

For Cor with thanks and  
best regards Marek

## Salticidae (Arachnida:Araneae) of New Zealand: genus *Hypoblemum* Peckham and Peckham, 1886

**Abstract** The genus *Hypoblemum* is redefined and *H. albovittatum* (Keyserling, 1882) is recorded from New Zealand. Remarks on relationships, biology and distribution of the genus are provided and a distributional map is given.

**Keywords** Salticidae, *Hypoblemum*, taxonomy, biogeography, New Zealand

### Introduction

The taxonomic research of New Zealand jumping spiders (Salticidae) began well over a century ago and until now, some 50 species have been described or recorded. However, the lack of type specimens, poor original diagnoses, great intraspecific variation in size and colour and interspecific uniformity in genitalic structure make proper verification of species a very difficult task. Consequently, less than 10 New Zealand species are recognisable - usually under wrong generic names (e. g., *Marpissa*, *Attus* or *Euophrys*).

Recent field research and the study of major spider collections (see below) revealed that about 30 genera and 200 species of Salticidae occur in New Zealand (Zabka unpubl.), most of them endemics. Despite expectations, only selected Australian genera reached New Zealand (Zabka *et al.* 2002, Zabka & Pollard in print). The genus *Hypoblemum* is one of them and has been known from 2 Australian species: *H. albovittatum* (Keys.) and *H. villosum* (Keys.). The former is treated here (including the study of the type-specimen), the latter (the generic type) can only be verified from original description as type specimens are not available (lost?).

### Materials and Methods

The materials were provided by the curators and institutions listed below. Some specimens have been collected during our own field research. The methods of specimen examination are as described earlier (Zabka 1991). The drawings were made using grid system. Dissected epigynes were cleared in lactic acid. Nikon compound and stereo microscopes were used. The following measurements were taken: AEW - anterior eyes width, AL - abdomen length, CH - cephalothorax height, CL - cephalothorax length, CW - cephalothorax width, EFL - eye field length, L1, L2, L3, L4 - leg lengths, PEW - posterior eyes width.

### Collections studied:

AMNZ - Auckland Museum Entomology Collection (John Early),  
CMC - Canterbury Museum, Christchurch (Simon Pollard),  
CUC - Canterbury University, Christchurch (Robert Jackson & Mathew Anstey), now deposited in CMC,  
LUNZ - Entomology Research Museum, Lincoln University, Lincoln (Cor Vink),  
MNZ - Museum of New Zealand Te Papa, Wellington (Phil Sirvid).  
NZAC - New Zealand Arthropod Collection, Auckland (Trevor Crosby),  
OMD - Otago Museum, Dunedin (Brian Patrick, Erena Barker & Simon Wylie),  
ZMB - Museum für Naturkunde der Humboldt Universität, Berlin (Jason Dunlop),  
ZMH - Zoologisches Institut und Zoologisches Museum, Universität Hamburg (Hieronymus Dastych).

### Taxonomic review

Gen. *Hypoblemum* Peckham et Peckham, 1886  
*Hypoblemum* Peckham & Peckham, 1886: 271.  
*Habrocestum* [part]: Keyserling, 1882: 1407.  
*Acmaea* [praeoc.]: Keyserling, 1882: 1420.  
*Hypoblemum*: Simon, 1901: 567; 1903: 704. Petrunkevitch, 1928: 196. Bonnet, 1957: 2255. Brignoli, 1983: 627.  
Platnick, 1993: 770; 1997: 855. Davies & Zabka, 1989: 238, 240.  
Type species: *Acmaea villosa* Keyserling, 1882.

### Generic diagnosis.

Medium size spiders, some 5-8 mm in body length. Eye field surrounded with distinctive light belt. Thoracic slope rather gentle at 2/3<sup>rd</sup> of the carapace length. Abdominal dorsum not sclerotised. Male eye field with mat of short thick hair. Male 3<sup>rd</sup> legs the longest and fringed. Chelicerae with a blunt retromarginal tooth (distinctive in males) and with 2 promarginal teeth. Male maxillae laterally pointed. Palpal organ with tegular posterior lobe and anterior lamella, seminal duct meandering, embolus (left palp) anticlockwise twisted, set on membranous haematodocha. Conductor present. Epigyne in the form of two oval

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depressions divided by central dam. Copulatory openings surrounded by sclerotised lips. Insemination ducts rather long, with accessory glands. Spermathecae oval.

### Relationships.

*Hypoblemum* belongs to Euophryinae subfamily, which includes a great number of genera from all over the world. Some 3-4 Euophryinae genera also occur in New Zealand. *Lycidas* and *Maratus*, both known from Australia, are the closest relatives of *Hypoblemum*, sharing many morphological and genitalic characters (Zabka 1987, Davies & Zabka 1989).

*Hypoblemum albovittatum* (Keyserling, 1882) comb. nov.  
*Habrocestum albovittatum* Keyserling, 1882: 1407 (?).  
*Hypoblemum albovittatum*: Simon, 1903: 703, 708.  
 Rainbow, 1911: 299; 1920: 267. Bonnet, 1957: 2255.  
 Proszynski, 1971: 422.

*Evophrys parvula* Bryant, 1835b: 90 (?).  
*Euophrys parvula*: Forster & Forster, 1972: 51-62, 1976: 2114-2117; 1999: 119, 127-129. Forster, 1977: 53; 1982: 164, 166-169, 175, 203; 1985: 253. Hallas & Jackson, 1986: 883-884, 889-891. Jackson, 1986: 1194; 1987: 2-7; 1988: 348; 1992: 100. Jackson & Hallas, 1990: 9. Jackson & Tarsitano, 1993: 106-108. Jackson & Willey, 1995: 1-16. Harland & Jackson, 2001: 447-448.

Type locality: Peak Downs (Australia).

Material: 2 male Levin, 8 March 1943, Forster, OMD; 7 male, 16 female 6 juv. Auckland, Beachlands, Te Paki Homestead, 7 Dec. 1960, 6 March 1949, 1 June 1949, Jan. 1951, J.T. Campbell, B.A. Hilloway, det. Forster, 1960, OMD; 2 female Silverdale, Auckland, 30 March 1942, F.W. Barlett, OMD; 1 male Auckland, Weymouth, beating, 4 Oct. 1974, C.L. Wilton, MNZ; 1 male Auckland, Birkenhead, Oct. 1943, J.A. Marsden, NMW, 2 female Auckland, Birkenhead, Oct. 1943, J.A. Marsden, MNZ; 1 female Auckland, Bay of Plenty, Mount Maunganui, sand hills, July 1975, C.L. Wilton, NMW; 1 female Auckland, Maraetai Beach, beating, 30 Sept. 1974, C.L. Wilton, MNZ Te Papa; 1 female Auckland, Ngapuni Road, pitfall trap, June 1970, M.P. Buchler, OMD; 1 female North Auckland, Pouto, 12 Jan. 1965, M. Neil; MNZ; 1 male Auckland, Mt Albert, in garden, 27 June, 1982, P. Herbert, NZAC; 1 male Auckland, low foliage, 11 Dec. 1997, M.P. Anstey, CMC; 5 male Fielding, under logs 10 Jan. 1959, Forster, det. Forster, OMD; 1 male Fielding, on dwelling 4 Jan. 1967, RRF, OMD; 1 male Fielding, 6 Oct. 1942, OMD; 2 male Fielding, 4 Jan. 1967, RRF, OMD; 2 female Fielding, 6 Dec. 1973, OMD; 1 male Tapee, sweeping long grass, 30 Sept. 1933, Forster, OMD; 3 male, 1 female 1 juv. Fielding, 20 Dec. 1942, R.R. Forster, OMD; 1 male Rosedale, 12

Apr. 1968, Rlott (RDH?), OMD; 1 male Clifton, on beach, 14 Jan. 1959, Forster, det. Forster 1960, OMD; 1 male Clifton, ex foliage, 29 Dec. 1946, OMD; 1 male, 2 female no data, 51.162, det. Forster, OMD; 1 male Te Awanga, 14 March 1943, R. Forster, det. Forster 1960, OMD; 2 female Te Awanga, 1 Jan. 1947, det. Forster, 1960, OMD; 1 male, 2 female 2 juv. Houhora, from scrubland, 24 Aug. 1953, B.J. Marples, det. Forster, 1960, OMD; 1 male Lake Tutira, T.K. Lomas, det. Forster, 1960, OMD; 1 female Kohukohu, by roadside, 53.232, 20 Aug. 1953, B.J. Marples, det. Forster, 1960, OMD; 1 female Kohukohu, near Matu Bridge, 25 Aug., B.J. Marples, det. Forster, 1960, OMD; 1 male Hastings, 16 March 1945, R.R. Forster, det. Forster, 1960, OMD; 4 male, 1 female, Napier, 20 Dec. 1953-3 Jan. 1954, det. Forster, 1960, OMD; 3 male 3 female, juv. Nelson district, March 1946, E.S. Gourlay, det. Forster, 1960, OMD; 1 female Waipu, 8 Jan. 1987, RRF, DRF, OMD; 1 female, Matamata, 3 May 1981, D. Court, OMD; 1 male Matamata, 23 May 1981, OMD; 1 male, 1 female Matamata, 10 Sept., 1984, D.J. Court, OMD; 1 male, 1 female Matamata, 1 March 1984, D.J. Court, OMD; 1 female Matamata, 10 Sept. 1982, D. Court, OMD; 2 females no locality, ex wall, 20 Feb. 1980, OMD; 1 male Masterton, 16 March 1966, OMD; 2 females Northland, Feb. 1981, OMD; 2 females Lake Ianthe, on flax, 17 Feb. 2000, S. Pollard, CMC; 1 male Ohope, 1 Oct. 1969, OMD; 1 male Aramoana, Wanganui, 11 Feb. 1948, H. Turnbull, OMD; 3 female Waipoa Forest, 6 Jan. 1967, RRF, OMD; 1 male Christchurch, Opawa, 13 Jan. 2000, J.B., G.M. Ward, CMC; 1 female Opononi, ex foliage, 8 Jan. 1967, RRF, OMD; 1 male Te Waitangata Stream, 16 Dec. 1970, Darby, OMD; 1 female Cape Reinga, 7 Jan. 1967, RRF, OMD; 1 female Mangakirikiri Stream, 3 Sept. 1982, C.H. Lindroth, DSIR, NZAC; 1 male Cambridge, B.J. Marples, 11 May 1952, OMD; 1 male Puketona Road, Paihia, in swimming pool, 1 Apr. 1981, P. Herbert, NZAC; 1 male Owairaka, predacious on *Dieuches notatus*, Feb. 1961, B.M. May, NZAC; 1 female Opunake, 23 Feb. 1967, CLW, OMD; 1 female Cable Bay, Nelson, under boulders, 29 March 1966, CLW, OMD; 1 male Whakatane, March 1934, ex building, OMD; 1 male Whakatane, 26 Oct. 1969, R.G. Ordish, MNZ; 1 female OMD; 2 male, 2 female Nelson, 127 Tasman St., in tout of house, Oct. 1969, DSIR, NZAC; 1 male Lake 3050 nr Mt. Pristley, Paparoa Pa. litter, 10 Dec. 1969, J.M. Burney, DSIR, NZAC; 2 male Kawerua, Feb. 1936 (?), OMD; 1 male no locality, house hopper, OMD; 1 female Kawerua, *Cassima* sand dunes, 14 May 1973, D. Court, OMD; 1 male Knuckle Hill, 410 m, West Haven Inlet, Nelson, 2 March, 1970, swards 70/114, J.S. Dugdale, DSIR, NZAC; 1 male Waitetoko, 8 Nov. 1964, RWH (?), OMD; 1 male, 4 female, 1 juv. Roturua, 1 Dec. 1975, OMD; 1 male Pukekohe, A.R. Bewns farmer, pit trapping, pasture, 21 Feb.-21 March 1977, N. A. Martin, DSIR, NZAC; 1 female

Omaio Beach, Bay of Plenty, 2 Oct. 1969, C.L. Wilton, OMD; 1 female, 2 juv. Kawarau, scrub on sand dunes, 4 May 1973, D.J. Court, OMD; 1 male Raumanga Road, bridge (rail), 9 km N of Masterton, 1 Dec. 1978, A.C. Harris, OMD; 1 male, 1 female Masterton, CLW, OMD; 2 female Coromandel Peninsula, Mt. Maungatawhiri, pasture, 21 Aug., D.J. Court, OMD; 1 female Waihaupai, pitfall, 16-31 Oct. 1972, C.L. Wilton, OMD; 1 female Leigh, Jan. 1971, D.J. Court, OMD; 2 female Kawarau, *Spinifex*, sand, 14 May 1973, D.J. Court; 1 female Waipoua, forest, 15 Jan. 1979, A.C. Harris, OMD; 3 female Parnell, under stones, Jan. 1947, OMD; 1 male Ngapuhi Rd, July 1947, A. Halstead, OMD 1 male Titirangi, DSIR; 1 female Remuera, garden, Mapice Sk., 11 Jan. 1971, G. Halstead, N. Barnes, OMD; 1 female E. Great Barrier Is., Awana Bay, 11 Jan. 1974, R.G. Ordish, NMW; 2 male, 1 female N.I. Waipu, Long Bay, 19 July 1975, C.L. Wilton, MNZ; 1 female North Island, S of Mangamuka Gorge, 18 Nov. 1966, K.A.J. Wise, AMNZ; 1 female Wenderholm, under bark trees, on sand, 18 Jan. 1971, M. Buckler, OMD; 1 male Wellington, Hataitai, 10 June 1972, K. Wodzicki, MNZ; 1 male, 2 female Waiheke Island, 1945, G. Chamberlain, NMW; 1 male, 1 female Lake Waikaremoana, under stones, near lake, 26 Nov. 1996, NMW; 1 male, 1 female Waipoua S. Forest, in Kauri forest, 24 Dec. 1978, A.C. Harris, OMD; 2 males, 4 females Foxton, in grass, 15 Jan. 1967, RRF, OMD; 1 female Nelson, on wall of house, 22 Oct. 1967, BM, OMD; 1 male Wellington, Maungakotukutuku Valley, 27 Feb. 1965, R.G. Ordish; MNZ; 2 male, 1 female Mangamuka, 31 Jan. 1981, RRF, OMD; 1 male Whangarei, 20 July 1981, OMD; 3 female Levin, Waitare Beach, 29 Sept. 1969, 10 Dec. 1969, R.G. Ordish, MNZ; 1 female Hunua Rd, McNicol Rd, on track by river, 16 Sept. 1997, G. Hall, NZAC; 3 female Whangarei, Coronation Park, 6 Feb. 1981, RRF, OMD; 1 female Christchurch, 10 Nov. 1991, C.J. Vink, LUNZ; 1 female Karekare, under dune vegetation, 14 Apr. 1984, J.C. Walt, NZAC; 1 female Mt Albert, in garden, 14 Dec. 1981, P. Herbert, NZAC; 1 female Abbey Caves, on rocks, 1 Oct. 1995, O. Green, NZAC; 1 female Mt Albert, Research Centre, 19 Dec. 1991, J. Clearwater, NZAC; 1 female 2 juv. Coromandel, stream bed, 21 Jan. 2000, C.J. Vink, A.D. Blest, CMC; 1 male Lincoln University, in glasshouse, March 1992, C.J. Vink, LUNZ; 1 female Titirangi, Malaise trap in garden, Dec. 1980, P.A. Maddison, NZAC; 1 male nr Kuaotunu, damp, long grass, 26 Jan. 2000, A.D. Blest, CMC; 1 male, 1 female Whangapoua, on sand, 25 Jan. 2000, C.J. Vink, CMC; 2 females Mt. Roskill, on house, Nov. 1988, G. McRae; NZAC; 1 male, 3 males Avondale, 29 July 1999, G. Hall, NZAC; 1 females Seddonville, Charming Ck., walking, under logs, 10 March 1996, G. Hall, NZAC; 1 female Christchurch, 10 Nov. 1991, H. Vink, CMC; 3 males, 1 female Ohra, 1986, CUC; 2 males, 2 females Nelson, Brightwater, under rocks, grape vines, 17

March, 17 Apr. 1999, M.P. Anstey, CMC; Christchurch, undergrowth, 20 Sept. 1996, M.P. Anstey, CMC; 1 male Lincoln University, in building, 18 Nov. 1991, C.J. Vink, LUNZ; 1 male Christchurch, in house, 20 Oct. 1991, G.A. Vink, LUNZ; 1 male Christchurch, indoors, 12 Sept. 1999, M.P. Anstey, CMC; 2 males, 2 females Otira, 1986, CMC. Comparative material: *Habrocestum albiovittatum* Keyserling, 1882, Holotypus, Australien, Peak Downs, Mus. Godeffroy, Nr. 7724", ZMH.

#### Diagnosis.

See diagnosis for the genus.

#### Description.

Male (Fig. 1). Eye field black, surrounded by distinctive wide lighter belt, anteriorly covered with mat of short thick hairs - orange in preserved and reddish in live animals. Thorax dark-brown with white adpressed hairs. Abdomen dirty-grey, with darker cardiac mark and lighter chevrons as in the female (see Fig. 5) or more uniform in colour. Whole abdomen with greyish and brown protruding hairs. Anterior spinnerets dirty-orange, median and posterior ones - dark-grey. Clypeus dirty-orange, anterior eyes surrounded with scale-like reddish and yellowish hairs and with light-brown protruding bristles. Chelicerae (Fig. 2) orange. Maxillae light-orange, laterally pointed (Fig. 3). Labium dirty-orange. Sternum yellow, with dark narrow margin and numerous white and few brownish hairs. Venter yellow, with blackish Dalmatian-like spots. Femora of 1<sup>st</sup> legs nearly black on sides, dorsally and ventrally orange, distal podomeres generally lighter - especially dorsally and ventrally, joint areas dark, tarsi yellow. Tibiae with 3 pairs of ventrolateral spines, metatarsi with 2 pairs of prolateral and one with a pair of retrolateral spines. Other legs lighter than the first ones. Third legs (Fig. 4) with a fringe of dark hairs - mostly on patella, tibia and metatarsus. Pedipalps contrasting yellow, distally orange. Palpal organ structure as shown in Fig. 7-9. CL 2.91, CW 1.13, CH 1.35, AEW 1.76, PEW 1.76, AL 3.17, L1 4.94, L2 4.83, L3 7.28, L4 5.92.

Female (Fig. 5). Eye field shiny black, surrounded with contrasting yellow belt. Behind fovea carapace dirty-grey. Thorax and sides dirty-grey, lighter towards lower margins. Hairiness yellowish and orange or grey on light and dark surfaces, respectively. Lateral eye field margins with white scale-like setae, orange setae around anterior eyes. Clypeus with dense white and yellow hairs and with darker and long bristles, two of the latter protrude below AME. Abdomen egg-shaped, generally dark-grey with yellowish median chevrons and rows of yellowish spots and dots - one of them terminally. Whole abdominal surface with protruding brown bristles - more distinctive on anterior margin. Spinnerets dirty-grey. Chelicerae honey-yellow, with single

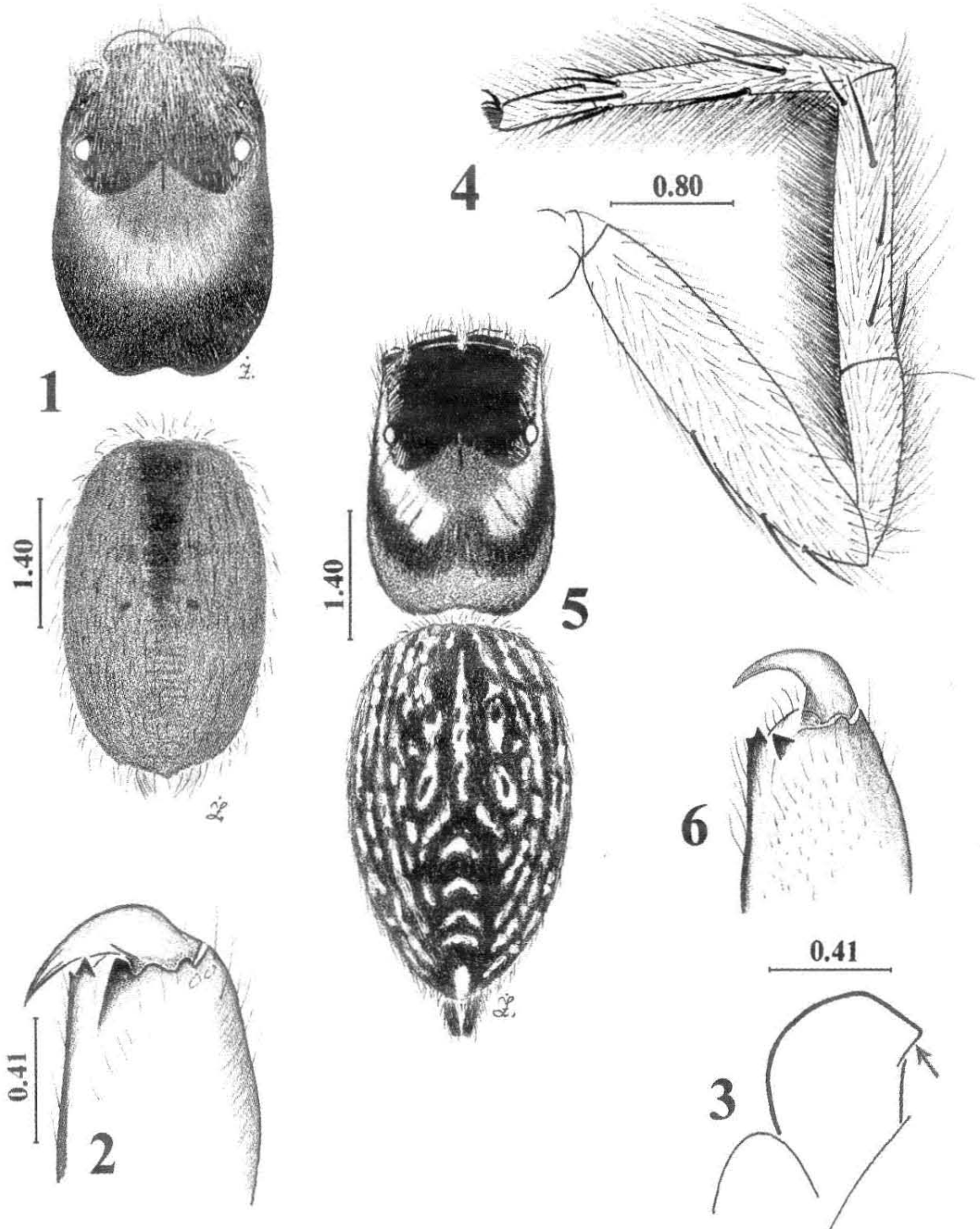


Fig. 1-6. *Hypoblemum albovittatum* (Keyserling): general appearance of male (1) and female (5), cheliceral dentition of male (2) and female (6), leg III of male (4) and maxilla of male (3)

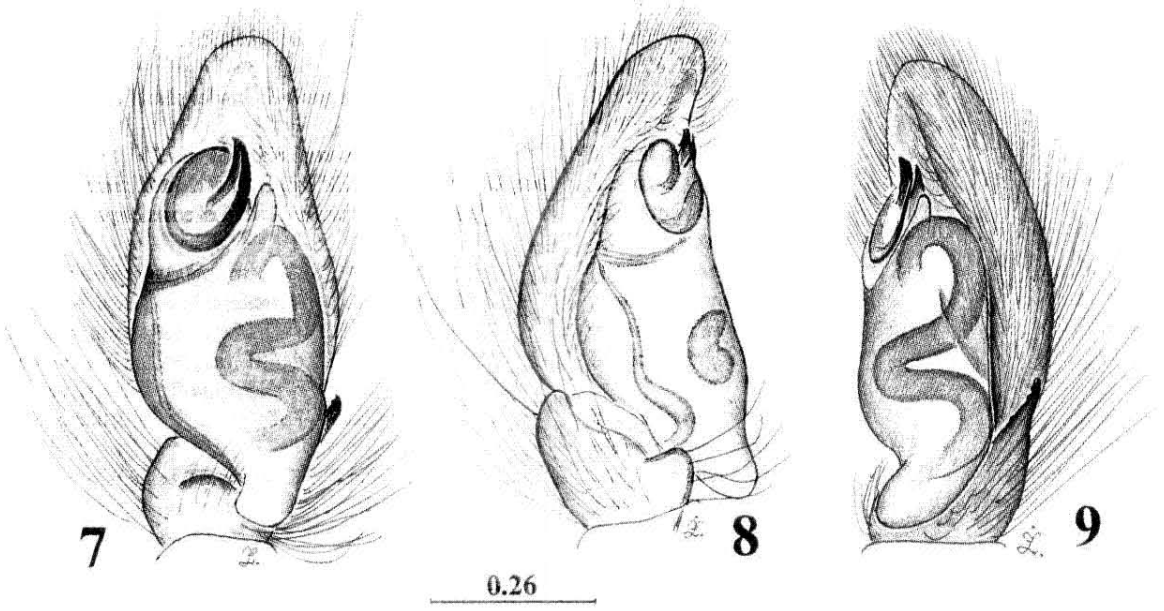


Fig. 7-9. *Hypoblemum albovittatum* (Keyserling): male palpal organ



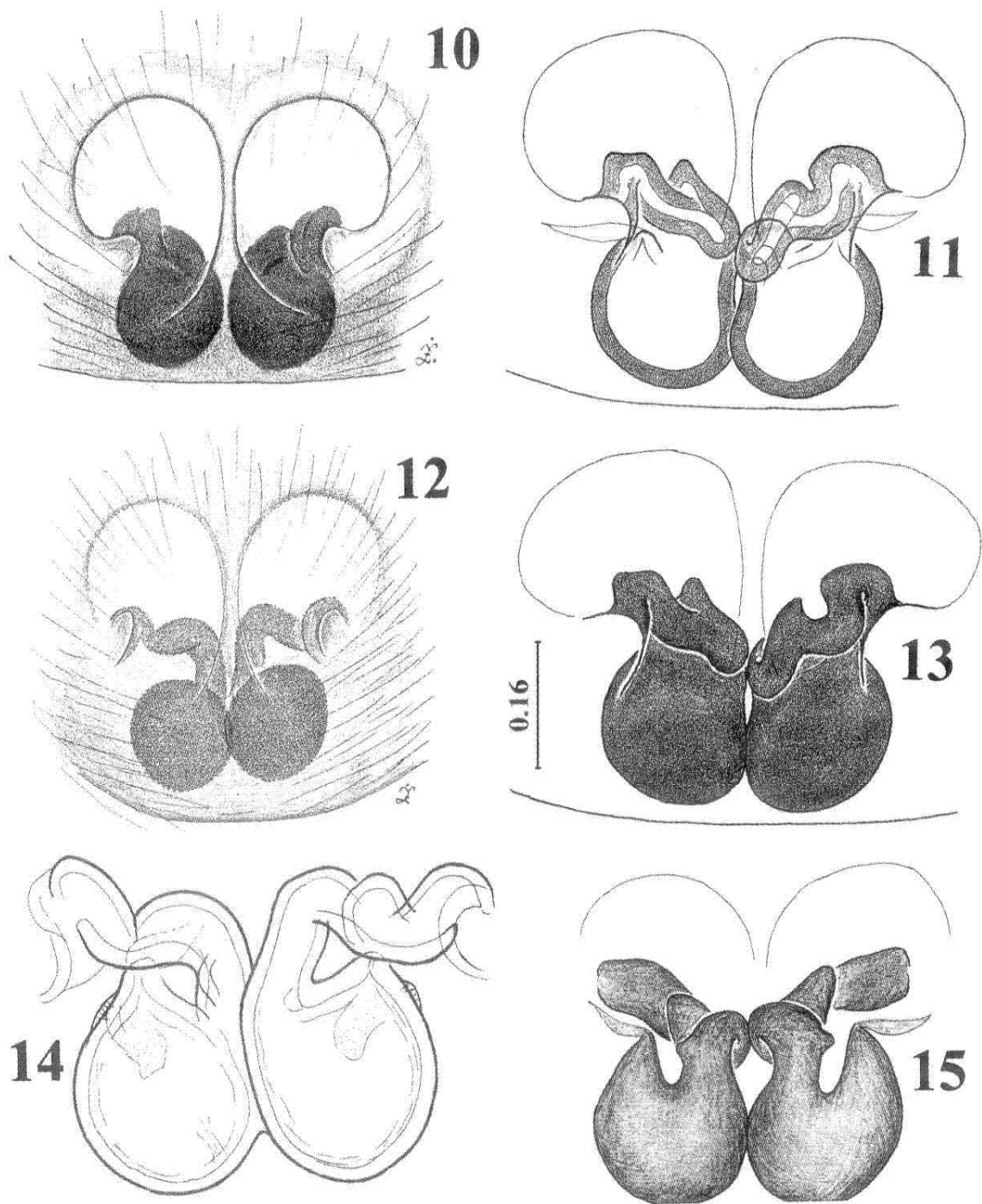
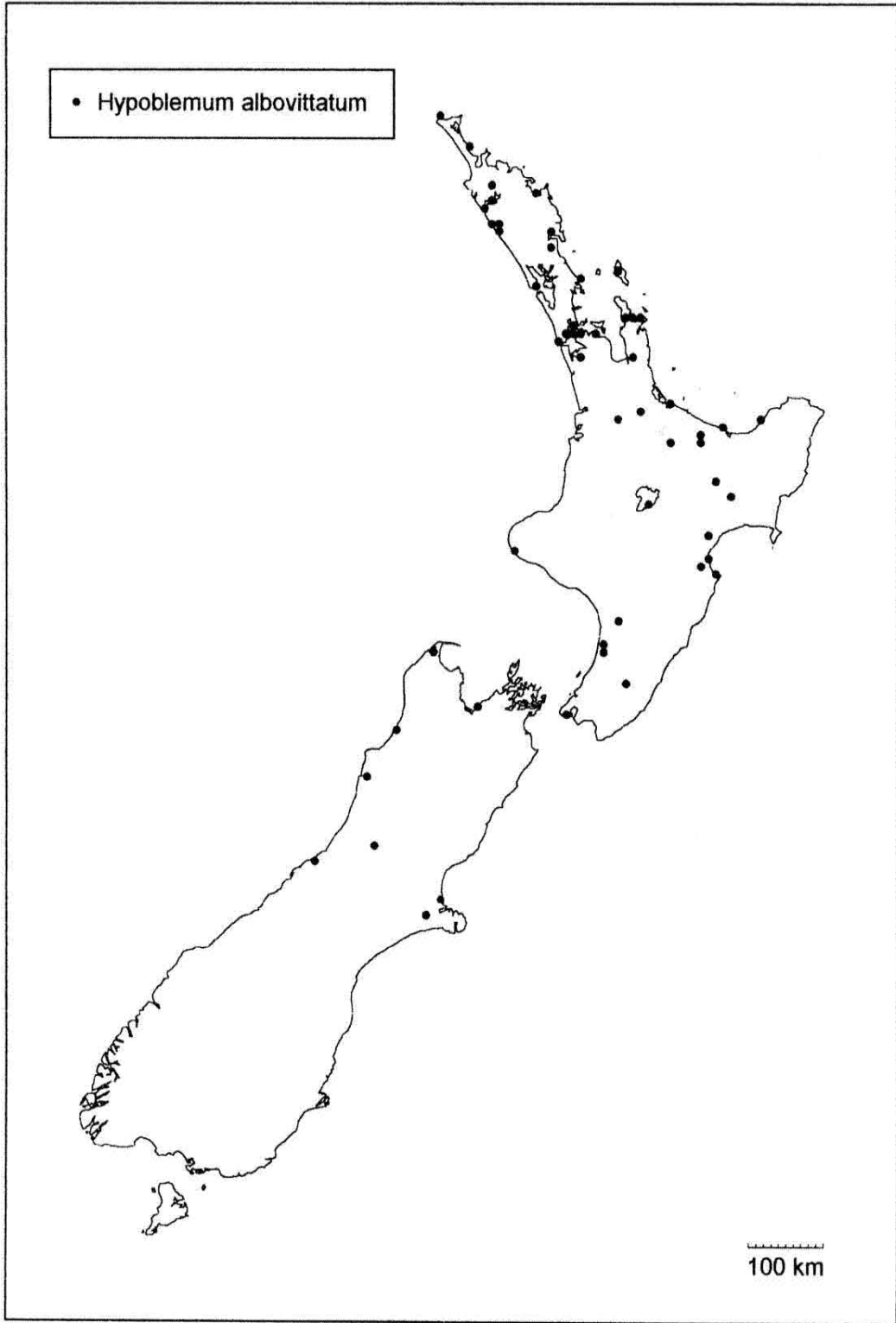


Fig. 10-15. *Hypoblemum albovittatum* (Keyserling): variation of epigyne (10, 12) and internal genitalia (11, 14), the course of internal genitalia from ventral (13) and dorsal (15) side



Distribution of *Hypoblemum albovittatum*

retromarginal tooth and two promarginal teeth (Fig. 6). Maxillae round at the top, yellow, labium darker. Sternum yellow with narrow darker margin, and with brownish hairs. Venter yellow with scattered dark-grey spots. Pedipalps yellow. Legs dirty-yellow, particular podomeres darker distally, tibiae I and II with 3 pairs of vertrolateral spines, metatarsi with two pairs of spines. Leg hairiness moderate, yellowish and brown. Epigyne and internal genitalia as shown in Fig. 10-15. CL 2.81, CW 2.23, CH 1.35, AEW 1.76, PEW 1.82, AL 3.43, L1 4.52, L2 4.52, L3 5.98, L4 5.92.

### Remarks.

In New Zealand the species has been known as "*Euophrys parvula*" Bryant, but has, in fact, nothing to do with the species described by Bryant (1935). The mating behaviour of the species (as "*E. parvula*") was studied by Jackson & Willey (1995).

### Distribution (Map 1).

A wide-spread species, found in various habitats across New Zealand. Its common name "house hopper" shows its syntropic character and possibility of anthropodispersal from Australia. Interestingly, in Australia the species is less common - probably because much more natural character of biota.

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