. Gray, AMS KS45225), 1♂.

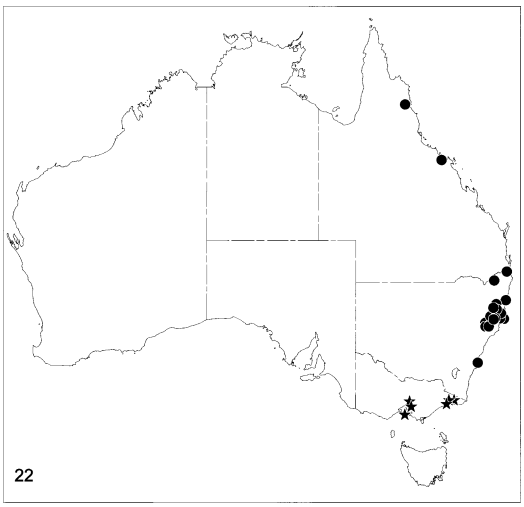
DISTRIBUTION: Known only from Victoria (map 22).

Trachytrema Simon

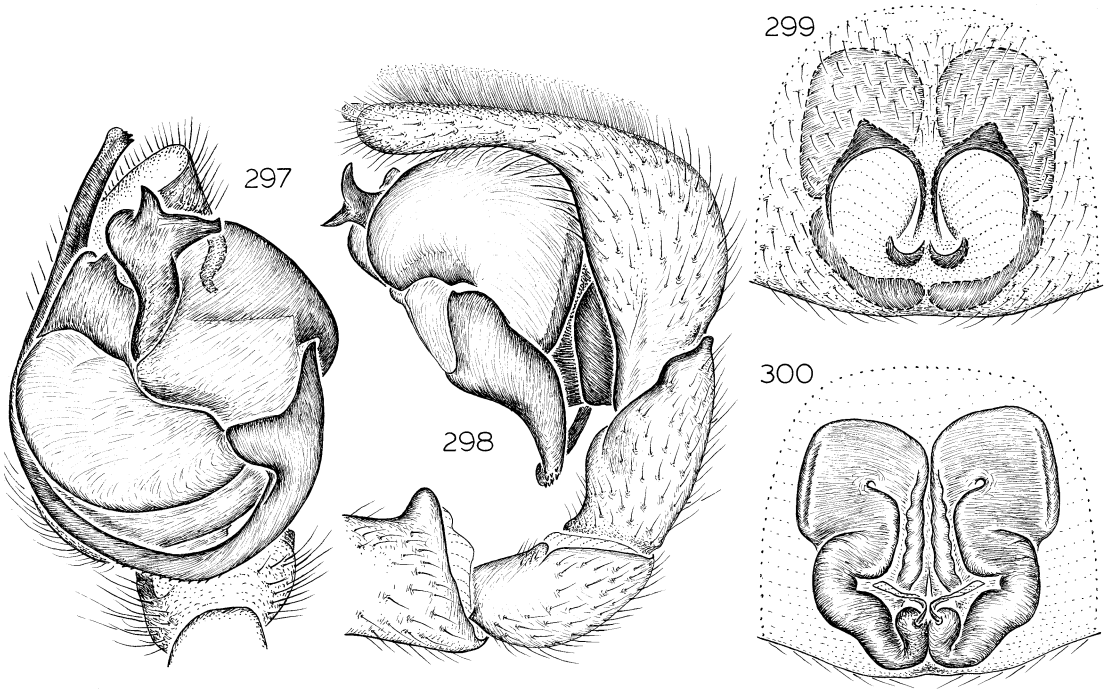
Trachytrema Simon, 1909: 157 (type species by original designation *Trachytrema castaneum* Simon).

DIAGNOSIS: As first hypothesized by Simon (1909), this appears to be a relative of *Trachycosmus*, sharing with it a greatly elongated embolus. Males have a paracymbium (a distinct hook at the basal retrolateral edge of the cymbium, fig. 312) that is absent in *Trachycosmus*, and lack the distally elongated cymbial tip synapomorphic for that genus; females have smaller, less squared epigyna and retain some (albeit short and weak) leg spines.

DESCRIPTION: Medium-sized spiders, total length of males 5–6, of females 6–7. Carapace flattened, without tubercles, with rebordered lateral and posterior margins, setae long, dark, confined to ocular area and clypeus; thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove scarcely detectable. Eight subequal eyes in two rows; anterior medians circular, light, posterior medians irregularly rectangular, lenses flattened, canoe-shaped tapetum apparently present, laterals oval; from above, anterior eye row procurved, posterior row recurved, from front, both rows procurved; anterior medians separated by more than their diameter, farther from anterior laterals; posterior medians separated by about four times their diameter, farther from posterior laterals; anterior and posterior laterals separated by more than twice their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum wide, triangular, unipartite, entire, accompanied by second, elongated, posterior chilum (narrow, T-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with se-



Map 22. Records of *Trachycosmus allyn*, new species (circles) and *T. cockatoo*, new species (stars).



Figs. 297–300. *Trachycosmus turramurra*, new species. **297.** Left male palp, ventral view. **298.** Same, retrolateral view. **299.** Epigynum, ventral view. **300.** Same, dorsal view.

ries of long setae originating in line along base of fang, those nearest base of fang bent; promargin with four subequally spaced and sized teeth, retromargin with two widely separated teeth; presumptive cheliceral gland openings proximal to base of proximal tooth. Labium broadly triangular, flat, abruptly narrowed at about one-fourth of length, anterior margin slightly invaginated near midline. Endites long, divergent, with oblique depression restricted to their median edge; serrula present (*T. garnet*, fig. 288) or absent (*T. castaneum*, fig. 154), sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, detached triangular sclerites between coxae; surface smooth, with few long setae, posterior margin not reborderered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and strong, inverted y-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with sparse, erect setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers not ridged; colulus represented only by scattered setae clustered near tip of projecting area of sclerotized cuticle situated posterior of wide posterior spiracle; males apparently with scattered short epiandrous spigots. Six spinnerets (figs. 305–310), anterior laterals short, conical, with posterior surface flattened, separated by about their diameter at base, with two articles, distal article apparently with two major ampullate gland spigots and many small, unmodified piriform gland spigots; posterior medians apparently with several aciniform gland spigots and one larger minor ampullate gland spigot, those of males triangular, those of females bipartite,

enlarged posterior portion with 5–7 enlarged cylindrical gland spigots in two parallel rows (inner row of 2–4, outer row of three); posterior laterals with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs slightly laterigrade, leg formula 4123, with few setae and even fewer, weak spines; coxae and trochanters without dorsal tubercles, fourth trochanters slightly enlarged, elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched; metatarsal and tarsal scopula very weak; posterior metatarsi without distal preening brushes; tarsi with two long claws bearing single denticle or smooth; strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur without dorsal spines, distal segments with weak but long spines; female palpal tarsus with long claw, smooth or with few denticles, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femur IV d1-0-0; tibiae: III v1p-1p-1p; IV v1p-2-2; metatarsi: I–III v1p-0-0; IV p0-0-1p, v2-0-0.

Male palpal tibia with retrolateral apophysis; retrolateral basal corner of cymbium produced into distinct hook (paracymbium); embolus originating on dorsal surface of bulb, only tip of embolus and conductor protruding onto ventral surface of bulb, median apophysis rounded, terminal apophysis elongated. Epigynum with central, excavated atrium.

KEY TO SPECIES OF *TRACHYTREMA*

1. Median apophysis relatively small (fig. 311); epigynal atrium relatively narrow (fig. 313); Western Australia . . . . . *castaneum*
– Median apophysis relatively large (fig. 315); epigynal atrium relatively wide (fig. 317); eastern Australia . . . . . *garnet*

Trachytrema castaneum Simon

Figures 154, 311–314; Map 24

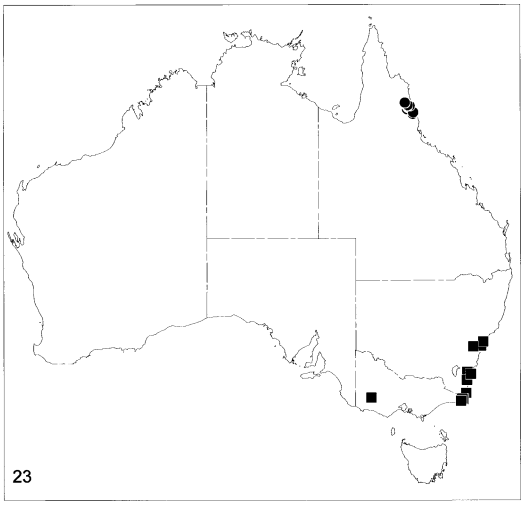
Trachytrema castaneum Simon, 1909: 157 (female holotype from Day Dawn, Western Australia, in ZMB, examined).

DIAGNOSIS: Males can be recognized by the short median apophysis (fig. 311), females by the narrow, deeply excavated, rectangular epigynal atrium (fig. 313).

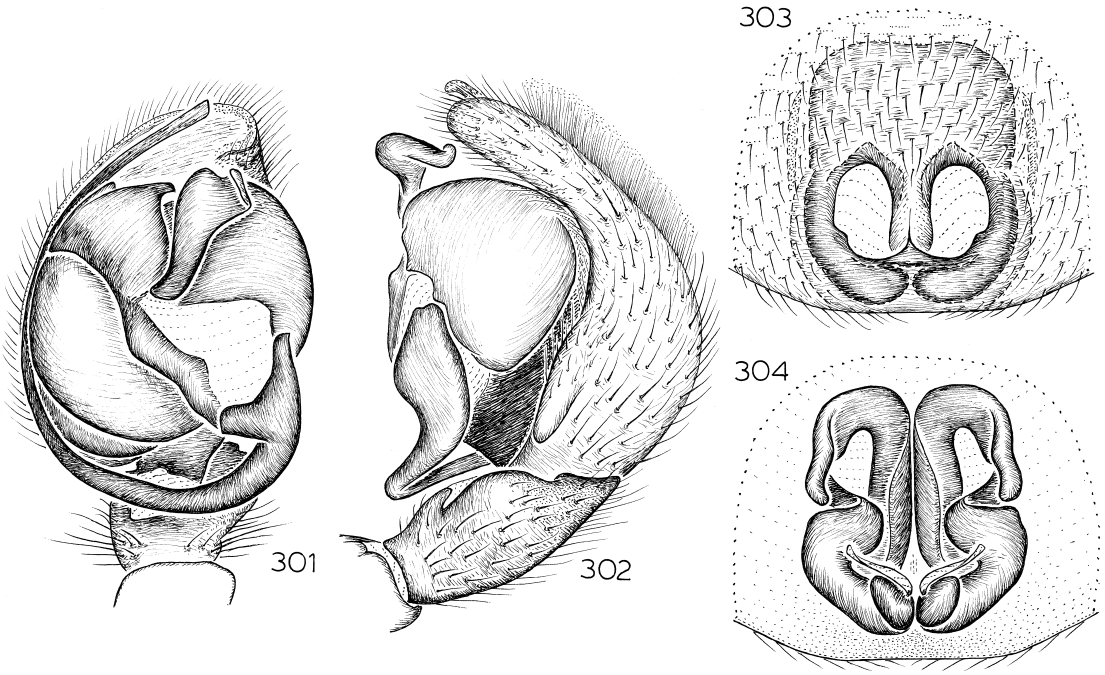
MALE: Total length 5.3. Carapace reddish brown, darkened along lateral margins; abdomen dark gray with longitudinal white hairline markings; legs light brown, distal segments darkest. Leg spination: metatarsus IV v2-1p-0. Retrolateral tibial apophysis short (fig. 312); cymbium with small, hook-shaped process basally at retrolateral corner, median apophysis relatively small, short, embolus restricted (in ventral view) to prolateral side of bulb (fig. 311).

FEMALE: Total length 6.9. Coloration as in male. Leg spination: tibia IV v2-2-2. Epigynum with arched anterior margin situated far from narrow, rectangular, deeply excavated atrium (fig. 313); posterior ducts narrow, irregularly twisted (fig. 314).

MATERIAL EXAMINED: **Western Australia:**



Map 23. Records of *Trachycosmus turramurra*, new species (squares) and *Desognaphosa spurgeon*, new species (circles).



Figs. 301–304. *Trachycosmus cockatoo*, new species. **301.** Left male palp, ventral view. **302.** Same, retrolateral view. **303.** Epigynum, ventral view. **304.** Same, dorsal view.

Boranup, 34°12′S, 115°02′E, Sept. 10, 1965 (G. Riley, WAM 84/657), 1♂, Sept. 11, 1969 (G. Riley, WAM 84/659), 1♀; Capel, 33°33′S, 115°34′E, Nov. 26, 1990, on veranda floor (A. Longbottom, WAM 99/573), 1♀; Collie, 33°22′S, 116°09′E, Apr. 12, 1979 (WAM 99/574), 1♂; Day Dawn, 27°29′S, 117°51′E, July 9–10, 1905 (W. Michaelsen, R. Hartmeyer, ZMB 28702), 1♀ (holotype); Dog Pool on Shannon River, 34°46′S, 116°22′E, Apr. 27–30, 1990, under bark of *Eucalyptus diversicolor* (M. Harvey, J. Waldock, WAM 93/143), 1♀; Glenbourne farm, Spring Road, S Gracetown, 33°53′S, 115°00′E, Mar. 29–31, 1997, dry pitfalls (L. Marsh, WAM 99/575, 577), 2♀, Dec. 27–29, 1997, dry pitfalls (WAM 99/571, 572, 576, 578), 4♀; Manjimup, 34°15′S, 116°09′E, Nov. 9, 1976, pitfall (J. Majer, WAM 93/104), 1♀; Margaret River area, Burnside, 2–3 km N Walcliffe Road, 33°56′S, 115°01′E, Jan. 26–Mar. 4, 1979, litter pitfalls (M. Gray, AMS KS15113), 3♂.

DISTRIBUTION: Known only from Western Australia (map 24).

Trachytrema garnet, new species
Figures 288, 305–310, 315–318; Map 24

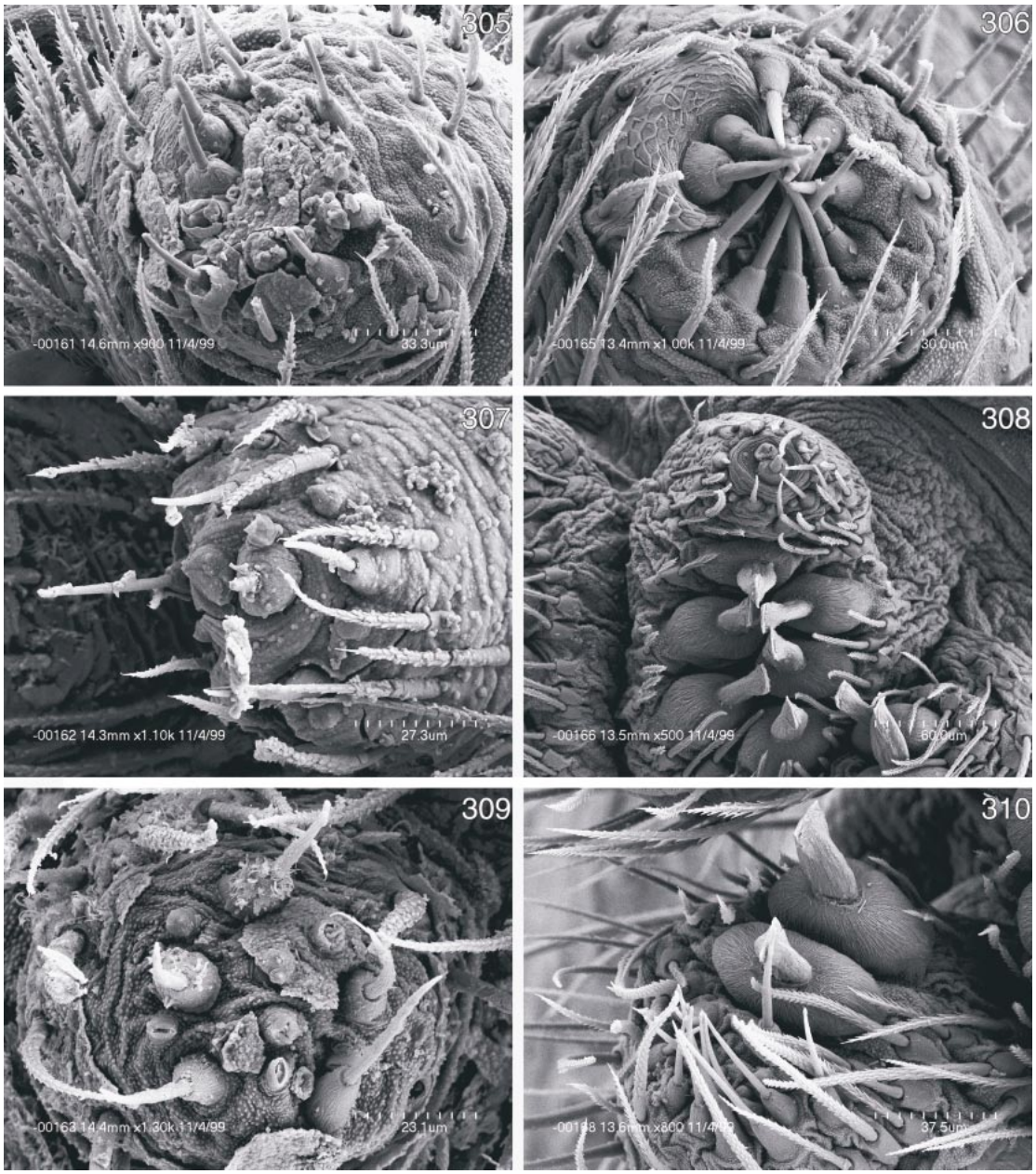
TYPES: Male holotype and female allotype from Forty Mile Scrub, SW Mount Garnet, 18°05′S, 144°51′E, Queensland (Apr. 10–13, 1978; V. Davies, R. Raven), deposited in QMB (26695).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

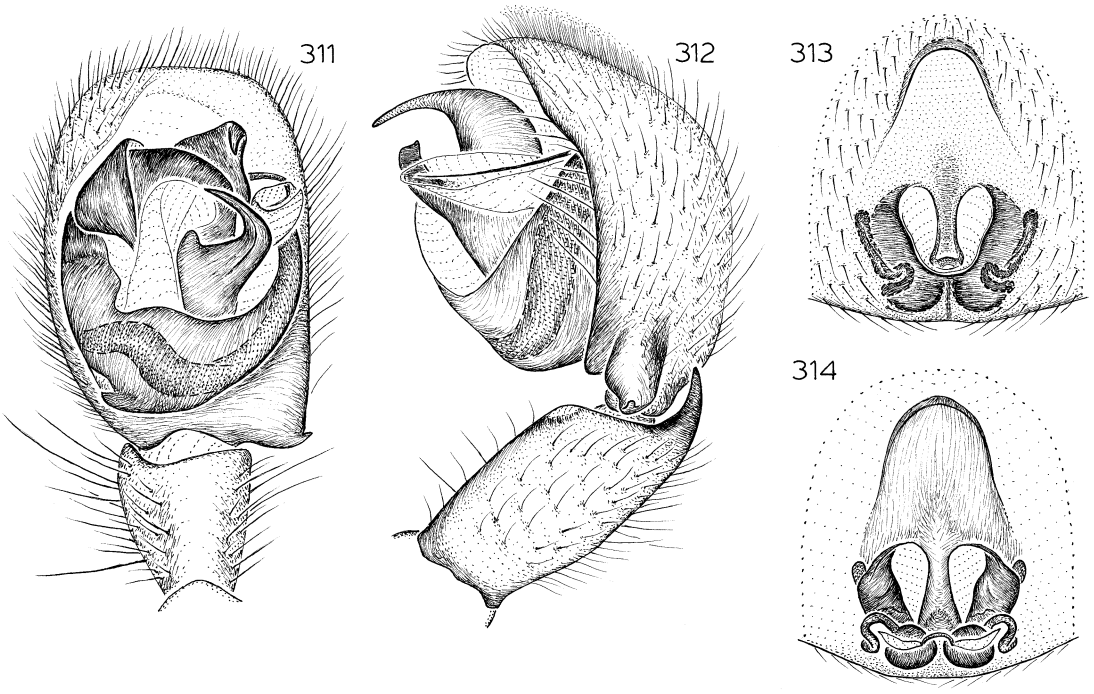
DIAGNOSIS: Males can be recognized by the long, coiled median apophysis (fig. 315), females by the large epigynal atrium (fig. 317).

MALE: Total length 5.4. Coloration as in *T. capensis* except metatarsi and tarsi lighter than more proximal segments, especially on posterior legs. Leg spination: tibiae III, IV v1p-1p-2; metatarsi: III p0-0-1, v2-0-1p; IV v2-0-1p. Retrolateral tibial apophysis sinuous (fig. 316); median apophysis greatly enlarged, produced into long prong coiling to retrolateral side of bulb (fig. 315).

FEMALE: Total length 6.8. Coloration as in male. Leg spination: tibiae: III v1p-1p-2; IV v1p-1p-2, r0-0-1; metatarsi: III v2-0-1p; IV



Figs. 305–310. *Trachytrema garnet*, new species, spinnerets of male (left) and female (right), distal views. **305, 306.** Anterior lateral spinnerets. **307, 308.** Posterior median spinnerets. **309, 310.** Posterior lateral spinnerets.



Figs. 311–314. *Trachytrema castaneum* Simon. **311.** Left male palp, ventral view. **312.** Same, retrolateral view. **313.** Epigynum, ventral view. **314.** Same, dorsal view.

v2-0-1p, r1-0-0. Epigynum with long atrium (fig. 317); distinct pair of small bulbs at about half of spermathecal length (fig. 318).

OTHER MATERIAL EXAMINED: **New South Wales:** Killarney Gap, Mount Kaputar National Park, 30°15′S, 150°15′E, June 27, 1991, sieved litter, open forest (D. Black, WAS 99/579), 1♀; 1.85–3.45 km from homestead, Kunderang Trail, 30°48′S, 152°07′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 210–280 m (M. Gray, G. Cassis, AMS KS40242, 40248), 4♂; 1.25 km from homestead, Kunderang Trail, 30°49′S, 152°08′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 210 m (M. Gray, G. Cassis, AMS KS55317, 55318), 2♀; Narrabri, ''Sawn Rocks,'' 30°20′S, 149°47′E, Aug. 21, 1992, in soil under rocks (A. Longbottom, WAM 93/105), 1♀. **Queensland:** The Caves, 23°11′S, 150°28′E, Mar. 2, 1991, pitfall, open forest (D. Wallace, R. Raven, K. Williams, QMB S35351), 1♀; 0.5 km E Coalstoun Township, 25°37′S, 151°54′E, Jan. 28–June 2, 1999, pitfall, vine scrub, elev. 240 m (G. Monteith, G. Thompson, QMB S51123), 3♂; Eight Mile Creek, 18°41′S, 144°43′E, Nov. 6, 1991–July 26, 1992, pitfall, dry eucalypt woodland (P. Lawless, R. Raven, M. Shaw, QMB S21842, 21859, 21866, 21868, 21870, 24798, 28737), 6♂, 1♀, July 26–Dec. 1, 1992, pitfall, dry eucalypt woodland (R. Raven, P., E. Lawless, M. Shaw, QMB S21835), 3♂, 1♀; Eurimbula, SE Gladstone, 24°11′S, 151°50′E, Mar. 1975, pitfall, rainforest at sea level (C. Horseman, AMS KS6702), 1♀; Forty Mile Scrub, SW Mount Garnet, 18°05′S, 144°51′E, Apr. 10–13, 1978, campsite in open forest, under bark (V. Davies, R. Raven, QMB 26695), 4♂, 2♀; Mount Bauple, via Maryborough, 25°47′S, 152°34′E, Jan. 16, 1989, in house (M. Zelow, QMB S10513), 1♀, Oct. 29, 1990, rainforest (R. Morrow, QMB S17710), 1♂; Olsen's Caverns, 23°10′S, 150°28′E, Apr. 21–July 18, 1990, pitfalls, open forest (D. Wallace, R. Raven, QMB S40764), 2♀; Palm Tree Creek, ca. 18 km N Taroom, 25°39′S, 149°48′E, June 18, 1996, night collecting, palm debris (P. Lawless, H. Janetzki, QMB S36549), 2♀; Taroom District, Boggomoss, 25°26′S,

150°02′E, Nov. 12, 1996–Jan. 1997, pitfall (P. Lawless, QMB S36726), 1♂; Taroom District, Boggomoss, 25°27′S, 150°02′E, June 17, 1996, under logs, in litter (P. Lawless, QMB S36582), 1♀, Nov. 11, 1996–Jan. 1997, pitfall (P. Lawless, QMB S36657, 36667), 1♂, 1♀; Taroom District, Boggomoss, 25°28′S, 150°02′E, Sept. 13–Nov. 11, 1996, pitfall (P. Lawless, QMB S37471), 1♀, Nov. 11, 1996–Jan. 1997, pitfall (P. Lawless, QMB S37147), 2♀; Taroom District, Mount Rose Station, Boggomoss, 25°27′S, 150°01′E, June 17, 1996 (G. Ingram, P. Lawless, QMB S36529, 36568), 1♂, 1♀; Taroom District, Nathan Gorge, 25°27′S, 150°08′E, June 15–Sept. 12, 1996, pitfall, riverine forest (P. Lawless, QMB S37259, 37267), 1♂, 1♀, Nov. 13, 1996–Jan. 1997, pitfall (P. Lawless, QMB S36611, 37113), 1♂, 1♀; Tiaro, 25°44′S, 152°35′E, May 1994 (R. Morrow, QMB S21973), 1♂; Undara, 18°12′S, 144°34′E, July 28, 1995 (J. Thompson, M. Moulds, AMS KS44841), 1♀.

DISTRIBUTION: Northeastern Queensland to northeastern New South Wales (map 24).

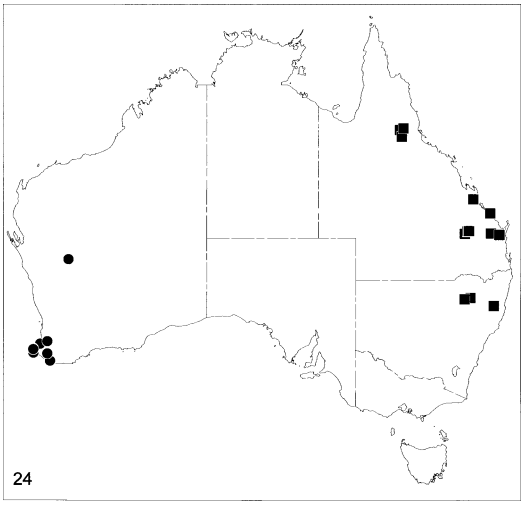
Trachyspina, new genus

TYPE SPECIES: *Trachyspina capensis*, new species.

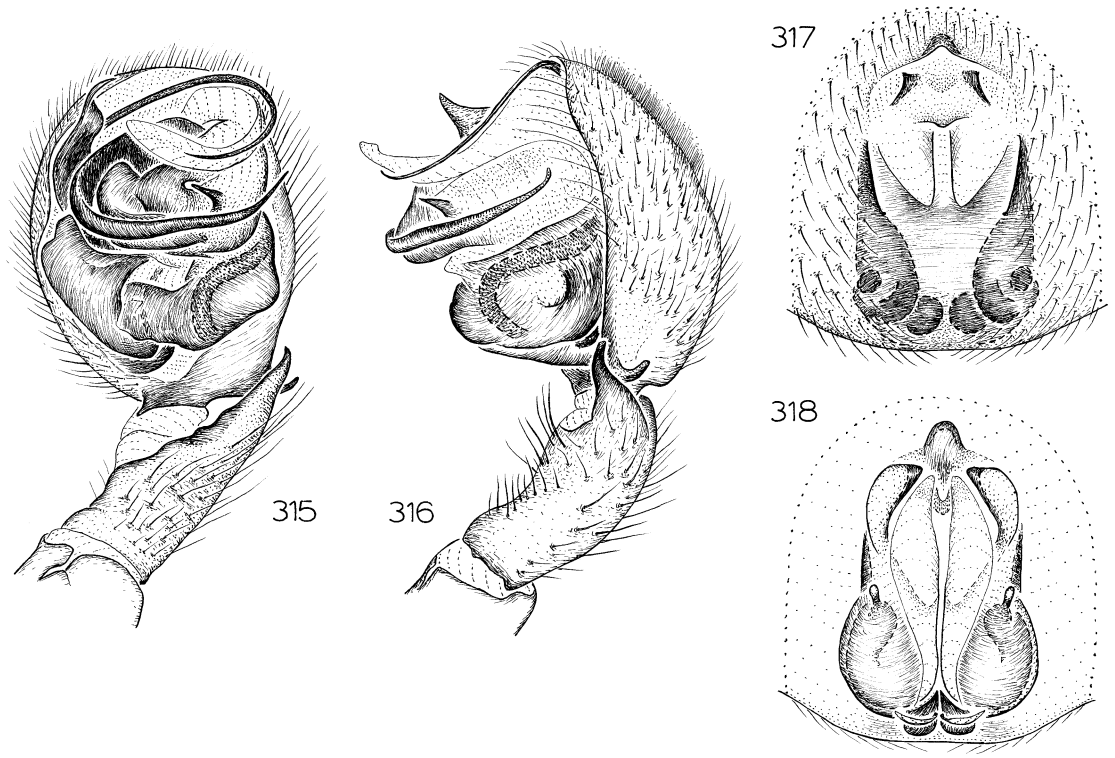
ETYMOLOGY: The generic name is an arbitrary combination of letters, considered feminine in gender.

DIAGNOSIS: The shared possession of a pseudo-paracymbial hook on the male palp suggests that this is the sister group of *Trachytrema*; in this group of species, however, the body is lighter in color (with a pale gray abdomen), the carapace, abdomen and legs are sparsely covered with short, thick, club setae, the anterior tibiae have leg spines, and all the legs spines are distinctively short.

DESCRIPTION: Medium-sized spiders, total length of males 6–8, of females 6–9. Carapace flattened, with numerous tubercles, with rebordered lateral and posterior margins, sparsely coated with short, thick, club setae; thoracic groove long, Y-shaped, wider anteriorly than posteriorly, greatly deepened anteriorly; cephalic groove distinct. Eight subequal eyes in two rows; anterior medians circular, light, posterior medians irregularly rectangular, lenses only slightly flattened, canoe-shaped tapetum apparently present, laterals oval; from above, anterior eye row procurved, posterior row recurved, from front, both rows procurved; anterior medians separated by about twice their diameter, farther from anterior laterals; posterior medians separated by about four times their diameter, farther from posterior laterals; anterior and posterior laterals separated by more than twice their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with few stiff setae; chilum extremely wide, extending almost full width of carapace front, triangular, unipartite, with slight ventral invagination at midline, accompanied by second, elongated, posterior chilum (narrow, T-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with four or five subequally spaced and sized teeth, retromargin with two widely separated teeth; presumptive cheliceral gland openings proximal to base of proximal tooth. Labium broadly triangular, posterior half deeply depressed, abruptly narrowed at anterior edge of depressed portion, anterior margin slightly invaginated near midline. En-



Map 24. Records of *Trachytrema castaneum* Simon (circles) and *T. garnet*, new species (squares).



Figs. 315–318. *Trachytrema garnet*, new species. **315.** Left male palp, ventral view. **316.** Same, retrolateral view. **317.** Epigynum, ventral view. **318.** Same, dorsal view.

dites long, divergent, with oblique depression restricted to their median edge; serrula present, sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, detached triangular sclerites between coxae; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted y-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle sparsely coated with short, thick, club setae and fewer normal setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides, posterior rim of booklung openings sclerotized but without distinct postepigastric sclerites, booklung covers not ridged; colulus represented only by scattered setae clustered near tip of projecting area of sclerotized cuticle situated posterior of wide posterior spiracle; males apparently with scattered short epiandrous spigots. Anterior lateral spinnerets short, conical, with posterior surface flattened, separated by about their diameter at base, with two articles, distal article apparently with two major ampullate gland spigots and many small, unmodified piriform gland spigots; posterior median spinnerets apparently with few aciniform gland spigots and one enlarged minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with six or seven enlarged cylindrical gland spigots in two parallel rows, inner row with two or three, outer row of four; posterior lateral spinnerets with

two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs slightly laterigrade, leg formula 1423, with scattered club setae smaller than those on body; coxae and trochanters without dorsal tubercles, fourth trochanters slightly enlarged, elongated; anterior coxae without protuberant posterolateral corners; trochanters not notched; scopula very weak on all legs; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws; strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with weak dorsal spines at apex, distal segments with weak but long spines; female palpal tarsus with long, smooth claw, without ventral scopula. Leg spines all short barbs; typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: III d0-0-1; IV d1-0-0; tibiae: I v2-4-0; II v2-4-1p; III v1p-1p-1p; IV v1p-1p-2; metatarsi: I v2-2-2; II v2-4-2; III, IV v2-2-0.

Male palpal tibia with retrolateral apophysis reduced to low ridge; retrolateral basal corner of cymbium produced into distinct hook (paracymbium); embolus originating on dorsal surface of bulb, only tip of embolus and conductor protruding onto ventral surface of bulb, median apophysis rounded, terminal apophysis elongated. Epigynum with central, excavated atrium, sometimes with scape.

KEY TO SPECIES OF *TRACHYSPINA*

1. Males (those of *goongarrie*, *madura*, *illamurta*, *olary*, and *chillimookoo* unknown) 2
– Females 3
2. Base of median apophysis relatively wide (fig. 319) . . . . . *capensis*
– Base of median apophysis relatively narrow (fig. 323) . . . . . *mundaring*
3. Epigynum with long scape (fig. 321) . . . . . *capensis*
– Epigynum without scape 4
4. Epigynal atrium with m-shaped posterior margin (fig. 333); anterior epigynal ducts not enlarged (fig. 334) . . . . . *chillimookoo*
– Epigynal atrium with transverse or v-shaped posterior margin; anterior epigynal ducts enlarged 5
5. Epigynal atrium with v-shaped posterior margin (fig. 331) . . . . . *olary*
– Epigynal atrium with transverse posterior margin 6
6. Epigynal atrium relatively long (figs. 325, 329) 7
– Epigynal atrium relatively short (figs. 201, 327) 8
7. Anterior epigynal ducts enlarged into bulbs (fig. 330) . . . . . *illamurta*
– Anterior epigynal ducts not enlarged (fig. 326) . . . . . *mundaring*
8. Epigynal atrium very small (fig. 327), anterior epigynal ducts greatly enlarged (fig. 328) . . . . . *madura*
– Epigynal atrium larger (fig. 201), anterior epigynal ducts smaller (fig. 202) . . . . . *goongarrie*

Trachyspina capensis, new species

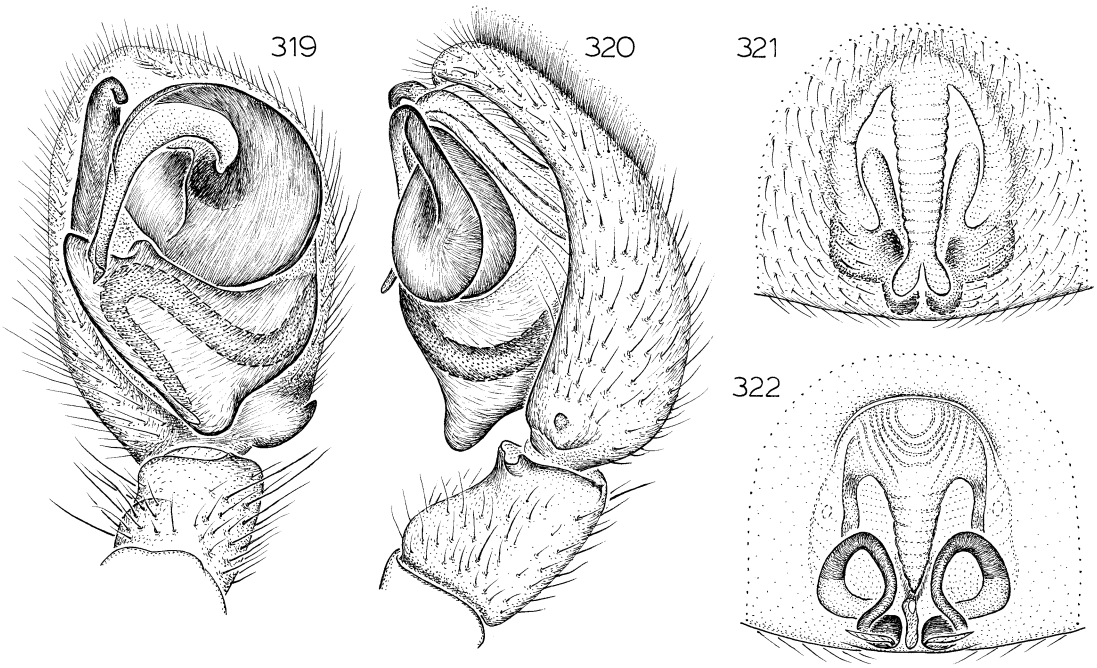
Figures 319–322; Map 25

TYPE: Female holotype from cave C-15, Cape Range, 22°13′S, 113°59′E, Western Australia (June 28, 1989; M. Harvey), deposited in WAM (90/500).

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Males have a wider median apophysis (fig. 319) than do those of *T. mundaring* (the only other species for which males are known); females have a distinctive, long epigynal scape (fig. 321).

MALE: Total length 7.1. Carapace light orange, darkest anteriorly, lightest along lateral margins; abdomen pale gray; legs yellow, anterior pair darkest. Leg spination: femora: I d0-0-1, p0-0-1; IV d1-0-1; tibiae: I v2-4-1p; II v1p-3-1p; IV v1p-1p-1p; metatarsi: II v2-2-2; III, IV v2-1p-0. Retrolateral tibial apophysis almost obsolete, slight denticle at dorsal edge of ridge (fig. 320); median apophysis almost circular, with long ventral and longer dorsal prongs completely obscur-



Figs. 319–322. *Trachyspina capensis*, new species. **319.** Left male palp, ventral view. **320.** Same, retrolateral view. **321.** Epigynum, ventral view. **322.** Same, dorsal view.

ing embolus and conductor in ventral view (fig. 319).

FEMALE: Total length 8.3. Coloration as in male. Leg spination: femora: I d0-0-1, p0-0-1; IV d1-0-1; tibiae: I v2-4-1p; II v1p-3-1p; metatarsi: II v2-2-2. Epigynum with long, posteriorly bifid scape (fig. 321); ducts restricted to posterior half of epigynum (fig. 322).

OTHER MATERIAL EXAMINED: **Western Australia:** cave C-15, Cape Range, 22°13′S, 113°59′E, June 28, 1989 (M. Harvey, WAM 90/501), 1♀; cave C-27, Cape Range, Kabura Well, 21°56′S, 114°07′E, May 17, 1995, under rock (B. Vine, WAM 99/582), 1♂; outside cave C-118, Cape Range, 22°09′S, 113°59′E, Aug. 12, 1989, pitfall (B. Jones, WAM 99/580), 1♂; site TL-4, NW Cape Peninsula, 22°06′S, 114°00′E, May 17–June 3, 1990, pitfall (J. Waldock, WAM 99/583, 584), 2♂; site TL-5, NW Cape Peninsula, 22°06′S, 114°00′E, May 17–June 3, 1990, pitfall (J. Waldock, WAM 99/581), 1♂; Kennedy Range National Park, 24°33′S, 114°58′E, Jan. 14–May 29, 1995, pitfall (P. West, WAM 99/585), 1♂; Kennedy Range National Park, 24°34′S, 114°57′E, May 29–Aug. 28, 1995, pitfall (N. Hall, WAM 99/586), 1♂.

DISTRIBUTION: Known only from the Cape and Kennedy Ranges, Western Australia (map 25).

Trachyspina mundaring, new species

Figures 323–326; Map 26

TYPE: Female holotype from Mundaring, 31°54′S, 116°10′E, Western Australia (J. Springett; 1971), deposited in AMS (KS35543).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a narrower median apophysis, with a broader tip (fig. 323), than do those of *T. capensis*; females have a pair of paramedian protrusions in the transversely oriented epigynal atrium (fig. 325).

MALE: Total length 6.6. Coloration as in *T. capensis* except abdomen pale white. Leg spination: femora: I d0-0-1, p0-0-1; IV d1-0-0; tibiae I v2-4-2; metatarsi: II v2-2-2; III, IV v2-1p-0. Retrolateral tibial apophysis re-

duced to ridge (fig. 324); median apophysis horseshoe-shaped, with wide tip; conductor (but not embolus) visible in ventral view (fig. 323).

FEMALE: Total length 6.7. Coloration as in male. Leg spination: femora: I d0-0-1, p0-0-1; IV d1-0-1; tibiae: I v1p-4-0; II v2-3-0; III, IV v1p-1p-0; metatarsi: II v2-2-0; III v2-0-0; IV v1p-0-0. Epigynal atrium transverse, wider posteriorly than anteriorly, with pair of paramedian protuberances (fig. 325); posterior ducts coiling under themselves (fig. 326).

OTHER MATERIAL EXAMINED: **Western Australia:** Barlee Range Nature Reserve, 23°06′S, 116°00′E, June 19–22, 1994, dry pitfall (P., G. Kendrick, WAM 94/1543), 1♂; Bush Bay, 25°05′S, 113°43′E, Sept. 30, 1994–Jan. 16, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/587), 1♀; Darlington, 31°55′S, 116°04′E, Aug. 1966 (G. Lowe, WAM 99/590), 1♀, 1977 (G. Lowe, WAM 87/1139), 1♀; McLelland's property, 10 km NW Kellerberrin, 31°38′S, 117°43′E, Nov. 24, 1987 (G. Smith, WAM 99/589), 1♀; Ryan's property, c. 8 km E Durokoppin Field Station, 31°23′S, 117°44′E, Jan. 30, 1987, pitfall (G. Smith, WAM 99/588), 1♀.

DISTRIBUTION: Known only from Western Australia (map 26).

Trachyspina goongarrie, new species

Figures 201, 202; Map 25

TYPE: Female holotype taken in dry pitfall trap at Goongarrie Station, 30°01′S, 121°02′E, Western Australia (May 1–5, 1996; P. West), deposited in WAM (99/591).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have a heart-shaped epigynal atrium (fig. 201) and large extensions on the anterior epigynal ducts that extend anterior of the atrial margin (fig. 202).

MALE: Unknown.

FEMALE: Total length 6.0. Coloration as in *T. mundaring*. Leg spination: femora: I d0-0-1, p0-0-1; II d0-0-1; IV d1-0-1; tibiae: I v2-4-2; II v2-4-0; III, IV v1p-1p-0; metatarsi: II v2-2-2; III v1p-0-0; IV 2-1p-0. Epigynal atrium wider anteriorly than posteriorly, with triangular septum (fig. 201); ducts enlarged anteriorly, extending anterior of anterior atrial margin (fig. 202).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in south-central Western Australia (map 25).

Trachyspina madura, new species

Figures 327, 328; Map 25

TYPE: Female holotype taken under rock at Madura Pass, 31°55′S, 127°00′E, Western Australia (Sept. 7, 1985; M. Harvey, T. Doeg), deposited in WAM (99/592).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have the smallest epigynal atrium of any species in the genus (fig. 327), and enlarged anterior ducts that do not extend anterior of the atrial margin (fig. 328).

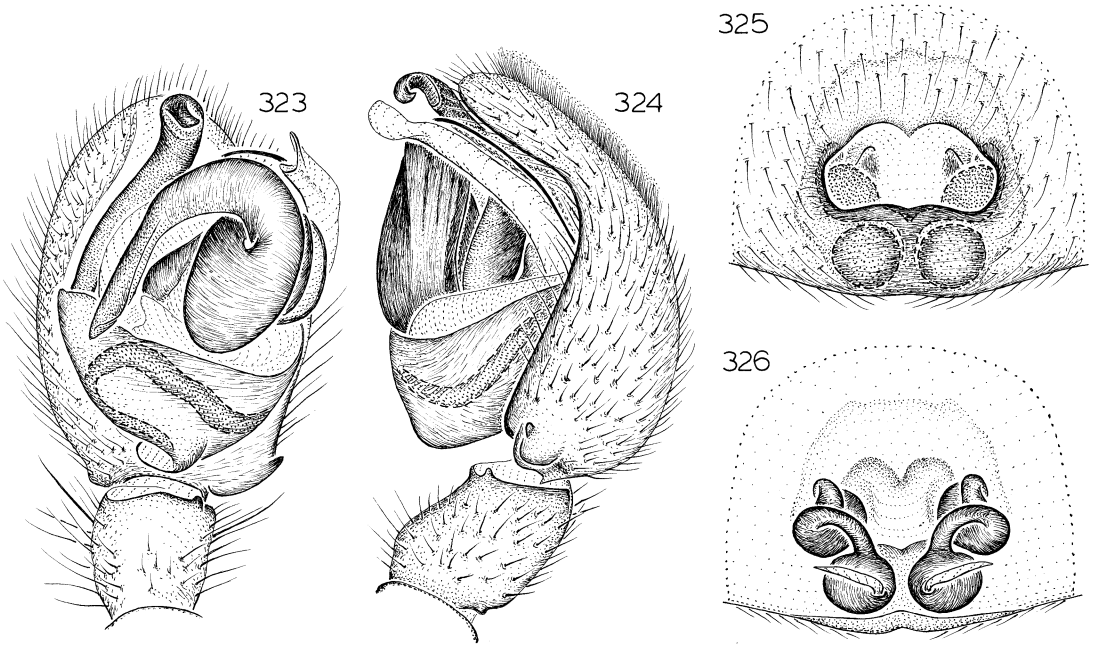
MALE: Unknown.

FEMALE: Total length 7.7. Coloration as in *T. mundaring*. Leg spination: femora: I d0-0-1, p0-0-1; II d0-0-1; IV d1-0-1; tibiae: I v2-4-1p; II v1p-4-0; III, IV v1p-1p-0; metatarsi: II v2-2-2; III, IV v1p-1p-0. Epigynal atrium tiny, situated anteriorly (fig. 327); anterior ducts greatly widened but not extending anterior of anterior atrial margin (fig. 328).

OTHER MATERIAL EXAMINED: **Western**



Map 25. Records of *Trachyspina capensis*, new species (circles), *T. goongarrie*, new species (square), *T. madura*, new species (star), and *T. illamurta*, new species (cross).



Figs. 323–326. *Trachyspina mundaring*, new species. **323.** Left male palp, ventral view. **324.** Same, retrolateral view. **325.** Epigynum, ventral view. **326.** Same, dorsal view.

Australia: Madura Pass, 1 km W Madura, 31°55′S, 127°00′E, Sept. 7, 1983, limestone rocks in gully (E. Schlinger, M. Irwin, CAS), 1♀.

DISTRIBUTION: Known only from the type locality in the Nullarbor Plain of Western Australia (map 25).

Trachyspina illamurta, new species
Figures 329, 330; Map 25

TYPE: Female holotype from Illamurta Spring, 24°19′S, 132°41′E, Northern Territory (June 7, 1978; F., J. Aslin), deposited in SAM (N1999/89).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have an oval epigynal atrium, wider at its midpoint than anteriorly or posteriorly, containing a rectangular septum (fig. 329); the anterior epigynal ducts are widened (fig. 330).

MALE: Unknown.

FEMALE: Total length 6.0. Coloration as in *T. mundaring*. Leg spination: femora: I d0-0-1, p0-0-1; II d0-0-1; IV d0-0-1; tibiae: I v2-4-1p; II v2-4-2; III v0-0-0; IV v1p-1p-0; metatarsi: I v2-3-2; II v2-2-2; III v0-0-0; IV v0-1p-0. Epigynal atrium widest at about half its length, containing rectangular septum (fig. 329); anterior ducts widened, not extending anterior of anterior epigynal margin (fig. 330).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Northern Territory (map 25).

Trachyspina olary, new species
Figures 331, 332; Map 26

TYPE: Female holotype from pitfall trap 3.2 km SW Tobacco Bush Dam, 32°54′S, 140°07′E, South Australia (Oct. 6–10, 1992; South Olary Plains Survey), deposited in SAM (N1999/90).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have a triangular epigynal atrium almost entirely occupied by a large septum (fig. 331) and small anterior secondary bulbs on the anterior epigynal ducts (fig. 332).

MALE: Unknown.

FEMALE: Total length 6.1. Coloration as in

T. mundaring. Leg spination: femora: I d0-0-1, p0-0-1; II d0-0-1; IV d1-0-1; tibiae: I v2-4-1p; II v2-4-0; III, IV v1p-1p-0; metatarsi: I v4-4-2; II v2-2-2; III v2-0-0; IV v0-0-0. Epigynal with triangular, posteriorly situated and narrowed atrium, almost filled with wide septum (fig. 331); anterior ducts relatively narrow, with anterior secondary bulbs (fig. 332).

OTHER MATERIAL EXAMINED: **South Australia:** Kolay Hut, 32°33′S, 135°36′E, Dec. 8–11, 1989, pitfall (D. Hirst, SAM N1997/92), 1♀; Middleback Station, 32°57′S, 137°23′E, June 1983 (B. Guerin, SAM N1997/154), 1♀; 5 km NW Rocky Dam, 32°53′S, 139°36′E, Oct. 14–16, 1992, pitfall (SAM N1999/91), 1♀.

DISTRIBUTION: Known only from South Australia (map 26).

Trachyspina chillimookoo, new species

Figures 333, 334; Map 26

TYPE: Female holotype from Chillimookoo, 27°24′S, 139°58′E, South Australia (Sept. 1983; B. Guerin), deposited in SAM (N1999/92).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have a distinctively widened epigynal atrium (fig. 333) and laterally elongated ducts (fig. 334).

MALE: Unknown.

FEMALE: Total length 8.6. Coloration as in *T. capensis* except carapace reddish brown, legs orangish brown. Leg spination: tibiae: I v1p-1p-0; II v1p-0-0; IV v1p-1p-1p, r1-0-0; metatarsi: I v2-2-1p; II v2-0-0; III v1p-0-0; IV v2-0-0, r1-0-0. Epigynal atrium wide, semicircular (fig. 333); ducts narrow, extended laterally (fig. 334).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from northeastern South Australia (map 26).

MOREBILINAE, NEW SUBFAMILY

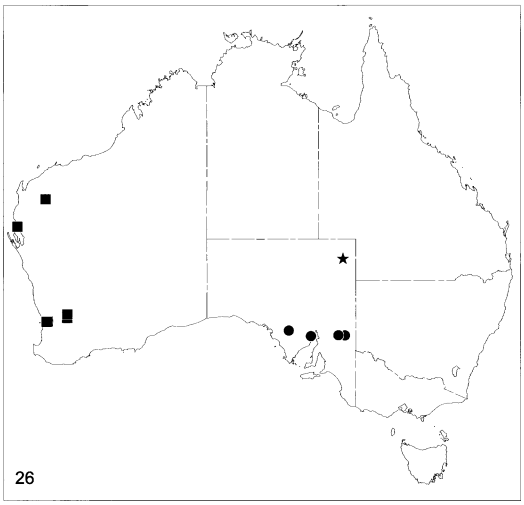
TYPE GENUS: *Morebilus*, new genus.

DIAGNOSIS: Members of this exclusively Australasian subfamily can easily be recognized by the presence of a sub-basal (and usually also a distal) retrolateral tibial apophysis, as well as a characteristic male palpal conformation with a medially situated embolus. Most of the described species have historically been placed in *Rebilus*, and recognized primarily by the relatively large number of cylindrical gland spigots, arranged in two long, parallel rows, on the posterior median spinnerets of females. Few of these taxa are actually congeneric with the type species of *Rebilus*, however, and eight genera are recognized below.

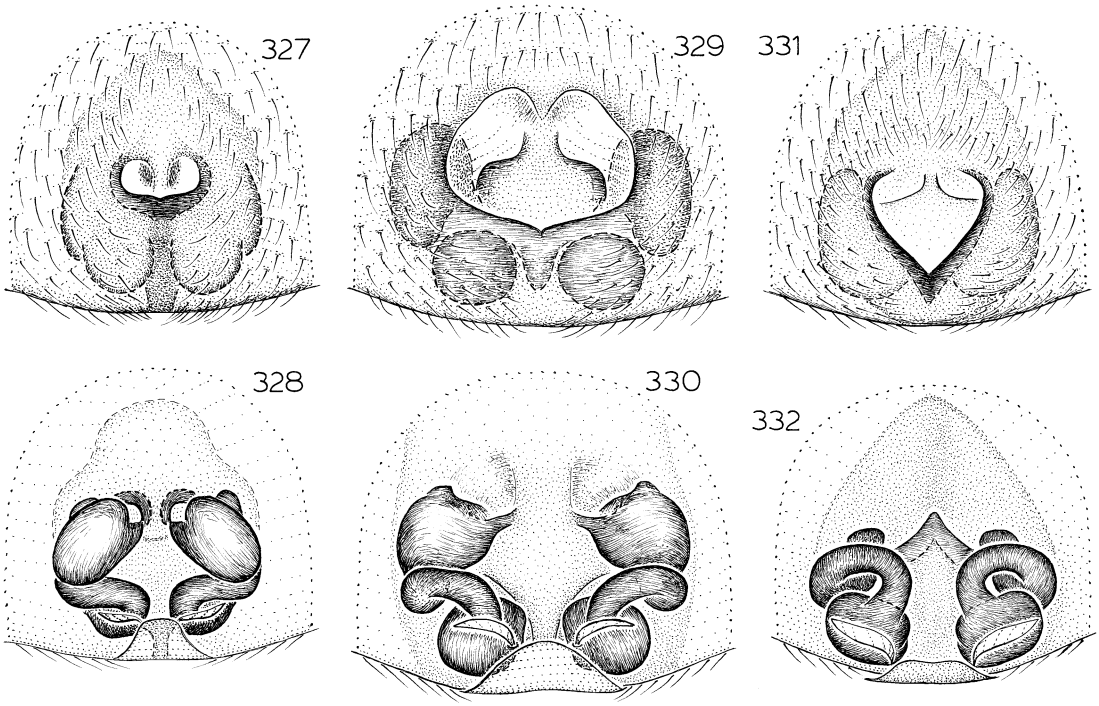
NOTE: Because the generic name *Rebilus* has been used in the literature and is familiar to arachnologists, it might seem to be an obvious choice for the type genus of this new subfamily. However, almost all uses of that generic name in the literature represent misidentifications, and the type species of that genus is rarely collected and still poorly known, with males and females only tentatively matched. It seems preferable, therefore, to base the subfamily name instead on the oldest and best known species, *Morebilus plagusius* (Walckenaer). This large and commonly collected animal is well known, and its very old type specimen is still in existence; its only synonym was discovered to be such over a century ago.

Morebilus, new genus

TYPE SPECIES: *Hemicloea plagusia* (Walckenaer).



Map 26. Records of *Trachyspina mundaring*, new species (squares), *T. olary*, new species (circles), and *T. chillimookoo*, new species (star).

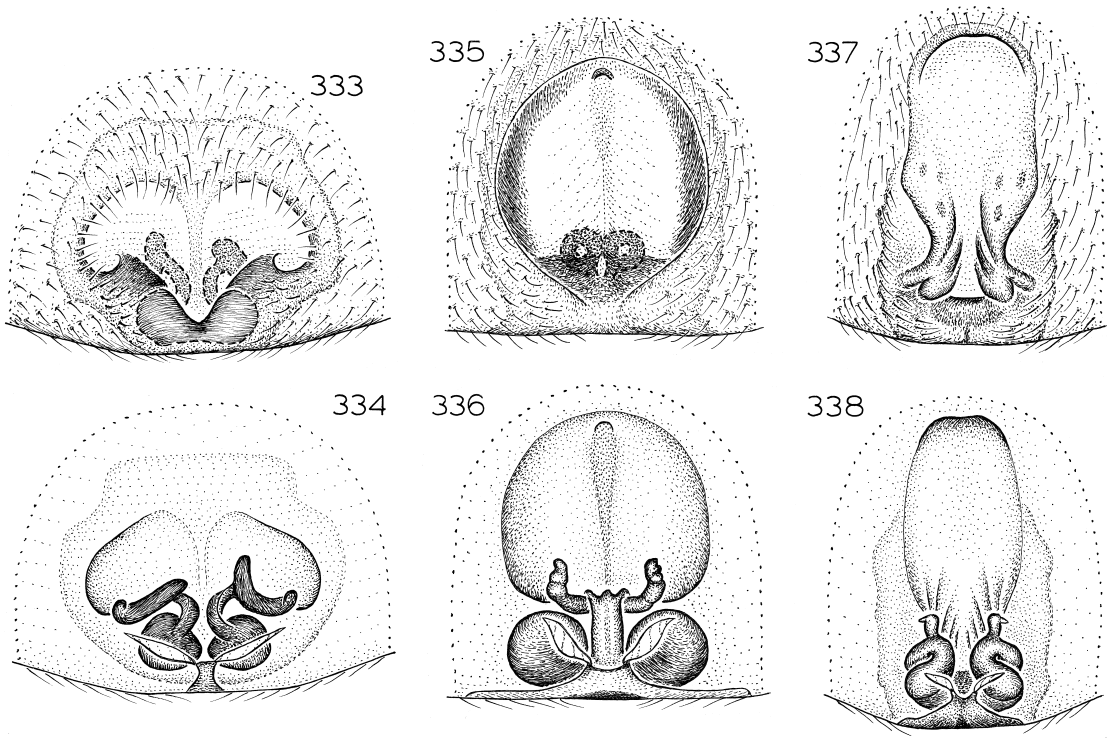


Figs. 327–332. Epigyna, ventral (top row) and dorsal (bottom row) views. **327, 328.** *Trachyspina madura*, new species. **329, 330.** *T. illamurta*, new species. **331, 332.** *T. olary*, new species.

ETYMOLOGY: The generic name is an arbitrary combination of letters, considered masculine in gender.

DIAGNOSIS: As these animals are among the largest Australian gnaphosoids, it isn't surprising that they include the earliest described trochanteriids. Although many of these taxa have previously been misplaced in the gnaphosid genus *Hemicloea*, they closely resemble *Rebilus* in spinneret and tarsal claw morphology, but can be distinguished from members of that genus by the inclined lip at the anterior edge of the sternum (fig. 505), which is accompanied laterally by a pair of greatly enlarged intercoxal sclerites (fig. 351).

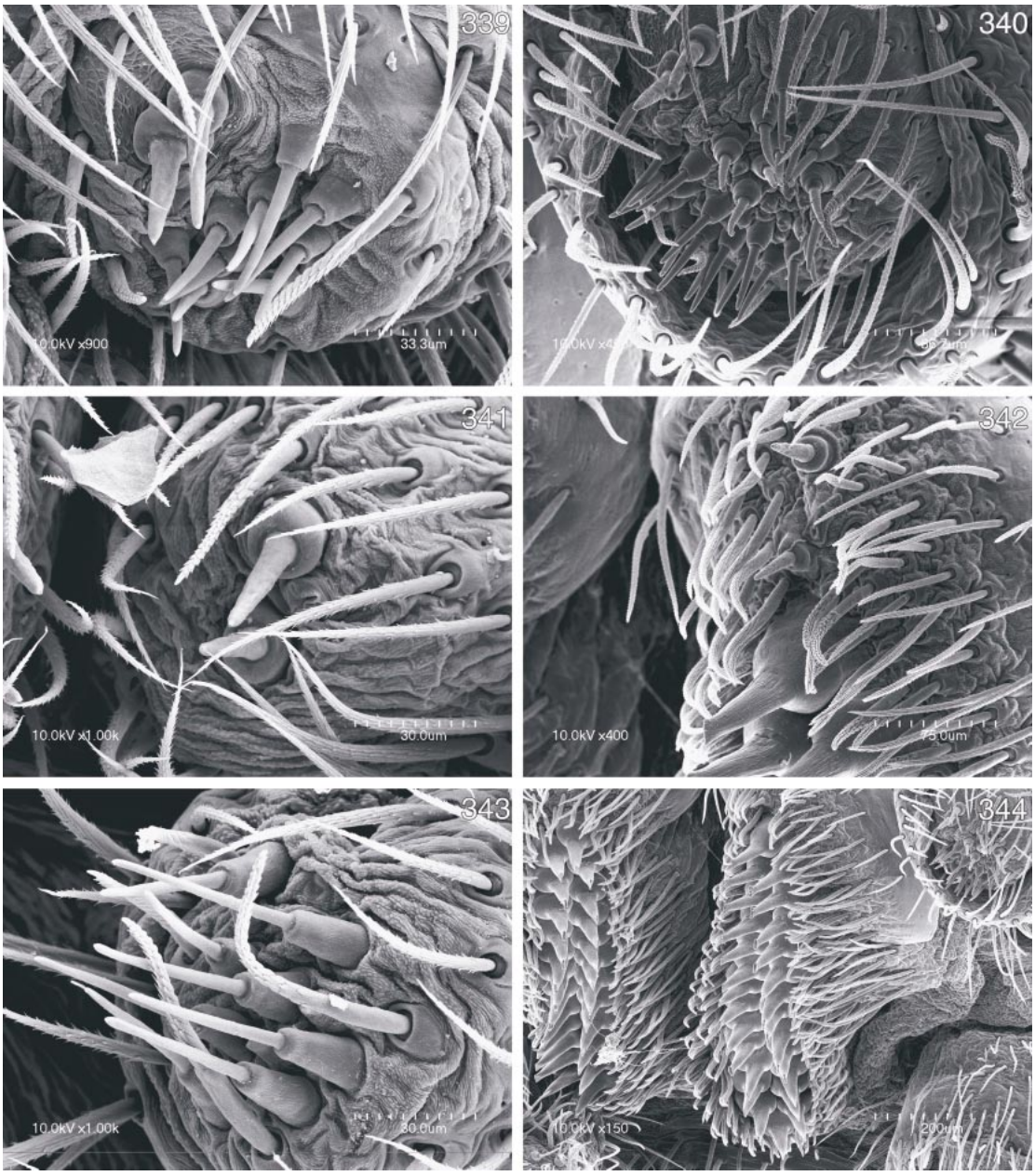
DESCRIPTION: Large spiders, total length of males 10–16, of females 10–24. Carapace flattened (fig. 353), without tubercles, with rebordered lateral margins, evenly coated with scattered, dark, stiff, erect setae interspersed among white, recumbent setae; few longer, erect, dark setae present (pair at rear of pars cephalica, one opposite each coxa, one at each anterolateral corner and pair crossing at midline of clypeus); thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, accompanied by three additional intercoxal grooves on each side. Eight eyes in two rows (fig. 354), anterior medians largest, circular, dark, posterior medians smallest, circular, lenses slightly flattened but canoe-shaped tapetum apparently still present, laterals subequal, almost as large as anterior medians, oval; from above, anterior eye row slightly procurved, posterior row slightly recurved, from front, both eye rows almost straight; anterior medians separated by more than their diameter, by more than twice their diameter from anterior laterals; posterior medians separated by more than six times their diameter, about as far from posterior laterals; anterior and posterior laterals separated by more than their diameter; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus (fig. 352); anterior surface with stiff setae along inner margins; chilum very wide, triangular,



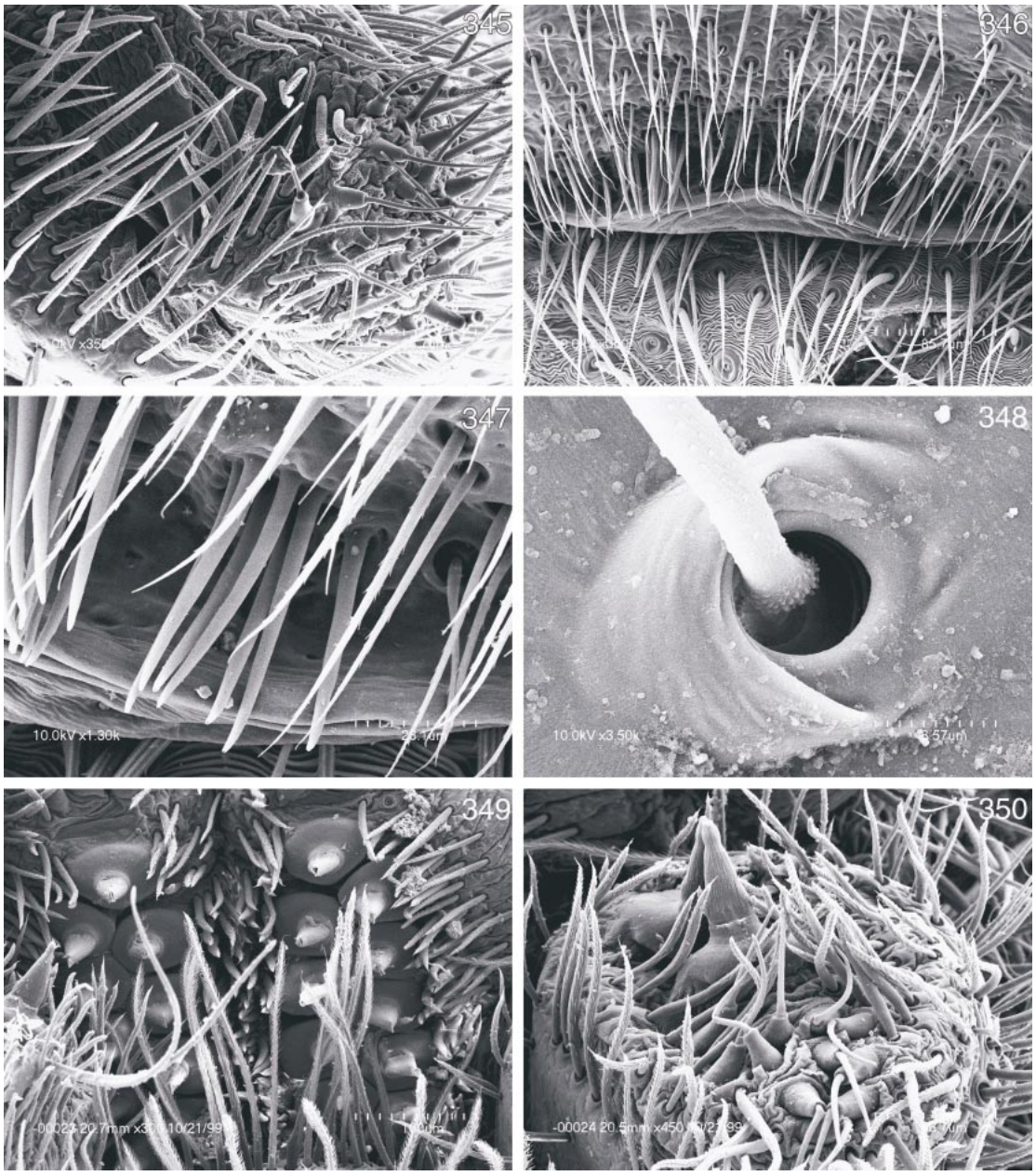
Figs. 333–338. Epigyna, ventral (top row) and dorsal (bottom row) views. **333, 334.** *Trachyspina chillimookoo*, new species. **335, 336.** *Morebilus swarbrecki* (Dunn and Dunn). **337, 338.** *M. gramps*, new species.

unipartite but with small area of unsclerotized cuticle along ventral one-third of midline area, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang unmodified; promargin with three teeth, proximal tooth smaller than others, distalmost tooth widely separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings on distinct mound, surrounded by concentric ridges, situated proximal to basal retromarginal tooth. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin truncate. Endites long, divergent, with oblique depression restricted to their median edge; serrula absent (fig. 155), long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, expanded anteriorly into inclined lip, with only indistinct extensions to coxae, extensions between coxae represented by three pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle, additional, much larger pair of triangular sclerites situated opposite lateral edges of sternal lip; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite with deep posterior invagination receiving beak-shaped anterior extension of posterior sclerite) and weak, inverted v-shaped ventral sclerite with anteriorly expanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-



Figs. 339–344. *Morebilus plagusius* (Walckenaer), spinnerets of male (left) and female (right), distal views. **339, 340.** Anterior lateral spinnerets. **341, 342, 344.** Posterior median spinnerets. **343.** Posterior lateral spinneret.



Figs. 345–350. 345–348. *Morebilus plagusius* (Walckenaer). **345.** Female, posterior lateral spinneret, distal view. **346, 347.** Male, epiandrous gland spigots, ventral view. **348.** Female, trichobothrial base, tarsus IV, dorsal view. 349, 350. *Pyrnus planus* (L. Koch). **349.** Dorsal portion of female posterior median spinnerets, distal view. **350.** Posterior lateral spinneret, distal view.

marked booklung openings at sides but without postepigastric sclerites, booklung covers strongly ridged; colulus represented only by scattered setae situated near narrow posterior spiracle; male with long epiandrous spigots in two clusters on each side (figs. 346, 347). Anterior lateral spinnerets short, conical, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and numerous small, unmodified piriform gland spigots (number larger in females than in males; figs. 339, 340); posterior median spinnerets without aciniform gland spigots, those of males triangular, with only two minor ampullate gland spigots (fig. 341), those of females bipartite, anterior portion with same two minor ampullate gland spigots (fig. 342), enlarged posterior portion with two parallel rows, each row with about 12–14 large cylindrical gland spigots (fig. 344); posterior lateral spinnerets with two articles, without minor ampullate gland spigots, those of males with aciniform gland spigots only (fig. 343), those of females with two large cylindrical gland spigots in addition, tartipores of aciniform gland spigots elongate (fig. 345).

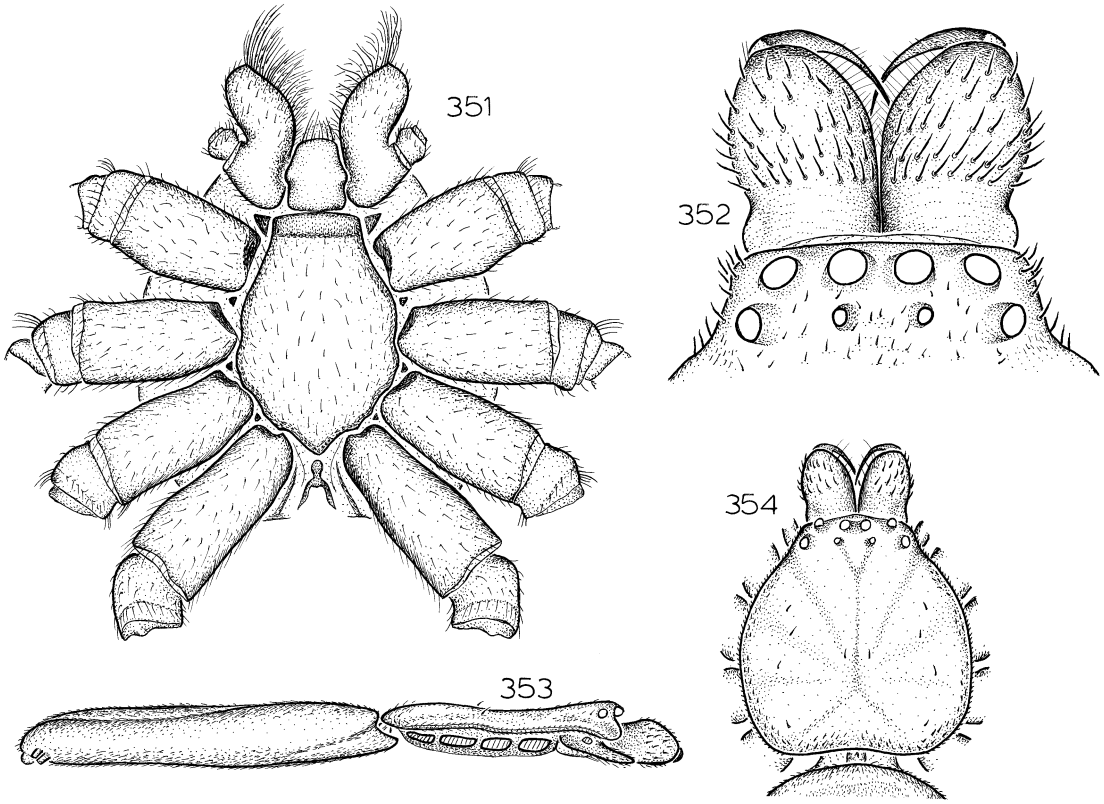
Legs laterigrade, subequal in length, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi with distal preening brushes composed of row of long, thick setae; tarsi with two long, smooth claws bearing no ventral teeth, strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, extremely short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae, bases with pair of overlapping ridges (fig. 348). Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing three to five tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora I–IV d1-0-0; tibiae: I v3-2-2; II v4-2-2; III, IV v1p-1p-0; metatarsi: I v2-1p-0; II v2-3-0; III v1p-0-0.

Male palpal tibia with pair of basal retrolateral protuberances, retrolateral apophysis usually present, sometimes represented mainly by thick spines; cymbium with thick distal scopula; cymbial surface distinctly invaginated opposite retrolateral tibial apophysis; tegulum elongated, with medially situated, long, basally wide embolus extending across middle of bipartite median apophysis, accompanied by distally membranous conductor. External epigynum large, usually with large, excavated atrium.

Species Groups: Two informal species groups can be recognized. The *plagusius* group includes *M. plagusius* (Walckenaer), *M. swarbrecki* (Dunn and Dunn), and the new species *M. graytown*, *M. gramps*, *M. fitton*, and *M. gammon*; in these species, the anterior portion of the internal female genitalia consists of a pair of small, thumb-shaped projections. The remaining species constitute the *diversus* group, in which the anterior portion of the internal female genitalia consists of a pair of large, kidney-shaped or globose bulbs.

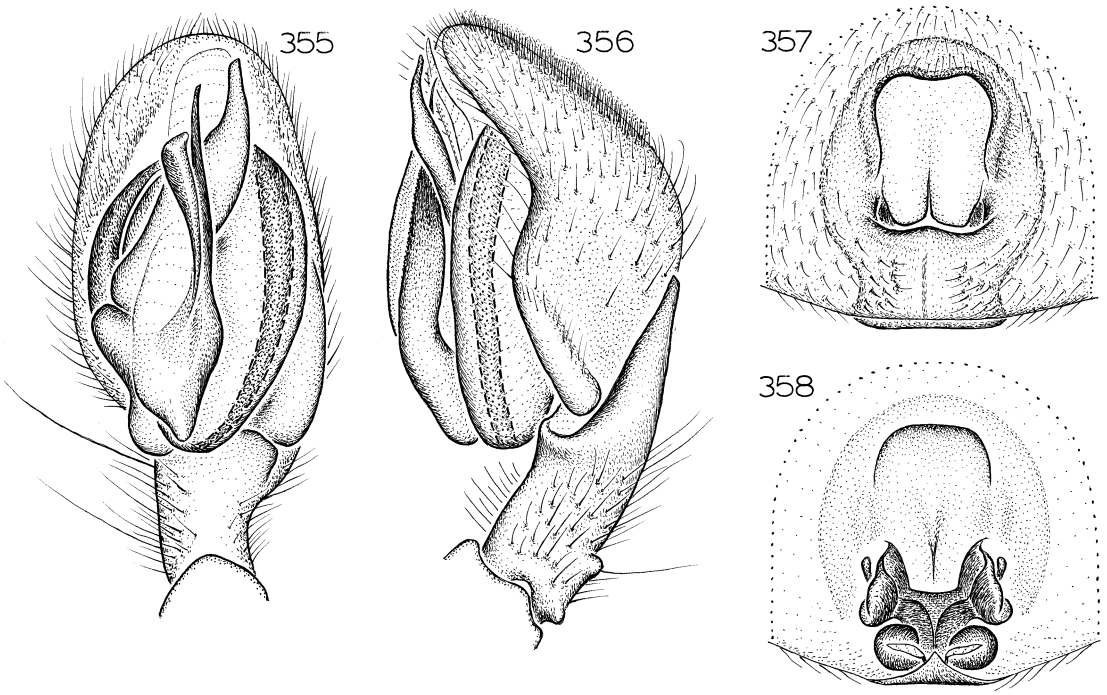
Key to Species of *Morebilus*

1. Males (those of *swarbrecki*, *gramps*, and *blackdown* unknown) 2
– Females 11
2. Retrolateral tibial apophysis a distally directed, triangular projection (figs. 356, 364, 384, 388, 392) 3
– Retrolateral tibial apophysis otherwise . . . 8
3. Retrolateral tibial apophysis with stiff setae (figs. 384, 392) 4
– Retrolateral tibial apophysis with normal hairs 5
4. Embolus with distinct subdistal expansion (fig. 383) . . . . . *diversus*
– Embolus without subdistal expansion (fig. 391) . . . . . *tambo*
5. Retrolateral tibial apophysis relatively short (figs. 364, 388) 6
– Retrolateral tibial apophysis relatively long (figs. 356, 368) 7
6. Retrolateral tibial apophysis curved (fig. 364) . . . . . *fitton*



Figs. 351–354. *Morebilus plagusius* (Walckenaer), female. **351.** Cephalothorax, ventral view. **352.** Eyes and chelicerae, dorsal view. **353.** Body, lateral view. **354.** Cephalothorax, dorsal view.

– Retrolateral tibial apophysis straight (fig. 388) . . . . . *flinders*
7. Embolus straight (fig. 355) . . . . . *plagusius*
– Embolus sinuous (fig. 367) . . . . . *gammon*
8. Retrolateral tibial apophysis present, directed dorsally (figs. 360, 376) 9
– Retrolateral tibial apophysis represented only by thick spines (fig. 372) . . . . . *coolah*
9. Retrolateral tibial apophysis relatively narrow (fig. 360) . . . . . *graytown*
– Retrolateral tibial apophysis relatively wide (figs. 376, 380) 10
10. Embolus with subdistal incision (fig. 375) . . . . . *fumosus*
– Embolus without subdistal incision (fig. 379) . . . . . *nipping*
11. Anterior portion of internal female genitalia consisting of pair of small, thumb-shaped projections (as in figs. 338, 358) 12
– Anterior portion of internal female genitalia consisting of pair of large, kidney-shaped or globose bulbs (as in fig. 382) 17
12. Epigynal atrium rectangular (figs. 337, 357, 369) 13
– Epigynal atrium circular or triangular (figs. 335, 361, 365) 15
13. Epigynal atrium relatively long (fig. 337) . . . . . *gramps*
– Epigynal atrium relatively short (figs. 357, 369) 14
14. Epigynal atrium relatively narrow (fig. 357) . . . . . *plagusius*
– Epigynal atrium relatively wide (fig. 369) . . . . . *gammon*
15. Epigynal atrium triangular (fig. 365) . . . . . *fitton*
– Epigynal atrium rounded (figs. 335, 361) 16
16. Epigynal atrium relatively long (fig. 335) . . . . . *swarbrecki*
– Epigynal atrium relatively short (fig. 361) . . . . . *graytown*
17. Epigynal atrium wider than long (figs. 377, 381, 389) 18
– Epigynal atrium longer than wide (figs. 373, 385, 393, 395) 20
18. Anterior epigynal margin with median, pos-



Figs. 355–358. *Morebilus plagusius* (Walckenaer). **355.** Left male palp, ventral view. **356.** Same, retrolateral view. **357.** Epigynum, ventral view. **358.** Same, dorsal view.

teriorly directed extension (fig. 381) . . . . . *nipping*
– Anterior epigynal margin otherwise (figs. 377, 389) 19
19. Anterior epigynal margin straight (fig. 377) . . . . . *fumosus*
– Anterior epigynal margin with median, anteriorly directed extension (fig. 389) . . . . . *flinders*
20. Epigynal atrium rectangular (fig. 373) . . . . . *coolah*
– Epigynal atrium triangular (figs. 385, 393, 395) 21
21. Epigynal atrium with distinct septum along midline (fig. 395) . . . . . *blackdown*
– Epigynal atrium without median septum (figs. 385, 393) 22
22. Epigynal atrium relatively short, clearly delimited posteriorly (fig. 385) . . . *diversus*
– Epigynal atrium relatively long, not clearly delimited posteriorly (fig. 393) . . . *tambo*

Morebilus plagusius (Walckenaer), new combination

Figures 155, 345–348, 351–358, 505; Map 27

Thomisus plagusius Walckenaer, 1805: 29 (nomen nudum).

Delena plagusia Walckenaer, 1837: 492 (female holotype from ''port Jackson'' [=Sydney Harbour, New South Wales], in MNHN, examined).

Delena plagiusa (lapsus): C. L. Koch, 1845: 50, fig. 987.

Hemicloea major L. Koch, 1875: 624, pl. 49, figs. 5, 5a, 5b (three female syntypes from Sydney, New South Wales, in ZMB and ZMH, examined).—L. Koch, 1876: 841, pl. 72, figs. 4, 4a. First synonymized by Simon, 1880: 240.

Hemicloea plagusia: Simon, 1880: 240.

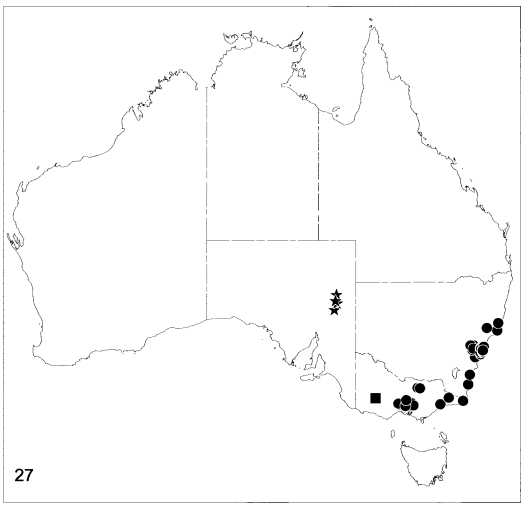
DIAGNOSIS: Males can be recognized by the long, straight retrolateral tibial apophysis (fig. 356) and the straight, longitudinally situated embolus (fig. 355), females by the large, squared epigynal atrium (fig. 357) and the tiny, anterolaterally situated pair of duct heads (fig. 358).

MALE: Total length 12. Carapace and legs light brown, abdomen gray, lighter ventrally. Leg spination: tibiae II v3-2-2; metatarsi II v2-1p-0. Retrolateral tibial apophysis wide at base, curved at tip (fig. 356); embolus straight, median apophysis gradually curved at tip (fig. 355).

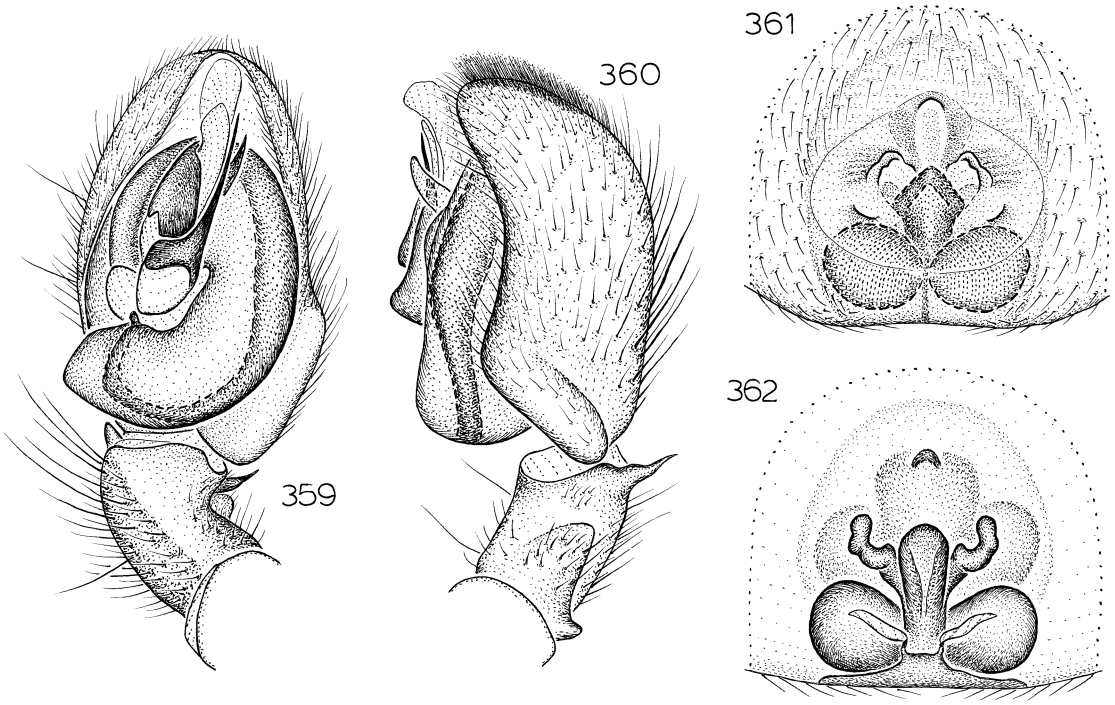
FEMALE: Total length 18. Coloration as in

male. Leg spination typical for genus. Epigynum with rectangular atrium, lateral margins indistinct, surface of atrium divided posteromedially, openings at posterolateral corners of atrium (fig. 357); spermathecae with tiny, lateral heads, body of spermathecae situated posterior of atrium (fig. 358).

MATERIAL EXAMINED: **New South Wales:** no specific locality (but probably Sydney, per L. Koch, 1875, 1876), Godeffroy collection 8077 (NMV K3523), 2♀, (ZMMU), 1♀, (MNHN 1550), 1♀; Booloomlayt Myall Lakes, 32°26′S, 152°24′E, Oct. 6, 1922 (A. Musgrave, AMS KS35518), 1♀; Cheltenham, 33°45′S, 151°03′E, Apr. 6, 1956 (R. Winter, AMS KS35516), 1♀; Como, 34°00′S, 151°03′E, Sept. 28, 1900 (G. Waterhouse, AMS KS35490), 1♀; Cowan, 33°36′S, 151°10′E, Apr. 20, 1961, under sandstone (M. Gregg, AMS KS16509), 1♀; Elanora, near Narrabeen, 33°42′S, 151°16′E, Dec. 3, 1962, elev. 100 m (E. Ross, D. Cavagnaro, CAS), 1♀; Flying Fox Creek no. 2, upper reaches of Avon Dam, near Kembla State Forest, 34°21′S, 150°37′E, Oct. 1997 (A. White, AMS KS52298), 1♀; Hornsby, 33°42′S, 151°06′E, Jan. 3, 1990 (P. German, AMS KS22454), 1♀ with egg sac laid Jan. 3–15; Ingleside, near Monavale, 33°41′S, 151°16′E, July 26, 1959 (R. Wilkinson, AMS KS44094), 1♀; Kings Tableland, Blue Mountains, 33°49′S, 150°24′E, Mar. 21, 1997 (AMS KS51714), 1♀; Kuringai-Chase National Park, N end, near hand stencils, 33°38′S, 151°12′E, June 16, 1969 (A. Rose, AMS KS68879), 1♀; Little Dromedary, Central Tilba, 36°18′S, 150°04′E, Dec. 17, 1962, elev. 150 m (E. Ross, D. Cavagnaro, CAS), 1♂; Malabar, 33°58′S, 151°14′E, Oct. 10, 1964 (R. Mascord, AMS KS35464), 2♀; Mount Irvine, Blue Mountains, 33°29′S, 150°28′E (SAM N1999/49, 50), 2♀; Mount Irvine, Blue Mountains, 50 mi N Sydney, 33°30′S, 150°15′E, Dec. 27, 1944 (W. Necker, FMNH), 1♂, 1♀; Narrabeen, 33°43′S, 151°18′E, June 22, 1916 (F. Danvers-Power, AMS KS35515), 1♀; Oatley, 33°53′S, 151°13′E, Jan. 1972 (AMS KS35513), 1♀; Palm Beach, 33°36′S, 151°19′E, Mar. 7, 1984 (B. Robinson, AMS KS14066), 1♀; Port Jackson [=Sydney Harbour], 33°51′S, 151°15′E (MNHN), 1♀ (holotype); The Razorback, near Picton, 34°11′S, 150°36′E, Dec. 19, 1962, elev. 230 m (E. Ross, D. Cavagnaro, CAS), 1♀; Royal National Park, 34°08′S, 151°04′E, Dec. 6, 1962, elev. 125 m (E. Ross, D. Cavagnaro, CAS), 3♀, July 30, 1966 (R. Mascord, AMS KS35465), 1♀; Sydney, 33°53′S, 151°13′E, Godeffroy collection 8077 (ZMH), 1♀ (syntype), (ZMB 3445), 2♀ (syntypes), June 2, 1898 (W. Rainbow, AMS KS35492), 1♀, Mar. 4, 1910 (AMS KS35539), 1♀, (MNHN 3476), 1♀; Taree, 31°54′S, 152°29′E, Oct. 26, 1977 (M. Paskins, AMS KS703), 1♀; Vaucluse, 33°52′S, 151°17′E, July 5, 1958 (C. Nathan, AMS KS35514), 1♀; Williams River, Barrington House, 32°15′S, 151°34′E, Jan. 1943, elev. 1250 ft (A. Musgrave, AMS KS44095), 1♂; junction, Windywoppa and Lookout Roads, Boyne State Forest, 35°36′S, 150°12′E, Mar. 17, 1999 (J. Tarnawski, S. Lassau, AMS KS63881), 1♂; Woodford, Blue Mountains, 2 km from Railway Pde on Bedford Road, 33°44′S, 150°29′E, July 11, 1997, under loose rock (B. Lillemets, AMS KS55343), 1♀. **Victoria:** 6.5 km NE Bacchus Marsh, 37°41′S, 144°27′E, Aug. 12, 1981, under rock (M. Harvey, B. Roberts, ANIC), 2♀; Benalla, 36°33′S, 145°59′E, Feb. 1, 1993, from house (J. Strudwick, QMB S24498), 1♂; Bruthen, 37°43′S, 147°49′E, Jan. 3, 1918 (Leach, NMV K3516), 2♀; Coranderrk Reserve, Heales-



Map 27. Records of *Morebilus plagusius* (Walckenaer) (circles), *M. gramps*, new species (square), and *M. fitton*, new species (stars).



Figs. 359–362. *Morebilus graytown,* new species. **359.** Left male palp, ventral view. **360.** Same, retrolateral view. **361.** Epigynum, ventral view. **362.** Same, dorsal view.

ville, 37°39′S, 145°31′E, Feb. 24, 1981, running on ground (M. Harvey, ANIC), 1♀, Mar. 20–21, 1982, under bark of *Eucalyptus viminalis* (M. Harvey, ANIC), 1♀; Gippsland, 37°15′S, 148°30′E, Jan. 1934 (Leithedd, AMS KS44096), 1♂; Gladysdale, 37°48′S, 145°39′E, Mar. 22, 1958 (A. Neboiss, NMV K3405), 1♀; Melbourne, 37°50′S, 145°00′E, Oct. 10–22, 1972 (M. Baehr, CBB), 1♀; Mount Disappointment, E Upper Plenty, 37°26′S, 145°04′E, June 12, 1972 (NMV K3509), 1♀, with eggsac; Upper Genoa River, 37°29′S, 149°39′E, Feb. 2, 1978 (ANIC), 1♀; Upper Lurg, 36°35′S, 146°11′E, Jan. 21, 1994, house (J. Strudwick, CVIC 9), 1♂, Feb. 12, 1994, house, night (J. Strudwick, CVIC 679), 2♂, Feb. 26, 1994, house (J. Strudwick, CVIC 678), 1♂, Apr. 26, 1994, log (J. Strudwick, CVIC 675), 1♀, May 5, 1994, house (J. Strudwick, CVIC 677), 1♂, Feb. 27, 1995, house, night (J. Strudwick, CVIC 682), 1♂, Apr. 14, 1996, house (J. Strudwick, CVIC 676), 1♀, Apr. 5, 2000, on floor in house at night (J. Strudwick, CVIC761), 1♂.

DISTRIBUTION: New South Wales and Victoria (map 27).

Morebilus graytown, new species

Figures 359–362; Map 28

TYPE: Female holotype taken under dry log in Graytown Forest, W Mount Black, 36°49′S, 144°57′E, Victoria (Aug. 21, 1977; H. Parnaby), deposited in QMB (S26733).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the distally narrowed retrolateral tibial apophysis (fig. 360) and the prong-shaped embolus (fig. 359), females by the triangular epigynal atrium (fig. 361).

MALE: Total length 14. Carapace reddish brown; legs brownish orange, leg I darkest, abdomen gray, lighter ventrally. Leg spination: tibia II v3-2-2; metatarsi II v2-1p-0. Retrolateral tibial apophysis abruptly narrowed at about half its length (fig. 360); embolus with wide base, distally narrowing into short prong, prolateral portion of median apophy-

sis much wider than retrolateral portion (fig. 359).

FEMALE: Total length 18. Coloration and leg spination as in male. Epigynum with triangular atrium, anterior portion narrow, with arched hood, posterior portion depressed laterally (fig. 361); body of spermathecae situated posterior of atrium, anterior portion with anterolaterally directed heads (fig. 362).

OTHER MATERIAL EXAMINED: **South Australia:** American River, Kangaroo Island, 35°47′S, 137°46′E, Nov. 27, 1952, under stone (B. Main, WAM 96/1591), 1♀, Aug. 1971 (J. Forrest, SAM N1999/53), 1♀; Burnside, 34°56′S, 138°38′E, c. 1885 (O. Tepper, SAM N1999/56, 57), 2♀; Clare, 33°50′S, 138°37′E, late July 1994 (A. Shannon, SAM N1999/58, 59), 2♀; Greenly Island, off Port Lincoln, 34°38′S, 134°47′E, Dec. 1947 (SAM N1999/60, 61), 2♀; Kangaroo Island, no exact locality, Mar. 9, 1884 (O. Tepper, SAM N1999/52), 1♀; Kangaroo Island, 35°50′S, 138°03′E, Feb. 3, 1957, under loose rocks in pasture (G. McIntosh, AMS KS35553), 2♀, with eggsacs; Morialta, Adelaide foothills, 34°54′S, 138°43′E, Nov. 1996, under rocks (D. Hirst, SAM N1996/146, 147), 2♀; Mount Compass, South Mount Lofty Ranges, 35°21′S, 138°37′E, 1883 (F. Andrews, SAM N1999/55), 1♀; Mylor, Mount Lofty Ranges, 35°03′S, 138°46′E, Sept. 1935 (H. Womersley, SAM N1999/54), 1♀; 4.9 km SE Stoke's Bay, Kangaroo Island, 35°39′S, 137°14′E, Mar. 17–23, 1995 (T. Herbert, SAM N1999/51), 1♂. **Victoria:** Glen Waverly, 37°53′S, 145°10′E, Feb. 13, 1978 (V. Salanitri, QMB S26730), 1♀; Grampian Mountains, 37°24′S, 142°15′E, Nov. 1997 (E. Ross, CAS), 1♀; 2 km N Porcupine Ridge, N Daylesford, 37°15′S, 144°11′E, Aug. 2, 1981, under rock (M. Harvey, D. Cukier, ANIC), 1♀.

DISTRIBUTION: South Australia and Victoria (map 28).

Morebilus swarbrecki (Dunn and Dunn), new combination

Figures 335, 336; Map 29

Rebilus swarbrecki Dunn and Dunn, 1946: 90, figs. 5–7 (female holotype from Mount Buffalo, Victoria, in NMV, examined).

DIAGNOSIS: Females resemble those of *M. plagusius* but have a more rounded epigynal atrium (fig. 335) and smaller spermathecae (fig. 336).

MALE: Unknown.

FEMALE: Total length 18. Coloration as in *M. graytown*. Leg spination: tibiae: I v3-2-1p; II v3-2-2; metatarsi II v2-1p-0. Epigynal atrium deep, circular, posterior half with distinct ridge along midline (fig. 335); body of spermathecae situated posterior of atrium, anterior portion with hornlike, anteriorly directed heads (fig. 336).

MATERIAL EXAMINED: **Victoria:** Mount Buffalo, 36°47′S, 146°47′E, Jan. 1946 (E. Swarbreck, NMV K0951), 1♀ (holotype); Preston, 37°45′S, 145°01′E, Mar. 31, 1979, in caravan, specimen may have entered the caravan while it was parked at Seymour, 37°02′S, 145°08′E (NMV K3515), 1♀.

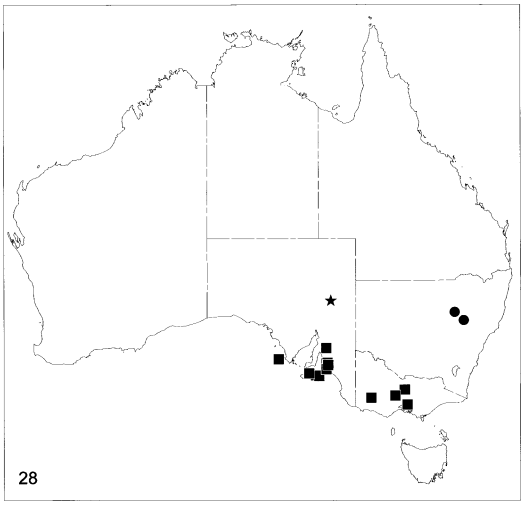
DISTRIBUTION: Known only from Victoria (map 29).

Morebilus gramps, new species

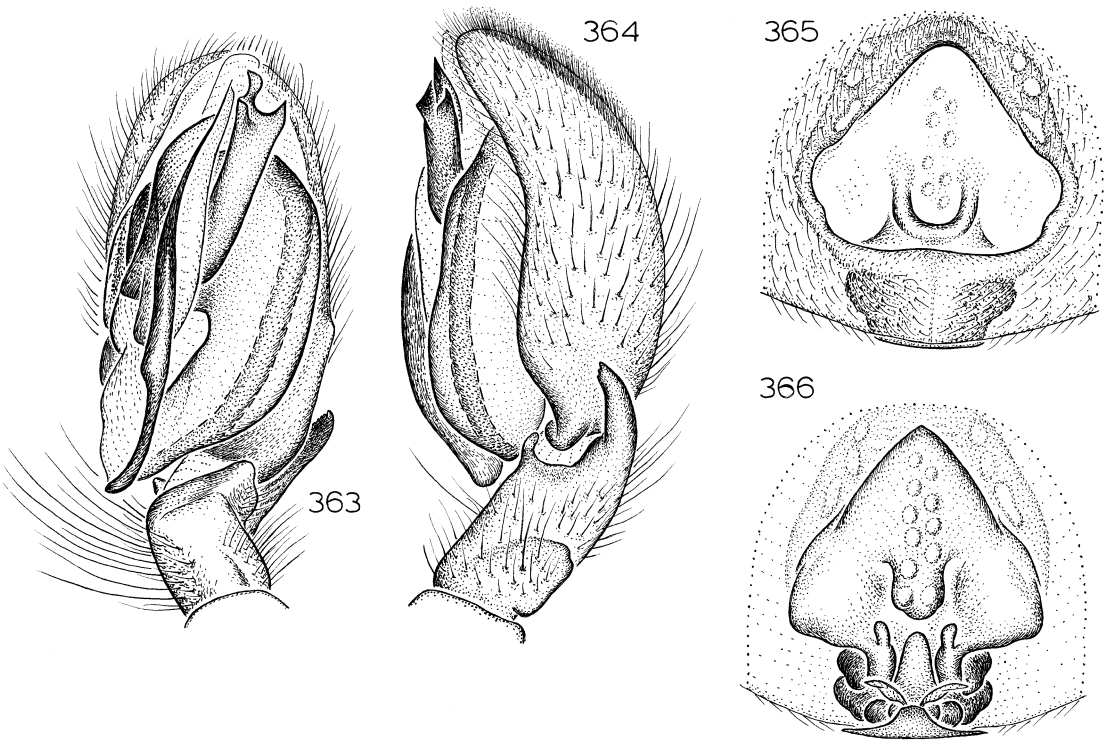
Figures 337, 338; Map 27

TYPE: Female holotype taken under rock on summit of Mount William, The Grampians, 37°17′S, 142°36′E, Victoria (Aug. 27, 1978; M. Harvey), deposited in ANIC.

ETYMOLOGY: The specific name is an arbitrary combination of letters contracted from the type locality.



Map 28. Records of *Morebilus graytown*, new species (squares), *M. gammon*, new species (star), and *M. coolah*, new species (circles).



Figs. 363–366. *Morebilus fitton*, new species. **363.** Left male palp, ventral view. **364.** Same, retrolateral view. **365.** Epigynum, ventral view. **366.** Same, dorsal view.

DIAGNOSIS: Females can easily be recognized by the extremely elongated epigynal atrium (fig. 337) and anteriorly curled spermathecal ducts (fig. 338).

MALE: Unknown.

FEMALE: Total length 21. Coloration as in *M. graytown*. Leg spination: tibiae: I v3-3-2; II v3-4-2; metatarsi: II v2-1p-0. Epigynal atrium extending almost to pedicel, deeply depressed only at posteromedian border, where bordered laterally by elevated, twisted ridges (fig. 337); spermathecal ducts curled anteriorly, almost s-shaped, with anterolaterally directed heads (fig. 338).

OTHER MATERIAL EXAMINED: **Victoria:** Mount William, The Grampians, 37°18′S, 142°36′E, Oct. 3, 1988, under exfoliating rock (C. Watts, SAM N1999/45, 46), 2♀.

DISTRIBUTION: Known only from Victoria (map 27).

Morebilus fitton, new species

Figures 363–366; Map 27

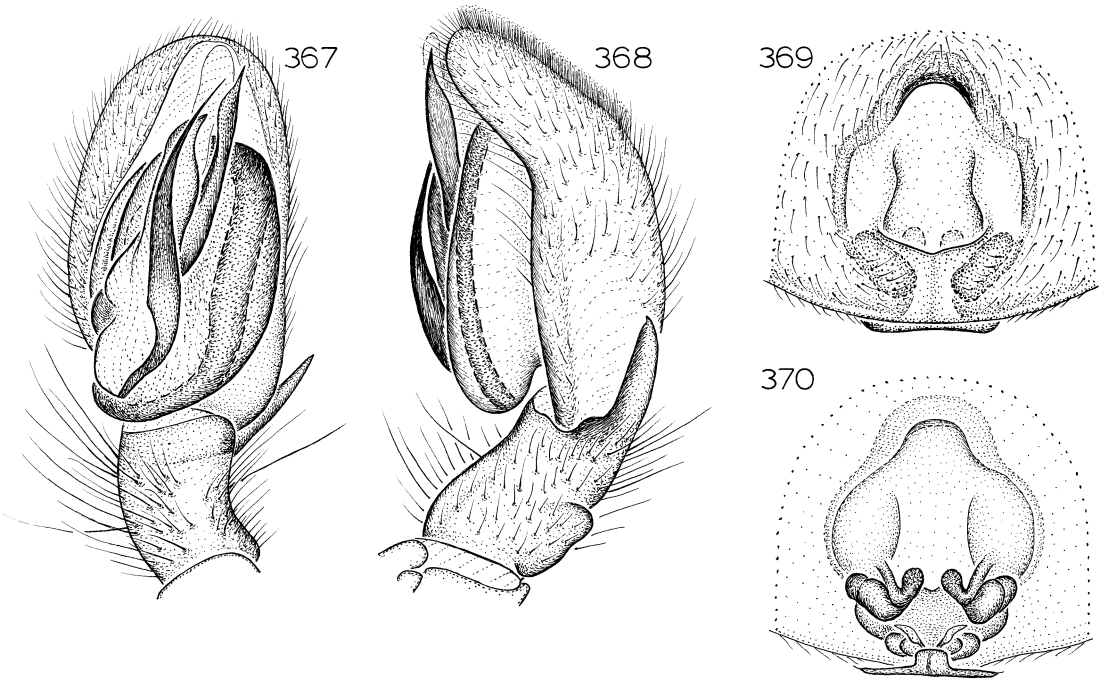
TYPE: Female holotype taken in rock crevice at Billy Springs, 17 km NW Mount Fitton Homestead, 29°53′S, 139°27′E, South Australia (May 13, 1981; W. Zeidler), deposited in SAM (N1999/62).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the extremely long embolus (fig. 363) and curved retrolateral tibial apophysis (fig. 364), females by the large, triangular epigynal atrium (fig. 365).

MALE: Total length 15. Coloration as in *M. plagusius*. Leg spination (legs IV missing): femora: I d3-3-1; II d4-3-1; III d3-1-1; tibiae: I, II v5-4-3; III 1p-1p-1p; metatarsi: I v4-2-2; II v3-2-2; III v2-1p-0. Retrolateral tibial apophysis strong, curved, with serrated tip (fig. 364); embolus extremely long, extending almost full length of bulb (fig. 363).

FEMALE: Total length 21. Coloration as in *M. plagusius*. Leg spination: femora: I d3-2-1; II d3-2-2; III d3-2-1; IV d4-2-1; tibiae I, II v3-4-2; metatarsi: I, II v4-2-1p; III, IV v2-1p-0. Epigynal atrium wide, triangular, with pair of elevated ridges (fig. 365); invaginated



Figs. 367–370. *Morebilus gammon*, new species. **367.** Left male palp, ventral view. **368.** Same, retrolateral view. **369.** Epigynum, ventral view. **370.** Same, dorsal view.

portion of epigynal atrium with posteriorly directed median projection (fig. 366).

OTHER MATERIAL EXAMINED: **South Australia:** Chambers Gorge, 30°58′S, 139°17′E, Sept. 1975 (H. Mawson, SAM N1999/63), 1♀ (penultimate but with full epigynum); Gammon Ranges, ca. 30°30′S, 139°30′E, June 3, 1947, elev. 2500 ft (C. Hutchinson, SAM N1999/64), 1♀; near Greenwood Lodge Motel, Arkaroola Station, Gammon Ranges, 30°20′S, 139°22′E, Oct. 27, 1969, under bark, *Eucalyptus gillii* (G. Gross, SAM N1999/65), 1♂.

DISTRIBUTION: Known only from South Australia (map 27).

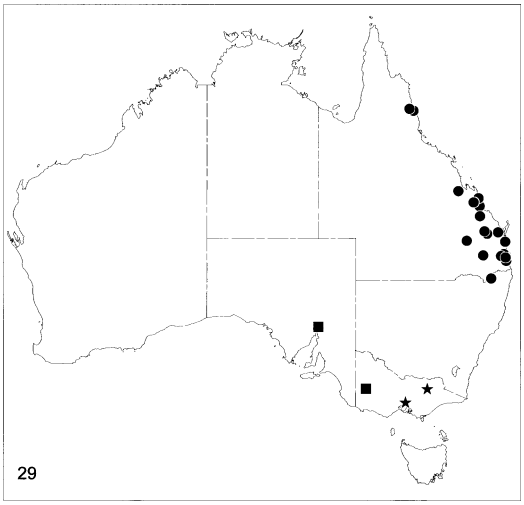
Morebilus gammon, new species

Figures 367–370; Map 28

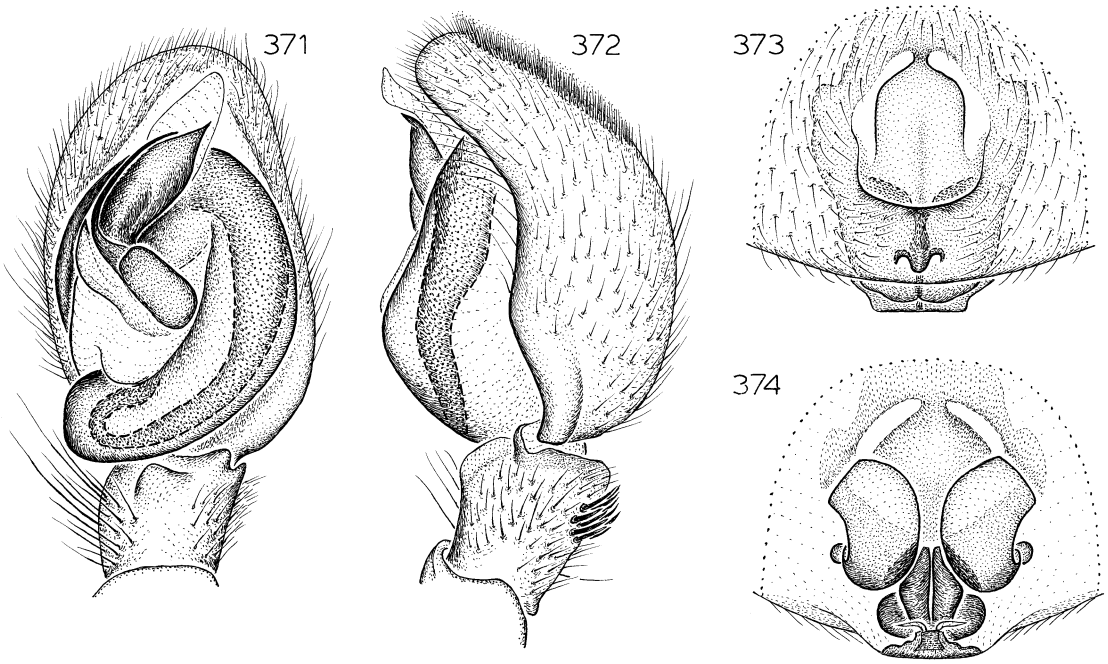
TYPES: Female holotype and male allotype taken under rock at Arcoon Creek, Gammon Ranges National Park, 30°26′S, 138°58′E, South Australia (May 5, 1989; D. Hirst), deposited in SAM (N1999/66, 67).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the long, narrow, sinuous embolus (fig. 367) and prong-shaped retrolateral tibial apophysis (fig. 368), females by the rectan-



Map 29. Records of *Morebilus swarbrecki* (Dunn and Dunn) (stars), *M. fumosus* (L. Koch) (circles), and *M. flinders*, new species (square).



Figs. 371–374. *Morebilus coolah*, new species. **371.** Left male palp, ventral view. **372.** Same, retrolateral view. **373.** Epigynum, ventral view. **374.** Same, dorsal view.

gular median plate in the epigynal atrium (fig. 369).

MALE: Total length 16. Coloration as in *M. plagusius*. Leg spination (legs II missing): femora: I d2-0-0; III d1-0-1; IV d2-0-1; tibiae: I v5-5-2; IV v1p-0-0; metatarsi: I v3-2-2; III v1p-1p-0. Retrolateral tibial apophysis strong, prong-shaped (fig. 368); embolus relatively long, narrow, sinuous, overlying prolateral portion of median apophysis (fig. 367).

FEMALE: Total length 19. Coloration as in *M. graytown*. Leg spination: tibiae: I v4-4-2; II v5-4-2; metatarsi: I v4-2-2; II v3-2-2; III v1p-1p-0; IV 1p-0-0. Epigynal atrium wide, with rectangular median plate (fig. 369); anterior spermathecal ducts v-shaped (fig. 370).

OTHER MATERIAL EXAMINED: **South Australia:** Arcoon Creek, Gammon Ranges National Park, 30°26′S, 138°58′E, May 5, 1989, under rock (D. Hirst, SAM N1999/68, 69), 2♀; upper slopes, W North Tusk Hill, Gammon Ranges National Park, 30°26′S, 138°59′E, May 5, 1989, under rock (D. Lee, SAM N1999/70), 1♀.

DISTRIBUTION: Known only from the Gammon Ranges, South Australia (map 28).

Morebilus coolah, new species

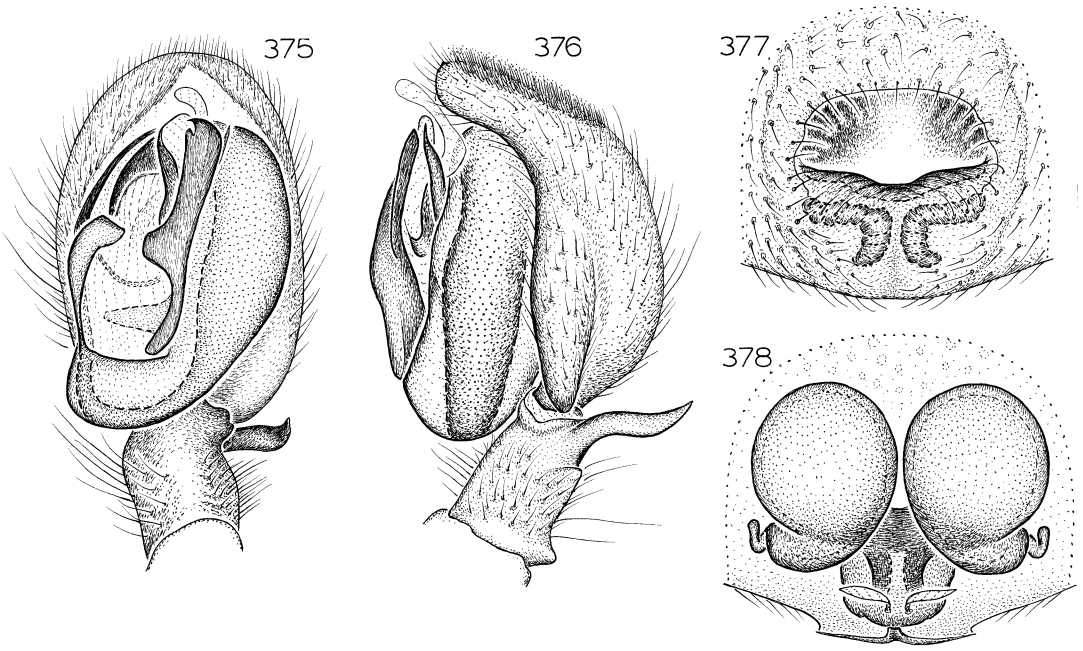
Figures 371–374; Map 28

TYPE: Female holotype from Coolah Valley, 31°50′S, 149°43′E, New South Wales (1935; J. Lecky), deposited in AMS (KS35546).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the clump of stiff spines representing the retrolateral tibial apophysis (fig. 372) and the threadlike distal half of the embolus (fig. 371), females by the anteriorly pointed epigynal atrium (fig. 373) and the membranous anterior lobes on the spermathecae (fig. 374).

MALE: Total length 12. Coloration as in *M. graytown*. Leg spination: femora: I–III d3-0-0; IV d2-0-0; tibiae: II v3-2-2; metatarsi II v2-1p-0. Retrolateral tibial apophysis reduced to patch of stiff spines (fig. 372); embolus abruptly narrowed, at about half its length, into threadlike structure (fig. 371).



Figs. 375–378. *Morebilus fumosus* (L. Koch). **375.** Left male palp, ventral view. **376.** Same, retrolateral view. **377.** Epigynum, ventral view. **378.** Same, dorsal view.

FEMALE: Total length 14. Coloration as in male. Leg spination: femora: I, II d3-0-0; III d4-0-0; IV d2-0-0; tibiae: II v3-2-2; metatarsi: II v2-1p-0; III v2-0-0. Epigynal atrium angular anteriorly (fig. 373); spermathecae with pea-shaped, translucent anterior extensions and laterally directed heads (fig. 374).

OTHER MATERIAL EXAMINED: The single male here associated with the female was taken on Warrumbungle Mountain, 31°15′S, 148°59′E, New South Wales on Apr. 23, 1967 (C. Chadwick, AMS KS35506).

DISTRIBUTION: New South Wales (map 28).

Morebilus fumosus (L. Koch), new combination

Figures 375–378; Map 29

Hemicloea fumosa L. Koch, 1876: 840, pl. 72, figs. 3, 3a, 3b (male holotype from Gayndah, Queensland, in ZMH, examined).

Hemicloea cineracea L. Koch, 1876: 843, pl. 72, figs. 5, 5a (female syntype from Rockhampton, Queensland, in ZMH, examined). NEW SYNONYMY.

DIAGNOSIS: Males can be recognized by the long, dorsally directed retrolateral tibial apophysis (fig. 376) and distally incised embolus (fig. 375), females by the wide, oval epigynal atrium (fig. 377).

MALE: Total length 11. Coloration as in *M. plagusius*. Leg spination: tibiae II v3-2-2; metatarsi II v2-1p-0. Retrolateral tibial apophysis long, distally sinuous, directed dorsally (fig. 376); embolus with incised tip (fig. 375).

FEMALE: Total length 15. Coloration as in *M. graytown*. Leg spination: tibiae II v3-2-2; metatarsi: II v2-1p-0; III v2-0-0. Epigynal atrium transverse, wide oval, deepest medially (fig. 377); spermathecae rotund, with anterolaterally directed heads (fig. 378).

MATERIAL EXAMINED: **Queensland:** 15 mi W Brisbane, 27°30′S, 153°01′E, Nov. 24, 1962, elev. 400 m (E. Ross, D. Cavagnaro, CAS), 1♀; Calamvale, 27°28′S, 153°03′E, Sept. 16, 1981 (B. Rice, QMB S28460), 1♀; Caboolture, 27°05′S, 152°57′E, Apr. 4, 1986 (D. Bligh, QMB S28674), 1♂, Sept. 1995 (D. Bligh, QMB S30141), 1♀; Clarke Creek, 190 km SSE Mackay on Bruce Highway, 22°34′S, 149°16′E, Aug. 27, 1980, under eucalypt bark (M. Harvey, ANIC), 1♀; W Considine Bay, North Keppel Island, 23°05′S, 150°54′E, Aug. 31, 1987, closed thickets and

low, open forest (M. Bennie, QMB S28679), 1♀; Cooloola, 26°12′S, 153°03′E, Apr. 14, 1979 (A. Inch, QMB S28490), 1♀; Darlington Road, Binjour Plateau, 25°32′S, 152°29′E, Nov. 17, 2000, elev. 362 m (N. Platnick, R. Raven, B. Baehr, AMNH), 1♀; Gayndah, 25°38′S, 151°36′E, Godeffroy collection 14619 (ZMH), 1♂ (holotype); Girraween, 28°50′S, 151°55′E, Dec. 2, 1973, under rock, open eucalypt forest (R. Raven, QMB S28456), 1♀; Gurgeena Plateau, 25°27′S, 151°23′E, Jan. 27–June 2, 1999, rainforest intercept, elev. 360 m (G. Monteith, G. Thompson, QMB S51124), 1♂; Kroombit Tops, northern escarpment, 45 km SSW Calliope, 24°22′S, 151°01′E, Dec. 9–19, 1983, open forest (V. Davies, J. Gallon, QMB S28446), 1♀; Kuranda, 16°49′S, 145°39′E, May 31–June 4, 1928 (F. Blanchard, AMNH), 1♀; Lacey's Creek, 27°14′S, 152°43′E, Aug. 2, 1988, under rock (R. McKay, QMB S28493), 1♀; Lake Broadwater, via Dalby, 27°11′S, 151°16′E, Nov. 24, 1985–Jan. 3, 1986, pitfall (M. Bennie, QMB S34488), 1♂; Leslie-Harrison Dam, near Capalaba, 27°31′S, 153°11′E, Nov. 8, 1976 (R. Hiatt, QMB S28441), 1♀; Long Island, May 1956 (NMV K3514), 1♀; Mount Molloy, 16°41′S, 145°20′E, Nov. 1970 (F. Little, QMB S26449), 1♀, May 12, 1973, under bark on log (F. Little, QMB S28492), 1♀, 1974 (P., F. Little, QMB S28455), 1♂, 3♀, 1975 (F. Little, QMB S28449), 1♀; Rochedale, 27°34′S, 153°08′E, Aug. 13, 1973, under logs (R. Raven, QMB S28483), 2♀; Rockhampton, 23°22′S, 150°32′E, Jan. 20, 1994 (D. Wallace, QMB S48066), 1♀; Rockhampton, 23°23′S, 150°30′E, Museum Godeffroy (ZMH), 1♀, 1j (syntypes); Rundle Range State Forest, 23°39′S, 150°59′E, Mar. 24–31, 1975 (V. Davies, R. Kohout, QMB ex S28450), 1♀; Shorncliffe, 27°20′S, 153°05′E, June 6, 1980 (A. Jones, QMB S26445), 1♀; Wandoan, 26°08′S, 149°57′E, Oct. 28, 1979 (A. Rozefelds, QMB S28463), 1♀.

DISTRIBUTION: Widespread in eastern Queensland (map 29).

SYNONYMY: Simultaneous collection of both sexes indicates that *Hemicloea cineracea* is the female of *Hemicloea fumosa*.

Morebilus nipping, new species

Figures 379–382; Map 30

TYPE: Male holotype taken in a pitfall trap in open forest at an elevation of 320 m at Nipping Gully, 25°41′S, 151°26′E, Queensland (Jan. 25–June 2, 1999; G. Monteith, G. Thompson), deposited in QMB (S51131).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This appears to be the sister species of *M. fumosus*, sharing with it a long, dorsally directed retrolateral tibial apophysis (fig. 380). Males can be distinguished by the distally narrowed embolus (fig. 379), females by the more dumbbell-shaped spermathecae (fig. 382).

MALE: Total length 11. Coloration as in *M. plagusius*. Leg spination: tibia II v3-2-2; metatarsus II v2-1p-0. Retrolateral tibial apophysis long, distally sinuous, directed dorsally (fig. 380); embolus with narrowed tip, not incised (fig. 379).

FEMALE: Total length 17. Coloration as in male. Leg spination: tibia II v3-2-2; metatarsus II v2-1p-0. Epigynal atrium transverse, wide oval, deepest medially (fig. 381); spermathecae dumbbell-shaped, with anterolaterally directed heads (fig. 382).

OTHER MATERIAL EXAMINED: **Queensland:** Egans Creek, Crows Nest, 27°16′S, 152°03′E, Apr. 5, 1964 (QMB S28491), 1♀; Nipping Gully, 25°40′S, 151°26′E, Jan. 26, 1999, vine forest, elev. 300 m (G. Monteith, Gough, D. Cook, G. Thompson, QMB S51127), 1♀.

DISTRIBUTION: Known only from southeastern Queensland (map 30).

Morebilus diversus (L. Koch), new combination

Figures 383–386; Map 30

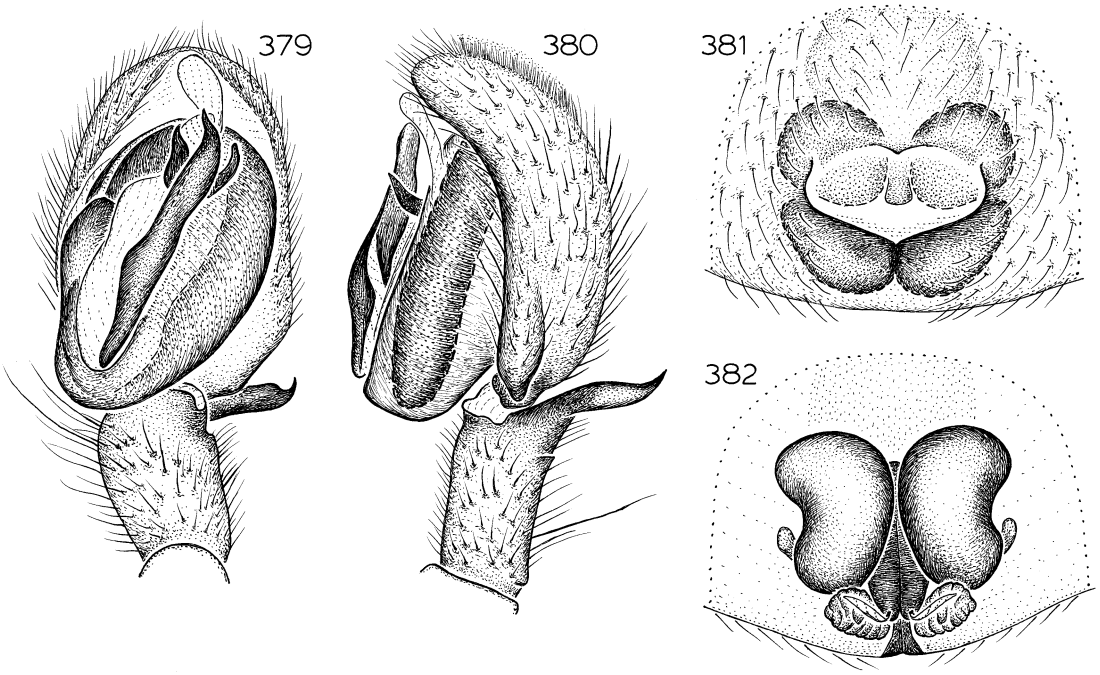
Hemicloea diversa L. Koch, 1875: 622, pl. 39, figs. 4, 4a (female holotype from Bowen, Queensland, in ZMH, examined).

Hemicloea praesignis L. Koch, 1876: 837, pl. 42, figs. 1, 2, 2a, 2b (male syntype from Peak Downs, Queensland, in ZMH, examined). NEW SYNONYMY.

Rebilus diversus: Simon, 1880: 239.

Rebilus praesignis: Simon, 1880: 239.

Hemicloea limbata (misidentification): Rainbow, 1912: 203.



Figs. 379–382. *Morebilus nipping*, new species. **379.** Left male palp, ventral view. **380.** Same, retrolateral view. **381.** Epigynum, ventral view. **382.** Same, dorsal view.

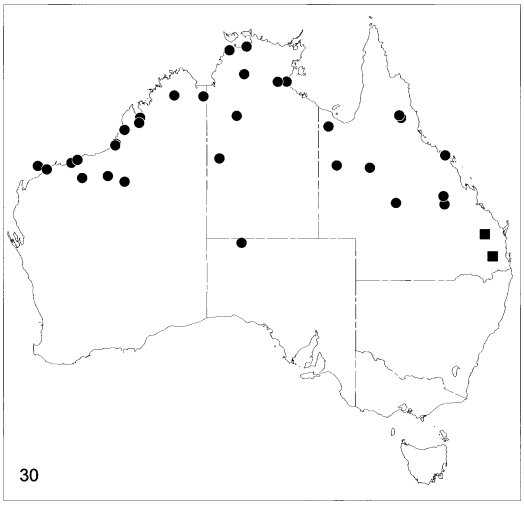
Hemicloea sundevalli (misidentification): Rainbow, 1912: 203.
Rebilus sp.: Platnick, 1990: 38, figs. 143–146.

DIAGNOSIS: Males resemble those of *M. tambo* in having dorsally directed spines present on the retrolateral tibial apophysis (fig. 384), but can be distinguished by the subdistal embolar expansion (fig. 383); females also resemble those of *M. tambo* in having a relatively long, narrow epigynal atrium, but have the atrium restricted to the anterior portion of the epigynum (fig. 385) and smaller, basally wider spermathecae (fig. 386).

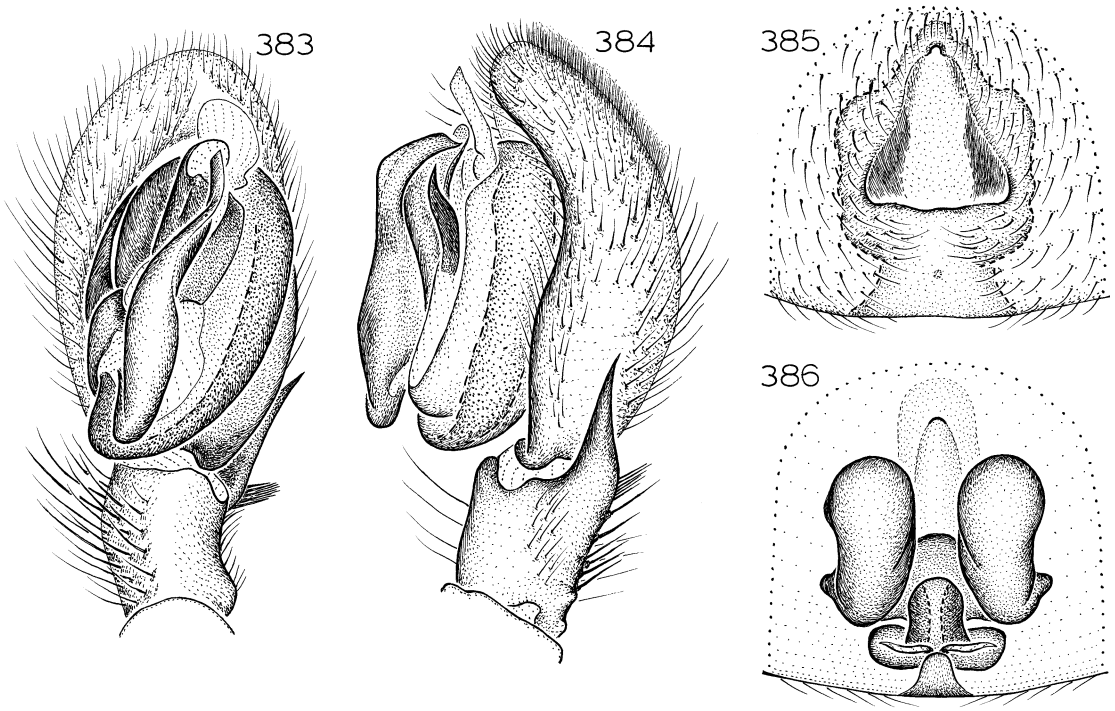
MALE: Total length 10. Coloration as in *M. plagusius*. Leg spination: femora: I d3-1-0; II, III d4-1-0; IV d2-1-0; tibiae: II v4-2-1r; metatarsi: I v2-2-1p; II v3-3-0. Retrolateral tibial apophysis long, triangular, sinuous near base, with dorsally directed spines (fig. 384); embolus with truncated basal lobe and arched, subdistally expanded tip (fig. 383).

FEMALE: Total length 12. Coloration as in *M. graytown*. Leg spination: femora: I–III d3-1-0; IV d2-1-0; tibiae: I v4-3-2; II v4-2-1p; metatarsi: I, II v2-2-1p. Epigynum with long, narrow, anteriorly situated atrium (fig. 385); spermathecae kidney-shaped, with laterally directed heads (fig. 386).

MATERIAL EXAMINED: **Northern Territory:** Bullock Creek, Camfield Homestead,

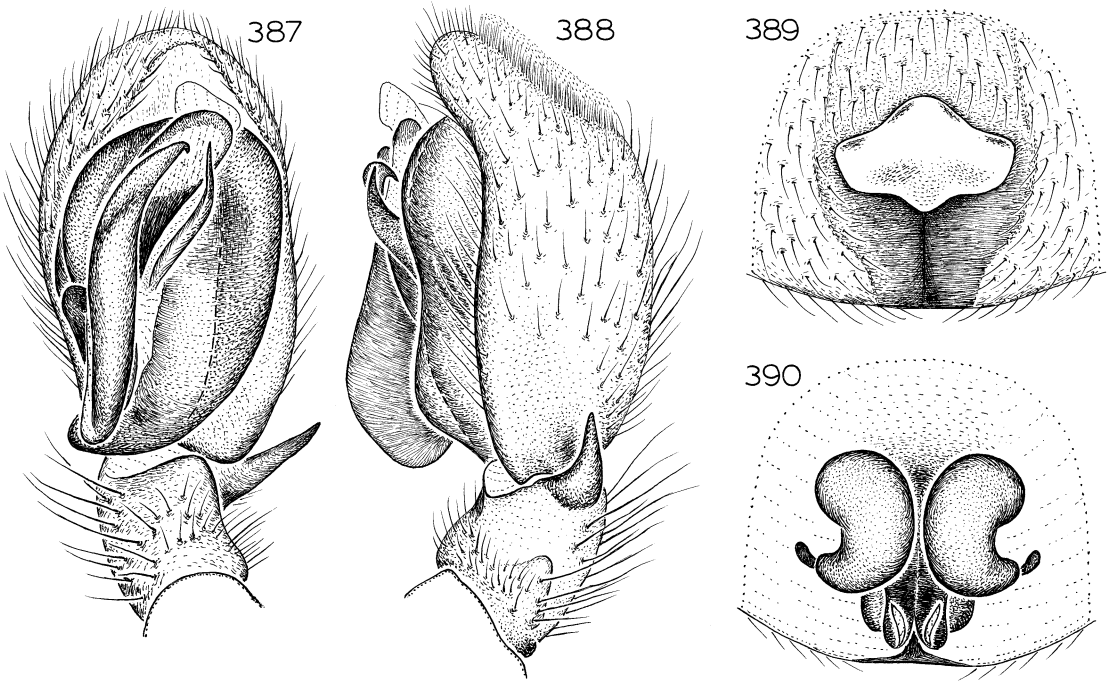


Map 30. Records of *Morebilus nipping*, new species (squares) and *M. diversus* (L. Koch) (circles).



Figs. 383–386. *Morebilus diversus* (L. Koch). **383.** Left male palp, ventral view. **384.** Same, retrolateral view. **385.** Epigynum, ventral view. **386.** Same, dorsal view.

17°10′S, 131°25′E, Aug. 19, 1982 (I. Archibald, MNT), 1♀ (penultimate but with full epigynum); Darwin, 12°28′S, 130°50′E, Oct. 14, 1913 (NMV K3493), 1♀, May 1952 (E. Crawford, NMV K3513), 1♀; creek 5 km E Edith River Crossing, 14°11′S, 132°02′E, Aug. 28, 1995 (B., M. Baehr, CBB), 1♂; 2 mi N Northern Territory border, Apr. 14, 1979, under bark (D. Black, ANIC), 1♀; Rabbit Flat, 20°13′S, 130°01′E, Oct. 13, 1975, roadhouse (G. Gow, MNT), 1♀; Roper River, 14°43′S, 135°27′E (M. Colelough, QMB W2173a, b, W2177a, b), 3♂, 1♀; Roper River, 14°44′S, 134°44′E (SAM N1999/26), 1♂; West Alligator Mouth, 12°12′S, 132°13′E, July 22–24, 1979 (G. Monteith, D. Cook, QMB S26433), 1♀. **Queensland:** Almaden, 17°20′S, 144°41′E, Mar. 1929 (W. Campbell, AMS KS35520), 2♀; Bowen, 20°01′S, 148°14′E, Godeffroy collection 11002 (ZMH), 1♀ (holotype); Chillagoe, 17°09′S, 144°31′E, Dec. 15, 1997 (L. Little, QMB S34635), 1♀; Doomadgee, 17°56′S, 138°49′E, Nov. 29, 1963 (L. Fawsett, SAM N1999/27), 1♂; Emerald, 23°32′S, 148°10′E, Aug. 29, 1995 (E. Allen, QMB S26447), 1♀; Longreach, 23°26′S, 144°15′E, Mar. 10, 1992, in garden, elev. 150–200 m (A. Emmott, QMB S20399), 1♂; Mount Isa, E. Leichhardt River, 1 km downstream from dam wall, 20°44′S, 139°29′E, May 25–June 18, 1988 (K. Mitchell,, B., W. Barton, AMS KS30265), 1♀; Peak Downs, 22°56′S, 148°05′E (Godeffroy collection 14622, ZMH), 1♂ (syntype); Proa Station, 20 m S Nelia, 20°54′S, 142°09′E, May 7–13, 1978 (J. Covacevich, QMB S28467), 1♀. **South Australia:** 7 km NE Mount Woodroffe, Musgrave Ranges, 26°17′S, 131°48′E, Oct. 16, 1994, under bark of dead hakea (SAM N1996/41, 42), 2♂. **Western Australia:** Anna Plains Station, 19°17′S, 121°37′E, Jan. 6, 1981 (A., M. Douglas, WAM 84/656), 1♀; Barrow Island, John Wayne Country, 20°45′S, 115°22′E, Nov. 4-Dec. 2, 1993, pitfall, rocky site (M. Harvey, J. Waldock, WAM 96/1592), 1♂; 181 km SW Broome, off highway to Port Hedland, ca. 19°10′S, 121°40′E, Aug. 17, 1983 (W. McKenzie, QMB S34524), 1♂; 12 km E Derby,



Figs. 387–390. *Morebilus flinders*, new species. **387.** Left male palp, ventral view. **388.** Same, retrolateral view. **389.** Epigynum, ventral view. **390.** Same, dorsal view.

17°18′S, 123°38′E, Nov. 24, 1984 (B., M. Baehr, CBB), 1♂; Drysdale River Station, 15°42′S, 126°23′E, Aug. 1, 1993, under bark (A. Longbottom, WAM 96/1596), 1♀ (penultimate but with full epigynum), Oct. 17, 1993, in house (A. Longbottom, WAM 96/1593), 1♂; Fortescue River, 137 km SW Roeburne, 21°00′S, 116°06′E, Dec. 5–6, 1984 (B., M. Baehr, CBB), 1♀; Kunnanurra, 15°46′S, 128°44′E, Sept. 22, 1987 (A. Fischer, SAM N1999/25), 1♂; Langey Crossing, 17°40′S, 123°33′E, Oct. 13, 1962, elev. 10 m (E. Ross, D. Cavagnaro, CAS), 4♀ (with egg case on bark); Lower Carawine Gorge, 21°29′S, 121°01′E, June 18–July 2, 1988 (L. McKenna, WAM 96/1594), 1♀; Mundabullagana Station, 20°32′S, 118°05′E, Aug. 1981 (D. Hirst, SAM N1999/143, 144), 1♂, 1♀; Port Hedland, 20°19′S, 118°34′E, July 1972 (P. Sadlier, WAM 84/677–679), 1♀; Thangoo, 18°10′S, 122°22′E, Oct. 12, 1962, elev. 10 m (E. Ross, D. Cavagnaro, CAS), 5♀; Vampire Gorge, Hamersley Range, 50 km SE Wittenoom, 21°53′S, 122°22′E, Dec. 2, 1984 (B., M. Baehr, CBB), 1♂, 1♀; Woodstock Station, 21°37′S, 118°57′E, Feb. 16, 1989, laundry, day (J. Dell, R. How, J. Waldock, WAM 96/1595), 1♀.

DISTRIBUTION: Widespread across northern Australia (map 30).

SYNONYMY: L. Koch (1876) noted the affinity between the female he assigned to *Hemicloea praesignis* and the holotype of *H. diversa*, separating them only by slight differences in eye spacing that do not appear to differentiate populations within Queensland.

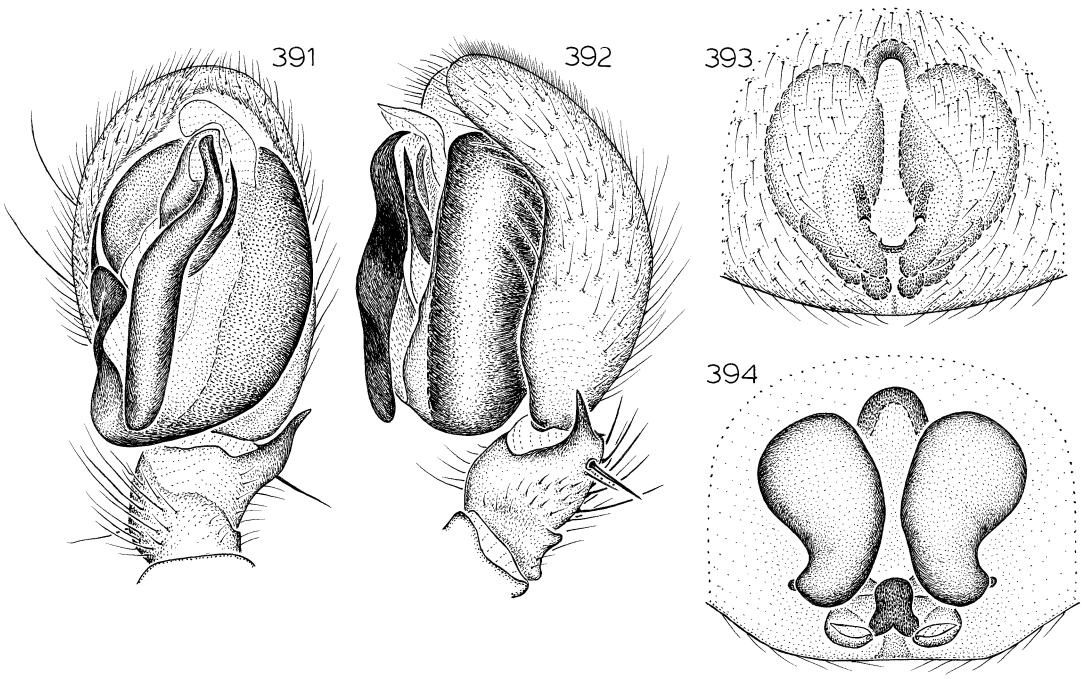
***Morebilus flinders*,** new species

Figures 387–390; Map 29

TYPE: Male holotype taken in a pitfall in a forest with *Eucalyptus cladocalyx* over *Cassinia laevis* 2.2 km NE Dutchman's Peak, Flinders Ranges, 32°19′S, 137°59′E, South Australia (Nov. 20–25, 1999), deposited in SAM (NN9448).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *M. diversus* but have a retrolaterally directed embolar tip (fig. 387) and lack dorsally di-



Figs. 391–394. *Morebilus tambo,* new species. **391.** Left male palp, ventral view. **392.** Same, retrolateral view. **393.** Epigynum, ventral view. **394.** Same, dorsal view.

rected spines on the retrolateral tibial apophysis (fig. 388); females have not been collected with males but also resemble those of *M. diversus*, differing in the shorter epigynal atrium (fig. 389) and more kidney-shaped spermathecae (fig. 390).

MALE: Total length 11. Coloration as in *M. plagusius*. Leg spination: femora I–IV d2-0-0; tibia II v3-2-2; metatarsus II v2-1p-0. Retrolateral tibial apophysis long, triangular, sinuous near base, without dorsally directed spines (fig. 388); embolus with rounded basal lobe and retrolaterally directed tip (fig. 387).

FEMALE: Total length 24. Coloration as in *M. graytown*. Leg spination: tibia: I v3-2-2; II v3-4-4; metatarsi: I v2-3-0; II v2-4-0. Epigynum with short but triangular atrium (fig. 389); spermathecae kidney-shaped (fig. 390).

OTHER MATERIAL EXAMINED: **Victoria:** Mount Arapiles, 36°45′S, 141°50′E, Sept. 18, 1978, under large rock (D. Hirst, SAM N1999/48), 1♀.

DISTRIBUTION: South Australia and Victoria (map 29).

Morebilus tambo, new species

Figures 391–394; Map 31

TYPE: Male holotype taken in rolled up tarp at Caldervale, Tambo, Bullrush Bore, 25°06′S, 146°50′E, Queensland (Oct. 16, 1990; P. Cause), deposited in QMB (S18794).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *M. diversus* in having dorsally directed spines present on the retrolateral tibial apophysis (fig. 392), but can be distinguished by lacking a subdistal embolar expansion (fig. 391); females also resemble those of *M. diversus* in having a relatively long, narrow epigynal atrium (fig. 393), but have a longer atrium, not restricted to the anterior portion of the epigynum (fig. 393) and larger, basally narrower spermathecae (fig. 394).

MALE: Total length 10. Coloration as in *M. graytown*, except leg IV darkest. Leg spination: tibiae I, II v2-3-2; metatarsi II v2-1p-0. Retrolateral tibial apophysis short, with ex-

panded base bearing dorsally directed spines (fig. 392); embolus with truncated basal lobe and arched tip without subdistal expansion (fig. 391).

FEMALE: Total length 10. Coloration as in male. Leg spination: tibiae I v4-2-2; metatarsi II v2-1p-0. Epigynum with long, narrow atrium extending almost to posterior edge of structure (fig. 393); spermathecae anteriorly soft, inflated, with laterally directed heads (fig. 394).

OTHER MATERIAL EXAMINED: **Queensland:** Dargonelly Rock Holes, Mount Moffatt National Park, 25°01′S, 147°57′E, Sept. 20–27, 1986, open forest (M. Bennie, QMB S15955), 1♀; Kumbarilla, W Dalby, 27°19′S, 150°53′E, Nov. 1979 (T. Adams, QMB S28444), 1♀.

DISTRIBUTION: Southern Queensland (map 31).

Morebilus blackdown, new species

Figures 395, 396; Map 31

TYPE: Female holotype from Blackdown Tableland, SW Rockhampton, 23°48′S, 149°08′E, Queensland (Oct. 5–6, 1982; A. Rozefelds), deposited in QMB (S28485).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *M. tambo*, but have a posteriorly widened epigynal atrium containing a distinct, longitudinal septum (fig. 395).

MALE: Unknown.

FEMALE: Total length 11. Coloration as in *M. tambo*. Leg spination: tibiae II v3-2-2; metatarsi II v2-1p-0. Epigynum with pair of semicircular lateral margins and long, narrow atrium extending almost to posterior edge of structure, atrium divided by elevated septum (fig. 395); spermathecae anteriorly soft, inflated, with anterolaterally directed heads (fig. 396).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from mid-eastern Queensland (map 31).

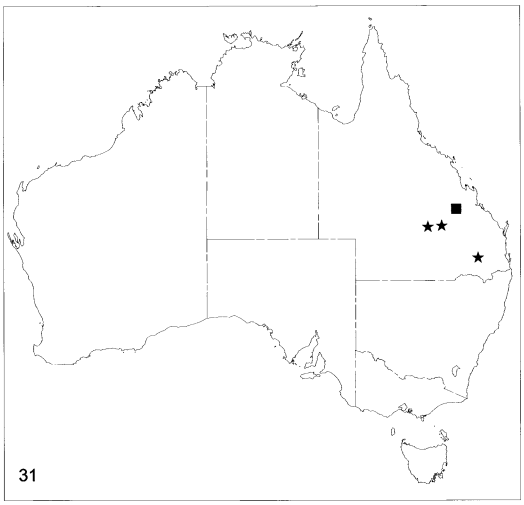
Longrita, new genus

TYPE SPECIES: *Hemicloea insidiosa* Simon.

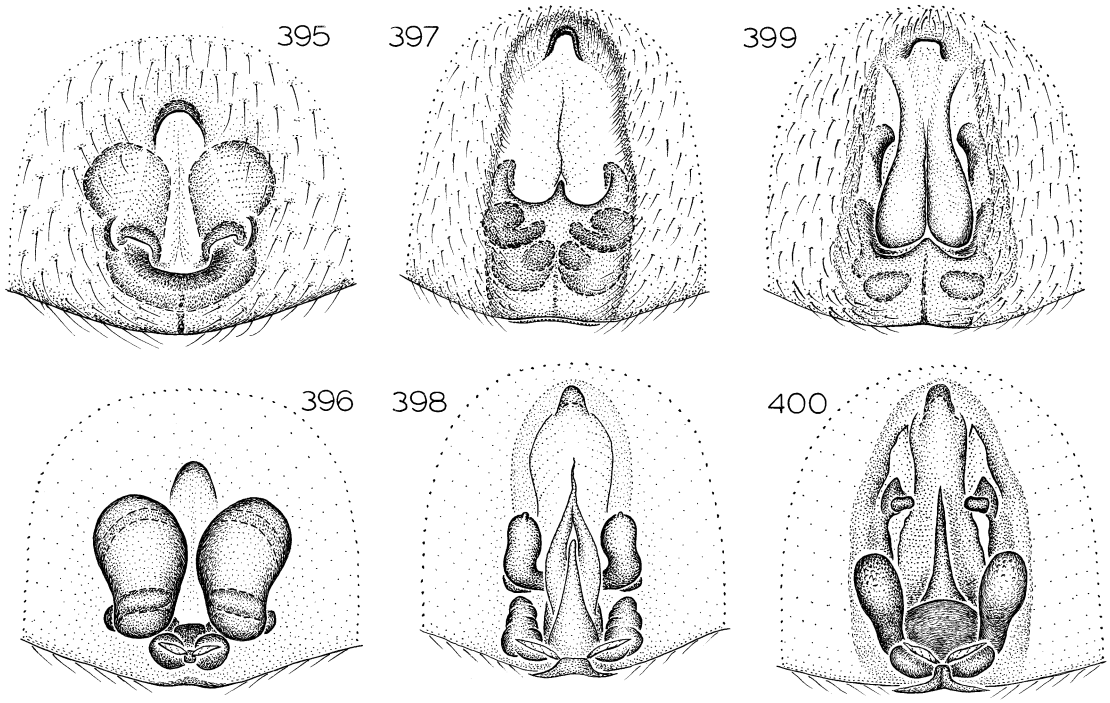
ETYMOLOGY: The generic name is an arbitrary combination of letters, considered feminine in gender.

DIAGNOSIS: Members of this genus resemble those of *Morebilus* in having smooth tarsal claws and a distinct (if somewhat less pronounced) anterior lip on the sternum, but can easily be distinguished by their bizarre genitalia. Males have the retrolateral tibial apophysis enormously elongated, extending almost to the tip of the palpal cymbium (fig. 408). Females show a presumably concomitant elongation of the epigynum, with an anterior hood situated just behind the pedicel, and separated from the remainder of the epigynum by easily extensible cuticle (fig. 409).

DESCRIPTION: Large spiders, total length of males 9–17, of females 10–20. Carapace flattened, without tubercles, with rebordered lateral margins, evenly coated with scattered, dark, stiff, erect setae; few longer, erect, dark setae present (pair at rear of pars cephalica, one opposite each coxa, few at each anterolateral corner and few crossing at midline of clypeus); thoracic groove long, Y-shaped, indistinct, wider anteriorly than posteriorly; cephalic groove pronounced, accompanied by three additional intercoxal grooves on each side. Eight eyes in two rows, anterior medians largest, circular, dark, posterior medians smallest, circular, lenses slightly flattened but canoe-shaped tapetum apparently still present, laterals subequal, almost as large as anterior medians, oval; from above, anterior

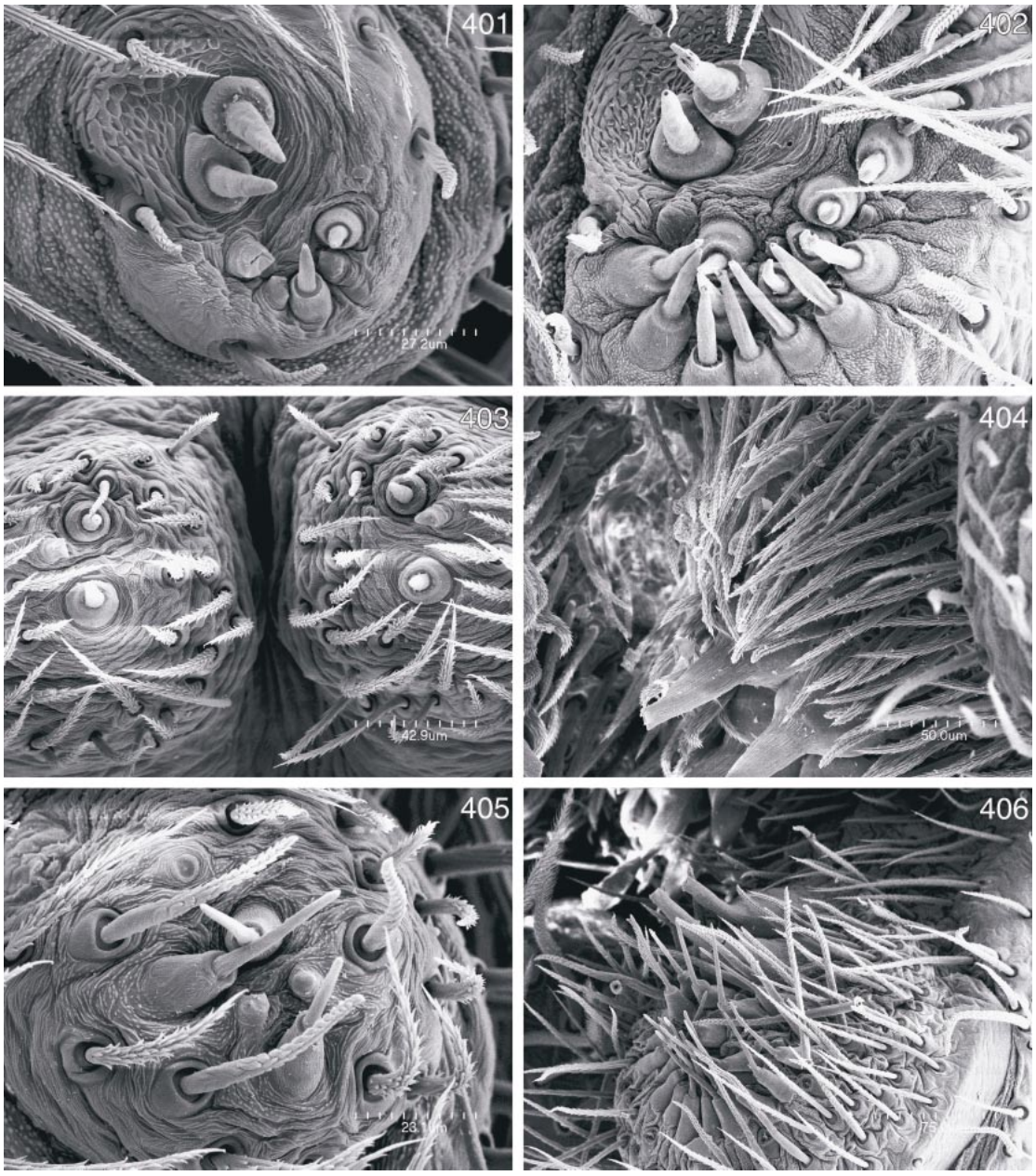


Map 31. Records of *Morebilus tambo*, new species (stars) and *M. blackdown*, new species (square).



Figs. 395–400. Epigyna, ventral (top row) and dorsal (bottom row) views. **395, 396.** *Morebilus blackdown*, new species. **397, 398.** *Pyrnus fulvus* (L. Koch). **399, 400.** *P. insularis*, new species.

eye row slightly procurved, posterior row slightly recurved, from front, both eye rows almost straight; anterior medians separated by more than their diameter, by almost twice their diameter from anterior laterals; posterior medians separated by about five times their diameter, about as far from posterior laterals; anterior and posterior laterals separated by more than their diameter; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with stiff setae along inner margins; chilum very wide, triangular, unipartite but with small area of unsclerotized cuticle along ventral one-third of midline area, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang unmodified; promargin with three teeth, proximal tooth smaller than others, distalmost tooth widely separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings on distinct mound, surrounded by concentric ridges, situated proximal to basal retromarginal tooth. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin rounded at sides. Endites long, divergent, with oblique depression restricted to their median edge; serrula absent (fig. 156), long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, expanded anteriorly into inclined lip, with distinct but rounded extensions to coxae, extensions between coxae represented by three pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle, additional, much larger pair of triangular sclerites situated opposite lateral edges of sternal lip; surface smooth, with few long setae, posterior margin weakly rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to cara-



Figs. 401–406. *Longrita insidiosa* (Simon), spinnerets of male (left) and female (right), distal views. **401, 402.** Anterior lateral spinnerets. **403, 404.** Posterior median spinnerets. **405, 406.** Posterior lateral spinnerets.

pace. Pedicel composed of two dorsal sclerites (anterior sclerite with deep posterior invagination receiving beak-shaped anterior extension of posterior sclerite) and weak, inverted v-shaped ventral sclerite with anteriorly expanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers strongly ridged; colulus represented only by scattered setae situated near narrow posterior spiracle. Six spinnerets (figs. 401–406), anterior laterals short, conical, separated by about their diameter at base, with two articles, distal article with one or two major ampullate gland spigots and numerous small, unmodified piriform gland spigots; posterior medians of males triangular, of females bipartite, anterior portion with one or two large minor ampullate gland spigots and few tiny aciniform gland spigots, enlarged posterior portion with two parallel rows, each row with about seven large cylindrical gland spigots; posterior laterals with two articles, those of females with two large cylindrical gland spigots.

Legs laterigrade, formula 2134, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters not elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi with distal preening brushes composed of row of long, thick setae; tarsi with two long, smooth claws bearing no ventral teeth, strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, extremely short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing several tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora I–IV d1-1-1; tibiae: I, II v3-2-2; III, IV v1p-1p-0; metatarsi: I, II v2-1p-0; III v1p-0-0.

Male palpal tibia with large basal retrolateral protuberance, retrolateral apophysis enormously elongated, extending to or near tip of cymbium; cymbium with thick distal scopula; cymbial surface distinctly invaginated opposite retrolateral tibial apophysis, along most of its length; tegulum small, embolar base elongated, protruding prolaterally, embolus greatly widened, complex, extending across middle of bipartite median apophysis, prolateral flange of median apophysis bearing retrolaterally directed projection, retrolateral flange reduced to narrow projection, embolus accompanied distally by membranous conductor. External epigynum greatly elongated, with distinct anterior hood situated at level of pedicel, separated from remainder of epigynum by extensible cuticle; pair of c-shaped tubes frequently extend into atrium (may be blind ducts, derived from male palp, or products of secretory glands).

SPECIES GROUPS: Two informal species groups can be recognized. The *insidiosus* group comprises four species with a bifid retrolateral apophysis tip and strong lateral epigynal margins outlining a v-shaped atrium: *L. insidiosa*, *L. grasspatch*, *L. zuytdorp*, and *L. findal*. The *arcoona* group comprises the remaining five species, which have a transversely striated epigynum: *L. arcoona*, *L. whaleback*, *L. rastellata*, *L. millewa*, and *L. yuinmery*.

KEY TO SPECIES OF *LONGRITA*

1. Males 2
– Females 10
2. Retrolateral tibial apophysis incised at tip (figs. 408, 412) 3
– Retrolateral tibial apophysis not incised at tip 6
3. Embolus with beak-shaped projection on prolateral side of tip (fig. 407) . . . . *insidiosa*
– Embolus without beak-shaped projection 4
4. Embolus with distal notch (figs. 415, 419) 5

– Embolus without distal notch (fig. 411) . . . . . *grasspatch*
5. Tip of retrolateral tibial apophysis with two sharp points (fig. 416) . . . . . *zuytdorp*
– Tip of retrolateral tibial apophysis with one sharp point (fig. 420) . . . . . *findal*
6. Retrolateral tibial apophysis expanded dorsally at base (fig. 432) . . . . . *rastellata*
– Retrolateral tibial apophysis not expanded dorsally 7
7. Embolar base with prolateral projection at about half its length (figs. 435, 439) . . . 8
– Embolar base without prolateral projection 9
8. Embolar tip relatively small (fig. 439) . . . . . *yuinmery*
– Embolar tip relatively large (fig. 435) . . . . . *millewa*
9. Embolar tip relatively long (fig. 427) . . . . . *whaleback*
– Embolar tip relatively short (fig. 423) . . . . . *arcoona*
10. Epigynum with posterior margin projecting anteriorly into atrium (figs. 437, 441) 11
– Epigynum otherwise 12
11. Posterior margin of epigynum at least slightly incised at midline (fig. 441) . . . . . *yuinmery*
– Posterior margin of epigynum not incised at midline (fig. 437) . . . . . *millewa*
12. Epigynal atrium v-shaped (as in figs. 413, 421, 429, 433) 13
– Epigynal atrium not v-shaped (fig. 425) . . . . . *arcoona*
13. Epigynum with numerous, pronounced transverse wrinkles (fig. 429) . . . . . *whaleback*
– Epigynum otherwise 14
14. Epigynal atrium relatively wide (figs. 421, 433) 15
– Epigynal atrium relatively narrow (figs. 409, 413, 417) 16
15. Anterior epigynal margin relatively narrow (fig. 421) . . . . . *findal*
– Anterior epigynal margin relatively wide (fig. 433) . . . . . *rastellata*
16. Lateral epigynal margins sinuous (fig. 413) . . . . . *grasspatch*
– Lateral epigynal margins not sinuous (figs. 409, 417) 17
17. Lateral epigynal margins smoothly v-shaped (fig. 409) . . . . . *insidiosa*
– Lateral epigynal margins angled posteriorly (fig. 417) . . . . . *zuytdorp*

Longrita insidiosa (Simon), new combination

Figures 156, 401–410; Map 32

Hemicloea insidiosa Simon, 1908: 382 (female syntypes from N of Subiaco and East Fremantle, both near Perth, Western Australia, in ZMH and MNHN, examined).

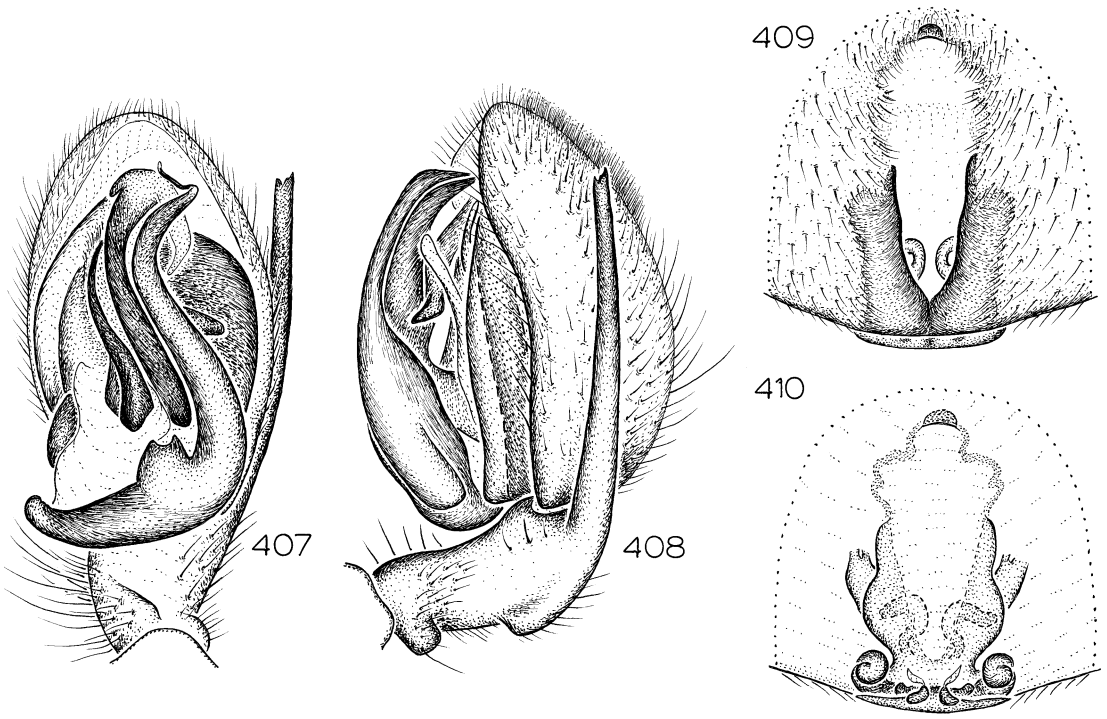
DIAGNOSIS: Males can easily be recognized by the shape of the distal portion of the embolus, with a distinctly recurved tip on the prolateral sclerotized portion (fig. 407), females by the widely diverging lateral epigynal margins (fig. 409).

MALE: Total length 11. Carapace dark chestnut brown, with black reticulations; abdominal dorsum and sides dark charcoal gray, venter pale gray; anterior legs reddish brown, posterior legs duller. Leg spination typical for genus. Palpal tibia deeply invaginated between basal protuberance and base of retrolateral apophysis, tip of apophysis serrate (fig. 408); embolus folded for most of its length, with strongly sclerotized retrolateral and prolateral portions separated by weakly sclerotized median portion, prolateral portion with recurved tip, prolateral portion of median apophysis with transverse prong extending behind embolus, visible ventrally on retrolateral side of embolus (fig. 407).

FEMALE: Total length 11. Coloration as in male. Leg spination typical for genus. Lateral epigynal margins anteriorly divergent, notched, atrium deeply invaginated, especially posteriorly, anterior hood small (fig. 409); spermathecae small, coiled (fig. 410).

VARIATION: The single female available from Thumb Peak presents some odd differences; the cuticle lining the epigynal atrium is heavily sclerotized (in other specimens, it is virtually unsclerotized), and the atrium itself is more rounded than in the other available specimens. Although it is conceivable that a second species is involved, a developmental abnormality seems more likely. The epigynal margins do share the distinctive anterior notch typical of this species.

MATERIAL EXAMINED: **South Australia:** 8 km NW Lock, Eyre Peninsula, 33°31′S, 135°42′E, Jan. 6, 1976, under rock (J. McNamara, SAM N1999/71), 1♀; 1 km NW summit of Mount Wedge, 33°29′S, 135°09′E, Mar. 31, 1987, under rock in creekbed (D.



Figs. 407–410. *Longrita insidiosa* (Simon). **407.** Left male palp, ventral view. **408.** Same, retrolateral view. **409.** Epigynum, ventral view. **410.** Same, dorsal view.

Lee, D. Hirst, SAM N1999/28), 1♀; Wharminda Wells, 33°56′S, 136°10′E, Mar. 24, 1987 (D. Lee, D. Hirst, SAM N1999/30, 31), 2♀. **Western Australia:** Avon Valley National Park, 25 km W Toodyay, 31°36′S, 116°18′E, Nov. 19–21, 1987 (M. Baehr, CBB), 2♀; Bold Park Reserve, 31°57′S, 115°46′E, Dec. 1989 (R. How, WAM 99/321), 1♂, Nov. 23–Dec. 24, 1993, dry pitfall (R. How, WAM 99/319, 320), 2♂; 20 mi S Borden, 34°05′S, 118°16′E, Sept. 23, 1962, elev. 200 m (E. Ross, D. Cavagnaro, CAS), 2♀; Bunbury, 33°20′S, 115°38′E, Nov. 6, 1948 (NMV K3508), 2♀; 13 mi W Bridgetown, 33°57′S, 116°08′E, Sept. 25, 1962, elev. 320 m (E. Ross, D. Cavagnaro, CAS), 1♀; East Fremantle, 32°03′S, 115°46′E, June 27–Aug. 29, 1905 (W. Michaelsen, R. Hartmeyer, MNHN), 1♀ (syntype); Gelorup, 33°23′S, 115°39′E, Nov. 28, 1990 (Z. Longbottom, WAM 99/330), 1♂; Gelorup Rise, 33°23′S, 115°39′E, Nov. 20, 1993, in house (K. Longbottom, WAM 99/331), 1♀; Gosnells, 32°05′S, 116°00′E, Aug. 2, 1949 (WAM 99/335), 1♀; Grasspatch, 33°14′S, 121°43′E, Feb. 4, 1992, in house (A. Longbottom, WAM 99/329), 1♀; junction, Great Southern Highway and Yarra Road, 31°54′S, 116°28′E, Aug. 13, 1994 (M. Harvey, M. Blosfelds, WAM 99/336), 1♀; Hepburn Heights, 31°49′S, 115°46′E, Sept. 25–Nov. 28, 1995, pitfall (M. Harvey, J. Waldock, WAM 99/322), 1♂; Israelite Bay, 33°37′S, 123°55′E, Dec. 17, 1995 (M., B. Moulds, K. Kopestonsky, AMS KS52274), 1♀; Juranda Rockhole, S Balladonia, 33°13′S, 123°27′E, Mar. 16, 1996, under bark (D. Hirst, SAM N1999/29), 1♀; Kelmscott, 32°07′S, 116°01′E, Nov. 23, 1977, under stone (M. Cole, WAM 84/664), 1♀; Kojonup area, 33°50′S, 117°09′E, Apr. 17, 1972, under stone (E. Ride, WAM 84/665), 1♀; Mount Claremont, 31°58′S, 115°46′E, Oct. 11–31, 1994, dry pitfalls (R. How, WAM 99/314–316), 2♂, 1♀, Nov. 1–28, 1994, dry pitfall (R. How, WAM 99/318), 1♂, Nov. 4, 1994–Jan. 19, 1995, pitfall (J. Waldock, M. Harvey, WAM 99/317), 1♂; Mount Cooke, 32°25′S, 116°18′E, Sept. 19–Nov. 28, 1991, pitfall (J. Waldock, C. Car, WAM 99/324),

1♂; base of Mount Cooke, 32°25′S, 116°18′E, Aug. 7, 1990 (M. Harvey, J. Waldock, M. Peterson, WAM 99/333, 334), 2♀; base of Mount Dale, W side, 32°08′S, 116°18′E, Sept. 27, 1988, under granite (J. Waldock, WAM 99/418), 1♂; ca. 30 km E Mount Dale on Deefor Road, near Kent Road, 32°03′S, 116°33′E, Oct. 3, 1992, on granite outcrop (J. Waldock, WAM 99/325), 1♂; Norman Road, Cardup, 32°16′S, 116°01′E, Apr. 16–June 17, 1996, pitfall (J. Waldock, P. West, A. Longbottom, WAM 99/326), 1♂; SW Peak Charles at Dog Rock, 32°52′S, 121°11′E, Sept. 1, 1985, under granite slab (A. Longbottom, WAM 99/332), 1♀; Perth, 31°56′S, 115°50′E, Sept. 1910 (E. Mjöberg, NRS), 1♀; Perth Airport, 31°59′S, 115°58′E, Sept. 24–Nov. 18, 1993, pitfall (J. Waldock, WAM 99/328), 1♂; N Subiaco, near Perth, 31°57′S, 115°50′E, May 9–16, 1905 (W. Michaelsen, R. Hartmeyer, ZMH), 1♀ (syntype); Thomas River, 33°51′S, 123°01′E, May 22, 1977 (R. McMillan, WAM 84/862), 1♀; Thumb Peak, Fitzgerald River National Park, 34°02′S, 119°43′E, Oct. 17, 1995, elev. 500 m (S. Barrett, WAM 99/347), 1♀; Trigg Dune Bush, 31°53′S, 115°46′E, Sept. 25–Nov. 28, 1995, pitfall (M. Harvey, J. Waldock, WAM 99/327), 1♂; Woodman Point, 32°08′S, 115°45′E, Mar. 1–12, 1995, dry pitfall (J. Dell, WAM 99/323), 1♀.

DISTRIBUTION: Southern parts of Western and South Australia (map 32).

Longrita grasspatch, new species

Figures 411–414; Map 33

TYPE: Male holotype taken in kitchen at Sieda, E Grass Patch, 33°14′S, 121°46′E, Western Australia (Nov. 17, 1998; A. Longbottom), deposited in WAM (99/337).

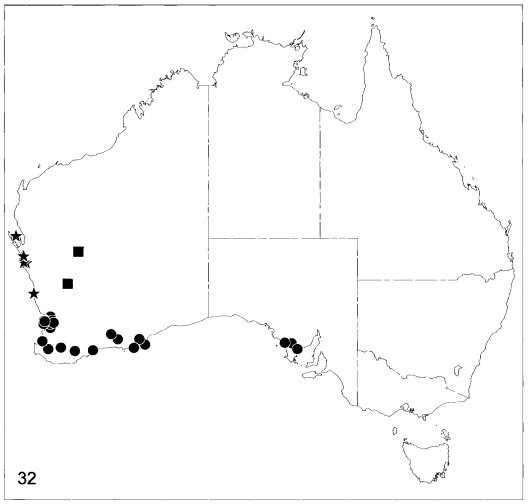
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *L. insidiosa* but have the prolateral sclerotized portion of the embolus wider and flattened (fig. 411); females have distinctively sinuous lateral epigynal margins (fig. 413).

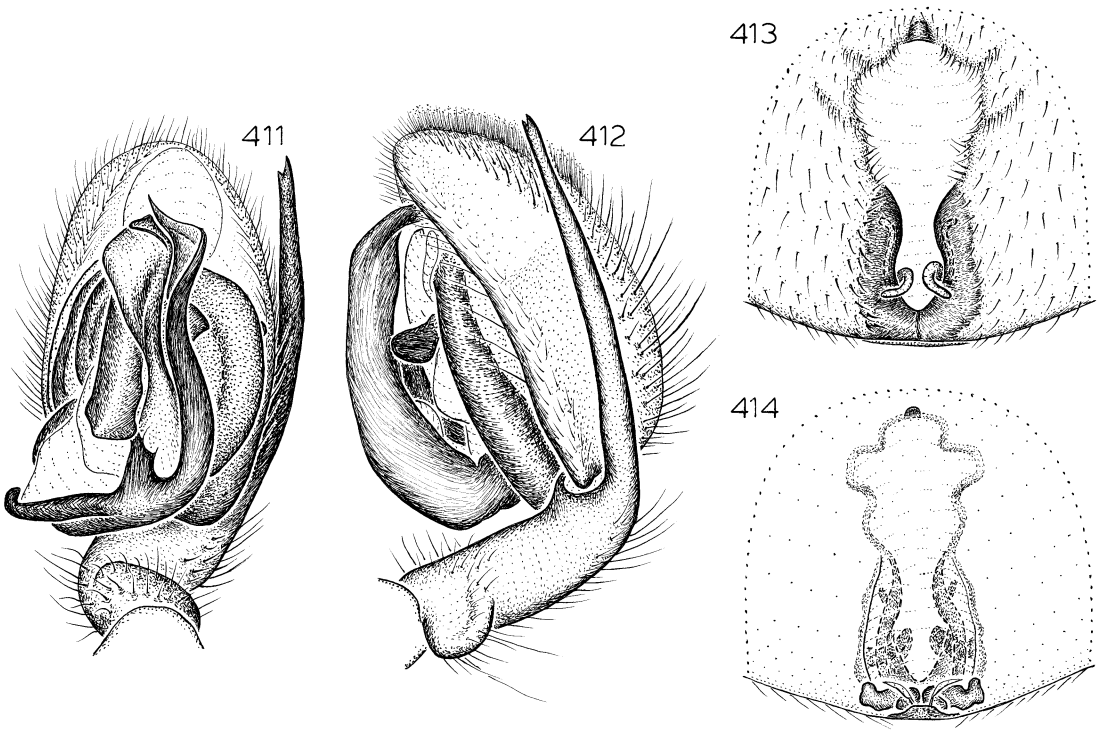
MALE: Total length 9. Coloration as in *L. insidiosa* except all legs very light brown. Leg spination: femora I–IV d4-1-1. Palpal tibia deeply invaginated between basal protuberance and base of retrolateral apophysis, tip of apophysis bifid (fig. 412); embolus folded for most of its length, with strongly sclerotized retrolateral and prolateral portions separated by narrow, weakly sclerotized median portion, prolateral portion distally widened, flattened, prolateral portion of median apophysis with transverse prong extending behind embolus, tip visible ventrally on retrolateral side of embolus (fig. 411).

FEMALE: Total length 13. Coloration as in *L. insidiosa* except all legs reddish brown. Leg spination: femora I–IV d3-1-1; metatarsi: III v2-0-0; IV v1p-0-0. Lateral epigynal margins sinuous, making posterior portion of atrium nearly diamond-shaped, anterior hood bell-shaped (fig. 413); spermathecae small, coiled (fig. 414).

OTHER MATERIAL EXAMINED: **Western Australia:** Booanya, 32°46′S, 123°36′E, Dec. 16, 1929 (A. Baesjou, AMS KS35551), 1♀, Feb. 1932 (A. Baesjou, NMV K3503), 1♀; Boorabbin, 31°14′S, 120°19′E, July 1980, debris, samphire-lithic complex (W. Humphreys, WAM 99/345), 1♀; Juranda Rockhole, S Balladonia, 33°13′S, 123°27′E, Mar. 16, 1996, under bark (D. Hirst, SAM N1999/142), 1♀; McDermit Rock, 32°01′S, 120°44′E, Feb. 1981, on rock (M. Vaughan, WAM 99/344), 1♀; Sieda, E Grass Patch, 33°14′S, 121°46′E, Sept. 29, 1983, under



Map 32. Records of *Longrita insidiosa* (Simon) (circles), *L. zuytdorp*, new species (stars), and *L. findal*, new species (squares).



Figs. 411–414. *Longrita grasspatch*, new species. **411.** Left male palp, ventral view. **412.** Same, retrolateral view. **413.** Epigynum, ventral view. **414.** Same, dorsal view.

bark on tree near house (J. Longbottom, WAM 84/726), 1♀, Oct. 4, 1983, in kitchen (A. Longbottom, WAM 84/727), 1♂, Oct. 17, 1983, on kitchen floor (A. Longbottom, WAM 84/728, 729), 2♂, Nov. 3, 1983, on kitchen floor (A. Longbottom, WAM 99/342, 343), 2♂, Dec. 2, 1988, under shoe on veranda (A. Longbottom, WAM 99/338), 1♀, Nov. 23, 1994, under mats (A. Longbottom, WAM 99/339–341), 3♂, Nov. 20, 1997, drowned in water barrel (A. Longbottom, WAM 99/417), 1♂; Trayning, 31°07′S, 117°47′E, Aug. 4, 1989, under rock (A. Dugand, WAM 99/346), 1♀.

DISTRIBUTION: Southwestern Western Australia (map 33).

Longrita zuytdorp, new species

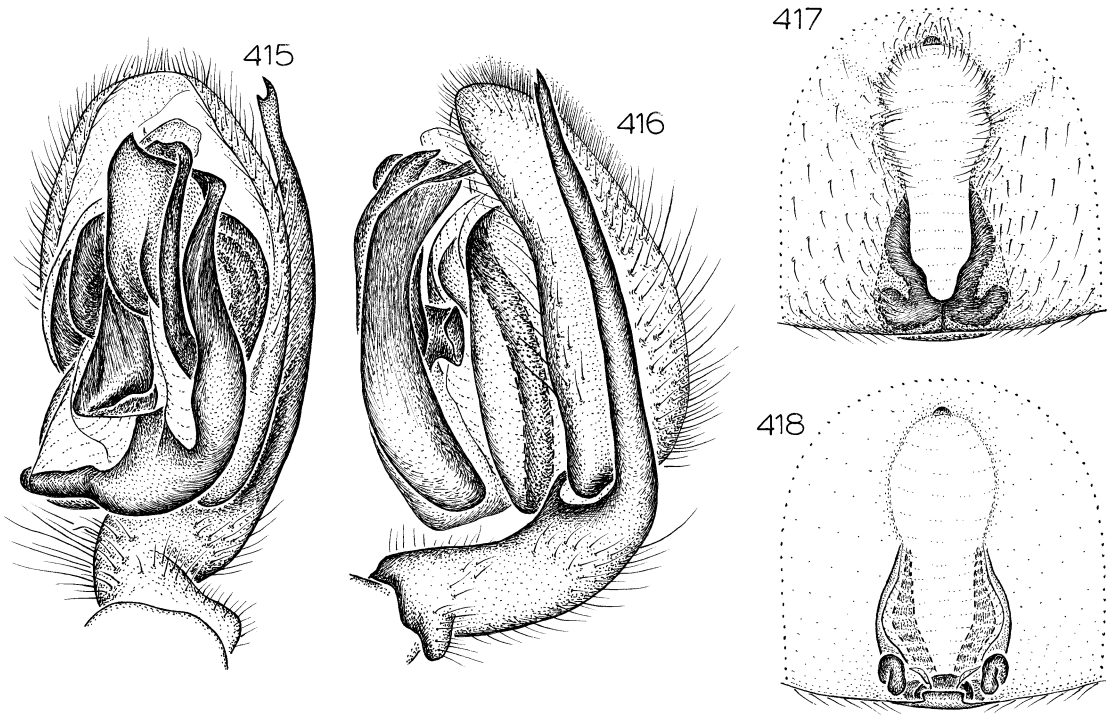
Figures 415–418; Map 32

TYPE: Male holotype taken in dry pitfall trap at Zuytdorp, 27°16′S, 114°09′E, Western Australia (Oct. 14–19, 1994; A. Sampey), deposited in WAM (99/352).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *L. grasspatch* but have a distally excavated prolateral embolar margin (fig. 415); females (not yet collected with males) also resemble those of *L. grasspatch* but lack the anterior expansions of the lateral epigynal margins (fig. 417) and have larger spermathecae (fig. 418).

MALE: Total length 10. Coloration as in *L. grasspatch*. Leg spination: femora: I–III d3-2-1; IV d3-1-0; metatarsus III v2-0-0. Palpal tibia deeply invaginated between basal protuberance and base of retrolateral apophysis, tip of apophysis bifid (fig. 416); embolus folded for most of its length, with strongly sclerotized retrolateral and prolateral portions separated by narrow, weakly sclerotized median portion, prolateral margin of prolateral portion distally excavated, prolateral portion of median apophysis with transverse prong extending behind embolus, tip barely visible

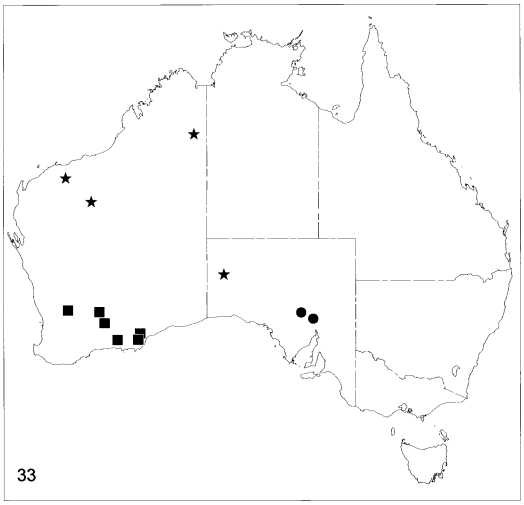


Figs. 415–418. *Longrita zuytdorp*, new species. **415.** Left male palp, ventral view. **416.** Same, retrolateral view. **417.** Epigynum, ventral view. **418.** Same, dorsal view.

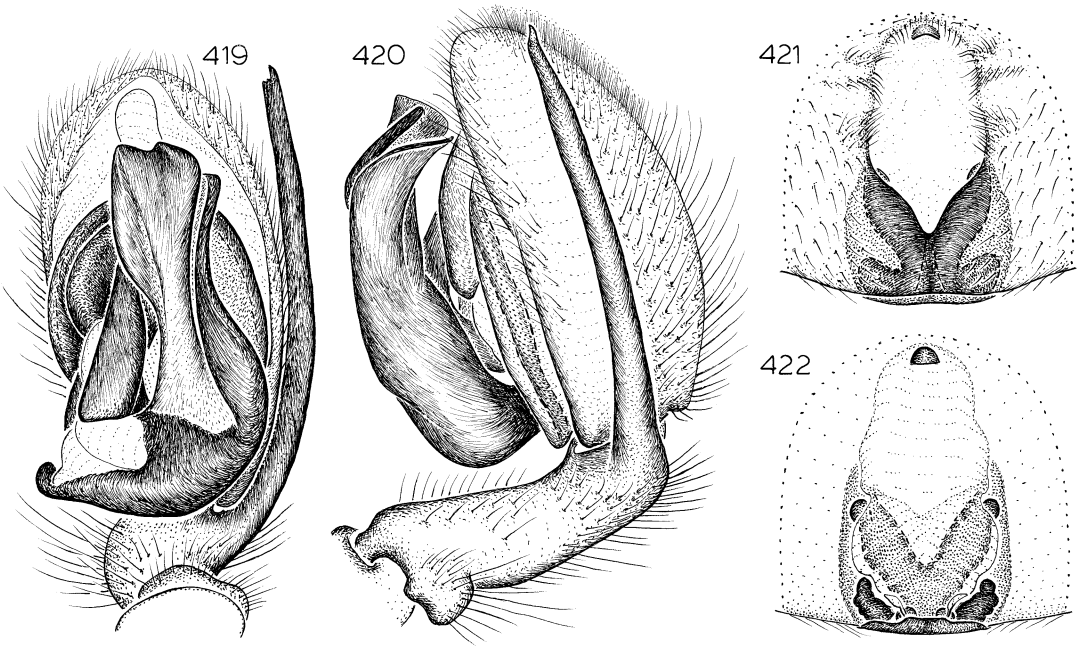
ventrally on retrolateral side of embolus (fig. 415).

FEMALE: Total length 12. Coloration as in *L. insidiosa*. Leg spination: femora: I–IV d3-1-1. Lateral epigynal margins not sinuous, outlining v-shaped atrium, anterior hood bell-shaped (fig. 417); spermathecae relatively large, coiled (fig. 418).

OTHER MATERIAL EXAMINED: **Western Australia:** Francois Peron National Park, 25°49′S, 113°32′E, Aug. 24–Oct. 11, 1999, pitfalls (A. Sampey, WAM 99/356, 357), 2♂, Oct. 11, 1994–Jan. 18, 1995, pitfall (N. McKenzie, F. Rolfe, WAM 99/355), 1♂; Junga Dam, Kalbarri National Park, 27°45′S, 114°21′E, Dec. 10, 1982 (L. Koch, WAM 99/359), 1♀; Kalbarri area, ca. 27°43′S, 114°10′E, Sept. 1–8, 1976 (L. Koch, WAM 99/358), 1♀; Leeman, 29°57′S, 114°58′E, Aug. 31, 1981, limestone heath (R. McMillan, WAM 84/667), 1♀; Zuytdorp, 27°16′S, 114°04′E, Oct. 18, 1994, under bark of log (A. Sampey, WAM 99/419), 1♂, Jan. 11–May 18, 1995, pitfall (M. Harvey, WAM 99/



Map 33. Records of *Longrita grasspatch*, new species (squares), *L. arcoona*, new species (circles), and *L. whaleback*, new species (stars).



Figs. 419–422. *Longrita findal*, new species. **419.** Left male palp, ventral view. **420.** Same, retrolateral view. **421.** Epigynum, ventral view. **422.** Same, dorsal view.

353), 1♂; Zuytdorp, 27°16′S, 114°09′E, Aug. 26–Oct. 16, 1994, pitfall (A. Sampey, WAM 99/354), 1♂.

DISTRIBUTION: Known only from Western Australia (map 32).

Longrita findal, new species

Figures 419–422; Map 32

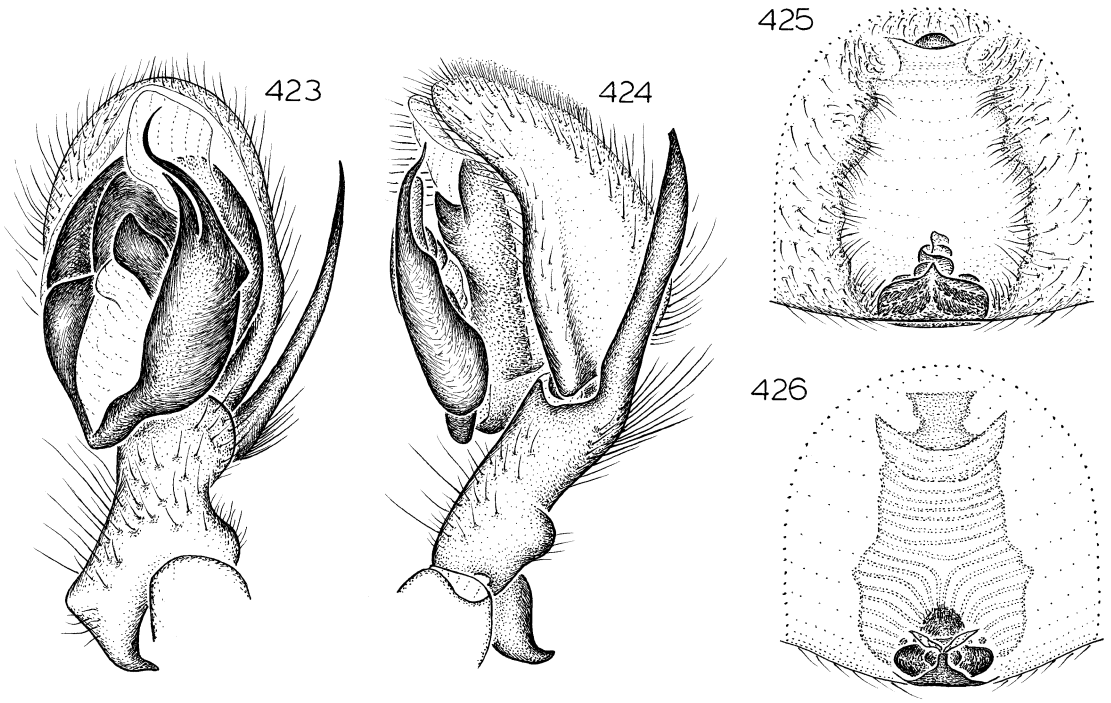
TYPE: Male holotype taken at an elevation of 400 m at a site 17 mi N of Paynes Find, 29°15′S, 117°41′E, Western Australia (Oct. 3, 1962; E. Ross, D. Cavagnaro), deposited in CAS.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Males resemble those of *L. grasspatch* but have the tip of the retrolateral portion of the embolus recessed behind the tip of the prolateral portion of the embolus (in ventral view, fig. 419); females resemble those of *L. insidiosa*, *L. grasspatch*, and *L. zuytdorp* but have shorter lateral epigynal margins (fig. 421).

MALE: Total length 17. Carapace light brown, darkest anteriorly; abdomen light tan throughout; legs long, light brown, anterior tibiae, metatarsi, and tarsi darkened. Leg spination: femora: I, II d3-1-1; III d3-2-1; II d3-1-1; metatarsi: I, II v2-2-0; III v2-1p-0; IV v1p-0-0. Palpal tibia deeply invaginated between basal protuberance and base of retrolateral apophysis, tip of apophysis trifid (figs. 419, 420); embolus folded for most of its length, with strongly sclerotized retrolateral and prolateral portions separated by narrow, weakly sclerotized median portion, prolateral margin of prolateral portion distally only slightly excavated, tip expanded, covering tip of retrolateral portion in ventral view, prolateral portion of median apophysis with transverse prong extending behind embolus, tip not visible ventrally on retrolateral side of embolus (fig. 419).

FEMALE: Total length 20. Carapace light reddish brown, darkest anteriorly; abdominal dorsum and sides light gray, venter white; anterior femora light reddish brown, posterior femora light brown, more distal segments of all legs dark reddish brown. Leg spination: femora: I–III d1-0-0; IV d2-0-0; metatarsi: I, II v2-2-0; III v2-0-0. Lateral margins of epigynum relatively short, con-



Figs. 423–426. *Longrita arcoona*, new species. **423.** Left male palp, ventral view. **424.** Same, retrolateral view. **425.** Epigynum, ventral view. **426.** Same, dorsal view.

gruent for about half their length, so that posterior portion of epigynal atrium appears short, wide (fig. 421), lateral epigynal ducts with heads protruding at about half of epigynal length (fig. 422).

OTHER MATERIAL EXAMINED: The single female here tentatively matched with the holotype was taken at Polelle Station, 26°55′S, 118°33′E, Western Australia, Aug. 2, 1982 (B. Main, WAM 99/360).

DISTRIBUTION: Known only from Western Australia (map 32).

***Longrita arcoona*,** new species

Figures 423–426; Map 33

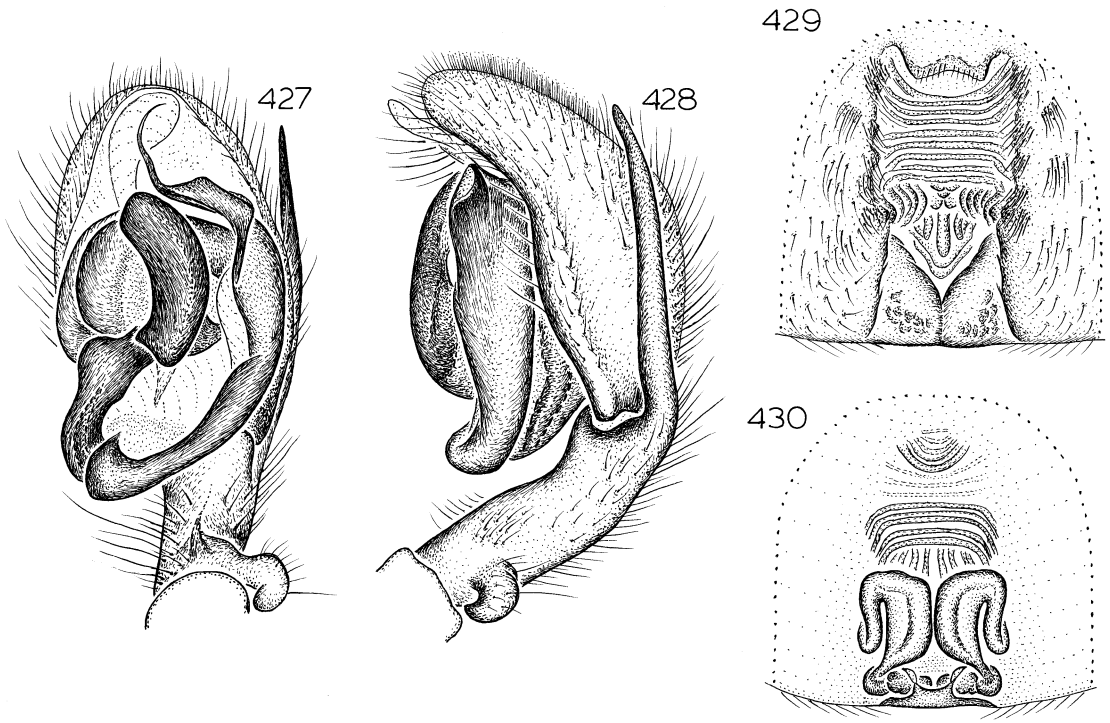
TYPE: Male holotype taken in pitfall trap 4.3 km WNW of May Hill, Arcoona Station, 31°16′S, 136°36′E, South Australia (Nov. 4–9, 1996; Stony Desert Survey), deposited in SAM (N1999/15).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the presence of three tibial apophysis (two basal, one distal, fig. 424), females by the short, triangular, median epigynal septum (fig. 425).

MALE: Total length 10. Carapace light brown, darkest anteriorly; abdominal dorsum and sides light gray, venter white; legs light brown, anterior metatarsi and tarsi darkest. Leg spination: femora: I, II d3-2-1; III d3-1-1; IV d2-0-1; tibiae I v4-2-2; metatarsi: I, II v2-2-1p; III v1p-2-0; IV v2-0-0. Palpal tibia with large, basal prolateral apophysis in addition to basal and distal retrolateral apophyses (fig. 424); embolus bifid for only its distal half, prolateral branch narrower than retrolateral branch, prolateral portion of median apophysis with transverse prong extending behind embolus, tip not visible ventrally on retrolateral side of embolus (fig. 423).

FEMALE: Total length 10. Coloration as in male except carapace and anterior legs reddish brown. Leg spination: femora: I–III d3-1-1; IV d3-0-1; tibiae: I, II v4-3-2; metatarsi: I, II v3-2-0; III v2-0-0. Epigynum with deeply depressed atrium divided posteriorly by short, triangular median septum; floor of atri-



Figs. 427–430. *Longrita whaleback*, new species. **427.** Left male palp, ventral view. **428.** Same, retrolateral view. **429.** Epigynum, ventral view. **430.** Same, dorsal view.

um with numerous transverse striations (fig. 425); spermathecae and ducts restricted to posterior rim of epigynum (fig. 426).

OTHER MATERIAL EXAMINED: **South Australia:** 3.7 km S Laurie Bank, South Gap Station, 31°43′S, 137°34′E, Nov. 4–9, 1996, pitfall (SAM N1999/34), 1♀; 4.3 km WNW May Hill, Arcoona Station, 31°16′S, 136°36′E, Nov. 4–9, 1996, pitfall (SAM N1999/16), 1♂.

DISTRIBUTION: Known only from South Australia (map 33).

Longrita whaleback, new species

Figures 427–430; Map 33

TYPE: Male holotype taken in dry pitfall trap on Mount Whaleback, 23°20′S, 119°40′E, Western Australia (Aug. 7–12, 1997; D. Knowles), deposited in WAM (99/361).

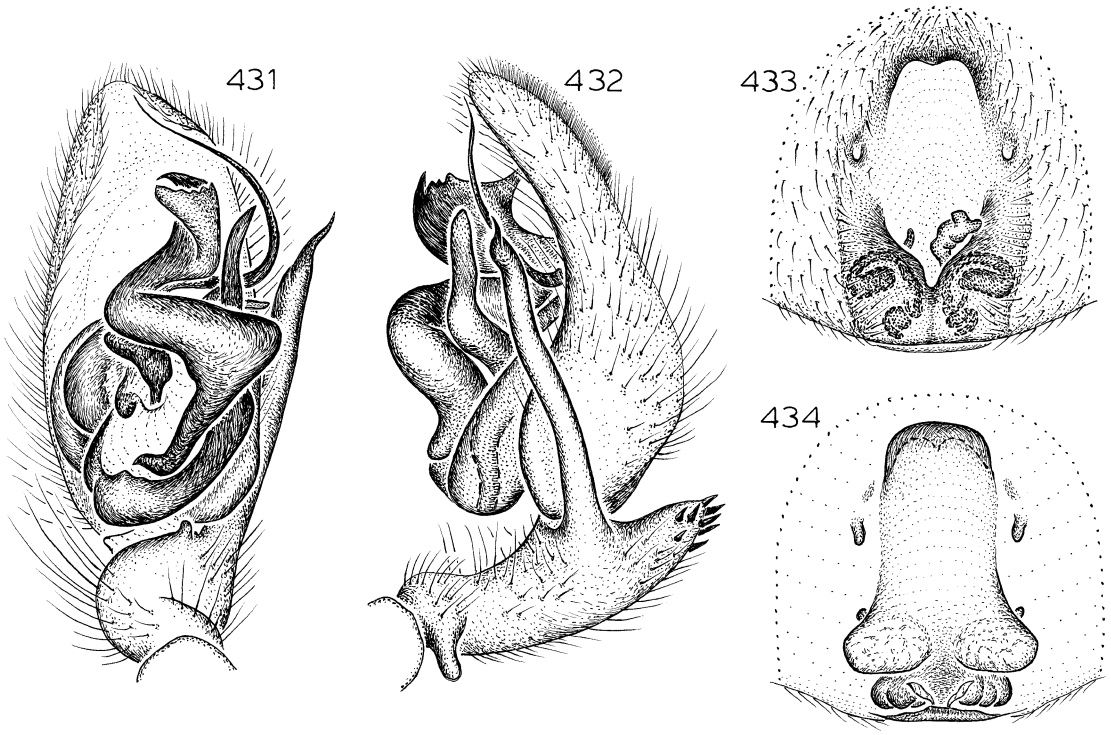
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the proximally directed hook on the basal tibial apophysis (fig. 428) and the narrow, sinuous tip of the embolus (fig. 427), females by the transverse and longitudinal epigynal striations (fig. 429).

MALE: Total length 11. Coloration as in *L. arcoona*. Leg spination: femora: I d1-0-1; II d1-0-0; III, IV d1-0-1; metatarsi: I, II v2-2-0; III v2-0-0. Basal tibial apophysis with proximally directed hook (fig. 428); embolus restricted to retrolateral side of bulb, with narrow, sinuous, distally directed tip, prolateral portion of median apophysis short, reaching only to prolateral edge of embolus (fig. 427).

FEMALE: Total length 14. Coloration as in female of *L. arcoona*. Leg spination: femora I–IV d1-0-1; tibiae III v2-2-0; metatarsi: I, II v2-2-0; III v2-0-0; IV v1p-0-0. Epigynum with short, curved lateral margins, atrium anteriorly with transverse, posteriorly with longitudinal striations (fig. 429); pair of large, translucent, recurved ducts occupying about half of epigynal length (fig. 430).

OTHER MATERIAL EXAMINED: **South Aus-**



Figs. 431–434. *Longrita rastellata*, new species. **431.** Left male palp, ventral view. **432.** Same, retrolateral view. **433.** Epigynum, ventral view. **434.** Same, dorsal view.

tralia: 35 km W Vokes Hill Corner, Great Victoria Desert, 28°33′S, 130°22′E, Apr. 19, 1994, under bark on dead tree (D. Niejalke, D. Hirst, SAM 1999/32), 1♀. **Western Australia:** Elvira Station, via Halls Creek, 18°28′S, 127°58′E, 1958 (W. Gosnell, SAM N1999/24), 1♀; Tambrey Station, Ashburton, 21°38′S, 117°36′E, Jan. 16, 1933 (C. Cussack, WAM 99/362), 1♀.

DISTRIBUTION: Western and South Australia (map 33).

Longrita rastellata, new species

Figures 431–434; Map 34

TYPE: Male holotype taken under rock in Prince Regent River area, 15°39′S, 125°21′E, Western Australia (Oct. 24, 1993; A. Longbottom), deposited in WAM (99/363).

ETYMOLOGY: The specific name refers to the rastellum-like appearance of the retrolateral tibial apophysis.

DIAGNOSIS: Males can easily be recognized by the bipartite retrolateral tibial apophysis, the dorsal branch of which bears a rastellum-like cluster of short spines (fig. 432); females by the heavily sclerotized epigynal hood (fig. 433).

MALE: Total length 10. Coloration as in *L. insidiosa*. Leg spination: femora: I d1-0-1, p1-1-0; II–IV d1-0-1; tibiae III v2-2-0; metatarsi: I–III v2-0-0; IV v1p-0-0. Retrolateral tibial apophysis bipartite, dorsal branch with rastellum-like crown of short, heavy spines (fig. 432); embolus long, recurved, retrolateral portion of median apophysis extending behind embolus, emerging as elbow-shaped structure (fig. 431).

FEMALE: Total length 18. Coloration as in *L. insidiosa*. Leg spination: femora: I–IV d1-0-1; tibiae: I v5-4-3; II v5-5-2; metatarsi: I v3-3-0; II v4-3-0. Epigynum with short lateral margins and heavily sclerotized anterior hood (fig. 433); spermathecal ducts posteriorly crenulate (fig. 434).

OTHER MATERIAL EXAMINED: Four females taken on Mount Mulligan, 16°51′S,

144°50′E, Queensland, Apr. 1985 (J. Covacevich, G. Czechura, QMB S28442).

DISTRIBUTION: If these females are correctly matched with the holotype, the species is widespread across far northern Australia (map 34).

Longrita millewa, new species

Figures 435–438; Map 34

TYPES: Male holotype and female allotype taken in drift fence pitfall trap 15.4 km N of Millewa South Bore, 34°38′S, 141°04′E, Victoria (Nov. 1985; A. Yen), deposited in NMV.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the doubly twisted tip of the embolus (fig. 435), females by the transverse anterior margin of the posterior epigynal ledge (fig. 437).

MALE: Total length 10. Coloration as in *L. arcoona*. Leg spination: femora I–IV d1-2-0. Retrolateral tibial apophysis spear-shaped (fig. 436); embolus with prolateral projection at about one-third its length, tip doubly twisted (fig. 435).

FEMALE: Total length 13. Coloration as in female of *L. arcoona*. Leg spination: femora I–III d1-2-1; metatarsus I v3-1p-0. Epigynum with large posterior ledge bearing transverse anterior margin, atrial area with transverse striations (fig. 437); membranous sac enclosing ducts widest at about half of epigynal length (fig. 438).

OTHER MATERIAL EXAMINED: **New South Wales:** Taleeban, 33°55′S, 146°27′E, Nov. 3–8, 1999, pitfall, spinifex (D. Driscoll, QMB S52626), 1♂. **South Australia:** 1 km E Anabama East Dam, 32°47′S, 140°16′E, Oct. 5–9, 1992, pitfall (SAM N1999/33), 1♂; Arcoona Creek, Gammon Ranges National Park, 30°26′S, 138°58′E, Oct. 2–3, 1997 (B. Coventry, SAM N1999/12, 13), 2♂; Billiatt Conservation Park, 34°58′S, 140°27′E, Nov. 19, 1996, vibration, mallee litter (D. Hirst, J. Forrest, SAM N1997/151), 1♀; near trig point, Billiatt Conservation Park, 35°01′S, 140°29′E, Nov. 28, 1996, vibration (D. Hirst, SAM N1999/36), 1♀; 4.5 km ESE Callory Bore, Black Hill Station, 31°49′S, 138°48′E, Nov. 15–20, 1999, pitfall, mallee over dense spinifex (SAM N1999/47), 1♂; N Ceduna, NE OTC Station, 31°02′S, 133°49′E, Sept. 27, 1988 (D. Hirst, SAM N1999/38), 1♀; near Coonalpn, 35°42′S, 139°51′E, Oct. 1964, under flat granite outcrops (H. Mincham, SAM N1999/39), 1♀; Lake Gilles Conservation Park, 33°05′S, 136°39′E, Apr. 2, 1987 (D. Lee, D. Hirst, SAM N1999/37), 1♀; 30 km SW Mabel Creek Station Homestead, 29°10′S, 134°08′E, Oct. 1984 (P. Greensland, SAM N1999/35), 1♀; 2.4 km N Sandford Dam, Danggali Conservation Park, 33°19′S, 140°55′E, Nov. 22, 1996, under casuarina bark (D. Hirst, SAM N1999/17), 1♂; near Tomahawk Dam, Danggali Conservation Park, 33°20′S, 140°43′E, Nov. 25, 1996, vibration (D. Hirst, J. Forrest, SAM N1997/152), 1♀. **Victoria:** 16.2 km SW Hattah, 34°50′S, 142°07′E, Jan. 1986, drift fence pitfall (A. Yen, NMVS), 1♂; 7.2 km ESE Meringur, 34°24′S, 141°25′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂; 3.1 km N Millewa South Bore, 34°45′S, 141°04′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂; 12.8 km N Millewa South Bore, 34°40′S, 141°04′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♀; 17.8 km N Millewa South Bore, 34°37′S, 141°04′E, Oct. 1986, drift fence pitfall (A. Yen, NMVS), 2♂; 22.7 km N Millewa South Bore, 34°35′S, 141°03′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂; Mount Herslake, Sunset Country, 34°40′S, 141°19′E, Sept. 29, 1966 (NMV K3512), 1♀; 16.0 km SE Murrayville, 35°22′S, 141°19′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 2♂; 16.5 km SE Murrayville, 35°22′S, 141°19′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂; 17.8 km SE Murrayville, 35°23′S, 141°19′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 2♂; 19.0 km SE Murrayville, 35°24′S, 141°19′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 2♂; 20.3 km SE Murrayville, 35°24′S, 141°20′E, Nov. 1985, drift fence pitfall (A. Yen, NMVS), 1♂. **Western Australia:** Boyagin Rock, 32°28′S, 116°53′E, Apr. 9, 1961 (A. Main, WAM 99/366, 367), 2♀; 15 mi W Merredin, 31°29′S, 118°16′E, Sept. 15, 1962, elev. 275 m (E/ Ross, D. Cavagnaro, CAS), 1♀ (penultimate but with epigynum); ca. 100 km NE Streich Mound, 29°47′S, 124°15′E, Sept. 23–25, 1991 (R. McMillan, A. Chapman, WAM 99/364), 1♂; Weowanie Rock,

31°08′S, 119°45′E, Oct. 1981 (R. McMillan, WAM 99/365), 1♀.

DISTRIBUTION: Widespread across southern Australia (map 34).

Longrita yuinmery, new species
Figures 439–442; Map 35

TYPE: Male holotype taken in pitfall trap in *Eucalyptus gangyocarpa* woodland with *Triodia* at Yuinmery, 28°32′S, 119°15′E, Western Australia (Sept. 1981; W. Humphreys), deposited in WAM (99/369).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species seems to be closest to *L. millewa*; males can be distinguished by the much longer embolar tip, which is much narrower at its base (figs. 439, 440), females by the combination of a medially incised epigynal margin and long, curved lateral extensions of that margin (fig. 441).

MALE: Total length 10. Coloration as in *L. arcoona*. Leg spination: femora: I d3-1-0; II, III d3-1-1; IV d1-1-0. Retrolateral tibial apophysis spear-shaped (fig. 440); embolus with prolateral projection at about one-third its length, tip long, narrow, even at its base (fig. 439).

FEMALE: Total length 15. Coloration as in male. Leg spination: femora: I–IV d3-1-1. Epigynum with large posterior ledge bearing tiny medial incision on anterior margin, continued at sides as strongly procurved ledge, atrial area with transverse striations (fig. 441); membranous sac enclosing ducts widest at about half of epigynal length (fig. 442).

OTHER MATERIAL EXAMINED: **Western Australia:** Boolathana Station, 24°25′S, 113°46′E, Sept. 27–Oct. 2, 1994, dry pitfall (A. Sampey, WAM 99/381), 1♂; Buntine Rocks Nature Reserve, 29°58′S, 116°35′E, Sept. 17, 1996, under rocks (M. Harvey, J. Waldock, WAM 99/373, 374), 2♂; Bush Bay, 25°05′S, 113°43′E, May 20, 1955, camp (P. West, WAM 99/490), 1♀; Bush Bay, 25°07′S, 113°44′E, Sept. 27–Oct. 2, 1994, dry pitfalls (M. Harvey, WAM 99/379, 380), 2♂; Bush Bay, 25°08′S, 113°46′E, Sept. 27–Oct. 2, 1994, dry pitfalls (M. Harvey, WAM 99/375–378), 4♂, Sept. 28, 1994–Jan. 16, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/382, 383), 2♂; Kennedy Range National Park, 24°34′S, 114°57′E, Oct. 3–8, 1994, dry pitfall (M. Harvey, WAM 99/384), 1♂; near Mount Evelyn, 25°31′S, 121°46′E, Aug. 14, 1991, creek crossing (A. de Jong, WAM 99/372), 1♀; Merredin Peak, 31°28′S, 118°18′E, Mar. 30, 1999, under granite rocks (M. Harvey, B. Durrant, B. Main, WAM 99/371), 1♀; Nerren Nerren Station, 27°00′S, 114°32′E, Oct. 15–20, 1994, dry pitfall (J. Waldock, WAM 99/368), 1♂; Yuinmery, 28°33′S, 119°06′E, Sept. 1981, *Eucalyptus striaticalyx* woodland (W. Humphreys, WAM 99/370), 1♀.

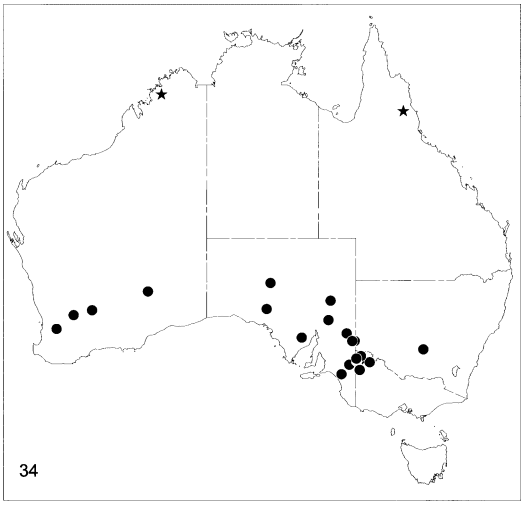
DISTRIBUTION: Known only from Western Australia (map 35).

Pyrnus Simon

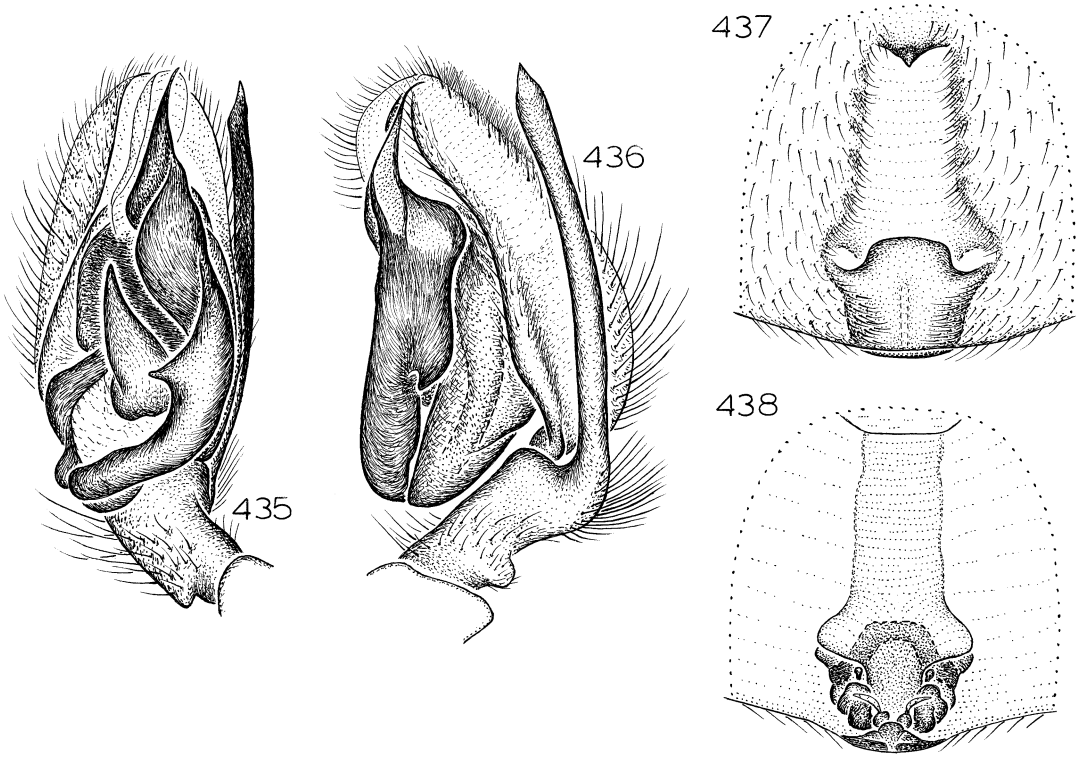
Pyrnus Simon, 1880: 237 (type species, designated by Simon, 1893: 347, *Hemicloea fulva* L. Koch).

DIAGNOSIS: Members of *Pyrnus* differ from those of *Rebilus* and *Morebilus* in having teeth on the tarsal proclaws.

DESCRIPTION: Medium-sized to large spiders, total length of males 6–10, of females 8–19. Carapace flattened, without tubercles, with rebordered lateral margins, evenly coated with scattered, dark, stiff, erect setae; few longer, erect, dark setae present (pair at rear of pars cephalica, several at each anterolat-

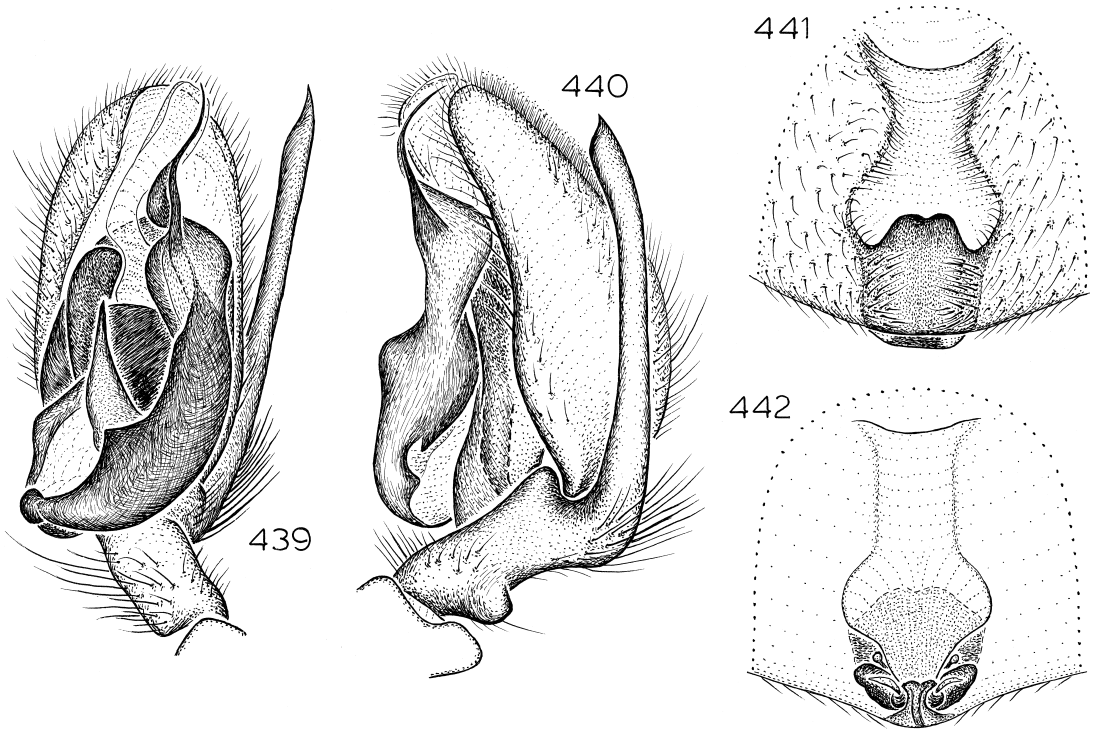


Map 34. Records of *Longrita rastellata*, new species (stars) and *L. millewa*, new species (circles).



Figs. 435–438. *Longrita millewa*, new species. **435.** Left male palp, ventral view. **436.** Same, retrolateral view. **437.** Epigynum, ventral view. **438.** Same, dorsal view.

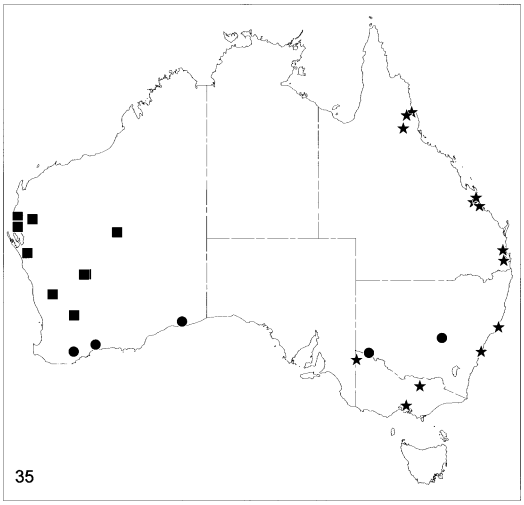
eral corner and midline of clypeus); thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, accompanied by three additional intercoxal grooves on each side. Eight eyes in two rows, anterior medians largest, circular, dark, posterior medians smallest, circular, lenses slightly flattened but canoe-shaped tapetum apparently still present, laterals subequal, almost as large as anterior medians, oval; from above, anterior eye row slightly procurved, posterior row slightly recurved, from front, both eye rows almost straight; anterior medians separated by more than their diameter, by more than their diameter from anterior laterals; posterior medians separated by more than four times their diameter, about as far from posterior laterals; anterior and posterior laterals separated by more than their diameter; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with stiff setae along inner margins; chilum very wide, triangular, almost divided, two halves united by narrow band of cuticle, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang unmodified; promargin with three teeth, proximal tooth smaller than others, distalmost tooth widely separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings on distinct mount, surrounded by concentric ridges, situated proximal to basal retromarginal tooth. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin truncate. Endites long, divergent, with oblique depression restricted to their median edge; serrula present (fig. 157), long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of



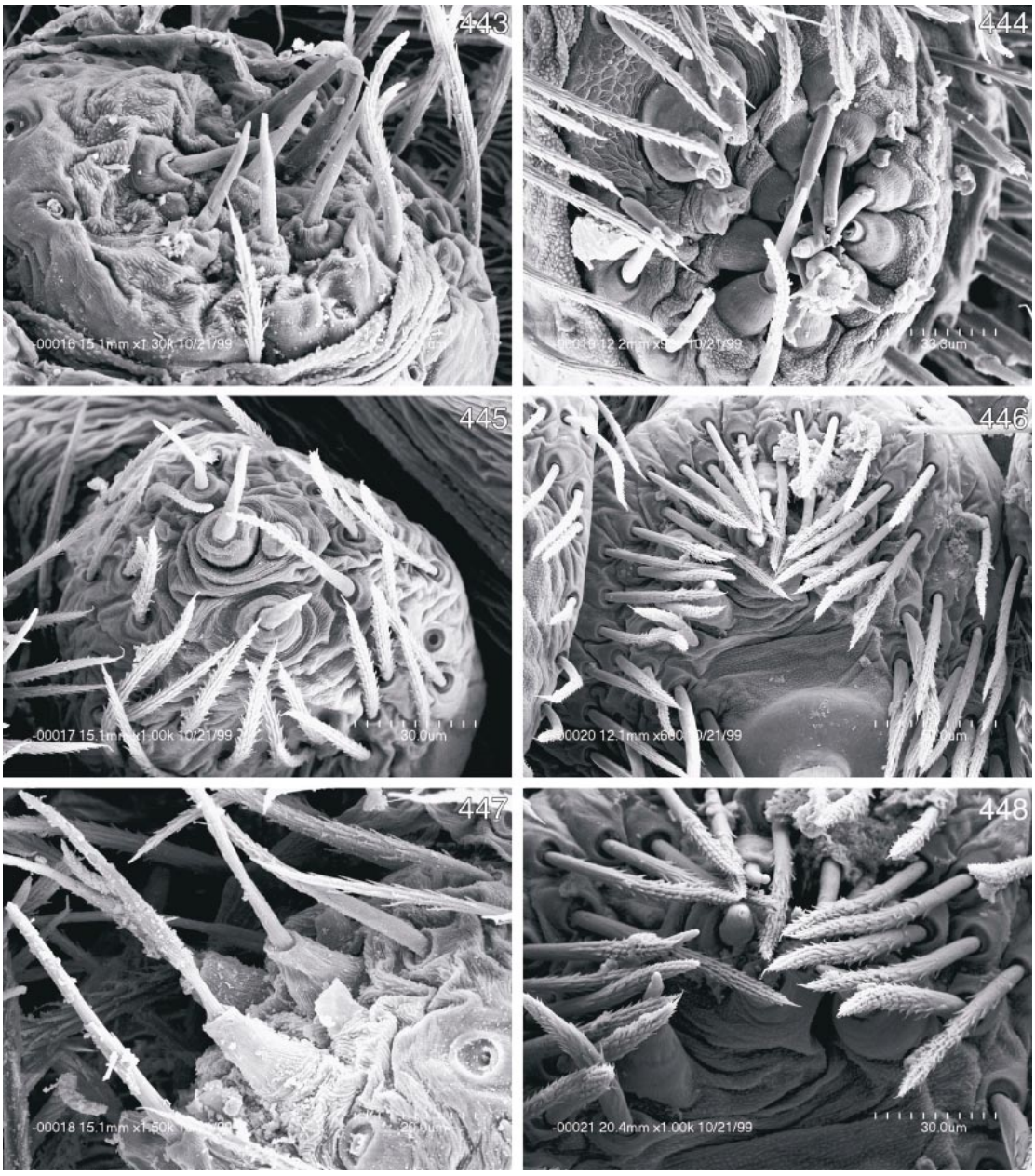
Figs. 439–442. *Longrita yuinmery*, new species. **439.** Left male palp, ventral view. **440.** Same, retrolateral view. **441.** Epigynum, ventral view. **442.** Same, dorsal view.

long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, expanded anteriorly into inclined lip, with only indistinct extensions to coxae, extensions between coxae represented by three pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle, additional, much larger pair of triangular sclerites situated opposite lateral edges of sternal lip; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite with deep posterior invagination receiving beak-shaped anterior extension of posterior sclerite) and weak, inverted v-shaped ventral sclerite with anteriorly expanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-



Map 35. Records of *Longrita yuinmery*, new species (squares), *Pyrnus fulvus* (L. Koch) (circles), and *P. planus* (L. Koch) (stars).



Figs. 443–448. *Pyrnus planus* (L. Koch), spinnerets of male (left) and female (right), distal views. **443, 444.** Anterior lateral spinnerets. **445, 446, 448** Posterior median spinnerets. **447.** Posterior lateral spinneret.

marked booklung openings at sides but without postepigastric sclerites, booklung covers strongly ridged; colulus represented only by scattered setae situated near narrow posterior spiracle. Six spinnerets (figs. 349, 350, 443–448), anterior laterals short, conical, separated by more than their diameter at base, with two articles, distal article with two major ampullate gland spigots and numerous small, unmodified piriform gland spigots; posterior medians of males triangular, of females bipartite, anterior portion with one or two large minor ampullate gland spigots and few tiny aciniform gland spigots, enlarged posterior portion with two offset rows, inner row with seven, outer row with six large cylindrical gland spigots; posterior laterals with two articles, those of females with two large cylindrical gland spigots.

Legs laterigrade, leg formula 4231, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi with distal preening brushes composed of row of long, thick setae; tarsi with two long claws, proclaw with series of about five small teeth, increasing in length from most proximal to most distal, teeth reduced to tiny serrations on proclaws of leg IV, retroclaws smooth or with one or two tiny denticles, strong claw tufts present, composed of two large pads of narrow setae; tarsi without cuticular cracks, extremely short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur, tibia, tarsus with dorsal spines; female palpal tarsus with long claw bearing about four long ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: I d1-1-1, II–IV d1-0-0; tibiae: I v3-3-3; II v4-3-3; III, IV v1p-1p-0; metatarsi: I, II v1p-2-2.

Male palpal tibia with pair of basal retrolateral protuberances, more distal one pronounced, retrolateral apophysis long, narrow; cymbium with thick distal scopula; cymbial surface deeply invaginated opposite retrolateral tibial apophysis; tegulum elongated, with basally originating, very long, narrow embolus extending to near base of palpal tibia, then across ventral portion of bipartite median apophysis, accompanied by distally membranous conductor. External epigynum large, with large, excavated atrium, internally with long median ducts and short lateral spermathecae.

Misplaced Species: *Pyrnus flavitarsis* (L. Koch) is transferred below to *Platorish*.

Key to Species of *Pyrnus*

1. Males (those of *fulvus*, *insularis*, *pins*, *numeus*, *aoupinie*, and *obscurus* unknown) 2
– Females (those of *baehri* unknown) 4
2. Retrolateral tibial apophysis relatively long, narrow at base (fig. 450) . . . . . *planus*
– Retrolateral tibial apophysis relatively short, widened at base (figs. 454, 458) 3
3. Retrolateral tibial apophysis widest near tip (fig. 454) . . . . . *magnet*
– Retrolateral tibial apophysis widest near base (fig. 458) . . . . . *baehri*
4. Epigynal atrium relatively long, occupying more than half of epigynal length (figs. 397, 399) 5
– Epigynal atrium relatively short, occupying less than half of epigynal length (as in figs. 451, 455) 6
5. Anterior spermathecal bulbs relatively large (fig. 398) . . . . . *fulvus*
– Anterior spermathecal bulbs relatively small (fig. 400) . . . . . *insularis*
6. Epigynal atrium widest anteriorly (fig. 455) . . . . . *magnet*
– Epigynal atrium widest posteriorly (as in figs. 451, 461) 7
7. Epigynal atrium relatively narrow (figs. 451, 465) 8
– Epigynal atrium relatively wide (figs. 459, 461, 463) 9
8. Epigynal atrium relatively long (fig. 451) . . . . . *planus*
– Epigynal atrium relatively short (fig. 465) . . . . . *obscurus*
9. Anterior epigynal margin transverse (fig. 461) . . . . . *numeus*
– Anterior epigynal margin angled (figs. 459, 463) 10

10. Spermathecae relatively long (fig. 464) . . . . . *aoupinie*
– Spermathecae relatively short (fig. 460) . . . . . *pins*

Pyrnus fulvus (L. Koch)
Figures 397, 398; Map 35

Hemicloea fulva L. Koch, 1875: 618, pl. 49, figs. 1, 1a (female holotype ''in Mr. Burton Bradley's Sammlung,'' not located or examined.
Pyrnus fulvus: Simon, 1880: 238.

NOTE: The female holotype, from ''Mr. Burton Bradley's Sammlung,'' has not been found among the Koch material in Berlin, Hamburg, or London, or in the MacLeay collection in Sydney. As indicated by Rainbow (1904: 320), ''Many of Mr. Bradley's specimens were collected around Sydney; probably this was one of them.'' Koch provided a fairly detailed epigynal drawing, which accords well with the female specimens from southern Australia here assigned to the species.

DIAGNOSIS: The extremely long, narrow, and longitudinally divided epigynal atrium (fig. 397) is diagnostic.

MALE: Unknown.

FEMALE: Total length 18. Carapace dark reddish brown; abdominal dorsum dark gray with two longitudinal, paramedian paler stripes, venter pale gray; legs dark brown except morphologically lateral surfaces of femora light brown. Leg spination and posterior median spinnerets typical for genus. Epigynum with long, narrow, longitudinally divided atrium bordered by rounded, w-shaped posterior margin situated at about one-third of epigynal length (fig. 397); median ducts long, translucent, separated posteriorly by triangular sclerite, spermathecae anteriorly with sharp bend, thumb-shaped (fig. 398).

MATERIAL EXAMINED: **New South Wales:** Gunningbland State Forest, 33°06′S, 147°57′E, Oct. 12, 1998, under bark, campsite (G. Milledge, AMS KS55351), 1♀. **Victoria:** Merbein, 34°10′S, 142°04′E (W. Webster, AMS KS36928), 1♀. **Western Australia:** 20 mi S Borden, 34°05′S, 118°16′E, Sept. 23, 1962, elev. 200 m (E. Ross, D. Cavagnaro, CAS), 2♀; 30 mi E Madura, 31°55′S, 127°00′E, Oct. 7, 1964 (A. Douglas, WAM 99/313), 1♀; 50 mi E Ravensthorpe, 33°35′S, 120°02′E, Sept. 23, 1962, elev. 70 m (E. Ross, D. Cavagnaro, CAS), 1♀.

DISTRIBUTION: Widespread in southern Australia (map 35).

Pyrnus insularis, new species
Figures 399, 400

Hemicloea plumea (misidentification): Rainbow, 1920: 234.
Rebilus fulvus (misidentification): Gray, 1974: 51.

NOTE: No evidence was supplied by Gray (1974) for the generic synonymy implied by his use of the combination *Rebilus fulvus*.

TYPE: Female holotype taken in forest bracts at location 14H on Lord Howe Island, 31°33′S, 159°05′E, deposited in AMS (KS44016).

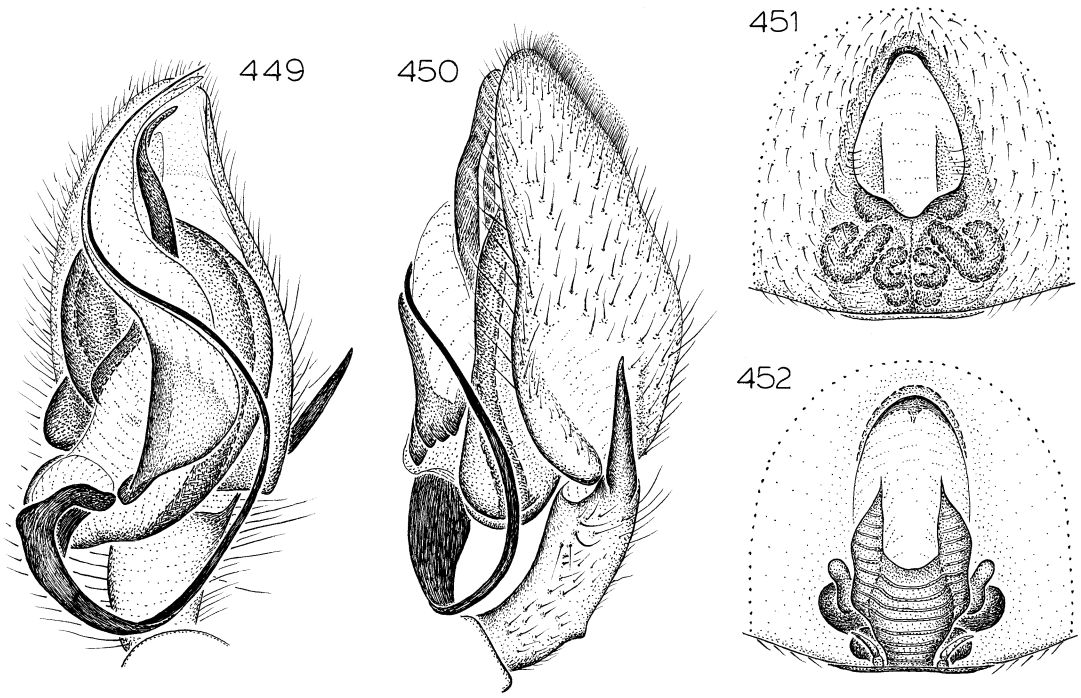
ETYMOLOGY: The specific name refers to the distribution.

DIAGNOSIS: The epigynum resembles that of *Pyrnus fulvus* but has pronounced lateral margins (fig. 399).

MALE: Unknown.

FEMALE: Total length 15. Carapace light reddish brown; abdominal dorsum pale gray with wide dark gray marks at cardiac area and at about two-thirds of length, sides dark gray, venter white; legs light reddish brown, leg I darkest, anterior femora with morphologically ventral surfaces darkened, Leg spination: femora: I d1-1-0; II–IV d2-1-0; tibiae: I v4-3-3; III v2-2-0; metatarsi: I, II v2-0-0. Posterior median spinnerets with about 12 cylindrical gland spigots in each row. Epigynum with long, narrow, longitudinally divided atrium bordered by squared, u-shaped posterior and lateral margins, posterior margin situated at about one-fourth of epigynal length (fig. 399); median ducts long, translucent, separated for most of their length by attenuated triangular sclerite, spermathecae anteriorly with sharp bend, thumb-shaped (fig. 400).

OTHER MATERIAL EXAMINED: **Lord Howe Island:** no specific locality, 31°33′S, 159°05′E, Dec. 1915–Jan. 1916 (A. Lea, SAM N1981/245), 1♀, (A. Lea, AMS KS35484), 1♀; location 17, 31°33′S, 159°05′E (AMS KS44020), 1♀; location 36B, 31°33′S, 159°05′E, under bark (AMS KS44021), 1♀.



Figs. 449–452. *Pyrnus planus* (L. Koch). **449.** Left male palp, ventral view. **450.** Same, retrolateral view. **451.** Epigynum, ventral view. **452.** Same, dorsal view.

DISTRIBUTION: Known only from Lord Howe Island.

Pyrnus planus (L. Koch), new combination

Figures 157, 349, 350, 443–452; Map 35

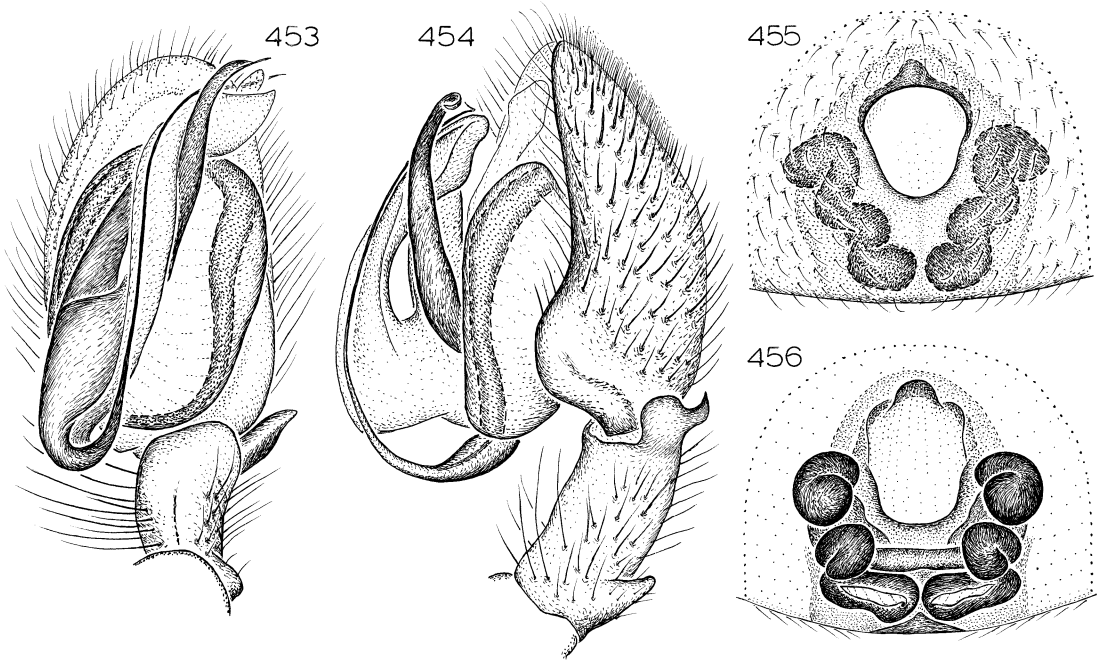
Hemicloea plana L. Koch, 1875: 626, pl. 49, figs. 6, 6a–6c (female holotype from Rockhampton, Queensland, in ZMH, examined).—L. Koch, 1876: 845, pl. 72, figs. 6, 6a, 6b.

DIAGNOSIS: The only other species of *Pyrnus* for which males are known is *P. magnet*, from which these males can easily be distinguished by the longer retrolateral tibial apophysis (fig. 450) and the longer embolus (fig. 449). Females can be recognized by the triangular epigynal atrium including a horseshoe-shaped median septum (fig. 451).

MALE: Total length 10. Carapace light brown; abdominal dorsum dark gray with two paramedian, longitudinal light gray stripes, venter pale white; legs light brown. Leg spination: femora I–IV d1-0-0; tibiae: I, II v3-4-1p; III, IV v1p-0-0; metatarsi: I, II v2-2-0; III v2-0-0. Palpal tibia and retrolateral tibial apophysis long, narrow (fig. 450); embolus long, narrow, s-shaped, distal portion carried in groove of translucent portion of ventral prong of median apophysis (fig. 449).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora I–IV d1-0-0; tibiae I,II v3-4-1p; metatarsi: I, II v2-2-0; III v2-0-0. Posterior median spinnerets with five cylindrical gland spigots in each row. Epigynal atrium triangular, with v-shaped posterior margin and horseshoe-shaped median septum (fig. 451); spermathecae separated by wide translucent sclerite (fig. 452).

MATERIAL EXAMINED: **New South Wales:** Bonnie Vale Campground, Bundeena, Royal National Park, 34°06′S, 151°07′E, Aug. 11–13, 1990, open coastal sclerophyll (C. Griswold, T. Meikle, USNM), 1♀; Pacific Palms, 32°21′S, 152°31′E, May 9, 1991 (C. Peterson, AMS KS55282), 1♂. **Queensland:** Davies Creek, 16°55′S, 145°32′E, Dec. 1988 (R. Jackson, FSCA), 1♀; Camira, Ipswich, 27°38′S, 152°55′E, Oct. 14, 1991 (R. Raven, QMB S34498), 1♂; Crohamhurst, Stanley



Figs. 453–456. *Pyrnus magnet*, new species. **453.** Left male palp, ventral view. **454.** Same, retrolateral view. **455.** Epigynum, ventral view. **456.** Same, dorsal view.

Rover, 26°49′S, 152°52′E, Dec. 1932 (I. Jones, QMB S28494), 1♀; Eccles Bridge, 10 km WSW Dimbulah, 17°09′S, 145°07′E, June 8, 1993 (B., M. Baehr, CBB), 1♀; Forty Mile Scrub, SW Mount Garnet, 18°05′S, 144°51′E, Apr. 10-14, 1978, under logs (V. Davies, R. Raven, QMB S28489, 28568), 1♂, 1♀; Oxley, Brisbane, 27°34′S, 152°56′E, Mar. 21, 1894 (QMB S26426), 1♀; Rockhampton, 23°23′S, 150°30′E, Godeffroy collection 11006 (ZMH), 1♂, 1♀ (including holotype); Rundle Range, site 5, 23°39′S, 150°59′E, Mar. 24–31, 1975 (V. Davies, R. Kohout, QMB S28687), 1♂; Yeppoon, Iwasaki Road, 23°03′S, 150°43′E, July 18–Oct. 23, 1990, pitfall, vine thicket (D. Wallace, R. Raven, K. Williams, QMB S33581), 1♂. **Victoria:** Cheltenham, 37°58′S, 145°04′E, Sept. 19, 1891 (NMV K3506), 1♀; 10.5 km N Millewa South Bore, 34°41′S, 141°04′E, Feb. 1986, drift fence pitfall (A. Yen, NMVS), 1♂; Upper Lurg, 36°35′S, 146°11′E, Mar. 7, 1994, on floor of house in day (J. Strudwick, CVIC 681), 1♂.

DISTRIBUTION: Widespread in eastern Australia (map 35).

Pyrnus magnet, new species
Figures 453–456; Map 36

TYPE: Female holotype taken 41 km S of Mount Magnet, 28°04′S, 117°49′E, Western Australia (Aug. 8, 1982; B. Main), deposited in WAM (99/349).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *P. planus* but have a shorter and distally incised retrolateral tibial apophysis (fig. 454); females resemble those of *P. planus* and *P. pins* but have a smaller epigynal atrium (fig. 455) and more rounded spermathecae (fig. 456).

MALE: Carapace length 3 (most of abdomen missing). Carapace light brown, portions of abdomen with specimen light gray, legs light brown. Leg spination (leg IV missing): femora I–III d1-1-0; tibiae: I v1p-1p-0; II v4-2-0; III v1p-1p-0; metatarsi: I v1p-0-0; II, III v2-0-0. Retrolateral tibial apophysis relatively short, wide, distally incised (fig. 454); embolus shorter than in *P. planus*, distal portion carried in groove of translucent

portion of ventral prong of median apophysis (fig. 453).

FEMALE: Total length 8. Coloration as in male but abdominal dorsum with two distinct paramedian, longitudinal light stripes, venter white. Leg spination: femora I–IV d1-1-0; tibiae: I, II v4-2-0; metatarsi: I, II v2-0-0; III, IV v1p-0-0. Epigynal atrium relatively small, rounded (fig. 455), two spermathecal coils on each side, connected posteriorly by transverse duct (fig. 456).

OTHER MATERIAL EXAMINED: **Queensland:** Mazeppa National Park, SW corner near road, 22°16′S, 147°16′E, May 11, 2000 (G. Milledge, H. Smith, AMS KS57818), 1♀. **South Australia:** 4 km NW Emu, 28°38′S, 132°10′E, Oct. 5, 1976, under mallee bark, top of sand dune (D. Lee, SAM N1999/22), 1♀; just off road to Oodnadatta, Granite Downs, 26°56′S, 133°30′E, Dec. 1984 (B. Guerin, SAM N1999/20, 21), 2♀; E side, Serpentine Lakes, 28°30′S, 129°01′E, Apr. 18, 1994, burnt from *Triodia* (D. Hirst, SAM N1999/23), 1♀. **Western Australia:** Bidgemia Station, Gasgoyne Junction, 25°13′S, 115°31′E, Oct. 4, 1994–Jan. 13, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/348), 1♂; Polelle Station, 26°55′S, 118°33′E, Aug. 5, 1982 (A. Main, WAM 99/351), 1♀; 71 km NE Warburton, Giles River, 26°08′S, 126°35′E, Jan. 12, 1990 (M. Harvey, T. Houston, WAM 99/350), 1♀.

DISTRIBUTION: Widespread across central Australia (map 36).

Pyrnus baehri, new species

Figures 457, 458; Map 36

TYPE: Male holotype from Mary River, 115 km E Darwin, 12°33′S, 131°41′E, Northern Territory (Aug. 29–30, 1995; M. Baehr), deposited in QMB.

ETYMOLOGY: The specific name is a patronym of in honor of Dr. Martin Baehr, collector of the holotype and many other gnaphosoids.

DIAGNOSIS: This appears to be the sister species of *P. magnet*, resembling it closely in both palpal morphology and coloration, but differing in the simple, triangular shape of the retrolateral tibial apophysis (fig. 458). The affinities with *P. magnet* make it extremely unlikely that the holotype could represent the male of *P. fulvus* or any of the island species.

MALE: Total length 6. Carapace light brown, abdominal coloration as in *P. fulvus*, legs yellow. Leg spination: femur I d1-1-0; tibiae: I v3-2-2; II v2-2-2; metatarsi I–III v2-0-0. Retrolateral tibial apophysis relatively short, triangular, with slightly sinuous tip (fig. 458); embolus shorter than in *P. planus*, distal portion carried in groove of translucent portion of ventral prong of median apophysis (fig. 457).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Northern Territory (map 36).

Pyrnus pins, new species

Figures 459, 460

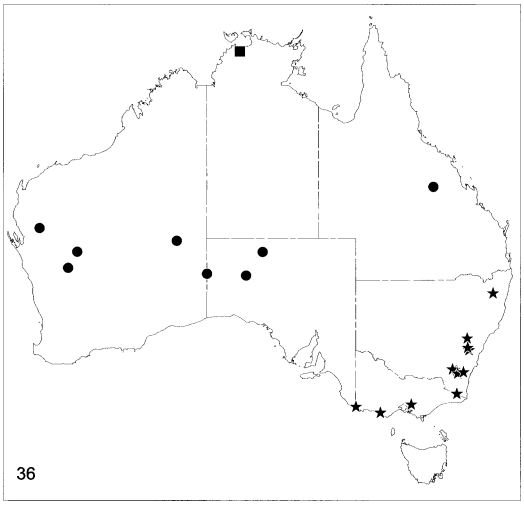
TYPE: Female holotype from the île des Pins, New Caledonia (Feb. 25–27, 1977; J. Balogh), deposited in HNHM.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

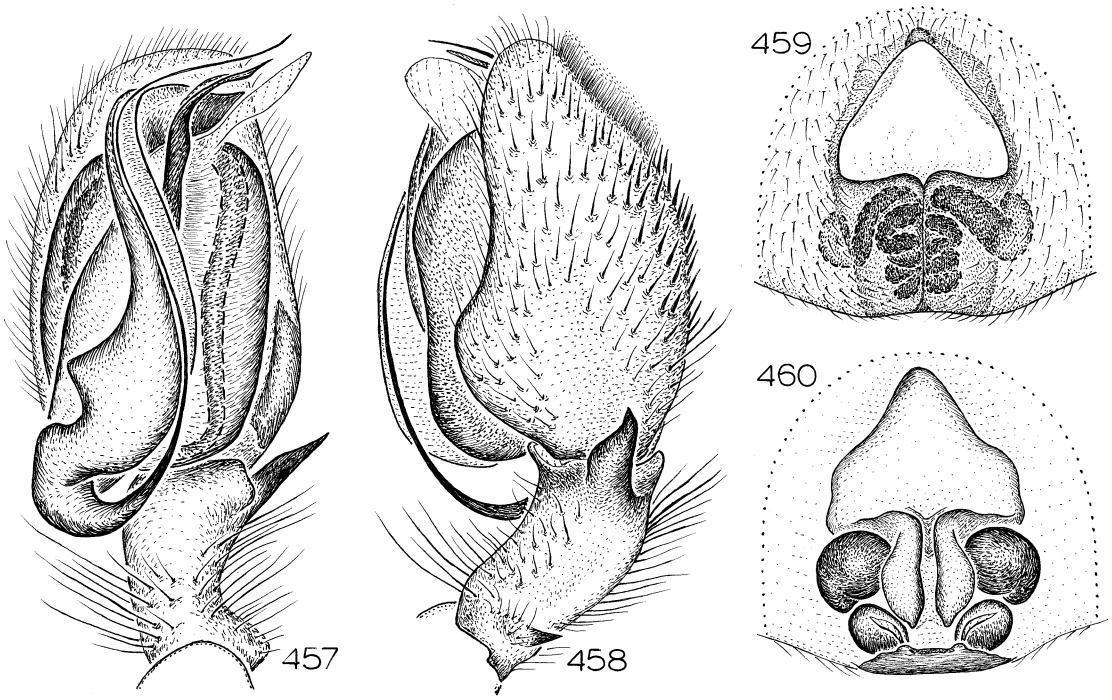
DIAGNOSIS: The female epigynum resembles that of *P. planus* but the epigynal atrium is shorter (fig. 459) and the spermathecae are larger (fig. 460).

MALE: Unknown

FEMALE: Total length 15. Coloration as in



Map 36. Records of *Pyrnus magnet*, new species (circles), *P. baehri*, new species (square), and *Platorish flavitarsis* (L. Koch) (stars).



Figs. 457–460. 457, 458. *Pyrnus baehri*, new species. 459, 460. *P. pins*, new species. **457.** Left male palp, ventral view. **458.** Same, retrolateral view. **459.** Epigynum, ventral view. **460.** Same, dorsal view.

P. insularis. Leg spination: femora I–IV d1-1-0; tibiae: I, II v4-4-3; III v2-2-1p; IV v1p-0-0; metatarsi: I v3-2-0; II, III v2-2-0. Posterior median spinnerets each with two offset rows of six large cylindrical gland spigots. Epigynum with large triangular atrium restricted to anterior half of epigynum, with median septum occupying almost entire width of atrium (fig. 459); spermathecae wide, oriented transversely (fig. 460).

OTHER MATERIAL EXAMINED: **New Caledonia:** île des Pins: Feb. 25–27, 1977 (J. Balogh, HNHM), 1♀, Oct. 1, 1977 (J. Balogh, HNHM, AMNH), 3♀, May 21–25, 1987 (J. Balogh, HNHM), 3♀.

DISTRIBUTION: Known only from the île des Pins, off the southeast coast of New Caledonia.

Pyrnus numeus, new species

Figures 461, 462

TYPE: Female holotype from New Caledonia, ''probably near Noumea'' (1942; Ostendorf), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Females can easily be recognized by the short, wide epigynal atrium (fig. 461).

MALE: Unknown.

FEMALE: Total length 11. Coloration as in *P. insularis*. Leg spination: femora: I d1-1-0; II–IV d2-1-0; tibiae: I, II v2-3-2; III v1p-0-0; IV v0-0-0; metatarsi: I, II v2-2-0. Posterior median spinnerets each with two offset rows of six large cylindrical gland spigots. Epigynum with short, wide atrium (fig. 461); spermathecae small (fig. 462).

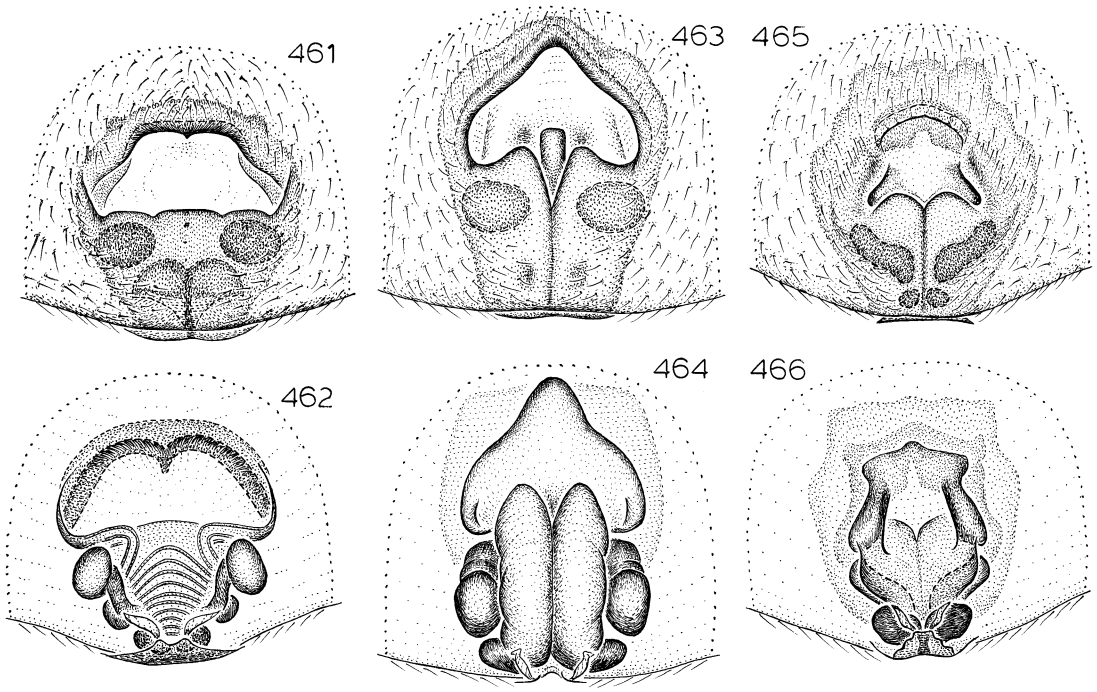
OTHER MATERIAL EXAMINED: One female taken with the holotype (AMNH), and one female from New Caledonia (no further data, QMB S26867).

DISTRIBUTION: Known only from New Caledonia.

Pyrnus aoupinie, new species

Figures 463, 464

TYPE: Female holotype taken at an elevation of 900 m on Mount Aoupinié, New Ca-



Figs. 461–466. Epigyna, ventral (top row) and dorsal (bottom row) views. **461, 462.** *Pyrnus numeus*, new species. **463, 464.** *P. aoupinie*, new species. **465, 466.** *P. obscurus* (Berland).

ledonia (June 18, 1996; M. Moulds), deposited in AMS (KS55342).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the m-shaped posterior margin of the epigynal atrium (fig. 463).

MALE: Unknown.

FEMALE: Total length 18. Carapace dark reddish brown; abdominal dorsum, sides, and venter dark gray; legs dark reddish brown, femora with prolateral and retrolateral lighter, longitudinal stripes. Leg spination: femora I–IV d1-0-1; tibiae: I, II v6-4-4; III v2-2-1p; IV v1p-0-0; metatarsi: I v3-2-2; II v2-2-2; III v1p-0-0. Posterior median spinnerets with about 10 cylindrical gland spigots in each row. Epigynal atrium short, confined to anterior one-third of epigynum, with m-shaped posterior margin (fig. 463); median ducts long, wide (fig. 464).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from New Caledonia.

Pyrnus obscurus (Berland), new combination

Figures 465, 466

Rebilus obscurus Berland, 1924: 188, fig. 45 (female holotype from Tchalabel, New Caledonia, in NMB, examined).

DIAGNOSIS: Females resemble those of *P. aoupinie* but have a distinctive anterior epigynal hood (fig. 465).

MALE: Unknown.

FEMALE: Total length 19. Carapace dark reddish brown anteriorly, lighter posteriorly; abdominal dorsum, sides, and venter dark gray, dorsum with wide darker areas along midline; anterior legs dark reddish brown, posterior legs lighter. Leg spination: femora I–IV d1-1-0; tibiae: I, II v3-4-2; III v2-2-0; IV 1p-0-0; metatarsi: I, II v2-2-0; III v2-1p-0. Epigynum with wide anterior hood, atrium with double m-shaped posterior margins (fig. 465); lateral epigynal ducts longer than median pair, almost totally obscuring posterior ducts in dorsal view (fig. 466).

MATERIAL EXAMINED: Only the holotype,

collected by J. Roux and F. Sarasin on May 5, 1911.

DISTRIBUTION: Known only from New Caledonia.

Platorish, new genus

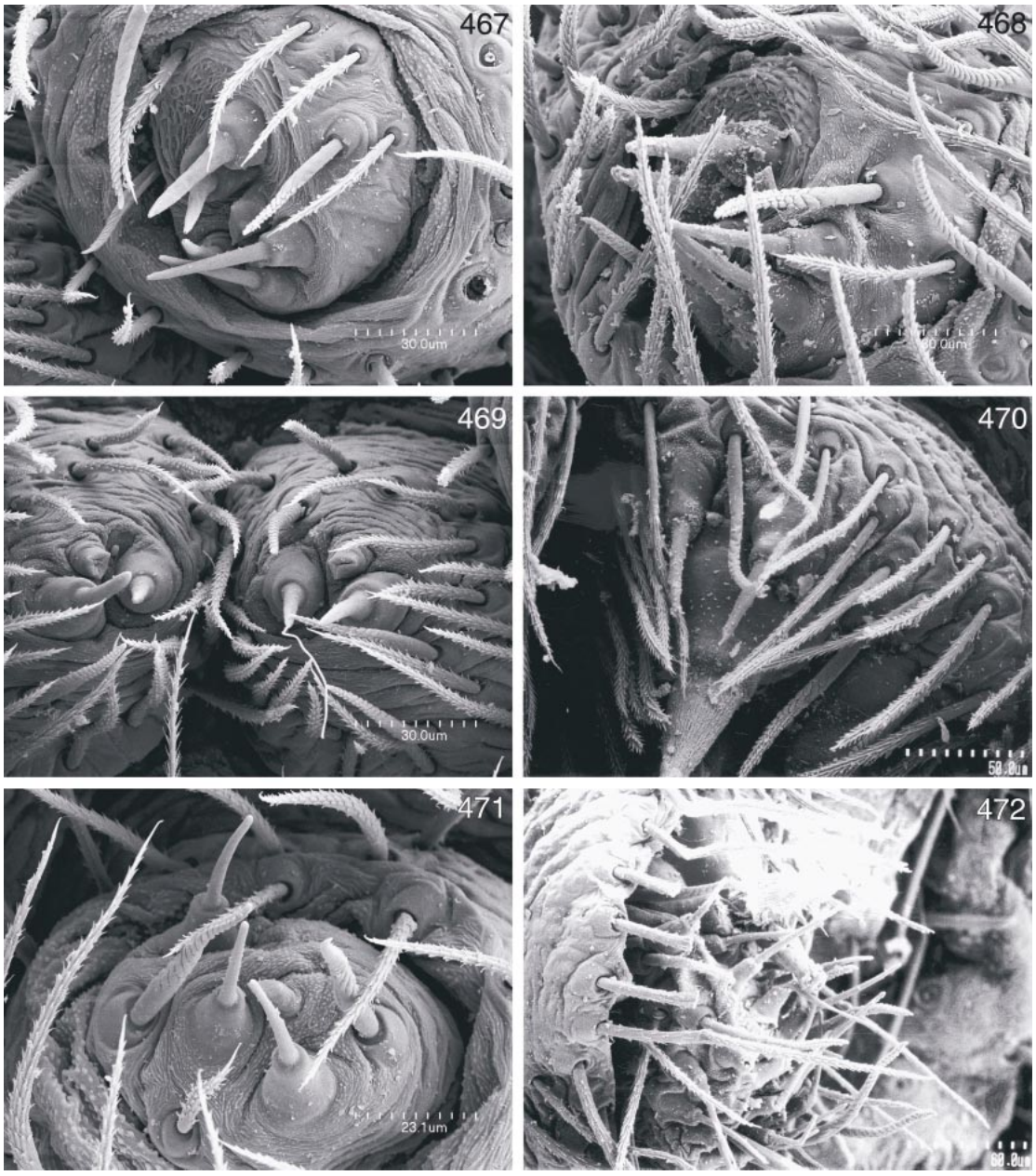
TYPE SPECIES: *Pyrnus flavitarsis* (L. Koch).

ETYMOLOGY: The generic name is an arbitrary combination of letters considered masculine in gender.

DIAGNOSIS: Members of this genus can easily be distinguished from all other Australasian trochanteriids by the greatly widened carapace and rounded sternum.

DESCRIPTION: Medium-sized spiders, total length of males 5–7, of females 6–10. Carapace flattened, greatly widened, without tubercles, with rebordered lateral margins, with few scattered, dark, stiff, erect setae and few longer, erect, dark setae present (pair at rear of pars cephalica, one opposite each coxa, few at each anterolateral corner and at midline of clypeus); thoracic groove almost obsolete, represented by shallow y-shaped depression; cephalic groove pronounced, accompanied by three additional intercoxal grooves on each side. Eight eyes in two rows, anterior medians largest, circular, dark, posterior medians smallest, circular, lenses flattened but canoe-shaped tapetum apparently still present, laterals subequal, almost as large as anterior medians, oval; from above, anterior eye row slightly procurved, posterior row slightly recurved, from front, both eye rows almost straight; anterior medians separated by more than their diameter, by more than twice their diameter from anterior laterals; posterior medians separated by more than five times their diameter, about as far from posterior laterals; anterior and posterior laterals separated by more than their diameter; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with stiff setae along inner margins; chilum very narrow, colulus-shaped, triangular, unipartite, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of strong setae originating in line along base of fang, those nearest base of fang unmodified; promargin with three large, approximate teeth, proximal tooth extending onto median keel extending most of paturon length, retromargin with four small, approximate teeth; cheliceral gland openings indistinct under light microscopy. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin medially incised. Endites long, parallel, with oblique depression at about half their length; serrula absent (fig. 158), long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, rounded, with rebordered, slightly depressed lateral margins, expanded anteriorly into inclined lip, with only indistinct extensions to coxae, extensions between coxae represented by three pairs of narrow sclerites separated from sternal margin by unsclerotized cuticle, additional, much longer pair of narrow sclerites situated opposite lateral edges of sternal lip; surface smooth, with few long setae, posterior margin not rebordered, widely separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite with deep posterior invagination receiving beak-shaped anterior extension of posterior sclerite) and weak, inverted v-shaped ventral sclerite with anteriorly expanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers strongly ridged; colulus represented by thick patch of very short setae situated near narrow posterior spiracle. Six spinnerets (figs. 467–472), anterior laterals short, conical, separated by twice their diameter at base, with two articles, distal article with two major ampullate gland spigots and relatively few small, unmodified piriform gland spigots; posterior medians of males triangular, of females bipartite, anterior portion with one or two large minor ampullate gland spigots and few tiny aciniform gland spigots, enlarged posterior portion with two parallel rows, median row



Figs. 467–472. *Platorish flavitarsis* (L. Koch), spinnerets of male (left) and female (right), distal views. **467, 468.** Anterior lateral spinnerets. **469, 470.** Posterior median spinnerets. **471, 472.** Posterior lateral spinnerets.

with three, lateral row with four large cylindrical gland spigots; posterior laterals with two articles, those of females with two large cylindrical gland spigots.

Legs laterigrade, leg formula 2314, surfaces with few long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters unnotched; anterior metatarsi and tarsi of females with undivided scopula composed of short, straight setae (scopulae often weak to absent in males); posterior metatarsi with distal preening brushes composed of row of long, thick setae; tarsi with two long claws, anterior legs with proclaw bearing long row of many tiny teeth, retroclaw smooth, posterior legs with both claws smooth, all tarsi with strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, extremely short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with few short spines, distal segments with longer spines; female palpal tarsus with long claw bearing three to five tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora I–IV d1-0-0; tibiae: I, II v1p-1p-1p; III, IV v1p-1p-0; metatarsi: I v2-2-1p; II v2-0-1p; III, IV v0-1p-0.

Male palpal tibia short, with large retrolateral protuberance at about half its length, retrolateral apophysis sinuous, distally bifid; cymbium with thick distal scopula; cymbial surface distinctly invaginated opposite retrolateral tibial apophysis; tegulum elongated, with medially situated embolus extending across middle of bipartite median apophysis, accompanied by distally membranous conductor. External epigynum long, usually with small, anteriorly situated atrium.

KEY TO SPECIES OF *PLATORISH*

1. Males (those of *churchillae* unknown) . . . 2
– Females 5
2. Dorsal prong of retrolateral tibial apophysis long, narrow (fig. 474) . . . . . *flavitarsis*
– Dorsal prong of retrolateral tibial apophysis otherwise 3
3. Retrolateral tibial apophysis relatively large (fig. 488) . . . . . *gelorup*
– Retrolateral tibial apophysis relatively small (figs. 478, 492) 4
4. Retrolateral tibial apophysis relatively long (fig. 492) . . . . . *jimna*
– Retrolateral tibial apophysis relatively short (fig. 478) . . . . . *nebo*
5. Epigynum with large anterior hood occupying half of atrium (fig. 475) . . . . . *flavitarsis*
– Epigynum without large anterior hood . . . 6
6. Epigynal atrium rounded (fig. 481) . . . . . *churchillae*
– Epigynal atrium triangular (figs. 479, 489, 493) 7
7. Epigynal atrium widest posteriorly (fig. 493) . . . . . *jimna*
– Epigynal atrium widest anteriorly (figs. 479, 489) 8
8. Epigynal atrium relatively long (fig. 489) . . . . . *gelorup*
– Epigynal atrium relatively short (fig. 479) . . . . . *nebo*

Platorish flavitarsis (L. Koch), new combination

Figures 467–476; Map 36

Hemicloea flavitarsis L. Koch, 1875: 620, pl. 49, fig. 2 (juvenile holotype from Sydney, New South Wales, should be in Vienna, not examined).

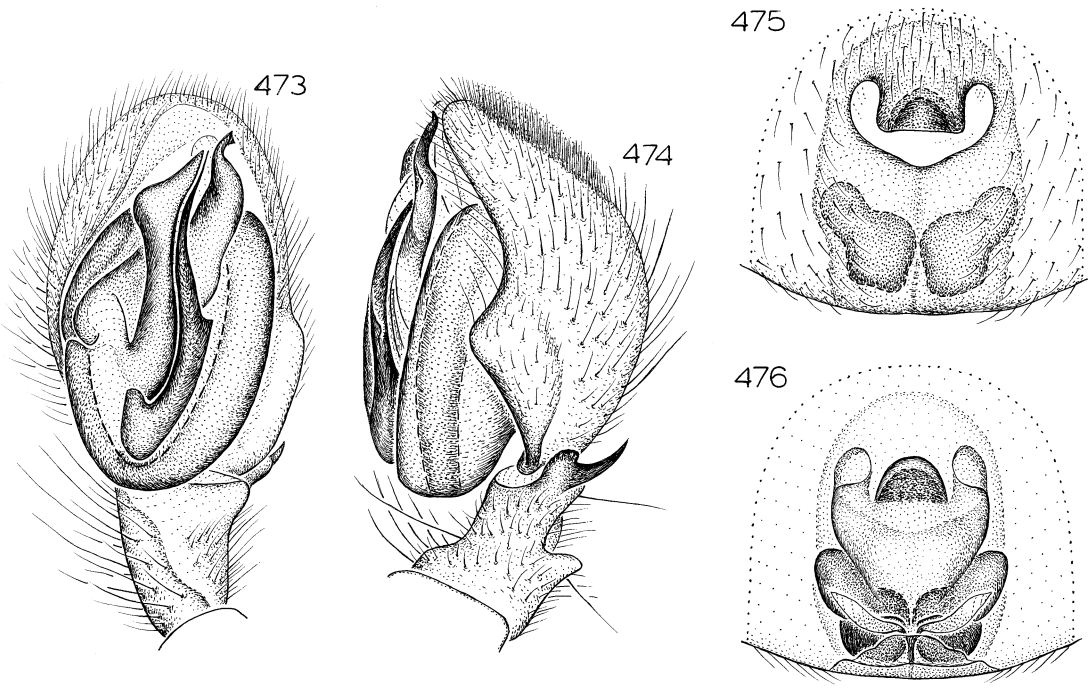
Pyrnus flavitarsis: Simon, 1880: 238.

Prynus flavitarsus: Rainbow, 1904: 320, figs. 38, 39 (lapsus in both generic and specific names).

NOTE: Although based on a juvenile specimen, Koch's illustration of the leg color pattern suggests that the female illustrated by Rainbow was correctly identified; the male is described here for the first time.

DIAGNOSIS: Males can easily be recognized by the hook-shaped tip of the retrolateral tibial apophysis (fig. 474) and the long, narrow retrolateral portion of the median apophysis (fig. 473), females by the oval epigynal atrium (fig. 475) and small, tubular spermathecae (fig. 476).

MALE: Total length 7. Carapace light brown with dark gray reticulations; abdominal dorsum dark gray with irregular, transverse, fine white lines, venter medium gray; anterior legs dark reddish brown, posterior

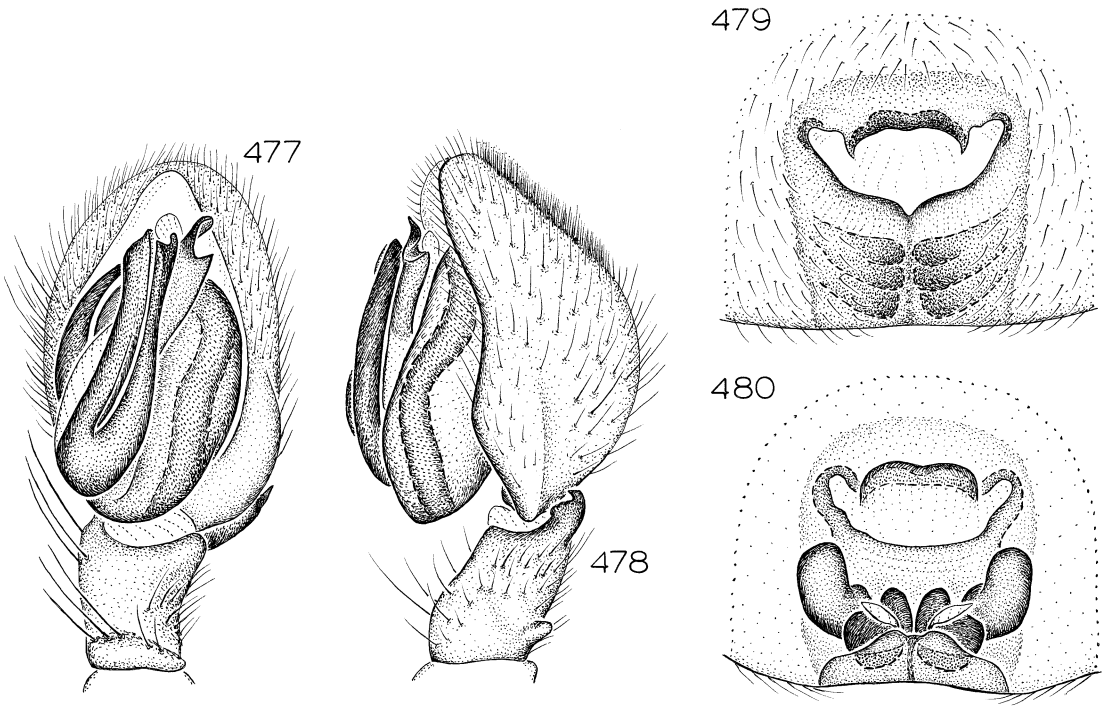


Figs. 473–476. *Platorish flavitarsis* (L. Koch). **473.** Left male palp, ventral view. **474.** Same, retrolateral view. **475.** Epigynum, ventral view. **476.** Same, dorsal view.

legs with coxae, trochanters, and femora yellow, more distal segments dark gray. Leg spination: metatarsi: I v2-0-1p; III v1p-1p-0; scopulae normal. Retrolateral tibial apophysis narrowed near base, with short ventral flange and long, hook-shaped dorsal flange (fig. 474); embolus gradually narrowed, with distinct denticle just proximal of retrolateral portion of median apophysis (fig. 473).

FEMALE: Total length 9. Coloration as in male. Leg spination and posterior median spinnerets typical for genus. Epigynal atrium small, heart-shaped, usually filled with plug (fig. 475); spermathecae small, tubular, separated by wide median sclerite (fig. 476).

MATERIAL EXAMINED: **Australian Capital Territory:** Piccadilly Circus, 35°22′S, 148°48′E, Feb. 1984, elev. 1240 m (J. Lawrence, T. Weir, M. Johnson, QMB), 2♂. **New South Wales:** Blood Filly Creek, near Jenolan Caves, Kanangra-Boyd National Park, 33°59′S, 150°08′E, Mar. 27, 1976, in eucalypt log (M. Gray, G. Hunt, J. McDougall, AMS KS30004), 1♀; Bondi State Forest, S Bombala, 37°08′S, 149°09′E, Dec. 13, 1980, pitfall, litter, open forest (G. Gowing, AMS KS18037), 1♂; Capertee, 33°09′S, 149°59′E, Apr. 23, 1966 (R. Mascord, AMS KS35535), 1♀; Jenolan Caves, 33°49′S, 150°02′E, Oct. 24, 1901 (V. Wiburd, AMS KS35538), 1♀; 0.3 km along Sydney Plain Hut Track from London Bridge Fire Trail, Oakwood State Forest, 29°55′S, 152°05′E, Feb. 4–Apr. 9, 1993, elev. 970 m (M. Gray, G. Cassis, AMS KS37091), 1♂; southern entrance, Tinderry Nature Reserve, 35°40′S, 149°13′E, Mar. 14, 1999 (J. Tarnawski, S. Lassau, AMS KS63892), 1♂; 700 m E Wallace's Gap, Bendoura State Forest, 35°35′S, 149°41′E, Mar. 16, 1999 (J. Tarnawski, S. Lassau, AMS KS63891), 1♂. **Victoria:** Emerald, 37°56′S, 145°26′E, June 4, 1995 (B. Thomas, NMV K3396), 1♀; Glenelg River, 4 mi NNE Nelson, 38°03′S, 141°01′E, Nov. 25, 1966 (Neboiss, NMV K3402), 1♀; Macclesfield District, 37°53′S, 145°29′E, Aug. 1904 (E. J., NMV K3399), 1♀; Timboon, 38°29′S, 142°59′E, June 12, 1966 (T. Faith, NMV K3395), 1♀; Western District, no specific locality, Nov. 1884, mallee scrub (NMV K3511), 1♀.



Figs. 477–480. *Platorish nebo*, new species. **477.** Left male palp, ventral view. **478.** Same, retrolateral view. **479.** Epigynum, ventral view. **480.** Same, dorsal view.

DISTRIBUTION: Southeastern Australia (map 36).

Platorish nebo, new species

Figures 477–480; Map 37

TYPE: Male holotype taken in pitfall trap in mixed sclerophyll forest on Mount Nebo, 27°23′S, 152°47′E, Queensland (Oct. 16, 1978; A. Rozefelds), deposited in QMB (S26473).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *P. flavitarsis* but have a shorter dorsal flange on the retrolateral tibial apophysis (fig. 478) and a distally bifid embolus (fig. 477); the female was not collected with the male but also resembles *P. flavitarsis*, differing in the size and shape of the epigynal atrium (fig. 479) and spermathecae (fig. 480).

MALE: Total length 6. Coloration as in *P. flavitarsis* except femur II also yellow. Leg spination: femur III d1-1-0; metatarsi: I v4-3-3; II v4-4-3; III v2-0-1p; IV v1p-0-1p; scopulae virtually absent on anterior legs. Retrolateral tibial apophysis relatively short (fig. 478); both embolus and retrolateral flange of median apophysis distally bifid (fig. 477).

FEMALE: Total length 10. Coloration as in *P. flavitarsis* except only proximal segments of leg IV yellow. Leg spination: metatarsi: I–III v1p-0-1p. Epigynal atrium u-shaped, with recurved anterior hood (fig. 479); spermathecae confined to posterior half of epigynum (fig. 480).

OTHER MATERIAL EXAMINED: **Queensland:** Stanthorpe, 28°40′S, 151°56′E, Mar. 21, 1988, between boards (G. Sarnes, QMB S4560), 1♀.

DISTRIBUTION: Known only from southeastern Queensland (map 37).

Platorish churchillae, new species

Figures 481, 482; Map 37

TYPE: Female holotype taken 10 km W Paluma, 19°00′S, 146°12′E, Queensland

(Mar. 20, 1983; T. Churchill), deposited in QMB (S34545).

ETYMOLOGY: The specific name is a patronym in honor of the collector, Dr. Tracey Churchill.

DIAGNOSIS: Females can easily be recognized by the almost circular epigynal atrium containing a very narrow anterior epigynal hood (fig. 481).

MALE: Unknown.

FEMALE: Total length 7. Coloration as in *P. flavitarsis* except only dorsal portions of coxae, trochanters, and femora IV yellow, Leg spination: tibiae III, IV v1p-1p-1p; metatarsi: II v2-2-1p; III v1p-1p-1p; IV v0-0-0. Epigynal atrium almost circular, containing narrow anterior hood (fig. 481); spermathecae confined to posterior half of epigynum (fig. 482).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from northeastern Queensland (map 37).

Platorish gelorup, new species

Figures 158, 487–490; Map 37

TYPE: Male holotype taken inside house at 101 Gelorup Rise, Gelorup, 33°23′S, 115°39′E, Western Australia (May–June 1996; K. Longbottom), deposited in WAM (99/312).

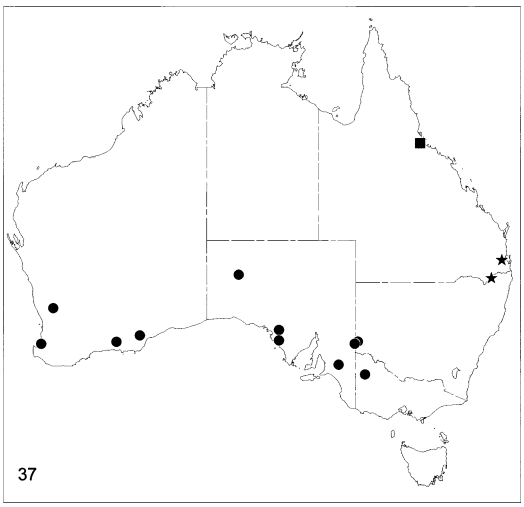
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *P. jimna* in having the retrolateral flange of the median apophysis greatly widened, but can be distinguished by the club-shaped retrolateral tibial apophysis (fig. 488) and the shape of the median apophysis (fig. 487); females also resemble those of *P. jimna* in having large, lateral spermathecal lobes, but can be distinguished by the triangular epigynal atrium (fig. 489).

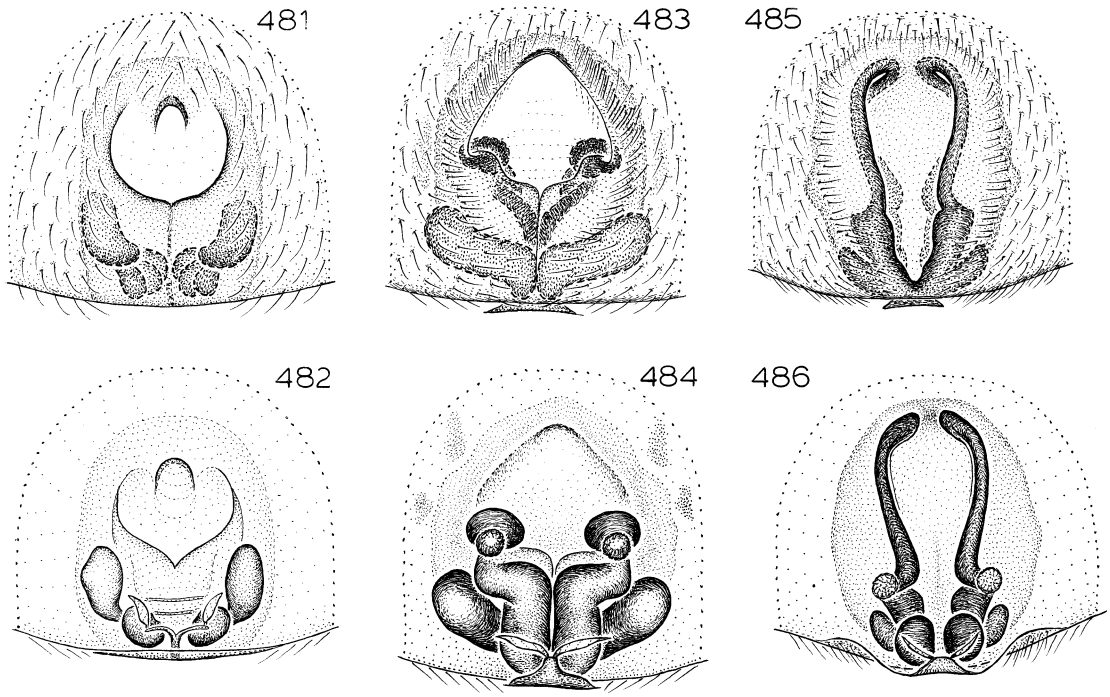
MALE: Total length 6. Coloration as in *P. flavitarsis* except carapace light yellowish brown and all coxae, trochanters, and femora yellow. Leg spination: metatarsi I–IV v0-1p-1p; scopulae virtually absent on anterior legs. Retrolateral tibial apophysis large, flat, club-shaped (fig. 488); embolus tip curled around hypertrophied retrolateral flange of median apophysis (fig. 487).

FEMALE: Total length 7. Coloration as in male except femora I slightly darkened. Leg spination: metatarsi: I, II v1p-0-1p; III, IV v0-0-1p. Epigynal atrium large, triangular (fig. 489); spermathecae with large lateral lobes incorporating ducts (fig. 490).

OTHER MATERIAL EXAMINED: **New South Wales:** Scotia Sanctuary, 33°13′S, 141°10′E, June 22–25, 1998 (R. Simms, SAM N1999/73), 1♀. **South Australia:** Conservation Park NE Wirrulla, 32°23′S, 134°49′E, Nov. 26, 1995, vibration (D. Hirst, SAM N1999/75), 1♀; Gunbarrel Highway, 21 km N south end, 28°25′S, 131°34′E, Oct. 10, 1976, under casuarina bark (T. Houston, SAM N1999/76), 1♀; SW corner, Kulliparu Conservation Park, Eyre Peninsula, 33°08′S, 134°49′E, Sept. 1990 (S. Lewer, R. Brandle, SAM N1999/83), 1♀; Purnong, near Murray River, 34°52′S, 139°37′E, Mar. 8, 1912 (W. Fulton, NMV K3397), 1♀; 2 km S Sandford Dam, Danggali Conservation Park, 33°22′S, 140°55′E, Nov. 23, 1996, vibration (D. Hirst, J. Forrest, SAM N1999/879), 1♀. **Victoria:** near junction of Freeway Track and Everard Track, Wyperfeld National Park, 35°34′S, 141°45′E, July 4, 1982, under callitris bark (M. Harvey, B. Roberts, ANIC), 1♀. **Western Australia:** Booanya, 32°46′S, 123°36′E, Feb. 1932 (A. Baesjou, NMV K3400), 1♀; Grasspatch, 33°14′S, 121°43′E, May 3, 1989, on kitchen chair (A. Longbottom, WAM 90/



Map 37. Records of *Platorish nebo*, new species (stars), *P. churchillae*, new species (square), and *P. gelorup* (circles).



Figs. 481–486. Epigyna, ventral (top row) and dorsal (bottom row) views. **481, 482.** *Platorish churchillae*, new species. **483, 484.** *Rebilus crediton*, new species. **485, 486.** *R. kaputar*, new species.

1028), 1♂; NW Wongan Hills, 30°49′S, 116°37′E, June 20, 1952, running on ground in morning (B. Main, WAM 95/1260), 1♀.

DISTRIBUTION: Widespread across southern Australia (map 37).

Platorish jimna, new species

Figures 491–494; Map 38

TYPE: Male holotype taken in open forest at Pig Pkt., Jimna State Forest, 26°42′S, 152°24′E, Queensland (July 4, 1978; K. McDonald), deposited in QMB (S26474).

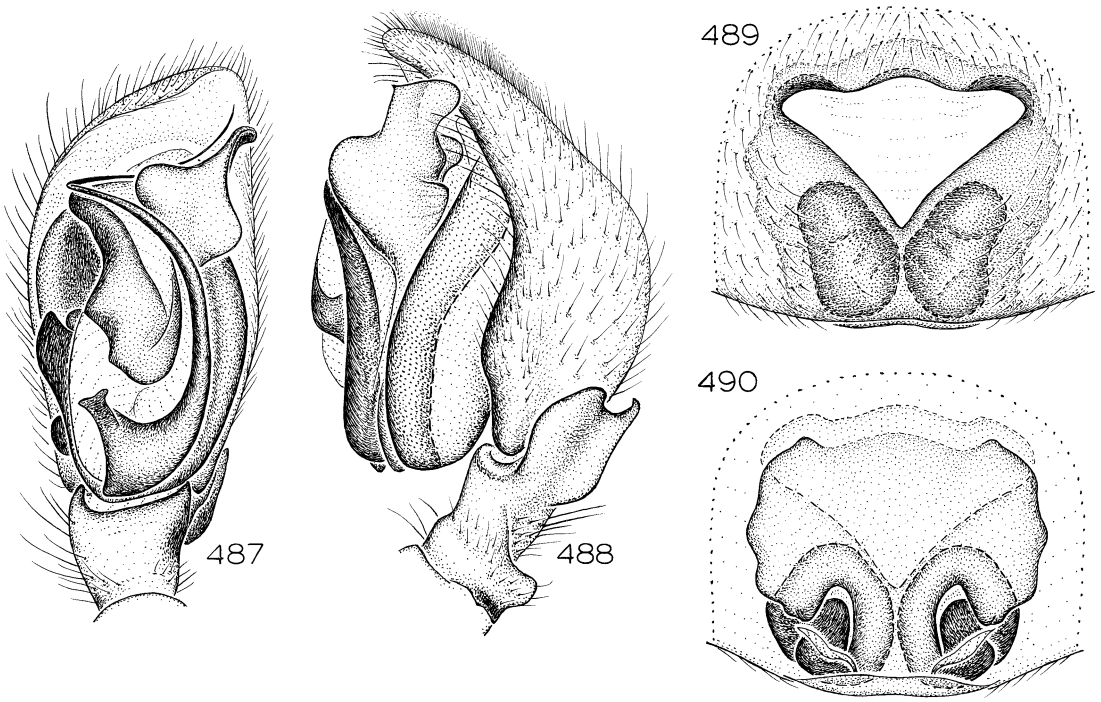
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *P. gelorup* but have a shorter embolus and more twisted retrolateral flange on the median apophysis (fig. 491). Although the female epigynum (fig. 493) resembles that of *Morebilus diversus*, the spermathecae resemble those of *P. gelorup* but do not extend as far anteriorly as in that species (fig. 494).

MALE: Total length 5. Coloration as in *P. gelorup*. Leg spination: metatarsi: I–III v1p-0-0; IV v0-0-0; scopulae virtually absent on anterior legs. Retrolateral tibial apophysis large, flat, club-shaped (fig. 492); embolus tip short, not curled around hypertrophied retrolateral flange of median apophysis (fig. 491).

FEMALE: Total length 6. Coloration as in male except femora I darkened. Leg spination: metatarsi: I–III v1p-0-0; IV v0-0-0. Epigynal atrium triangular but only weakly defined laterally, posterior margin v-shaped, anterior hood transverse (fig. 493); spermathecae with large lateral lobes incorporating ducts (fig. 494).

OTHER MATERIAL EXAMINED: **New South Wales:** Noorongong, near Forbes, 33°23′S, 148°01′E, Sept. 17, 1981 (N. Coleman, AMS KS8360), 1♀. **Queensland:** Bunya Mountains, 26°54′S, 151°35′E, Aug. 1940 (J. Henry, NMV K3471), 1♀; Farm Creek, near Tannymorel, 28°18′S, 152°15′E, Sept. 18, 1971, under log on hillside (R. Monroe, QMB S26472), 1♂; Mount Gayndah, 25°35′S, 151°32′E, Nov. 16, 2000 (N. Platnick, R. Raven, B. Baehr, AMNH), 1♀; Southwood, 30 m W Moonee, 27°47′S,



Figs. 487–490. *Platorish gelorup*, new species. **487.** Left male palp, ventral view. **488.** Same, retrolateral view. **489.** Epigynum, ventral view. **490.** Same, dorsal view.

149°59′E, July 24, 1973 (R. Raven, QMB S26470), 1♀; 30 km N Tara, 27°17′S, 150°28′E, Feb. 14, 1999 (A. Hubert, QMB S42855), 1♀.

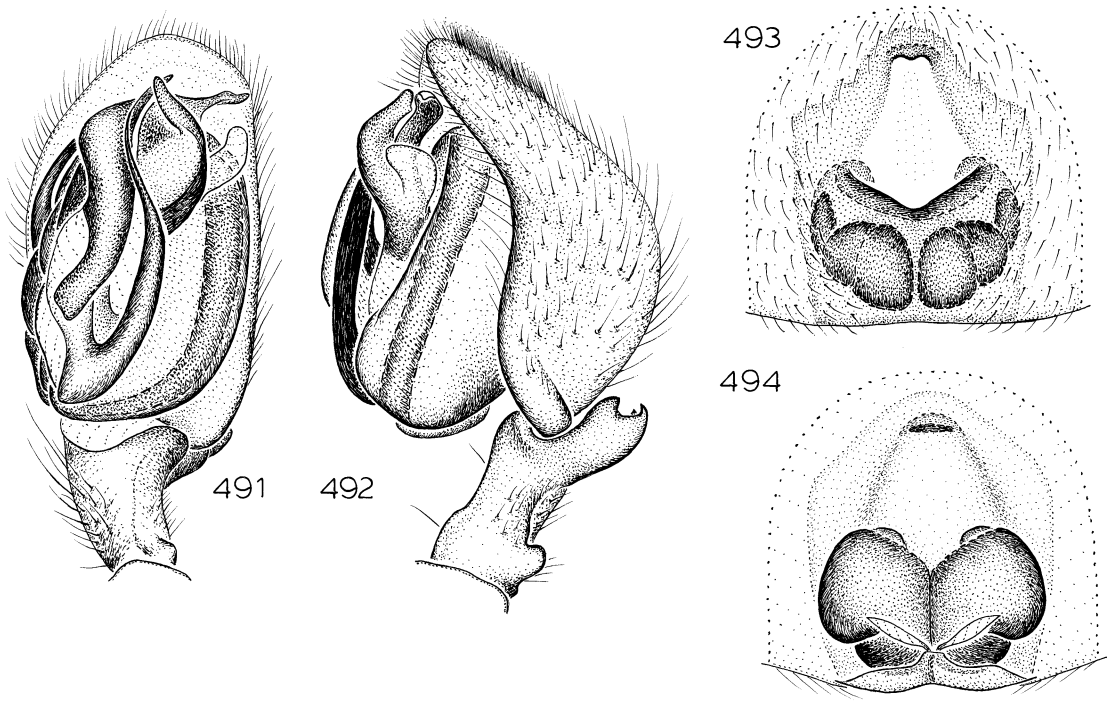
DISTRIBUTION: Southeastern Queensland and New South Wales (map 38).

Fissarena Henschel, Davies, and Dickman

Fissarena Henschel et al., 1995: 138 (type species by original designation *Fissarena ethabuka* Henschel, Davies & Dickman, 1995).

DIAGNOSIS: Males resemble those of *Rebilus* but differ in having only one, basal retrolateral tibial apophysis (as in figs. 502, 510); females also resemble those of *Rebilus* but have longer, more highly convoluted, epigynal ducts (as in figs. 504, 512). *Fissarena* was originally described only as a member of ''the superfamily Clubionoidea'' (because of its atypical, only slightly flattened posterior median eyes and the reduced oblique depression on the endites) but does appear to be, as its authors suggested, a close relative of *Rebilus*. The type species is unusual in several respects, and is unfortunately still known only from females. Extensive attempts to capture males at the type locality have been made by Drs. R. Raven and B. Baehr, but those attempts have been unsuccessful (even though females of the type species, and specimens assigned below to another species of the genus, were collected). Even the seemingly closest species, described below from Barrow Island, is known only from females. In the absence of males of those species, the monophyly of the genus, as here delimited, remains tenuous.

DESCRIPTION: Large spiders, total length of males 8–10, of females 9–12. Carapace flattened, without tubercles, with rebordered lateral margins, evenly coated with scattered, dark, stiff, erect setae interspersed among white, recumbent setae; longer, erect, dark setae present only in ocular area and on clypeus; thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, additional intercoxal grooves almost obsolete. Eight subequal eyes in two rows, anterior medians circular, dark, poste-



Figs. 491–494. *Platorish jimna*, new species. **491.** Left male palp, ventral view. **492.** Same, retrolateral view. **493.** Epigynum, ventral view. **494.** Same, dorsal view.

rior medians circular, lenses slightly flattened, canoe-shaped tapetum apparently lost, laterals oval; from above, anterior eye row slightly recurved, posterior row straight, from front, anterior row straight, posterior row slightly procurved; anterior medians separated by more than their diameter, about as far from anterior laterals; posterior medians separated by about three times their diameter, slightly closer to posterior laterals; anterior and posterior laterals separated by more than their diameter; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface with stiff setae along inner margins; chilum very wide, triangular, unipartite but with small area of unsclerotized cuticle along ventral one-third of midline area, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with three teeth, proximal tooth smaller than others, distalmost tooth separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings not obvious. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin truncate. Endites long, divergent, with oblique depression restricted to their median edge; serrula absent (fig. 159), long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with small triangular extensions to coxae, extensions between coxae represented by four pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior

invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted v-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers not strongly ridged; colulus represented only by scattered setae situated near narrow posterior spiracle; males apparently with scattered short epiandrous spigots. Six spinnerets (figs. 495–500), anterior laterals short, conical, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and several small, unmodified piriform gland spigots; posterior medians with several aciniform gland spigots and apparently only one minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with two parallel rows, each row with about 13 large cylindrical gland spigots; posterior laterals with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs laterigrade, subequal in length, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws bearing no ventral teeth, strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing several tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: I d1-1-0, p1-1-0, r0-1-0; II d1-1-0, p1-1-0, r0-1-1; III d1-1-0, p1-1-1, r0-1-1; IV d1-0-1, p1-1-1, r0-1-1; tibiae: I, II v2-2-2; III, IV p1-1-1, v2-2-2, r1-1-1; metatarsi: I v2-0-0; II v2-1r-0; III p0-1-1, v2-2-2, r1-1-0; IV p1-1-0, v2-2-2, r1-1-0.

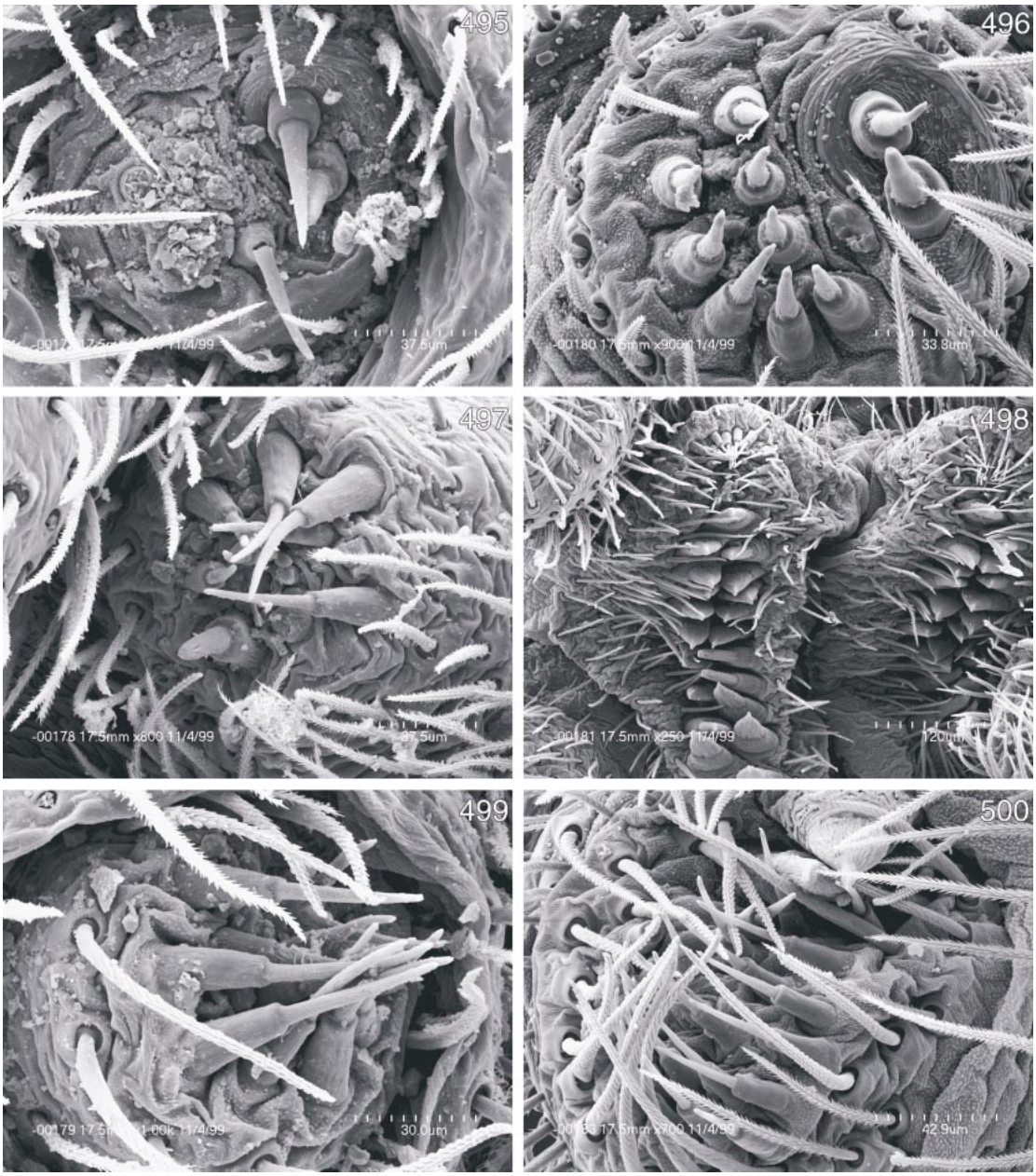
Male palpal tibia with basally situated retrolateral apophysis, with distally situated apophysis represented at most by small mound; cymbium with thick distal scopula; cymbial surface not invaginated at base; tegular surface mostly occupied by massive, translucent portion of conductor, sclerotized, retrolateral portion of conductor making one or two turns along retrolateral side of bulb. Epigynum with small anterior atrium, spermathecal ducts posteriorly situated, highly convoluted.

KEY TO SPECIES OF *FISSARENA*

1. Males (those of *ethabuka* and *barrow* unknown) 2
– Females (those of *cuny* and *longipes* unknown) 8
2. Palpal conductor making two sharp turns (one



Map 38. Records of *Platorish jimna*, new species (circles), *Fissarena ethabuka* (Henschel, Davies, and Dickman) (square), and *F. barrow*, new species (star).



Figs. 495–500. *Fissarena woodleigh*, new species, spinnerets of male (left) and female (right), distal views. **495, 496.** Anterior lateral spinnerets. **497, 498.** Posterior median spinnerets. **499, 500.** Posterior lateral spinnerets.

near retrolateral edge of bulb, one near distal edge, figs. 501, 509) 3
– Palpal conductor without sharp turns 4
3. Tip of palpal conductor relatively short (fig. 501) . . . . . *castanea*
– Tip of palpal conductor relatively long (fig. 509) . . . . . *cuny*
4. Tip of palpal conductor curled, ridged (figs. 525, 529) 5
– Tip of palpal conductor straight, not ridged (figs. 513, 517, 521) 6
5. Tibial apophysis relatively small (figs. 529, 530) . . . . . *longipes*
– Tibial apophysis relatively large (figs. 525, 526) . . . . . *arcoona*
6. Palpal conductor relatively wide near tip (fig. 513) . . . . . *barlee*
– Palpal conductor relatively narrow near tip (figs. 517, 521) 7
7. Tip of palpal conductor relatively long (fig. 517) . . . . . *woodleigh*
– Tip of palpal conductor relatively short (fig. 521) . . . . . *laverton*
8. Epigynal atrium reduced to transverse slit (fig. 511) . . . . . *ethabuka*
– Epigynal atrium much longer (as in figs. 515, 527) 9
9. Epigynal atrium with narrow anterior septum (fig. 527) . . . . . *arcoona*
– Epigynal atrium without narrow septum 10
10. Spermathecal ducts relatively short, simple (figs. 520, 532) 11
– Spermathecal ducts highly convoluted (figs. 504, 516, 524) 12
11. Anterior epigynal ducts separate throughout their length (fig. 520) . . . . . *woodleigh*
– Anterior epigynal ducts approximate posteriorly (fig. 532) . . . . . *barrow*
12. Spermathecal ducts relatively long, reaching to half length of epigynal atrium (figs. 523, 524) . . . . . *laverton*
– Spermathecal ducts shorter, reaching only to posterior portion of epigynal atrium (figs. 503, 504, 515, 526) 13
13. Epigynal atrium variable in width but shield-shaped (figs. 503, 506–508) . . . *castanea*
– Epigynal atrium rounded (fig. 515) . . . . . *barlee*

Fissarena ethabuka
Henschel, Davies, and Dickman
Figures 511, 512; Map 38

Fissarena ethabuka Henschel et al., 1995: 138, figs. 1–19 (female holotype from Ethabuka Pastoral Station, Simpson Desert, Queensland, in QMB, examined).

DIAGNOSIS: Females can easily be recognized by having the anterior epigynal atrium reduced to a transverse slit (fig. 511).

MALE: Unknown:

FEMALE: Total length 11. Carapace pale yellow posteriorly, darker anteriorly; abdomen uniformly pale gray; legs pale yellow, with metatarsi and tarsi darkened. Leg spination: femora: II r0-1-0; III p0-1-0, r0-1-0; IV p0-0-0, r0-0-0; tibiae: III r1-0-0; IV p1-0-0; metatarsi: I v2-1p-0; II v2-2-0; III p0-1-0, r0-0-0; IV p1-0-0, r0-1-0. Epigynum long, with pronounced midline and narrow, transverse, anterior slit (fig. 511); epigynal ducts touching along midline (fig. 512).

MATERIAL EXAMINED: **Queensland:** Ethabuka Pastoral Station, Simpson Desert, 23°46′S, 138°28′E, Aug. 2, 1992, burrow in dune slit (J. Henschel, QMB S22000), 1♀ (holotype), Mar. 4–6, 1999 (R. Raven, B. Baehr, QMB S42911, 51277), 2♀.

DISTRIBUTION: Known only from the Simpson Desert, southwestern Queensland (map 38), where it occurs in sympatry with *F. castanea*.

Fissarena barrow, new species
Figures 531, 532; Map 38

TYPE: Female holotype taken in Area RK on Barrow Island, 20°48′S, 115°26′E, Western Australia (Feb. 20, 1977), deposited in QMB (S34532).

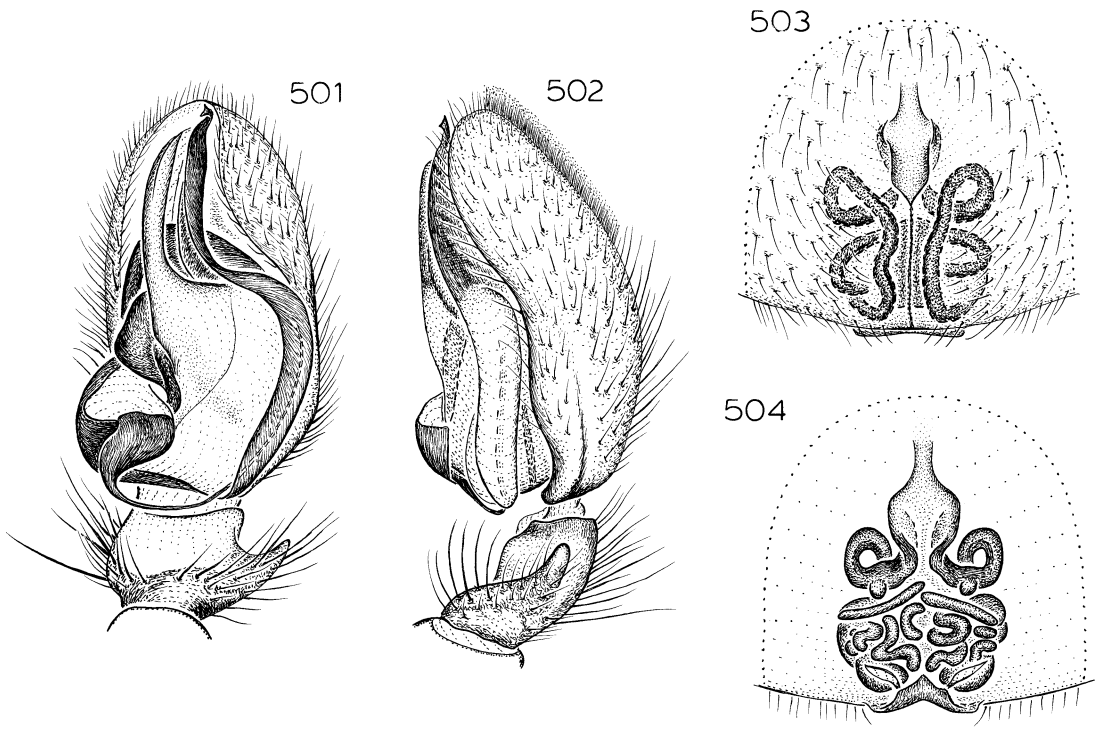
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *F. ethabuka* in having medially touching epigynal ducts, which divide the spermathecae into anterior and posterior portions, but differ in having a long epigynal atrium (figs. 531, 532).

MALE: Unknown.

FEMALE: Total length 9. Coloration as in *F. ethabuka*. Leg spination: femora: II r0-1-0; III p1-1-0, r0-1-0; IV p0-0-0, r0-0-0; tibiae: I, II v1p-1p-1p; III p0-0-0, v1p-1p-2, r0-0-0; IV p0-0-0, v1p-2-2; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p0-0-0, v2-1p-1p, r0-0-0. Epigynum with long anterior atrium (fig. 531); epigynal ducts united posteriorly, transverse branch dividing spermathecae (fig. 532).

OTHER MATERIAL EXAMINED: None.



Figs. 501–504. *Fissarena castanea* (Simon). **501.** Left male palp, ventral view. **502.** Same, retrolateral view. **503.** Epigynum, ventral view. **504.** Same, dorsal view.

DISTRIBUTION: Known only from Barrow Island, Western Australia (map 38).

Fissarena castanea (Simon), new combination

Figures 159, 501–504, 506–508; Map 39

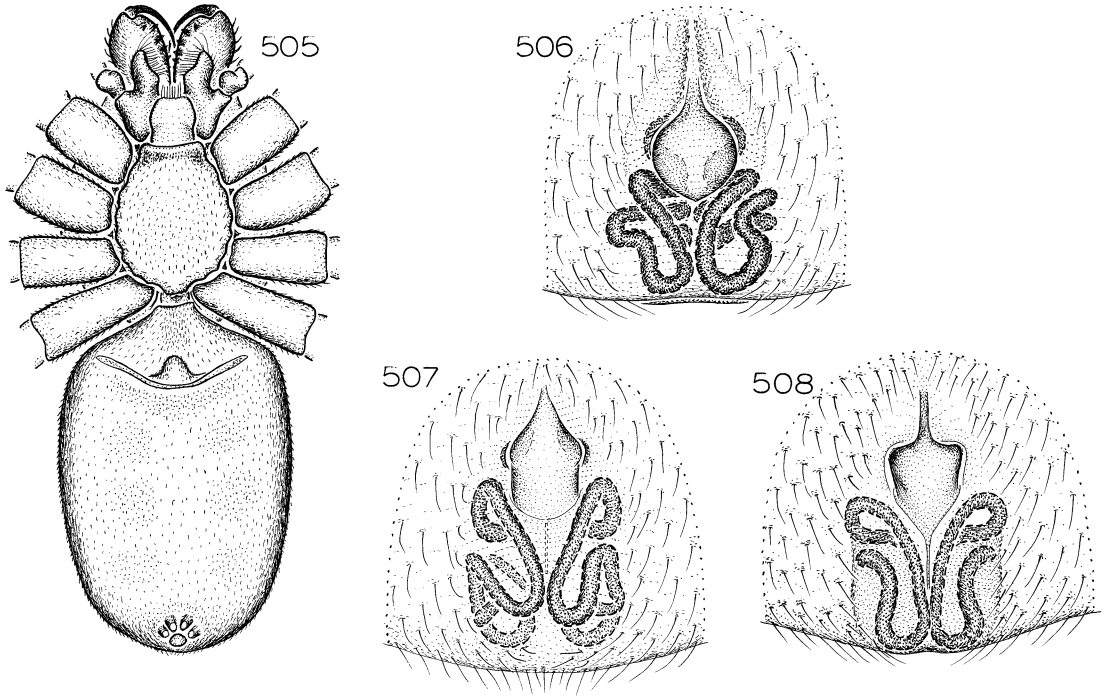
Rebilus castaneus Simon, 1908: 382 (two juvenile syntypes from Yalgoo, Western Australia, in ZMB, examined).

NOTE: Simon's description indicates that he did not have adult material of this species from any of the four sites specified. However, the vial of this species in the Simon collection in MNHN, labelled only as ''Austr. occid. (Mich.),'' includes an adult male. Since this male presumably represents Simon's concept of the species, it seems best to accept it as the de facto type, and to follow Simon's use of this name for this species.

DIAGNOSIS: Males can easily be recognized by the two 90° turns made by the palpal conductor, along the retrolateral side of the palpal bulb (fig. 502); females resemble those of *F. barrow* in the shape of the epigynal atrium (which varies significantly in width, as shown in figs. 506–508, although it seems always to be shield-shaped), but have much more highly convoluted epigynal ducts (fig. 504).

MALE: Total length 9. Coloration as in *F. ethabuka* except carapace light brown posteriorly, dark reddish-brown anteriorly. Leg spination: femora: I r0-1-1; II p1-1-1; IV r0-1-2; tibiae IV p1-2-1, r1-2-1; metatarsi: I v2-1r-0; III v2-2-1p; IV p1-0-1, v2-2-1p, r2-1-1. Retrolateral tibial apophysis situated at about half of segment length, digitiform (fig. 502); conductor making two 90° turns along retrolateral side of bulb, resulting in s-shaped structure (fig. 501).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora: I r1-1-1; II p1-1-1; metatarsi III, IV p1-0-0. Epigynal atrium shield-shaped but variable in width (figs. 503, 506–508); epigynal ducts extended anteriorly along sides of atrium, not enlarged along posterior edge of epigynum (fig. 504).



Figs. 505–508. **505.** *Morebilus plagusius*, female, ventral view. **506–508.** *Fissarena castanea* (Simon), female, epigynal, ventral views, specimens from Mardathuna (506), Bidgemia (507), and Ethabuka (508), showing variation in septum shape.

OTHER MATERIAL EXAMINED: **Queensland:** Ethabuka Pastoral Station, Simpson Desert, 23°46′S, 138°28′E, May 1991 (QMB S51328), 1♀, Aug. 21–23, 1996 (D., R. Lootsma, QMB S35210), 1♂. **Western Australia:** no specific locality (MNHN 23091), 1♂ (with juvenile syntype); Barlee Range Nature Reserve, 23°04′S, 115°47′E, June 15–18, 1994, dry pitfall (P., G. Kendrick, WAM 99/431), 1♂; Barlee Range Nature Reserve, 23°05′S, 115°47′E, June 15–18, 1994, dry pitfall (P., G. Kendrick, WAM 99/432), 1♂; Barlee Range Nature Reserve, 23°06′S, 116°00′E, Aug. 1993, pitfall (S. van Leeuwen, B. Bromilow, WAM 99/436), 1♀, June 19–22, 1994, dry pitfall (P., G. Kendrick, WAM 99/434, 435), 2♂; Barlee Range Nature Reserve, 23°23′S, 115°53′E, June 11–14, 1994, dry pitfall (P., G. Kendrick, WAM 99/433), 1♂; Bidgemia Station, Gasgoyne Junction, 25°03′S, 115°18′E, June 6–Aug. 20, 1995, pitfalls (N. Hall, WAM 99/448–450), 1♂, 2♀; Bidgemia Station, Gasgoyne Junction, 25°07′S, 115°26′E, Aug. 17–Oct. 6, 1994, pitfalls (A. Sampey, WAM 99/440–443), 2♂, 2♀, June 6–Aug. 20, 1995, pitfalls (N. Hall, WAM 99/444–447), 3♂, 1♀; Bidgemia Station, Gasgoyne Junction, 25°13′S, 115°31′E, June 5–Aug. 20, 1995, pitfalls (N. Hall, WAM 99/437–439), 3♂; 51 km N Binnu, 28°02′S, 114°39′E, May 29, 1988, under rubber on ground in mallee eucalypt woodland (M. Peterson, WAM 99/486), 1♀; Bungalbin Hill, 30°17′S, 119°43′E, Sept. 1979, tree/mallee ecotone (R. How, WAM 88/948), 1♂; Bungalbin Hill, 30°18′S, 119°43′E, Sept. 1979, *E. salmonophloia* woodland (R. How, WAM 93/106), 1♀; Gibson Desert, Eagle Bore Reserve, 24°47′S, 124°38′E, Sept. 7, 1994 (R. Horley, WAM 99/452), 1♀; edge, Great Sandy Desert, windmill 30 km on Telfer Mine Road, ca. 21°25′S, 121°40′E, June 28–29, 1988 (D. South, L. McKenna, WAM 99/451), 1♀; Karara Well, 23°06′S, 123°22′E, June 21, 1986 (L. Charlton, WAM 99/457), 1♂; Kennedy Range National Park,

24°30′S, 115°02′E, Apr. 7–May 29, 1995, pitfall (P. West, WAM 99/489), 1♂; Kennedy Range National Park, 24°33′S, 114°58′E, May 29–Aug. 28, 1995, pitfall (N. Hall, WAM 99/487), 1♀; Kennedy Range National Park, 24°34′S, 114°57′E, May 29–Aug. 28, 1995, pitfall (N. Hall, WAM 99/488), 1♂; Mardathuna Station, 24°24′S, 114°28′E, Jan. 14–May 24, 1995, pitfalls (A. Sampey, WAM 99/425, 426), 2♂; Mardathuna Station, 24°26′S, 114°30′E, Jan. 14–May 24, 1995, pitfalls (A. Sampey, WAM 99/420–424), 4♂, 1♀, May 23–28, 1995, dry pitfall (A. Sampey, WAM 99/430), 1♀; Mardathuna Station, 24°27′S, 114°31′E, Apr. 13–14, 1994, campsite (M. Harvey, WAM 99/429), 1♂; Mardathuna Station, 24°31′S, 114°38′E, May 26–Aug. 26, 1995, pitfalls (N. Hall, WAM 99/427–428), 2♂; Meedo Station, 25°41′S, 114°37′E, May 16–21, 1995 (A. Sampey, WAM 99/453), 1♂; Mount Whaleback, 23°21′S, 119°43′E, Aug. 1–6, 1997, dry pitfall (K. Knowles, WAM 99/455), 1♀; Nanga Station, 26°29′S, 114°03′E, May 11–Aug. 30, 1995, pitfalls (N. Hall, WAM 99/473, 474), 2♂; Nanga Station, 26°31′S, 114°00′E, May 12–Aug. 20, 1995, pitfalls (N. Hall, WAM 99/469–472), 4♂; Nanga Station, 26°33′S, 113°58′E, Aug. 23–Oct. 16, 1994, pitfalls (P. West, WAM 99/475–480), 6♂, May 11–Aug. 30, 1995, pitfalls (N. Hall, WAM 99/481–485), 3♂, 2♀; Nerren Nerren Station, 27°03′S, 114°35′E, May 11–Aug. 18, 1995, pitfall (N. Hall, WAM 99/458), 1♂; Nerren Nerren Station, 27°03′S, 114°36′E, Aug. 25–Oct. 16, 1994, pitfall (J. Waldock, WAM 99/459), 1♀, May 11–Aug. 18, 1995, pitfalls (N. Hall, WAM 99/460–462), 3♂; Newman area, 23°21′S, 119°44′E, June 12–22, 1984 (D. Kaljuste, WAM 99/454), 1♂, June 19, 1986 (L. McKenna, WAM 99/456), 1♂; 43 km S Port Hedland, 20°42′S, 118°38′E, Apr. 30–May 9, 2001, pitfall (R. Teale, WAM 99/644, 645), 2♂; 80 km S Port Hedland, 21°01′S, 118°42′E, Apr. 30–May 9, 2001, pitfall (R. Teale, WAM 99/646), 1♀; Woodleigh Station, 26°12′S, 114°25′E, May 17–Aug. 21, 1995, pitfall (N. Hall, WAM 99/464), 1♂; Woodleigh Station, 26°12′S, 114°32′E, May 17–Aug. 21, 1995, pitfall (N. Hall, WAM 99/463), 1♂; Woodleigh Station, 26°13′S, 114°35′E, May 17–Aug. 21, 1995, pitfalls (N. Hall, WAM 99/465–468), 2♂, 2♀.

DISTRIBUTION: Widespread in arid areas from Western Australia to the Simpson Desert of southwestern Queensland, where the species is sympatric with *F. ethabuka* (map 39).

Fissarena cuny, new species

Figures 509, 510; Map 39

TYPE: Male holotype taken in pitfall trap 23 km NW Kunytjanu, 26°31′S, 129°12′E, South Australia (Sept. 5–8, 1995), deposited in SAM (N1999/72).

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Males closely resemble those of *F. castanea*, but have a much longer embolus, which is initially directed toward the prolateral side of the palpal bulb, and a much longer tip on the palpal conductor (fig. 509). The evident close relationship with *F. castanea* makes it unlikely that this could be the male of either *F. ethabuka* or *F. barrow*.

MALE: Total length 10. Coloration as in *F. castanea*. Leg spination: femur I r0-1-1; tibia III p1-0-0; metatarsi: II v2-2-0; III p0-0-0; IV p1-0-0, r1-2-0. Retrolateral tibial apophysis situated at about half of segment length, digitiform (fig. 510); conductor making two 90° turns along retrolateral side of bulb, resulting in s-shaped structure, with elongated tip, embolus elongated, directed prolaterally from base (fig. 509).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from northwestern South Australia (map 39).

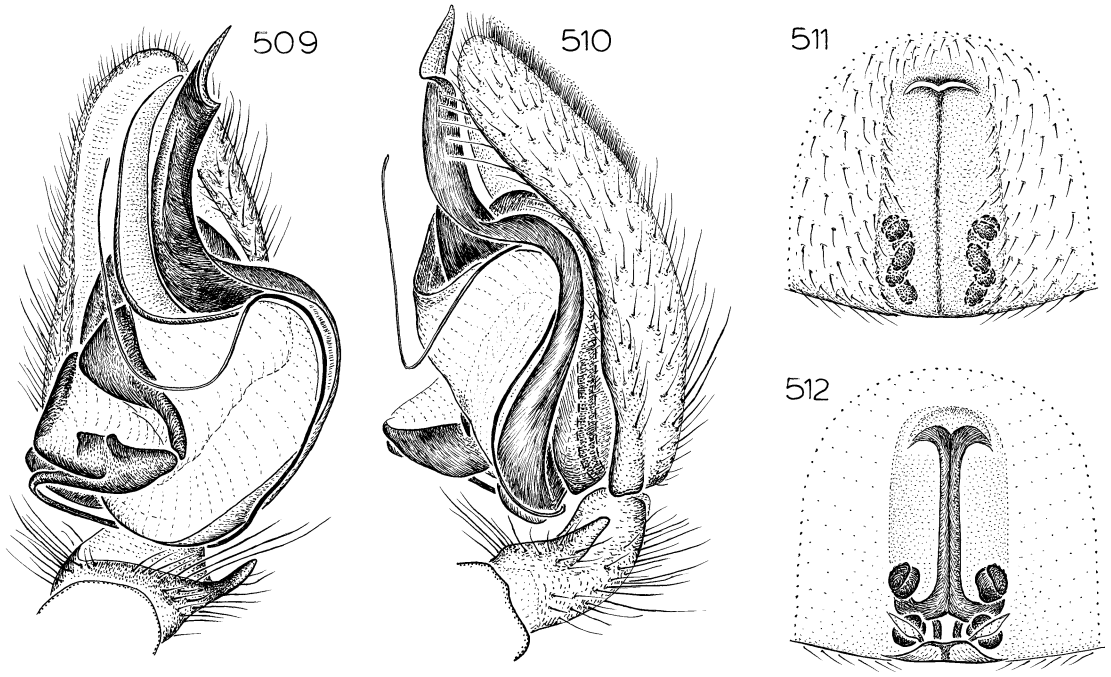
Fissarena barlee, new species

Figures 513–516; Map 40

TYPE: Male holotype taken in pitfall trap in Barlee Range Nature Reserve, 23°06′S, 115°45′E, Western Australia (June 1994; S. van Leeuwen, B. Bromilow), deposited in WAM (99/491).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *F. castanea* but have a much less angular palpal conductor (fig. 513); females also resemble those of *F. castanea* but have a rounded epi-



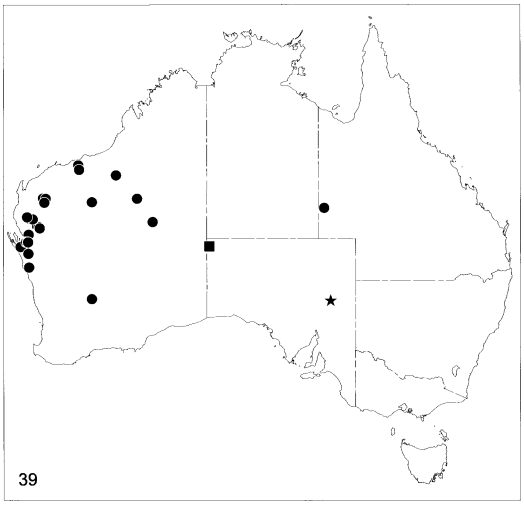
Figs. 509–512. 509, 510. *Fissarena cuny*, new species. 511, 512. *F. ethabuka* (Henschel, Davies, and Dickman). **509.** Left male palp, ventral view. **510.** Same, retrolateral view. **511.** Epigynum, ventral view. **512.** Same, dorsal view.

gynal atrium (fig. 515) and posteriorly enlarged epigynal ducts (fig. 516).

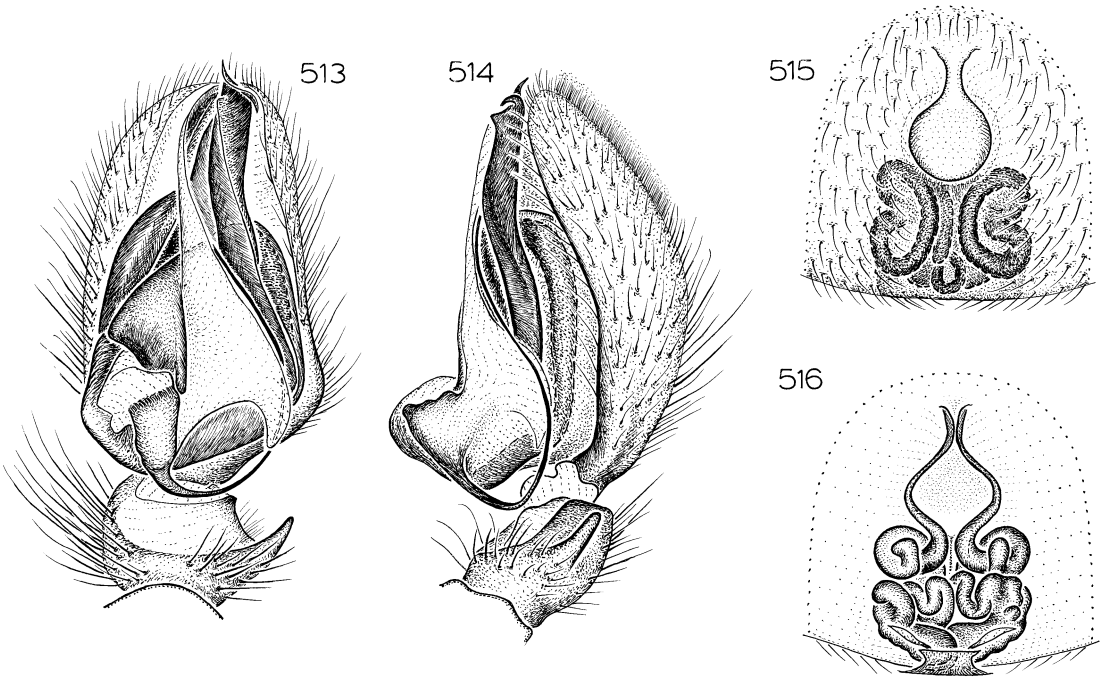
MALE: Total length 8. Coloration as in *F. castanea*. Leg spination: femora: II r0-1-0; III p1-1-0, r0-1-0; IV p1-1-0, r0-0-1; tibiae: I, II v1p-1p-2; III p1-0-0, r0-1-1; IV p1-0-1; metatarsi: II v2-1p-0; III p0-0-0, r1-0-0; IV p1-0-0, r0-1-0. Retrolateral tibial apophysis situated at about half of segment length, long, angular (fig. 514); palpal conductor not sharply angled (fig. 513).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora: II r0-1-0; III p1-1-0, r0-1-0; IV d1-0-1, p1-0-0, r0-0-0; tibiae: I, II v1p-1p-2; III p0-0-0, r0-1-1; IV p1-0-1; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p1-0-0. Epigynal atrium rounded, with translucent flange (fig. 515); ducts enlarged posteriorly (fig. 516).

OTHER MATERIAL EXAMINED: **Western Australia:** Barlee Range Nature Reserve, 23°05′S, 115°47′E, June 15–18, 1994, dry pitfall (P. G. Kendrick, WAM 99/494), 1♀; Barlee Range Nature Reserve, 23°06′S,



Map 39. Records of *Fissarena castanea* (Simon) (circles), *F. cuny*, new species (square), and *F. arcoona*, new species (star).



Figs. 513–516. *Fissarena barlee*, new species. **513.** Left male palp, ventral view. **514.** Same, retrolateral view. **515.** Epigynum, ventral view. **516.** Same, dorsal view.

116°00′E, June 19–22, 1994, dry pitfall (P. G. Kendrick, WAM 99/492, 493), 2♂; Barlee Range Nature Reserve, 23°23′S, 115°53′E, June 11–14, 1994, dry pitfall (P., G. Kendrick, WAM 99/495), 1♀.

DISTRIBUTION: Known only from the Barlee Range, Western Australia (map 40).

Fissarena woodleigh, new species

Figures 495–500, 517–520; Map 40

TYPES: Male holotype and female allotype taken in pitfall trap at Woodleigh Station, 26°12′S, 114°25′E, Western Australia (Jan. 12–May 17, 1995; P. West), deposited in WAM (99/496, 497).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the conspicuous, rounded edge formed by the posterior half of the median apophysis (fig. 517), females by the large, tongue-shaped epigynal atrium (fig. 519).

MALE: Total length 9. Coloration as in *F. castanea*. Leg spination: tibiae: II v1p-2-2; III p1-0-1; metatarsi: II v2-0-0; III p1-0-0, r0-1-0; IV p1-0-0. Retrolateral tibial apophysis expanded distally (fig. 518); median portion of proximal half of bulb occupied by enlarged, rounded edge of median apophysis (fig. 517).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora II, III r0-1-0; tibiae: I, II v1p-1p-2; III p0-0-0, r0-1-1; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p0-0-0. Epigynal atrium long, tongue-shaped (fig. 519); median epigynal ducts fused at about half their length (fig. 520).

OTHER MATERIAL EXAMINED: **Western Australia:** Bidgemia Station, Gasgoyne Junction, 25°07′S, 115°26′E, June 6–Aug. 20, 1995, pitfall (N. Hall, WAM 99/512), 1♂; Bidgemia Station, Gasgoyne Junction, 25°13′S, 115°31′E, Jan. 13–June 5, 1995, pitfall (J. Waldock, WAM 99/510), 1♂; Boolathana Station, 24°25′S, 113°45′E, Sept. 30, 1994–Jan. 15, 1995, pitfalls (N. McKenzie, J. Rolfe, WAM 99/515–518), 3♂, 1♀, Jan. 15–May 31, 1995, pitfall (J. Waldock, WAM 99/511), 1♂; Boolathana Station, 24°25′S, 113°46′E, Jan. 15–May 31, 1995, pitfall (J.

Waldock, WAM 99/502), 1♂; Bungalbin Hill, 30°17′S, 119°43′E, Dec. 1981, pitfall, tree/mallee ecotone (W. Humphreys, WAM 99/513, 514), 2♀; Francois Peron National Park, 26°50′S, 113°36′E, Oct. 12, 1994–Jan. 18, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/501), 1♂; Nanga Station, 26°29′S, 114°03′E, Oct. 16, 1994–Jan. 19, 1995, pitfalls (N. McKenzie, J. Rolfe, WAM 99/498, 499), 2♂, Jan. 19–May 11, 1995, pitfalls (A. Sampey, WAM 99/503, 504) 1♂, 1♀; Nerren Nerren Station, 27°03′S, 114°35′E, Oct. 16, 1994–Jan. 11, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/507), 1♂; Nerren Nerren Station, 27°03′S, 114°36′E, Jan. 11–May 11, 1995, pitfalls (P. West, WAM 99/508, 509), 1♂, 1♀; Woodleigh Station, 26°12′S, 114°32′E, Jan. 12–May 17, 1995, pitfalls (P. West, WAM 99/505, 506), 2♂; Woodleigh Station, 26°13′S, 114°36′E, Jan. 12–May 17, 1995, pitfall (P. West, WAM 99/500), 1♀.

DISTRIBUTION: Known only from Western Australia (map 40).

Fissarena laverton, new species

Figures 521–524; Map 40

TYPE: Female holotype taken in pitfall trap 39 km E of Laverton, 28°28′S, 122°50′E, Western Australia (Oct. 23–25, 1990; E. Pianka), deposited in WAM (99/519).

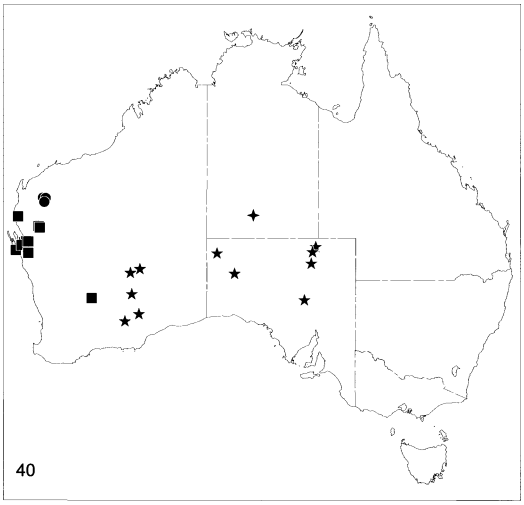
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males and females have not been collected together, but are matched here on the basis of their respective similarities to those of *F. woodleigh*. Males can be distinguished by the smaller tip of the palpal conductor (fig. 521), females by the anteriorly narrowed epigynal atrium (fig. 523).

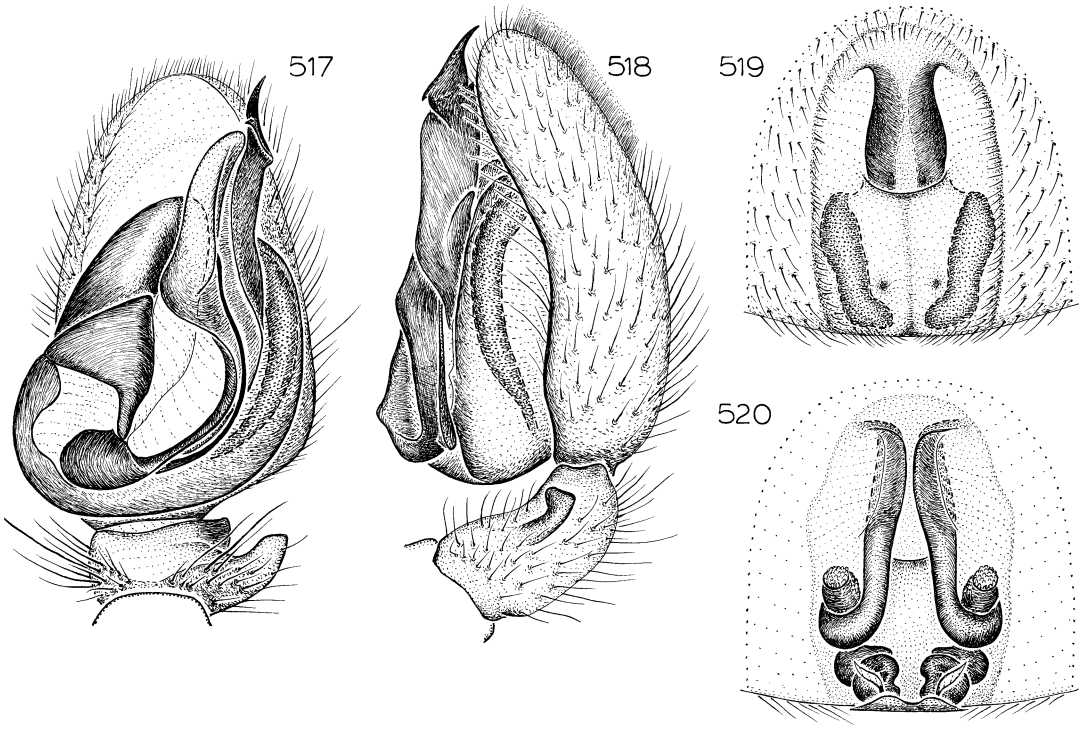
MALE: Total length 10. Coloration as in *F. castanea*. Leg spination: femora III p1-1-0, r0-1-0; tibiae: III p0-0-0, r0-1-0; IV d1-1-0, p1-0-1; metatarsi: II v2-0-0; III p1-0-0, r1-0-0; IV p1-0-0, r1-2-0. Retrolateral tibial apophysis expanded distally (fig. 522); retrolateral edge of median apophysis unsclerotized (fig. 521).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora: I p1-1-1, r0-1-1; II r0-1-0; III p1-1-0, r0-1-0; IV p1-1-0, r0-0-0; tibiae: III p1-0-0, r0-1-1; metatarsi: I v2-1p-0; II 2-2-0; III p0-1-0; IV p1-0-0. Epigynal atrium narrowed anteriorly (fig. 523); ducts extending almost to anterior edge of epigynum (fig. 524).

OTHER MATERIAL EXAMINED: **South Australia:** 8.1 km WNW Beal Hill, 26°36′S, 137°47′E, Sept. 14–18, 1998, pitfall, dune, canegrass (SAM N1999/89), 1♂; 35.1 km N Miandana Waterhole, 26°58′S, 137°31′E, Sept. 9–14, 1998, pitfall, dune, canegrass (SAM N1999/86–88), 3♂; 6.6 km WNW Mount Lindsay, 27°04′S, 129°49′E, Oct. 16–20, 1996, pitfall, sand plain (SAM N1999/93), 1♂; ca. 3 km N Olympic Dam Mine, Roxby Downs, 30°24′S, 136°52′E, 1999, pitfall (K. Lamb, SAM N1999/92), 1♂; Roxby Downs, 30°25′S, 136°52′E, Feb. 1996, pitfall (J. Read, SAM N1999/90, 91), 2♂; Simpson Desert, N edge Lake Eyre National Park, between Warburton and Kallakoopah Creeks, 27°48′S, 137°25′E, mid Sept. 1995 (T. Payne, WAM 99/521), 1♂; 53.5 km E Vokes Hill, Great Victoria Desert, 28°32′S, 131°14′E, Oct. 8, 1976, burning triodia tussock (D. Lee, SAM N1999/40), 1♀. **Western Australia:** 3 km NNE Buningonia Spring, 31°26′S, 123°32′E, Nov. 18–25, 1978 (T. Houston, WAM 99/520), 1♂; 39 km E Laverton, 28°28′S, 122°50′E, Dec. 8–10, 1990, pitfall (E. Pianka, WAM 99/525), 1♀; 10 km NE Old Kirgella Rocks Homestead, 30°00′S,



Map 40. Records of *Fissarena barlee*, new species (circles), *F. woodleigh*, new species (squares), *F. laverton*, new species (stars), and *F. longipes* (Hogg) (cross).



Figs. 517–520. *Fissarena woodleigh*, new species. **517.** Left male palp, ventral view. **518.** Same, retrolateral view. **519.** Epigynum, ventral view. **520.** Same, dorsal view.

122°57′E, Aug. 5, 1993 (M. Peterson, WAM 99/527), 1♀; 7–8 km WNW Point Salvation, 28°12′S, 123°36′E, Sept. 29–30, 1990, pitfall (E. Pianka, WAM 99/522), 1♀, Sept.–Oct. 1998, dry pitfalls (D. King, E. Pianka, WAM 99/523, 524), 2♀; Woodline, 31°57′S, 122°24′E, Apr. 1981, *Eucalyptus salmonophloia* woodland (W. Humphreys, WAM 99/526), 1♀.

DISTRIBUTION: Western and South Australia (map 40).

Fissarena arcoona, new species

Figures 525–528; Map 39

TYPE: Male holotype taken near Sambot Waterhole, Arcoona Creek, Gammon Ranges National Park, 30°27′S, 139°03′E, South Australia (May 4, 1989; D. Hirst), deposited in SAM.

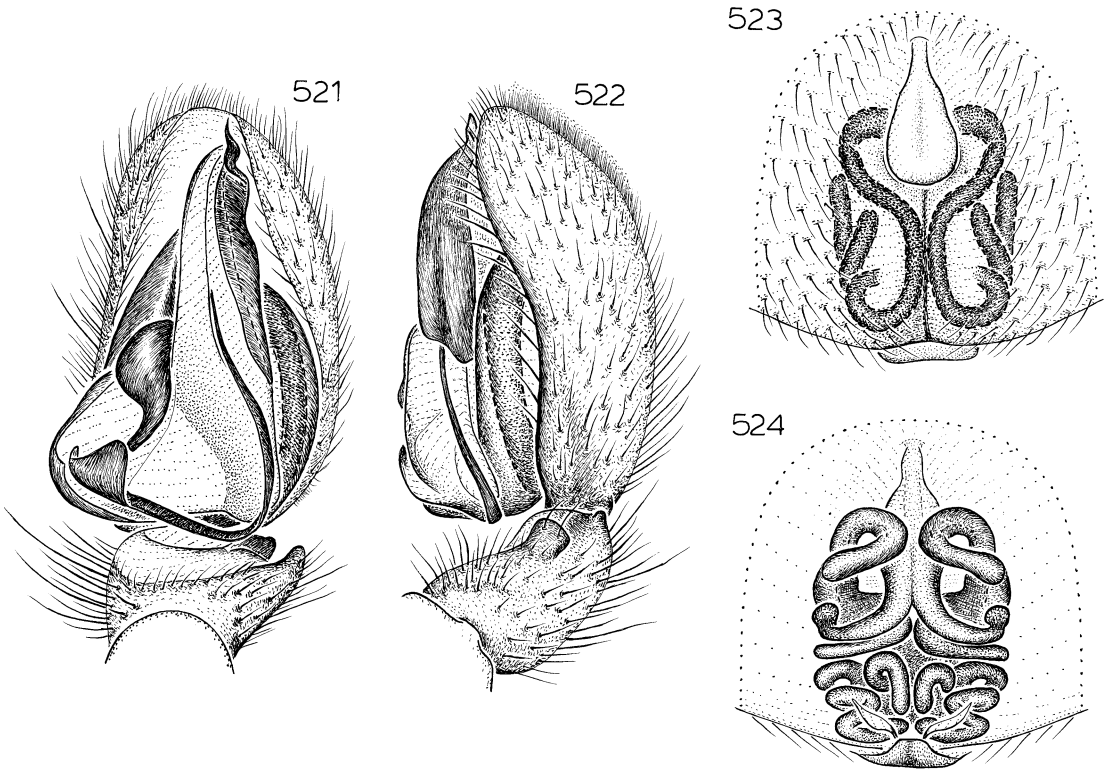
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males closely resemble those of *F. longipes* but have a smaller conductor tip (fig. 525); females of *F. longipes* are unknown, but those of *F. arcoona* differ from those of all other species in having a median septum in the epigynal atrium (fig. 527).

MALE: Total length 8. Coloration as in *F. castanea*. Leg spination: femora: III p1-1-0; IV p1-0-0, r0-1-1; tibiae: I, II v1p-1p-2; III p0-0-0, v1p-2-2; r0-1-0; IV p0-0-0; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p0-0-0. Retrolateral tibial apophysis thumb-shaped (fig. 526); tip of conductor ledged, making full semicircle (fig. 525).

FEMALE: Total length 12. Coloration as in male. Leg spination: femora: I p1-0-0; II r0-1-0; III p1-1-0, r0-0-0; IV p0-0-0, r0-0-0; tibiae: I, II v1p-1p-2; III p0-0-0, v1p-2-2, r0-0-0; IV p0-0-0, r0-1-1; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p0-0-0. Epigynal atrium with anteromedian septum (fig. 527); ducts relatively highly convoluted posteriorly (fig. 528).

OTHER MATERIAL EXAMINED: **South Australia:** Elephant Hill, Arcoona Creek, Gammon Ranges National Park, 30°28′S, 139°00′E, May 5, 1989 (D. Hirst, SAM ARA



Figs. 521–524. *Fissarena laverton*, new species. **521.** Left male palp, ventral view. **522.** Same, retrolateral view. **523.** Epigynum, ventral view. **524.** Same, dorsal view.

5323), 1♀; top of ridge W North Tusk Hill, Gammon Ranges National Park, 30°26′S, 138°59′E, May 5, 1989 (D. Lee, SAM N1999/14), 1♀.

DISTRIBUTION: Known only from the Gammon Ranges, South Australia (map 39).

Fissarena longipes (Hogg), new combination

Figures 529, 530; Map 40

Hemicloea longipes Hogg, 1896: 337 (male holotype from Illamurta, Northern Territory, in NMV, examined).

DIAGNOSIS: Males closely resemble those of *F. arcoona* but have a much larger conductor tip (fig. 529). Females are unknown; the evident close relationship with *F. arcoona* makes it unlikely that this could be the male of *F. ethabuka* or *F. barrow*.

MALE: Total length 10. Coloration as in *F. castanea*. Leg spination: III p1-1-0, r0-1-0; IV p0-0-0, r0-0-1; tibiae: I, II v1p-2-2; III, IV p0-0-0, r0-1-1; metatarsi: II v2-0-0; III p0-0-0, r0-0-0; IV p0-0-0. Retrolateral tibial apophysis small, triangular (fig. 530); embolus sinuous, tip of conductor ledged, greatly enlarged, extending to dorsal scopula (fig. 529).

FEMALE: Unknown.

MATERIAL EXAMINED: Only the holotype, taken at Illamurta, Ilpilla Creek, ca. 24°20′S, 132°45′E, Northern Territory (NMV K1029).

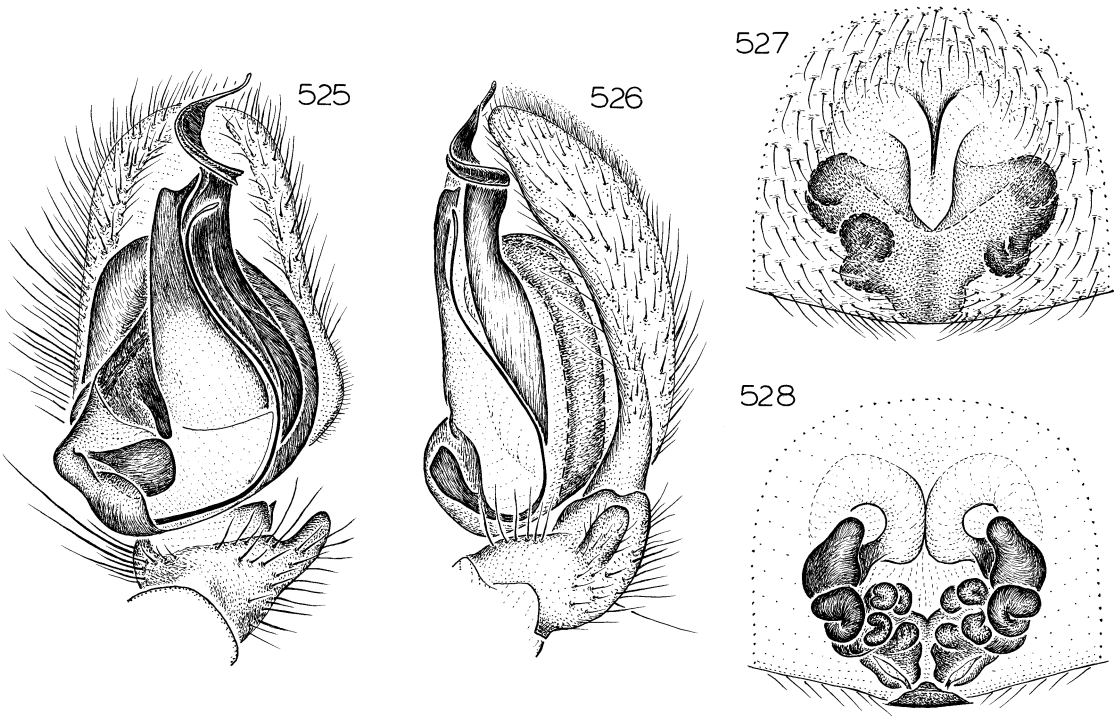
DISTRIBUTION: Known only from the type locality in southern Northern Territory (map 40).

Boolathana, new genus

TYPE SPECIES: *Boolathana spiralis*, new species.

ETYMOLOGY: The generic name is taken from a locality at which the genus occurs, and is considered feminine in gender.

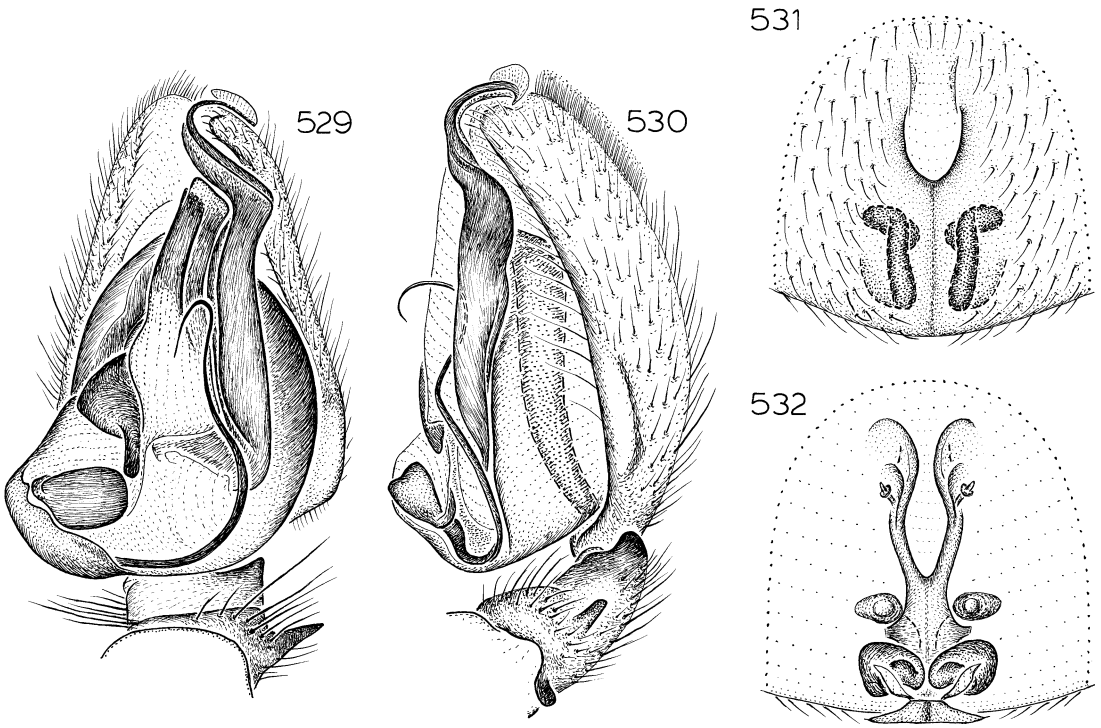
DIAGNOSIS: Males are easily recognized by the complete coil formed by the tip of the



Figs. 525–528. *Fissarena arcoona*, new species. **525.** Left male palp, ventral view. **526.** Same, retrolateral view. **527.** Epigynum, ventral view. **528.** Same, dorsal view.

median apophysis (figs. 533, 534), and females by the similarly coiled epigynal ducts (figs. 535, 536). The enlarged anterior lateral eyes, situated on distinct mounds, are also diagnostic.

DESCRIPTION: Large spiders, total length of males 13–14, of females 10–14. Carapace flattened, without tubercles, with rebordered lateral and posterior margins, evenly coated with scattered, dark, stiff, erect setae interspersed among white, recumbent setae; longer, erect, dark setae present only in ocular area and on clypeus; thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, additional intercoxal grooves almost obsolete. Eight eyes in two rows, anterior laterals much larger than other eyes, on distinct mounds, posterior medians smallest; anterior medians circular, light, posterior medians circular, lenses slightly flattened, canoe-shaped tapetum apparently lost, laterals oval; from above and from front, both eye rows slightly recurved; anterior medians separated by more than their diameter, about as far from anterior laterals; posterior medians separated by about seven times their diameter, slightly closer to posterior laterals; anterior and posterior laterals separated by more than their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface coated with stiff setae; chilum very wide, triangular, unipartite but with small area of unsclerotized cuticle along ventral one-third of midline area, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with three teeth, proximal tooth smaller than others, distalmost tooth separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings near base of proximal tooth. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin truncate. Endites long, divergent,



Figs. 529–532. 529, 530. *Fissarena longipes* (Hogg). 531, 532. *F. barrow*, new species. **529.** Left male palp, ventral view. **530.** Same, retrolateral view. **531.** Epigynum, ventral view. **532.** Same, dorsal view.

with oblique depression restricted to their median edge; serrula absent, long, oval, sieve plate conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, extensions between coxae represented by four pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted v-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers gently ridged; colulus represented only by scattered setae situated near narrow posterior spiracle; males apparently with scattered short epiandrous spigots. Anterior lateral spinnerets short, conical, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and several small, unmodified piriform gland spigots; posterior median spinnerets with several aciniform gland spigots and apparently only one larger minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with two parallel rows, each row with about five large cylindrical gland spigots; posterior lateral spinnerets with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs laterigrade, subequal in length, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws bearing no ventral teeth, strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing several tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: I–III d1-1-0, p1-1-0, r0-1-1; IV d1-1-0, p1-0-0, r0-0-1; tibiae: I–III v2-2-2; IV v2-2-2, r1-1-1; metatarsi: I, II v2-0-0; III v2-0-2; IV v2-2-2, r1-1-0.

Male palpal tibia with basal apophysis represented by tiny ledge at posterior edge of segment, situated just proximal of deeply excavated, lightly sclerotized area, distal apophysis bipartite, with rounded ventral and pointed dorsal lobes; cymbium with thick distal scopula; cymbial surface invaginated at base; ventral portion of median apophysis with distinctive distal coil. Epigynum with coiled ducts.

KEY TO SPECIES OF *BOOLATHANA*

1. Males with tip of palpal conductor reaching to coil of median apophysis (fig. 533); females with epigynal ducts subequal in width (fig. 536) . . . . . *spiralis*
– Males with tip of palpal conductor not reaching to coil of median apophysis (fig. 537); females with anterior epigynal duct coil much wider than posterior coils (fig. 540) . . . . . *mainae*

***Boolathana spiralis*,** new species

Figures 533–536; Map 41

TYPE: Male holotype taken in dry pitfall trap at Boolathana Station, 24°25′S, 113°42′E, Western Australia (Sept. 27–Oct. 2, 1994; A. Sampey), deposited in WAM (99/528).

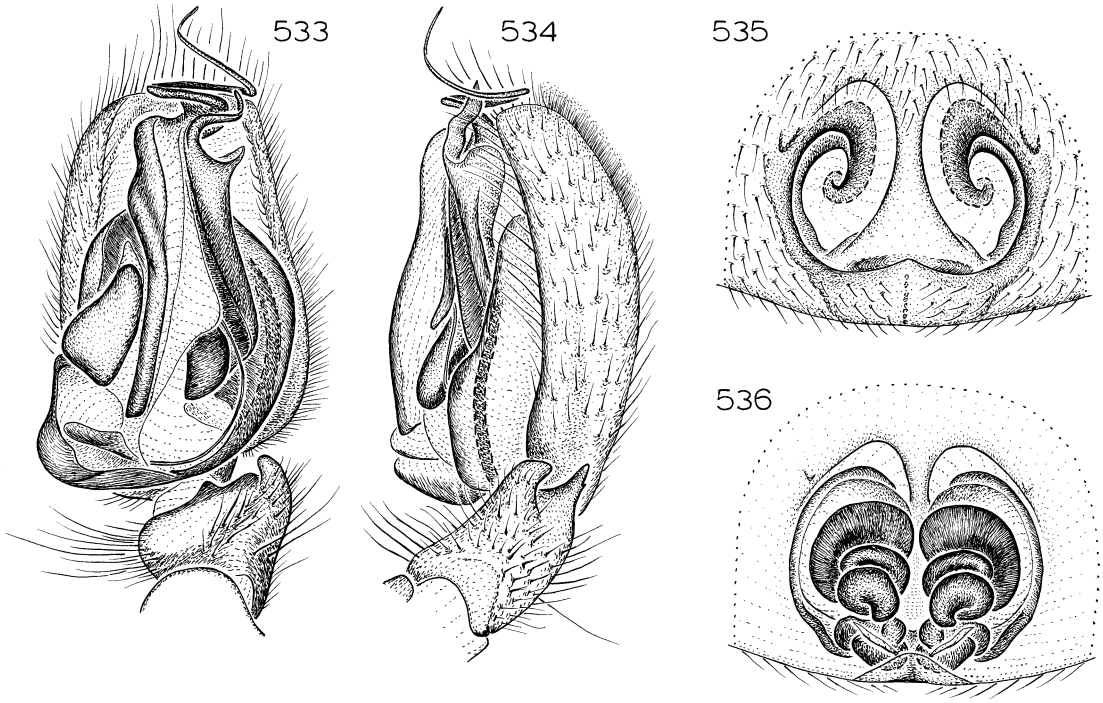
ETYMOLOGY: The specific name refers to the coiled tip of the median apophysis.

DIAGNOSIS: Males have the recurved tip of the palpal conductor reaching the distal spiral of the median apophysis (fig. 533); females have a larger median epigynal septum (fig. 535) and subequally wide epigynal duct coils (fig. 536).

MALE: Total length 14. Carapace dark reddish brown, darkened anteriorly; abdominal dorsum and sides dark gray, venter pale gray; legs brown, metatarsi darkest. Leg spination typical for genus. Retrolateral tibial apophysis short, bipartite (fig. 534); tip of median apophysis forming complete coil, tip of conductor with deep subdistal excavation and recurved tip reaching coil of median apophysis (fig. 533).

FEMALE: Total length 10. Coloration as in male. Leg spination: femora: III r0-1-0; IV r0-0-0; tibiae: I, II v1p-1p-2; IV r0-1-1; metatarsi: III p0-0-1; IV p0-0-1, v2-1p-2, r1-0-0. Epigynum with median septum much wider posteriorly than anteriorly (fig. 535), epigynal ducts making five coils (fig. 536).

OTHER MATERIAL EXAMINED: **Western Australia:** Boolathana Station, 24°25′S, 113°42′E, Aug. 20–Sept. 30, 1994, pitfall (A. Sampey, WAM 99/529), 1♂; Boolathana Station, 24°25′S, 113°45′E, Aug. 20–Sept. 30, 1994, pitfall (A. Sampey, WAM 99/530), 1♂; Bush Bay, 25°07′S, 113°44′E, Sept. 27–Oct. 2, 1994, dry pitfall (M. Harvey, WAM 99/531), 1♂; Durokoppin Nature Reserve, 31°30′S, 117°44′E, Nov. 3–14, 1988 (D. Mitchell, WAM 99/541), 1♂; Edel Land, 26°04′S, 113°23′E, Sept. 15–20, 1989 (G. Harold, WAM 99/534), 1♂; Edel Land, 26°17′S, 113°30′E, Sept. 9–14, 1989 (G. Harold, WAM 99/533), 1♂; Kennedy Range National Park, 24°30′S, 115°02′E, Aug. 18–Oct. 6, 1994, pitfall (M. Harvey, WAM 99/532), 1♂; Leeman, 29°57′S, 114°58′E, Aug. 30, 1982, yellow sand, heath (R. McMillan, WAM 99/542), 1♀; R.G.C. Mine, 10 km S



Figs. 533–536. *Boolathana spiralis*, new species. **533.** Left male palp, ventral view. **534.** Same, retrolateral view. **535.** Epigynum, ventral view. **536.** Same, dorsal view.

Eneabba, 29°56′S, 115°17′E, Oct. 30–31, 1997, pitfalls (R. McMillan, WAM 99/535–540), 6♂.

DISTRIBUTION: Known only from Western Australia (map 41).

Boolathana mainae, new species

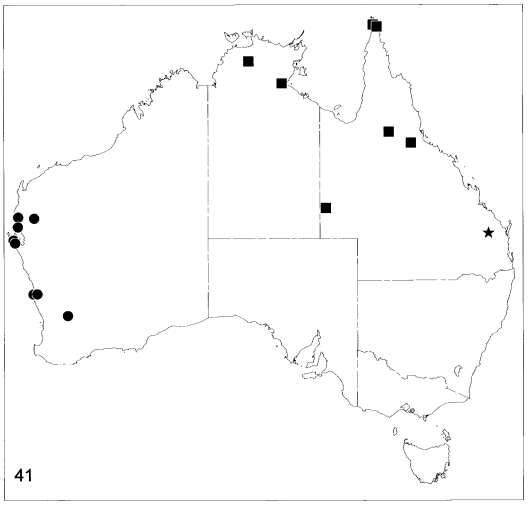
Figures 537–540; Map 42

TYPE: Male holotype taken in pitfall trap at Fitzgerald River National Park, near Twertup Field Study Centre, 34°01′S, 119°22′E, Western Australia (Nov. 1996; A. Saunders), deposited in WAM (99/543).

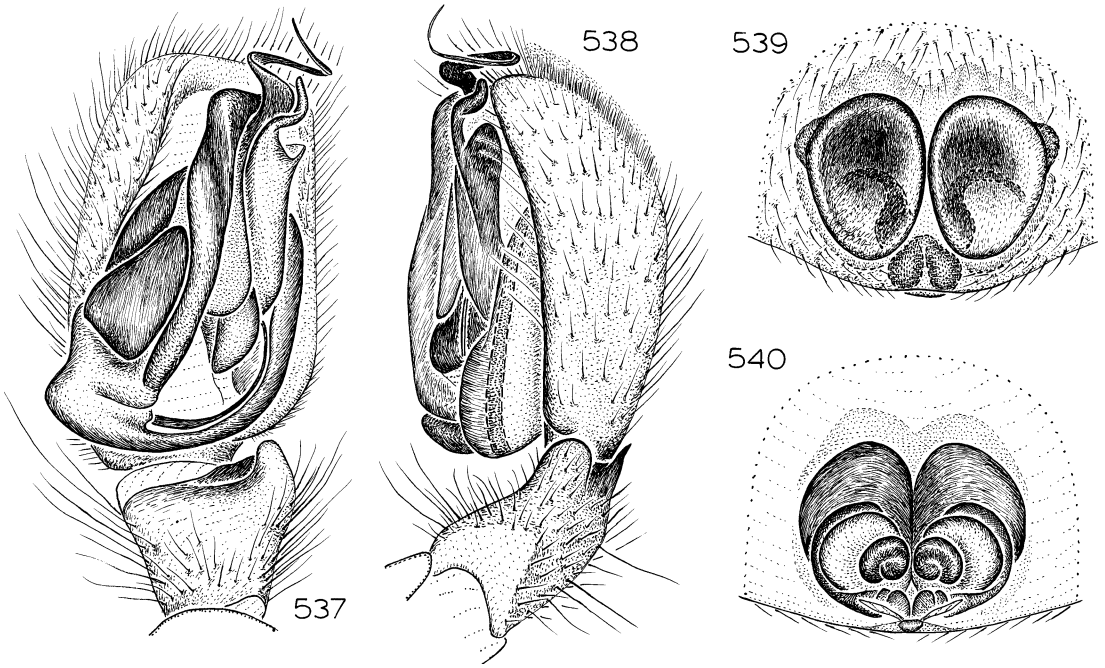
ETYMOLOGY: The specific name is a patronym in honor of Dr. Barbara Main, who collected the single female here assigned to the species.

DIAGNOSIS: Males have the recurved tip of the palpal conductor not reaching the distal spiral of the median apophysis (fig. 537); females have a smaller median epigynal septum (fig. 539) and greatly widened anterior epigynal duct coils (fig. 540).

MALE: Total length 13. Coloration as in *B.*



Map 41. Records of *Boolathana spiralis*, new species (circles), *Hemicloeina somersetensis* (Thorell) (squares), and *H. gayndah*, new species (star).



Figs. 537–540. *Boolathana mainae*, new species. **537.** Left male palp, ventral view. **538.** Same, retrolateral view. **539.** Epigynum, ventral view. **540.** Same, dorsal view.

spiralis. Leg spination: femora: III r0-1-0; IV r0-0-0; tibiae I, II v1p-1p-2; metatarsi: III p0-0-1; IV p0-0-1, r0-1-0. Ventral prong of retrolateral tibial apophysis relatively wide (fig. 538); recurved tip of palpal conductor not reaching to distal spiral of median apophysis (fig. 537).

FEMALE: Total length 14. Coloration as in male. Leg spination: femur IV r0-0-0; tibia I v1p-2-2; metatarsi: III p0-0-1; IV p0-0-1, r1-1-1. Epigynum deeply depressed on both sides of median septum (fig. 539); anterior duct coil much wider than more posterior coils (fig. 540).

OTHER MATERIAL EXAMINED: **Western Australia:** Francois Peron National Park, 25°53′S, 113°33′E, Oct. 9–14, 1994, dry pitfall (A. Sampey, WAM 99/551), 1♂; Fitzgerald River National Park, 6 km WNW Annie Peak, Eyre Range, 33°51′S, 119°55′E, Nov. 1996, pitfall (A. Sanders, WAM 99/544), 1♂; Fitzgerald River National Park, 2.1 km WNW Twertup Field Study Centre, 34°01′S, 119°21′E, Nov. 1996, pitfall (A. Saunders, WAM 99/545–547), 3♂; S Hamelin Station on Coburn Track, 26°26′S, 114°11′E, Nov. 4, 1991 (K. Aplin, WAM 93/224), 1♂; Kwelkan, 31°08′S, 118°00′E, Sept. 7–Nov. 30, 1999, pitfall (J. Waldock, I. Studley, WAM 99/549), 1♂; 3 mi SW Lake Cronin, 32°23′S, 119°45′E, May 16, 1967, silk-lined burrow against butt of shrub (WAM 99/548), 1♀; Nanga Station, 26°33′S, 113°58′E, Oct. 15–20, 1994, dry pitfall (P. West, WAM 99/552), 1♂; Nanga Station, 26°36′S, 113°53′E, Aug. 23–Oct. 16, 1994, pitfall (P. West, WAM 99/553), 1♂; Nerren Nerren Station, 27°03′S, 114°34′E, Oct. 16, 1994–Jan. 11, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/550), 1♂; Zuytdorp, 27°15′S, 114°12′E, Aug. 26–Oct. 16, 1994, pitfalls (A. Sampey, WAM 99/565, 566), 2♂, Oct. 14–19, 1994, dry pitfalls (A. Sampey, WAM 99/555, 556), 2♂, Oct. 16, 1994–Jan. 10, 1995, pitfall (N. McKenzie, J. Rolfe, WAM 99/557), 1♂; Zuytdorp, 27°16′S, 114°01′E, Aug. 26–Oct. 15, 1994, pitfalls (A. Sampey, WAM 99/558–560), 3♂, Oct. 14–19, 1994, dry pitfall (A. Sampey, WAM 99/554), 1♂; Zuytdorp, 27°16′S, 114°02′E, Aug. 26–Oct. 15, 1994, pitfalls (A. Sampey, WAM 99/561–563), 3♂; Zuytdorp, 27°16′S, 114°09′E, Aug.

26–Oct. 16, 1994, pitfall (A. Sampey, WAM 99/564), 1♂.

DISTRIBUTION: Known only from Western Australia (map 42).

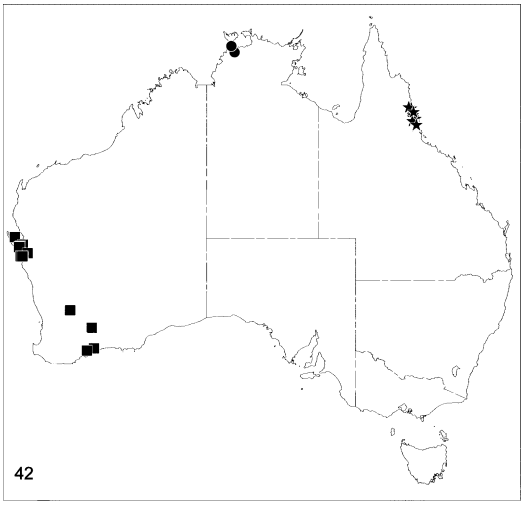
Hemicloeina Simon

Hemicloeina Simon, 1893: 346 (type species by original designation *Hemicloea somersetensis* Thorell).

NOTE: The application of this generic name could be disputed. The type species, *Hemicloea somersetensis*, was originally described by Thorell (1881) on the basis of juveniles collected at Somerset, at the northern tip of Cape York, by L. M. D'Albertis. Simon's concept of the type species was seemingly based on one juvenile (MNHN 6725) from this collection, apparently donated to Simon by Thorell in 1884. Simon separated the genus from what he considered its closest relative, *Rebilus*, by the simple, conical posterior median spinnerets. Those relatively unmodified spinnerets, however, are characteristic only of juveniles, which have not yet developed the massive array of cylindrical gland spigots found on the posterior median spinnerets of adult females. On this basis, *Hemicloeina* could be regarded as simply an ill-founded synonym of *Rebilus*. However, only one trochanteriid species is currently known from Somerset and adjacent areas near the tip of Cape York, and it belongs to a group that is clearly distinguishable from *Rebilus*. It seems best, therefore, to use Thorell's specific name for that species, and Simon's generic name for the group to which it belongs.

DIAGNOSIS: This appears to be the sister group of *Rebilus*, sharing with it a common male palpal conformation and the presence of a few tiny denticles on the proclaw of leg I. The two genera seem to be largely allopatric, although there may be some limited areas of sympatry in Queensland. Males of *Hemicloeina* can easily be distinguished from those of *Rebilus* by the deeply incised, almost chelate tip of the palpal conductor (figs. 541, 545); females of *Hemicloeina* have a rather different epigynal conformation, with much more coalesced spermathecae (figs. 544, 548) and without the laterally and anteriorly convoluted epigynal ducts typical of *Rebilus*.

DESCRIPTION: Large spiders, total length of males 7–12, of females 9–18. Carapace flattened, without tubercles, with rebordered lateral and posterior margins, evenly coated with scattered, dark, stiff, short, erect setae interspersed among white, recumbent setae; longer, erect, dark setae present only in ocular area and on clypeus; thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, additional intercoxal grooves still discernible. Eight eyes in two rows, posterior medians smaller than other, subequal eyes; anterior medians circular, light, posterior medians circular, lenses slightly flattened, canoe-shaped tapetum apparently lost, laterals oval; from above, both eye rows slightly recurved, from front, both rows slightly procurved; anterior medians separated by more than their diameter, farther from anterior laterals; posterior medians separated by about three times their diameter, slightly closer to posterior laterals; anterior and posterior laterals separated by more than their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface



Map 42. Records of *Boolathana mainae*, new species (squares), *Hemicloeina julatten*, new species (stars), and *H. humptydoo*, new species (circles).

coated with stiff setae; chilum very wide, triangular, unipartite, entire, accompanied by second, elongated, posterior chilum (narrow, I-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with three teeth, proximal tooth smaller than others, distalmost tooth separated from other two, retromargin with two widely separated teeth; presumptive chelicerae gland openings near base of proximal tooth. Labium rectangular, flat, posterior one-quarter narrowed, anterior margin truncate. Endites long, divergent, with oblique depression restricted to their median edge; serrula apparently absent, sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, extensions between coxae represented by four pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted v-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, recumbent setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers not ridged; colulus represented only by scattered setae situated near narrow posterior spiracle; males apparently with scattered short epiandrous spigots. Anterior lateral spinnerets short, conical, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and several small, unmodified piriform gland spigots; posterior median spinnerets with several aciniform gland spigots and apparently only one larger minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with two parallel rows, each row with about 10 large cylindrical gland spigots; posterior lateral spinnerets with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs laterigrade, subequal in length, most surfaces with long setae; coxae and trochanters without dorsal tubercles but coxae IV with one dorsal spiniform seta, fourth trochanters slightly elongated; anterior coxae without protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws bearing no ventral teeth, except proclaw of leg I with few tiny denticles; strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing several tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: I–III d1-1-0, p1-1-0, r0-1-0; IV d1-0-1, p1-0-0; tibiae: I, II v1p-1p-2; III v2-2-2; IV p1-0-0, v2-2-2, r1-0-1; metatarsi: I, II v2-0-0; III v2-1p-2; IV v2-2-2, r1-0-0.

Male palpal tibia with distinct basal and distal apophyses, cymbium with thick distal scopula; cymbial surface invaginated at base; distal tip of conductor deeply incised, with chelate appearance. Epigynum with relatively chunky, coalesced spermathecae, without elaborate anterior and lateral ducts.

KEY TO SPECIES OF *HEMICLOEINA*

1. Males (those of *bulolo* unknown) 2
– Females (those of *wyndham* unknown) . . 9
2. Retrolateral tibial apophysis, in lateral view, forming a narrow triangle (figs. 542, 546) 3
– Retrolateral tibial apophysis, in lateral view, wider 4
3. Ledge of palpal conductor relatively small (fig. 545) . . . . . *julatten*
– Ledge of palpal conductor relatively large, dentate (fig. 541) . . . . . *somersetensis*
4. Tip of palpal conductor relatively short, wide (fig. 557); retrolateral tibial apophysis bifid (fig. 558) . . . . . *humptydoo*
– Tip of palpal conductor relatively long, narrow (as in fig. 569); retrolateral tibial apophysis not bifid 5
5. Space between tip and ledge of palpal conductor relatively long, narrow (fig. 569) . . . . . *bluff*
– Space between tip and ledge of palpal conductor shorter, wider (as in figs. 549, 561) 6
6. Space between tip and ledge of palpal conductor angular (figs. 561, 565) 7
– Space between tip and ledge of palpal conductor semicircular (figs. 549, 553) . . . 8
7. Retrolateral tibial apophysis with recurved tip (fig. 562); ledge of palpal conductor straight (fig. 561) . . . . . *kapalga*
– Retrolateral tibial apophysis with dorsally directed tip (fig. 566); ledge of palpal conductor with distally directed tip (fig. 565) . . . . . *wyndham*
8. Ledge of palpal conductor excavated (fig. 549) . . . . . *spec*
– Ledge of palpal conductor not excavated (fig. 553) . . . . . *gayndah*
9. Epigynal atrium relatively narrow throughout its length (figs. 547, 555, 563, 571) . . 10
– Epigynal atrium wider (figs. 543, 551, 559, 567) 13
10. Epigynal atrium relatively long (fig. 547) . . . . . *julatten*
– Epigynal atrium shorter (figs. 555, 563, 571) 11
11. Posterior margin of epigynal atrium straight (fig. 571) . . . . . *bluff*
– Posterior margin of epigynal atrium v-shaped (figs. 555, 563) 12
12. Epigynal ducts widest posteriorly (fig. 564) . . . . . *kapalga*
– Epigynal ducts widest anteriorly (fig. 556) . . . . . *gayndah*
13. Epigynal atrium diamond-shaped (fig. 543) . . . . . *somersetensis*
– Epigynal atrium not diamond-shaped . . . 14
14. Epigynal ducts much wider than atrium (figs. 567, 568) . . . . . *bulolo*
– Epigynal ducts at most only slight wider than atrium 15
15. Epigynal ducts relatively long, narrow (fig. 560) . . . . . *humptydoo*
– Epigynal ducts relatively short, wide (fig. 552) . . . . . *spec*

Hemicloeina somersetensis (Thorell)

Figures 541–544; Map 41

Hemicloea somersetensis Thorell, 1881: 307 (juvenile syntype from Somerset, Queensland, in MNHN, examined).

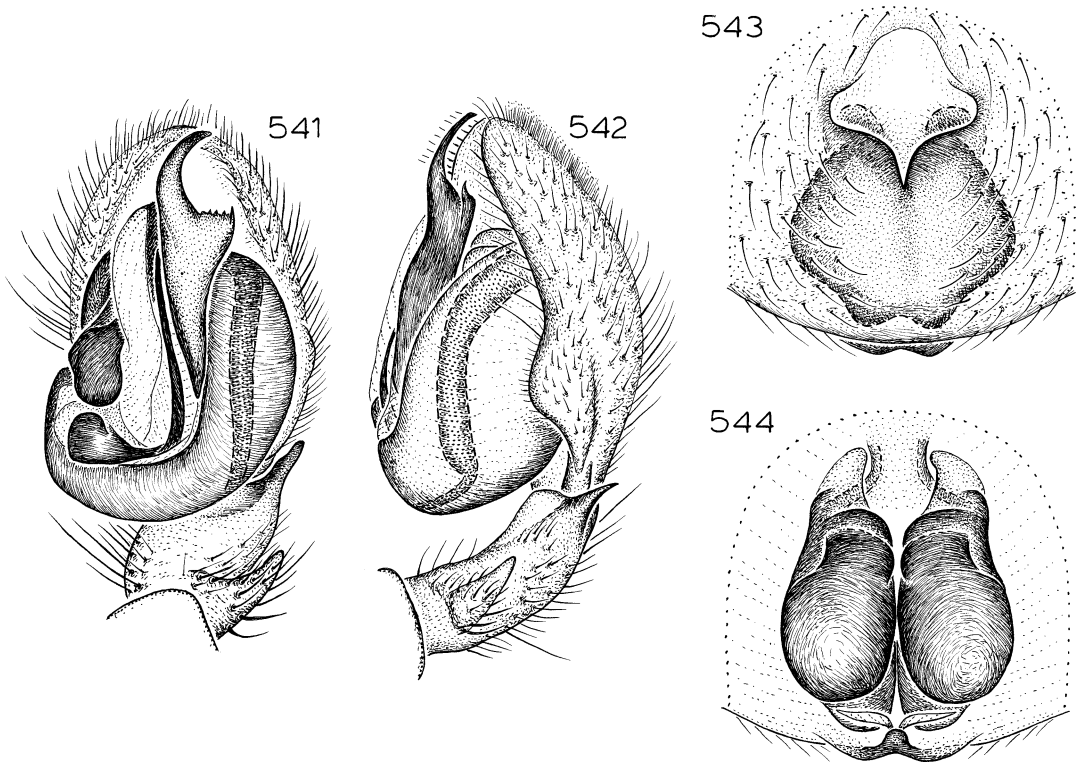
Hemicloeina somersetensis: Simon, 1893: 346.

DIAGNOSIS: Males have a small, triangular retrolateral tibial apophysis that is distally flattened and therefore appears blunt-tipped in ventral view but sharply-tipped in retrolateral view (figs. 541, 542); females have a short, anteriorly situated, triangular epigynal atrium (fig. 543) and long, massive spermathecae (fig. 544).

MALE: Total length 10. Carapace reddish brown, abdomen light gray, legs yellowish-brown. Leg spination: femur IV p0-0-0; tibiae: III r0-1-1; IV r1-1-0. Retrolateral tibial apophysis small, triangular, distally flattened in ventral view, sharply pointed in retrolateral view; distal edge of proximal prong of conductor with tiny denticles (figs. 541, 542).

FEMALE: Total length 13. Coloration as in male. Leg spination: femora: II p1-0-0; IV p0-0-0; tibiae: III r0-1-1; IV d1-0-0, r1-1-1; metatarsi: III v2-0-2; IV v2-1p-2. Epigynum with small, triangular anterior atrium (fig. 543), spermathecae long, massive, widest posteriorly (fig. 544).

MATERIAL EXAMINED: **Northern Territory:** Long Billabong, 13°14′S, 132°16′E, Nov. 1, 1995 (A. Hertog, J. Wombey, CSID A0310), 1♂; Wadamunga, 14°49′S, 134°57′E, Oct. 27, 1995 (A. Hertog, J. Wombey, CSID A0311), 1♀. **Queensland:** Ethabuka Pastoral Station, Simpson Desert, 23°46′S, 138°28′E, Mar. 1995, pitfall (C. Dickman, QMB S34496), 1♀; 25 mi W Georgetown, 18°18′S, 143°32′E, Nov. 4, 1962, elev. 225 m (CAS), 1♂; Horn Island, Torres Strait, 10°37′S, 142°17′E, July 1975 (H. Heatwole, E. Cameron, QMB S26468),



Figs. 541–544. *Hemicloeina somersetensis* (Thorell). **541.** Left male palp, ventral view. **542.** Same, retrolateral view. **543.** Epigynum, ventral view. **544.** Same, dorsal view.

1♂, 1♀; Lake Boronto, Cape York, Sept. 30, 1974–Feb. 1975, pitfall (G. Monteith, QMB S26466), 1♀; Somerset, Cape York, 10°45′S, 142°35′E (L. D'Albertis, MNHN 6725), 1 juv. (syntype), July 11, 1976, rainforest, under wood (E. Cameron, QMB S26464), 1♂; Thatch Creek, 19°06′S, 145°18′E, July 26–Dec. 1, 1992, pitfall, dry eucalypt forest (R. Raven, P., E. Lawless, M. Shaw, QMB S25281), 1♂.

DISTRIBUTION: Northern Territory and Queensland (map 41).

***Hemicloeina julatten*, new species**

Figures 545–548; Map 42

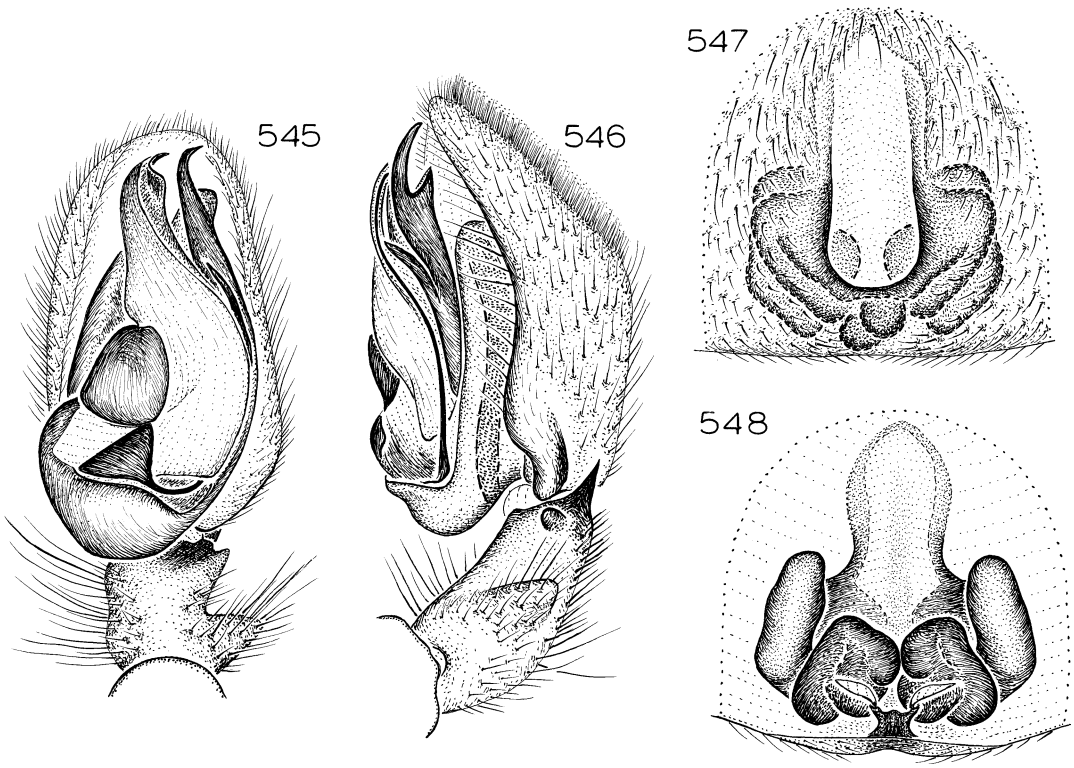
TYPE: Female holotype taken in rainforest at an elevation of 800–1000 m on Black Mountain, 17 km ESE Julatten, 16°39′S, 145°29′E, Queensland (Apr. 29–30, 1982; G. Monteith, D. Yeates, D. Cook), deposited in QMB (S28451).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the ventrally directed lobe at the base of the retrolateral tibial apophysis (fig. 546) and the relatively small proximal prong of the palpal conductor (fig. 545), females by the long epigynum atrium (fig. 547) and bipartite spermathecae (fig. 548).

MALE: Total length 12. Coloration as in *H. somersetensis*. Leg spination: femora: I–III r0-0-0; IV p1-1-0; tibiae: I, II v1p-3-2; III v1p-2-2; IV p0-0-0, v1p-1p-2, r0-0-0; metatarsi: III v2-0-2; IV v0-0-1p, r0-0-0. Retrolateral tibial apophysis sharply pointed, with ventrally directed protrusion at base (fig. 546); palpal conductor with long spur situated proximad of relatively small proximal prong (fig. 545).

FEMALE: Total length 15. Coloration as in male. Leg spination: femora: I–III r0-0-0; IV p1-1-0; tibiae: I, II v1p-2-2; III v1p-1p-2; IV p0-0-0, v1p-1p-2, r0-0-0; metatarsi: III v2-0-2; IV v0-0-1p, r0-0-0. Epigynal atrium long, sometimes slightly narrowed near posterior

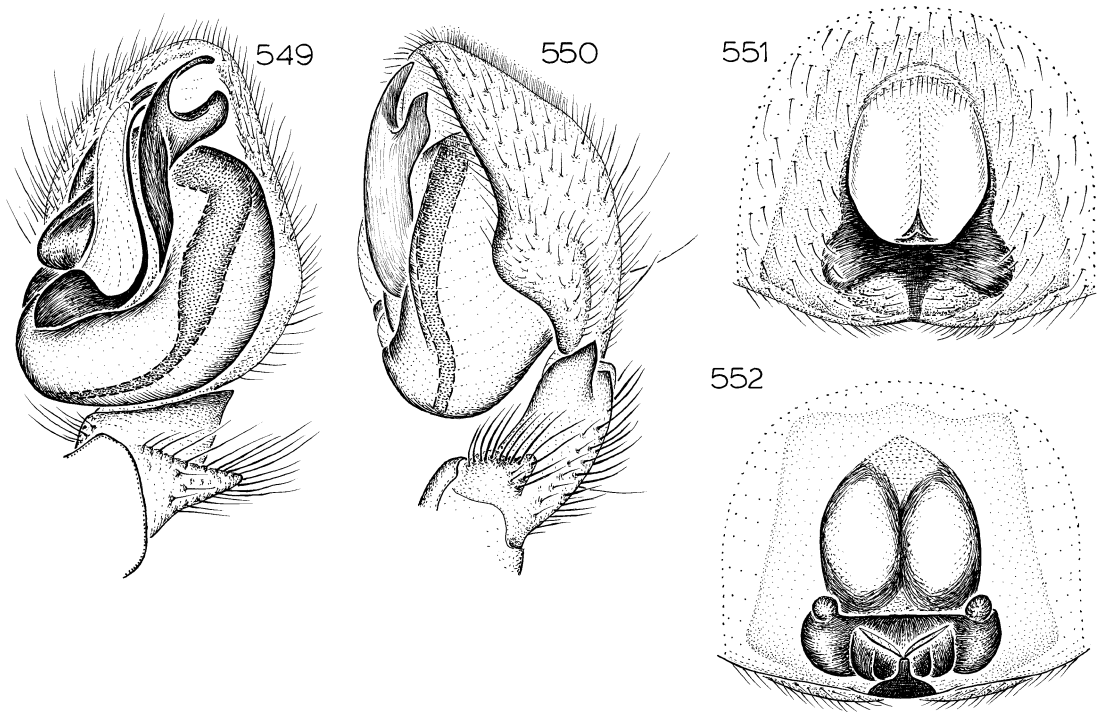


Figs. 545–548. *Hemicloeina julatten*, new species. **545.** Left male palp, ventral view. **546.** Same, retrolateral view. **547.** Epigynum, ventral view. **548.** Same, dorsal view.

margin (fig. 547); spermathecae large, bipartite (fig. 548).

OTHER MATERIAL EXAMINED: **Queensland:** Boonjee, 17°24′S, 145°44′E, Apr. 3–6, 1978, rainforest, under logs, (V. Davies, R.Raven, QMB S28445), 3♀; Boulder Creek via Tully, 17°50′S, 145°54′E, Oct. 24–27, 1983, elev. 500–600 m (G. Monteith, D. Yeates, G. Thompson, QMB S28468), 1♀; Danbullah State Forest, 17°09′S, 145°37′E, Oct. 10, 1971 (R. Mascord, AMS KS35503), 1♀; Lake Eacham, 17°18′S, 145°37′E, June 7, 1928 (F. Blanchard, AMNH), 1♂; Majors Mountain, 17°38′S, 145°32′E, Apr. 14–20, 1978 (R. Raven, V. Davies, QMB S26422), 3♂, 2♀; Malaan Road, 2 km S Palmerston Highway, 17°36′S, 145°42′E, May 18, 1995, pyrethrum, tree bases, elev. 750 m (G. Monteith, QMB S37750), 1♂; Malaan State Forest, 17°35′S, 145°35′E, Apr. 20–24, 1978, rainforest (R. Raven, V. Davies, QMB S26453), 2♀; Mount Bartle-Frere, base, 17°24′S, 145°49′E, Nov. 6–8, 1982 (QMB S34527), 2♀; Mount Fisher, 7 km SW Millaa Millaa, 17°34′S, 145°34′E, Apr. 23, 1978, under rocks, rainforest, elev. 4000 ft (R. Raven, V. Davies, QMB S28469), 2♀, Apr. 27–29, 1982, pyrethrum knockdown, elev. 1050–1100 m (G. Monteith, D. Yeates, D. Cook, QMB S26423), 1♂; Mount Lewis, summit, 16°35′S, 145°17′E, Sept. 9, 1981, rainforest, elev. 1200 m (G. Monteith, D. Cook, QMB S28684), 1♀; Mount Tyson, 2 km W Tully, 17°55′S, 145°54′E, May 7, 1983, rainforest, elev. 650 m (D. Yeates, QMB S28481), 3♀; 0.5 km NW Mount Williams, 16°55′S, 145°40′E, Nov. 28, 1997, pyrethrum knockdown, trees and logs (G. Monteith, QMB S43892), 1♀; Upper Boulder Creek, via Tully, 17°50′S, 145°54′E, Oct. 25–27, 1983, rainforest, elev. 900 m (G. Monteith, D. Yeates, G. Thompson, QMB S28472), 1♀.

DISTRIBUTION: Known only from northeastern Queensland (map 42).



Figs. 549–552. *Hemicloeina spec*, new species. **549.** Left male palp, ventral view. **550.** Same, retrolateral view. **551.** Epigynum, ventral view. **552.** Same, dorsal view.

Hemicloeina spec, new species
Figures 549–552; Map 43

TYPE: Female holotype taken in a eucalypt-casuarina mixed rainforest on Paluma Road, Mount Spec, 18°58′S, 146°10′E, Queensland (Sept. 3, 1988; J. Gallon, R. Raven, T. Churchill), deposited in QMB (S26421).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

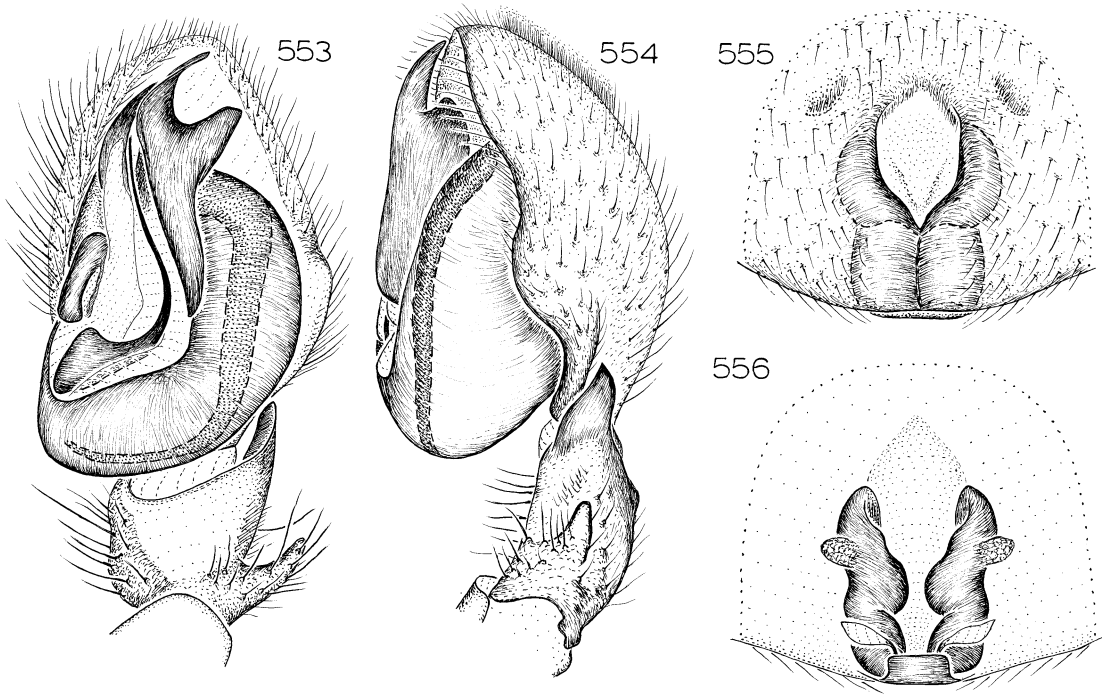
DIAGNOSIS: Males and females have not been taken together, but are matched here on the basis of geographic proximity. Males can be recognized by having the proximal prong of the palpal conductor much wider than the distal prong (fig. 549), females by the deeply excavated epigynal atrium (resembling, in that regard, some *Morebilus* species) and relatively short, wide spermathecae (figs. 551, 552).

MALE: Total length 8. Coloration as in *H. somersetensis* except legs grayish brown. Leg spination: femora: I–III p1-0-0, r0-0-0; IV p0-0-0; tibiae: I, II v2-2-2; IV p0-0-0, r1-1-1; metatarsi: I v2-2-0; III v2-2-2; IV v2-1p-2, r1-1-0. Retrolateral tibial apophysis short, broadly triangular (fig. 550); distal prong of palpal conductor very narrow, proximal prong much wider, excavated (fig. 549).

FEMALE: Total length 18. Coloration as in *H. somersetensis* except legs reddish brown. Leg spination: femora: I d1-0-0, p0-0-0, r0-0-0; II p0-0-0; III r0-0-0; IV p1-1-0; tibiae: I v1p-2-1p; II v1p-2-0; III v1p-1p-2; IV p0-0-0, v1p-1p-2; metatarsi: III v2-0-2; IV v0-0-1p; r0-0-0. Epigynal atrium deeply excavated, with longitudinal, elevated ridge along midline (fig. 551); spermathecae relatively short, wide (fig. 552).

OTHER MATERIAL EXAMINED: **Queensland:** Thatch Creek, 19°06′S, 145°18′E, July 26–Dec. 1, 1992, pitfall, dry eucalypt forest (R. Raven, P., E. Lawless, M. Shaw, QMB S25281), 1♂.

DISTRIBUTION: Known only from Queensland (map 43).



Figs. 553–556. *Hemicloeina gayndah*, new species. **553.** Left male palp, ventral view. **554.** Same, retrolateral view. **555.** Epigynum, ventral view. **556.** Same, dorsal view.

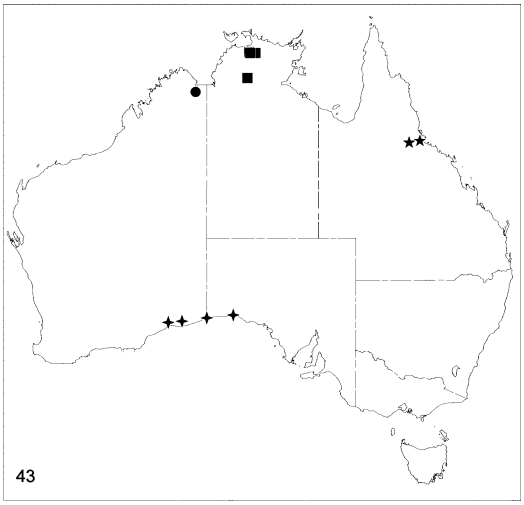
Hemicloeina gayndah, new species
Figures 553–556; Map 41

TYPE: Female holotype from Mount Gayndah, 25°35′S, 151°32′E, Queensland (Nov. 16, 2000; N. Platnick, R. Raven, B. Baehr), deposited in QMB.

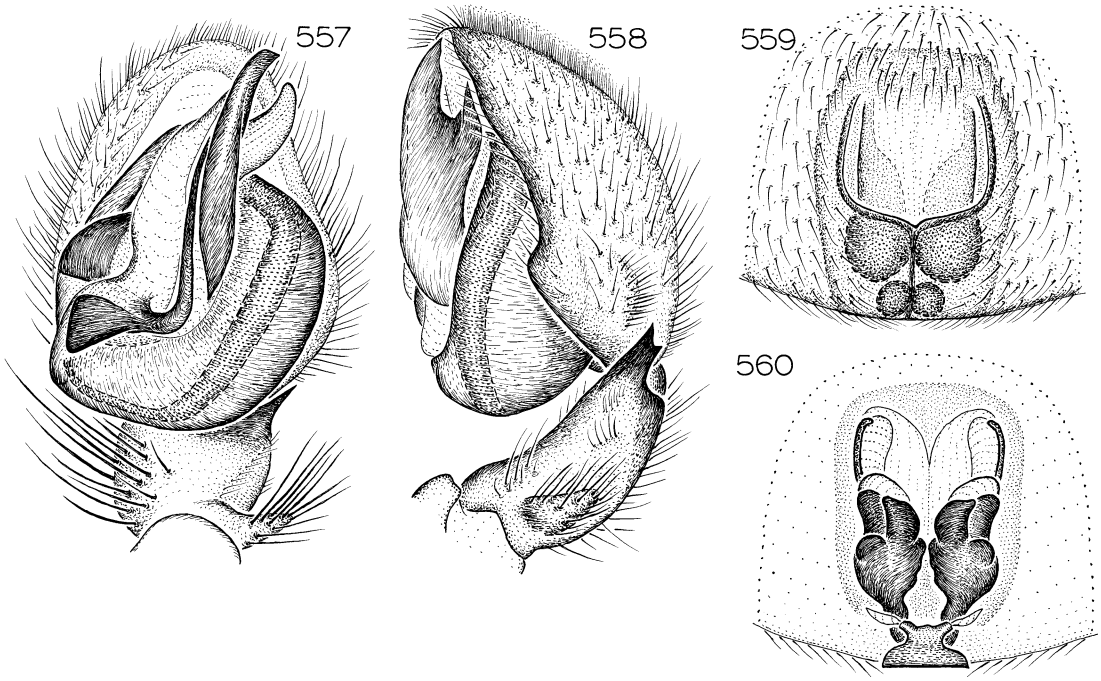
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species seems closest to *H. spec*; males are very similar but have a longer retrolateral tibial apophysis (fig. 554) and a smaller, less excavated proximal prong on the conductor tip (fig. 553), females have a much narrower epigynal atrium (fig. 555).

MALE: Total length 7. Coloration as in *H. somersetensis* except legs distinctly bicolored, femora and patellae dark gray, more distal segments yellow. Leg spination (only femora of legs III, IV present): femora II, III r0-0-0; tibiae I, II v1p-2-2. Retrolateral tibial apophysis longer than in *R. spec*, extending well beyond proximal margin of cymbium (fig. 554); proximal prong of conductor tip not distally excavated (fig. 553).



Map 43. Records of *Hemicloeina spec*, new species (stars), *H. kapalga*, new species (squares), *H. wyndham*, new species (circle), and *H. bluff*, new species (crosses).



Figs. 557–560. *Hemicloeina humptydoo*, new species. **557.** Left male palp, ventral view. **558.** Same, retrolateral view. **559.** Epigynum, ventral view. **560.** Same, dorsal view.

FEMALE: Total length 9. Coloration as in male. Leg spination: femora: I r0-0-0; II, III p0-0-0, r0-0-0; IV p0-0-0; tibiae: III v1p-2-2; IV r1-1-1; metatarsi: III v2-2-2; IV v1p-1p-2. Epigynal atrium anteriorly situated, relatively narrow, with v-shaped posterior margin (fig. 555); spermathecae with laterally directed lobes at about one-third their length (fig. 556).

OTHER MATERIAL EXAMINED: One male taken with the holotype (AMNH).

DISTRIBUTION: Known only from Mount Gayndah in southeastern Queensland (map 41).

Hemicloeina bulolo, new species

Figures 567, 568

TYPE: Female holotype taken under bark of lower stem, 0–1 m above ground, of *Araucaria hunsteinii* tree 2 km E of Heads Hump Lake, Bulolo, Morobe District, 6°45′S, 146°30′E, Papua New Guinea (May 2, 1970; B. Gray), deposited in AMS (KS13022).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This odd female is easily recognized by its epigynal conformation, with greatly enlarged anterior ducts (figs. 567, 568); it may belong to an undescribed genus, but it seems best to retain the species in *Hemicloeina* until males become available for study.

MALE: Unknown.

FEMALE: Total length 13. Coloration as in *H. somersetensis*. Leg spination (legs II missing): femora: I, III, IV p0-0-0, r0-0-0; tibiae: I v1p-2-0; III v1p-1p-0; IV p0-0-0, v1p-1p-1p, r0-0-0; metatarsi: III v1p-0-1p; IV v1p-0-0, r0-0-0. Epigynum with pair of anterolateral depressions separated by raised median septum (fig. 567); spermathecae coiled, with greatly enlarged anterior ducts (fig. 568).

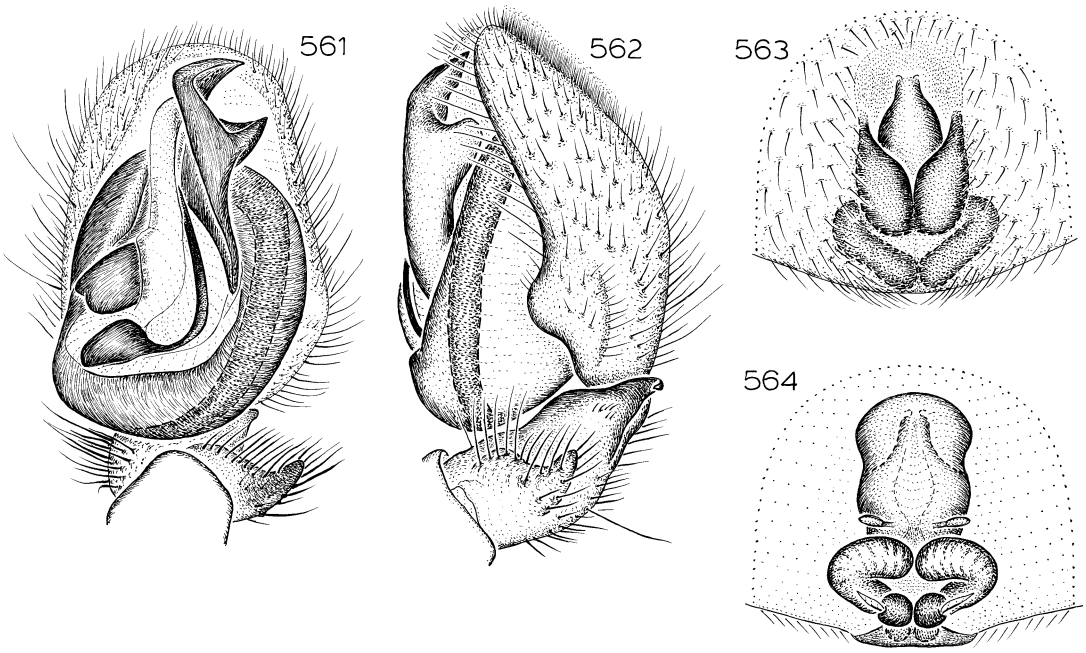
OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from New Guinea.

Hemicloeina humptydoo, new species

Figures 557–560; Map 42

TYPE: Female holotype from savanna habitat around house on Sunter Road, Humpty



Figs. 561–564. *Hemicloeina kapalga*, new species. **561.** Left male palp, ventral view. **562.** Same, retrolateral view. **563.** Epigynum, ventral view. **564.** Same, dorsal view.

Doo, 12°38′S, 131°15′E, Northern Territory (Oct. 14, 1996; T. Churchill), deposited in CSIR (A0087).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the bifid tip of the retrolateral tibial apophysis (fig. 558) and blade-shaped distal prong of the palpal conductor (fig. 557), females by the squared epigynal atrium (fig. 559) and posteriorly narrowed spermathecae (fig. 560).

MALE: Total length 7. Coloration as in *H. somersetensis*. Leg spination: femora: I, II p1-0-0; III p1-0-0, r0-0-0; IV p0-0-0; tibiae: III v1p-2-2; IV r1-1-1; metatarsi III v2-0-2. Retrolateral tibial apophysis with bifid tip (fig. 558); distal prong of conductor laterally flattened, blade-shaped (fig. 557).

FEMALE: Total length 9. Coloration as in male. Leg spination: femora: II p1-0-0; III p1-0-0, r0-0-0; IV p0-0-0; tibiae: III v2-1p-2; IV r1-1-1. Epigynal atrium squared, median three-quarters elevated (fig. 559); spermathecae narrowed posteriorly (fig. 560).

OTHER MATERIAL EXAMINED: **Northern Territory:** Gunn Point, 12°11′S, 130°59′E, Dec. 15, 1979 (MNT), 1♀; Solar Village, Humpty Doo, 12°38′S, 131°15′E, Nov. 9, 1996, house/savanna (J. Webber, CSID A0312), 1♂.

DISTRIBUTION: Known only from the Northern Territory (map 42).

Hemicloeina kapalga, new species

Figures 561–564; Map 43

TYPE: Female holotype from Kapalga, 12°36′S, 132°25′E, Northern Territory (Nov. 13, 1990; N. Hertog, L. Corbett), deposited in WAM (99/568).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the recurved tip of the retrolateral tibial apophysis (fig. 562), females by the anteriorly narrowed midpiece occupying most of the epigynal atrium (fig. 563).

MALE: Total length 11. Coloration as in *H. somersetensis*. Leg spination: femora: II p1-0-0; IV p0-0-0; tibiae: I, II v2-2-2; III p1-0-0, r0-1-1; IV r1-1-1; metatarsi: III v2-2-2; IV v2-0-2. Retrolateral tibial apophysis with recurved tip (fig. 562); both distal and proxi-

mal prongs of palpal conductor ledged (fig. 561).

FEMALE: Total length 9. Coloration as in male. Leg spination: femora: II r0-0-0; III p0-0-0, r0-0-0; IV p0-0-0; tibiae: III v1p-2-2; IV r1-1-1; metatarsi: II 1p-0-0; III v2-2-1p. Epigynal atrium containing anteriorly narrowed midpiece (fig. 563); spermathecae with posterior elements oriented transversely (fig. 564).

OTHER MATERIAL EXAMINED: **Northern Territory:** Jabiru, 12°40′S, 132°54′E, July 5–9, 1977 (R. Pengilley, MNT T003), 1♂; 20 mi NW Katherine, 14°28′S, 132°16′E, Oct. 26, 1962, elev. 110 m (E. Ross, D. Cavagnaro, CAS), 1♂; South Alligator, 12°40′S, 132°30′E, Nov. 10, 1979, open forest (R. Raven, QMB S28476), 1♀.

DISTRIBUTION: Known only from the Northern Territory (map 43).

Hemicloeina wyndham, new species

Figures 565, 566; Map 43

TYPE: Male holotype from Wyndham, 15°28′S, 128°06′E, Western Australia (Dec. 1949; B. Rudeforth), deposited in WAM (99/569).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males closely resemble those of *H. kapalga* in the shape of the retrolateral tibial apophysis but can easily be recognized by the retrolaterally directed projection on the distal prong of the palpal conductor (fig. 565). The close similarities to *H. kapalga* make it unlikely that this could be the unknown male of *H. bulolo* from New Guinea, which has an epigynum that is quite different from those of the remaining species in the genus, and is thus likely to have a rather different male.

MALE: Total length 8. Coloration as in *H. somersetensis*. Leg spination: tibiae: I, II v2-2-2; III r0-0-1; IV r1-1-1; metatarsi III v2-2-2. Retrolateral tibial apophysis with tiny, recurved tip (fig. 566); distal prong of palpal conductor with retrolaterally directed projection at about half its length (fig. 565).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the northern part of Western Australia (map 43).

Hemicloeina bluff, new species

Figures 569–572; Map 43

TYPES: Female holotype and male allotype taken along Wilson Bluff Cliff, 31°41′S, 129°00′E, South Australia (Oct. 30, 1966; J. Lowry), deposited in WAM (96/89, 90).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the short, wide retrolateral tibial apophysis (fig. 570) and the greatly elongated prongs of the palpal conductor (fig. 569), females by the y-shaped appearance of the epigynal margins (fig. 571).

MALE: Total length 12. Coloration as in *H. somersetensis*. Leg spination: femora: I d2-1-0; II d2-2-0; II d1-2-0; IV d1-3-0; tibiae IV p0-1-0, r0-0-0; metatarsi: II v2-1p-0; III v2-1p-2. Retrolateral tibial apophysis short, wide (fig. 570); palpal cymbium with large retrolateral patch of short stiff setae, both prongs of palpal conductor elongated (fig. 569).

FEMALE: Total length 14. Coloration as in male. Leg spination: femora: I, II d2-1-0; III d2-2-0; IV d2-2-0; metatarsi: III v2-2-2; IV r1-0-1. Margins of epigynal atrium appearing y-shaped (fig. 571), spermathecae greatly widened posteriorly (fig. 572).

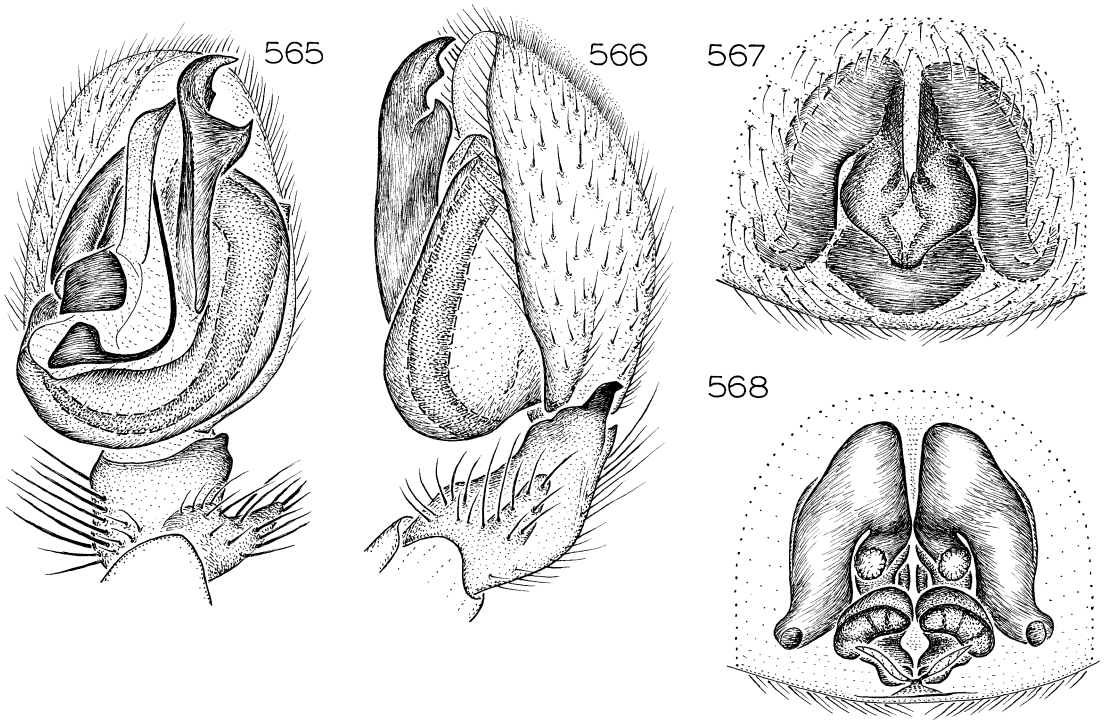
OTHER MATERIAL EXAMINED: **South Australia:** Head of Bight, Nullarbor, 31°28′S, 131°08′E, Sept. 28, 1988 (D. Hirst, SAM N1999/18, 19), 2♀. **Western Australia:** 9 mi S Cocklebiddy Cave, 32°00′S, 125°54′E, Jan. 3, 1972, under rock (M. Gray, AMS KS35460), 2♀; Madura Pass, Madura, 31°55′S, 127°00′E, Nov. 22, 1979, under rock (M. Harvey, ANIC), 1♀.

DISTRIBUTION: South Australia and adjacent parts of Western Australia (map 43).

Rebilus Simon

Rebilus Simon, 1880: 238 (type species, designated by Simon, 1893: 346, *Hemicloea lugubris* L. Koch).

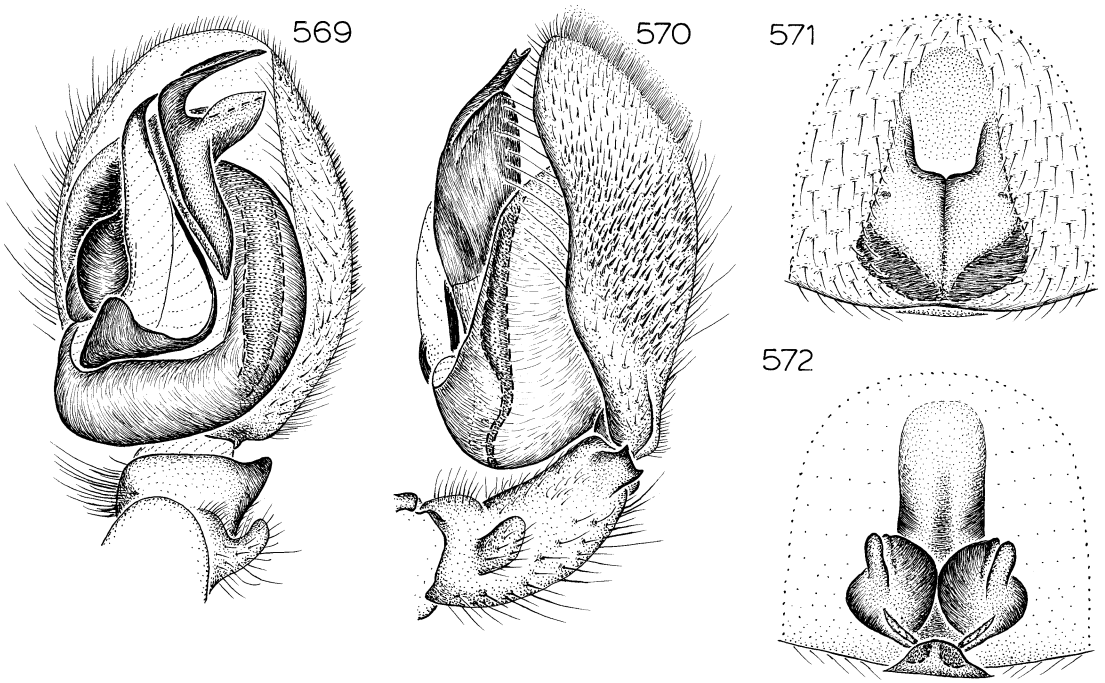
DIAGNOSIS: This appears to be the sister group of *Hemicloeina*, sharing with it a common male palpal conformation and the presence of a few tiny denticles on the proclaw of leg I, and seems to replace that genus in New South Wales and most of Queensland. Males of *Rebilus* lack the deeply incised, al-



Figs. 565–568. 565, 566. *Hemicloeina wyndham*, new species. 567, 568. *H. bulolo*, new species. **565.** Left male palp, ventral view. **566.** Same, retrolateral view. **567.** Epigynum, ventral view. **568.** Same, dorsal view.

most chelate tip of the palpal conductor, having at most a rounded, subdistal ledge (figs. 579, 583); females have a rather different epigynal conformation, with conspicuous, laterally directed secondary spermathecal bulbs (figs. 582, 586).

DESCRIPTION: Large spiders, total length of males 8–17, of females 9–21. Carapace flattened, without tubercles, with rebordered lateral and posterior margins, evenly coated with scattered, dark, stiff, short, erect setae interspersed among white, recumbent setae; longer, erect, dark setae present only in ocular area and on clypeus; thoracic groove long, Y-shaped, wider anteriorly than posteriorly; cephalic groove pronounced, additional intercoxal grooves distinct. Eight eyes in two rows, posterior medians smaller than other, subequal eyes; anterior medians circular, light, posterior medians circular, lenses slightly flattened, canoe-shaped tapetum apparently present, laterals oval; from above, both eye rows almost straight, from front, both rows slightly procurved; anterior medians separated by more than their diameter, farther from anterior laterals; posterior medians separated by about five times their diameter, slightly closer to posterior laterals; anterior and posterior laterals separated by more than their diameters; median ocular quadrangle much wider in back than in front or than long. Chelicerae porrect, divergent, with distinct oblique groove just below clypeus; anterior surface sparsely coated with stiff setae; chilum very wide, triangular, unipartite, entire, accompanied by second, elongated, posterior chilum (narrow, T-shaped sclerite separating bases of chelicerae posteriorly); chelicerae with distinct lateral boss, promargin with series of long setae originating in line along base of fang, those nearest base of fang bent; promargin with three teeth, proximal tooth smaller than others, distalmost tooth widely separated from other two, retromargin with two widely separated teeth; presumptive cheliceral gland openings near base of proximal tooth. Labium rectangular, flat, posterior one-quarter narrowed,

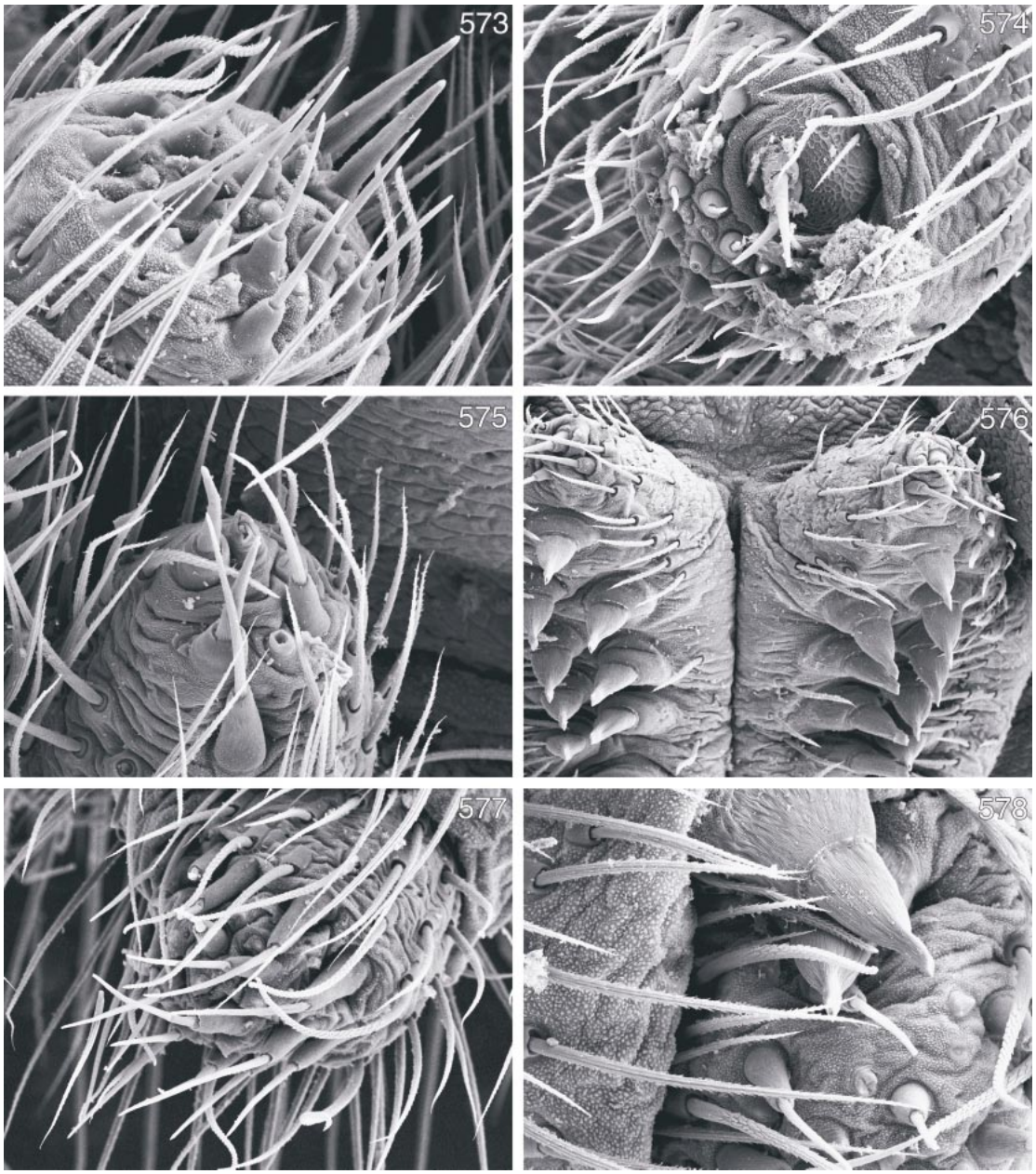


Figs. 569–572. *Hemicloeina bluff*, new species. **569.** Left male palp, ventral view. **570.** Same, retrolateral view. **571.** Epigynum, ventral view. **572.** Same, dorsal view.

anterior margin truncate. Endites long, divergent, with oblique depression restricted to their median edge; serrula present (fig. 160), sieve plate not conspicuous under light microscopy; anteromedian edges and apex bearing wide patch of long, stiff, dark setae. Sternum flat, with rebordered, slightly depressed lateral margins, not expanded anteriorly, with slight extensions to coxae, extensions between coxae represented by four pairs of small triangular sclerites separated from sternal margin by unsclerotized cuticle; surface smooth, with few long setae, posterior margin not rebordered, separating coxae IV. One weakly sclerotized epimeric sclerite on each side, not extending between coxae, not fused to carapace. Pedicel composed of two dorsal sclerites (anterior sclerite without deep posterior invagination, posterior sclerite without beak-shaped anterior extension) and weak, inverted v-shaped ventral sclerite with anteriorly unexpanded head not reaching posterior tip of sternum.

Abdomen without dorsal or anterior scutum; cuticle with weak, erect setae; epigastric scutum weakly sclerotized, with well-marked booklung openings at sides but without postepigastric sclerites, booklung covers not ridged; colulus represented only by scattered setae situated near narrow posterior spiracle; males apparently with scattered short epiandrous spigots. Six spinnerets (figs. 573–578), anterior laterals short, conical, separated by about their diameter at base, with two articles, distal article with two major ampullate gland spigots and several small, unmodified piriform gland spigots; posterior medians with several aciniform gland spigots and apparently only one larger minor ampullate gland spigot, those of males triangular, those of females bipartite, enlarged posterior portion with two parallel rows, each row with about 10 large cylindrical gland spigots; posterior laterals with two articles, apparently without minor ampullate gland spigots, those of males seemingly with aciniform gland spigots only, those of females with two large cylindrical gland spigots in addition.

Legs laterigrade, subequal in length, most surfaces with long setae; coxae and trochanters without dorsal tubercles, fourth trochanters slightly elongated; anterior coxae with-



Figs. 573–578. *Rebilus tribulation*, new species, spinnerets of male (left) and female (right), distal views. **573, 574.** Anterior lateral spinnerets. **575, 576.** Posterior median spinnerets. **577, 578.** Posterior lateral spinnerets.

out protuberant posterolateral corners; trochanters very slightly notched, producing sharp point at ventralmost edge; anterior metatarsi and tarsi with undivided scopula composed of short, straight setae; posterior metatarsi without distal preening brushes; tarsi with two long, smooth claws bearing no ventral teeth, except proclaw of leg I with few tiny denticles; strong claw tufts composed of two large pads of narrow setae; tarsi without cuticular cracks, relatively short; morphologically dorsal surface with modified proximal margin consisting of patch of unsclerotized cuticle followed by strong cuticular ridge, that ridge opposing distinct distal extensions situated at distal edge of metatarsi; trichobothria present, in three rows on tarsi, two on metatarsi and tibiae. Female palpal femur with strong dorsal spines, distal segments with weaker but longer spines; female palpal tarsus with long claw bearing several tiny ventral teeth, without ventral scopula. Typical leg spination pattern (counts refer to morphological surfaces, only surfaces bearing spines listed): femora: I d1-1-0; II d1-1-0, p1-0-0; III d1-1-0, p0-1-0; IV d1-1-0; tibiae: I, II v1p-2-2; III, IV v1p-0-2; metatarsi: I, II v2-0-0.

Male palpal tibia with distinct basal and distal apophyses, cymbium with thick distal scopula; cymbial surface invaginated at base; distal tip of conductor with dorsally directed, subdistal ledge, not chelate in appearance. Epigynum with convoluted spermathecae bearing pair of laterally directed secondary bulbs.

Misplaced Species: None of the other taxa previously assigned to this genus are actually congeneric with its type species. As indicated above, *Rebilus castaneus* Simon belongs to *Fissarena*; *R. diversus* (L. Koch), *R. praesignis* (L. Koch), and *R. swarbrecki* Dunn and Dunn belong to *Morebilus*; and *R. obscurus* Berland belongs to *Pyrnus*.

Identification: Because of the size of the genus, separate keys are offered for the northern and southern species.

Key to Species of *Rebilus* Known from Queensland

1. Males (those of *crediton* unknown) 2
– Females 9
2. Prolateral corner of cymbium with patch of thick setae (figs. 639, 640) 3
– Prolateral corner of cymbium with unmodified setae 4
3. Tegulum greatly expanded prolaterally (fig. 579) . . . . . *lugubris*
– Tegulum not expanded prolaterally (fig. 583) . . . . . *bulburin*
4. Retrolateral tibial apophysis entire (figs. 588, 608) 5
– Retrolateral tibial apophysis bifid, at least at tip (figs. 592, 596, 600, 604) 6
5. Retrolateral tibial apophysis relatively long, narrow (figs. 588, 641) . . . . . *tribulation*
– Retrolateral tibial apophysis relatively short, wide (figs. 608, 646) . . . . . *lamington*
6. Retrolateral tibial apophysis relatively small, both terminal prongs small (figs. 604, 645) . . . . . *maleny*
– Both terminal prongs of retrolateral tibial apophysis larger (as in figs. 592, 600) 7
7. Proximal prong of retrolateral tibial apophysis directed dorsally (figs. 592, 642) . . . . . *bunya*
– Proximal prong of retrolateral tibial apophysis directed proximally (figs. 596, 600) 8
8. Distal prong of retrolateral tibial apophysis longer than proximal prong (figs. 600, 644) . . . . . *glorious*
– Distal prong of retrolateral tibial apophysis subequal to proximal prong (figs. 596, 643) . . . . . *binnaburra*
9. Epigynum with anterior marginal ridge (figs. 483, 581, 585, 589, 593) 10
– Epigynum without distinct anterior margin (figs. 597, 601, 605, 609) 14
10. Anterior epigynal margin triangular (figs. 483, 585, 593) 11
– Anterior epigynal margin not triangular (figs. 581, 589) 13
11. Epigynum with m-shaped posterior ridge (fig. 593) . . . . . *bunya*
– Epigynum with u-shaped posterior ridge (figs. 483, 585) 12
12. Anterior epigynal ducts relatively long (fig. 586) . . . . . *bulburin*
– Anterior epigynal ducts relatively short (fig. 484) . . . . . *crediton*
13. Posterior epigynal ducts relatively wide (fig. 582) . . . . . *lugubris*
– Posterior epigynal ducts relatively narrow (fig. 590) . . . . . *tribulation*
14. Epigynal atrium relatively broad at posterior margin (figs. 597, 609) 15
– Epigynal atrium relatively narrow at posterior margin (figs. 601, 605) 16
15. Epigynum with median septum (fig. 597) . . . . . *binnaburra*

– Epigynum without median septum (fig. 609) . . . . . *lamington*
16. Epigynal atrium relatively long (fig. 601) . . . . . *glorious*
– Epigynal atrium relatively short (fig. 605) . . . . . *maleny*

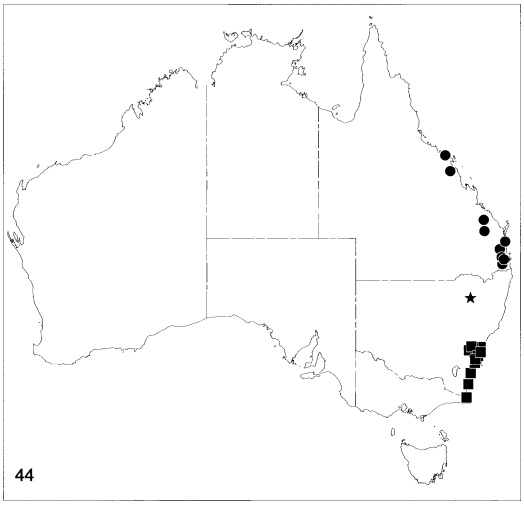
Key to Species of *Rebilus* Known from New South Wales and Victoria

1. Males (those of *kaputar* unknown) 2
– Females 10
2. Prolateral corner of cymbium with patch of thick setae (figs. 649, 653) 3
– Prolateral corner of cymbium with unmodified setae 4
3. Tip of retrolateral tibial apophysis bifid (fig. 620) . . . . . *bilpin*
– Tip of retrolateral tibial apophysis entire (fig. 636) . . . . . *grayi*
4. Tip of retrolateral tibial apophysis bifid (fig. 596) . . . . . *binnaburra*
– Tip of retrolateral tibial apophysis entire 5
5. Retrolateral edge of cymbium with pronounced, rectangular expansion (figs. 608, 612) 6
– Retrolateral edge of cymbium without pronounced, rectangular expansion 7
6. Basal retrolateral tibial apophysis a low knob, conductor relatively wide (fig. 612) . . . . . *morton*
– Basal retrolateral tibial apophysis a normal hook, conductor relatively narrow (fig. 608) . . . . . *lamington*
7. Basal retrolateral tibial apophysis relatively small, low (figs. 616, 628) 8
– Basal retrolateral tibial apophysis relatively large, high (figs. 624, 632) 9
8. Tegulum greatly expanded prolaterally (fig. 627) . . . . . *monteithi*
– Tegulum not greatly expanded prolaterally (fig. 615) . . . . . *brooklana*
9. Basal retrolateral tibial apophysis with dense setae, tegulum smoothly rounded prolaterally (fig. 623) . . . . . *wisharti*
– Basal retrolateral tibial apophysis without dense setae, tegulum with distinct prolateral projection (fig. 631) . . . . . *griswoldi*
10. Anterior epigynal ducts greatly elongated, parallel, occupying most of epigynal length (fig. 486) . . . . . *kaputar*
– Anterior epigynal ducts much shorter . . . 11
11. Epigynal atrium with anterior, semicircular margin as well as v-shaped posterior margin (fig. 621) . . . . . *bilpin*
– Epigynal atrium with distinct posterior margin only 12
12. Epigynal atrium relatively long, u-shaped (as in figs. 597, 617) 13
– Epigynal atrium relatively short (as in figs. 629, 637) 16
13. Epigynum with distinct septum (fig. 597) . . . . . *binnaburra*
– Epigynum without distinct septum 14
14. Epigynum relatively short, not extending far anterior of atrium (fig. 617) . . . . . *brooklana*
– Epigynum relatively long, extending far anterior of atrium (figs. 609, 633) 15
15. Anterior epigynal ducts distinct, relatively narrow (fig. 610) . . . . . *lamington*
– Anterior epigynal ducts indistinct, fused with atrial plate (fig. 634) . . . . . *griswoldi*
16. Anterior epigynal ducts much longer than posterior ducts (fig. 630) . . . . . *monteithi*
– Anterior epigynal ducts no longer than posterior ducts (figs. 614, 626, 638) 17
17. Anterior epigynal ducts much shorter than posterior ducts (fig. 638) . . . . . *grayi*
– Anterior epigynal ducts about as long as posterior ducts (figs. 614, 626) 18
18. Posterior epigynal ducts relatively narrow (fig. 626) . . . . . *wisharti*
– Posterior epigynal ducts relatively wide (fig. 614) . . . . . *morton*

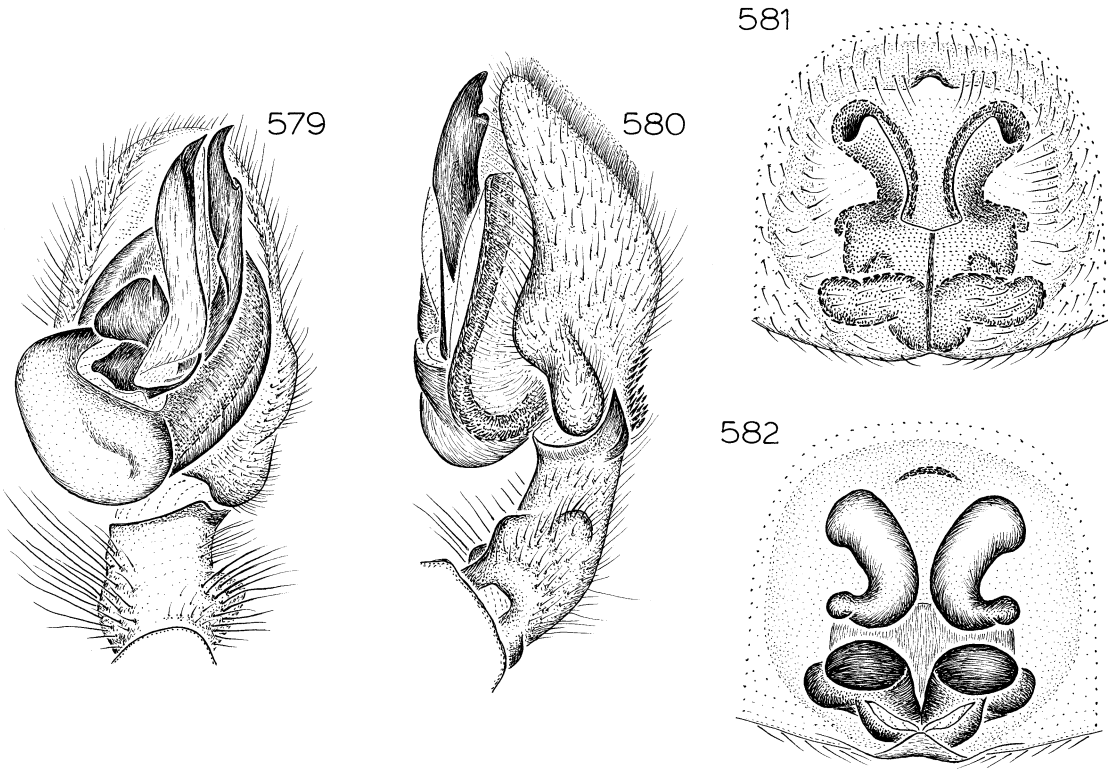
Rebilus lugubris (L. Koch)

Figures 160, 579–582, 639; Map 44

Hemicloea lugubris L. Koch, 1875: 621, pl. 49, figs. 3, 3a (female lectotype, here designated,



Map 44. Records of *Rebilus lugubris* (L. Koch) (circles), *R. morton*, new species (squares), and *R. kaputar*, new species (star).



Figs. 579–582. *Rebilus lugubris* (L. Koch). **579.** Left male palp, ventral view. **580.** Same, retrolateral view. **581.** Epigynum, ventral view. **582.** Same, dorsal view.

from Bowen, Queensland, in ZMH, examined).—L. Koch, 1876: 835, pl. 71, figs. 4, 4a (males from Rockhampton, Peak Downs, and/or Gayndah, Queensland, lost).
Rebilus lugubris: Simon, 1880: 238.

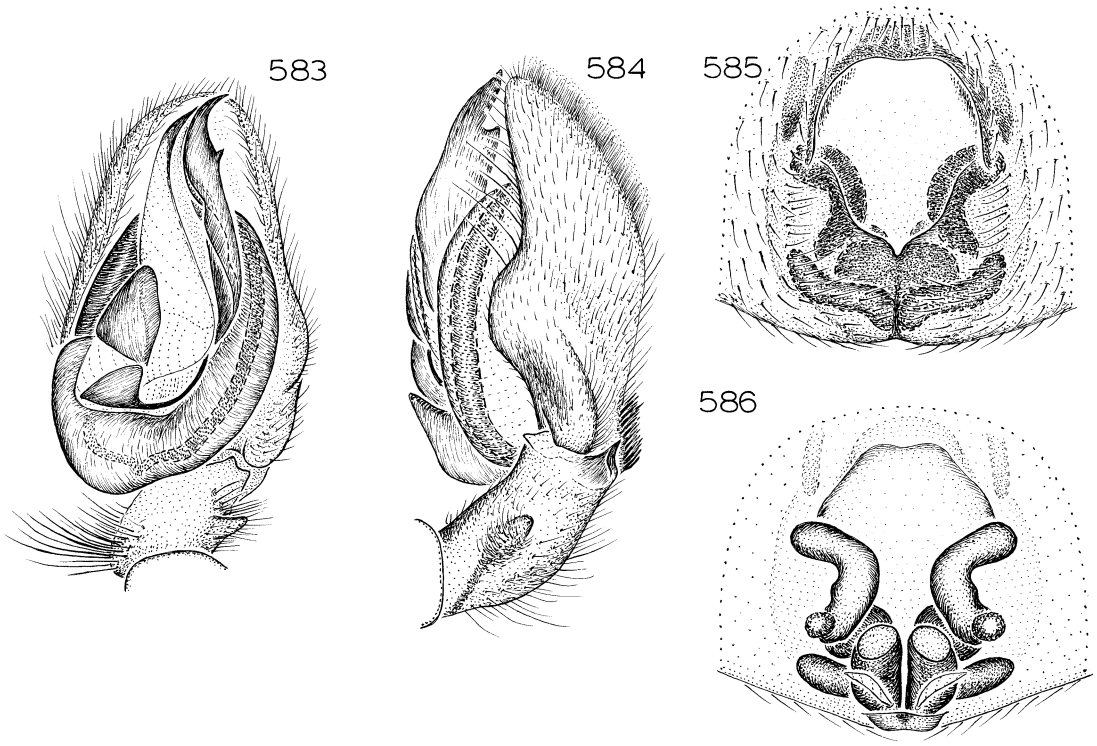
NOTE: The males described by L. Koch (1876) from the Museum Godeffroy collections do not seem to have survived, and his palpal illustration is insufficient for species-level identification. No males and females in modern collections have been taken together, and they are matched here on the basis of their respective similarities to those of *R. bulburin*, new species. One paralectotype from Sydney in ZMH is a penultimate female that is unlikely to belong to this species; one paralectotype in the same vial as ZMB 3443 belongs to a different species, *R. brooklana*.

DIAGNOSIS: Males closely resemble those of *R. bulburin* but have a much larger tegulum that bulges out at the prolateral side of the palpal bulb (fig. 579); females have long ducts reaching almost to the anterior epigynal margin (figs. 581, 582).

MALE: Total length 17. Carapace reddish brown, darkened anteriorly; abdomen pale gray; legs light reddish brown, darkest distally. Leg spination typical for genus. Retrolateral tibial apophysis short, triangular, situated opposite dense patch of thickened setae situated at proximal prolateral corner of cymbium (figs. 580, 639); median apophysis relatively wide, blunt at tip, tip of conductor relatively long, narrow (fig. 579).

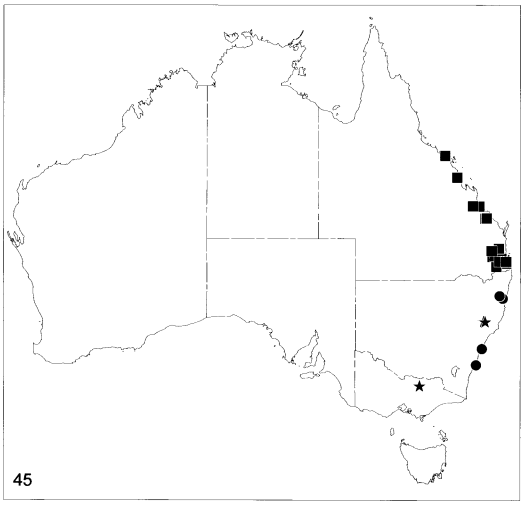
FEMALE: Total length 14. Coloration as in male. Leg spination: femora: I–III d1-1-0, p2-0-0, r0-1-0; IV d1-1-0, p2-0-0; tibiae III, IV v2-2-2; metatarsi: III v2-0-2; IV v1r-0-2, r1-0-0. Epigynal ducts relatively long, extending to near anterior margin of epigynum (fig. 581); anterior portion of ducts occupying about half of epigynal length (fig. 582).

MATERIAL EXAMINED: **Queensland:** no specific locality (QMB S28488), 1♀; Albion,

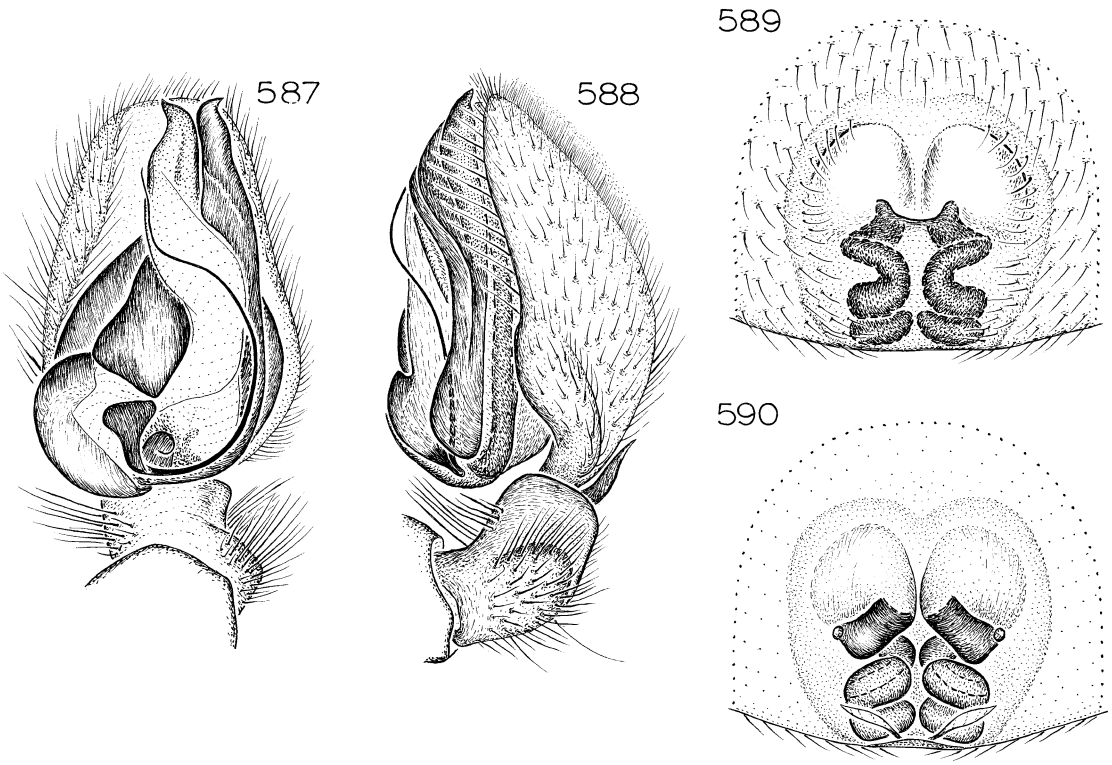


Figs. 583–586. *Rebilus bulburin*, new species. **583.** Left male palp, ventral view. **584.** Same, retrolateral view. **585.** Epigynum, ventral view. **586.** Same, dorsal view.

Brisbane, 27°28′S, 153°03′E, June 6, 1896 (QMB S26425), 1♀; Bowen, 20°01′S, 148°14′E, Godeffroy collection 11005 (ZMH), 1♀ (lectotype), (NMV K3394), 1♀ (paralectotype), (ZMB 3443), 1♀ (paralectotype); Conondale Range, 26°45′S, 152°37′E, May 1–3, 1976 (R. Raven, QMB S29331), 1♂; Cooloola, 26°12′S, 153°03′E, Aug. 21, 1970, under rotting log, rainforest (E. Dahms, QMB S28484), 1♀; Finch Hatton, 21°09′S, 148°38′E, Apr. 7–14, 1975, rainforest, under rock flakes (V. Davies, R. Kohout, QMB S26439), 2♂; Flinders Peak, S Ipswich, 27°49′S, 152°49′E, June 30, 1979, rainforest (A. Rozefelds, QMB S28461), 1♀; Gurgeena Plateau, 25°27′S, 151°23′E, Aug. 22, 1988, pyrethrum knockdown, trees and logs, rainforest, elev. 360 m (G. Monteith, QMB S49881), 1♀; Mount Fort William, 24°39′S, 151°20′E, Sept. 18, 1989, pyrethrum knockdown, elev. 700 m (G. Monteith, QMB S30477), 1♀; Mount Glorious, 27°20′S, 152°46′E, June 7, 1974, under logs, rainforest (V. Davies, J. Covacevich), QMB



Map 45. Records of *Rebilus bulburin*, new species (squares), *R. brooklana*, new species (circles), and *R. grayi*, new species (stars).



Figs. 587–590. *Rebilus tribulation,* new species. **587.** Left male palp, ventral view. **588.** Same, retrolateral view. **589.** Epigynum, ventral view. **590.** Same, dorsal view.

S34491), 1♀; Taylors Range, Brisbane, 27°29′S, 152°57′E, 1896 (QMB S26454), 2♀.

DISTRIBUTION: Known only from eastern Queensland (map 44).

Rebilus bulburin, new species

Figures 583–586, 640; Map 45

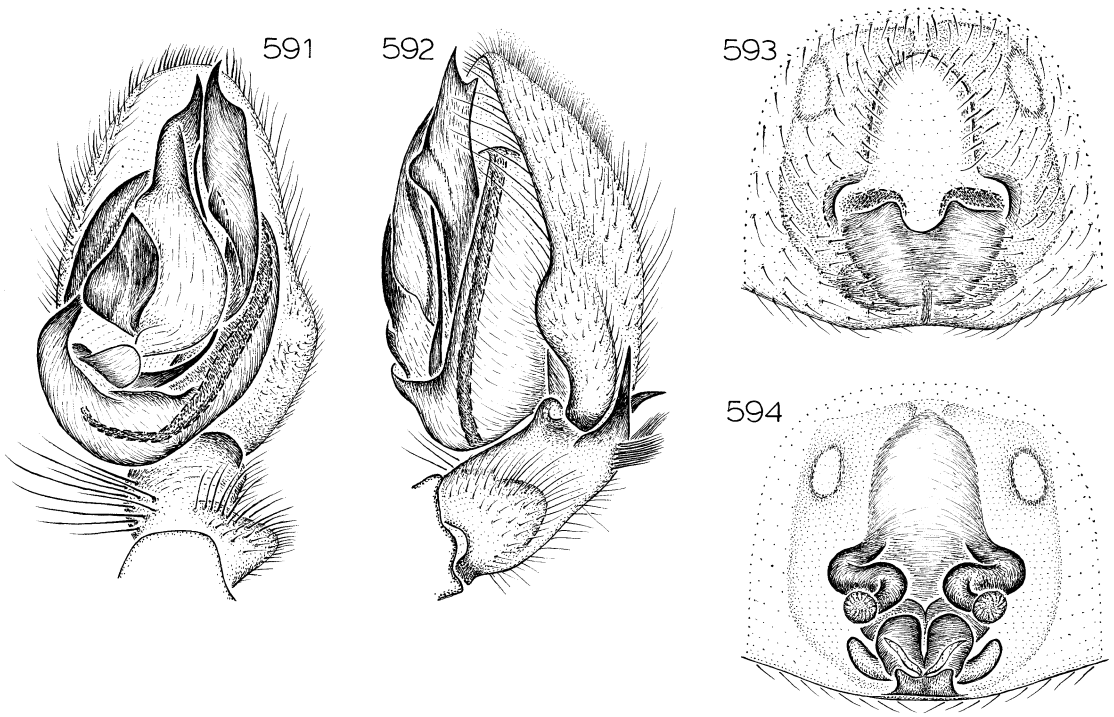
TYPE: Female holotype taken by pyrethrum knockdown in a rainforest at an elevation of 600 m in Bulburin State Forest, 9 km E Many Peaks, 24°30′S, 151°35′E, Queensland (Sept. 10, 1989; G. Monteith), deposited in QMB (S30343).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males closely resemble those of *R. lugubris* but have a much smaller tegulum without a pronounced bulge at the prolateral side of the palpal bulb (fig. 583); females have an arched anterior epigynal margin situated far from the anterior ends of the epigynal ducts (figs. 585, 586).

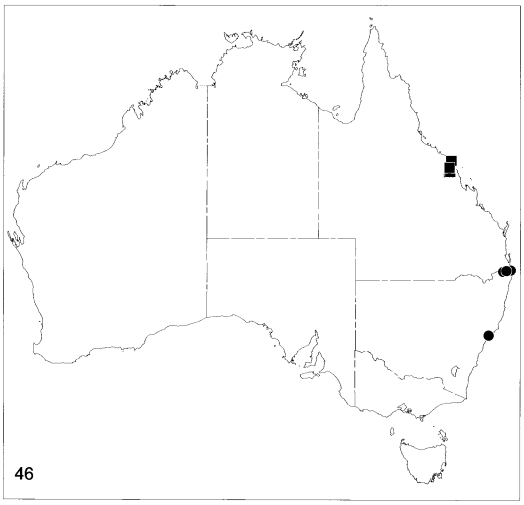
MALE: Total length 8. Carapace light brown, darkest laterally; abdomen pale gray with darkened cardiac mark and lighter, longitudinal pale stripes on each side of cardiac mark; legs light brown, metatarsi darkest. Leg spination: femora I, II p1-1-0; tibiae I–IV v1p-1p-2; metatarsi: III v2-0-0; IV v0-0-1p. Retrolateral tibial apophysis short, triangular, dorsally rebordered, situated opposite dense patch of thickened setae situated at proximal prolateral corner of cymbium (figs. 584, 640); median apophysis relatively wide, sharp at tip, tip of conductor relatively long, narrow (fig. 583).

FEMALE: Total length 18. Coloration as in *R. lugubris*. Leg spination: femora: I–III p1-1-0, r0-1-0; IV p1-1-0; tibiae: I, II v1p-3-2; III, IV v2-2-2; metatarsi: III v2-0-0; IV v0-0-1p. Epigynal ducts relatively short, not extending near arched anterior margin of epigynum (fig. 585); anterior portion of ducts occupying about one-third of epigynal length (fig. 586).



Figs. 591–594. *Rebilus bunya*, new species. **591.** Left male palp, ventral view. **592.** Same, retrolateral view. **593.** Epigynum, ventral view. **594.** Same, dorsal view.

OTHER MATERIAL EXAMINED: **Queensland:** Bahr's Scrub, 27°45′S, 153°10′E, Apr. 30, 1980 (V. Davies, R. Raven, QMB S28474), 1♀; Bellbird Gorge, 27°28′S, 153°01′E, July 19, 1992 (M. Harvey, WAM 99/570), 1♀; Bellthorpe, Jimna Road, 26°43′S, 152°32′E, Mar. 9–May 15, 1997, open forest pitfall (G. Monteith, QMB S35371), 1♂; Blackbutt Range, base, 26°52′S, 152°11′E, Nov. 10, 1974–Jan. 11, 1975, rainforest pitfall (G., S. Monteith, QMB S28190), 1♀; Boonibana, Brisbane, 27°30′S, 153°01′E (V. Davies, R. Raven, C. Wilton, MONZ), 1♀; Bowen, 20°01′S, 148°14′E, Godeffroy collection 11005, 1♀ (ex NMV K3394), 1♀; Brisbane Forest Park, 27°25′S, 152°50′E, Apr. 12–17, 1998, malaise trap (N. Power, AMS KS69546), 1♂; Bulburin Forestry Nursery, NW Bundaberg, 24°31′S, 151°29′E, Mar. 1975, rainforest, elev. 580 m (M. Gray, C. Horseman, AMS KS6810), 2♂; Bulburin State Forest, 9 km E Many Peaks, 24°30′S, 151°35′E, Mar. 17–24, 1975 (R. Monroe, QMB S26438), 3♂, 2♀, Mar. 25, 1977, un-



Map 46. Records of *Rebilus crediton*, new species (squares) and *R. lamington*, new species (circles).

der bark (R. Raven, V. Davies, QMB S26434), 3♂, 1♀; Crows Nest National Park, 27°16′S, 152°03′E, May 27, 1975, rainforest (B. Mackness, QMB S28458), 1♀; Elginvale, 27°58′S, 152°22′E, Oct. 17–Dec. 12, 1976, rainforest pitfall, elev. 610 m (G., S. Monteith, QMB S28570), 1♂; Mount Deongwar, 27°11′S, 152°16′E, Nov. 18, 2000 (N. Platnick, R. Raven, B. Baehr, AMNH), 1♀; 3 km S Mount Deongwar, 27°14′S, 152°16′E, Dec. 30, 1998–Mar. 26, 1999, rainforest pitfall, elev. 460 m (G. Monteith, QMB S49847), 1♀; Mount Glorious, 27°20′S, 152°46′E, Sept. 29, 1973 (R. Raven, QMB S28477), 1♀, July 26, 1985 (R. Raven, QMB S28465), 1♀; 7 km E Mount Morgan on road to Saint Mary Falls, 23°38′S, 150°28′E, June 29, 1982, semi-evergreen vine thicket (J. Stanisic, QMB S28452), 1♀; Mount Nebo, 27°24′S, 152°47′E, July 2, 1978 (A. Rozefelds, QMB S28464), 1♀, Aug. 26, 1996 (A. McManus, QMB S33678), 1♀; Perry's Knob, 27°36′S, 152°36′E, Sept. 15–Nov. 11, 1998, vine scrub pitfall, elev. 200 m (G. Monteith, D. Cook, G. Thompson, QMB S51140), 1♀; Rochedale State Forest, Brisbane, 27°37′S, 153°09′E, July 1, 1980 (R. Raven, V. Davies, QMB S28470), 1♀; Rundle Range, 23°39′S, 150°59′E, Mar. 24–31, 1975 (V. Davies, R. Kohout, QMB S28450), 1♀; Sunday Creek, Jimna Range, 26°40′S, 152°34′E, Nov. 15, 1974, rainforest (G. May, QMB S28475), 1♀; Upper Brookfield, 27°30′S, 152°55′E, Mar. 3, 1981, vine forest with araucaria, under logs & rocks (V. Davies, R. Raven, QMB S28561), 1♂; Upper East Funnel Creek, 21°34′S, 149°12′E, Nov. 15–16, 1992, elev. 200–450 m (G. Monteith, G. Thompson, D. Cook, H. Janetzki, QMB S26899), 2♀; 4 mi N Yarraman, 26°50′S, 151°59′E, Nov. 23, 1962, elev. 400 m (E. Ross, D. Cavagnaro, CAS), 1♀.

DISTRIBUTION: Known only from eastern Queensland (map 45).

Rebilus crediton, new species

Figures 483, 484; Map 46

TYPE: Female holotype from Crediton, 21°12′S, 148°32′E, Queensland (Apr. 14–21, 1975; R. Kohout, V. Davies), deposited in QMB (S28482).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males are unknown; females resemble those of *R. bulburin* but have much shorter anterior epigynal ducts, and much more angular median epigynal ducts (fig. 484).

MALE: Unknown.

FEMALE: Total length 18. Coloration as in *R. lugubris*. Leg spination: femora: II, III p1-1-0; IV p1-0-0; tibiae III, IV v1p-1p-2; metatarsi: III v2-0-2; IV v0-0-2. Epigynal ducts very short, not extending near arched anterior margin of epigynum (fig. 483); anterior portion of ducts occupying about one-sixth of epigynal length (fig. 484).

OTHER MATERIAL EXAMINED: **Queensland:** Brandy Creek, 20°21′S, 148°43′E, Apr. 21–26, 1975 (R. Monroe, V. Davies, QMB S28457), 6♀; Crediton, 21°12′S, 148°32′E, Apr. 14–21, 1975 (R. Kohout, V. Davies, ex QMB S28482), 1♀; Finch Hatton, 21°09′S, 148°38′E, Apr. 7–14, 1975, rainforest, under bark (R. Kohout, P. Filewood, V. Davies, QMB S28448), 2♀; Mount Macartney, 20°50′S, 148°34′E, Nov. 19, 1992, elev. 900 m (G. Monteith, G. Thompson, D. Cook, H. Janetzki, QMB S27735), 1♀.

DISTRIBUTION: Known only from mideastern Queensland (map 46).

Rebilus tribulation, new species

Figures 573–578, 587–590, 641; Map 47

TYPE: Female holotype collected at night in rainforest at Pilgrim Sands, Cape Tribulation, 16°05′S, 145°26′E, Queensland (Aug. 24–29, 1988; R. Raven, J. Gallon, T. Churchill), deposited in QMB (S13982).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the long, narrow retrolateral tibial apophysis (fig. 588) and the oppositely directed tips of the median apophysis and conductor (fig. 587), females by the narrow, median posterior epigynal margin and paired anterolateral epigynal margins (fig. 589).

MALE: Total length 8. Carapace reddish brown, darkened laterally; abdomen light gray except most of dorsum pale white; legs light brown, distal tips of patellae and tibiae darkened. Leg spination: femora II, III p0-0-

0; tibiae: I, II v1p-2-0; III, IV v1p-1p-1p; metatarsi: III v2-0-1p; IV v0-0-1p. Retrolateral tibial apophysis relatively long, smoothly narrowed toward tip (figs. 588, 641); cymbium without prolateral thickened setae, median apophysis and conductor with tips directed in opposite directions (fig. 587).

FEMALE: Total length 9. Coloration as in male. Leg spination: femora: I d1-0-0; II, III p0-0-0; tibiae: I, II v1p-2-0; III, IV v1p-1p-1p; metatarsus III v1p-0-0. Anterior epigynal margin sclerotized only along anterolateral corners, posterior margin narrow (fig. 589), secondary spermathecal bulbs tiny, situated laterally (fig. 590).

OTHER MATERIAL EXAMINED: **Queensland:** Bellenden Ker Range, 0.5 km S Cable Tower 7, 17°16′S, 145°51′E, Oct. 17–24, 1981, rainforest, pyrethrum knockdown logs, stones, treetrunks (QMB S27650), 2♀; 25 km S Cairns, 17°08′S, 145°49′E, June 5, 1979, on tree trunk (D. Hirst, SAM N1999/145), 1♀; Cape Tribulation, 16°05′S, 145°29′E, July 24, 1992, near beach (J. Coddington, G. Hormiga, USNM), 5♂, 2♀; Cape Tribulation National Park, 16°08′S, 145°26′E, July 25, 1992, dry forest, sea level (C. Griswold, CAS), 1♀; Cedar Bay National Park, Nordrand, 15°49′S, 145°21′E, June 1–2, 1993, elev. ca. 500 m (B., M. Baehr, CBB), 2♀; Emmagen Creek, Cape Tribulation National Park, 16°04′S, 145°27′E, July 26, 1992, rainforest, sea level (C. Griswold, CAS), 1♀; Freshwater Creek at Crystal Cascades, 10 km S Freshwater, 17°00′S, 145°40′E, July 12, 1986 (M. Harvey, P. Vaughan, WAM 99/567), 1♀; Home Rule, 15°44′S, 145°18′E, Oct. 24, 1974, under stone (J. Covacevich, V. Davies, T. Tebble, QMB S26436), 1♀; Imogen Creek, Cape Tribulation National Park, 16°07′S, 145°28′E, July 26, 1992 (J. Coddington, USNM), 1♂; Lake Barrine, 17°15′S, 145°38′E, Oct. 8, 1980, rainforest, pyrethrum knockdown (G. Monteith, QMB S26451), 1♀; McIlwraith Range, 11 km WNW Bald Hill, 13°44′S, 143°20′E, June 27–July 12, 1989 (T. Weir, QMB S34523), 1♂; O'Donoghue's Falls, 16°26′S, 145°20′E, May 15, 1995, pyrethrum, trees and rocks, elev. 150 m (G. Monteith, QMB S34533), 1♂; Rex Range, summit, 16°32′S, 145°23′E, May 18, 1998, pyrethrum, rainforest trees, elev. 400 m (G. Monteith, QMB S42437), 3♂; Russell River at Bellenden Ker Landing, 17°16′S, 145°57′E, Nov. 1–9, 1981, pyrethrum knockdown, elev. 5 m (QMB S34529), 1♀; Whitfield Range, 16°58′S, 145°44′E, Aug. 26, 1991, elev. 500 m (G. Monteith, H. Janetzki, QMB S45563), 1♀; Windsor Tableland, 28 km NNW Mount Carbine, 16°16′S, 145°08′E, Apr. 15–18, 1982, pyrethrum knockdown, rainforest, elev. 900 m (G. Monteith, D. Yeates, D. Cook, QMB S26424, 28553), 3♂.

DISTRIBUTION: Known only from northeastern Queensland (map 47).

Rebilus bunya, new species

Figures 591–594, 642; Map 48

TYPE: Female holotype taken under bark on log in araucaria notophyll vineforest at Bunya Mountains National Park, Dandabah, 26°54′S, 151°34′E, Queensland (Mar. 6, 1976), deposited in QMB (S28462).

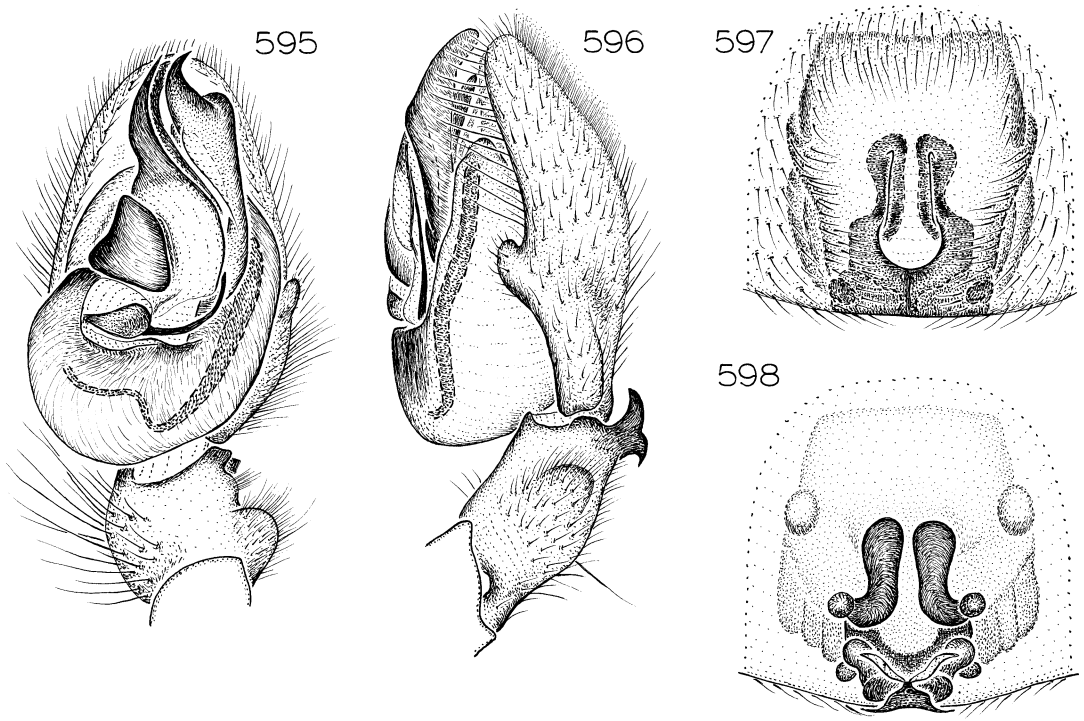
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the bifid retrolateral tibial apophysis, with two subequal prongs at a right angle to each other (figs. 592, 642), females by the wide, sinuous posterior epigynal margin (fig. 593).

MALE: Total length 10. Coloration as in *R. bulburin*. Leg spination: femora I–IV p1-1-



Map 47. Records of *Rebilus tribulation*, new species (circles), *R. maleny*, new species (squares), and *R. griswoldi*, new species (stars).



Figs. 595–598. *Rebilus binnaburra*, new species. **595.** Left male palp, ventral view. **596.** Same, retrolateral view. **597.** Epigynum, ventral view. **598.** Same, dorsal view.

0; tibiae: I, II v1p-1p-2; III v2-2-2; IV v1p-2-2, r0-1-0; metatarsi: III v2-0-2; IV v1r-0-2. Retrolateral tibial apophysis bifid, with subequal prongs situated at right angles to each other (figs. 592, 642); cymbium without prolateral thickened setae, median apophysis strongly narrowed near tip (fig. 591).

FEMALE: Total length 11. Coloration as in male. Leg spination: femora: II, III p1-1-0; IV p1-0-0; tibiae: I, II v1p-1p-2; III v2-2-2; IV v2-2-2, r1-1-0; metatarsi: III v2-0-2; IV v2-0-2, r1-0-0. Epigynum with wide, medially sinuous posterior margin (fig. 593); epigynal ducts short, sinuous (fig. 594).

OTHER MATERIAL EXAMINED: **Queensland:** Bunya Mountains National Park, Dandabah, 26°54′S, 151°34′E, Sept. 4, 1974 (R. Raven, QMB S28471), 2♀, Mar. 6, 1976, under logs, bark, araucaria notophyll vineforest (ex QMB S28462), 1♂, 2♀; 60 km NE Dalby, Bunya Mountains, 26°50′S, 151°33′E, June 17–Aug. 19, 1982, flight intercept, auracaria forest (S., J. Peck, AMNH), 1♂.

DISTRIBUTION: Known only from the Bunya Mountains in southeastern Queensland (map 48).

Rebilus binnaburra, new species

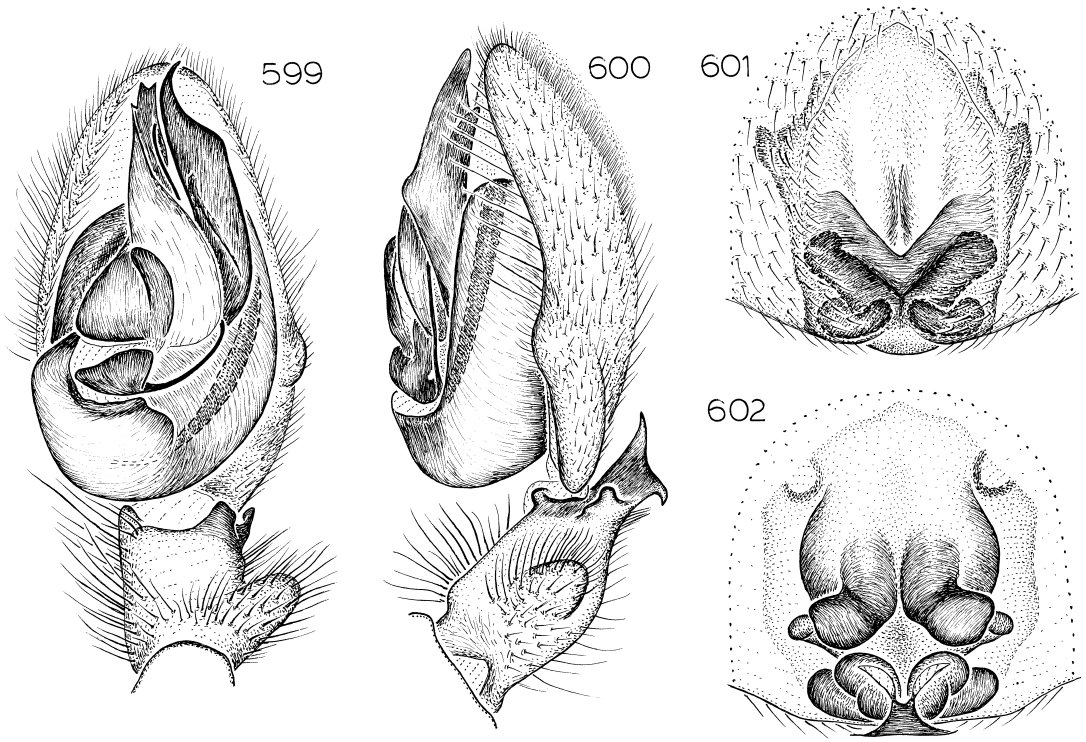
Figures 595–598, 643; Map 49

TYPE: Female holotype taken under bark in rainforest at Binna Burra, Lamington National Park, 28°12′S, 153°11′E, Queensland (Mar. 29, 1976; R. Raven, V. Davies), deposited in QMB (S26443).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the pickax-shaped retrolateral tibial apophysis (figs. 596, 643), females by the u-shaped and posteriorly situated posterior epigynal margin (fig. 597).

MALE: Total length 11. Coloration as in *R. lugubris*. Leg spination: femora I–IV p1-1-0; tibiae: III v1p-2-2; IV v1p-2-2, r0-0-1; metatarsi: III v2-0-2; IV v0-0-1p, r1-0-0. Retrolateral tibial apophysis greatly expanded distally into distally and proximally directed



Figs. 599–602. *Rebilus glorious*, new species. **599.** Left male palp, ventral view. **600.** Same, retrolateral view. **601.** Epigynum, ventral view. **602.** Same, dorsal view.

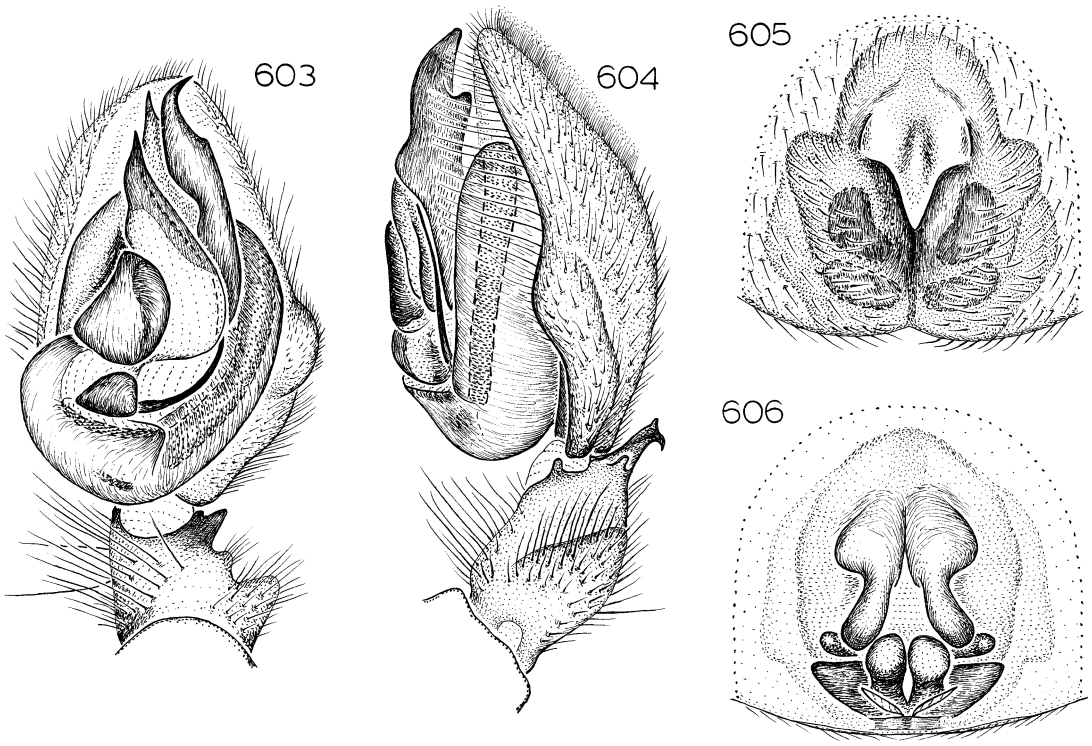
prongs (figs. 596, 643); cymbium without prolateral thickened setae, with strong, rectangular projection on retrolateral edge at about one-third its length, median apophysis with erect lamella at tip (fig. 595).

FEMALE: Total length 15. Coloration as in male. Leg spination: femora: I–III p1-1-0; IV p1-0-0; tibiae III, IV v1p-2-2; metatarsi: III v2-0-2; IV v0-0-1p. Epigynum with posteriorly situated, u-shaped posterior margin outlining deeply depressed atrial area (fig. 597); median portion of epigynal ducts angular (fig. 598).

OTHER MATERIAL EXAMINED: **New South Wales:** Brindle Creek, Wiangaree State Forest, 28°24′S, 153°04′E, Feb. 29–Mar. 3, 1980, pyrethrum fogging of *Nothofagus moorei* bark, subtropical rainforest, elev. 740 m (A. Newton, M. Thayer, AMNH), 1♂; Brooklana, E Dorrigo, 30°16′S, 152°51′E, June 1929 (W. Heron, AMS KS35526, with females of *R. brooklana*), 1♂; Bruxner Park, 30°15′S, 153°06′E, May 25–26, 1986, on tree



Map 48. Records of *Rebilus bunya*, new species (circle) and *R. bilpin*, new species (squares).



Figs. 603–606. *Rebilus maleny*, new species. **603.** Left male palp, ventral view. **604.** Same, retrolateral view. **605.** Epigynum, ventral view. **606.** Same, dorsal view.

trunk (D. Hirst, SAM N1999/43), 1♂; Richmond Range State Forest, Gorge Creek Road, 28°20′S, 152°55′E, Apr. 18, 1976, scrub, night collection, beating (R. Raven, QMB S34546), 1♂; Yabbra State Forest, 28°40′S, 152°45′E, Sept. 28–29, 1974, rainforest (R. Raven, QMB S28453), 1♀. **Queensland:** Binna Burra, Lamington National Park, 28°12′S, 153°11′E, Mar. 29, 1976, rainforest, under bark (R. Raven, V. Davies, ex QMB S26443), 1♂, 2♀; Nagarigoon, Lamington National Park, 28°12′S, 153°10′E, Apr. 1, 1976 (V. Davies, QMB S26455), 1♂, 1♀; Mistake Mountains (South), 27°58′S, 152°22′E, Oct. 10, 1976–Jan. 9, 1977, rainforest pitfall (G., S. Monteith, QMB S28459), 1♀; Moss Gardens, near ''The Head,'' 28°23′S, 152°19′E, Apr. 17, 1983, rainforest (A. Rozefelds, QMB S26429), 1♂; Mount Mitchell, 28°04′S, 152°24′E, Mar. 1–Apr. 11, 1992, rainforest intercept (D. Cook, QMB S25211), 1♀; O'Reillys, Lamington National Park, 28°14′S, 153°08′E, Dec. 12, 1981 (B., M. Baehr, CBB), 1♀; Tallawallal, Lamington National Park, 28°10′S, 152°59′E, May 18, 1983, rainforest, under bark (V. Davies, J. Gallon, QMB S28478), 1♀; Wishing Tree Circuit, O'Reillys, Lamington National Park, 28°15′S, 153°09′E, Nov. 2, 1989 (H. Ruhberg, QMB S16418), 1♀.

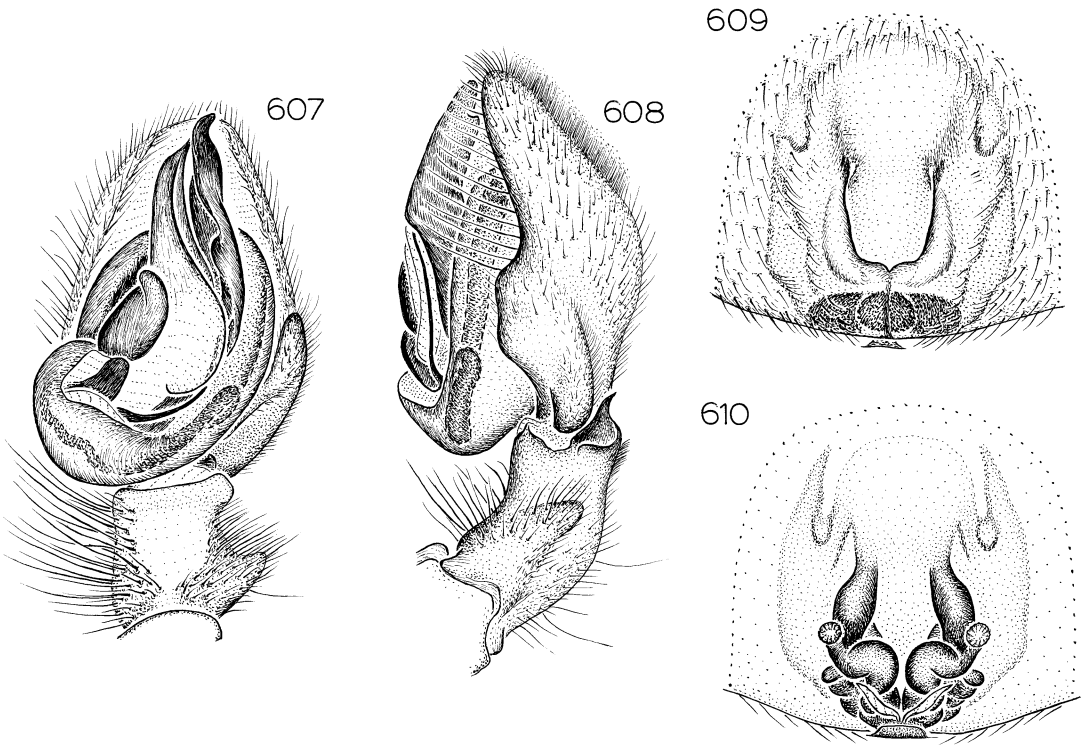
DISTRIBUTION: Known only from southeastern Queensland and northern New South Wales (map 49).

Rebilus glorious, new species
Figures 599–602, 644; Map 50

TYPE: Female holotype taken in *Ficus* log on Mount Glorious, 27°20′S, 152°46′E, Queensland (Sept. 26, 1988; F. Wylie, M. DeBear), deposited in QMB (S28495).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *R. binnaburra* but have a shorter, recurved

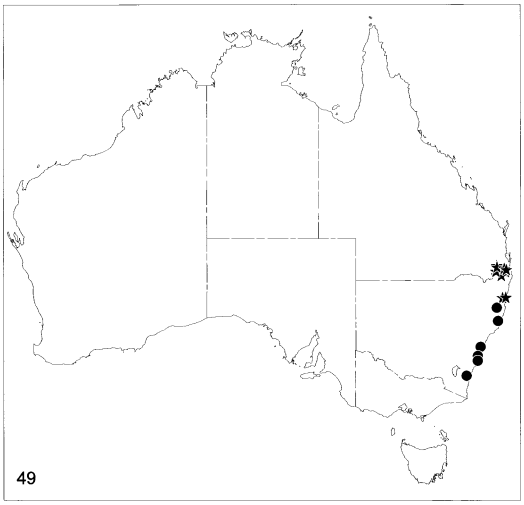


Figs. 607–610. *Rebilus lamington*, new species. **607.** Left male palp, ventral view. **608.** Same, retrolateral view. **609.** Epigynum, ventral view. **610.** Same, dorsal view.

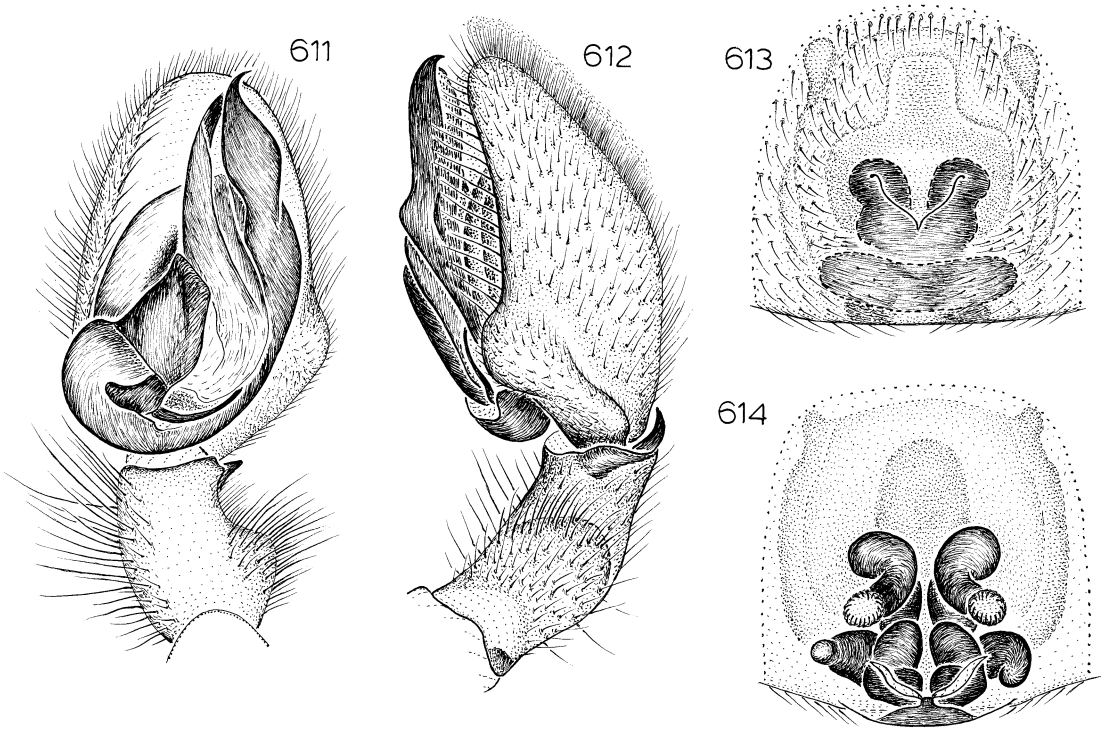
proximal prong, and an additional ventral protuberance, on the retrolateral tibial apophysis (figs. 600, 644) and a longer tip on the palpal conductor (fig. 599); females can easily be recognized by the v-shaped posterior epigynal margin (fig. 601).

MALE: Total length 13. Coloration as in *R. lugubris*. Leg spination: femora: I–IV p1-1-0; tibiae: II v1p-1p-2; III v1p-2-2; IV v1p-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-1p, r1-0-0. Retrolateral tibial apophysis greatly expanded distally into distally and recurved, proximally directed prongs, with additional, ventrally situated protuberance (figs. 600, 644); cymbium without prolateral thickened setae, with only slight projection on retrolateral edge at about one-third its length, median apophysis with three distal points, conductor tip long (fig. 599).

FEMALE: Total length 13. Coloration as in male. Leg spination: femora: I p1-0-0; II–IV p1-1-0; tibiae: III v1p-2-2; IV v1p-2-2, r0-1-



Map 49. Records of *Rebilus binnaburra*, new species (stars) and *R. wisharti*, new species (circles).



Figs. 611–614. *Rebilus morton*, new species. **611.** Left male palp, ventral view. **612.** Same, retrolateral view. **613.** Epigynum, ventral view. **614.** Same, dorsal view.

1; metatarsi: III p0-0-1, v2-0-2; IV v0-0-1p, r1-0-0. Epigynum with v-shaped posterior margin, atrium deep, with narrow posteromedian septum (fig. 601); secondary spermathecal bulbs directed laterally (fig. 602).

OTHER MATERIAL EXAMINED: **Queensland:** Mount Glorious, 27°20′S, 152°46′E, Nov. 30, 1972, running on ground (R. Raven, QMB S28447), 1♀, June 7, 1974, rainforest, under logs (V. Davies, J. Covacevich, QMB S28552), 1♂, July 19, 1974, under bark, rainforest (V. Davies, R.Raven, QMB S28443), 1♀, Sept. 5, 1986, pitfall (QMB S34491), 1♂.

DISTRIBUTION: Known only from Mount Glorious in southeastern Queensland (map 50).

Rebilus maleny, new species

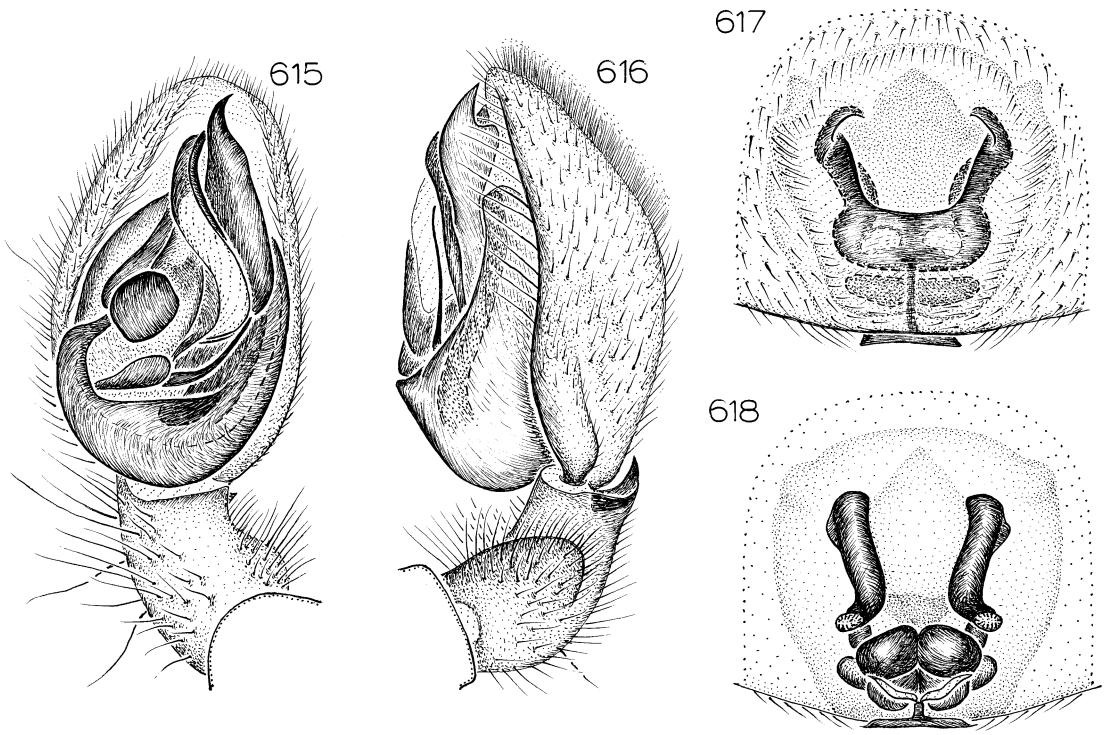
Figures 603–606, 645; Map 47

TYPE: Female holotype from Maleny, 26°45′S, 152°51′E, Queensland (G. Czechura), deposited in QMB (S34534).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *R. binnaburra* and *R. glorious* but have much shorter distal lobes on the retrolateral tibial apophysis (fig. 604, 645); females also resemble those of *R. glorious* but have a smaller epigynal atrium (fig. 605) and longitudinally directed posterior epigynal ducts (fig. 606).

MALE: Total length 13. Coloration as in *R. bulburin*. Leg spination: femora I–IV p1-1-0; tibiae: III v1p-2-2; IV v2-2-2, r0-0-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v1p-0-2, r1-0-0. Retrolateral tibial apophysis slightly expanded distally into short, distally directed and longer, proximally directed prongs, with additional, ventrally situated protuberance (figs. 604, 645); cymbium without prolateral thickened setae, with small but distinct projection on retrolateral edge at about one-third its length, median apophysis with two distal points, conductor tip long (fig. 603).



Figs. 615–618. *Rebilus brooklana*, new species. **615.** Left male palp, ventral view. **616.** Same, retrolateral view. **617.** Epigynum, ventral view. **618.** Same, dorsal view.

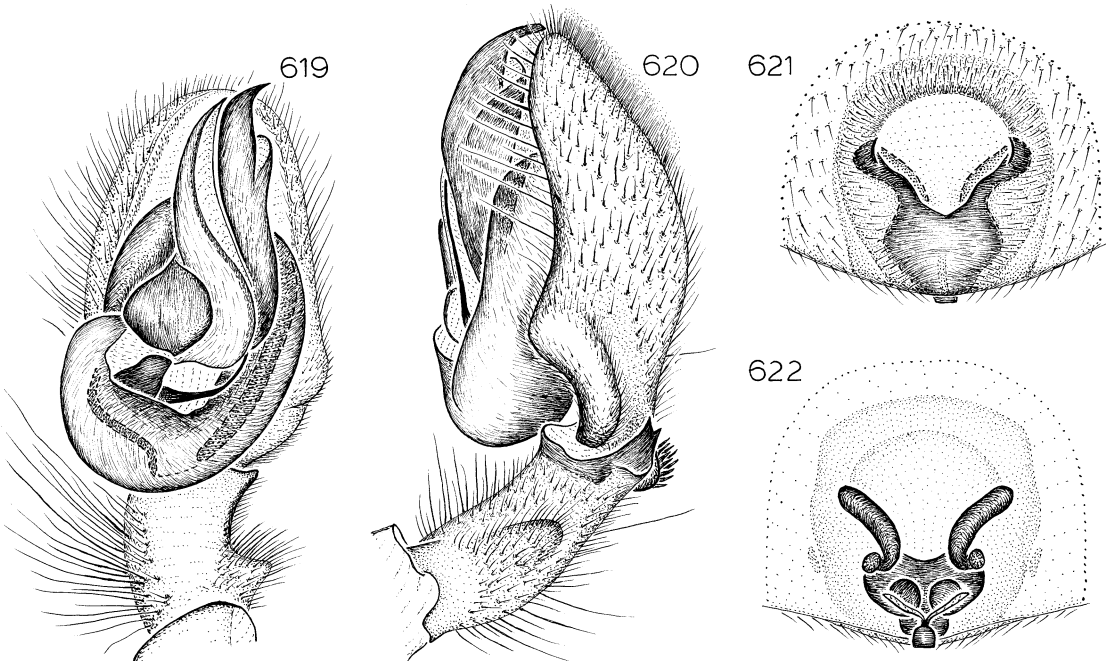
FEMALE: Total length 15. Coloration as in male. Leg spination: femora I–IV p1-1-0; tibiae: III v1p-2-2; IV v1p-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v2-0-2, r1-0-0. Epigynum with narrow, v-shaped posterior margin, atrium deep, with narrow posteromedian septum (fig. 605); secondary spermathecal bulbs directed laterally, posterior epigynal ducts oriented longitudinally (fig. 606).

OTHER MATERIAL EXAMINED: **Queensland:** Bellthorpe, via Maleny, 26°50′S, 152°41′E, May 11, 1997, in pile of timber (S. Elmer, QMB S35216), 1♂; Crediton, 21°12′S, 148°32′E, Apr. 14–21, 1975 (R. Kohout, V. Davies, QMB S26420, ex S28482), 3♂, 1♀; Dalrymple Heights, near Eungella, 21°04′S, 148°35′E, Mar.–Apr. 1975, rainforest, elev. 1000 m (M. Gray, C. Horseman, AMS KS7346), 1♀; Mapleton, 26°38′S, 152°52′E, Jan. 4, 1979 (A. Inch, QMB S28480), 1♀.

DISTRIBUTION: Known only from mideastern and southeastern Queensland (map 47).



Map 50. Records of *Rebilus glorious*, new species (square) and *R. monteithi*, new species (stars).



Figs. 619–622. *Rebilus bilpin*, new species. **619.** Left male palp, ventral view. **620.** Same, retrolateral view. **621.** Epigynum, ventral view. **622.** Same, dorsal view.

***Rebilus lamington*,** new species
Figures 607–610, 646; Map 46

TYPE: Female holotype taken in rainforest on Lamington Plateau, 28°19′S, 153°04′E, Queensland (Apr. 2, 1975; R. Raven), deposited in QMB (S28454).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

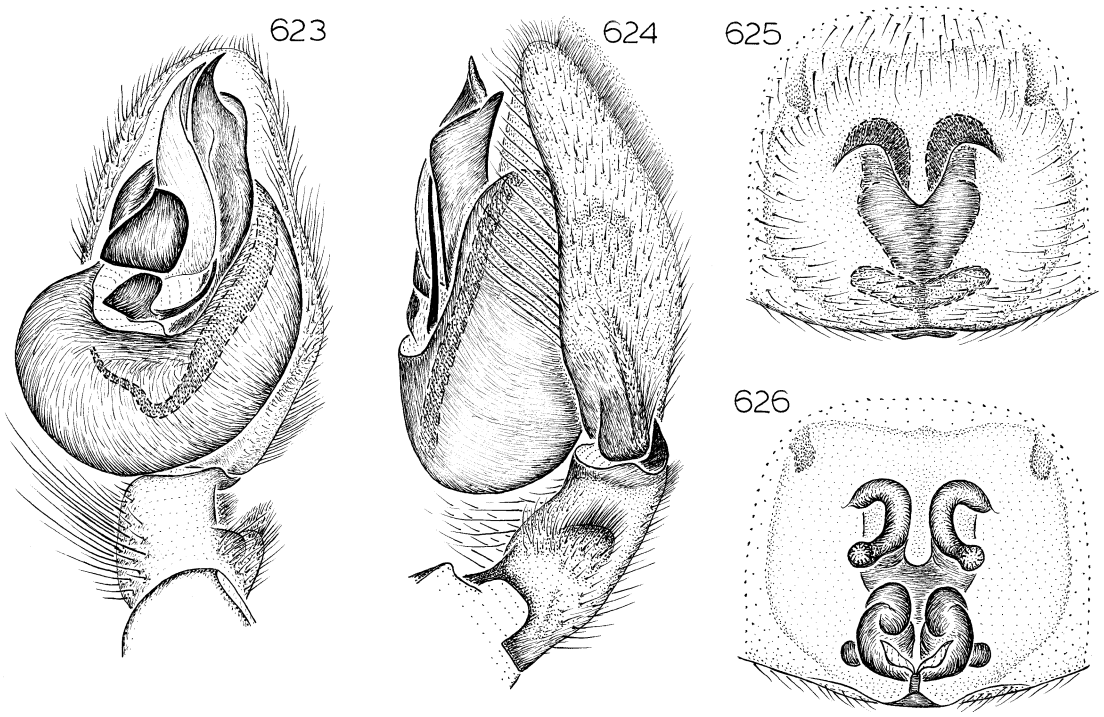
DIAGNOSIS: Males resemble those of *R. lugubris* in having an expanded tegulum, but can be recognized by the lobate tip of the palpal conductor (fig. 607) and the long expansion on the retrolateral margin of the cymbium (fig. 608); females can be recognized by the long, u-shaped posterior epigynal margin, which occupies about half the epigynal length (fig. 609).

MALE: Total length 16. Coloration as in *R. lugubris*. Leg spination: femora I–IV p1-1-0; tibiae III, IV v2-2-2; metatarsi: III v2-0-2; IV v0-0-1p. Retrolateral tibial apophysis small, triangular, sinuous (figs. 608, 646); cymbium without prolateral thickened setae, with retromarginal expansion, conductor with lobate tip (fig. 607).

FEMALE: Total length 21. Coloration as in male. Leg spination: femora I–IV p1-1-0; tibiae: I, II v1p-3-2; III v2-2-2; IV v2-2-2, r0-0-1; metatarsi: III p0-0-2, v2-0-2; IV p0-0-1, v0-0-2. Epigynum with deeply depressed atrium outlined by long, u-shaped posterior margin (fig. 609); secondary spermathecal bulbs directed anterolaterally (fig. 610).

OTHER MATERIAL EXAMINED: **New South Wales:** Newcastle, 32°55′S, 151°45′E (de Castlenau, MNHN), 1♀; Richmond Range State Forest, 28°20′S, 152°55′E, Apr. 17–18, 1976, open forest (R. Raven, QMB S26430), 1♂; Stotts Island, Tweed River, 28°14′S, 153°31′E, Nov. 18, 1978, rainforest litter (R. Raven, QMB S28466), 1♀. **Queensland:** near Lamington National Park, 28°16′S, 153°10′E, July 10, 1977, under corrugated iron (R. Raven, QMB S26446), 1♀.

DISTRIBUTION: Known only from southeastern Queensland and northern New South Wales (map 46); the Newcastle record from the last century probably refers only to the port from which the specimen was shipped, and that record is not mapped.



Figs. 623–626. *Rebilus wisharti*, new species. **623.** Left male palp, ventral view. **624.** Same, retrolateral view. **625.** Epigynum, ventral view. **626.** Same, dorsal view.

Rebilus morton, new species

Figures 611–614, 647; Map 44

TYPES: Female holotype and male allotype captured while mating at Natural Plateau, near Morton National Park, inland from Nowra, 34°38′S, 150°33′E, New South Wales (July 27, 1975; G. Coombe), deposited in SAM (N1999/47, 48).

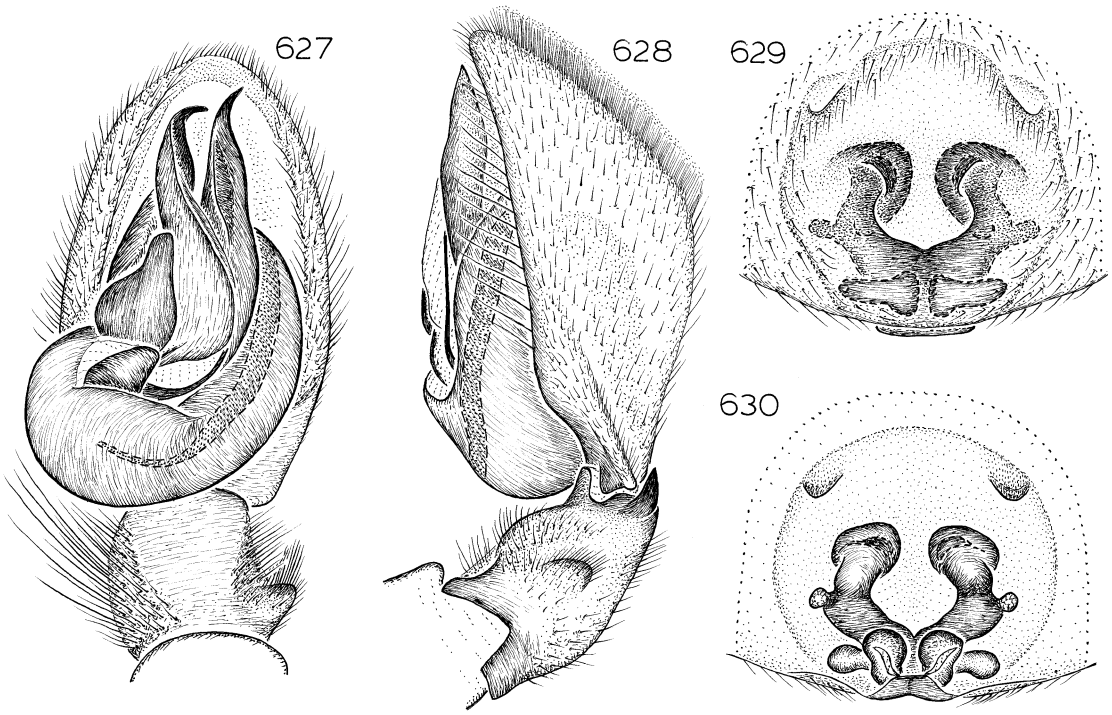
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the prominent basal ledge on the retrolateral tibial apophysis (figs. 612, 647), females by the very wide posterior portion of the epigynal ducts (fig. 614).

MALE: Total length 13. Coloration as in *R. lugubris*. Leg spination: femora I–III p1-1-0, r0-1-0; IV p1-1-0; tibiae: I v1p-1p-0; II v1p-1p-1p; III v1p-2-2; IV v2-2-2, r0-1-1; metatarsi: III v2-0-0; IV p0-0-1, v1r-0-2, r1-0-0. Retrolateral tibial apophysis with distinct, transverse ledge (figs. 612, 647); cymbium without prolateral thickened setae, with retromarginal expansion, conductor with hooked tip (fig. 611).

FEMALE: Total length 21. Coloration as in male. Leg spination: femora: I, II, IV p1-1-0; III p1-1-0, r0-1-0; tibiae: III v1p-2-2; IV v2-2-2; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v2-0-1p, r1-0-0. Epigynum deeply depressed anteriorly, with v-shaped ridge at about half its length (fig. 613); posterior portion of epigynal ducts relatively wide (fig. 614).

OTHER MATERIAL EXAMINED: **New South Wales:** Beauty Point, Wallaga Lake, near Bermagui, 36°25′S, 150°04′E, Jan. 1, 1965 (M. Harvey, AMS KS35548), 1♀; Beecroft, 33°45′S, 151°04′E, Oct. 5, 1999 (J. Noble, AMS KS57337), 1♀; Blue Mountains, road to Ingar Picnic Area, 33°46′S, 150°29′E, Oct. 3, 1996, pitfall (AMS KS51710), 1♂; Boyd Plateau, near Jenolan Caves, Kanangra Boyd National Park, 33°59′S, 150°08′E, Sept. 1969, under log, moist open forest (M. Gray, AMS KS30019), 1♀; Gerringong, 34°44′S, 150°50′E, Nov. 22, 1998, in bedroom (P.



Figs. 627–630. *Rebilus monteithi*, new species. **627.** Left male palp, ventral view. **628.** Same, retrolateral view. **629.** Epigynum, ventral view. **630.** Same, dorsal view.

Plowman, AMS KS57368), 1♀; Jamberoo, 34°39′S, 150°47′E, Dec. 20, 1993 (J. Noble, AMS KS53689), 1♀; Jamberoo Mountain, 34°40′S, 150°43′E, July 20, 1996 (J. Noble, AMS KS53688), 1♀; Kioloa State Forest, Forest Drive, 15 km N Bateman's Bay, 35°37′S, 150°16′E, Oct. 4–Nov. 30, 1978–1979, litter pitfall (C. Horseman, AMS KS2118, 5509), 2♂; Leura, 33°43′S, 150°20′E, Nov. 30, 1988 (P. Ulman, AMS KS19898), 1♀; Mount Keira, 34°24′S, 150°51′E, Nov. 11, 1948, termitarium (C. Chadwick, AMS KS36803), 1♂; Mount Keira Fauna Reserve, Scout Camp, 34°24′S, 150°51′E, Nov. 23–Dec. 20, 1978, litter pitfall (C. Horseman, AMS KS2192, 2231), 2♂; Nadgee, 37°26′S, 149°54′E, Sept. 1971 (B. Bertram, AMS KS35554), 2♀; Nadgee Nature Reserve, 37°22′S, 149°55′E, Sept. 25, 1972 (AMS KS45162), 1♀; Nowra, 34°53′S, 150°36′E, June 3, 1940, ''bit girl aged 6, caused swelling lasting 2 days, not very painful'' (R. Rodway, AMS KS35552), 1♀; Robertson, 34°38′S, 150°39′E, 1966 (J. Humphries, AMS KS35549), 1♀; Royal National Park, Lady Carrington Drive, 34°08′S, 151°04′E, Aug. 3, 1968, under rock (M. Gray, AMS KS68746), 1♂.

DISTRIBUTION: Known only from New South Wales (map 44).

Rebilus brooklana, new species

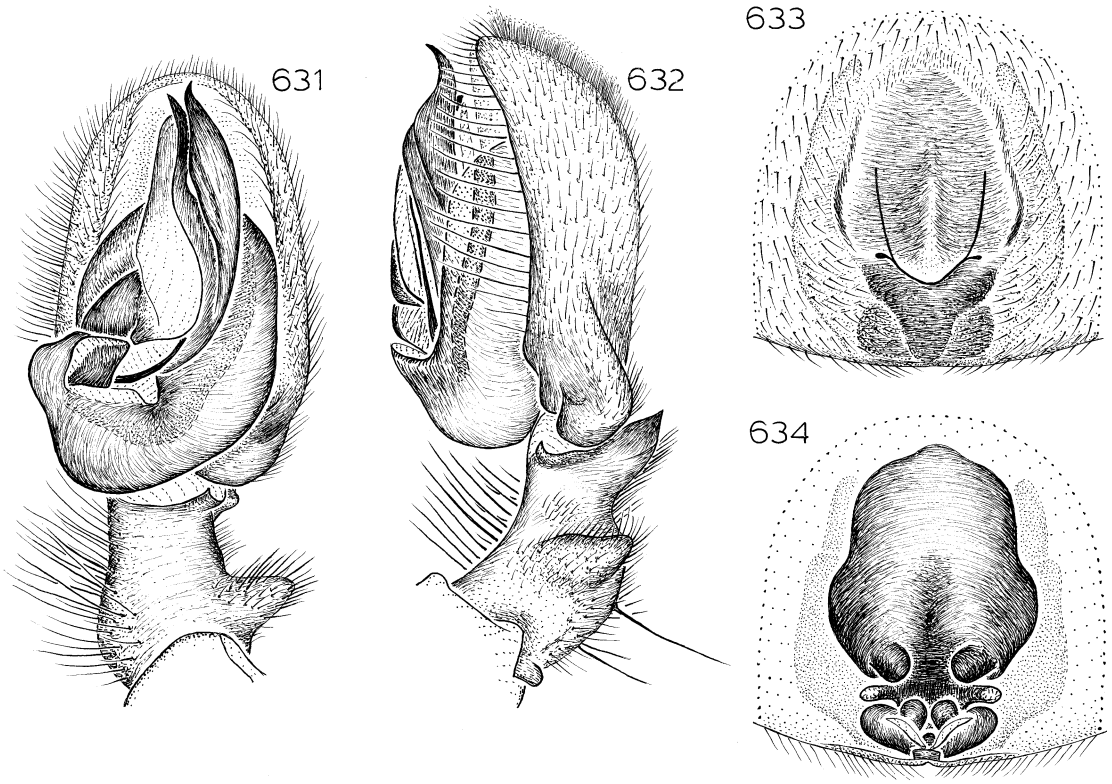
Figures 615–618, 648; Map 45

Rebilus lugubris (misidentification): L. Koch, 1875: 621 (female paralectotype, presumably from Sydney, in ZMB, examined).

TYPES: Female holotype and male allotype from Brooklana, E of Dorrigo, 30°16′S, 152°53′E, New South Wales (July 1929; W. Heron), deposited in AMS (KS35523).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *R. lugubris* and *R. bulburin* but lack enlarged setae at the base of the prolateral side of the cymbium as well as a prolateral cymbial expansion (figs. 615, 616, 648); females have a u-shaped epigynal septum and anteriorly



Figs. 631–634. *Rebilus griswoldi*, new species. **631.** Left male palp, ventral view. **632.** Same, retrolateral view. **633.** Epigynum, ventral view. **634.** Same, dorsal view.

widened anterior epigynal ducts (figs. 617, 618).

MALE: Total length 10. Coloration as in *R. lugubris*. Leg spination: femora: I p1-1-0; II p1-1-0, r0-1-0; III p1-1-0, r1-1-0; IV p1-0-0; tibiae: III v1p-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-1p, r1-0-0. Basal tibial apophysis relatively low, gently rounded, distal apophysis triangular, laterally excavated (figs. 616, 648); tip of terminal apophysis long, spiralled behind tip of conductor (fig. 615).

FEMALE: Total length 14. Coloration as in male. Leg spination: femora I–IV p1-1-0; tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-1p, r1-0-0. Epigynum with septum u-shaped, restricted to anterior half of epigynal length (fig. 617); anterior ducts widened anteriorly (fig. 618).

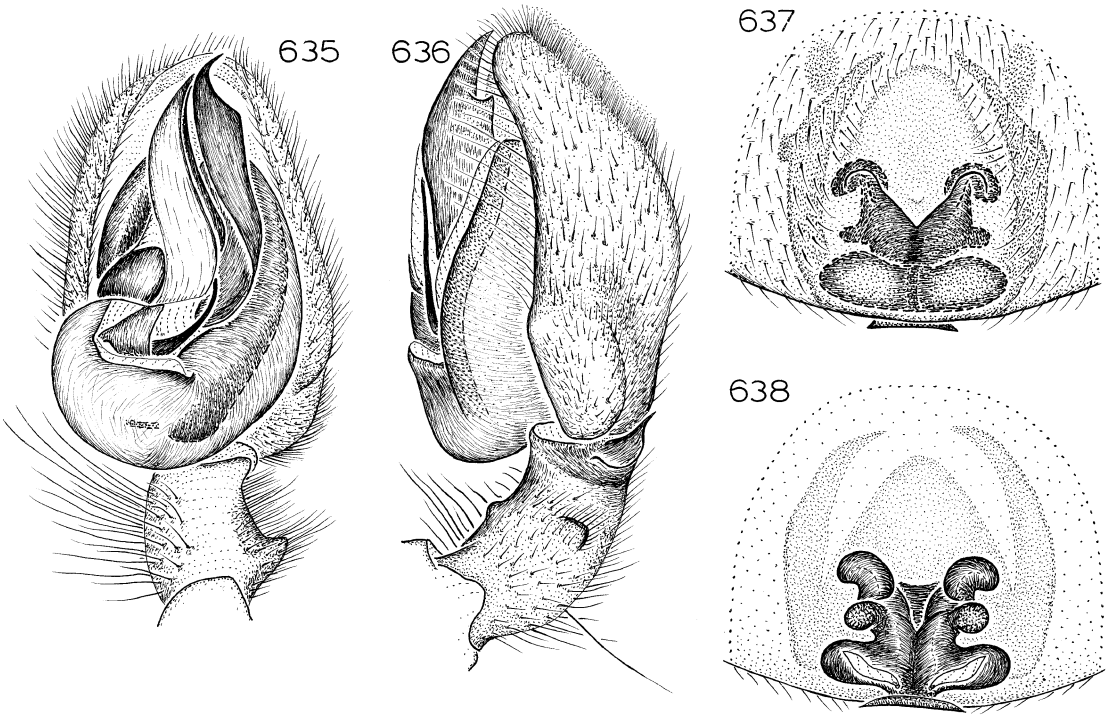
OTHER MATERIAL EXAMINED: **New South Wales:** Brooklana, E of Dorrigo, 30°16′S, 152°53′E, June 1929 (W. Heron, AMS KS19160, 35526, with male of *R. binnaburra*), 2♀, July 1929 (W. Heron, AMS KS35521, 35523), 2♀; Clouds Creek, 30°05′S, 152°38′E, May 14, 1975, under bark (W. Humphries, QMB S28487), 1♀; Honeymoon Bay, near Jervis Bay, 35°03′S, 150°44′E, Jan. 4, 1955 (P. Harvey, AMS KS55341), 1♀; Sydney, 33°53′S, 151°12′E, Godeffroy collection (ZMB 3443), 1♀ (paralectotype of *R. lugubris*, presumed to be the specimen from Sydney mentioned by L. Koch, 1875: 622).

DISTRIBUTION: Known only from coastal New South Wales (map 45).

Rebilus bilpin, new species

Figures 619–622, 649; Map 48

TYPE: Female holotype taken under rock at Bilpin, 33°03′S, 150°31′E, New South Wales (July 8, 1972; M. Gray), deposited in AMS (KS35517).



Figs. 635–638. *Rebilus grayi*, new species. **635.** Left male palp, ventral view. **636.** Same, retrolateral view. **637.** Epigynum, ventral view. **638.** Same, dorsal view.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males and females have not been collected together but are tentatively matched by their mutual resemblances to those of *R. lugubris* and *R. bulburin*; males of all three species have enlarged setae at the prolateral basal corner of the cymbium, but those of *R. bilpin* differ in having a distinct prolateral prong at the dorsal tip of the retrolateral tibial apophysis (figs. 620, 649); females also resemble those of *R. lugubris* and *R. bulburin* in having arched and divergent anterior epigynal ducts, but have those ducts longer and narrower (fig. 622).

MALE: Total length 16. Coloration as in *R. lugubris*. Leg spination: femora: I, III, IV p1-1-0, r0-1-0; II p1-1-0, r1-1-0; tibiae: I v1p-2-1p; III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v2-0-2, r1-0-0. Retrolateral tibial apophysis with distinct prong at dorsal side of tip, situated opposite dense patch of thickened setae situated at proximal prolateral corner of cymbium (figs. 620, 649); distal portion of conductor almost as wide as basal portion (fig. 619).

FEMALE: Total length 15. Coloration as in male. Leg spination: femora: I, II, IV p1-1-0; III p1-1-0, r0-1-0; tibiae: I v1p-2-0; II v1p-2-1p; III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v2-0-2, r1-0-0. Anterior epigynal margin semicircular (fig. 621); anterior epigynal ducts narrow, arched, strongly divergent (fig. 622).

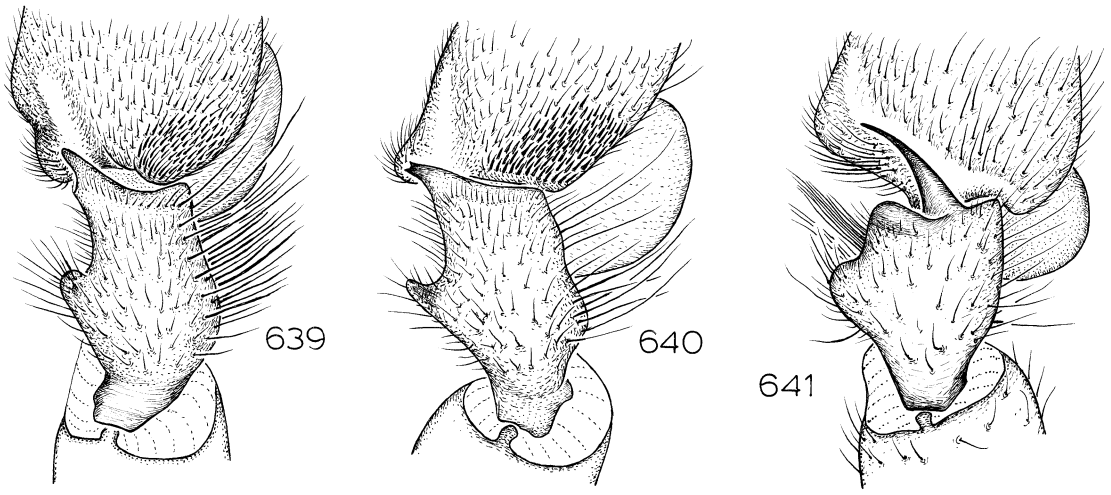
OTHER MATERIAL EXAMINED: **New South Wales:** Windsor area, 33°37′S, 150°49′E, Mar. 1992 (AMS KS30850), 1♂; Woronora Dam Catchment, end of Darkes Forest Road, 34°13′S, 150°54′E, Dec. 8–22, 1999, pitfall (M. Gray, G. Milledge, H. Smith, AMS KS63160), 1♀.

DISTRIBUTION: Known only from New South Wales (map 48).

Rebilus wisharti, new species

Figures 623–626, 650; Map 49

TYPE: Female holotype taken in swimming pool at Gerringong, 34°45′S, 150°50′E, New



Figs. 639–641. Left male palpal tibia and proximal portion of tarsus, dorsal views. **639.** *Rebilus lugubris* (L. Koch). **640.** *R. bulburin*, new species. **641.** *R. tribulation*, new species.

South Wales (Feb. 25, 1993; G. Wishart), deposited in AMS (KS51383).

ETYMOLOGY: The specific name is a patronym in honor of Graham Wishart and his over-sized pitfall trap.

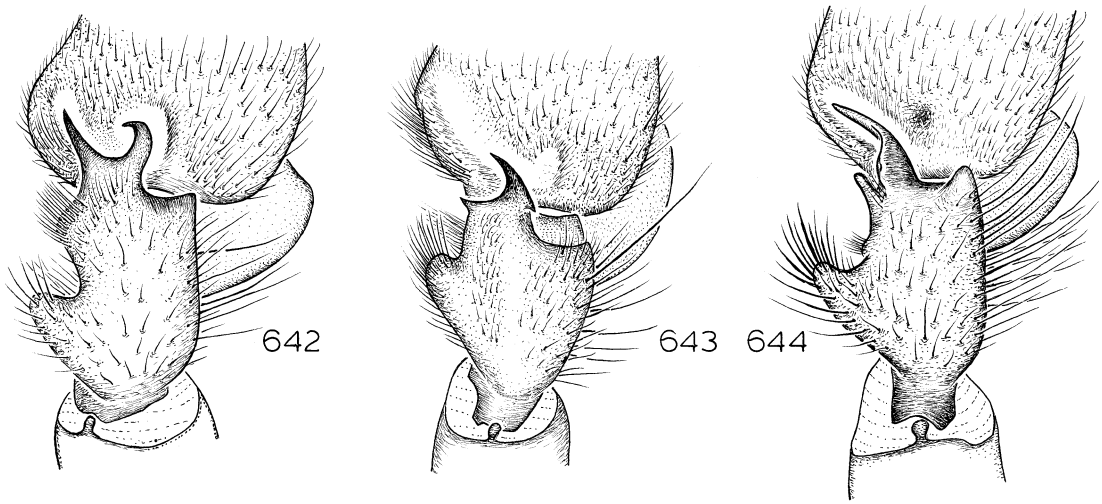
DIAGNOSIS: Males and females have not been collected together and are tentatively matched here on the basis of geography. Males have an enlarged palpal femur and tegulum, with a distally twisted terminal apophysis and a large, densely setose basal tibial apophysis (figs. 623, 624, 650); females have an m-shaped margin on the epigynal septum (fig. 625).

MALE: Total length 13. Coloration as in *R. lugubris*. Leg spination: femora: I, II, IV p1-1-0; III p1-1-0, r0-1-0; tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v2-0-2, r1-0-0. Palp robust, with basal segments enlarged, thick, basal tibial apophysis pronounced, bearing dense setae, distal apophysis small, laterally excavated, cymbium without modified setae (figs. 624, 650); tegulum enlarged, rotund, terminal apophysis distally twisted (fig. 623).

FEMALE: Total length 13. Coloration as in male. Leg spination: femora I–IV p1-1-0; tibiae: I, II v1p-1p-1p; III v1p-1p-2; IV v2-2-2, r0-1-1; metatarsi as in male. Epigynal with m-shaped septal margin (fig. 625); posteromedian portion of epigynal ducts enlarged (fig. 626).

OTHER MATERIAL EXAMINED: **New South Wales:** Beecroft, 33°45′S, 151°04′E, Aug. 20, 1999 (J. Noble, AMS KS62826), 1♂, Oct. 5, 1999 (J. Noble, AMS KS57336), 1♂; Copper Creek Road, 1.7 km down from Carrai Road, then downslope 200 m to gully, Carrai State Forest, 30°57′S, 152°23′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 330 m (M. Gray, G. Cassis, AMS KS43003), 1♂; Minnamurra Falls Reserve, 34°38′S, 150°51′E, Apr. 20, 1982, under rock (C. Horseman, AMS KS9027), 1♀; Mogo State Forest, Dog Trap Road, 9 km S Bateman's Bay, 35°49′S, 149°56′E, Aug. 8, 1990, tall eucalypt forest, open understory of cycads and shrubs, elev. 50 m (C. Griswold, R. Moran, T. Meikle, USNM), 1♀; Mount Dromaderry (site not located), May 4, 1982, under saucepan (H. Parnaby, AMS KS21568), 1♂; Mount Keira Fauna Reserve, Scout Camp, 34°24′S, 150°51′E, Jan. 17–Feb. 14, 1979, litter pitfall (C. Horseman, AMS KS2531), 1♀; Taree Case Mills, 31°54′S, 152°29′E, July 17, 1953 (H. Johnston, AMS KS35458), 1♂; Willovale, Scalloway, 34°45′S, 150°50′E, May 25, 1989 (G. Wishart, AMS KS30240), 1♂.

DISTRIBUTION: Known only from New South Wales (map 49).



Figs. 642–644. Left male palpal tibia and proximal portion of tarsus, dorsal views. **642.** *Rebilus bunya*, new species. **643.** *R. binnaburra*, new species. **644.** *R. glorious*, new species.

***Rebilus monteithi*,** new species
Figures 627–630, 651; Map 50

TYPE: Female holotype taken in rainforest pitfall at Cherry Tree State Forest, via Mallanganee, 28°53′S, 152°45′E, New South Wales (Oct. 2, 1978–Feb. 22, 1979; G., S. Monteith), deposited in QMB (S28479).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Geoff Monteith of the Queensland Museum, collector of many fascinating gnaphosoids.

DIAGNOSIS: Males and females have not been collected together but are tentatively matched here on the basis of geography, their relatively small size, and their relatively pale coloration. Males have a distinctive retrolaterally bent tip on the terminal apophysis (fig. 627), females have distinctive laterally produced median bulbs on the epigynal ducts (fig. 630).

MALE: Total length 9. Carapace light brown, abdomen gray, leg coxae and palps yellow. Leg spination unknown (single known male missing all distal leg segments). Basal tibial apophysis relatively small, squared, distal apophysis small, with sinuous tip (figs. 628, 651); tip of terminal apophysis bent at 90° angle (fig. 627).

FEMALE: Total length 13. Coloration as in male except carapace reddish brown. Leg spination: femora I–III p1-1-0; tibiae: I, II v1p-1p-2; III v1p-2-2; IV v1p-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-1p; IV p0-0-1, v2-0-1p, r1-0-0. Epigynal septum almost diamond-shaped (fig. 629); laterally directed bulbs at about half of epigynal length extending far to sides of ducts (fig. 630).

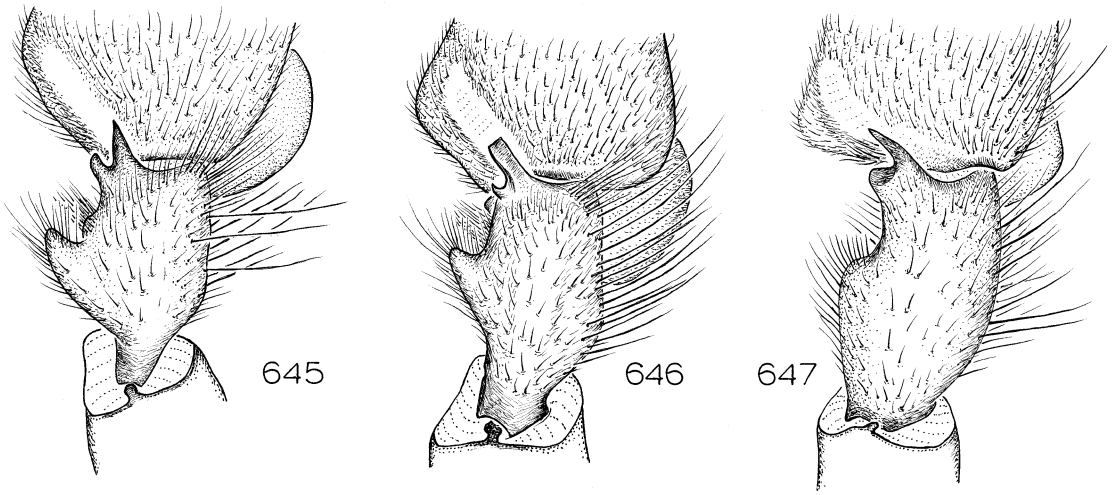
OTHER MATERIAL EXAMINED: **New South Wales:** Cherry Tree State Forest, via Mallanganee, 28°53′S, 152°45′E, Oct. 2, 1978–Feb. 22, 1979, rainforest pitfall (G., S. Monteith, QMB S28479), 1♀; Jackybulbin Flat Road, 0.3 km S junction Range Road, Doubleduke State Forest, 29°14′S, 153°09′E, Feb. 4–Apr. 9, 1993, pitfall, elev. 10 m (M. Gray, G. Cassis, AMS KS42057), 1♂.

DISTRIBUTION: Known only from northern New South Wales (map 50).

***Rebilus griswoldi*,** new species
Figures 631–634, 652; Map 47

TYPE: Female holotype taken at an elevation of 1000 m in a *Nothofagus moorei* forest on Beech Walk trail, Barrington Tops National Park, 50 km N Gloucester, 32°05′S, 151°37′E, New South Wales (Aug. 14, 1990; C. Griswold, T. Meikle), deposited in AMS courtesy of USNM.

ETYMOLOGY: The specific name is a patronym in honor of Dr. Charles Griswold of the California Academy of Science, collector



Figs. 645–647. Left male palpal tibia and proximal portion of tarsus, dorsal views. **645.** *Rebilus maleny*, new species. **646.** *R. lamington*, new species. **647.** *R. morton*, new species.

of the holotype and other interesting *Rebilus* specimens.

DIAGNOSIS: Males and females have not been collected together but are tentatively matched here on the basis of geography and the oddness of their genitalia. Males have an elongated basal tibial apophysis (fig. 632) and a distinctively procurved tip of the terminal apophysis (fig. 631); females have a distinctive, deeply excavated epigynum (fig. 633).

MALE: Total length 11. Coloration as in *R. lugubris*. Leg spination: femora: I p1-1-0; II, III p1-1-0, r0-1-0; IV p1-0-0; tibiae: I, II v1p-1p-2; III v1p-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-2, r1-0-0. Basal tibial apophysis elongated into projecting ledge, distal apophysis greatly widened just below tip (figs. 632, 652); tip of terminal apophysis directed prolaterally, away from tip of conductor (fig. 631).

FEMALE: Total length 20. Coloration as in male. Leg spination: femora: I, II, IV p1-1-0; III p1-1-0, r0-1-0; tibiae: II v1p-1p-2; III v1p-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-1p, r1-0-0. Epigynum deeply depressed, with wide septum (fig. 633); anterior epigynal ducts diffuse (fig. 634).

OTHER MATERIAL EXAMINED: **New South Wales:** 11 km NE Bulahdelah, O'Sullivans Gap Reserve, 32°21′S, 152°16′E, June 6–July 27, 1982, flight intercept trap, wet sclerophyll forest, elev. ca. 50 m (S., J. Peck, AMNH), 1♂; O'Sullivans Gap Rest Area, Bulahdelah State Forest, 32°21′S, 152°16′E, May 14, 1988 (D. Hirst, SAM N1999/44), 1♂.

DISTRIBUTION: Known only from New South Wales (map 47).

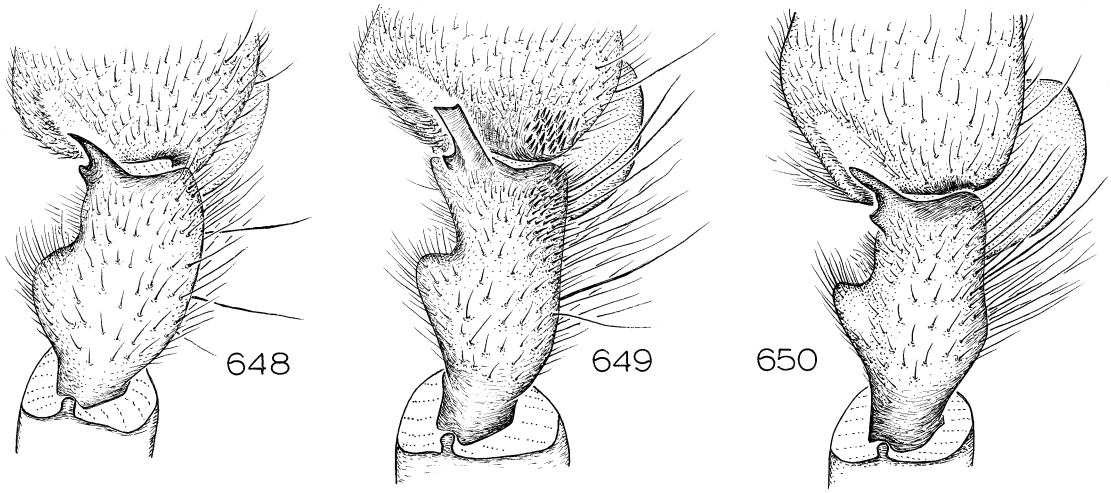
Rebilus grayi, new species

Figures 635–638, 653; Map 45

TYPE: Female holotype taken in a pitfall trap set at an elevation of 1180 m at a site 1.3 km S along Bungaree Trail from Barrington Tops Forest Road, Barrington Tops State Forest, 31°56′S, 151°21′E, New South Wales (Feb. 4–Apr. 9, 1993; M. Gray, G. Cassis), deposited in AMS (KS42988).

ETYMOLOGY: The specific name is a patronym in honor of Dr. Michael Gray of the Australian Museum, collector of many interesting gnaphosoids.

DIAGNOSIS: Males and females have not been collected together but are tentatively matched here on the basis of their mutual similarities to those of *R. monteithi*. Males have a distinctively small, triangular, protuberant basal tibial apophysis (fig. 636); fe-



Figs. 648–650. Left male palpal tibia and proximal portion of tarsus, dorsal views. **648.** *Rebilus brooklana*, new species. **649.** *R. bilpin*, new species. **650.** *R. wisharti*, new species.

males have distinctively short and arched anterior epigynal ducts (fig. 638).

MALE: Total length 12. Coloration as in *R. lugubris*. Leg spination: femora: I–III p1-1-0, r0-1-0; IV p1-1-0; tibiae: I, II v1p-2-1p; III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v0-0-2, r1-0-0. Basal tibial apophysis small, projecting, thumblike, distal apophysis with sinuous dorsal margin, prolateral corner of cymbium with dense, unthickened setae (figs. 636, 653); tegulum globose, tip of terminal apophysis smoothly narrowed (fig. 635).

FEMALE: Total length 14. Coloration as in male. Leg spination: femora: I, IV p1-1-0; II, III p1-1-0, r0-1-0; tibiae: I v1p-1p-1p; II v1p-1p-2; III 1p-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-0-2; IV p0-0-1, v1p-0-2, r1-0-0. Epigynal septum with m-shaped margin situated at about half of epigynal length (fig. 637); anterior ducts very short, arched (fig. 638).

OTHER MATERIAL EXAMINED: **New South Wales:** Tubrabucca, 31°58′S, 151°28′E, Jan. 1948, elev. 4300 ft (AMS KS35550), 2♀. **Victoria:** Upper Lurg, 36°35′S, 146°11′E, Oct. 19, 1994, inside house, on floor (J. Strudwick, CVIC 680), 1♂.

DISTRIBUTION: If the sexes are correctly matched, the species occurs in Victoria and at high elevations in New South Wales (map 45).

***Rebilus kaputar*,** new species

Figures 485, 486; Map 44

TYPE: Female holotype taken in log, with egg sac, at Dawson Springs, Mount Kaputar National Park, 30°15′S, 150°15′E, New South Wales (May 25, 1985; C. Horseman, A. Johnson), deposited in AMS (KS16037).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

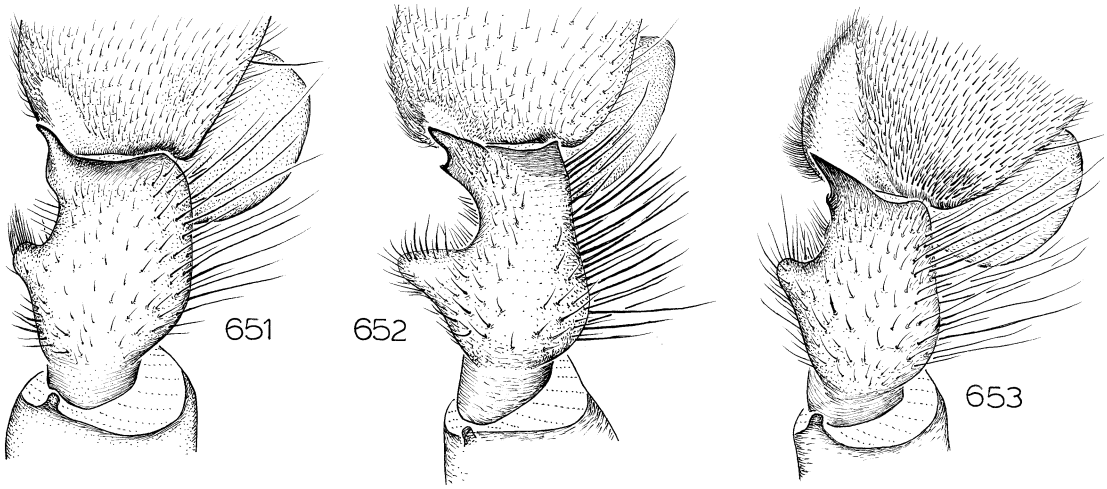
DIAGNOSIS: Males are unknown, but females can be recognized immediately by the greatly elongated, almost parallel anterior epigynal ducts (figs. 485, 486).

MALE: Unknown.

FEMALE: Total length 14. Coloration as in *R. lugubris*. Leg spination: femora: I, II, IV p1-1-0; III p1-1-0, r0-1-0; tibiae: III v2-2-2; IV v2-2-2, r0-1-1; metatarsi: III p0-0-1, v2-1r-2; IV p0-0-1, v1r-0-2, r1-0-0. Epigynum with elongated septum occupying most of epigynal length (fig. 485); anterior epigynal ducts enormously elongated, almost parallel (fig. 486).

OTHER MATERIAL EXAMINED: **New South Wales:** Barraba Track, Mount Kaputar National Park, 30°15′S, 150°15′E, Apr. 22, 1978, under rock (H. Butler, AMS KS8245), 1♀.

DISTRIBUTION: Known only from Mount Kaputar National Park, New South Wales (map 44).



Figs. 651–653. Left male palpal tibia and proximal portion of tarsus, dorsal views. **651.** *Rebilus monteithi*, new species. **652.** *R. griswoldi*, new species. **653.** *R. grayi*, new species.

ACKNOWLEDGMENTS

This monograph would not have been contemplated, much less completed, without the support of the National Science Foundation's PEET (Partnerships for Enhancing Expertise in Taxonomy) program, provided through grant DEB-9521631, and the assistance of many colleagues, particularly those in Australia, who have unstintingly supplied specimens, information, and encouragement. The Australian Biological Resources Study provided additional funding that greatly enhanced the work, and the American Museum of Natural History has provided significant cost-sharing, including the artistic talents of Dr. Mohammad Shadab as well as assistance with scanning electron microscopy by Ms. Angela Klaus.

I thank the curators of each of the collections (listed on pp. 4–5) that have supplied material for this study, but several colleagues cannot be thanked enough. In Brisbane, Drs. Robert Raven and Val Davies of the Queensland Museum have provided a virtual ''home away from home'' during visits; Dr. Raven has been consulted frequently on problematic taxa, to try to ensure that no taxa are ''falling between the cracks'' of our respective studies. In Sydney, Drs. Mike Gray and Gerry Cassis, and Mr. Graham Milledge, of the Australian Museum have made available the magnificent collections made in their recent and ongoing surveys of montane habitats in New South Wales. In Adelaide, Mr. David Hirst of the South Australian Museum has allowed access to important material even before it has gone through the normal cataloging process, and shared his discoveries about the vibration collecting technique. In Perth, Dr. Mark Harvey and Ms. Julianne Waldock of the Western Australian Museum have kept up a continual supply line of fascinating and puzzling new material, and have provided invaluable assistance in the field. And in Darwin, Dr. Tracey Churchill has been the most gracious of hosts, supplying logistic support as well as collections from many habitats never before sampled for ground spiders. The efforts of Drs. Davies, Gray, Harvey, Raven, and Martín Ramírez in the tiresome task of reviewing the manuscript in detail are also enormously appreciated.

SUPPLEMENT

Since the manuscript for this paper was completed, additional material has become available for study, especially from AMS and QMB. It seems best to provide all that new information here, for the convenience of users, because there are numerous significant range extensions as well as a few forms not seen before.

AMMOXENIDAE

Austrammo rossi, new species

NEW RECORD: **Northern Territory:** Gregory National Park, along Baines River, 15°58′S, 129°02′E, June 12, 2001, under bark (L. Boutin, QVM), 1♀.

GALLIENIELLIDAE

Meedo mullaroo, new species

NEW RECORDS:**New South Wales:** Cameron Lane, 4.6 km W junction with Burren-Pokataroo Road, 29°49′S, 148°57′E, Nov. 30–Dec. 20, 1999, pitfall, *Acacia pendula* patch (L. Wilkie, J. Tarnawski, H. Doherty, H. Smith, AMS KS72485), 1♂; Kulkurna Station, Lower Murray-Darling region, 33°58′S, 141°01′E, Oct. 12–16, 1998, pitfall, Black Box woodland (M. LeBreton, AMS KS71429), 1♂; 3.8 km N on Narran Plains Road from junction with Narran Lake Road, 29°42′S, 147°20′E, Nov. 25–Dec. 15, 1999, pitfall, *Eucalyptus largiflorens* (F. Christie, P. Flemons, M. Elliott, AMS KS72487), 1♂. **Queensland:** S end, Mazeppa National Park, 22°16′S, 147°16′E, Dec. 18, 2000–Mar. 26, 2001, brigalow pitfall, elev. 240 m (D. Cook, G. Monteith, QMB S39996), 1♀.

Meedo cohuna, new species

NEW RECORDS: **New South Wales:** 7.5 km NW Gin Gin, Wambianna Station, 31°52′S, 148°02′E, Nov. 22–Dec. 12, 1999, pitfall in *Eucalyptus camaldulensis*, *Acacia pendula* (L. Wilkie, J. Tarnawski, H. Doherty, H. Smith, AMS KS72483), 1♂; 1.4 km W on Papworth Lane from junction with Backwater Road, 32°17′S, 147°53′E, Nov. 22–Dec. 12, 1999, pitfall (L. Wilkie, R. Harris, T. Moulds, AMS KS72481), 1♂; Pulletop, 34°01′S, 146°04′E, Oct. 12–18, 1999, roadside pitfall, no spinifex (D. Driscoll, QMB S52914), 2♀; SE corner, Torquay Station, Narromine, 32°08′S, 147°37′E, Nov. 22–Dec. 12, 1999, pitfall, *Eucalyptus largiflorens* patch (L. Wilkie, R. Harris, T. Moulds, AMS KS72482), 1♀.

Meedo broadwater, new species

NEW RECORDS: **Queensland:** Boggomoss Reserve, Taroom, 25°26′S, 150°02′E, Nov. 11, 1996–Jan. 12, 1997, pitfall (P. Lawless, H. Janetzki, D. Cook, QMB S37244), 1♀; summit, Drummond Range, 23°32′S, 147°18′E, Dec. 18, 2000–Mar. 27, 2001, open forest pitfall, elev. 920 m (D. Cook, G. Monteith, QMB S39985), 2♀; Fraser Island, 24°58′S, 153°19′E, Jan. 13, 2000 (R. Raven, QMB S52183), 1♀; 3 km SE Kalbar, 27°58′S, 152°39′E, Oct. 6–Dec. 2, 2000, brigalow, flight intercept trap, elev. 120 m (C. Burwell, QMB), 1♂, Dec. 2, 2000–May 7, 2001, brigalow scrub pitfall, elev. 120 m (C. Burwell, QMB S55131), 2♂; Mount Scoria, 24°32′S, 150°36′E, Mar. 28–Oct. 21, 2000, vine scrub pitfall, flight intercept traps, elev. 200 m (D. Cook, Wright, Vanderduys, QMB S39773, 55128, 55142), 3♂, 1♀; Pearlinga, near Mundubbera, 25°36′S, 151°07′E, Dec. 20, 2000–Mar. 23, 2001, vine scrub, flight intercept trap, elev. 160 m (D. Cook, G. Monteith, QMB), 2♂; Taroom District, Boggomoss No. 13, 25°28′S, 150°02′E, Nov. 11, 1996–Jan. 1997, pitfall in field (P. Lawless, QMB S37150), 1♀.

Meedo gympie, new species

NEW RECORDS: **Queensland:** Beerwah Forestry Reserve, 26°51′S, 152°57′E, Nov. 21, 1990, heath pitfall (M. Glover, QMB S33613), 1♂, Apr. 21, 1991, heath pitfall (M. Glover, QMB), 1♀; Enoggera Reserve, site 2, 27°26′S, 152°52′E, Mar. 15–May 18, 2000, open forest pitfall, elev. 125 m (G. Monteith, QMB), 1♂; Massey Creek, 17°37′S, 145°34′E, May 30–July 1, 1996, pitfall, elev. 1000 m (P. Zborowski, QMB S50641), 1♂; 0.5 km WNW Mount Archer, 23°30′S, 150°34′E, Oct. 21–Dec.19, 2000, vine scrub, flight intercept trap, elev. 520 m (D. Cook, G. Monteith, QMB), 1♂.

Neato raveni, new species

NEW RECORD: **Queensland:** 3.5 km SE Fairlies Knob, 25°32′S, 152°19′E, July 21–Oct. 20, 2000, vine scrub pitfall, elev. 120 m (D. Cook, Wright, Vanderduys, QMB), 1♀.

Neato beerwah, new species

NEW RECORDS: **Queensland:** Beerwah Forestry Reserve, 26°51′S, 152°57′E, Aug. 20, 1990, heath pitfall (M. Glover, QMB), 1♀, June 26, 1991, heath pitfall (M. Glover, QMB), 2♂, 3♀; Whites Hill Reserve, 27°30′S, 153°05′E, June 2, 2001 (M. Rix, QMB), 1♂.

Oreo renmark, new species

NEW RECORDS: **Queensland:** Brigalow Research Station, site 2, 24°49′S, 149°45′E, Dec. 16, 2000–Mar. 28, 2001, pitfall, softwood scrub, elev. 170 m (D. Cook, G. Monteith, QMB S55063), 1♂; Brigalow Research Station, site 3, 24°48′S, 149°46′E, Dec. 16, 2000–Mar. 28, 2001, pitfall, belah/brigalow, elev. 160 m (D. Cook, G. Monteith, QMB), 1♂.

TROCHANTERIIDAE

Tinytrema sandy, new species

NEW RECORD: **New South Wales:** 16 km S Texas (Qld.), 28°56′S, 151°08′E, Jan. 25, 2002, vibration (N. Platnick, R. Raven, B. Baehr, AMNH), 2♂.

Desognaphosa yabbra, new species

NEW RECORD: **Queensland:** Mount Cotton, 27°37′S, 153°13′E, Sept. 3–Dec. 12, 1997, rainforest pitfall, elev. 200 m (G. Monteith, QMB S32509), 1♂.

Desognaphosa bellenden, new species

NEW RECORD: **Queensland:** Copperlode Dam, via Cairns, 16°53′S, 145°43′E, Oct. 20, 1997 (R. Raven, QMB S51115), 1♀.

Desognaphosa kuranda, new species

NEW RECORD: **Queensland:** Copperlode Dam, via Cairns, 16°53′S, 145°43′E, Oct. 20, 1997 (R. Raven, QMB S51117), 1♀.

Trachycosmus allyn, new species

NEW RECORD: **New South Wales:** Coola Tops National Park, Bald Hill Track, 2.5 km from The Forest Road, 31°45′S, 150°01′E, Nov. 8, 2001 (G. Milledge, AMS KS75093), 1♀.

Trachytrema garnet, new species

NEW RECORDS: **New South Wales:** Warrumbungles National Park, 1.4 km E western park entrance, 31°17′S, 148°58′E, Nov. 11, 2001, under rocks (M. Gray, G. Milledge, H. Smith, AMS KS75232), 1♀; Warrumbungles National Park, John Renshaw Parkway, 1.9 km W Camp Wambelong, 31°17′S, 148°58′E, Nov. 10, 2001, under rocks (M. Gray, G. Milledge, H. Smith, AMS KS75208), 2♀. **Queensland:** Boggomoss Reserve, Taroom, 25°26′S, 150°01′E, Nov. 12, 1996, grazed woodland (P. Lawless, QMB S37351), 1♂; Taroom District, Boggomoss No. 8, 25°27′S, 150°02′E, June 17–Sept. 10, 1996, open forest pitfall (P. Lawless, QMB S37161), 1♂.

Trachyspina mundaring, new species

NEW RECORD: **Western Australia:** Darlington, 31°55′S, 116°04′E, Sept. 5, 1962, elev. 450 ft (E. Ross, D. Cavagnaro, CAS), 1♀.

***Trachyspina daunton*,** new species
Figures 654–657

TYPE: Male holotype taken indoors at Daunton, via Ilfracombe, 23°16′S, 144°49′E, Queensland (Apr. 29, 1998; E. McKenzie), deposited in QMB.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

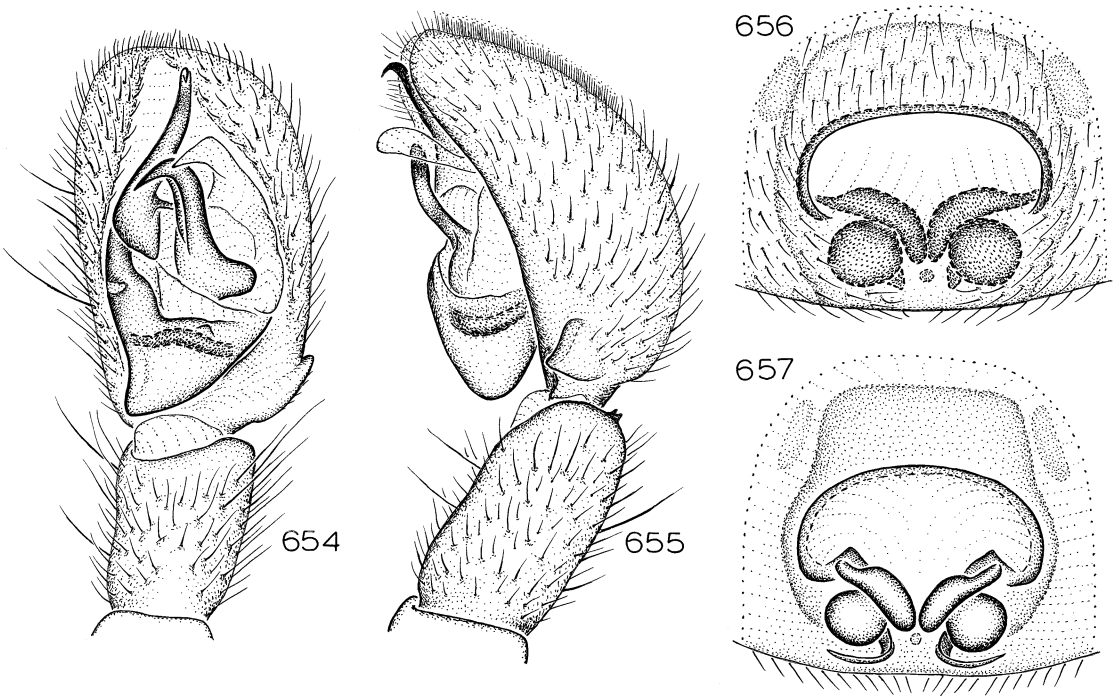
DIAGNOSIS: Males can easily be distinguished from those of *T. capensis* and *T. mundaring* by the much narrower median apophysis (fig. 654); females resemble those of *T. chillimookoo* but have wider epigynal ducts (fig. 657).

MALE: Total length 7.5. Coloration as in *T. capensis* except carapace light red. Leg spination: femur IV d1-0-1; patellae III, IV d0-0-1; tibiae: I, II v1p-1p-0; III d0-0-1; IV d0-0-1, p1-0-0; metatarsi: II v2-1p-2; III v1p-0-0; IV v1p-1p-0. Retrolateral tibial apophysis represented by pair of slight denticles (fig. 655); median apophysis narrow, distally hooked (fig. 654).

FEMALE: Total length 6.9. Coloration as in male. Leg spination: femur IV d1-0-1; tibiae: I v1p-2-2; II v1p-1p-2; IV d1-0-0; metatarsi: II v2-2-2; III v2-0-0; IV v2-1p-0, r1-0-0. Epigynal atrium wide, semicircular (fig. 656); ducts wide, wider posteriorly than anteriorly (fig. 657).

OTHER MATERIAL EXAMINED: **Queensland:** 13.5 km N Bogantungan, 23°32′S, 147°18′E, Oct. 26–Dec. 17, 2000, pitfall, ironbark woodland, elev. 880 m (D. Cook, G. Monteith, QMB S55079), 2♀.

DISTRIBUTION: Known only from south-central Queensland, and the first member of the genus to be found in eastern Australia.



Figs. 654–657. *Trachyspina daunton*, new species. **654.** Left male palp, ventral view. **655.** Same, retrolateral view. **656.** Epigynum, ventral view. **657.** Same, dorsal view.

Morebilus plagusius (Walckenaer)

NEW RECORDS: **New South Wales:** Forster District, 32°11′S, 152°31′E, Aug. 29, 1995, in house (M. Gray, AMS KS43935), 1♀; Malabar, 33°58′S, 151°14′E, Dec. 5, 1966 (AMS KS44183), 1♀.

Morebilus coolah, new species

NEW RECORD: **New South Wales:** Warrumbungles Range, Siding Springs Road, 0.9 km from summit, 31°16′S, 149°05′E, Nov. 10, 2001, under rocks (M. Gray, G. Milledge, H. Smith, AMS KS75481), 2♀.

Morebilus fumosus (L. Koch)

NEW RECORDS: **Queensland:** Goodey Road, SW Many Peaks, Monto District, 24°12′S, 151°27′E, Dec. 15, 1999 (J. Moss, L. Popple, QMB S52382), 1♀; Murgon, 26°15′S, 151°56′E, June 9, 2000 (S. Stimpson, QMB S45234), 1♀.

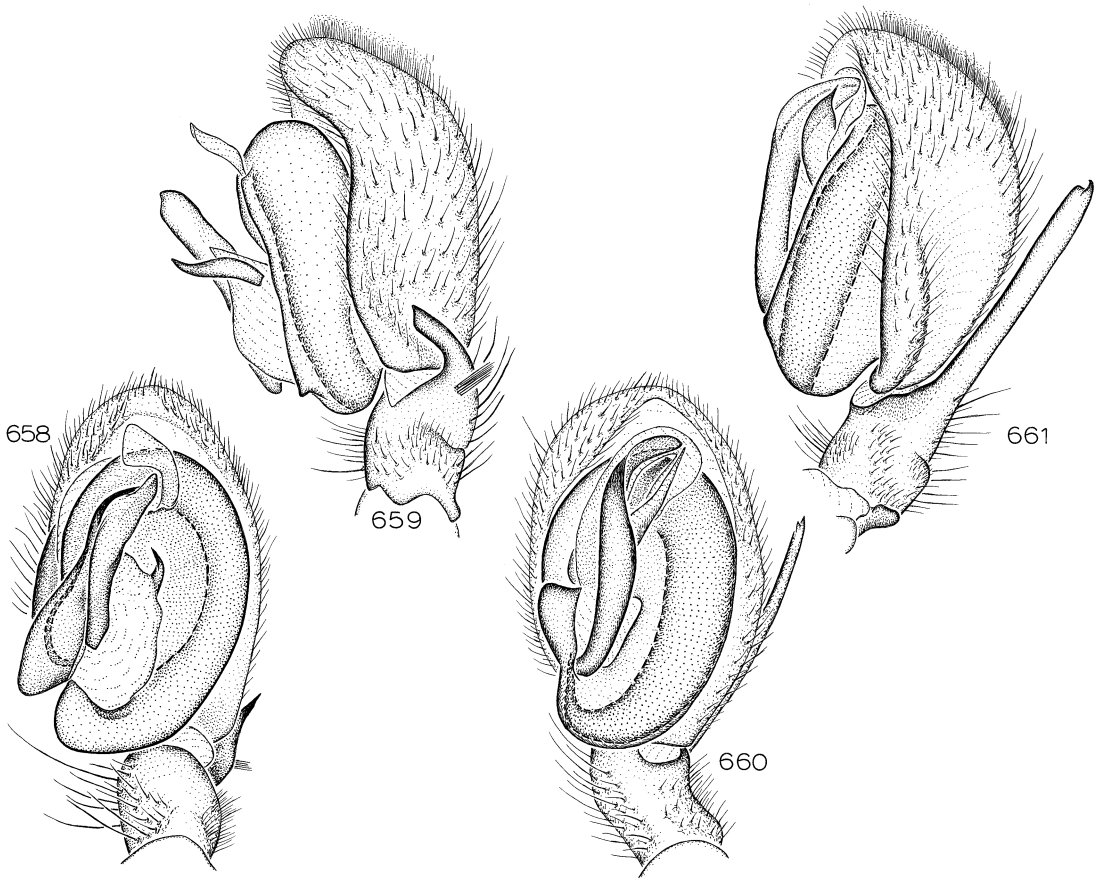
Morebilus diversus (L. Koch)

NEW RECORDS: **Queensland:** N end, Mazeppa National Park, 22°14′S, 147°15′E, Oct. 24–Dec. 18, 2000, brigalow pitfall, elev. 240 m (D. Cook, G. Monteith, QMB S55074), 1♂. **Western Australia:** Derby, 17°19′S, 123°38′E (J. Basedow, AMS ex KS44188), 1♀.

Morebilus blackdown, new species
Figures 658, 659

DIAGNOSIS: This species was described above on the basis of a female from mid-eastern Queensland; the male from north-eastern Queensland here associated with that female resembles that of *M. tambo* in having stiff setae, including one spiniform seta, on the retrolateral tibial apophysis (fig. 660), but differs in having a larger retrolateral tibial apophysis as well as more ventrally displaced median palpal elements (figs. 659, 660).

MALE: Total length 12. Coloration as in *M. plagusius*. Leg spination: femora: I, II d2-2-0; III d3-3-1; IV d3-1-1; tibiae: I v6-6-2; II v3-6-4; III v3-3-0; IV v1p-1p-1p; metatar-



Figs. 658–661. **658, 659.** *Morebilus blackdown*, new species, left male palp, ventral and retrolateral views. **660, 661.** *Longrita nathan*, new species, left male palp, ventral and retrolateral views.

si: I v4-4-2; II v6-6-0; III v4-1p-0; IV v1p-1p-0. Retrolateral tibial apophysis bearing retrolaterally directed, stiff setae, most distal seta spiniform (fig. 660); median palpal elements projected ventrally from surface of bulb (fig. 659).

NEW RECORD: **Queensland:** Newcastle Range, 18°18′S, 143°45′E, June 1–Aug. 28, 1996, pitfall (J. Hasenpasch, QMB S47663), 1♂.

DISTRIBUTION: Known only from mid-eastern and northeastern Queensland.

***Longrita nathan*,** new species
Figures 660, 661

TYPE: Male holotype from south bank of Dawson River, Nathan Gorge, 25°27′S, 150°10′E, Queensland (Sept. 11–12, 1996; P. Lawless, H. Janetzki, D. Potter), deposited in QMB (S36474).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Based on the presence of a bifid tip on the male retrolateral tibial apophysis, this species seems to belong to the *insidiosus* group, but the male can easily be distinguished from all other males of the genus by the very narrow embolus, which occupies only about one-fourth of the tegular width (figs. 660, 661).

MALE: Total length 8. Coloration as in *L. insidiosa* except carapace light brown and all legs very light brown. Leg spination: femora I–IV d1-0-1; tibiae: III, IV v1p-1p-1p. Palpal tibia deeply invaginated at about half

its length, invaginated surface glabrous, tip of retrolateral apophysis bifid (fig. 661); embolus narrow, occupying only about one-fourth of tegular width (fig. 660).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from southeastern Queensland.

Longrita whaleback, new species

NEW RECORD: **Western Australia:** Derby, 17°19′S, 123°38′E (J. Basedow, AMS KS44188), 1♀.

Longrita millewa, new species

NEW RECORD: **New South Wales:** Pulletop, 33°59′S, 146°05′E, Nov. 3–8, 1999, spinifex pitfall (D. Driscoll, QMB S53962), 1♂.

Pyrnus magnet, new species

NEW RECORD: **Queensland:** N end, Mazeppa National Park, 22°14′S, 147°15′E, Mar. 27, 2001, pyrethrum, gidgee trunks, elev. 240 m (G. Monteith, QMB S55149), 1♀.

Platorish nebo, new species

NEW RECORDS: **Queensland:** Enterprise, North Stradbroke Island, 27°34′S, 153°27′E, Jan. 9, 2002, vibration, blackbutt, elev. 60 m (R. Raven, B. Baehr, QMB), 1♂, 2♀; Mount Glorious, 27°20′S, 152°45′E, Dec. 24–30, 1997, malaise trap (T. Hiller, AMNH), 1♀.

Platorish jimna, new species

NEW RECORD: **New South Wales:** Buckinguy Homestead, 31°03′S, 147°22′E, June 28, 1887 (R. Grant, AMS KS44186), 1♂.

Hemicloeina gayndah, new species

NEW RECORD: **Queensland:** summit, Mount Gayndah, 25°36′S, 151°32′E, Oct. 9–Dec. 19, 1998, open forest pitfall, elev. 340 m (G. Monteith, C. Gough, QMB S50075), 1♂.

Rebilus lugubris (L. Koch)

NEW RECORD: **Queensland:** 0.5 km WNW Mount Archer, 23°30′S, 150°34′E, Mar. 24, 2001, pyrethrum, trunks and logs, vine scrub, elev. 520 m (G. Monteith, QMB S55130), 1♀ (penultimate but with fully developed epigynum).

Rebilus bulburin, new species

NEW RECORDS: **Queensland:** 0.5 km SW McAfee′S Lookout, 27°26′S, 152°52′E, July 6–Oct. 18, 1999, wet sclerophyll pitfall, elev. 150 m (G. Monteith, QMB), 1♀; Black Rock Scrub, 28°08′S, 152°40′E, Dec. 2, 2000–May 13, 2001, rainforest pitfall, elev. 350 m (G. Monteith, QMB S55146), 1♂.

Rebilus morton, new species

NEW RECORD: **New South Wales:** Gerringong, 34°44′S, 150°50′E, Nov. 10, 2000 (L. Jarvis, AMS KS70703), 1♀.

Rebilus wisharti, new species

NEW RECORD: **New South Wales:** Otford, 34°13′S, 151°00′E, May 24, 1978 (R. Mascord, AMS KS44184), 1♀.

Rebilus monteithi, new species

NEW RECORD: **New South Wales:** Mount Warning, 28°24′S, 153°17′E, Feb. 18, 1989, subtropical rainforest, elev. 800–900 m (Smith, Hines, Pugh, Webber, AMS KS65300), 1♂.

REFERENCES

Berland, L. 1924. Araignées de la Nouvelle Calédonie et des iles Loyalty. *In* F. Sarazin and J. Roux (editors), Nova Caledonia. Zoologie, 3: 159–255.

Bonnet, P. 1958. Bibliographia araneorum. Toulouse, 2(3): 3027–4230.

Cambridge, O.P.- 1872. General list of the spiders of Palestine and Syria, with descriptions of numerous new species, and characters of two new genera. Proceedings of the Zoological Society of London 1871: 212–354.

Cambridge, O.P.- 1890. On some new species and two new genera of Araneida. Proceedings of the Zoological Society of London 1890: 620–629.

Canals, J. 1933. Curiosa araña argentina del genero *Trochanteria* Karsch. Physis 11: 233–237.

Caporiacco, L. di. 1938. Il sistema degli Araneidi. Archivo Zoologico. Italiano 25(suppl. 4): 35–155.

Dacke, M., et al. 1999. Built-in polarizers form part of a compass organ in spiders. Nature 401: 470–473.

Deeleman-Reinhold, C.L. 2001. Forest spiders of South East Asia: with a revision of the sac and ground spiders (Araneae: Clubionidae, Corinnidae, Liocranidae, Gnaphosidae, Prodidomidae and Trochanterriidae [sic]). Leiden, 591 pp.

Dunn, A.P., and R.A. Dunn. 1946. Studies in Australian spiders. Victorian Naturalist 63: 87–93.
Farris, J.S. 1969. A successive approximations approach to character weighting. Systematic Zoology 18: 374–385.
Farris, J.S. 1988. Hennig86, version 1.5. Computer program distributed by its author.
Goloboff, P. 1993. Estimating character weights during tree search. Cladistics 9: 83–91.
Goloboff, P. 1997. Pee-Wee, version 2.6. Computer program distributed by its author.
Goloboff, P. 2000. The family Gallieniellidae (Araneae, Gnaphodoidea) in the Americas. Journal of Arachnology 28: 1–6.
Gray, M.R. 1974. Survey of the spider fauna. *In* H.F. Recher and D.S. Clark (editors), Environmental Survey of Lord Howe Island, pp. 50–54. Sydney.
Henschel, J.R., V.T. Davies, and C.R. Dickman. 1995. The slit spider (Araneae: Clubionoidea) that constructs fissures in the sand dunes of the Simpson Desert, central Australia. Journal of Natural History 29: 137–145.
Hickman, V.V. 1967. Some common spiders of Tasmania. Hobart: Tasmanian Museum Art Gallery, 112 pp.
Hogg, H.R. 1896. Araneidae. *In* Report of the Horn expedition to central Australia. 2. Zoology, pp. 309–356.
Karsch, F. 1879. Arachnologische Beitrage. Zeitschrift für die gesammten naturwissenschaften 52: 534–562.
Karsch, F. 1886. Über die geographische Verbreitung der Araneiden-gattung *Hemicloea* Thor. Berliner Entomologische Zeitschrift 30: 151–152.
Koch, C.L. 1845. Die Arachniden. Nürnberg, Zwolfter Band, pp. 1–166.
Koch, L. 1875. Die Arachniden Australiens. Nürnberg, 1: 577–740.
Koch, L. 1876. Die Arachniden Australiens. Nürnberg, 1: 741–888.
Main, B.Y. 1987. A new genus of clubionoid spider from Western Australia (Arachnida: Araneomorphae). Australian Entomological Magazine 13: 77–81.
Mello-Leitão, C.F. de. 1938. Algunas arañas nuevas de la Argentina. Revista del Museo de la Plata La Plata (n. ser.) 1: 89–118.
Millot, J. 1947. Une araignée malgache énigmatique, *Gallieniella mygaloides* n. g., n. sp. Bulletin du Museum d'Histoire Naturelle Paris (2) 19: 158–160.
Platnick, N.I. 1976a. Notes on East Asian *Plator* (Araneae, Gnaphosoidea). Acta Arachnologica 27: 1–7.
Platnick, N.I. 1976b. Notes on the spider genus *Doliomalus* (Araneae, Gnaphosoidea). Revue de Zoologie 90: 975–983.
Platnick, N.I. 1984a. Studies on Malagasy spiders, 1. The family Gallieniellidae (Araneae, Gnaphosoidea). American Museum Novitates 2801: 1–17.
Platnick, N.I. 1984b. On the male of *Doliomalus* (Araneae, Gnaphosidae). Journal of Arachnology 11: 451–452.
Platnick, N.I. 1985. Studies on Malagasy spiders, 2. The family Trochanteriidae (Araneae, Gnaphosoidea), with a revision of the genus *Platyoides*. American Museum Novitates 2808: 1–17.
Platnick, N.I. 1986. A revision of the spider genus *Trochanteria* (Araneae: Gnaphosoidea). Bulletin of the British Arachnology Society 7: 29–33.
Platnick, N.I. 1990. Spinneret morphology and the phylogeny of ground spiders (Araneae, Gnaphosoidea). American Museum Novitates 2978: 1–42.
Platnick, N.I. 1991. A revision of the ground spider family Cithaeronidae (Araneae, Gnaphosoidea). American Museum Novitates 3018: 1–13.
Platnick, N.I. 2000. A relimitation and revision of the Australasian ground spider family Lamponidae (Araneae: Gnaphosoidea). Bulletin of the American Museum of Natural History 245: 1–330.
Platnick, N.I. 2001. The world spider catalog, version 2.0. American Museum of Natural History, online at http://research.amnh.org/entomology/spiders/catalog81-87/index.html.
Platnick, N.I., and U.A. Gajbe. 1994. Supplementary notes on the ground spider family Cithaeronidae (Araneae, Gnaphosoidea). Journal of Arachnology 22: 82–83.
Platnick, N.I., and E. Griffin. 1990. On *Rastellus*, a new genus of the spider family Ammoxenidae (Araneae, Gnaphosoidea). American Museum Novitates 2995: 1–11.
Rainbow, W.J. 1904. Studies in Australian Araneidae III. Records of the Australian Museum 5: 326–336.
Rainbow, W.J. 1912. Some Araneidae from the Roper River, Northern Territory. Memoirs of the Queensland Museum 1: 203–209.
Rainbow, W.J. 1920. Arachnida from Lord Howe and Norfolk Islands. Records of the South Australian Museum (Adelaide) 1: 229–272.
Roewer, C.F. 1955. Katalog der Araneae von 1758 bis 1940, bzw. 1954. Bruxelles, 2: 1–1751.
Simon, E. 1878. Les arachnides de France. Paris, 4: 1–334.
Simon, E. 1880. Révision de la famille des Spar-

assidae (Arachnides). Actes de la Société Linnéenne de Bordeaux 34: 223–351.
Simon, E. 1890. Etudes arachnologiques. 22e Mémoire. XXXIV. Etude sur les arachnides de l'Yemen. Annales de la Société Entomologique de France (6) 10: 77–124.
Simon, E. 1893. Histoire naturelle des araignées. Paris, 1: 257–488.
Simon, E. 1908. Araneae. 1re partie. *In* W. Michaelsen and R. Hartmeyer (editors), Die Fauna Sudwest-Australiens. Jena, 1(12): 359–446.
Simon, E. 1909. Araneae. 2e partie. *In* W. Michaelsen and R. Hartmeyer (editors), Die Fauna Sudwest-Australiens. Jena, 2(13): 152–212.
Strand, E. 1908. Nordafrikanische, hauptsächlich von Carlo Freiherr von Erlanger gesammelte Aviculariidae, Drassidae und Theridiidae. Jahreshefte des Verein für Naturkunde in Württemberg 64: 11–101.
Thorell, T. 1881. Studi sui Ragni Malesi e Papuanti. III. Ragni dell'Austro Malesia e del Capo York, conservati nel Museo civico di storia naturale di Genova. Annali del Museo Civico Storia Naturale di Genova 17: 1–727.
Walckenaer, C.A. 1805. Tableau des aranéides ou caractères essentiels des tribus, genres, familles et races que renferme le genre *Aranea* de Linné, avec la désignation des espèces comprises dans chacune de ces divisions. Paris, 88 pp.
Walckenaer, C.A. 1837. Histoire naturelle des insectes. Aptères. Paris, 1: 1–682.

INDEX OF SPECIFIC NAMES

allyn, Trachycosmus, 114, 237
annuello, Questo, 59
aoupinie, Pyrnus, 172
arcoona, Fissarena, 192
arcoona, Longrita, 159
arid, Neato, 47
baehri, Pyrnus, 171
barlee, Fissarena, 188
barrine, Neato, 46
barrow, Fissarena, 185
bartle, Desognaphosa, 91
beerwah, Neato, 48, 236
bellenden, Desognaphosa, 95, 237
bilpin, Rebilus, 229
binnaburra, Rebilus, 220
blackdown, Morebilus, 149, 238
bluff, Hemicloeina, 208
bluff, Meedo, 35
bondi, Tinytrema, 66
boolbun, Desognaphosa, 105
booti, Meedo, 36
broadwater, Meedo, 32, 236
brooklana, Rebilus, 228
bulburin, Desognaphosa, 80
bulburin, Rebilus, 216, 240
bulolo, Hemicloeina, 206
bunya, Rebilus, 219
bushbay, Oreo, 55
campestratus, Corimaethes, 64
capensis, Oreo, 54
capensis, Trachyspina, 125
carbine, Desognaphosa, 102
castanea, Fissarena, 186
castaneum, Trachytrema, 119
chillimookoo, Trachyspina, 129
churchillae, Platorish, 178
cineracea, Hemicloea, 143
cockatoo, Trachycosmus, 116
cohuna, Meedo, 30, 236
coolah, Morebilus, 142, 238
crediton, Rebilus, 218
cuny, Fissarena, 188
daunton, Trachyspina, 237
diversus, Morebilus, 144, 238
dryander, Desognaphosa, 83
ethabuka, Fissarena, 185
eungella, Desognaphosa, 83
findal, Longrita, 158
finnigan, Desognaphosa, 103
fitton, Morebilus, 140
flavitarsis, Platorish, 176
flinders, Meedo, 34
flinders, Morebilus, 147
fulvus, Pyrnus, 168
fumosus, Morebilus, 143, 238
funnel, Desognaphosa, 82
gammon, Morebilus, 141
garnet, Trachytrema, 120, 237
gayndah, Hemicloeina, 205, 240
gelorup, Platorish, 179
glorious, Rebilus, 222
goonaneman, Desognaphosa, 87
goongarrie, Trachyspina, 127
gramps, Morebilus, 139
grasspatch, Longrita, 155
grayi, Rebilus, 233
graytown, Morebilus, 138
griswoldi, Rebilus, 232
gympie, Meedo, 38, 236
halcyon, Desognaphosa, 101
harveyi, Austrammo, 15
harveyi, Meedo, 28
hirsti, Austrammo, 15
homerule, Desognaphosa, 106
houstoni, Meedo, 26
humptydoo, Hemicloeina, 206

illamurta, *Trachyspina*, 128
insidiosa, *Longrita*, 153
insularis, *Pyrnus*, 168
jimna, *Platorish*, 180, 240
julatten, *Hemicloeina*, 202
kangaroo, *Tinytrema*, 67
kapalga, *Hemicloeina*, 207
kaputar, *Rebilus*, 234
karnak, *Desognaphosa*, 98
kidman, *Oreo*, 53
kioloa, *Neato*, 43
kirrama, *Desognaphosa*, 89
kroombit, *Desognaphosa*, 82
kuranda, *Desognaphosa*, 97, 237
lamington, *Rebilus*, 226
laverton, *Fissarena*, 191
longipes, *Fissarena*, 193
lugubris, *Rebilus*, 213, 240
madura, *Trachyspina*, 127
magnet, *Pyrnus*, 170, 240
mainae, *Boolathana*, 197
malbon, *Desognaphosa*, 87
maleny, *Rebilus*, 224
massey, *Desognaphosa*, 93
millaa, *Desognaphosa*, 84
millewa, *Longrita*, 162, 240
monteithi, *Austrammo*, 14
monteithi, *Rebilus*, 232, 240
morton, *Rebilus*, 227, 240
mullaroo, *Meedo*, 29, 236
muncoonie, *Oreo*, 52
mundaring, *Trachyspina*, 126, 237
munmorah, *Meedo*, 38
nathan, *Longrita*, 239
nebo, *Platorish*, 178, 240
nipping, *Morebilus*, 144
numeus, *Pyrnus*, 172
obscurus, *Pyrnus*, 173
olary, *Trachyspina*, 128
ovtsharenkoi, *Meedo*, 28
palms, *Neato*, 44
pershouse, *Desognaphosa*, 89
pins, *Pyrnus*, 171
plagusius, *Morebilus*, 136, 238
planus, *Pyrnus*, 169
platnicki, *Olin*, 72
praedonius, *Cithaeron*, 21
praesignis, *Hemicloea*, 144
rastellata, *Longrita*, 161
raveni, *Neato*, 43, 236
renmark, *Oreo*, 50, 237
rodmani, *Peeto*, 57
rossi, *Austrammo*, 17, 236
sandy, *Tinytrema*, 69, 237
sculptilis, *Trachycosmus*, 109
solomoni, *Desognaphosa*, 89
somersetensis, *Hemicloeina*, 201
spec, *Hemicloeina*, 204
spiralis, *Boolathana*, 196
spurgeon, *Desognaphosa*, 99
swarbrecki, *Morebilus*, 139
tambo, *Morebilus*, 148
tribulation, *Desognaphosa*, 87
tribulation, *Rebilus*, 218
turramurra, *Trachycosmus*, 116
tyson, *Desognaphosa*, 90
waldockae, *Barrowamma*, 19
walli, *Neato*, 41
walteri, *Platyoides*, 64
whaleback, *Longrita*, 160, 240
windsor, *Desognaphosa*, 100
wisharti, *Rebilus*, 230, 240
wombat, *Tinytrema*, 68
woodleigh, *Fissarena*, 190
wyndham, *Hemicloeina*, 208
yabbra, *Desognaphosa*, 78, 237
yarra, *Tinytrema*, 71
yarragin, *Meedo*, 27
yeni, *Meedo*, 33
yuinmery, *Longrita*, 163
zuytdorp, *Longrita*, 156