

THE SIMPSON DESERT EXPEDITION, 1939 - SCIENTIFIC REPORTS NO. 1, BIOLOGY - SCORPIONS AND SPIDERS

By V. V. HICKMAN, Ralston Professor of Biology, University of Tasmania

Summary

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[Read 13 April 1944]

PLATES I TO III

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Our knowledge of the spiders of Central Australia is based mainly on four collections. The first of these was made by the Horn Expedition in 1894 and was described by H. R. Hogg (1896, 309). The specimens forming the second collection were found by Herr von Leonhardi in 1910 and forwarded to the Senckenberg Museum. They were described by E. Strand (1913, 599). The third collection was made by Capt. S. A. White during an "expedition into the Interior of Australia" in 1913, and a list of the species found has been published by R. H. Pulleine (1914, 447). The fourth collection was made in 1914, also by Capt. S. A. White, from the north-western regions of South Australia. This collection was described by W. J. Rainbow (1915, 772).

In the list of 18 spiders published by R. H. Pulleine (1914, 447) the name *Hemicloea longipes* Koch is attributed to the wrong author and should be *Hemicloea longipes* R. H. Hogg. *Storena graeffei* Keys. should be *Storena graeffei* L. Koch. *Carepalxis monticulo* is probably meant for *Carepalxis montifera* L. Koch. *Miturga lineata* Koch should be *Miturga lineata* Thorell and *Lycosa arenosa* Koch may be intended for *Lycosa arenaris* Hogg.

The present collection contains 1 scorpion and 105 spiders. The spiders are distributed over 14 families and comprise 28 species, 14 of which are new. All the specimens were collected by Mr. H. O. Fletcher and members of the Simpson Desert Expedition.

The following are the species recorded in the present publication. The number of specimens of each species is shown in brackets.

SCORPIONES	ARANEAE
<i>Urodacus yaschenkoï</i> (A. Birula) (1)	<i>Lycosa</i> sp. (immature) - (5)
	<i>Oxyopes elegans</i> L. Koch - (1)
ARANEAE	<i>Storena toddi</i> n. sp. - (1)
<i>Aganippe simpsoni</i> n. sp. - (1)	<i>Latrodectus hasseltii</i> Thorell - (1)
<i>Aname</i> sp. (immature) - (1)	<i>Argiope protensa</i> L. Koch - (8)
<i>Dinopis unicolor</i> L. Koch - (1)	<i>Araneus transmarinus</i> (Key-serling) - (6)
<i>Ixeuticus senilis</i> (L. Koch) - (31)	<i>Nephila imperatrix</i> L. Koch - (11)
<i>Pardosa eyrei</i> n. sp. - (2)	<i>Odo australiensis</i> n. sp. - (2)
<i>Pardosa pexa</i> n. sp. - (1)	<i>Isopeda pessleri</i> (Thorell) - (8)
<i>Lycosa abmingani</i> n. sp. - (3)	<i>Pediana horni</i> (Hogg) - (1)
<i>Lycosa burti</i> n. sp. - (1)	<i>Pediana regina</i> (L. Koch) - (1)
<i>Lycosa finkei</i> n. sp. - (1)	<i>Olios inframaculatus</i> (Hogg) - (1)
<i>Lycosa fletcheri</i> n. sp. - (1)	<i>Tharpyna simpsoni</i> n. sp. - (1)
<i>Lycosa goyderi</i> n. sp. - (1)	<i>Miturga lineata</i> Thorell - (6)
<i>Lycosa halei</i> n. sp. - (1)	<i>Saitis lacustris</i> n. sp. - (1)
<i>Lycosa madigani</i> n. sp. - (5)	<i>Ocrisiona</i> sp. (immature) - (1)
<i>Lycosa halei</i> n. sp. - (1)	

The collection is too small for one to draw any definite conclusions in regard to the relative abundance of the different species. *Nephila imperatrix* L. Koch, *Argiope protensa* L. Koch, *Araneus transmarinus* (Keys.), *Isopeda pessleri* (Thorell) and *Miturga lineata* Thorell were collected at many different localities and appear to be well distributed throughout Central Australia. Two species, ***Odo australiensis*** n. sp. and ***Lycosa madigani*** n. sp. were found at the centre of the Simpson Desert, while ***Pardosa eyrei*** n. sp. and ***Saitis lacustris*** n. sp. were taken on the salt-crust surface of Lake Eyre two and a half miles from shore.

The widely distributed poisonous spider, *Latrodectus hasseltii* Thorell, has been recorded from Central Australia on three previous occasions.

Order SCORPIONES

Family SCORPIONIDAE

Sub-Family URODACINAE

Genus URODACUS Peters, 1861

URODACUS YASCHENKOI (A. Birula)

(Pl. I, fig. 1-6)

Hemihoplopus yaschenkoii A. Birula 1903, Ann. Mus. Zool. Acad. Sci., St. Petersburg, **8**, xxxiii-xxxiv.

Urodacus yaschenkoii K. Kraepelin 1908, Fauna Südwest-Australiens, Jena, **2**, 89-95.

Urodacus yaschenkoii K. Kraepelin 1916, Arkiv för Zoologi, Stockholm, **10**, 1-43.

Urodacus yaschenkoii L. Glauert 1925, Trans. Roy. Soc. S. Aust., Adelaide, **49**, 85-87

Birula's type specimen of this scorpion is from Killalpaninna on Cooper Creek, which flows into Lake Eyre. Two other specimens from Cooper Creek and Miller's Creek are recorded and briefly described by Glauert (1925, 87). Birula does not mention the sex of the type specimen but Kraepelin considers that it is probably a female. The two specimens recorded by Glauert are stated to be females.

The single specimen in the present collection comes from 17 miles north of Andado Station in the Northern Territory. From its smaller size, longer tail and bisected genital operculum it appears to be a male. Its description is as follows:

Total length, 63.0 mm.; length of carapace, 8.9 mm.; length of tail, 35.0 mm.

Colour is a fairly uniform clay-yellow. The fingers, however, together with the fifth caudal segment and vesicle are dark brown. A longitudinal stripe on each side of the vesicle and a pair of similar stripes on its ventral surface are yellowish.

Anterior margin of carapace with a median notch furnished with a pair of setae. Distance from the notch to the median eyes is 3.60 mm. Diameter of a median eye, 0.58 mm. The interocular groove is continued behind to the posterior triangular depression, and in front to the marginal notch. Antecocular area furnished with a few coarse granulations, the rest of the carapace being smooth except for a few minute scattered granules. The two lateral eyes of each side are mounted on a common tubercle. The diameter of the anterior eye is 0.46 mm., that of the posterior eye 0.29 mm. The two eyes are separated by a space equal to the diameter of the posterior eye. There is a conspicuous seta below and slightly behind the lateral eyes and another seta in front of them and somewhat towards the middle.

The first six tergites of the preabdomen are smooth except for minute granulation on their posterior half. The seventh tergite has, on each side, a pair of short longitudinal granular keels.

The sternum has the form shown in pl. I, fig. 1, and possesses a median longitudinal depression. On each side of the depression are six small hairs, and in front of it about eight. The genital operculum is oval and bisected longitudinally but, owing to the hardness of the specimen, I am not certain whether the two halves are entirely free from each other. Behind the operculum is a pair of small median apophyses (pl. I, fig. 1).

The marginal area of the pectines is composed of three sclerites. The middle area is indistinctly divided into three or four sclerites, the left side differing from the right (pl. I, fig. 1). The number of teeth is 15 on both sides. The sternites are smooth and shining.

The segments of the postabdomen or tail have the following measurements in millimetres:

Segment:	I	II	III	IV	V
Length	3.77	4.06	4.52	4.99	7.25
Width	3.77	3.65	3.48	3.19	3.25

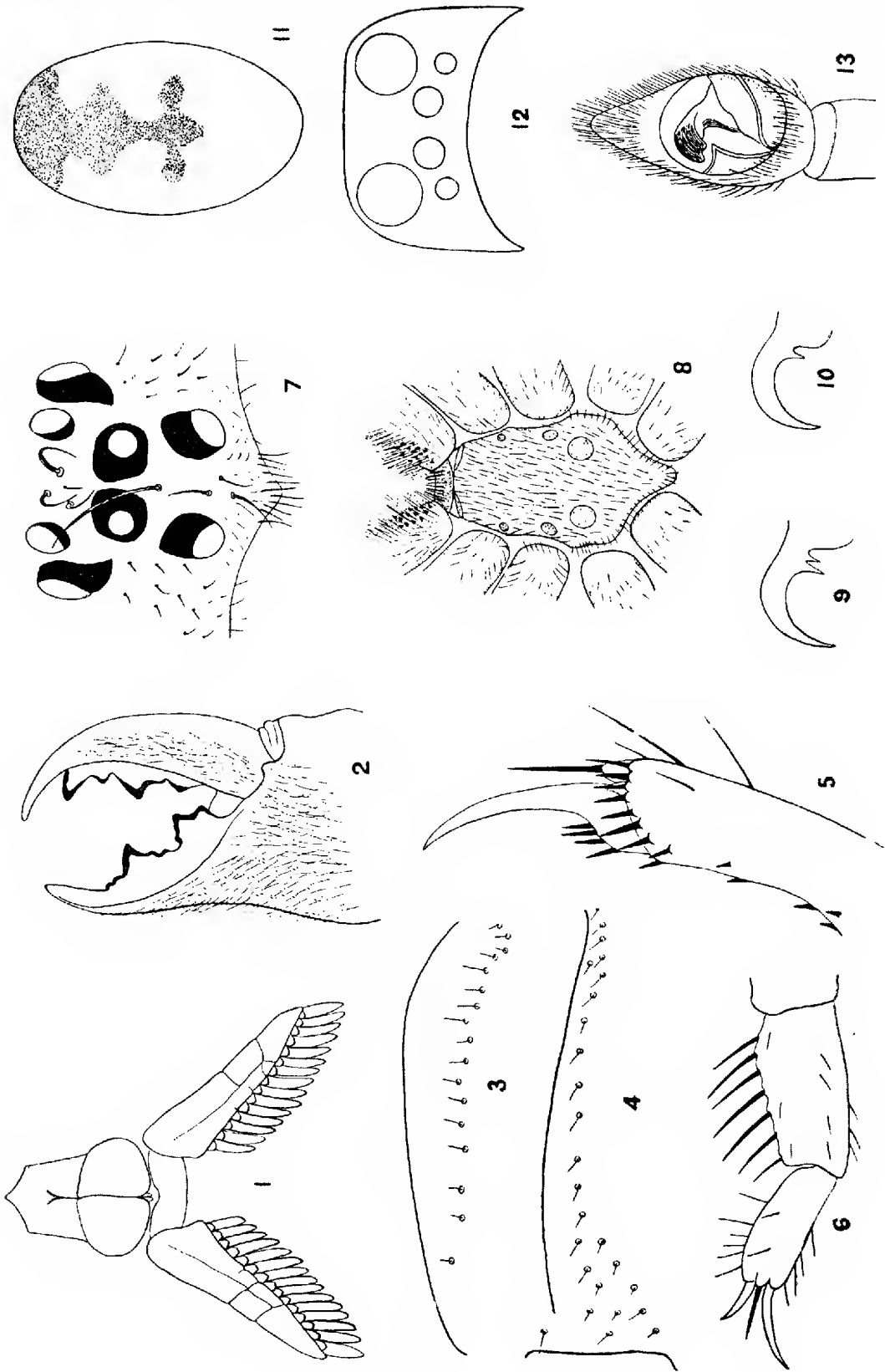
The superior keels of the first four caudal segments are subdenticulate and end behind in a moderately large tooth. The supero-lateral keels are granular and the three ventral keels smooth. The fifth caudal segment is without a dorsal sulcus, except towards the base. Its keels are denticulate and the supero-lateral keels about two-thirds the length of the segment. The ventral surface of the segment is coarsely granular between the keels, the sides and dorsal surface smooth. Apical margin is toothed laterally and ventrally. The vesicle is large and oval, 3.25 mm. wide. The aculeus sharp and well curved. Ventral surface and sides of vesicle granulate. Dorsal surface smooth.

Chelicerae about 5.6 mm. long. Fingers with teeth on upper margin only, the lower margin being smooth. The fixed finger has a large conical tooth near the middle and a large bicuspid tooth nearer the base. The movable finger has two large teeth separated by a small tooth, and there is another small tooth near the base (pl. I, fig. 2). The dorsal surface of the movable finger is furnished with about six setae and there is a transverse row of about four setae near the base of the fixed finger. The ventral surface of the chelicerae densely clothed with fine hairs.

Pedipalpi moderately strong. Humerus measures 6.5 mm. long. Its keels are coarsely granular and there are a few smaller granules on upper and lower surfaces. The brachium is 8.0 mm. long and is smooth except for the upper and lower keels bordering its anterior surface. The ventral surface lacks a keel but is furnished with a longitudinal row of 17 trichobothria (pl. I, fig. 3). The hand is 16.1 mm. long and 5.9 mm. wide. The movable finger is 9.2 mm. long. The dorsal surface of the hand is very slightly granular and furnished with two very weak and smooth finger keels. The keel of the under-hand is also smooth and on its inner side, in the case of the left padipalp, there are 25 trichobothria arranged as shown in pl. I, fig. 4. In a similar position on the right pedipalp there are about 29 trichobothria.

The legs are smooth. Tarsal claws very unequal. In the first and second tarsi the outer claw is about twice the length of the inner claw. In the third and fourth tarsi the inner claw is minute and appears like a small papilla in the fourth tarsi (pl. I, fig. 5). First and second metatarsi with a dorsal row of seven strong spines (pl. I, fig. 6). On the outer side of the tarsal claws there are three or four black spines, and on the inner side about seven.

Locality—Seventeen miles north of Andado Station, Northern Territory. Coll. 519 (1 ♂ ? with second and fourth legs of right side slightly damaged).



Order **ARANEAE**Sub-Order **MYGALOMORPHAE**Family **CTENIZIDAE**Sub-Family **CTENIZINAE**Genus **AGANIPPE** Cambridge 1877**Aganippe simpsoni** n. sp.

(Pl. I, fig. 7-10)

♀—Total length, 23.0 mm. Length of carapace, 9.0 mm. Width of carapace, 7.0 mm. Length of abdomen, 11.0 mm. Width of abdomen, 7.0 mm.

The colour of specimen (in alcohol) is light brown, and there is no distinct pattern on the abdomen.

Carapace convex. Thoracic region lightly clothed with dark brown woolly hair and the head region with fine setae. Thoracic groove distinctly procurved. A median row of coarse black bristles extends from the eyes half-way to the thoracic groove. There is a group of five black bristles, which curve towards the front, immediately behind the AME. In a median position in front of the AME is a single large bristle. Between the ALE there is a group of four setae which curve backwards.

The eight eyes are arranged in three rows, as shown in pl. I, fig. 7. Ratio of eyes, AME : ALE : PME : PLE = 8 : 10 : 9 : 12. The quadrangle formed by the four anterior eyes is wider in front than behind in ratio 31 : 24, and wider in front than long in ratio 31 : 26. The posterior row of eyes is wider than the front row in ratio 51 : 31. The ALE are separated from each other by 15/10 of their diameter, and from AME by 12/10 of their diameter. The AME are separated from each other by 11/8 of their diameter and from PLE by 13/8 of their diameter. The hind margins of the eyes of the posterior row are in an almost straight line. The PME are separated from each other by 19/9 of their diameter and from PLE by 6/9 of their diameter. The ALE are separated from the margin of the clypeus by about 6/10 of their diameter.

Chelicerae clothed in front with coarse black bristles and provided with a rastellum. Promargin of furrow with six teeth and retromargin also with six teeth. A median row of five very small teeth in the furrow. Fang strong and provided with coarse serrations. Labium wider than long in ratio 22 : 9, devoid of spinules, submerged and almost hidden by the maxillae. The maxillae with a reddish scopula and numerous spinules in a group at the base near the inner angle. The sternum is convex, longer than wide in ratio 8 : 5. Three pairs of sigilla are arranged as shown in pl. I, fig. 8. In front of the sternum and behind the labium is a pair of sclerites resembling sigilla.

Legs: 4.1.2.3. Clothed with black bristles. The first and second tarsi scopulate. Third and fourth tarsi without scopula. Trichobothria in two rows on each tibia, in an irregular group near the distal end of each metatarsus and on the distal half of each tarsus. On the dorsal side of the first and second tarsi and metatarsi, but not on the third and fourth, are brushes of stiff, erect, black setae. These setae have small barbs near the tip. Three tarsal claws are present. The upper claws of the first and second tarsi with two teeth near base (pl. I, fig. 9), those of third and fourth tarsi with one tooth near base (pl. I, fig. 10). The third claw small and without teeth. The palpus is scopulate on the end segment and its

claw has two teeth near the base. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	5.91	3.42	2.90	2.90	1.80	16.93
II	5.16	3.20	2.61	2.72	1.86	15.55
III	4.35	3.19	2.61	2.96	2.15	15.26
IV	5.91	4.35	4.41	4.60	2.61	21.88
Palpi	4.70	2.67	2.90	—	3.48	13.75

The spines on the legs and palpi are arranged as follows: *First leg*—Femur 0. Patella 0. Tibia with numerous coarse black bristles on prolateral and retrolateral sides. Metatarsus: ventral 1-2-1-4, elsewhere 0. Tarsus with an irregular group of about 14 small spines on ventral side near claws. *Second leg*—Femur 0. Patella 0. Tibia with prolateral and retrolateral bristles. Metatarsus: ventral 2-2-1-4, elsewhere 0. Tarsus with a ventral group of about 23 small spines near claws. *Third leg*—Femur 0. Patella with eleven spines in an irregular group on prolateral side, elsewhere 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 1-1, ventral 3 at apex. Metatarsus: dorsal 0, prolateral 1-1-1-1-1, retrolateral 1-1-1-1-1, ventral 2 with 4 at apex. Tarsus with a ventral group of about 16 small spines near claws, elsewhere 0. *Fourth leg*—Femur 0. Patella 0. Tibia with 1 spine on ventral side at apex, elsewhere 0. Metatarsus: ventral 1-2-2-1-4, elsewhere 0. Tarsus with a ventral group of about 17 small spines on distal half of segment. *Palpus*—Femur 0. Patella 0. Tibia: dorsal 0, prolateral 3 near apex, retrolateral numerous black bristles, elsewhere 0. Tarsus: dorsal 0, prolateral 1-1 on basal half, retrolateral 1-1-1 on basal half, ventral a group of 2-2-2 close to claw.

Abdomen oval, clothed with fine hairs and long slender bristles. Spinnerets four. Inner pair small, being only 0.81 mm. long. Outer pair 2.61 mm. long, stout and three-segmented. The basal segment is nearly four times the length of the second segment. The third segment is dome-shaped and sunken in the end of the second segment.

Locality—Eleven miles east of Hale River, Simpson Desert. Coll. 549 (1 ♀).

In some respects this species resembles *Aganippe pelochroa* Rainbow and Pulleine (100, 1918). The latter, however, is said to have the front eyes "just touching edge of clypeus." There is also a difference in the dentition of the chelicerae.

Family DIPLURIDAE

Sub-Family DIPLURINAE

Genus ANAME L. Koch 1873

ANAME sp.

The specimen is too immature for the species to be determined.

Locality—Camp, 23. Thirty miles north-west of Birdsville, Queensland. (1 pullus.)

Sub-Order DIPNEUMONOMORPHAE

Family DINOPIDAE

Genus DINOPIS MacLeay 1839

DINOPIS UNICOLOR L. Koch 1879

Locality—Hale River, 20 miles up stream from junction with Todd River, Coll. 548 (1 adult ♀).

This species has also been recorded from Western Australia.

Family AMAUROBIIDAE

Sub-Family IXEUTICINAE

Genus IXEUTICUS Dalmas 1917

IXEUTICUS SENILIS (L. Koch)

Locality—Indinda Well, near Andado Station, Northern Territory (2 adult ♂♂, 8 adult ♀♀, and 21 pullus).

This spider was originally described by L. Koch under the name *Amaurobius senilis*. Comte de Dalmas (p. 329, 1917) has shown, however, that most of the Australian species placed in the genus *Amaurobius* possess a calamistrum composed of a single line of curved hairs, whereas the European species have a calamistrum composed of two parallel lines of curved hairs. He has therefore established the genus *Ixeuticus* for the Australian forms. *Ixeuticus senilis* has been recorded from Queensland, Victoria and Tasmania.

Family LYCOSIDAE

Sub-Family PARDOSINAE

Genus PARDOSA C. Koch 1848

***Pardosa eyrei* n. sp.**

(Pl. I, fig. 11-13)

♂—Total length, 17.0 mm. Length of carapace, 8.0 mm. Width of carapace, 6.0 mm. Length of abdomen, 9.0 mm. Width of abdomen, 6.0 mm.

Caput of specimen in alcohol black with white hairs and brown setae. Thoracic region dark brown, densely clothed with recumbent brown hairs in the middle region and white hairs round the margin. Chelicerae, maxillae, labium, sternum and coxae dark brown. Basal two-thirds of ventral surface of femora dark brown. First and second metatarsi and distal half of first and second tibiae also dark brown. Other parts of legs yellowish-brown. Palpi yellowish-brown except tarsal segment, which is dark brown. Dorsal surface of abdomen yellow with a median dark brown patch, having the form shown in pl. I, fig. 11. Ventral surface of abdomen very dark brown, almost black, nearly to spinnerets. Spinnerets yellow.

Head with straight sides. Thoracic groove longitudinal. Front row of eyes shorter than second row (pl. I, fig. 12). Ratio of eyes AME : ALE : PME : PLE = 8 : 6 : 17 : 15. AME separated from each other by 5/8 of their diameter, from ALE by 4/8 of their diameter, and from PME by 3/8 of their diameter. PME separated from each other by 16/17 of their diameter, and from PLE by 18/17 of their diameter. PLE separated from each other by 52/15 of their diameter. The quadrangle of the posterior eyes wider than long in ratio 70 : 46. Face densely clothed with white hairs. Six long slender bristles on clypeus below AME. Clypeus in front of AME equal to 6/8 of their diameter. Near the dorsal margin of each PLE there is a group of long slender bristles projecting outwards over the eye. The space between the PME is furnished with a number of bristles which project forward. There are no bristles near the thoracic groove.

Chelicerae clothed in front with white hairs and black bristles. Condyles well developed. Promargin of furrow with three teeth, of which the median is the largest and the distal the smallest. Retromargin with three equal teeth. A brown scopula on promargin. Labium wider than long in ratio 22 : 19. Maxillae wider in front than at the base. Front margin rounded. Scopula brown. Serrula well developed. Ventral surface of maxillae clothed with long slender erect black

setae. Sternum oval, pointed behind, longer than wide in ratio 60 : 50, clothed with fine erect black setae.

Legs: 4.2.1.3. Clothed with white hairs and long erect brown bristles. First and second tarsi and metatarsi scopulate to base. Third and fourth tarsi also scopulate to base but their scopulae divided by a longitudinal band of setae. All scopulae very light. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. Three tarsal claws. Upper claws with ten teeth, lower claw without teeth. The form of the palpus is shown in pl. I, fig. 13. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	8.2	2.9	6.0	7.0	2.9	27.0
II	8.0	3.0	6.0	8.0	3.0	28.0
III	7.3	2.9	5.1	8.1	2.9	26.3
IV	9.0	3.0	6.0	10.0	3.8	31.8
Palpi	3.8	1.7	2.3	—	2.6	10.4

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1-1-1-1, ventral 0. Patella, tibia, and metatarsus armed as in first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1-1-1-1, ventral 0. Patella, tibia and metatarsus armed as in first leg. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1-1-1, retrolateral 1-1-1-1, ventral 0. Patella and tibia armed as in first leg. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 1-2-2-3. *Palpus*—Femur: dorsal 1-1-1-1, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 bristle, elsewhere 0.

Abdomen clothed on dorsal surface and sides with short white hairs. A few setae at front of brown patch on dorsal surface but elsewhere none. The dark brown colouration of the ventral surface includes the lung-covers and extends from the petiolus almost to the spinnerets, there being a thin yellowish line immediately in front of the spinnerets. Hairs on ventral surface short and black. Spinnerets yellow, the anterior pair with black hairs towards the apex.

Locality—Surface of North Lake Eyre two and a half miles from the shore. Coll. 669 (1 adult ♂ and 1 pullus).

***Pardosa pexa* n. sp.**

(Pl. II, fig. 14)

♂—Total length, 10.7 mm. Length of carapace, 5.39 mm. Width of carapace, 4.23 mm. Length of abdomen, 5.51 mm. Width of abdomen, 3.82 mm.

Carapace very dark brown (in alcohol) and densely clothed with grey hairs. Chelicerae also very dark brown and clothed in front with white hairs. Labium brown with white hairs on its basal half. Sternum brown, densely clothed with grey hairs. Maxillae, legs and palpi yellowish, the legs being marked with indistinct transverse bands of brown on dorsal side. Abdomen yellow above with a median longitudinal patch of brown on front half and several transverse brown markings on posterior half. Sides of abdomen pale yellow with brown spots. Ventral surface pale yellow and without pattern. Lung-covers brown. Spinnerets yellow.

Carapace is pyriform in outline. Sides of head slightly inclined, the dorsal surface being rather flat. Thoracic groove longitudinal. Front row of eyes pro-

curved and shorter than the second row in ratio 31 : 44. Ratio of eyes AME : ALE : PME : PLE = 8 : 6 : 19 : 14. AME separated from each other by about $\frac{2}{8}$ of their diameter, from ALE by $\frac{1}{8}$ of their diameter and from PME by $\frac{2}{8}$ of their diameter. PME poised obliquely and separated from each other by $\frac{11}{19}$ of their diameter and from PLE by $\frac{17}{19}$ of their diameter. PLE separated from each other by $\frac{36}{14}$ of their diameter. The quadrangle of the posterior eyes is wider behind than in front in ratio 52 : 44 and its length is shorter than its width in front in ratio 39 : 44. The clypeus in front of AME is equal to $\frac{5}{8}$ of their diameter. Front and sides of head clothed with grey silky hairs. Dorsal surface of head clothed with grey hairs and brown setae which point forward.

Condyles of chelicerae brown and well developed. The promargin of furrow armed with three teeth, of which the median is the largest. Retromargin with three subequal teeth. Fang dark brown and moderately long. Scopula brown and on promargin only. Labium truncate in front, excavated on each side near the base and slightly longer than wide in ratio 13 : 12. Front edge fringed with a row of black setae. Maxillae parallel and clothed with grey hairs on outer side. Scopula brown. Sternum oval, longer than wide in ratio 42 : 32.

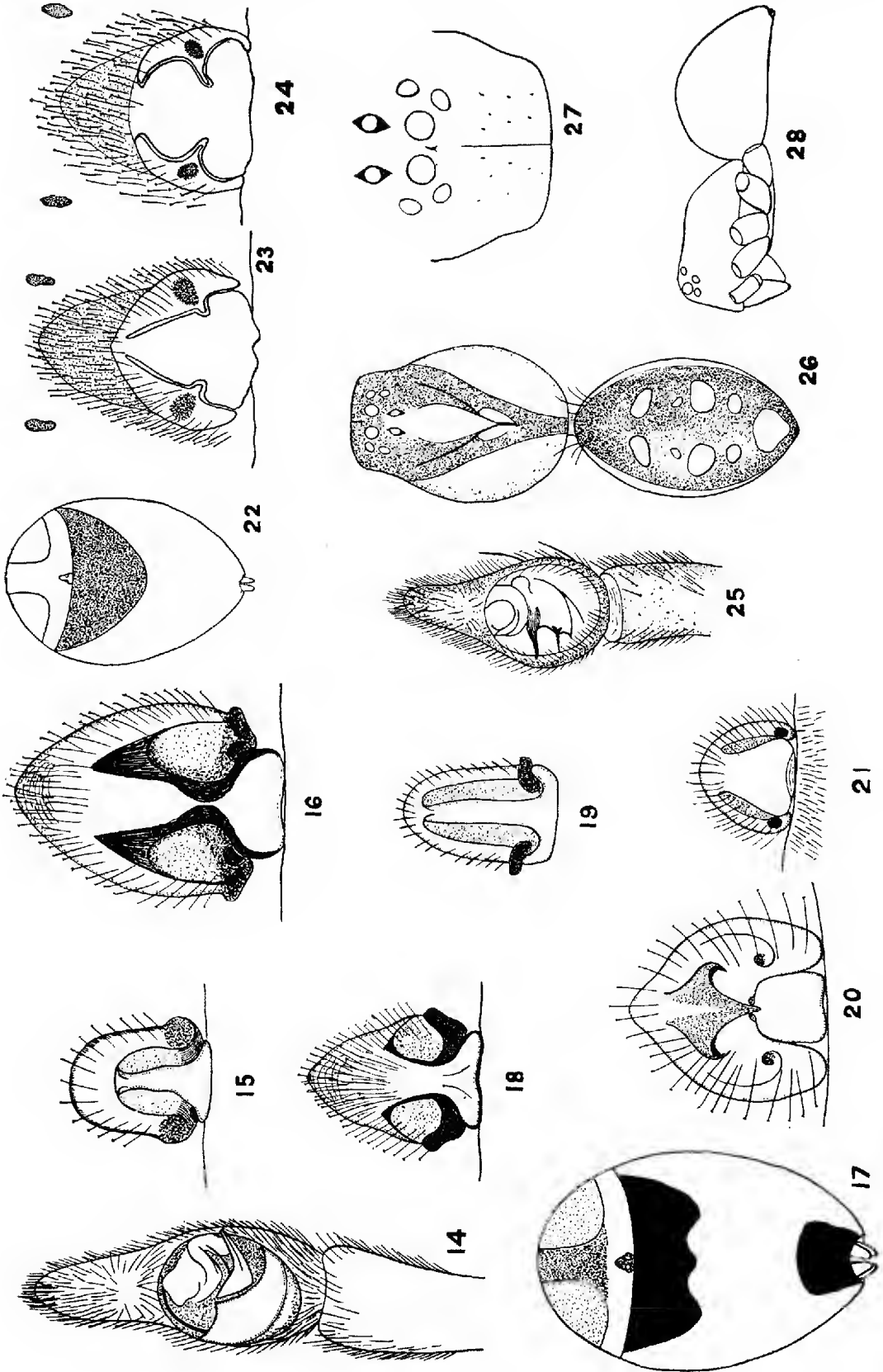
Legs: 4.1.2.3. Clothed with grey hairs and setae. First and second tarsi and metatarsi scopulate to base, the scopula being composed of rather long hairs. Third and fourth metatarsi without scopula. Third tarsus missing on both sides. Fourth tarsi with a light scopula bisected by a longitudinal band of setae. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. Upper claws of first leg with about four teeth, those of fourth leg with seven teeth. Third claw small and bare. The dorsal surface of the tarsal segment of the palpi is densely clothed with white hairs. The form of the palpus is shown in pl. II, fig. 14. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	4.64	2.32	4.46	5.04	2.61	19.07
II	4.52	2.20	3.94	4.46	2.49	17.61
III	4.06	2.03	3.13	4.46	lost	?
IV	5.16	2.15	4.58	7.02	3.07	21.98
Palpi	2.03	0.98	1.16	—	1.91	6.08

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 1-2, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella, tibia and metatarsus are armed as in the first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella, tibia and metatarsus are armed as in first leg. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella and tibia armed as in first leg. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 1-2-2-3. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 bristles, prolateral 1 bristle, retrolateral 0, ventral 0. Tibia: dorsal 1 bristle, prolateral 1-1 bristles, elsewhere 0. Tarsus: 4 spines on ventral side near apex.

Abdomen densely clothed with grey hairs. Anterior spinnerets cylindrical, the second segment being sunk in the apex of the first. The posterior spinnerets distinctly two-segmented and projecting beyond the anterior pair.

Locality—Burt's Waterhole, South Australia, 55 miles south of Birdsville. Coll. 645 (1 adult ♂ lacking portions of the third pair of legs).



Sub-Family LYCOSINAE

Genus LYCOSA Latreille 1804

The collection contains eighteen specimens belonging to the genus *Lycosa*. Five of these are too young to be identified with certainty. The others represent seven new species. It is unfortunate that in most cases only one sex is available for description. The seven new species may be distinguished by the following key:

- | | | |
|---|--|----------------------------|
| 1 | Retromargin of chelicerae with two teeth. | 2 |
| | Retromargin of chelicerae with three teeth. | 3 |
| 2 | First femur with three retrolateral spines. | <i>L. madigani</i> n. sp. |
| | First femur with no retrolateral spines. | <i>L. goyderi</i> n. sp. |
| 3 | First and second patellae with no lateral spines. | 4 |
| | First and second patellae with a prolateral spine. | 6 |
| 4 | Third tibiae with two dorsal spines. | 5 |
| | Third tibiae with no dorsal spines. | <i>L. abmingani</i> n. sp. |
| 5 | Ventral surface of abdomen with a transverse black band. | <i>L. finkei</i> n. sp. |
| | Ventral surface of abdomen yellow-brown, without markings. | <i>L. burti</i> n. sp. |
| 6 | Second and third metatarsi equally long. | <i>L. fletcheri</i> n. sp. |
| | Second metatarsus shorter than third. | <i>L. halei</i> n. sp. |

***Lycosa abmingani* n. sp.**

(Pl. II, fig. 15)

♀—Total length, 13.0 mm. Length of carapace, 6.5 mm. Width of carapace, 4.6 mm. Length of abdomen, 7.2 mm. Width of abdomen, 4.1 mm.

Carapace yellow (in alcohol) with a longitudinal brown band extending from the sides of the head to posterior margin. Radial grooves dark brown. Legs and sternum brownish-yellow. Tarsal scopulae dark brown. Labium and maxillae brown. Chelicerae and fang dark reddish-brown. Dorsal surface of abdomen yellowish-brown clothed with dark brown hairs and black bristles. A median longitudinal dark brown patch on anterior half, followed by two pairs of black spots. Ventral surface yellowish, clothed with white hairs and fine black setae.

Head with slanting sides. Thoracic groove longitudinal. On the lower edge of the brown band at each side of the head is a row of about six black bristles. There is also a row of five bristles extending from the lower edge of PLE to lower edge of PME. Numerous erect bristles occupy the interocular space and also the area extending from the eyes to the thoracic groove. There are a few bristles at the sides of the groove. On each side near the posterior end of the groove is a radial row of four bristles, extending about half-way to the margin of the carapace.

First row of eyes shorter than the second in ratio 21 : 25, slightly curved downwards. The ratio of eyes AME : ALE : PME : PLE = 5 : 4 : 10 : 8. AME separated from each other by 2/5 of their diameter, from PME by the same distance, and from ALE by half that distance. PME separated from each other by 7/10 of their diameter. PLE separated from each other by 20/8 of their diameter and from PME by 10/8 of their diameter. The quadrangle of the posterior eyes wider behind than long in ratio 31 : 25. Clypeus 6/5 of diameter of AME. A single long bristle between AME and a transverse row of four black bristles on the clypeus below AME. On each side there is also a small group of bristles on the margin near the condyles of the chelicerae.

Chelicerae reddish-brown clothed in front with long black bristles and white hair. Lateral condyles yellow. Promargin of furrow with three teeth, of which the median is the largest and close to the distal one which is the smallest. Retromargin with three equal teeth. Scopula on promargin only. Lip as wide as long. Maxillae with brown scopula and clothed with black bristles. Sternum oval, truncate in front and longer than wide in ratio 50 : 34. It is lightly clothed with erect black bristles.

Legs: 4.1.2.3. Clothed with black bristles. Scopula dense and entire on first and second tarsi and metatarsi, bisected by a longitudinal band of setae on third and fourth tarsi. The scopula on the third and fourth metatarsi is very light. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. There are also a few lateral trichobothria on the tibiae. Tarsal claws three. Upper claws on first tarsi with four teeth, on fourth tarsi with eight teeth. Third claw bare. Palpi yellow, clothed with black bristles. Palpal claw with four teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	4.2	2.5	3.1	3.0	2.2	15.0
II	3.8	2.3	2.8	2.9	2.1	13.9
III	3.5	1.8	2.9	3.5	2.1	13.8
IV	4.9	2.4	3.9	5.6	2.7	19.5
Palpi	2.0	1.0	1.3	—	1.7	6.0

The spines on the first two pairs of legs are small, those on the ventral surface of the first and second metatarsi being almost hidden by the scopula. On the ventral surface of the first and second tibiae the basal and middle spines are represented by small bristles. The arrangement of the spines on the legs and palpi is as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, elsewhere 0. Tibia: dorsal 0, prolateral 1 small spine near middle, retrolateral 0, ventral 2-2-2, the basal and middle pairs being bristles. Metatarsus: ventral 2-2-3 small spines, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1, ventral 0. Patella, tibia and metatarsus armed as in first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1, ventral 0. Patella and tibia armed as in third leg. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 1-2-2-3. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 0, prolateral 2 bristles, elsewhere 0. Tarsus: dorsal 0, prolateral 2-1 bristles, retrolateral 1 bristle, ventral 0.

Abdomen oval. Spinnerets yellow. Form of epigynum is shown in pl. II, fig. 15.

Locality—Finke River, 25 miles from Abminga, South Australia; Coll. 520 (1 adult ♀). Goyder's Lagoon Bore, South Australia; Coll. 647 (1 adult ♀ and 1 immature ♀).

***Lycosa burti* n. sp.**

(Pl. II, fig. 16)

♀—Total length, 18.0 mm. Length of carapace, 8.0 mm. Width of carapace, 6.0 mm. Length of abdomen, 11.0 mm. Width of abdomen, 7.0 mm.

Carapace brown (in alcohol) and densely clothed with grey hairs. A grey longitudinal band extends from eyes to posterior margin. Lateral margin grey. Dorsal surface of legs greyish-brown. Ventral surface of legs from apical third of tibia to end of tarsus much darker. Chelicerae black. Maxillae brown. Labium, sternum and coxae very dark brown. Dorsal surface of abdomen fawn with a median brown patch on front half. An indistinct pattern of transverse bars on posterior half. Sides of abdomen fawn. A dark brown, almost black, shield covers the ventral surface and extends from the epigastric furrow to the spinnerets. The middle area of the shield is somewhat lighter in colour and

marked by a pair of indistinct longitudinal fawn stripes. The front margin of the epigastric furrow and the region immediately surrounding the epigynum are light brown. Further towards the front the ventral surface, including the lung-covers, is dark brown.

Sides of head slanting. Thoracic groove longitudinal. A median row of weak bristles extends from front of head almost to the thoracic groove. There is a pair of setae behind each PLE. A fringe of grey hairs above each of the four posterior eyes. A circlet of setae round each PME and a row of setae between the lower edge of PME and PLE. First row of eyes shorter than second row in ratio 25 : 36. The ratio of eyes AME : ALE : PME : PLE = 5 : 4 : 15 : 12. The AME separated from each other by $3/5$ of their diameter and by the same distance from ALE and PME. PME separated from each other by $9/15$ of their diameter, and from PLE by $14/15$ of their diameter. PLE separated from each other by $28/12$ of their diameter. The quadrangle formed by the posterior eyes wider behind than in front in ratio 45 : 36, its length being equal to its width in front. Clypeus equal to the diameter of AME. A transverse row of four strong setae on front edge of clypeus.

Chelicerae black, clothed in front with dense grey hair and long black bristles. Lateral condyles large and yellowish-brown. Promargin with three teeth. Retromargin with three teeth. Scopula dark brown and on promargin only. Labium slightly longer than wide in ratio 20 : 19, and with lateral excavations at base. Front of labium slightly emarginate. Maxillae wider in front than at base and nearly twice the length of the labium. Scopula brown. Sternum oval and longer than wide in ratio 57 : 44. It is clothed with brown hair and long black setae. Fourth coxae contiguous.

Legs: 4.1.2.3. Clothed with grey hairs and black setae. All tarsi and metatarsi scopulate to base. In the third and fourth legs the scopula is bisected by a band of setae. In the first two pairs of legs the tibiae have a light scopula on the apical two-thirds of the ventral surface. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. There are also a few lateral trichobothria on the sides of the tibiae near the base. Upper tarsal claws of front legs with six teeth, of hind legs with seven teeth. Lower claw small and bare. Palpal claw with about four teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	5.68	2.96	4.35	4.47	2.78	20.24
II	5.10	2.73	3.94	4.12	2.90	18.79
III	4.99	2.32	3.60	4.81	2.55	18.27
IV	6.84	2.90	5.45	8.12	3.36	26.67
Palpi	2.61	1.57	1.51	—	2.32	8.01

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, elsewhere 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 1 very short spine near end on left leg, 0 on right, ventral 2-2-2. Metatarsus: ventral 2-2-3, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, elsewhere 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus: ventral 2-2-3. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end,

ventral 0. Patella, tibia and metatarsus armed as in third leg. *Palpus*—Femur: dorsal 1–1–2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1–1 fine bristles, prolateral 1 bristle, elsewhere 0. Tibia: prolateral 2 bristles, elsewhere 0. Tarsus: prolateral 1–1, elsewhere 0.

Abdomen oval, clothed with black setae and grey hairs. The form of the epigynum is shown in pl. II, fig. 16.

Locality—Burt's Waterhole, South Australia, 55 miles south of Birdsville. Coll. 645 (1 adult ♀).

***Lycosa finkei* n. sp.**

(Pl. II, fig. 17-18)

♀—Total length, 15.0 mm. Length of carapace, 6.2 mm. Width of carapace, 4.6 mm. Length of abdomen, 9.0 mm. Width of abdomen, 6.0 mm.

Carapace brown (in alcohol) with a median longitudinal yellowish band. Interocular space black. Chelicerae black. Labium, maxillae, sternum and coxae dark brown. Dorsal surface of abdomen yellowish-brown with a faint dark brown median patch in front and five indistinct brown chevrons on posterior half. Ventral surface of abdomen fawn. A black spot immediately in front of the spinnerets and a transverse black band with a trilobed posterior edge close behind the epigastric furrow (pl. II, fig. 17). A narrow fawn band in front of the furrow. Lung-covers brown and the area between them dark brown. Spinnerets dark brown.

Head with slanting sides. Thoracic groove longitudinal with a pair of setae close in front of its anterior end. The front row of eyes shorter than the second in ratio 23 : 33, and curved downward. Ratio of eyes AME : ALE : PME : PLE = 5 : 4 : 13 : 10. The AME are separated from each other by $\frac{3}{5}$ of their diameter, from ALE by $\frac{2}{5}$ of their diameter and from PME by the same distance. The PME are separated from each other by $\frac{8}{13}$ of their diameter and from PLE by once their diameter. The PLE are separated from each other by $\frac{21}{10}$ of their diameter. The quadrangle formed by the posterior eyes is wider behind than in front in ratio 36 : 33 and its length is equal to its width in front. The clypeus is slightly less than the diameter of AME and is provided with a transverse row of four setae.

Chelicerae clothed in front with yellowish hairs and long brown setae. Pro-margin of furrow with three teeth, of which the median is the largest. Retro-margin with three subequal teeth. Maxillae wider in front than at the base and provided with a thick brown scopula. Labium slightly longer than wide in ratio 16 : 15, truncate in front and with lateral excavations at the base. Sternum oval, pointed behind, longer than wide in ratio 50 : 38 and clothed with erect brown setae and short grey hairs.

Legs: 4.1.2.3 Tarsi and metatarsi scopulate to base. The first and second tibiae slightly scopulate. The scopula on the third and fourth tarsi bisected by a band of setae. On the third and fourth metatarsi the scopulation is very slight and mainly on the sides of the segment. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. Upper tarsal claws of front legs with six teeth, those of hind legs with eight teeth. Third claw small and bare. The palpal claw has four teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	4.5	2.4	3.4	3.4	2.3	16.0
II	4.3	2.3	3.1	3.2	2.2	15.1
III	4.1	2.0	2.6	3.8	2.3	14.8
IV	5.2	2.2	4.4	6.4	2.9	21.1
Palpi	2.2	1.2	1.2	—	1.7	6.3

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, elsewhere 0. Tibia: dorsal 0, prolateral 1, retrolateral 0, ventral 2-2-2. Metatarsus: ventral 2-2-3, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella, tibia and metatarsus armed as in first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end, ventral 0. Patella, tibia and metatarsus armed as in third leg. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 1 bristle, prolateral 2 bristles, elsewhere 0. Tarsus: prolateral 1-1 bristles, retrolateral 1 bristle, elsewhere 0.

Abdomen oval. The form of the epigynum is shown in pl. II, fig. 18.

Locality—Finke River, 25 miles from Abminga, South Australia. Coll. 520 (1 adult ♀).

***Lycosa fletcheri* n. sp.**

(Pl. II, fig. 19)

♀—Total length, 13.0 mm. Length of carapace, 5.0 mm. Width of carapace, 3.6 mm. Length of abdomen, 8.0 mm. Width of abdomen, 4.9 mm.

Carapace dark brown (in alcohol) with a light brown patch surrounding the thoracic groove and a small light brown marginal spot above each coxa. Ocular space black. Surface of carapace clothed with white hairs. Legs and palpi yellowish-brown. Chelicerae nearly black. Maxillae, labium and sternum dark brown. Dorsal surface of abdomen light brown with dark brown markings. Ventral surface and sides yellowish-brown without markings.

Sides of head slanting. First row of eyes shorter than second in ratio 20 : 27. Ratio of eyes AME : ALE : PME : PLE = 5 : 3 : 10 : 9. AME are separated from each other by $\frac{2}{5}$ of their diameter, and from ALE and PME by the same distance. PME are separated from each other by $\frac{7}{10}$ of their diameter and from PLE by once their diameter. PLE are separated from each other by $\frac{21}{9}$ of their diameter. The quadrangle of the posterior eyes is wider than long in ratio 33 : 26. Each PME is partly surrounded by an irregular circle of bristles. There is a single bristle between AME, and also a row of five bristles just below and between PLE and PME. A median longitudinal row of about five weak bristles extends from the eyes to the thoracic groove. At the anterior end of the groove is a pair of bristles. Clypeus is equal to $\frac{4}{5}$ of the diameter of AME and is furnished with a transverse row of four strong setae.

Chelicerae nearly black but clothed with white hairs and long black bristles in front. Lateral condyles large. Promargin of furrow with three teeth, of which the median is the largest. Retromargin with three sub-equal teeth. Scopula brown and on promargin only. Labium as wide as long. Maxillae wider in front than at the base, with a well-developed brown scopula and black serrula. Sternum oval, longer than wide in ratio 36 : 27, clothed with white hairs and, near the margin, a few brownish bristles. It ends in a sharp point between the fourth coxae.

Legs: 4.1.2.3. First and second tarsi and metatarsi densely scopulate to base. Scopula on third and fourth tarsi and metatarsi not very dense and bisected by a longitudinal band of setae. The upper claws of first legs with five teeth, those of fourth legs with six teeth. Trichobothria in two rows on tibiae and tarsi, in one row on metatarsi. Palpi yellowish-brown with end segment darker. Palpal

claw with four teeth. The legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	3.9	1.9	2.8	2.7	1.7	13.0
II	3.6	1.7	2.5	2.7	1.7	12.2
III	3.1	1.6	2.3	2.9	1.6	11.5
IV	4.1	1.8	3.5	4.9	2.1	16.6
Palpi	1.7	0.9	1.0	—	1.5	5.1

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, elsewhere 0. Tibia: dorsal 0, prolateral 1, retrolateral 0, ventral 2-2-2. Metatarsus: ventral 2-2-3, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella armed as in first leg. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus armed as in first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end, ventral 0. Patella and tibia armed as in third leg. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 1-2-2-3. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 0, prolateral 1-1 bristles, retrolateral 1 bristle, ventral 0. Tarsus: dorsal 0, prolateral 2-1 bristles, retrolateral 1 bristle, ventral 0.

Abdomen oval, clothed with yellowish and brown hairs. The form of the epigynum is shown in pl. II, fig. 19. Spinnerets yellowish-brown.

Locality—Charlotte Waters, Northern Territory, 27 May 1939. (1 adult ♀.)

Lycosa goyderi n. sp.

(Pl. II, fig. 20)

♀ Total length, 8.2 mm. Length of carapace, 4.4 mm. Width of carapace, 3.0 mm. Length of abdomen, 4.1 mm. Width of abdomen, 2.9 mm.

Carapace dark brown (in alcohol) with a narrow median longitudinal stripe of yellowish-brown. Caput, chelicerae, labium and sternum very dark brown, almost black. Maxillae brown. Legs yellowish-brown with faint bands of dark brown on femora and tibiae. Dorsal surface of abdomen dark brown with two pairs of dark spots near the middle and three transverse rows of indistinct spots on posterior half. Ventral surface of abdomen and spinnerets yellowish-brown.

Sides of head slanting. Carapace clothed with short brown hairs. A median row of short black setae ends in a pair of bristles in front of the longitudinal thoracic groove. First row of eyes almost straight and as long as the second row of eyes. Ratio of eyes AME:ALE:PME:PLE = 11:9:21:18. The AME are separated from each other by 6/11 of their diameter, from ALE by 4/11 of their diameter, and from PME by 6/11 of their diameter. PME separated from each other by 15/21 of their diameter and from PLE by once their diameter. PLE separated from each other by 42/18 of their diameter. Quadrangle of posterior eyes wider behind than in front in ratio 68:52. The length of the quadrangle is equal to its width in front. There is a seta above each AME and also a large bristle between them. The clypeus is 9/11 of the diameter of AME and is furnished with a row of four strong bristles.

Chelicerae clothed in front with black bristles. The promargin armed with three teeth, of which the median is the largest. Retromargin with two teeth.

Scopula brown and on promargin only. Maxillae wider in front than at the base. Labium truncate in front, as wide as long and about half the length of the maxillae. Sternum shield-shaped, longer than wide in ratio 30 : 24. It is clothed with erect black setae and fine recumbent yellowish hairs. Fourth coxae contiguous.

Legs: 4.1.2.3. Light scopula on tarsi, that of the fourth tarsi being confined to the sides of the segment. The ventral surface of the fourth tarsi is occupied by a band of setae. Weak scopulation on the first and second metatarsi, none on the third and fourth metatarsi. Upper tarsal claws with about six teeth. The lower claw bare. Palpal claw with one large and two very small teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.90	1.51	2.03	1.97	1.56	9.97
II	2.61	1.33	1.86	1.91	1.33	9.04
III	2.44	1.27	1.55	2.09	1.28	8.63
IV	3.25	1.56	2.55	3.36	1.74	12.41
Palpi	1.39	0.69	0.81	—	1.04	3.93

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 1 near end, elsewhere 0. Patella: dorsal 1-1 fine bristles, elsewhere 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus: ventral 2-2-3, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, elsewhere 0. Patella: dorsal 1-1 fine bristles, prolateral 1, elsewhere 0. Tibia armed as in first leg. Metatarsus: prolateral 1 near middle and 1 apical, ventral 2-2-3, elsewhere 0. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end, ventral 0. Patella, tibia and metatarsus armed as in third leg. *Palpus*—Femur: dorsal 1-1-1, prolateral 1, retrolateral 1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 0, prolateral 1-1 bristles, retrolateral 1 bristle, ventral 0. Tarsus: dorsal 0, prolateral 2-1 bristles, elsewhere 0.

Abdomen oval. Clothed with yellowish hairs and short black setae. A fringe of white setae in front. The form of the epigynum is shown in pl. II, fig. 20. Spinnerets normal for genus. A small colulus present.

Locality—Goyder's Lagoon Bore. South Australia, Coll. 647 (1 adult ♀).

***Lycosa halei* n. sp.**

(Pl. II, fig. 21)

♀—Total length, 20.0 mm. Length of carapace, 9.5 mm. Width of carapace, 8.0 mm. Length of abdomen, 11.0 mm. Width of abdomen, 7.5 mm.

Carapace yellowish-brown (in alcohol), clothed with recumbent white hair. Radial grooves dark brown and clothed with black hair. Legs light brown, clothed with white hair and black bristles. Tarsi appear black underneath owing to the dark scopula. Labium, sternum and chelicerae dark brown. Fang nearly black. Dorsal surface of abdomen light brown speckled with black, the small black spots forming six transverse bands. Ventral surface of abdomen light brown with a narrow transverse black band immediately behind the epigastric furrow. Behind the band are a few black spots. Lung-covers light brown. Area between lung-covers nearly black. Spinnerets light brown, clothed with black hairs.

Carapace convex. Head with slanting sides. Thoracic groove longitudinal. First row of eyes shorter than second. Ratio of eyes AME : ALE : PME :

PLE = 8 : 6 : 21 : 18. AME separated from each other by $\frac{5}{8}$ of their diameter, from ALE by $\frac{3}{8}$ of their diameter and from PME by $\frac{4}{8}$ of their diameter. PME separated from each other by $\frac{14}{21}$ of their diameter and from PLE by $\frac{20}{21}$ of their diameter. PLE separated from each other by $\frac{46}{18}$ of their diameter. Quadrangle of posterior eyes wider than long in ratio 62 : 46. A row of four strong bristles, together with several smaller setae and white hairs on clypeus. Clypeus equal to twice the diameter of AME. PME surrounded by a circlet of white hairs. A black bristle between AME and a pair of black bristles a little above AME. An irregular circle of black bristles round each PME. Three or four black bristles behind each PLE.

Chelicerae clothed with white hair interspersed with slender black setae. Promargin of furrow with three teeth, of which the median is the largest. Retro-margin with three equal teeth. Scopula on promargin only and of a dark brown colour. Labium as wide as long. Maxillae wider in front than at base. Scopula dark brown. Serrula short. Sternum longer than wide in ratio 65 : 60, pointed behind, truncate in front and clothed with erect black setae.

Legs: 4.1.2.3. All tarsi and metatarsi scopulate to base. The tarsal scopulae bisected by a longitudinal band of setae. The band is more strongly developed on the third and fourth than on the first and second tarsi. In the first two pairs of legs the tibiae are also scopulate almost to the base. Trichobothria are in two rows on the tibiae and tarsi, and in one row on metatarsi. On the tibiae there are also a few lateral trichobothria on each side near the base. Tarsal claws three. Superior claws with six teeth, inferior claw without teeth. The segments of the legs and palpi have the following measurements in millimetres.

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	7.5	3.6	5.3	5.7	3.5	25.6
II	8.0	3.4	5.2	6.0	3.5	26.1
III	7.0	3.2	5.3	6.0	3.5	25.0
IV	8.0	3.5	7.0	8.5	4.1	31.1
Palpi	3.2	1.8	2.6	—	3.2	10.8

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 at apex, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 near middle, elsewhere 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 0, ventral 2-2-3. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella and tibia armed as in first leg. Metatarsus: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-3. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-1-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1-1 on left leg and 1-2-1 on right, retrolateral 1 at end on left leg and 1-1-1 on right, ventral 0. Patella armed as in third leg. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-1-3. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 at end, retrolateral 1 at end, ventral 0. Patella 1-1 fine bristles, prolateral 1 near base, elsewhere 0. Tibia: dorsal 1 bristle, prolateral 1-1 bristles, elsewhere 0. Tarsus: dorsal 0, prolateral 2-1 bristles, retrolateral 1 bristle, ventral 0.

Abdomen ovate, clothed with recumbent white hairs interspersed with black bristles, many of which arise from little spots composed of black hairs. The form of the epigynum is shown in pl. II, fig. 21. Spinnerets normal for the genus. Colulus distinct.

Locality—Eleven miles east of Hale River, Simpson Desert, Coll. 549 (1 adult ♀).

This species bears some resemblance to *Lycosa palabunda* L. Koch, but differs from it in the form of the epigynum, in the arrangement of the eyes and in the markings on carapace.

***Lycosa madigani* n. sp.**

(Pl. II, fig. 22-25)

♀—Total length, 16.0 mm. Length of carapace, 9.0 mm. Width of carapace, 6.0 mm. Length of abdomen, 8.0 mm. Width of abdomen, 5.0 mm.

Carapace yellowish-brown (in alcohol) with a wide longitudinal band of black hairs on each side. Margin yellow. Legs yellow-brown. Tarsi and metatarsi dark underneath. Sternum black. Prolateral surface of first coxae black. Labium and maxillae dark brown. Chelicerae almost black. Abdomen brown above with a faint pattern of transverse bars. Sides of abdomen yellowish-brown. Ventral surface yellowish-brown with a large black shield behind the epigastric furrow (pl. II, fig. 22). The shield reaches about half-way to spinnerets. Lung-covers and region in front of epigastric furrow yellowish-brown.

Head with slanting sides. Thoracic groove longitudinal with a pair of setae immediately in front of its anterior end. First row of eyes shorter than the second. Ratio of eyes AME : ALE : PME : PLE : = 8 : 5 : 19 : 17. AME separated from each other by $\frac{4}{8}$ of their diameter, from ALE by $\frac{2}{8}$ of their diameter, and from PME by $\frac{2}{8}$ of their diameter. PME separated from each other by $\frac{13}{19}$ of their diameter and from PLE by $\frac{17}{19}$ of their diameter. PLE separated from each other by $\frac{33}{17}$ of their diameter. Quadrangle of posterior eyes wider than long in ratio 54 : 47. A row of four large bristles on clypeus. Behind each PLE an oblique row of six long setae. The four posterior eyes with a dorsal fringe of yellowish hairs and long brown setae. A number of setae which point forward occupy the space enclosed by the quadrangle of the posterior eyes.

Chelicerae clothed in front with white hairs and black bristles. Condyles well developed. Promargin of furrow with three teeth, of which the median is the largest. Retromargin with two equal teeth. Scopula on promargin only. Fang black and well curved. Labium longer than wide in ratio 22 : 19. Maxillae wider in front than at the base. Clothed with black setae. Scopula dark brown. Serrula short. Sternum longer than wide in ratio 53 : 47, black and clothed with black setae.

Legs: 4.1.2.3. All tarsi scopulate, but the scopulation on the third and fourth tarsi is not very dense and is divided by a broad band of black setae. A scopula is also present on the first and second metatarsi but not on the third and fourth. In the first two pairs of legs the scopula extends on to the ventral surface of the tibiae. Trichobothria in two rows on tarsi and tibiae, in one row on metatarsi. There are also a few lateral trichobothria on each side of the tibiae near the base. Tarsal claws three. The superior claws with eight teeth, inferior claw without teeth. Palpal claw with seven teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	5.6	2.9	3.9	3.7	2.8	18.9
II	5.4	2.8	3.6	3.9	2.7	18.4
III	5.0	2.5	3.3	4.5	2.9	18.2
IV	6.5	3.1	4.6	6.0	3.2	23.4
Palpi	2.9	1.4	1.4	—	2.0	7.7

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella:

dorsal 1-1 fine bristles, prolateral 1, elsewhere 0. Tibia: prolateral 1-1, ventral 2-2-2, elsewhere 0. Metatarsus: ventral 2-2-3, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1-1-1, ventral 0. Patella and tibia armed as in first leg. Metatarsus: prolateral 1, ventral 2-2-3, elsewhere 0. *Third leg*—Femur armed as in second leg. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1, ventral 0. Patella: tibia and metatarsus armed as in third leg. *Palpus*—Femur: dorsal 1-1-2, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 1 bristle, prolateral 1-1 bristles, elsewhere 0. Tarsus: dorsal 0, prolateral 2-1, retrolateral 1, all bristles, ventral 0.

Abdomen ovate. Dorsal surface clothed with light brown hairs and fine black bristles. Five pairs of small spots composed of black hairs on anterior half. Sides and ventral surface, excepting the black shield behind the epigastric furrow, clothed with pale yellow hairs. The form of the epigynum is somewhat variable. (See pl. II, fig. 23 and 24.) Spinnerets clothed with dark hairs. Colulus present.

♂—Total length, 10·8 mm. Length of carapace, 5·7 mm. Width of carapace, 4·1 mm. Length of abdomen, 5·1. Width of abdomen, 3·5 mm.

The male resembles the female in colouration and markings of carapace, legs, chelicerae, labium, sternum, ventral surface of abdomen and spinnerets. The dorsal surface of the abdomen, however, is marked in the anterior two-thirds with a median longitudinal patch of dark brown, while the sides are speckled with small black spots.

Carapace as in female. First row of eyes shorter than second. Ratio of eyes AME : ALE : PME : PLE = 6 : 4 : 13 : 12. AME separated from each other by 4/6 of their diameter, from ALE by 1/6 of their diameter and from PME by 2/6 of their diameter. PME separated from each other by 10/13 of their diameter and from PLE by 11/13 of their diameter. PLE separated from each other by 21/12 of their diameter. The quadrangle of the posterior eyes wider than long in ratio 35 : 32.

Chelicerae clothed in front with white hairs and slender black bristles. Promargin with three teeth, retromargin with two teeth. Scopula on promargin only. Labium longer than wide in ratio 13 : 11. Maxillae as in female. Sternum black, longer than wide in ratio 45 : 36, clothed with black setae.

Legs: 4.1.2.3. The first and fourth pairs of legs are equal in length. All tarsi except the fourth scopulate. A scopula is also present on the first and second, but not on the third and fourth metatarsi. The trichobothria are arranged as in the female. Superior tarsal claws with about eleven teeth. The inferior claw small and barbed. The form of the palpus is shown in pl. II, fig. 25. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	4·9	2·3	3·7	4·2	2·9	18·0
II	4·8	2·3	3·6	4·0	2·8	17·5
III	4·6	2·1	3·2	4·4	2·7	17·0
IV	4·9	1·8	3·8	4·8	2·7	18·0
Palpi	2·4	1·2	1·2	—	1·7	6·5

The spines on the legs are larger and more numerous than in the female, and those of the fourth tibiae are curved. The arrangement of the spines is as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus:

dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella, tibia and metatarsus armed as in first leg. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1-1-1, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 2 at apex, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-3. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia and metatarsus armed as in third leg. *Palpus*—Femur: dorsal 1-1-1, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 bristles, prolateral 1 bristle, elsewhere 0. Tibia: dorsal 1 bristle, prolateral 1-1 bristles, elsewhere 0. Tarsus: ventral 4 at apex, elsewhere 0.

Abdomen oval, shorter than carapace. Ventral surface with a black shield behind epigastric furrow as in female. Spinnerets light brown clothed with dark hair.

Locality—Six miles north of junction of Todd and Hale Rivers, Coll. 540 (1 adult ♂ and 1 pullus). Centre of Simpson Desert, Coll 570 (2 adult ♀♀). Indinda Well, near Andado Station, Northern Territory (1 adult ♀).

Family OXYOPIDAE

Genus OXYOPES Latreille 1804

OXYOPES ELEGANS L. Koch 1878

Locality—Andado Station, Northern Territory (1 immature ♀).

The immaturity of this specimen makes the specific identity somewhat doubtful. It is the only member of the genus *Oxyopes* in the present collection.

Three species belonging to this genus were collected by the Horn Scientific Expedition to Central Australia in 1894.

Family ZODARIIDAE

Sub-Family ZODARIINAE

Genus STORENA Walckenaer 1805

Storena toddi n. sp.

(Pl. II, fig. 26-28; pl. III, fig. 29-30)

♂—Total length, 4.1 mm. Length of carapace, 2.1 mm. Width of carapace, 1.5 mm. Length of abdomen, 2.0 mm. Width of abdomen, 1.3 mm.

Carapace yellow (in alcohol) with a V-shaped patch of dark brown extending from the sides of the head region to the posterior margin. Clypeus dark brown. Legs yellow. Chelicerae and palpi slightly darker than legs. Sternum, labium and maxillae pale yellow. Dorsal surface of abdomen dark brown with a white spot above the spinnerets and four pairs of white spots arranged as shown in pl. II, fig. 26. Sides of the abdomen white, ventral surface light brown.

Carapace smooth and without bristles. A few minute hairs on clypeus and round the margin. Thoracic groove longitudinal. Eyes in two strongly procurved rows. All eyes with black rims. The interocular space is black except between the PME. Eye ratio AME : ALE : PME : PLE = 9 : 7 : 6 : 8. The eyes are arranged as shown in pl. II, fig. 27. The AME are separated from each other by 5/9 of their diameter, from ALE by 3/9 and from PME by 7/9 of their diameter. The PME are separated from each other by 9/6 of their

diameter and from PLE by the same distance. The PLE are separated from ALE by $\frac{3}{8}$ of their diameter and from AME by $\frac{4}{8}$ of their diameter. The quadrangle formed by the median eyes is wider in front than behind in ratio 23 : 21, and its length is slightly less than its width in front. The clypeus is very high and slopes steeply to the front (pl. II, fig. 28). The distance from AME to the margin of the clypeus is equal to $\frac{38}{9}$ of the diameter of AME. There is a small seta between the AME and in line with their lower margin. A thin dark brown line extends from the eye-space down the middle of the clypeus almost to the margin.

Chelicerae conical, clothed in front with black hairs. Lateral condyles present. Margins of furrow without teeth. Promargin with a black scopula. Fang short. Maxillae strongly converging, provided with a black scopula. Serrula absent. Labium triangular, its apex reaching almost to the front of the maxillae. Sternum shield-shaped, longer than wide in ratio 18 : 16, and lightly clothed with small hairs which point backwards. There are a few erect setae near the margin.

Legs: 4.1.3.2. Slender, tapering and clothed with short barbed hairs. Trichobothria in two rows on tibiae, in one row on metatarsi and tarsi. Three tarsal claws. The upper claws similar and armed with about eleven teeth. The lower claw small and bare. The form of the palpus is shown in pl. III, fig. 29. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.86	0.58	1.51	1.51	1.16	6.62
II	1.74	0.58	1.39	1.57	1.04	6.32
III	1.74	0.64	1.27	1.80	0.99	6.44
IV	2.09	0.70	1.74	2.44	1.28	8.25
Palpi	0.81	0.35	0.17	—	1.16	2.49

The spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 1 near end, elsewhere 0. Patella: ventral 2 near end, elsewhere 0. Tibia: dorsal 1 near base, prolateral 1-1, retrolateral 0, ventral 2-2-2 and about 26 small spines distributed over the whole ventral surface (pl. III, fig. 30). Metatarsus: dorsal 2 at apex, prolateral 1-1, retrolateral 1 at apex, ventral 2-2-2 and about nine small spines on basal half. *Second leg*—Femur: dorsal 1-1-1, prolateral 1 near end, elsewhere 0. Patella: prolateral 1-1, elsewhere 0. Tibia: dorsal 1 near base, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus: dorsal 2 at apex, prolateral 1-1, retrolateral 1 at apex, ventral 2-2-2. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1, retrolateral 1 near end, ventral 0. Patella: dorsal 1, prolateral 1-1-1-1, elsewhere 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1 near end, ventral 2-1-2. Metatarsus: dorsal 2 at apex, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-2. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1 near end, elsewhere 0. Patella: dorsal 1, prolateral 1-1-1-1, elsewhere 0. Tibia: dorsal 1-1, prolateral 1-1-1, retrolateral 1 near end, ventral 1-1-2. Metatarsus: dorsal 2 at apex, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-2. *Palpus*—Femur: dorsal 1-1, prolateral 0, retrolateral 1 near end, ventral 1-1-1 slender bristles. Patella: dorsal 1 near base, prolateral 1, elsewhere 0. Tibia: dorsal 0, prolateral 2 bristles, elsewhere 0. Tarsus: ventral 6 near apex.

Abdomen oval, clothed with very small fine hairs. At anterior end are six slender bristles, arranged three on each side just above petiolus. Anterior spinnerets much longer than the posterior pair, which are small and indistinct. Middle pair not visible.

Locality—Six miles north of junction of Todd and Hale Rivers. Coll. 540 (1 adult ♂).

Family THERIDIIDAE

Sub-Family LATRODECTINAE

Genus LATRODECTUS Walckenaer 1805

LATRODECTUS HASSELTII Thorell 1870

Locality—Camp No. 37, Cowarie Station, South Australia (1 adult ♀).

This poisonous spider is widely distributed throughout Australia, including Tasmania. It also occurs in New Zealand, India and Arabia.

Family ARGIOPIDAE

Sub-Family ARGIOPINAE

Genus ARGIOPE Audouin, 1825

ARGIOPE PROTENSA L. Koch 1871

Locality—Six miles north of junction of Todd and Hale Rivers, Coll. 540 (1 pullus). Sixteen miles east of Hay River, near Queensland border, Coll. 608 (1 ♀). Fourteen miles north-east of Cowarie Station, South Australia, Coll. 659 (1 pullus). Twenty miles west of Cowarie Station, South Australia, Coll. 661 (1 pullus). Camp No. 16, Hay River, near Queensland border (1 pullus). Camp No. 21, Annandale Station, Queensland (1 ♀). Camp No. 37, Cowarie Station, South Australia (1 ♀ mature and 1 pullus).

Sub-Family ARANEINAE

Genus ARANEUS Clerk 1757

ARANEUS TRANSMARINUS (Keyserling)

Locality—Finke River, 25 miles from Abminga, South Australia, Coll. 520 (1 ♀). Birdsville-Marree Track, Mount Gason, South Australia, Coll. 651 (1 ♀). Twenty miles west of Cowarie Station, South Australia, Coll. 661 (1 ♀). Camp No. 21, Annandale Station, Queensland (2 ♀ ♀). Camp No. 23, thirty miles north-west of Birdsville, Queensland (1 ♀).

Sub-Family NEPHILINAE

Genus NEPHILA Leach 1815

NEPHILA IMPERATRIX L. Koch 1871

Locality—One mile east of Andado Station, Northern Territory, Coll. 503 (1 ♀). Finke River, 25 miles from Abminga, South Australia, Coll. 520 (1 ♀). Sixteen miles east of Hay River, near Queensland border, Coll. 608 (1 ♀). Kaliduwarry Station, Queensland, Coll. 620 (2 ♀ ♀). Birdsville-Marree Track, Mount Gason, South Australia, Coll. 651 (1 ♀). Twenty miles west of Cowarie Station, South Australia, Coll. 661 (1 ♀). Camp No. 2, twenty-two miles north of Andado Bore No. 1, Andado Station, Northern Territory (1 pullus). Camp No. 19, Hay River, near Queensland border (1 ♀). Camp No. 21, Annandale Station, Queensland (1 ♀). Camp No. 23, thirty miles north-west of Birdsville, Queensland (1 ♀).

Family CTENIDAE

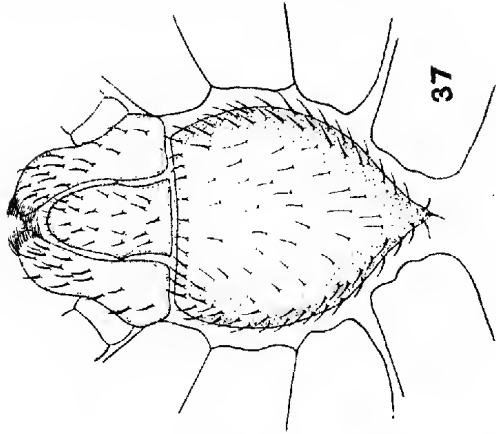
Sub-Family CALOCTENINAE

Genus ODO Keyserling 1887

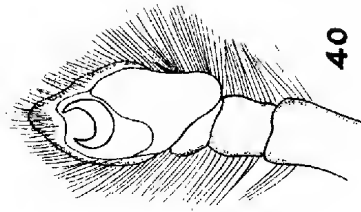
Odo australiensis n. sp.

(Pl. III, fig. 31-34)

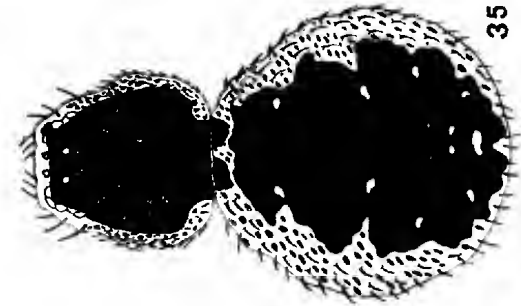
♀—Total length, 9.7 mm. Length of carapace, 4.35 mm. Width of carapace, 3.13 mm. Length of abdomen, 6.09 mm. Width of abdomen, 3.71 mm.



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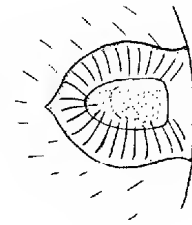
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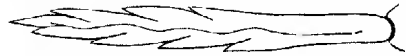
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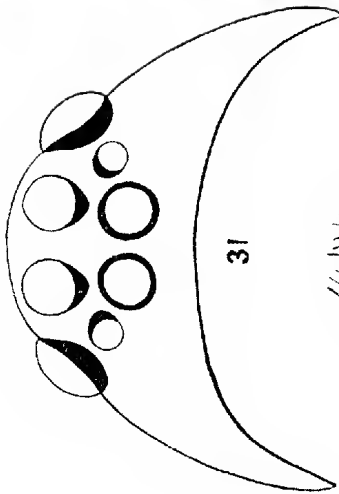
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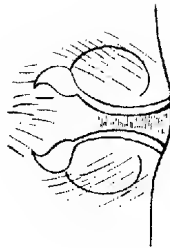
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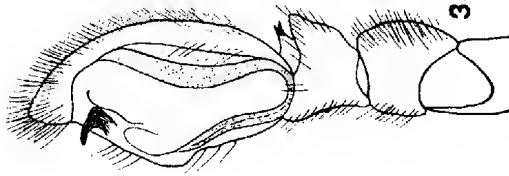
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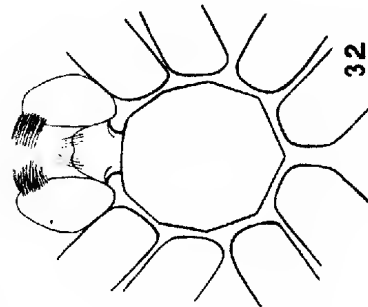
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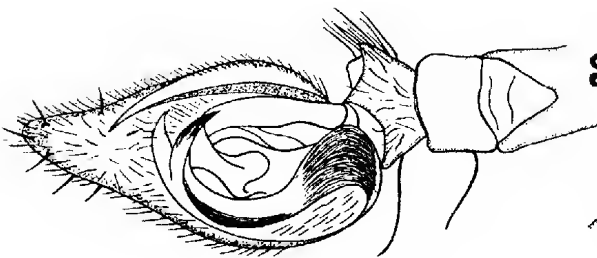
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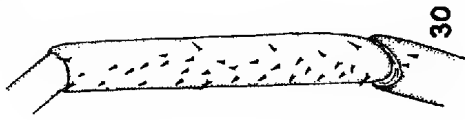
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Carapace yellow (in alcohol) with four irregular dark brown patches on each side. Legs yellow with faint brownish rings. Chelicerae reddish-brown with a dark brown patch in front. Maxillae, palpi, labium and sternum yellow. Abdomen yellow with four pairs of small dark brown marks in the middle third of the dorsal surface. Sides of abdomen speckled with dark brown.

Carapace convex, clothed with a band of white silky hairs near the margin, and above this a band of dark brown hairs extending from PLE to posterior margin. Thoracic groove longitudinal. Front of groove ends in a thick patch of brown hairs. A median row of small setae extends from eyes to the thoracic groove. A long seta behind and a row of six setae above each PLE.

The eyes are arranged in two strongly recurved rows (pl. III, fig. 31). Ratio of eyes AME : ALE : PME : PLE = 7 : 5 : 9 : 10. AME separated from each other by $\frac{2}{7}$ of their diameter, from ALE by the same distance and from PME by $\frac{4}{7}$ of their diameter. The PME are separated from each other by $\frac{2}{9}$ of their diameter, from PLE by $\frac{5}{9}$ of their diameter and from ALE by $\frac{4}{9}$ of their diameter. The posterior row of eyes is longer than the front row in ratio 32 : 26. The quadrangle formed by the four median eyes is wider behind than in front in ratio 20 : 17, and its width behind is equal to its length. Clypeus narrow, being equal to $\frac{6}{7}$ of AME. A row of about eleven setae along margin of clypeus.

Chelicerae conical. Furnished in front with a number of long brownish bristles. Lateral condyles large. Promargin of furrow with three teeth, of which the middle one is the largest. Retromargin with two teeth. A scopula is present on the promargin.

Maxillae parallel. Clothed with long yellowish setae on outer side. Scopula extending slightly onto the ventral surface. Labium wider than long in ratio 20 : 15, excavated at the base, and not exceeding half the length of the maxillae (pl. III, fig. 32). Sternum slightly convex, longer than wide in ratio 50 : 47, clothed with brownish setae and white hair around the margin. The setae near the first coxae are larger than those on other parts of the sternum. The fourth coxae meet behind the sternum.

Legs: 4.3.1.2. Trochanters notched. All tarsi and metatarsi scopulate. In the first two pairs of legs the scopulation extends onto the sides of the basal half of the tibiae. The scopulae of the third and fourth metatarsi and tarsi are bisected by a longitudinal band of setae. Trichobothria in two rows on tarsi and tibiae, in one row on metatarsi. Two tarsal claws which are long and slightly curved. About five teeth on the claws of the first tarsi, and about eight on those of the fourth. Palpal claw with five teeth. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	3.60	1.74	2.96	2.38	1.74	12.42
II	3.25	1.68	2.84	2.32	1.74	11.83
III	3.60	1.56	2.78	2.96	1.91	12.81
IV	4.81	1.74	4.06	4.23	2.20	17.04
Palpi	1.74	0.93	0.81	—	1.45	4.93

Spines on legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1 near middle, ventral 0. Patella 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-1. Metatarsus: ventral 2 near base, elsewhere 0. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1 near middle, ventral 0. Patella 0. Tibia: dorsal 0, prolateral 1-1, retrolateral 0, ventral 2-2-2. Metatarsus: ventral 2 near base, elsewhere 0. *Third leg*—Femur: dorsal 1-1-1, prolateral left 1-1-1-1 (right 2-1-1-1), retrolateral 1-1-1-1, ventral 0. Patella 0. Tibia: dorsal 2-1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 0, prolateral 1-2-1, retrolateral 2-1-1, ventral 2-0-1. *Fourth*

leg—Femur: dorsal 1-1-1, prolateral 1-1-0-1, retrolateral 1 near end, ventral 0. Patella 0. Tibia: as for tibia of third leg. Metatarsus: dorsal 0, prolateral 1-2-2, retrolateral 2-2-2, ventral 2-2-1. *Palpus*—Femur: dorsal 1-1-1, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1, prolateral 1, retrolateral 0, ventral 0. Tibia: dorsal 1-1, prolateral 2-2, elsewhere 4. Tarsus: dorsal 1-1, prolateral 2-2, retrolateral 2-2, ventral 3 near claw.

Abdomen oval, clothed with white hair and fine brown setae. In front there are dark curved bristles. The epigynum has the form shown in pl. III, fig. 33. Six spinnerets. The anterior pair cylindrical and two-segmented. The end segment is very small and sunken in the apex of the first segment. The posterior spinnerets slightly longer than the anterior. The middle spinnerets slender and hidden by the others.

♂—Total length 6.9 mm. Length of carapace, 3.48 mm. Width of carapace, 2.61 mm. Length of abdomen, 3.48 mm. Width of abdomen, 2.09 mm.

The colouration and markings as in the female. The body, however, is somewhat smaller and the legs longer and more slender.

The eyes are arranged in two strongly recurved rows. The AME are relatively larger than those of the female. Ratio of eyes AME : ALE : PME : PLE = 7 : 4 : 5 : 5. The AME are separated from each other by $\frac{2}{7}$ of their diameter, from ALE by $\frac{1}{7}$ of their diameter, and from PME by $\frac{3}{7}$ of their diameter. The PME are separated from each other by $\frac{2}{5}$ of their diameter and from PLE by $\frac{4}{5}$ of their diameter. The PLE are separated from ALE by $\frac{4}{5}$ of their diameter. The posterior row of eyes is longer than the front row in ratio 25 : 21. Owing to the large size of the AME the quadrangle formed by the median eyes is wider in front than behind in ratio 14 : 12. It is longer than its front width in ratio 15 : 14. The clypeus is $\frac{5}{7}$ of the diameter of AME.

The chelicerae resemble those of the female. The promargin of the furrow is armed with three teeth, the retromargin with two. The maxillae as in the female. The labium wider than long in ratio 13 : 9 and less than half the length of the maxillae. The base of the labium is not so strongly excavated as in the female. Sternum oval, convex and slightly longer than wide in ratio 45 : 43. Fourth coxae meet behind sternum.

Legs: 4.1.3.2. Long and slender. All tarsi and metatarsi scopulate. Trichobothria as in female. Two tarsal claws, similar and armed with about 8 teeth. The palpus has the form shown in pl. III, fig. 34. The tibia is short and on its retrolateral side there is a short black bifid apophysis. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	4.06	1.45	3.60	3.36	2.32	14.79
II	3.88	1.39	3.48	3.36	2.26	14.37
III	3.77	1.28	3.19	3.83	2.38	14.45
IV	4.93	1.45	4.29	5.22	2.78	18.67
Palpi	1.51	1.33	0.40	—	1.51	4.75

Spines on the legs and palpi are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 2 near end, retrolateral 1-1-1, ventral 0. Patella 0. Tibia: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-1. *Second leg*—Femur: dorsal 1-1-1, prolateral 1-1-1, retrolateral 1-1-1-1, ventral 0. Patella 0. Tibia: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-1. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1-1-1, retrolateral 1-1-1-1, ventral 0. Patella 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1-1, ventral

2-2-2. Metatarsus: dorsal 0, prolateral 1-2-1, retrolateral 2-2-1, ventral 2-1-1. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 1-1-1-1, retrolateral 1-1-1, ventral 0. Patella 0. Tibia: dorsal 1-1, prolateral 1-1, retrolateral 1-1-1 ventral 3-2-2. Metatarsus: dorsal 0, prolateral 2-2-2, retrolateral 2-2-2, ventral 2-2-1. *Palpus*—Femur: dorsal 1-1-1, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 bristles, prolateral 1, elsewhere 0. Tibia: dorsal 1 bristle, prolateral 1-1 bristles, retrolateral 1 bristle, ventral 0.

Abdomen oval and fringed in front with dark curved bristles which are coarser and more numerous than in the female.

Locality—Eleven miles east of Hale River, Simpson Desert, Coll. 549 (1 adult ♀). Centre of Simpson Desert, No. 8 Camp, Coll. 567 (1 adult ♂).

Family EUSPARASSIDAE
Sub-Family EUSPARASSINAE
Genus ISOPEDA L. Koch 1875
ISOPEDA PESSLERI (Thorell)

Heteropoda pessleri Thorell 1870, Ofv. K. Vet. Akad. Forh., 387.

Isopeda pessleri L. Koch 1875, Arachn. Austral., 684.

Isopeda pessleri H. R. Hogg 1896, Horn Exped., Zool., Ar., 342.

Isopeda pessleri H. R. Hogg 1902, Proc. Zool. Soc. Lond., 444.

Locality—Camp No. 16, Hay River, near Queensland border, Coll. 606 (2 ♀♀ and 2 pullus). Kaliduwarry Station, Queensland, Coll. 620 (1 ♀). Goyder's Lagoon Bore, South Australia (1 pullus). Andado Station, Northern Territory (2 pullus).

Genus PEDIANA Simon 1880
PEDIANA HORNI (Hogg)

Isopeda horni H. R. Hogg 1896, Horn Exped., Zool., Ar., 340.

Pediana horni H. R. Hogg 1902, Proc. Zool. Soc., Lond., 462.

In his original description of this species Hogg (1896, 340) states that "on tibia III and IV there is one spine on the upper side." Some years later (1902, 462) he transferred the species to the genus *Pediana* and said that there are "no spines on tibia III or IV." In view of these contradictory statements it is difficult to identify the species. However, the specimen in the present collection agrees very closely with Hogg's original description, and possesses a dorsal spine on the third and fourth tibiae.

Locality—Finke River, 25 miles from Abminga, South Australia, Coll. 520 (1 adult ♀).

PEDIANA REGINA (L. Koch)

Heteropoda regina L. Koch 1875, Arachn. Austral., 716.

Pediana regina H. R. Hogg 1902, Proc. Zool. Soc. Lond., 460.

Locality—Goyder's Lagoon Bore, South Australia, Coll. 647 (1 pullus).

Sub-Family MICROMMATINAE
Genus OLIOS Walckenaer 1873
OLIOS INFRAMACULATUS (Hogg)

Heteropoda inframaculata H. R. Hogg 1896, Horn. Exped., Zool., Ar., 343.

Neosparassus inframaculatus H. R. Hogg 1902, Proc. Zool. Soc. Lond., 428.

Locality—Camp No. 13, 24 miles west of Hay River, Simpson Desert (1 pullus).

Family THOMISIDAE
Sub-Family MISUMENINAE
Genus THARPYNA L. Koch 1874

Tharpyna simpsoni n. sp.

(Pl. III, fig. 35-39)

♀—Total length, 5.6 mm. Length of carapace, 2.0 mm. Width of carapace, 2.0 mm. Length of abdomen, 3.8 mm. Width of abdomen, 3.4 mm.

Carapace dark chocolate-brown with cream spots (in alcohol). Radial grooves lighter brown. Face, sides and ocular tubercles cream with brownish blotches. Femora cream, spotted and blotched with dark brown on dorsal, ventral and prolateral surfaces. Retrolateral surface dark brown. Other podomeres with brown and cream markings not so distinct as on femora. Labium brown. Maxillae brown towards inner side and base, cream towards outer side and apex. Sternum cream with brown blotches. Dorsal surface of abdomen almost covered by an irregular brownish-black patch, marked with a few cream spots (pl. III, fig. 35). Sides of abdomen cream, speckled with dark brown. Ventral surface light brown, speckled with cream and dark brown. Lung-covers brown. Spinnerets cream.

The carapace is as wide as long with steep sides and flat upper surface. It is clothed with a number of coarse black setae, some of which are arranged in radial rows.

The eyes are arranged in two recurved rows (pl. III, fig. 36). The posterior row is longer than the front row in ratio 112 : 89. The median eyes are much smaller than the lateral eyes. All the eyes have conspicuous black pupils. The ratio of the diameters of the pupils AME : ALE : PME : PLE = 6 : 10 : 5 : 10. The AME are separated from each other by 14/6, from ALE by 22/6 and from the PME by 20/6 of their pupil-diameter. The PME are separated from each other by 28/5 and from PLE by 33/5 of their pupil-diameter. The PLE are separated from ALE by 25/10 of their pupil-diameter. The median ocular quadrangle is wider than long in ratio 38 : 30. The lateral eyes are mounted on slightly raised tubercles.

The chelicerae are small and cone-shaped. There are about 13 coarse setae on the front of the paturon. Margins of furrow without teeth. Fang small.

Labium longer than wide in ratio 3 : 2. Surface provided with about 15 short setae. Maxillae longer than labium in ratio 23 : 18, converging and almost meeting in front of lip (pl. III, fig. 37). Surface of each maxilla furnished with about 14 coarse setae. Sternum shield-shaped, longer than wide in ratio 41 : 36, ending in a sharp point between the fourth coxae. This point bears three conspicuous setae. The lateral margins of the sternum are furnished with two or three rows of coarse setae, the central region with a few hairs (pl. III, fig. 37).

Legs: 1.2.4.3. Laterigrade. Clothed with longitudinal rows of spine-like setae, except the retrolateral side of each femur, which is smooth. The setae on the legs and body are barbed (pl. III, fig. 38). Trichobothria are present on tibiae, metatarsi and tarsi. Two tarsal claws, each having about ten teeth, are present. Claw tufts absent. Palpi are small and without a claw. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.74	0.87	1.51	1.45	0.87	6.44
II	1.85	0.93	1.56	1.27	0.81	6.42
III	1.23	0.70	1.16	0.99	0.64	4.72
IV	1.27	0.70	1.16	0.99	0.64	4.76
Palpi	0.52	0.35	0.41	—	0.58	1.86

The spines on the legs differ very little from the ordinary setae. They are arranged as follows:—*First leg*—Femur: dorsal 1-1-1-1, prolateral 1-1-1-1, elsewhere 0. Patella: dorsal 1-1 very small, elsewhere 0. Tibia: dorsal 1 near middle, elsewhere 0. Metatarsus 0. *Second leg*—Femur: dorsal 1-1-1-1, elsewhere 0. Patella: dorsal 1-1 very small, elsewhere 0. Tibia: dorsal 1 before middle, elsewhere 0. Metatarsus 0. The spines on the *third* and *fourth legs* are arranged as on the second.

Abdomen broadly ovate and somewhat dorso-ventrally compressed. It is furnished with coarse setae arranged in rows. There is a pair of large oval muscle spots near the middle of the dorsal surface. The epigynum has the form shown in pl. III, fig. 39.

Locality—Twenty miles west of Cowarie Station, South Australia. Coll. 661 (1 adult ♀).

Family CLUBIONIDAE
Sub-Family LIOCRANINAE
Genus MITURGA Thorell 1870
MITURGA LINEATA Thorell

Locality—Finke River, 25 miles from Abminga, South Australia, Coll. 520 (2 pullus). Mount Gason, Birdsville-Marree Track, South Australia, Coll. 651 (2 pullus). Fourteen miles north-east of Cowarie Station, South Australia, Coll. 659 (1 ♂ and 1 ♀).

Family SALTICIDAE
Sub-Family PLEXIPPINAE
Genus SAITIS Simon 1876

Saitis lacustris n. sp.

(Pl. III, fig. 40)

♂—Total length, 4.70 mm. Length of carapace, 2.49 mm. Width of carapace, 1.85 mm. Length of abdomen, 2.44 mm. Width of abdomen, 1.97 mm.

Thorax dark brown (in alcohol). Caput nearly black. The dorsal surface of the head is clothed with recumbent white hairs interspersed with a few slender erect black bristles. Clypeus yellow and densely clothed with white hairs. Dorsal surface of the three distal segments of the palpi yellow and clothed with long white hairs. Legs dark brown with yellowish-brown markings on dorsal side of patellae, the ventral side of the femora and the coxae. Chelicerae brown with patches of yellowish-brown in front. Maxillae, labium and sternum dark brown. Legs lightly clothed with white silky hairs. Abdomen dark brown above; paler at the sides and underneath; not marked by any distinct pattern; clothed with silky hairs.

Carapace high and convex. Head region somewhat flat, but sloping gently forward from the posterior eyes. Thorax sloping steeply under the front of the abdomen.

Eye-group wider in front than behind in ratio 25 : 23. The front width greater than the length in ratio 25 : 18. First row of eyes slightly recurved, wider than the second in ratio 25 : 24. Ratio of eyes AME : ALE : PME : PLE = 7 : 5 : 1.5 : 3.5. AME separated from each other by about 1/7 of their diameter and from ALE by about twice this distance. PME separated from ALE by a distance equal to the diameter of AME, and from PLE by 4/7 of the diameter of AME, that is the eyes of the second row arc nearer PLE than ALE. Clypeus 4/7 of diameter of AME and sloping backward.

Chelicerae conical, not diverging, condyles lacking. Margins oblique. Two teeth on promargin, one on retromargin. Lip triangular, about as wide as long.

Maxillae short and wide. Sternum oval, longer than wide in ratio 17 : 11. Fourth coxae almost contiguous.

Legs: 3.4.2.1. Trichobothria in two rows on tibiae, in one row on metatarsi and tarsi. Two tarsal claws, similar, with about five teeth. The three distal teeth are large and widely spaced. Palpi are clothed with long white hairs on the dorsal surface and sides of the tarsus, tibia and patella. No spines are present, but there is a small black seta on the dorsal surface of the femur and patella near the apex of the segment. On the prolateral side the tibia is produced into a sharp apophysis. The genital bulb has the form shown in pl. III, fig. 40. The segments of the legs and palpi have the following measurements in millimetres:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.28	0.81	0.87	0.87	0.70	4.53
II	1.33	0.87	0.87	0.87	0.70	4.64
III	1.85	0.87	1.22	1.28	0.58	5.80
IV	1.51	0.70	0.99	1.28	0.70	5.18
Palpi	0.60	0.35	0.23	—	0.64	1.82

The spines on the legs are arranged as follows: *First leg*—Femur: dorsal 1-1-1, prolateral 1 near end, elsewhere 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1 near base, prolateral 1-1, retrolateral 1, ventral 2-2-2. Metatarsus: dorsal 1 near base, prolateral 1-1, retrolateral 1-1, ventral 2-2. *Second leg*—Femur: dorsal 1-1-1, prolateral 1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2-2. Metatarsus: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2. *Third leg*—Femur: dorsal 1-1-1, prolateral 1-1 near end, retrolateral 1 near end, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1, retrolateral 1, ventral 0. Tibia: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 1-2. Metatarsus: dorsal 1, prolateral 1-1, retrolateral 1-1, ventral 2-2. *Fourth leg*—Femur: dorsal 1-1-1, prolateral 0, retrolateral 0, ventral 0. Patella: dorsal 1-1 fine bristles, prolateral 1-1, retrolateral 1-1, ventral 0. Tibia: dorsal 1, prolateral 1-1-1, retrolateral 1-1-1, ventral 1-2. Metatarsus: dorsal 1, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-2.

Abdomen oval somewhat dorso-ventrally compressed. Spinnerets six, almost cylindrical. Anterior pair much larger than the others. Colulus absent.

Locality—Surface of North Lake Eyre, two and a half miles from shore, Coll. 669 (1 adult ♂).

Sub-Family MARPISSINAE

Genus OCRISIONA Simon 1901

OCRISIONA sp.

Locality—Twenty miles west of Cowarie Station, South Australia, Coll. 661 (1 pullus).

The specimen is immature but appears to be closely related to, if not identical with, *Ocrisiona complana* (L. Koch).

LITERATURE

- BIRULA, A. 1903 Ann. Mus. Zool. Acad. Sci., St. Petersburg, 8, xxxiii-xxxiv
 DALMAS, COMTE DE 1917 Ann. Soc. ent. France, 86, 317-430
 GLAUERT, L. 1925 Trans. Roy. Soc. S. Aust., 49, 85-87
 HOGG, H. R. 1896 Horn Exped., Zool., Ar., 309-356
 HOGG, H. R. 1902 Proc. Zool. Soc. Lond., 414-466
 KOCH, L. 1871-1889 Arachn. Austral., Nürnberg
 KRAEPELIN, K. 1908 Fauna Südwest-Australiens, Jena, 2, 89-95

- KRAEPELIN, K. 1916 Arkiv. för Zoologi, Stockholm, 10, 1-43
 PULLEINE, R. H. 1914 Trans. Roy. Soc. S. Aust., 38, 447-448
 RAINBOW, W. J. 1915 Trans. Roy. Soc. S. Aust., 39, 772-793
 RAINBOW, W. J., and PULLEINE, R. H. 1918 Rec. Aust. Mus., Sydney, 12,
 81-169
 STRAND, E. 1913 Zool. Jahrb. Abt. f. Syst., Jena, 35, 599-624
 THORELL, T. 1870 Ofv. K. Vet. Akad. Forh., 387

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