FURTHER NOTES ON THE SPIDERS OF NEW GUINEA II (ARANEAE, TETRAGNATHIDAE, THERIDIIDAE)

by

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With 177 text-figures

INTRODUCTION

In the first part of this series (Chrysanthus, 1971), I dealt with 61 species of the family Argiopidae, originating from New Guinea, the Bismarck Archipelago, the Solomon Is., and islands of the Great Barrier Reef and in the Coral Sea. The greater part of the material belongs to the Rijksmuseum van Natuurlijke Historie, Leiden; also other museums allowed me to study spiders from this region, which form part of their collections. Some further collecting has since been done by the staff of the Department of Forests, Bulolo, Territory of Papua and New Guinea (abbreviation BUL), mostly by Dr. B. Gray, and by Dr. M. H. Robinson and mrs. B. Robinson of the Bishop Museum Field Station in Wau, near Bulolo.

In this second part will be treated the Tetragnathidae and Theridiidae from the same region and belonging to the same Institutions. For abbreviations, lists of collections and collectors or expeditions, maps and alphabetic list of localities I may refer to my 1971 paper.

TETRAGNATHIDAE

TETRAGNATHINAE

Tetragnatha Latreille, 1804

According to Roewer (1942: 978) 43 species of this genus have been described in the Australian region; seven of these are also known from the Indian region and one from Southern Europe and Africa. Gravely (1921: 424), who studied a large Tetragnatha collection from the Indian region, observed that it contained ten species, seven of which were new, notwithstanding the large number of species already described from that region by Thorell and others and: ".... the wide distribution of some of them [both of known and new species]". He finished his introduction to this genus remarking: "I can only conclude that the number of species still awaiting

discovery is very large". I have come to the same conclusion for the *Tetragnatha* species of the Australian region.

Most species of this genus are very similar in outer appearance; in the females the epigyne is so simple that it does not give much help for identification; the only decisive character is the dentition of the chelicerae: both the anterior row of dents and the posterior row have to be studied carefully and compared with the figures, given by the authors. A description of the pattern of these dents without accompanying figures is in most cases of little use. In the males the identification is much easier: apart from the characteristic cheliceral dentition there is the rather complex palp with its specific structure and a paracymbium, varying in size and shape in the different species. As the dentition of male and female chelicerae may strongly differ it generally is impossible to correctly associate the sexes if they are not collected together.

Since the outer appearance in most species is so similar I do not give figures of the whole spiders, except in a few cases. When figuring the chelicerae I have always chosen the right one, for the ♂ palp the left one, unless indicated otherwise. The term "epigyne" is used for epigyne and booklungs together.

Tetragnatha biseriata Thorell, 1881 (figs. 1-3)

Tetragnatha biseriata Thorell, 1881: 139 (♀). Strand 1911: 137 (♀).

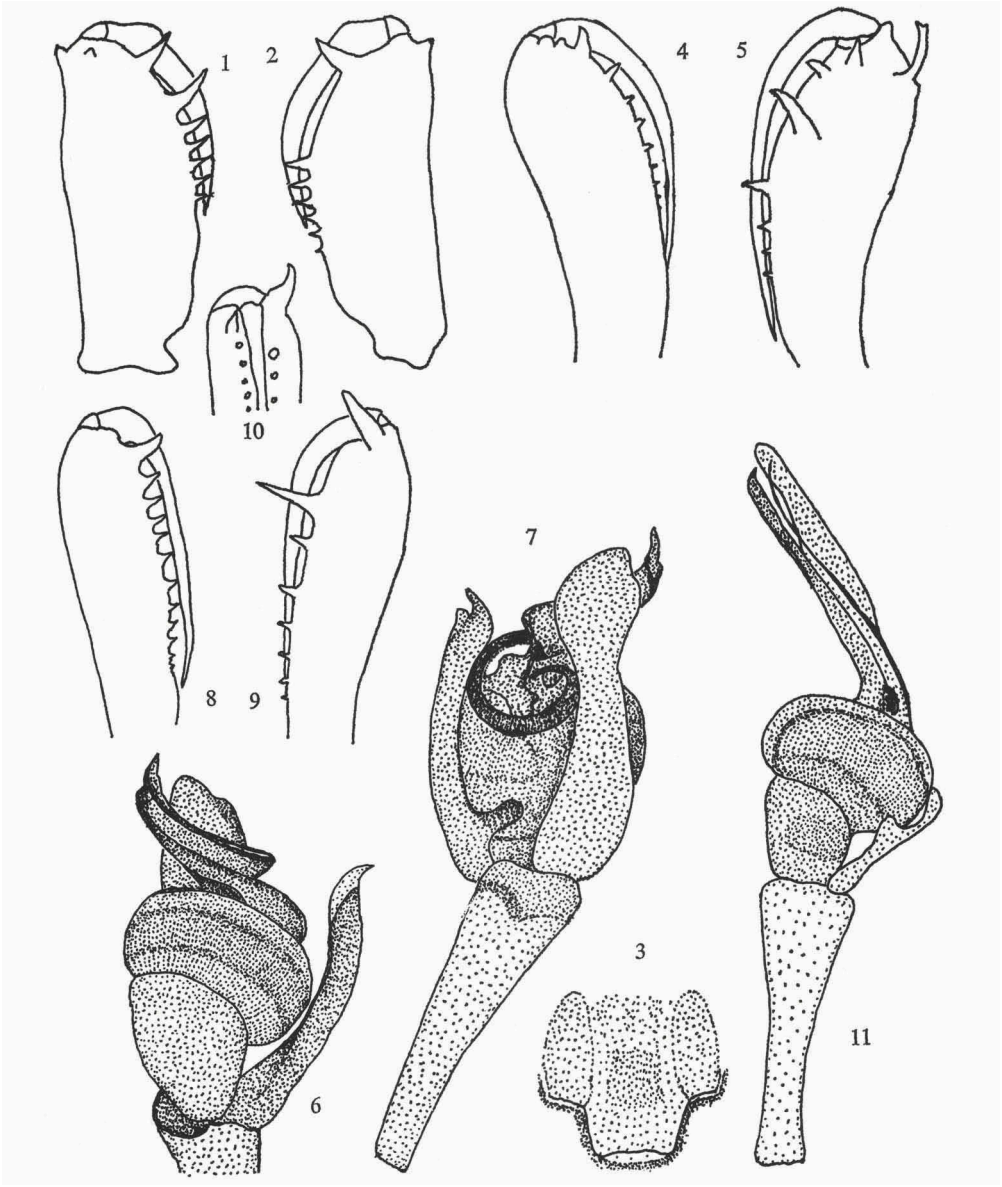
Material. — West New Guinea: Ajamaroe, 7.vi.1952, L. D. Brongersma & W. J. Roosdorp, ♀ (RMNH); Mindiptana, 1959, ♀, 1965, 3 ♀, Br. Munolf (CHR).

East New Guinea: Sugedamer near Orokana S. H. Dist., 27.xi.1969, B. Gray, ♀ (BUL).

These females very well agree with Thorell's description of two female syntypes from Ramoi (near Sorong, Vogelkop) and with a series of several females from Aru Is. and Kei Is., identified by Strand (SMF 4191-4197, examined). There are no further records.

Kulczynski described his *T. modica* (1911: 449, pl. 19 fig. 23) after some females from Sentani (near Hollandia): most characters given by him, e.g. the dentition of the chelicerae, are exactly the same as in *T. biseriata,* the measurements only are slightly smaller: *T. modica* therefore may be a synonym of *T. biseriata.*

Also Strand's *T. anirensis* (1915: 196, pl. 15 figs. 37 a-c) from Anir, a small island to the north-east of New Ireland (SMF 4190, 2 ♀, examined), is at least very close to *T. biseriata* if not identical with it.



Figs. 1-3. *Tetragnatha biseriata* Thorell, ♀. 1, chelicera, ventral aspect; 2, dorsal aspect; 3, epigyne. Figs. 4-7. *T. eitapensis* Strand, ♂. 4, chelicera, ventral aspect; 5, dorsal aspect; 6, palp, outside; 7, inner side. Figs. 8-11. *T. micrura* Kulczynski, ♂. 8, chelicera, ventral aspect; 9, dorsal aspect; 10, mesal aspect; 11, palp, outside. — 1, 2, 4, 5, 8-10, × 17; 3, × 13; 6, 7, 11, × 40.

Tetragnatha eitapensis Strand, 1913 (figs. 4-7)

Tetragnatha eitapensis Strand, 1913: 115 (♂); 1915: 196, pl. 15 figs. 40 a-c (♂).

Material. — West New Guinea: Djidmaoe, 13.vi.1952, L. D. Brongersma, ♂; Ajamaroe, 2.iii.1955, L. D. Brongersma, ♂ (RMNH).

Both specimens fully agree wit Strand's description and figures and with the holotype and only known specimen from Eitape, East New Guinea (SMF 4210, examined).

Tetragnatha micrura Kulczynski, 1911 (figs. 8-13)

Tetragnatha micrura Kulczynski, 1911: 450, pl. 19 figs. 25, 26, 28 (♂).

Material. — West New Guinea: Joka, near Hollandia, 27.xii.1953, L. van der Hammen, ♂ (RMNH).

This species, only known from its type locality Sentani (one male) is remarkable on account of its very elongate abdomen, ending in a small tail. The above mentioned specimen agrees in all details with Kulczynski's description and figures.

Tetragnatha mandibulata Walckenaer, 1841

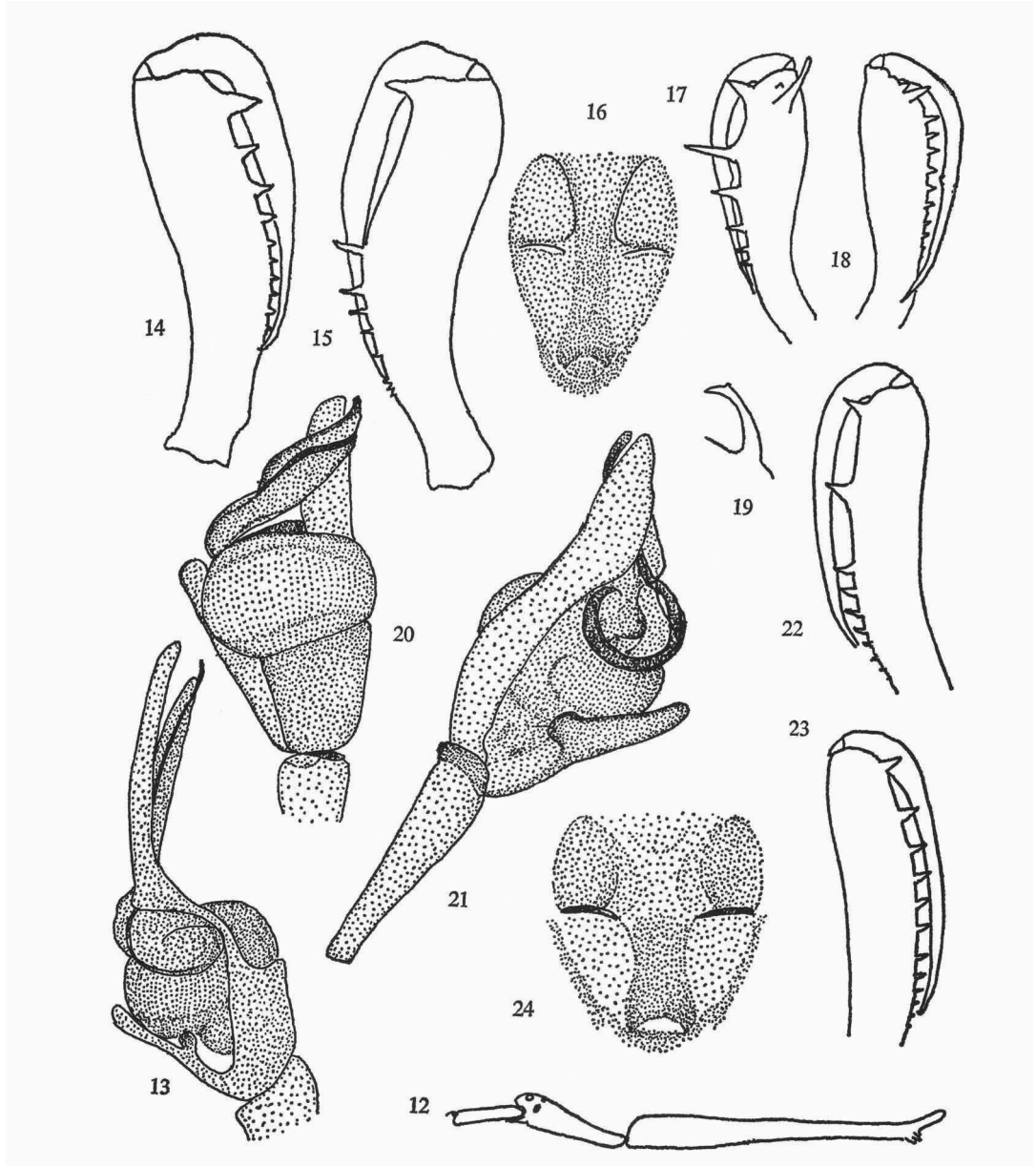
Tetragnatha mandibulata; Chrysanthus, 1963: 733, figs. 24-26, 36-39 (♀ ♂).

Material. — West New Guinea: Sorong, 1906-7, T. Barbour, ♂ (MCZ); Joka (near Hollandia), 6.viii.1952, L. D. Brongersma, ♀; 27.xii.1953, L. van der Hammen, 2 ♂; Betabib, 30.v.1959, Star Mts. Exped., 2 ♂; Merauke, 28.iii.1955, L. B. Holthuis, ♀ ♂ (all RMNH).

East New Guinea; Kaiserin Augusta Fluss, 28-31.v.1909, G. Duncker, ♀, 2 ♂ (ZMH).

Bismarck Arch.: Heremit Is., Luf I., 27.vi.1962, ♂; Manus I., Lombrun, 29.vi.1962, ♀; Mussau I., Lake Taletasi, 4.vi.1962, 2 ♀, 3 ♂; Boliu, 6.vi.1962, 3 ♂; Talumalaus, 9.ii.1962, ♂; New Britain, Valoka, 8.vii.1962, ♂; Yalom, 1000 m, 10-11.v.1962, 2 ♀ (all Noona Dan Exped., ZMK); New Britain, S. coast, Jacquinot Bay, 19-20.xii.1908, G. Duncker, 2 ♀ (ZMH).

There has been much confusion about this species (type locality Guam): Walckenaer's description of the female (1841: 211) is short and somewhat ambiguous. About the chelicerae he states: "Mandibules .... dont le tige [basal joint] est terminé par une épine ou crochet d'un rouge pâle". If his "épine ou crochet" regards the unguis, this sentence does not give any useful information because in all spiders the chelicerae consist of a basal part ("paturon") and a terminal part ("unguis", "fang", "claw"); most authors believe that Walckenaer wants to draw attention to the first stout dent of the ventral row, which extends directly forwards beside the base of the fang,



Figs. 12, 13. *Tetragnatha micrura* Kulczynski. 12, ♂; 13, palp, inner side. Figs. 14-21. *T. maxillosa* Thorell. 14, ♀, chelicera, ventral aspect; 15, dorsal aspect; 16, epigyne; 17, ♂, chelicera, dorsal aspect; 18, ventral aspect; 19, "spur"; 20, right palp, outside; 21, inner side. Figs. 22-24. *T. papuana* Kulczynski, ♀. 22, chelicera, dorsal aspect; 23, ventral aspect; 24, epigyne. — 12, × 3; 13, × 40; 14, 15, 17, 18, 22, 23, × 17; 16, 24, × 13; 19, × 26; 20, 21, × 60.

a situation at least very rare in *Tetragnatha* species (cf. Chrysanthus, 1963: fig. 38).

Three more species have been described under the same name:

T. mandibulata Keyserling, 1865 (p. 848, pl. 21 figs. 6-9), type locality "Neu Granada [Colombia]", also mentioned (correctly?) from Indo China and several islands of the Pacific, = *T. keyserlingi* Simon, 1890 (p. 134) nom. nov.;

T. mandibulata L. Koch, 1871 (p. 194, pl. 17 figs. 2, 3), type locality Viti Is., Samoa Is., Tonga Is., = *T. kochi* Thorell, 1895 (p. 140) nom. nov.;

T. mandibulata Thorell, 1890 (p. 221), type locality Java, = *T. maxillosa* Thorell, 1895 (p. 139) nom. nov.

The differences between these three species are small and their identification requires very careful examination: it may be, therefore, that some records in the arachnological literature are incorrect.

Tetragnatha maxillosa Thorell, 1895 (figs. 14-21)

Tetragnatha maxillosa Thorell, 1895: 139 (nom. nov.).
T. mandibulata Thorell, 1890: 221 (♀) (nec Walckenaer).
T. maxillosa insignita Strand, 1911: 138 (♀).
T. maxillosa; Gravely, 1921: 430 (♀ ♂).

Material. — West New Guinea: Araboe bivak, 21-28.x.1939, KNAG, ♀; Tenmasigin, 22.v.1959, Star Mts. Exped., ♀ (RMNH).

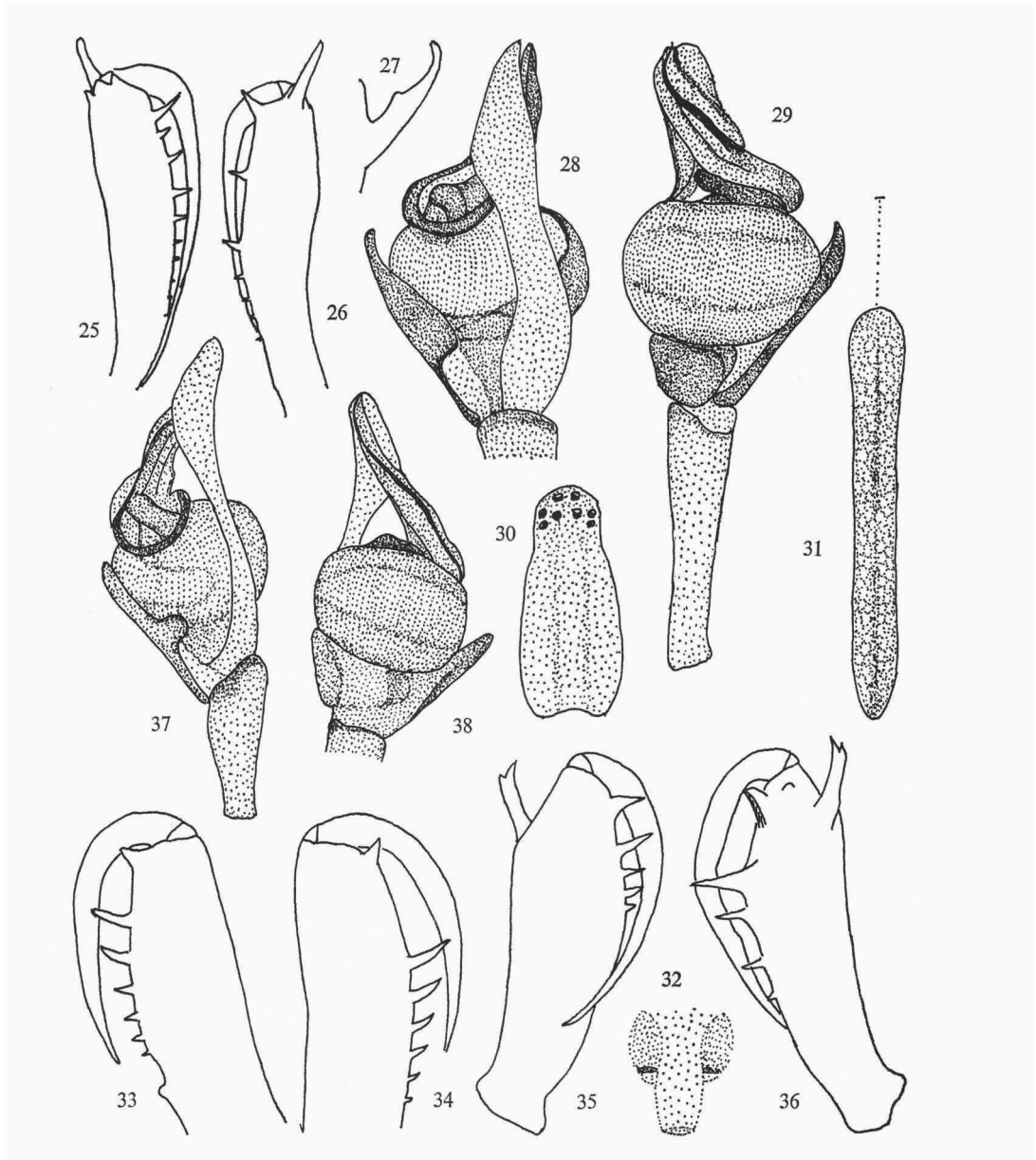
East New Guinea: Kaiserin Augusta Fluss, 24-28.v.1909, G. Duncker, 3 ♀ (ZMH).

Bismarck Arch.: Mussau I., Talumalaus, 25.i-5.ii.1962, 1 ♂, 13 ♀; Lake Taletasi, 4.vi.1962, ♀; Dyaul I., Sumuna, 5.iii.1962, ♀; New Britain, Valoka, 8.vii.1962, ♀; Yalom, 1000 m, 10-12.v.1962, 2 ♂ (all Noona Dan Exped., ZMK); New Britain, S. W. coast, "Liebliche Inseln", 1909, G. Duncker, 2 ♀, 1 ♂ (ZMH); S. coast, Jacquinot Bay, 19-20.xii.1908, G. Duncker, 2 ♀, 1 ♂ (ZMH).

A careful comparison of the above material with the descriptions and figures of all three *"mandibulata"* species (cf. my remarks on *T. mandibulata* Walckenaer) has convinced me that they belong to *T. maxillosa* Thorell.

In the greater part of the specimens the dorsal surface of the abdomen is covered with small silver patches, separated by brown veins; in a few there are two longitudinal rows of black stripes (var. *insignita* Strand); in the females from Araboe bivak and Tenmasigin these stripes are extended to a folium, gradually darkening towards the tip of the abdomen.

The type locality of *T. maxillosa* is Java and it has also been recorded



Figs. 25-29. *Tetragnatha papuana* Kulczynski, ♂. 25, chelicera, ventral aspect; 26, dorsal aspect; 27, "spur"; 28, palp, inner side; 29, outside. Figs. 30-38. *T. macilenta* L. Koch. 30, ♀, cephalothorax; 31, abdomen; 32, epigyne; 33, left chelicera, ventral aspect; 34, dorsal aspect; 35, ♂, chelicera, ventral aspect; 36, dorsal aspect; 37, ♂, palp, inner side; 38, outside. — 25, 26, × 17; 27, × 34; 28, 29, 37, 38, × 60; 30, 32, × 13; 31, × 7; 33, 36, × 40.

from Burma and Malaya (by Thorell himself) and Aru Is. (by Strand, SMF 4215, examined) but some records of other *"mandibulata"* species may in reality belong to *T. maxillosa.*

In 1924, Berland described *T. oubatchensis* from New Caledonia (p. 207, figs. 91-95, ♀ ♂): judging from the rather good figures — the description is very superficial — this species must at least be very close to *T. maxillosa,* if not identical with it; the only differences are: in the ♀ some black stripes on the adbomen (cf. var. *insignata* Strand), and in the ♂ a small excrescence on the basal part of the paracymbium before the large one indicated in fig. 21.

Tetragnatha macilenta L. Koch, 1871 (figs. 30-38)

Tetragnatha macilenta L. Koch, 1871: 192, pl. 16 fig. 6, pl. 17 fig. 1 (♀ ♂). Berland, 1929: 60, figs. 45-51 (♀ ♂).

Material. — West New Guinea: Mindiptana, 1965, Br. Monulf, 2 ♀, 1 ♂ (CHR).

Bismarck Arch.: Manus I., Lombrun, 2.ix.1962, Noona Dan Exped., ♀ (ZMK).

The above mentioned specimens are in accordance with Koch's description and figures and with the syntypes (2 ♀, ♂) from Samoa and Tonga Is. (Zool. Mus. Hamburg), which I could study through the kindness of Dr. G. Rack, and also with Berland's figures.

The species is further known from Norfolk I., Hawaii and Marquesas Is. (Roewer, 1942: 986; Bonnet, 1959: 4338).

Tetragnatha papuana Kulczynski, 1911 (figs. 22-29)

Tetragnatha papuana Kulczynski, 1911: 446, pl. 19 figs. 20, 24 (♂).

Material. — West New Guinea: Merauke, 1956/57, Br. Monulf, ♀ (CHR).

Bismarck Arch.: Mussau I., Talumalaus, 9.ii.1962, Noona Dan Exped., ♂ (ZMK).

The holotype and only known specimen of this species originated from Lake Jamur (near Etna Bay); the Talumalaus male fully agrees with Kulczynski's description and figures.

Many spiders were collected on Rennell I. by the Noona Dan Expedition. Three males of *T. papuana* were collected in Niupani (Rennell I.) on 18.viii.1962 together with two *Tetragnatha* females. I am sure that these females — and also the female from Merauke, which is identical with them — belong to *T. papuana*: males and females were collected together in the same place and on the same date, the chelicerae of the females are extremely

slender as in the males and their dentition is nearly the same, except, of course, for the male "spur" (cf. figs. 22, 26; 23, 25).

As the Merauke female is in a rather bad condition with almost all legs partly broken off and its abdomen very darkly coloured, which renders its pattern indiscernible, I have chosen one of the Niupani females for the description of the hitherto unknown female of *T. papuana*.

Female. Cephalothorax: length 3.0 mm, width 1.7 mm, yellowish brown with narrow brown borders; cephalic part marked by two reddish brown stripes, originating from the conspicuous dark brown semicircular central groove. Width of the eye region 0.9 mm. Chelicerae (figs. 22, 23) yellowish brown; maxillae, palps and legs yellowish brown; labium dark brown; sternum (length 1.5 mm, width 0.9 mm) reddish brown. Legs: I 25, II 16, III 9, IV 16.5 mm.

Abdomen: length 7.0 mm, width 2.0 mm; dorsal side yellowish grey with sparsely scattered small silver patches and three vague longitudinal brown stripes; ventral side yellowish grey with a few small silver patches and an irregular brown central band between the epigyne (fig. 24) and the yellowish brown spinnerets.

Tetragnatha rubriventris Doleschall, 1857

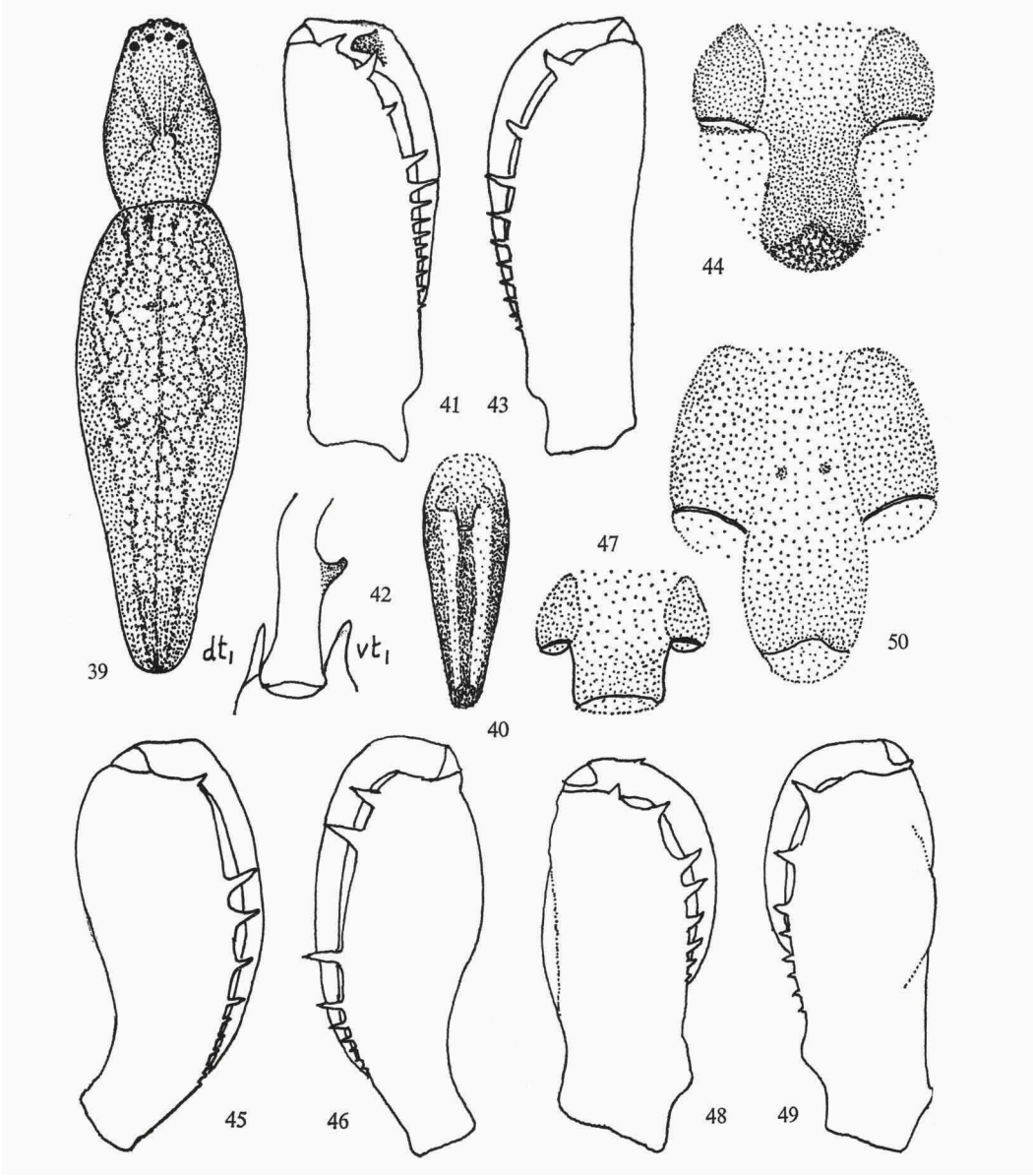
Tetragnatha rubriventris; Chrysanthus, 1963: 735, figs. 27-29, 40-43 (♀ ♂).

Material.— West New Guinea: Ajamaroe, -.vi.1952, L. D. Brongersma & W. J. Roosdorp, ♀; 2.iii.1955, L. D. Brongersma, 5 ♀ (RMNH); Roon I., Jendee I., 1906-7, T. Barbour, ♀ (MCZ); Maffin Bay, -.ix.1944, E. S. Ross, ♀ ♂ (CAS); Joka, near Hollandia, 6.viii.1952, L. D. Brongersma, ♀; 20.x.1954, L. B. Holthuis, ♂; Biak, Base, 13.iii.1952, L. D. Brongersma & W. J. Roosdorp, ♂; 1953, L. van der Hammen, ♂; Merauke. -.ix.1904, H. P. Winkelman, ♀ (RMNH).

Tetragnatha boeleni spec. nov. (figs. 39-44)

Material. — West New Guinea: Wissel Lakes, 1954, K. W. J. Boelen, ♀ (holotype), 7 ♀ (paratypes); Enarotali (Wissel Lakes), 16.xi.1953, L. van der Hammen, 2 ♀ (paratypes) (RMNH).

Female (holotype). — Cephalothorax (fig. 39): length 4.0 mm, width 2.4 mm, reddish brown with darker borders and stripes, radiating from the central groove; width of the eye region 1.2 mm. Chelicerae (figs. 41, 43): reddish brown, fangs dark brown; on the mesal side of the fang a blunt tooth present (stippled in figs. 41 and 42; dt_1 = first dorsal tooth; vt_1 = first ventral tooth). In several *Tetragnatha* species there is a knob on the



Figs. 39-44. *Tetragnatha boeleni* spec. nov. 39, ♀ ; 40, abdomen, underside; 41, chelicera, ventral aspect; 42, basal part of fang; 43, dorsal aspect; 44, epigyne. Figs. 45-47. *T. rossi* spec. nov., ♀. 45, chelicera, ventral aspect; 46, dorsal aspect; 47, epigyne. Figs. 48-50. *T. crassichelata* spec. nov., ♀. 48, chelicera, ventral aspect; 49, dorsal aspect; 50, epigyne. — 39, × 7; 40, × 3; 41, 43, 45, 46, 48-50, × 17; 42, × 26; 44, 47, × 13.

outside of the fang, e.g. in *T. mandibulata* (cf. Chrysanthus, 1963: fig. 37). Maxillae reddish brown, the inner borders lighter; labium dark brown; sternum (length 1.8 mm, width 1.1 mm) reddish brown. Legs yellowish brown, measurements: I 25, II 15, III 8, IV 16 mm.

Abdomen (fig. 39): length 9.0 mm, width 3.5 mm, covered with glittering silvery and golden patches, separated from each other by brown lines and blots. Underside (fig. 40) dark brown with two rather broad silver and golden bands. Booklungs (fig. 44) reddish brown; epigyne (fig. 44) dark brown; spinnerets dark brown.

Some of the paratypes are a little smaller or have a less distinct pattern.

The male has not yet been discovered.

Tetragnatha crassichelata spec. nov. (figs. 48-50)

Material. — West New Guinea: Maffin Bay, 3.x.1944, E. S. Ross, ♀ (holotype) (CAS).

Female (holotype). — Cephalothorax: length 4.0 mm, width 2.2 mm, reddish brown; width of the eye region 1.9 mm. Chelicerae (figs. 48, 49) dark reddish brown, strongly swollen (crassus = thick; chelae = pincers of a lobster or a scorpion). Maxillae and sternum (length 17.8 mm, width 1.1 mm) reddish brown; labium dark reddish brown. Pedipalpi and legs orange coloured; measurements of the legs: I ?, II 22, III 10, IV 20 mm.

Abdomen (in rather bad condition): length 10.0 mm, width 2.5 mm, somewhat tapering towards the tip, marbled with silver and grey, posterior part suffused with yellowish brown. Underside yellowish grey with very small silver spots, increasing in number towards the tip. Spinnerets brown. Epigyne (fig. 50) yellowish grey.

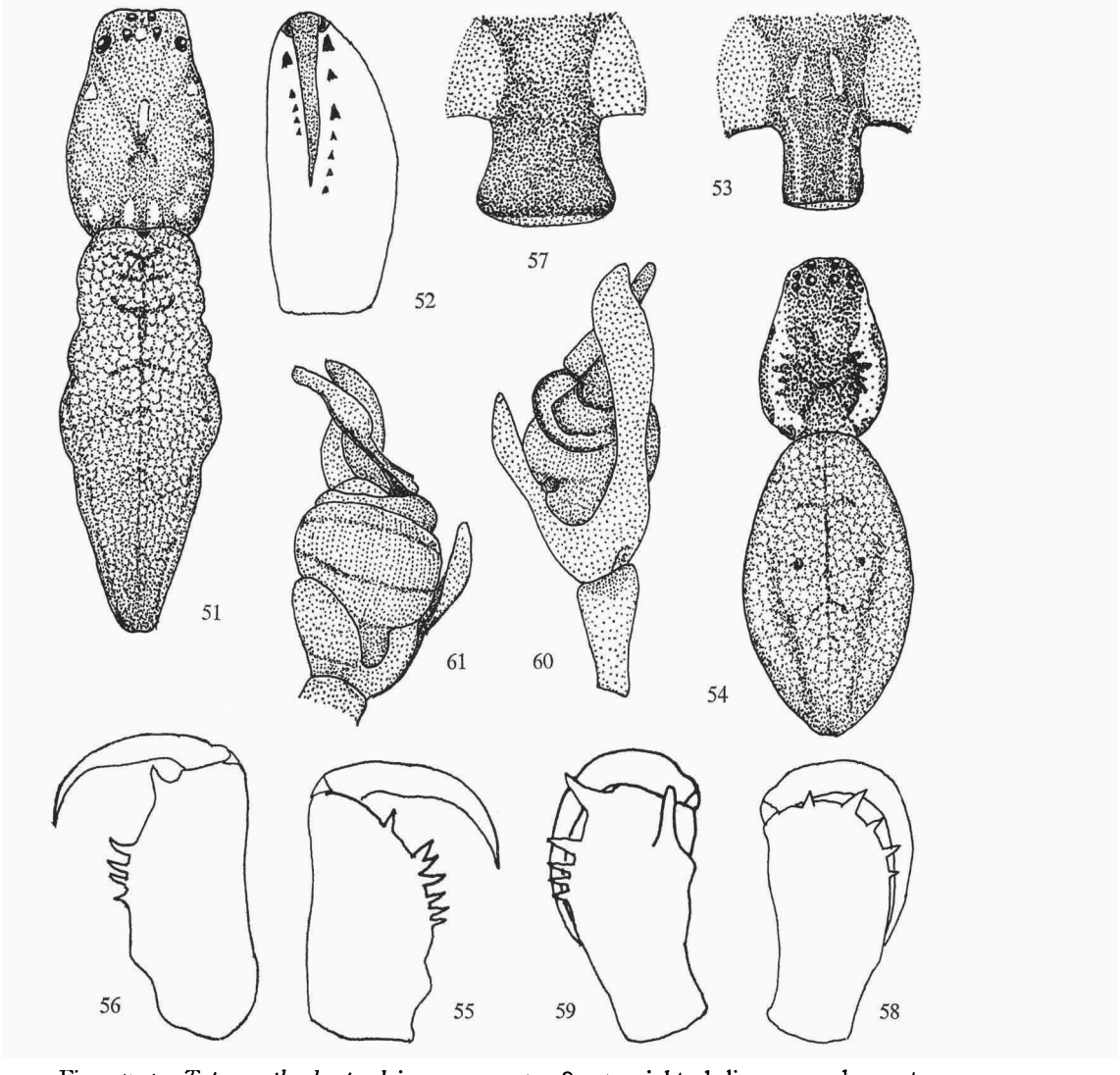
The male is unknown.

Tetragnatha heatwolei spec. nov. (figs. 51-53)

Material. — Great Barrier Reef: Lizard I., 27-29.ix.1967, H. Heatwole, ♀ (holotype), subadult ♂ (paratype) (Australian Museum, Sydney).

Female (holotype). — Cephalothorax (fig. 51): length 2.4 mm, width 1.5 mm, brown with yellowish white and brownish yellow markings; width of the eye region 0.9 mm. Chelicerae (fig. 52) short and very stout (therefore only a figure of the mesal aspect can clarify the position of the dents), brown; maxillae yellowish brown, labium dark brown; sternum (length 1.1 mm, width 0.8 mm) brown. Pedipalpi yellow; legs: coxae, trochanters and femora yellow, patellae, tibiae, metatarsi and tarsi yellowish brown; measurements: I 16, II 10.5, III 5, IV 9 mm.

Abdomen (fig. 51): length 4.1 mm, width 1.6 mm, yellowish white, reticulated with dark brown; underside: epigyne, booklungs (fig. 53) and central band dark brown, the remaining part like the dorsal surface. On each side of the dark brown spinnerets three shiny white spots, diminishing in size towards the tip of the abdomen.



Figs. 51-53. *Tetragnatha heatwolei* spec. nov. 51, ♀ ; 52, right chelicera, mesal aspect; 53, epigyne. Figs. 54-61. *T. radiata* spec. nov. 54, ♀ ; 55, chelicera, ventral aspect; 56, dorsal aspect; 57, epigyne; 58, ♂, chelicera, ventral aspect; 59, dorsal aspect; 60, palp, inner side; 61, outside. — 51, 54, × 13; 52, 53, 57, × 26; 55, 56, 58, 59, × 40; 60, 61, × 60.

Subadult male (paratype): total length 5 mm; cephalothorax and abdomen: colour and pattern as in the female; all appendages yellow.

Tetragnatha radiata spec. nov. (figs. 54-61)

Material. — West New Guinea: Star Mountains, Bivak 42, ca. 3500 m, 26.vii.1959, Star Mts. Exped., ♀ (holotype), 1 ♂, 3 ♀ (paratypes) (RMNH).

Female (holotype). — Cephalothorax (fig. 54): length 1.9 mm, width 1.4 mm, brown with rather broad yellowish white bands, the brown colour radiating into these bands (hence the name); width of the eye region 0.6 mm, the eyes separated wider from each other than in most *Tetragnatha* species. Chelicerae, maxillae and sternum (length 1.1 mm, width 0.8 mm) brown; labium dark brown. The chelicerae (figs. 55, 56) relatively short and stout, with small dents and short, strongly curved fangs. Legs brownish yellow; I 9.5, II 6.5, III 3.5, IV 5.5 mm.

Abdomen (fig. 54): length 3.1 mm, width 1.7 mm, shiny silver reticulated with brown; underside: central part brown, some silver blotches scattered over the remaining parts. Epigyne and booklungs (fig. 57) brown, spinnerets brown.

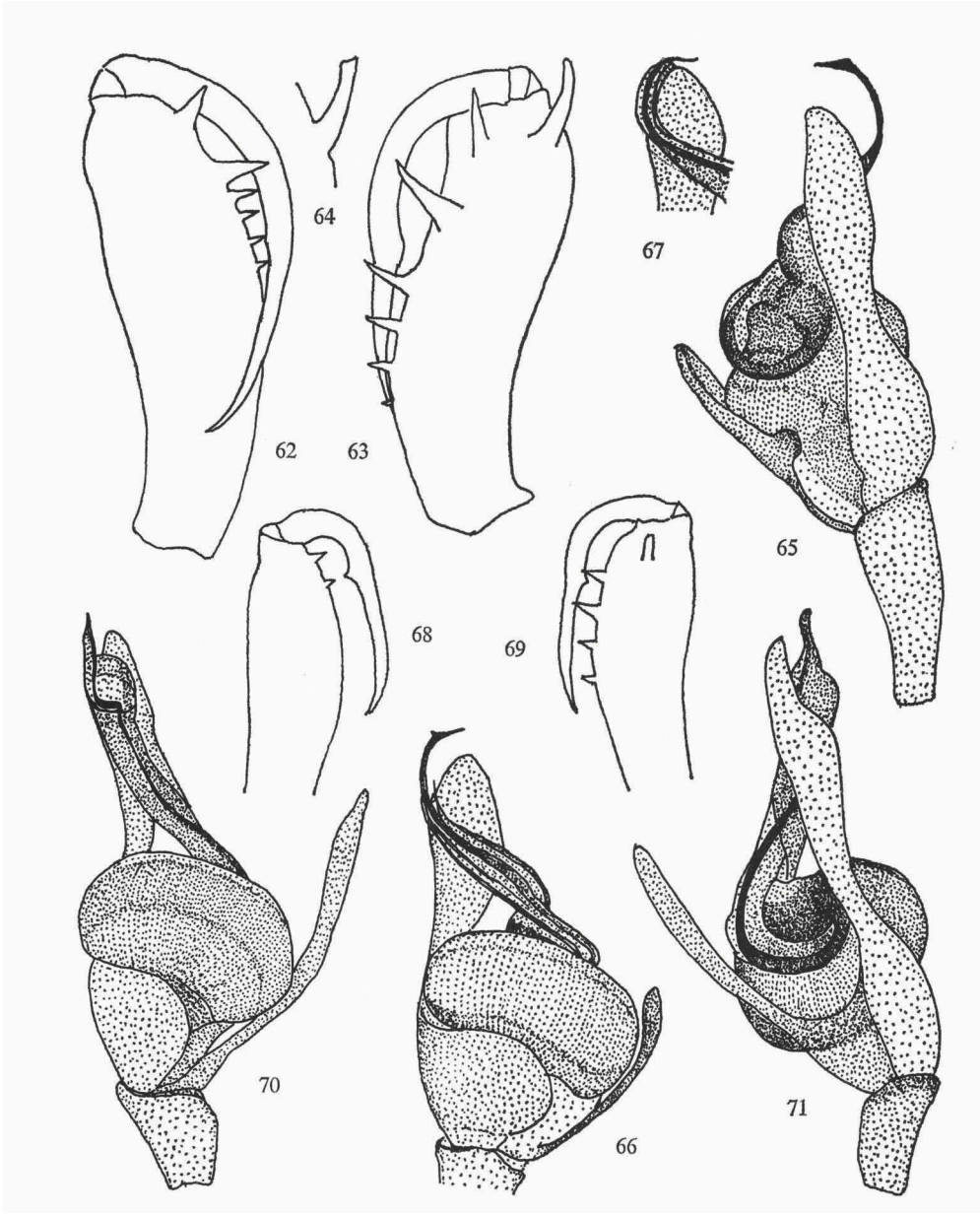
Male (paratype). — Cephalothorax: length 1.8 mm, width 1.4 mm; abdomen: length 2.5 mm, width 1.3 mm; colour and pattern as in the female; on the abdomen the silver blots for the greater part suffused by brown, darkening towards the tip. Chelicerae: figs. 58, 59. Palp: figs. 60, 61. Measurements of the legs: I 10, II 9, III 4, IV 7.5 mm.

This species strongly resembles *T. flavida* Urquhart, 1891 (p. 177), also described by De Dalmas in 1917 (p. 366, figs. 32, 34, 35): they agree in colour and pattern of the cephalothorax, eye region, short chelicerae and fangs. However, it differs from *T. radiata* in the following respects: it is larger (♀ 6.5-11 mm, ♂ 5.5-7.5 mm), the central part of the sternum is lighter, the abdomen shows some longitudinal silvery bands separated by brown bands, and the dentition of the chelicerae is different. There are no figures of the palpi, only short descriptions, and therefore nothing can be said about similarity or differences concerning their structure.

Tetragnatha rossi spec. nov. (figs. 45-47)

Material. — West New Guinea: Maffin Bay, -.x.1944, E. S. Ross, ♀ (holotype) (CAS).

Female (holotype). — Cephalothorax: length 3.0 mm, width 1.8 mm, reddish brown, gradually darkening towards the eyes; width of the eye region 1.0 mm. Chelicerae (figs. 45, 46) strongly divergent, reddish brown, dark-



Figs. 62-67. *Tetragnatha valoka* spec. nov., ♂. 62, chelicera, ventral aspect; 63, dorsal aspect; 64, "spur"; 65, palp, inner side; 66, outside; 67, tip of palp (Mindiptana specimen). Figs. 68-71. *T. stellarum* spec. nov., ♂. 68, chelicera, ventral aspect; 69, dorsal aspect; 70, palp, outside; 71, inner side. — 62-64, 68, 69, × 40; 65-67, 70, 71, × 60.

ening towards the bases, fangs dark brown; maxillae, labium and sternum (length 1.5 mm, width 1.1 mm) dark reddish brown, maxillae with sharply marked brighter inner borders. Pedipalpi yellowish brown. Legs yellowish brown; I 28, II 24, III 11, IV 22 m.

Abdomen: length 9.0 mm, width 1.6 mm, cylindrical, silvery with central stripe and its ramifications grey; underside yellowish grey, before the spinnerets (anterior ones brown, posterior ones yellowish grey) a darker grey transversal band. Epigyne and booklungs (fig. 47) yellowish grey.

The male is unknown.

Tetragnatha stellarum spec. nov. (figs. 68-71)

Material. — West New Guinea: Tenmasigin, Star Mountains, 22.v.1959, Star Mts. Exped., ♂ (holotype) (RMNH).

Male (holotype). — Cephalothorax: length 2.2 mm, width 1.0 mm, yellowish brown with narrow black borders; cephalic part sharply marked and slightly elevated; width of the eye region 0.6 mm. Chelicerae (figs. 68, 69), maxillae and sternum (length 1.0 mm, width 0.6 mm) yellowish brown; labium dark brown. Legs yellowish brown; I 22, II 14, III 5.5, IV 13 mm. Palp: figs. 70, 71.

Abdomen: length 5.5 mm, width 0.8 mm; the silver blotches rather large and reticulated with yellowish grey; the borders dark brown, at regular distances these dark bands protruding on the dorsal surface. Underside greyish yellow with silver blotches along the borders. Spinnerets brown.

I have named this species after the region where it had been collected, the Mountains of the Stars (stella = star).

The female is not known.

Tetragnatha valoka spec. nov. (figs. 62-67)

Material. — West New Guinea: Mindiptana, 1959, Br. Monulf, ♂ (paratype) (RMNH).

Bismarck Arch.: New Britain, Valoka, 8.vii.1962, Noona Dan. Exped., ♂ (holotype) (ZMK).

Male (holotype). — Cephalothorax: length 2.2 mm, width 1.3 mm, brown; width of the eye region 0.9 mm. Chelicerae (figs. 62-64), maxillae, labium, sternum (length 1.3 mm, width 0.8 mm) and pedipalpi (figs. 65, 66) brown. Legs: yellowish brown; I 29, II ?, III 6.5, IV 20 mm.

Abdomen: length 8.0 mm, width 1.0 mm, yellowish brown with darker longitudinal bands; underside yellowish brown with darker blotches.

In the paratype the tip of the embolus seems to be broken off (fig. 67):

according to Levi (1968: 322; 1970: 108-111) (both with many figures) this often occurs in Argiopid males during copulation, especially if the tip bears a barbed hook (fig. 66).

The female has not yet been discovered.

As for the dentition of the chelicerae, *T. valoka* strongly resembles *T. gemmata* L. Koch, 1871 (p. 186, pl. 16 fig. 2); in the latter species, however, the second dent of the ventral row does not exceed the others in length and the fangs are shorter, without an inner excrescence. The palp of *T. gemmata* (it has not been pictured by Koch, but I could study the male syntype, preserved in the Zoologisches Museum, Hamburg) clearly differs from that of *T. valoka*: both tibia and paracymbium are much longer, like in *T. eitapensis* Strand (cf. figs. 6, 7).

Tetragnatha yalom spec. nov. (figs. 72-75)

Material. — Bismarck Arch.: New Britain, Yalom, 1000 m, 10.v.1962, Noona Dan Exped., ♂ (holotype) (ZMK).

Male (holotype). — Cephalothorax: length 2.8 mm, width 1.7 mm, yellowish brown, cephalic part sharply bordered against thoracic part and somewhat elevated; width of the eye region 1.1 mm. Chelicerae (figs. 72, 73), maxillae, labium and sternum (length 1.2 mm, width 0.8 mm) brown, labium darker, sternum lighter. Legs: yellowish brown; I 23, II 14, III 6, IV ? mm. Palp (figs. 74, 75) remarkable on account of the stout paracymbium.

Abdomen: length 6.0 mm, width 1.2 mm, greyish yellow with some darker irregular longitudinal lines; the silver spots are larger and fewer in number than in most other species of the genus; underside greyish brown, gradually darkening towards the brown spinnerets.

The female is unknown.

In several respects the species resembles *T. eitapensis* Strand.

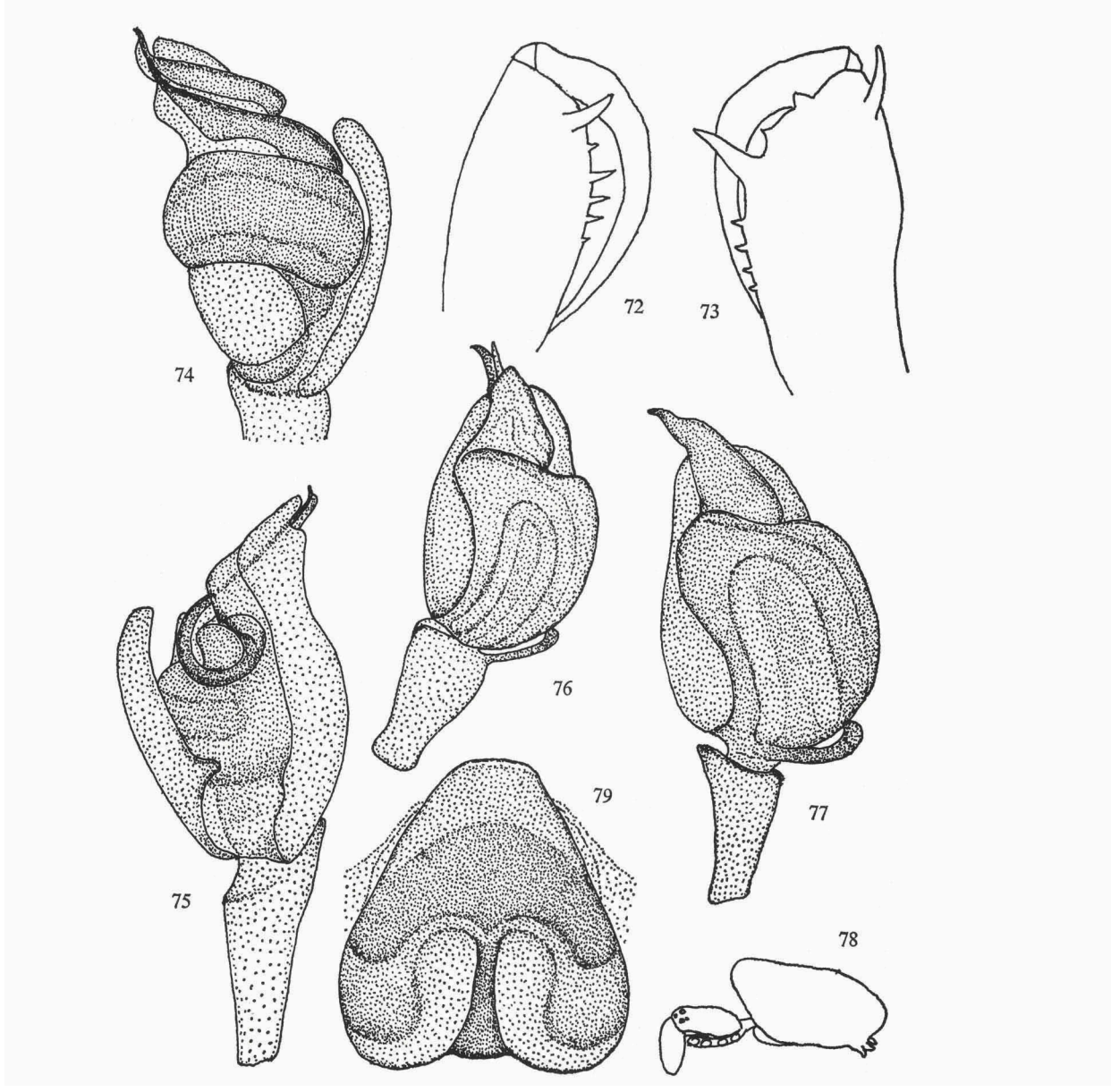
LEUCAUGINAE

Leucauge White, 1841

Leucauge argentata (Cambridge, 1869) (fig. 76)

Leucauge argentata; Chrysanthus, 1963: 731, figs. 10, 15-17 (♀).

Material. — West New Guinea: Ajamaroe, 29.ii.1952, L. D. Brongersma, 2 ♀; vi.1952, L. D. Brongersma & W. J. Roosdorp, 36 ♀, 7 ♂; 2.iii.1955, L. D. Brongersma, 25 ♀, 2 ♂; Djidmaoe, 13.vi.1952, L. D. Brongersma & W. J. Roosdorp, 5 ♀; Seta near Ajamaroe, 18.vi.1952, L. D. Brongersma & W. J. Roosdorp, ♀; Lake Paniai, viii-ix.1939, KNAG, 2 ♀ (all RMNH).



Figs. 72-75. *Tetragnatha yalom* spec. nov., ♂. 72, chelicera, ventral aspect; 73, dorsal aspect; 74, palp, outside; 75, inner side. Fig. 76. *Leucauge argentata* (Cambridge), ♂ palp, underside. Fig. 77. *L. granulata* (Walckenaer), ♂ palp, underside. Figs. 78, 79. *L. grata* (Guérin), ♀. 78, lateral aspect; 79, epigyne. — 72, 73, × 40; 74-77, × 60; 78, ×3; 79, × 75.

As the collections dealt with in my 1963 paper, did not contain any male I could not give a figure of the male palp. The males mentioned above fully agree with Cambridge's description and figure (1869: pl. 13 fig. 74). The palp (fig. 76) strongly resembles that of *L. granulata* (fig. 77) but a close inspection reveals some characteristic differences; the pattern on the ventral side of the abdomen may be helpful for the identification of the two species: it shows the same differences as in the females (cf. Chrysanthus, 1963: figs. 16 and 13).

Leucauge granulata (Walckenaer, 1841) (fig. 77)

Leucauge granulata; Chrysanthus, 1963: 731, figs. 9, 11-14 (♀ ♂).

Material. — West New Guinea: Ajamaroe, iii-iv.1955, L. D. Brongersma, 5 ♀, ♂; Ajamaroe - Tamimaboean, 7.vi.1952, L. D. Brongersma & W. J. Roosdorp, 3 ♀; Sekroe, v-vii.1897, S. Schädler, 2 ♀, ♂, juv. (RMNH); Fak Fak, vii.1939, R. G. Wind, ♀ (MCZ); Manokwari, 25.iv.1952, L. D. Brongersma & W. J. Roosdorp, ♀; Biak, ii-v.1952, L. D. Brongersma, 5 ♀; 29.xi.1953, L. van der Hammen, ♀; ix-xii.1953, Personnel Royal Netherlands Navy, 2 ♀; Biak, Base, 8.iii.1952, L. D. Brongersma, 2 ♀; 5.iv.1952, W. J. Roosdorp, 2 ♀, ♂; xi.1953, L. van der Hammen, 4♀, ♂; Biak, Sorido strip, 31.iii.1952, L. D. Brongersma & W. J. Roosdorp, ♀, ♂, 3 juv.; Biak, bambu forest, Oregon trail, 6.xii.1953, L. van der Hammen, ♀; Owi I., 6.iv.1952, W. J. Roosdorp, 3 ♀, juv.; Seroei, Japen I., 4-13.v.1952, W. J. Roosdorp, ♀, ♂; i.1954, G. van Hout, 2 ♀ (all RMNH); Maffin Bay, 19.iv.1944, E. S. Ross, ♀; ix.1944, T. Aarons, ♀(CAS); Hollandia, 22-23.ii.1952, L. D. Brongersma, ♀; 30.xii.1953, L. van der Hammen, ♂; Jautefa Bay near Hollandia, 26.xii.1953, L. van der Hammen, ♀; Polynac near Hollandia, 29.xii.1953, L. van der Hammen, ♀; Genjem near Hollandia, 13.i.1954, L. van der Hammen, ♀ ♂; Takum, kampong Hijob, 10.ix.1959, Star Mts. Exped., ♀, ♂; Kouh, Digoel, 8.ix.1959, Star Mts. Exped., ♀; Mindiptana, 1965, Br. Monulf, 2 ♀, ♂; without locality, 15-30.ix.1939, KNAG, ♀ (all RMNH).

East New Guinea: Langemak Bay, 12-16.i.1909, G. Duncker, ♀ (ZMH); Finschhafen, 11.ix.1944, T. Aarons, 2 ♀ (CAS).

Bismarck Arch.: Manus I., Lorengau, 19.vi.1962, ♀, ♂; 21.vi.1962, 2 ♂; Mussau I., Talumalaus, 18.i-5.ii.1962, 16 ♀, 3 ♂; Boliu, 6.vi.1962, 2 ♀, ♂; Tassital, 3.vi.1962, ♀; Lavongai, Banatam, 21.iii.1962, ♀; New Ireland, small island near Kavieng, 13.i.1962, ♀; Dyaul I., Sumuna, 5.iii.1962, ♀; Lemkamin, iv.1962, 15 ♀, 3 ♂; Danu, Kalili Bay, 29.iv.1962, ♀; New Britain, Yalom, 1000 m, 23.v.1962, ♀; Rabaul, 25.vii.1962, ♀; Duke of York I., Manuam, 19.vii.1962, 2 ♀ (all Noona Dan Exped., ZMK).

Solomon Is.: Guadalcanal, ii-ix.1945, H. M. Malkin, ♀ (CAS).

For comparison I give a new figure of the male palp of this species here (fig. 77). Of the two males from Manus I., Lorengau, 21.vi.1962, one measures 6.5 mm, the other 4.0 mm; the palp of the first one is about 1.5 times that of the second, their structure, however, is absolutely identical.

Leucauge grata (Guérin, 1838) (figs. 78-80)

Leucauge grata; Chrysanthus, 1963: 729, figs. 18-23 (♂).

Material. — West New Guinea: Ajamaroe-Tamimaboean, 7.vi.1952, L. D. Brongersma & W. J. Roosdorp, 5 ♀; Sedorfojo, vii.1952, Rev. Marcus, ♀; Sekroe, iii-vii.1897, S. Schädler, 3 ♀; Manokwari, 15.ix.1904, J. W. van Nouhuis, 7 ♀; Biak, 30.iii.1952, L. D. Brongersma & W. J. Roosdorp, ♀; Base-Nicakamp, 3.xii.1953, L. van der Hammen, 4 ♀; Base, 23.xi.1953, L. van der Hammen, 6 ♀, 3 juv.; Oregon trail, 1.xi.1953, L. van der Hammen, 2 ♀ (all RMNH); Maffin Bay, 1.xi.1944, E. S. Ross, ♀ (CAS); Hollandia, 5-18.i.1954, L. van der Hammen, 2 ♀; Jautefa Bay near Hollandia, 26.xii.1953, L. van der Hammen, ♀, juv.; Holtekang, 7.i.1954, L. van der Hammen, ♀; Ok Sibil, Basiskamp, 30.v.1959, Star Mts. Exped., ♀; Nimdol, bivak 36, 1.viii.1959, Star Mts. Exped., 2 ♀ (all RMNH).

East New Guinea: Kaironk Valley, ca. 4.500 ft, 7.ii.1968, G. Jackson, ♀ (CHR); Constantinshafen, i-iii.1892, Speyer, 4 ♀ (ZMH); Finschhafen, 16.v.1944, E. S. Ross, ♀ (CAS); Bulolo, web on *Araucaria cunninghamii,* 7.xi.1968, J. Tawi, ♀ (BUL); Wau, 1970, M. H. Robinson, ♀ (CHR).

Bismarck Arch.: Hermit Is., Luf I., 27.vi.1962, ♀; Manus I., Lorengau, 19.vi.1962, ♀; Mussau I., Lake Taletasi, 4.vi.1962, ♀; Talumalaus, 17-31.i. 1962, 32 ♀, juv.; Tassital, 3.vi.1962, 17 ♀; Boliu, 5.vi.1962, ♀; Malakata, 15.ii.1962, 4 ♀; 11.vi.1962, ♀; Emananusa, 29.i.1962, ♀; Lavongai, Banatam, 23.iii.1962, ♀; New Ireland, Lemkamin, 17-20.iv.1962, 7 ♀; Danu, Kalili Bay, 29-30.iv.1962, 2 ♀; Duke of York I., Manuan, 19.vii.1962, ♀ (all Noona Dan Exped., ZMK).

Solomon Is.: Guadalcanal, W. of Honiara, 28.vii-1.viii.1962, Noona Dan Exped., 5 ♀ (ZMK).

In my 1963 paper I could only give figures of the male because I did not possess females then; the collections treated here contain many females. In fig. 80 the orange-coloured part of the pattern is indicated by hatching. Strand (1915: 199, pl. 13 figs. 2-6, 8, 10, pl. 14 figs. 41-43) gave a good idea of the variability of this species; the pattern on the ventral side of the abdomen resembles that of the male (cf. Chrysanthus, 1963: fig. 19); the rather thick brush of brown hairs on the apical half of tibia IV is very characteristic.

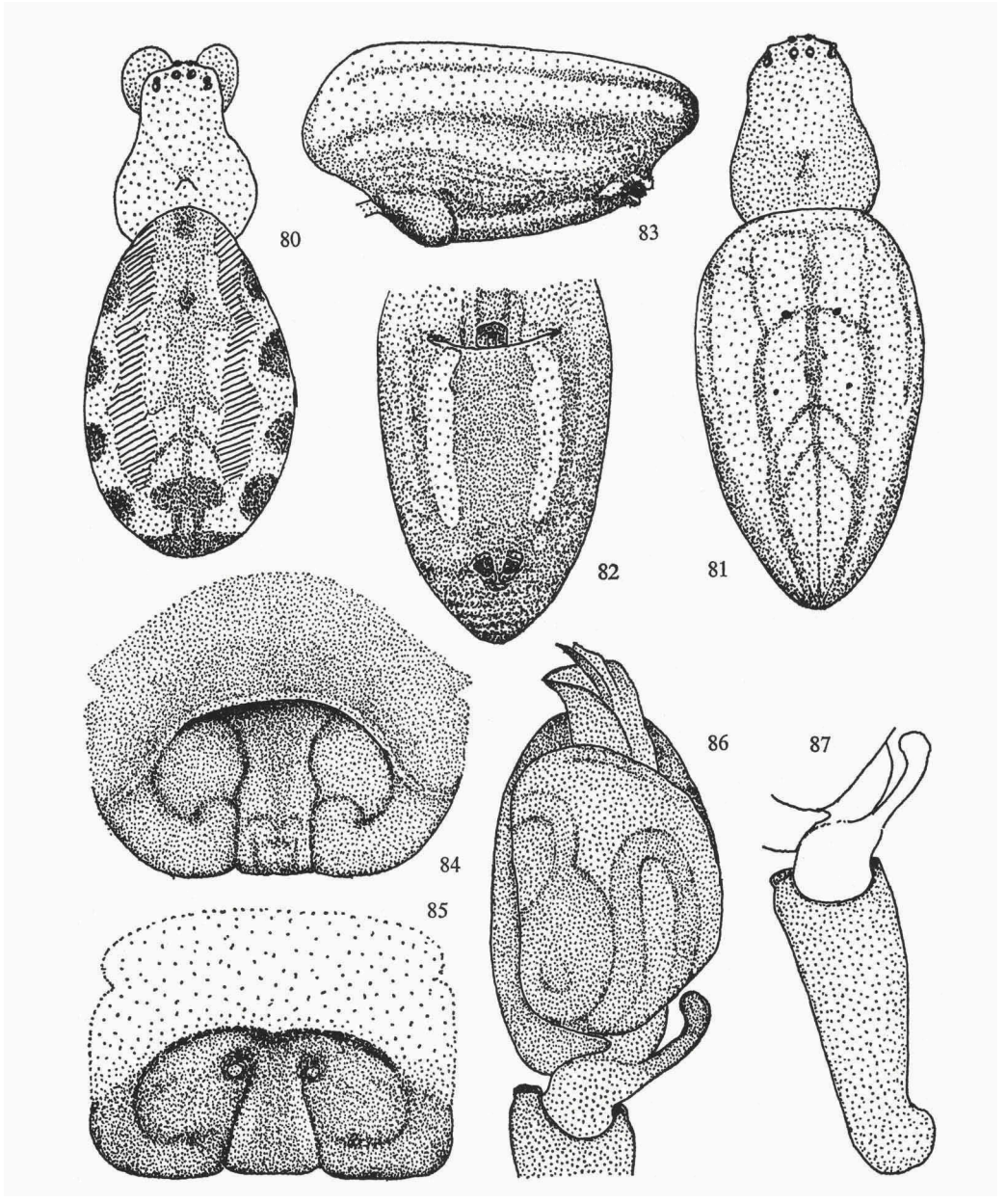


Fig. 80. *Leucauge grata* (Guérin), ♀. Figs. 81-87. *L. celebesiana* (Walckenaer). 81, ♀; 82, abdomen, ventral aspect; 83, lateral aspect; 84, 85, epigyne; 86, ♂ palp; 87, tibia of ♂ palp. — 80-83, × 7; 84, 85, × 75; 86, 87, × 60.

Leucauge celebesiana (Walckenaer, 1841) (figs. 81-87)

Tetragnatha celebesiana Walckenaer, 1841: 222 (♀).
Epeira nigrotrivittata Doleschall, 1859: 39, pl. 11 fig. 5 (♀).
Meta nigrotrivittata; Thorell, 1881: 126 (♀ ♂).
Leucauge celebesiana; Simon, 1906: 282 (♀ ♂). Gravely, 1921: 454, figs. 8 b, c (♀ ♂).

Material. — West New Guinea: Lake Paniai, viii-ix.1939, KNAG, 12 ♀, 2 ♂; Tenmasigin, 1800 m, 22.v.1959, Star Mts. Exped., 60 ♀, 17 ♂; Ok Sibil, Basiskamp, 1200 m, 1-18.viii.1959, Star Mts. Exped., ♀ (RMNH).

As may be seen from the literature cited by Roewer (1942: 1002) and Bonnet (1957: 2464), there has been some confusion between this species and *L. decorata* (Blackwall, 1864). Both Simon (1906: 282) and Gravely (1921: 452) have clearly pointed out the differences between the two species, females and males: I will follow these authors here.

The epigyne seems slightly variable: since it is very dark brown and sometimes a little folded it is not always easy to observe its real structure; figs. 84 and 85 represent the extremes in shape.

The type locality of *L. celebesiana* is Celebes; it is known from India to the Sunda Archipelago (Roewer, 1942: 1002; Bonnet, 1957: 2464).

Leucauge decorata (Blackwall, 1864) (figs. 88-94)

Tetragnatha decorata Blackwall, 1864: 44 (♀). Cambridge, 1869: 389, pl. 13 figs. 61-68 (♀ ♂).
Meta decorata; L. Koch, 1872: 141, pl. 11 fig. 5 (♀).
Leucauge decorata; Simon, 1906: 282 (♀ ♂). De Lessert, 1915: 23, pl. 1 figs. 14, 15, 22, 23 (♀ ♂). Gravely, 1921: 451, 454, figs. 8 d, e (♀ ♂).

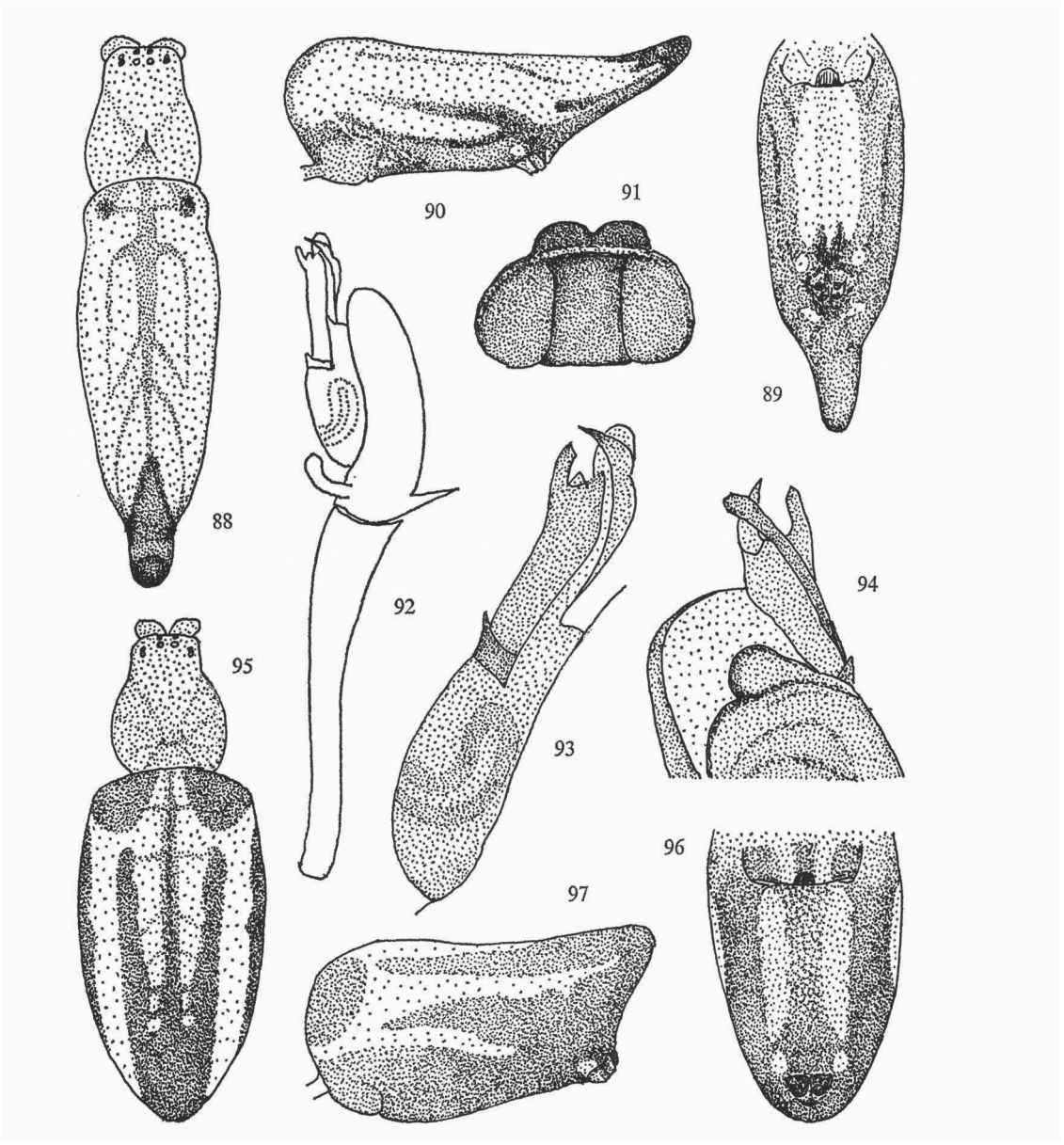
Material. — West New Guinea: Sedorfojo, 20.vii.1952, Rev. Marcus, 6 ♀; Kotabaroe-Sentani, 28.xii.1953, L. van der Hammen, 4 ♀, ♂ (RMNH).

East New Guinea: Wimba, 1950 m, 20.viii.1963, W. Vink, ♀ (RMNH); Langemak Bucht, 12-16.i.1909, G. Duncker, ♀ (ZMH).

Bismarck Arch.: New Ireland, Lemkamin, 20.iv.1962, Noona Dan Exped., 2 ♀, ♂ (ZMK).

The above specimens fully agree with the clear descriptions (and figures) of Blackwall, Cambridge, Simon and Gravely. Some authors have confounded this species with *L. celebesiana* (Walckenaer) as I already remarked at that species.

Through the kindness of Dr. G. Rack (ZMH) I could study the specimens of the Museum Godeffroy, now ZMH, 2 ♀ from Bowen, 1 ♀ from Port Mackay, identified by L. Koch as *L. decorata.* These specimens, too, are in complete accordance with the descriptions and figures, given above.



Figs. 88-94. *Leucauge decorata* (Blackwall). 88, ♀ ; 89, abdomen, ventral aspect; 90, lateral aspect; 91, epigyne; 92, ♂ palp, lateral aspect; 93, bulbus; 94, tip of ♂ palp, ventral aspect. Figs. 95-97. *L. papuana* Kulczynski. 95, ♀ ; 96, abdomen, ventral aspect; 97, lateral aspect. — 88-90, 95-97, × 7; 91, × 75; 92, × 60; 93, 94, × 120.

Notwithstanding this both Simon and Gravely consider *L. decorata* sensu L. Koch a synonym of *L. celebesiana*. I suppose that they base their opinions on Koch's description and figure only, neither of them being very conclusive, and that they did not see the spiders in question.

Although the "tail" of the abdomen is always discernible it sometimes does not project as far as in figs. 88, 90 (cf. Simon, 1906).

The type locality of *L. decorata* is India and it has been recorded from India and Ceylon to Australia (Roewer, 1942: 1005; Bonnet, 1957: 2466).

Leucauge papuana Kulczynski, 1911

Leucauge papuana Kulczynski, 1911: 457, pl. 19 fig. 39 (♀). Hogg, 1920: 88. Roewer, 1938: 51, fig. 36 (a rather superficial drawing of the epigyne).

Material. — West New Guinea: Wissel Lakes, vii-ix.1939, KNAG, 12 ♀; Enarotali, 12-23.vii.1952, W. J. Roosdorp, 2 ♀; Ok Sibil, Basiskamp, 1260 m, v-viii.1959, Star Mts. Exped., 103 ♀, 3 ♂; Bivak 39A, 1500 m, vi-vii. 1959, Star Mts. Exped., 12 ♀; Koengoel, 1760 m, iv-v.1959, Star Mts. Exped., 2 ♀; Betabib, 30.v.1959, Star Mts. Exped., 2 ♀ (all RMNH).

East New Guinea: Kaironk Valley, 5.400 ft, 30.ix.1963, R. Bulmer, 10 ♀; 4.500 ft, xi.1967, G. Jackson, ♀; 2.i.1968, G. Jackson, ♀ (CHR); Wimba, 1950 m, 20.viii.1963, W. Vink, 60 ♀, 15 ♂ (RMNH); Mongi Watershed, Huon Pen., 3.700-4.000 ft, iv.1955, E. O. Wilson, 12 ♀, 4 ♂ (MCZ); Bulolo, under bark of *Araucaria hunsteinii*, 4.v.1970, B. Gray, ♂ (BUL); Wau, 1970, M. H. Robinson, ♀♂ (CHR).

Bismarck Arch.: New Ireland, Lemkamin, iv.1962, Noona Dan Exped., 25 ♀, ♂ (ZMK); New Britain, Yalom, 1000 m, v.1962, Noona Dan Exped., 14 ♀, 6 ♂ (ZMK).

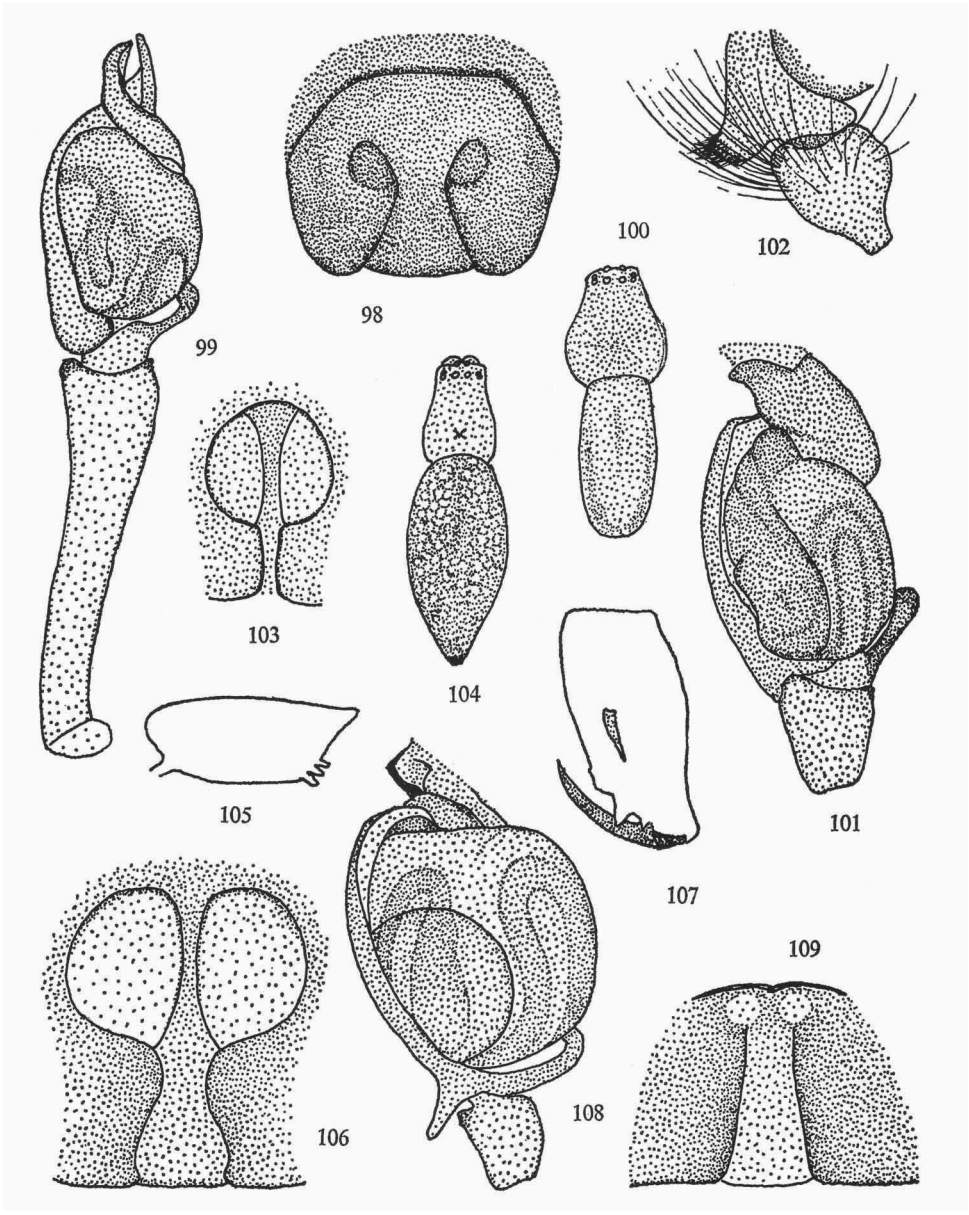
This species was described by Kulczynski after one female from Lake Jamur (near Etna Bay) and has been recorded from New Guinea only.

Hogg (1920) and Roewer (1938) mentioned some males without giving, however, a description or a figure. The male is smaller than the female, 6-7 mm, and the pattern of the abdomen is restricted to some silvery stripes and a few dark brown blotches. The palp (fig. 99) is conspicuous on account of its very long and slender tibia.

Leucauge malkini spec. nov. (figs. 100-102)

Material. — Solomon Is., Guadalcanal, 1945, H. M. Malkin, ♂ (holotype) (CAS).

Male (holotype). — Cephalothorax (fig. 100): length 2.3 mm, width 2.0



Figs. 98, 99. *Leucauge papuana* Kulczynski. 98, ♀, epigyne; 99, ♂ palp. Figs. 100-102. *L. malkini* spec. nov. 100, ♂; 101, palp, ventral aspect; 102, tibia and basal part of ♂ palp, lateral aspect. Fig. 103. *Mesida gemmea* (Van Hasselt), ♀, epigyne. Figs. 104-108. *M. pumila* (Thorell). 104, ♀; 105, abdomen, lateral aspect; 106, epigyne; 107, ♂, left chelicera, frontal aspect; 108, palp. Fig. 109. *M. wilsoni* spec. nov. ♀, epigyne. — 98, 103, × 75; 99, 101, 102, 108, × 60; 100, 104, 105, × 7; 106, 109, × 150; 107, × 37.

mm, brownish yellow; width of the eye region 0.8 mm; mouth-parts, legs (all partly broken off) and sternum (length 1.0 mm, width 0.9 mm) brownish yellow. Palp: figs. 101, 102.

Abdomen (fig. 100): length 3.2 mm, width 1.6 mm, yellowish grey, dark brown along the posterior borders, which show some small silvery spots (at the inside). Ventral side yellowish grey; spinnerets dark brown.

The female is unknown.

Mesida Kulczynski, 1911

Mesida humilis Kulczynski, 1911

Mesida humilis; Chrysanthus, 1963: 727, figs. 5-8 (♀ ♂).

Material. — West New Guinea: Genjem near Hollandia, 13.i.1954, L. van der Hammen, ♀ (RMNH).

Mesida gemmea (Van Hasselt, 1882) (fig. 103)

Meta gemmea Van Hasselt, 1882: 26, pl. 2 fig. 4 (♀).
Argyroepeira gemmea, Thorell, 1895: 152 (♂).

In my 1963 paper I suggested that *Mesida humilis* Kulczynski might be a synonym of *Meta gemmea.* A new study of the type specimen in the Van Hasselt collection, now in the Rijksmuseum van Natuurlijke Historie, Leiden, has convinced me that I was mistaken. For comparison I give a figure of the epigyne of *Mesida gemmea* here (fig. 103). This species has been recorded from Burma, Singapore, Sumatra, Simalur and Java (Roewer, 1942: 1003 [*Leucauge*]; Bonnet, 1957: 2468 [*Leucauge*]).

Mesida pumila (Thorell, 1877) (figs. 104-108)

Meta pumila Thorell, 1877: 429 (♀).

Material. — West New Guinea: Biak, 1952, L. D. Brongersma, ♀; ix-xii. 1955, Personnel Royal Netherlands Navy, ♂ (RMNH).

The female fully agrees with Thorell's description of a female from Kandari, Celebes, and with a female from Banda I., identified by Strand (SMF 3913). Van Hasselt (1882: 26) described two males from Padang, Sumatra, which he believed to belong to this species. I could study these specimens, now in the Leiden Museum, and I am certain that they belong to *Leucauge decorata* (Blackwall): the palps are exactly as in figs. 92-94.

The male resembles the female in all details; on the ventral side of the abdomen the same conspicuous clover-leaf-shaped silver blotch is present; the body length is 4 mm, that of the female 6 mm. On the basal part of the cymbium of the male palp there is a "spur" like in *Leucauge decorata* but it

is shorter (fig. 108); the chelicera bears a pointed dent (fig. 107); in *Mesida humilis* this dent is shorter and blunt (cf. Chrysanthus, 1963: fig. 7).

Meta pumila has to be transferred to *Mesida*: the straight long and fine feathered hairs on the basal part of femur IV, characteristic for this genus, are clearly discernible in the male (the female has lost nearly all legs). The species was recorded from Celebes and Sumatra (Roewer, 1942: 1004 [*Leucauge*]; Bonnet, 1957: 2474 [*Leucauge*]).

Mesida wilsoni spec. nov. (figs. 109, 110)

Material. — East New Guinea: Mongi Watershed, Huon Pen., 3.700-4.000 ft, 11.iv.1955, E. O. Wilson, ♀ (paratype) (MCZ).

Bismarck Arch.: New Ireland, Lemkamin, 6.iv.1962, Noona Dan Exped., ♀ (holotype) (ZMK).

These specimens certainly belong to *Mesida:* the long feathered hairs on femur IV are present in the holotype (the paratype is in a rather poor condition).

Female (holotype). — Cephalothorax (fig. 110): length 2.0 mm, width 1.6 mm, yellowish brown; width of the eye region 0.9 mm; chelicerae strongly protruding, yellowish brown; maxillae and labium yellowish brown with lighter borders; sternum (length and width 1.0 mm) yellowish brown with a narrow brown border, a transverse row of long stiff hairs is implanted near the anterior border. Legs yellowish brown, darkening towards the tips; measurements: I 13, II 9, III 5.5, IV 8 mm.

Abdomen (fig. 110): length 4.4 mm, width 2.6 mm, central band and sides yellowish brown, the remaining parts densely set with silvery blotches. Ventral side: a broad central band yellowish grey, the sides with silvery blotches; spinnerets brown. Lateral aspect as in *Mesida pumila* (fig. 105) but the "tail" more rounded. Epigyne: fig. 109, yellowish brown.

The male is not known.

Mesida grayi spec. nov. (figs. 111, 112)

Material. — East New Guinea: Mt. Dayman, M. Bay Dist., on branchlet of *Araucaria cunninghamii,* 21.i.1969, B. Gray, ♀ (holotype) (Australian Museum, Sydney).

This specimen certainly belongs to *Mesida:* the characteristic hairs on femur IV are clearly discernible.

Female (holotype). — Cephalothorax (fig. 111): length 1.2 mm, width 1.0 mm, brownish yellow with a narrow dark brown border; width of the

eye region 0.6 mm; chelicerae, maxillae, labium and sternum (length 0.8 mm, width 0.7 mm) a shade darker; the sternum bears a row of long stiff hairs near its anterior border. Pedipalpi and legs: basal parts yellowish brown, darker from the patellae onwards; measurements of the legs: I 6.8, II 5.0, III 2.8, IV 4.2 mm.

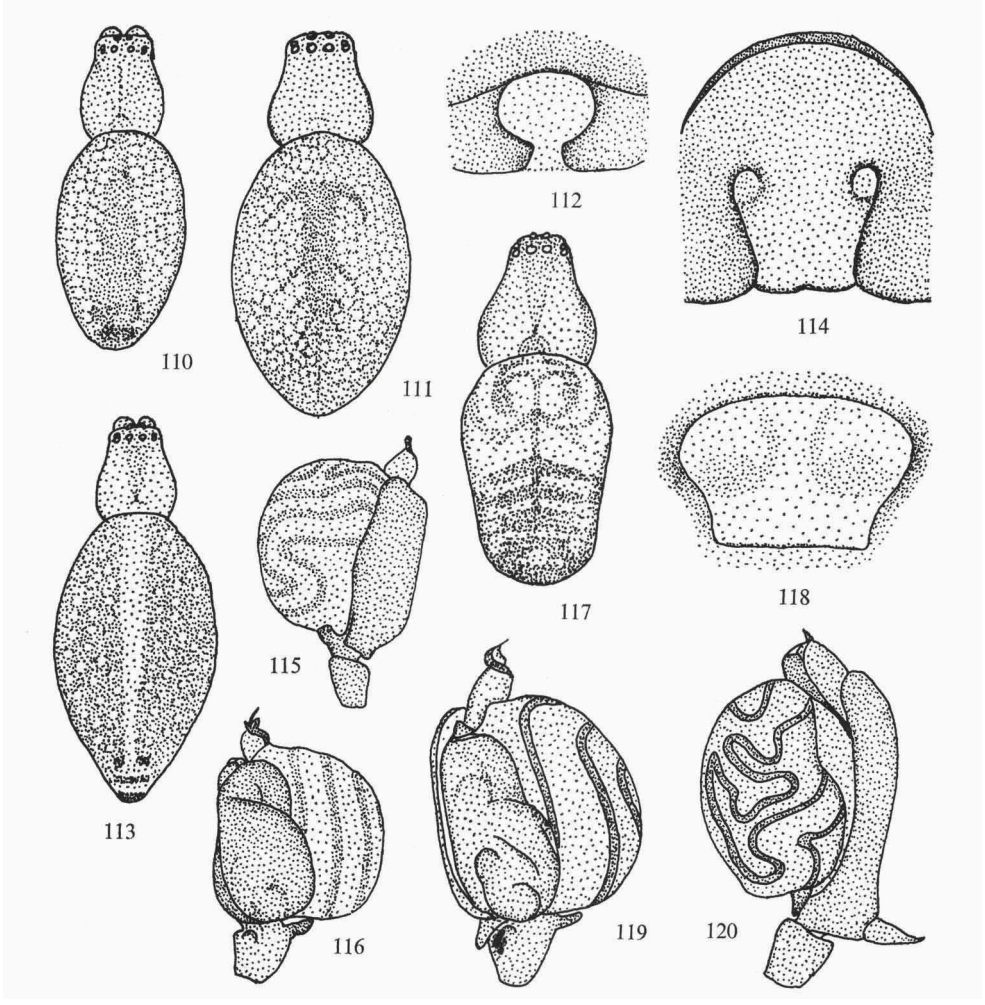


Fig. 110. *Mesida wilsoni* spec. nov., ♀. Figs. 111, 112. *M. grayi* spec. nov. 111, ♀ ; 112, epigyne. Figs. 113, 114. *M. mindiptanensis* spec. nov. 113, ♀ ; 114, epigyne. Figs. 115, 116. *Tylorida striata* (Thorell). 115, ♂ palp, outside; 116, inner side. Figs. 117-120. *T. ventralis* (Thorell). 117, ♀ ; 118, epigyne; 119, ♂ palp, inner side; 120, outside. — 110, 113, 117, × 7; 111, × 14; 112, 118, × 75; 114, × 150; 115, 116, 119, 120, ×30.

Abdomen (fig. 111): length 2.8 mm, width 1.7 mm, yellowish brown, densely set with silvery shining blotches; on the ventral side there are only a few of these blotches laterally, whereas in the central band they are restricted to a rather narrow chevron, pointing forwards. The spinnerets are dark brown; the epigyne (fig. 112) yellowish brown.

The male is unknown.

Mesida (?) **mindiptanensis** spec. nov. (figs. 113, 114)

Material. — West New Guinea: Mindiptana, 1965, Br. Monulf, ♀ (holotype) (RMNH).

As this specimen has lost the greater part of its legs and almost all hairs and spines have been rubbed off I am not absolutely certain that it belongs to this genus. In several respects, however, it strongly resembles the other species of this genus, and I therefore believe that it belongs here.

Female (holotype). — Cephalothorax (fig. 113): length 2.0 mm, width 1.6 mm, yellowish brown; width of the eye region 0.8 mm; chelicerae strongly protruding, yellowish brown; maxillae and labium brown with yellowish borders; sternum (length 1.2 mm, width 1.0 mm): yellowish brown with a transverse row of long stiff hairs near the anterior border. Legs (as far as preserved) yellowish brown with a few darker rings.

Abdomen (fig. 113): length 5.7 mm, width 3.3 mm, yellowish grey with small silvery blotches, central band lighter, near the tip some black spots; ventral side nearly coloured as dorsal side: the silvery blotches are present along the borders and also in the central part in four small groups, two near the epigastric furrow and two half-way between this furrow and the greyish spinnerets. Lateral aspect as in *M. pumila* (fig. 105). Epigyne: fig. 114, yellowish brown.

The male has not yet been discovered.

Tylorida Simon, 1894

Tylorida striata (Thorell, 1877) (figs. 115, 116)

Tylorida striata; Chrysanthus, 1963: 727, figs. 1-4 (♀).

Material. — West New Guinea: Biak, Base, 5.iv.1952, W. J. Roosdorp, 2 ♀; Mindiptana, 1965, Br. Monulf, ♀ (RMNH).

Bismarck Arch.: New Ireland, Lemkamin, 11.iv.1962, Noona Dan Exped., 2 ♀; Danu, Kalili Bay, 29.iv.1962, Noona Dan Exped., ♂ (ZMK).

The male from New Ireland fully agrees with Van Hasselt's description (1882: 25) and with the specimen in his collection, now in the Leiden Mu-

seum; the abdomen has the same silvery stripes as in the female, surrounding the central hump.

The species was known from Burma to New Guinea and Japan (Roewer, 1942: 1014; Bonnet, 1959: 4742); it also occurs in the Bismarck Archipelago and is very common on Rennell I.

Tylorida ventralis (Thorell, 1877) (figs. 117-120)

Meta ventralis Thorell, 1877: 423 (♀ ♂).
Argyroepeira ventralis; Thorell, 1887: 138 (♀ ♂). Workman, 1896: 55, pl. 55 (♀).
Leucauge ventralis; Pocock, 1904: 800, pl. 66 fig. 3 (♀ ♂).

Material. — West New Guinea: Ok Bon, bivak 39, 1300 m, 2.vii.1959, Star Mts. Exped., ♀; Kouh, Digoel, 10 m, 8.ix.1959, W. Vervoort, ♀ (RMNH); Mindiptana, 24.viii.1962, Br. Monulf, ♀, ♂subad. (CHR).

East New Guinea: Langemak Bay, 12-16.i.1909, G. Duncker, ♀ (ZMH).

Bismarck Arch.: Lavongai, Banatam, 21.iii.1962, Noona Dan. Exped., ♂; New Ireland, Danu, Kalili Bay, 29.iv.1962, Noona Dan Exped., ♀ ♂ (ZMK).

T. ventralis is larger and darker than *T. striata*; the epigynes, however, and the male palps are very similar. The type locality is Kandari, Celebes, and the species was known from Ceylon and India to New Guinea (Roewer, 1942: 1007 [*Leucauge*]; Bonnet, 1957: 2477 [*Leucauge*]). Both species therefore live in nearly the same area and may even occur at the same localities (New Ireland, Kalili Bay, 29.iv.1962). In the female from Langemak Bay the pattern of the abdomen is reduced to the dark transverse bars on the posterior part; these bars are only vaguely discernible in the Mindiptana and Lavongai specimens, whereas in the specimens from Kouh, Digoel and Ok Bon no pattern is left at all: the whole abdomen is silvery, marmorated with brownish grey.

THERIDIIDAE

PHORONCIDIINAE

Phoroncidia Westwood, 1835

Phoroncidia levii Chrysanthus, 1963 (figs. 121-123)

Phoroncidia levii Chrysanthus, 1963: 735, figs. 44-48 (♀).

Material. — West New Guinea: Mindiptana, 1965, Br. Monulf, ♀ ♂ (RMNH), ♀ ♂ (CHR).

East New Guinea: Bunu, Lake Kutubu, S. H. Dist., on foliage of *Araucaria cunninghamii* tree, 22.xi.1969, B. Gray, ♀; under bark of same tree, 23.xi.1969, H. Ivagai, ♂ (BUL).

Although this species notably differs from other species of the genus and would have been classified by former authors among *Ulesanis,* Levi & Levi (1962: 57) considered *Ulesanis* L. Koch, 1872, a synonym of *Phoroncidia.* I follow these authors here.

The first of these couples were collected by Br. Monulf at the type locality, Mindiptana (♀ holotype, 1959, leg. Br. Monulf); ♀ and ♂ of the third couple on the same *Araucaria* tree. The abdomen of all females is more swollen than in the holotype and misses the folds at the rear end and at the sides; the conical protuberance on the dorsal side is more conspicuous. The male strongly resembles the female as may be clear from a comparison of the descriptions and the figures.

Male. — Cephalothorax (figs. 121, 122): length 0.7 mm, width 0.5 mm; cephalic part strongly protruding, length 0.3 mm, width 0.2 mm; coriaceous, brown; sternum (length and width 0.4 mm) and all appendages yellowish brown, the palp and legs somewhat lighter; the first three pairs of legs are all about 1 mm, the fourth a little longer. Palp: fig. 123 (slightly expanded).

Abdomen (figs. 121, 122): length 1.1 mm, width 1.0 mm, coriaceous, covered with little pits and a number of sigilla which, however, are not so pronounced as in the female; greyish brown with brown and silver shining patches; in the Bunu male the abdomen is more orange-coloured.

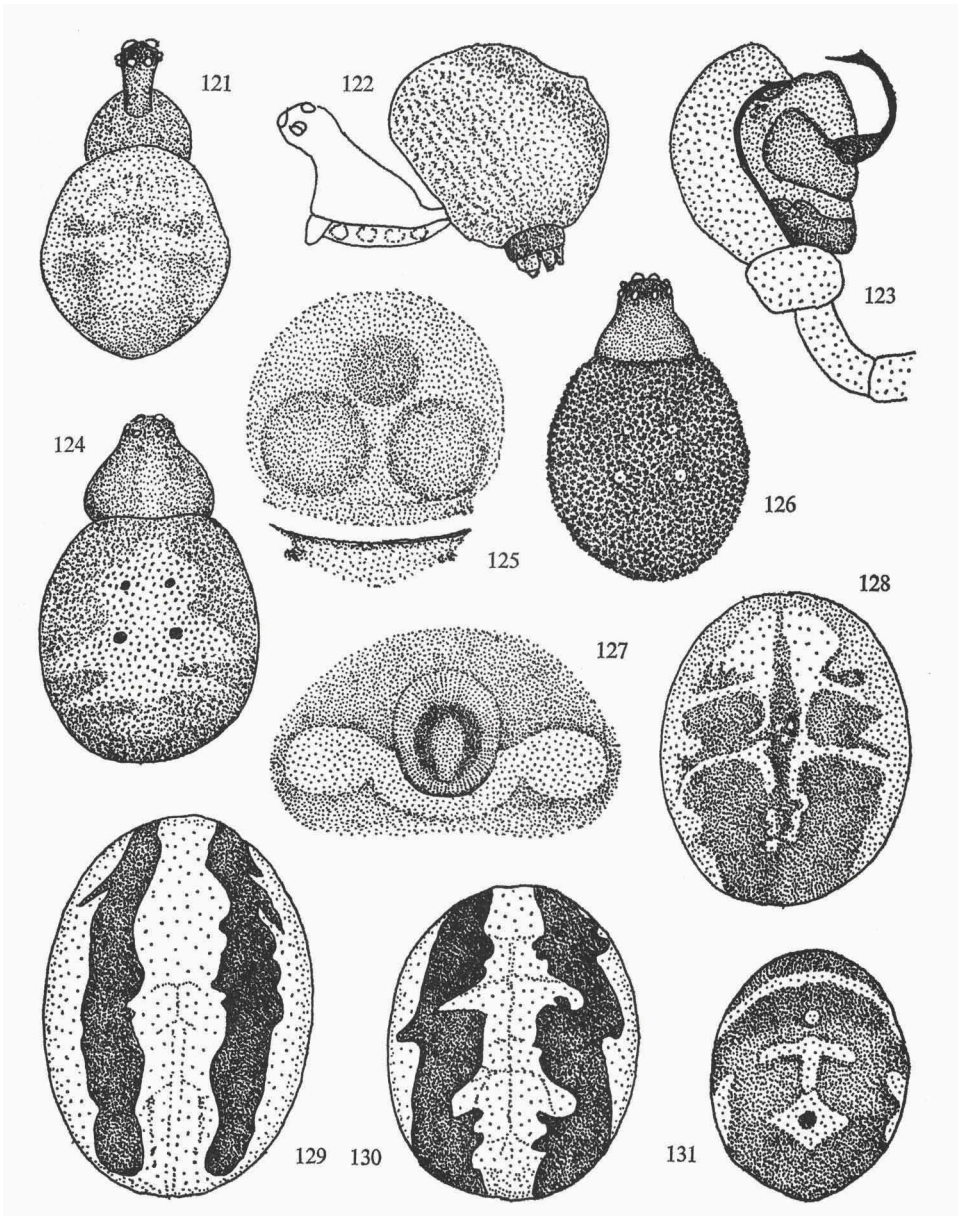
Asageninae

Crustulina Menge, 1838

Crustulina grayi spec. nov. (figs. 124, 125)

Material. — East New Guinea: Mt. Dayman, Mt. Bay Dist., under bark of *Araucaria cunninghamii,* 21.vii.1969, B. Gray, ♀ (holotype) (Australian Museum, Sydney).

In general this specimen agrees with Simon's diagnosis of the genus *Crustulina* (1894: 580); it differs, however, in two respects: (i) the area of the AME is a little narrower than that of the PME and not somewhat larger, (ii) the length of the sternum is equal to its width and not greater. As regards the first: from Simon's own words it appears that within this genus the sizes and the mutual distances of the eyes are rather variable (e.g. in his description of *C. bicruciata* from S. W. Australia [1908: 412] he wrote: "area of the median eyes ... anteriorly scarcely narrower than posteriorly"). As regards the second difference: in *C. guttata* (Wider) the length of the sternum is only slightly lager than its width (cf. Wiehle, 1937: 191, fig. 195). In my opinion this specimen may be described as a *Crustulina,* at least provionally.



Figs. 121-123. *Phoroncidia levii* Chrysanthus. 121, ♂ ; 122, lateral aspect; 123, palp. Figs. 124, 125. *Crustulina grayi* spec. nov. 124, ♀ ; 125, epigyne. Figs. 126, 127. *C. lugubris* spec. nov. 126, ♀ ; 127, epigyne. Figs. 128-131. *Lithyphantes bertkaui* (Thorell), ♀, abdomen; 128, from Kouh, Digoel; 129, from Wimba; 130, from Kaironk Valley; 131, from Huon Pen. — 121, 122, × 26; 123, × 105; 124, ×20; 125, × 120; 126, × 14; 127, × 75; 128-131, × 7.

Female (holotype). — Cephalothorax (fig. 124): length and width 0.8 mm, dark brown, slightly rugose; width of the eye region 0.4 mm. Chelicerae, maxillae and labium yellowish brown. Sternum (length and width 0.5 mm) yellowish brown with a dark brown border. Pedipalpi yellowish brown, darkening towards the tips. Legs: yellowish brown, femora and tibiae somewhat darker; measurements: I 2.1, II 1.8, III 1.5, IV 2.2 mm.

Abdomen (fig. 124): length 1.7 mm, width 1.5 mm, coriaceous, dark brown with a yellowish central field; covered with numerous dark brown pits. Underside yellowish brown, covered with dark brown pits. Epigyne: fig. 125, dark brown. Spinnerets brownish yellow.

The male is unknown.

Crustulina lugubris spec. nov. (figs. 126, 127)

Material. — East New Guinea: Stony L. A., Bulolo, M. Dist., under bark of *Araucaria cunninghamii*, 18.viii.1970, B. Gray, ♀ (holotype) (Australian Museum Sydney); same locality, 17.ix.1970, H. Ivagai, ♀ (paratype) (BUL).

These specimens resemble the foregoing species to a high degree and may be placed within the genus *Crustulina*.

Female (holotype). — Cephalothorax (fig. 126): length and width 1.0 mm, dark brown, slightly rugose; width of the eye region 0.5 mm; chelicerae dark brown; maxillae and labium brown with greyish tips; sternum (length and width 0.7 mm) reddish brown, darkening towards the borders. Pedipalpi and coxae of the legs yellowish brown, the other parts of the legs dark brown; measurements of the legs: I 2.6, II 2.3, III 1.7, IV 3.0 mm.

Abdomen (fig. 126): length 2.2 mm, width 2.0 mm, uniformly dark brown, coriaceous, covered with numerous almost black pits. Underside: brownish yellow with brown lines, which run obliquely from the borders towards the central field, surround this field and form a hexagonal ring around the brownish yellow spinnerets. Epigyne: fig. 127, brownish yellow and brown.

The paratype is identical with the holotype.

The male is unknown.

Lithyphantes Thorell, 1870

Lithyphantes bertkaui (Thorell, 1881) (figs. 128-131)

Lithyphantes bertkaui; Chrysanthus, 1963: 737, figs. 49-52 (♀ ♂).

Material. — West New Guinea: Sedorfojo, 20.vii.1952, Rev. Marcus, ♀; Araboe bivak, 8-19.ix.1939, KNAG, ♀ (RMNH); Maffin Bay, 1.vii.1944, E. S. Ross, ♂ (CAS); Sibil, 1260 m, vi-vii. 1959, Star Mts. Exped., 2 ♀;

Ok Temna, 1500 m, v.1959, Star Mts. Exped., ♂; Kouh, Digoel, 10 m, 8.ix.1959, Star Mts. Exped., 2 ♀, ♂ (RMNH).

East New Guinea: Kaironk Valley, 5.000 ft, 30.ix.1963, R. Bulmer, ♀ (CHR); Wimba, National Gardens, 1950 m, 20.viii.1963, W. Vink, 4 ♀ (RMNH); Wau, under bark of *Araucaria cunninghamii*, 22.ix.1970, B. Gray, ♀ (BUL); Mongi Watershed, Huon Pen., 3.700-4.000 ft, iv.1955, E. O. Wilson, 2 ♀ (MCZ).

Bismarck Arch.: New Britain, S. W. coast, "Liebliche Inseln", i.1909, G. Duncker, 3 ♀ (ZMH).

The greater part of these specimens, both females and males, are dark purplish grey, as has been indicated in Thorell's original description and in my 1963 paper. It appears, however, that the pattern of the abdomen is variable. In one of the females from Kouh, Digoel and in the male from Maffin Bay it is as in fig. 128; in the female from Kaironk Valley as in fig. 130; one female from Wimba has a "normal" pattern, whereas in three females from the same locality, collected on the same day, the dark colour is reduced to two longitudinal bands, the remaining parts being yellowish white: these specimens superficially resemble the females of *Latrodectus mactans hasselti* Thorell (fig. 129; cf. fig. 138). Two rather small females from Huon Pen. possess a quite distinct pattern (fig. 131), resembling *L. cingulatus* spec. nov. (fig. 132). In all specimens the epigynes are identical, and in the females depicted in fig. 129 (from Wimba) and fig. 131 (from Huon Pen.) also the vulvae are exactly the same as in the "normal" females from Mindiptana (Chrysanthus, 1963: fig. 51). The three females from New Britain are "normal".

Lithyphantes cingulatus spec. nov. (figs. 132, 133)

Material. — West New Guinea: Mindiptana, 1965, Br. Monulf, ♀ (paratype) (CHR).

Bismarck Arch.: New Britain, S. W. coast, "Liebliche Inseln", i.1909, G. Duncker, ♀ (holotype), 6 ♀ (paratypes) (ZMH); Yalom, 1000 m, 16.v.1962, Noona Dan Exped., ♀ (paratype) (ZMK).

Great Barrier Reef: One Tree I., iii.1970, H. Heatwole, ♀ (paratype) (UNE).

Although some of these spiders strongly resemble two specimens of *L. bertkaui* from Huon Pen. (fig. 131) they certainly belong to another species: their epigyne (fig. 133) is distinctly different.

Female (holotype). — Cephalothorax (fig. 132): length 3.3 mm, width 2.3 mm, reddish brown; width of the eye region 0.8 mm; all appendages

reddish brown; sternum (length and width 1.3 mm) reddish brown. Measurements of the legs: I 9.0, II 8.5, II 6.0, IV 9.0 mm.

Abdomen (fig. 132): length 4.4 mm, width 3.9 mm, yellowish brown with a very conspicuous narrow snow-white ring round the greater part of its border and with a few blotches which are lighter than the surroundings, while all are marked with two or three white spots (in some of the paratypes these blotches are scarcely discernible or even absent). Underside: reddish brown, the central field slightly lighter, a rather broad ring around the spinnerets a little darker. Epigyne: fig. 133, reddish brown.

The male is unknown.

Lithyphantes nasatus spec. nov. (figs. 134-137)

Material. — Bismarck Arch.: New Ireland, Lemkamin, 14.iv.1962, Noona Dan Exped., ♂ (paratype) (ZMK).

Great Barrier Reef: Wreck I., 12.xi.1967, H. Heatwole, ♂ (holotype) (Australian Museum, Sydney).

These specimens resemble in many respects *L. lepidus* Cambridge (1879: 690, pl. 53 fig. 9) from New Zealand (3 mm) but the pattern of the abdomen is distinctly different.

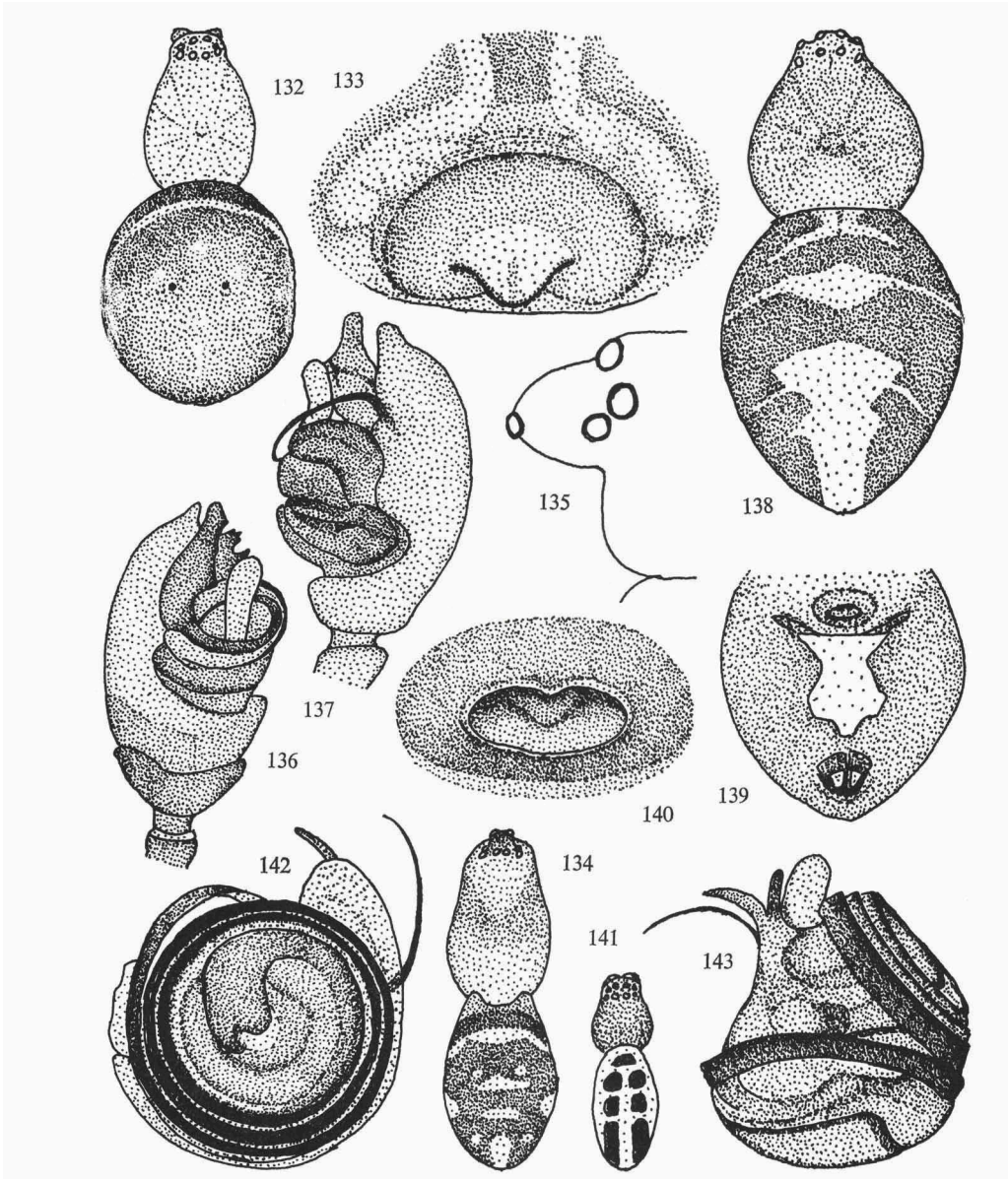
Male (holotype). — Cephalothorax (fig. 134): length 1.8 mm, width 1.0 mm, reddish brown, the cephalic part elevated. Width of the eye region 0.5 mm; the AME on a dark brown protruding "snout" (fig. 135; nasatus = "with a big nose"). Chelicerae reddish brown, fangs very long, stretched at right angles with the chelicerae; maxillae reddish brown; labium brown. Sternum: length 0.9 mm, width 0.6 mm, ending in a rather sharp point between the coxae of the IV legs, reddish brown, suffused with brown. Legs: yellow, femora completely (legs I) or partly (other legs) brown, trochanters, distal halves of tibiae, and metatarsi of IV legs brown; measurements: I 4.6, II 3.4, III 3.1, IV 4.9 mm. Palp: figs. 136, 137, brown.

Abdomen (fig. 134): length 1.8 mm, width 1.1 mm, purplish brown with yellowish grey markings; a somewhat sclerotized brown "collar" projects from the anterior border and surrounds the posterior surface of the cephalothorax (stridulatory organ?). Underside reddish brown, epigaster a little protruding. Spinnerets brown.

In the paratype the dorsal surface of the abdomen is almost black, the snow-white markings sharply contrasting.

The female is unknown.

In *L. lepidus* "the upper part and sides [of the abdomen] are black, with



Figs. 132, 133. *Lithyphantes cingulatus* spec. nov. 132, ♀ ; 133, epigyne. Figs. 134-137. *L. nasatus* spec. nov. 134, ♂ ; 135, cephalic part, lateral aspect; 136, palp, inner side; 137, outside. Figs. 138-143. *Latrodectus mactans hasselti* Thorell. 138, ♀ ; 139, abdomen, ventral aspect; 140, epigyne; 141, ♂ ; 142, palp, underside; 143, palp, lateral aspect. 132, 138, 139, 141, × 7; 133, 135, × 75; 134, × 14; 136, 137, 142, 143, × 60; 140, × 38.

three longitudinal white bands broken into more or less distinct separate patches". "The palpal organs are rather complex, though compact; and, though showing several prominent points and processes, there is not one of any remarkable character" (Cambridge, 1879); with only this scanty information it is impossible to compare the palps of the two species.

LATRODECTINAE

Latrodectus Walckenaer, 1805

Latrodectus mactans hasselti Thorell, 1870 (figs. 138-143)

Aranea mactans Fabricius, 1775: 432 (♀).
Latrodectus hasselti Thorell, 1870: 369 (♀ ♂).
Latrodectus mactans hasselti; Levi, 1959: 18 (♀ ♂).

Levi (1959) extensively discussed the synonymy, distribution and variability of *L. mactans* and some other *Latrodectus* species and gave many figures of their copulatory organs. Kaston (1970) confined himself to the biology of the American *Latrodectus* species, among others of *L. mactans*; clear figures of the pattern of the successive instars of the species are given.

Material. — West New Guinea: Biak, ii-v.1952, L. D. Brongersma, ♀; ix-xii.1953, Personnel Royal Netherlands Navy, ♀; 14-17.xii.1953, L. van der Hammen, 3 ♀, 2 ♂; Borokoe, 12.iii.1952, L. D. Brongersma, ♀ (RMNH); Hollandia, 20.x.1944, T. Aarons, ♀, juv. (CAS).

East New Guinea: Konstantinshafen (= Bongu, Astrolabe Bay, S. from Madang), 1892-95, Speyer, 3 ♀, ♂, 2 juv. (ZMH); Finschhafen, v-vi.1945, F. E. Sawyer, 2 ♀ (CAS); Morobe District, S. E. coast, without date, Stevens, 3 ♀ (MCZ).

Bismarck Arch.: New Britain, ii.1894, Pölse, 7 ♀ (ZMH); S. W. coast, "Liebliche Inseln", i.1909, G. Duncker, 3 ♀, 3 juv. (ZMH).

NICODAMINAE

Nicodamus Simon, 1887

Nicodamus was originally considered by Simon to belong to the Theridiidae but in 1898 (p. 223) he classified this genus among the Agelenidae; Levi & Levi (1962: 66) suggested that it should belong to the Zodariidae. Forster (1970: 177) created a new family, the Nicodamidae, bringing together the ecribellate genus *Nicodamus* and the cribellate genus *Megadictyna*. Both Roewer (1942: 429) and Bonnet (1958: 3101) stick to the original opinion of Simon; since all references to this genus are given in these two catalogues I prefer to treat it here.

Nicodamus leopoldi Roewer, 1938 (figs. 144-148)

Nicodamus leopoldi Roewer, 1938: 24, figs. 12-14 (♀ ♂).

Material. — West New Guinea: Araboe bivak, ix-x.1939, KNAG, 5 ♀, 7 ♂, 4 juv. (RMNH).

The type locality of this species is Lake Anggi-Gita; some of the paratypes, all juvenile specimens, were collected in the same locality, one in Siwi, and one in Sakoemi, all in the eastern part of the Vogelkop. The species has not been mentioned from other localities.

The above specimens are in accordance with Roewer's description and figures and with slides in his own collection (now SMF 13292, 13293) showing the vulva and the palp. The only difference lies in the colour of the abdomen, which is not "einfarbig schwarzgrau" but purplish black with a very conspicuous blood-red central field (fig. 144) both on the dorsal and the ventral surface; in some specimens this central field is much narrower than in this figure. Dr. J. Cooreman and Mr. J. Kekenbosch, Institut royal des Sciences naturelles de Belgique, Brussels, kindly enabled me to study the holotype and allotype of this species, preserved in the collections at Brussels; in both specimens the abdomen is dark grey, the central field being yellowish grey.

Fig. 146 gives an idea of the vulva: in the right half only the darkest parts are drawn, as in Roewer's fig. 14, while in the left half more details are shown without, however, revealing its real structure, which is not clear in the slide.

ARGYRODINAE

Argyrodes Simon, 1864

Several authors use the name *Argyrodina* Strand, 1928 (Roewer, 1942: 429) or *Conopistha* Karsch, 1881 for this genus. I follow Bonnet (1945: 108), who defended the name originally given by Simon. See also Levi & Levi (1962).

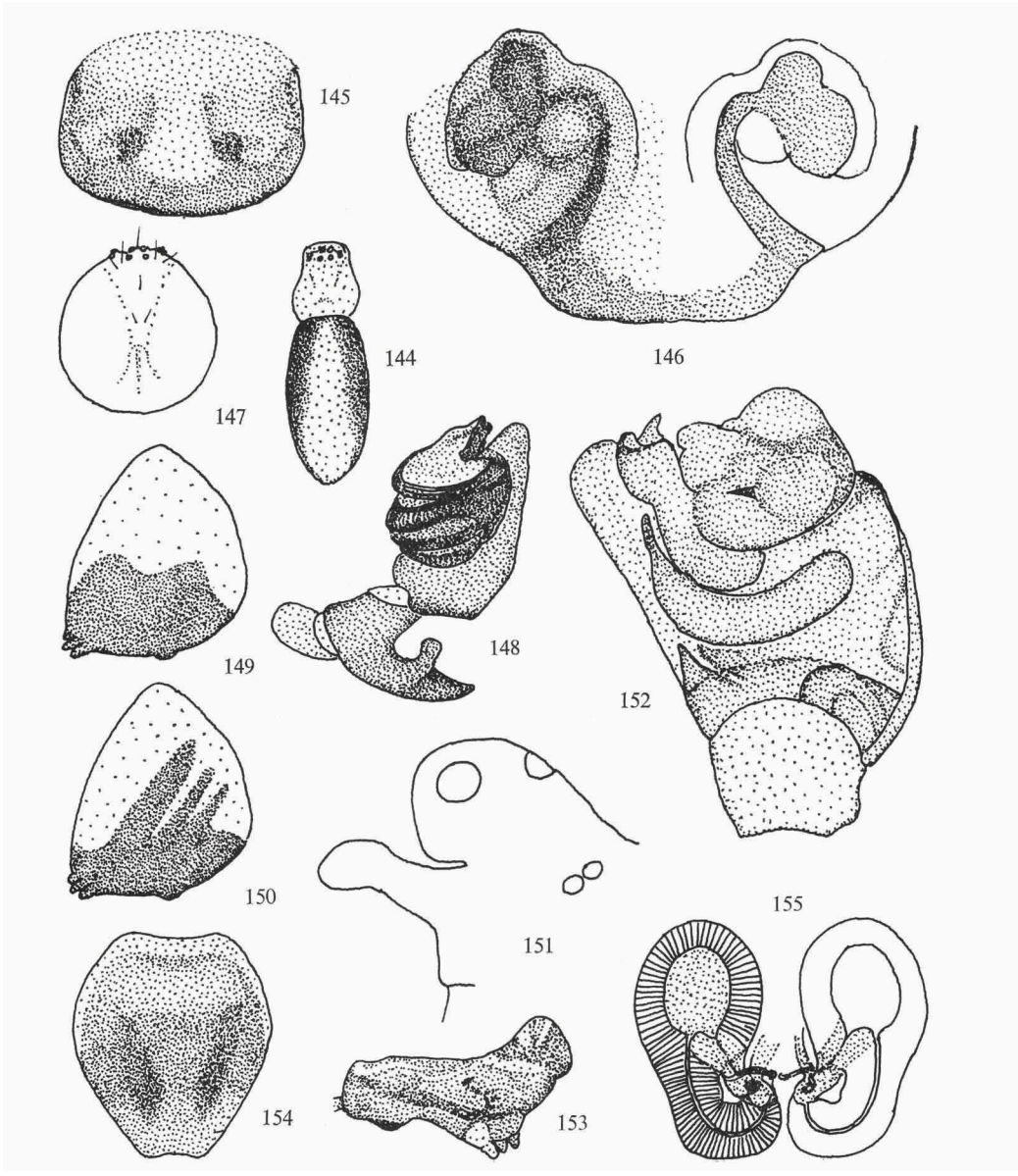
Argyrodes argentatus Cambridge, 1880 (figs. 149-152)

Argyrodes argentatus; Chrysanthus, 1963: 739, figs. 59-62 (♀).

Material. — West New Guinea: Wissel Lakes, 1954, K. W. J. Boelen, 7 ♀, ♂; Lake Tigi, Kampong Waghete, 11-12.i.1955, L. B. Holthuis, 3 ♀; Enarotali, 12-23.vii.1952, W. J. Roosdorp, ♀ (RMNH).

East New Guinea: Wau, in web of *Nephila,* 1971, M. H. Robinson, 3 ♀, 2 ♂; in web of *Cyrtophora.* -.ii.1971, M. H. Robinson, ♂ (RMNH).

Great Barrier Reef: Lizard I., 25-27.ix.1967, H. Heatwole, ♀ (UNE).



Figs. 144-148. *Nicodamus leopoldi* Roewer. 144, ♀; 145, epigyne; 146, vulva; 147, ♂, cephalothorax; 148, palp, outside. Figs. 149-152. *Argyrodes argentatus* Cambridge. 149, ♀, abdomen, lateral aspect, from Wissel Lakes; 150, from Enarotali; 151, ♂, cephalic part, lateral aspect; 152, palp, ventro-lateral aspect. Figs. 153-155. *A. scutatus* spec. nov. 153, ♀, abdomen, lateral aspect; 154, epigyne; 155, vulva. 144, × 3; 145, × 38; 146, × 60; 147, 153, × 7; 148, × 19; 149, 150, × 14; 151, 154, × 75; 152, × 105; 155, × 120.

From the females collected near the Wissel Lakes it appears that the dark colour on the sides of the abdomen is not always restricted to a narrow band connected with the dark underside (cf. Chrysanthus 1963: fig. 59) but may occupy a much larger part of these sides (figs. 149, 150).

The cephalic part of the male (fig. 151) and the structure of its palp (fig. 152) fully agree with the corresponding figures given by Exline & Levi (1962, figs. 148, 149) of the lectotype from the East Indies .

Argyrodes fissifrons Cambridge, 1869 (figs. 156-159)

Argyrodes fissifrons; Chrysanthus, 1963: 737, figs. 55-58 (♂).

Material. — West New Guinea: Lake Paniai, 8-16.ix.1939, KNAG, ♂ (RMNH).

This male is identical with the males from Mindiptana, which in 1963 I could compare with Cambridge's type specimen in the British Museum (Natural History). Neither in my own collection nor in the collections dealt with in this paper there are any females of this species. In the collections from Rennell I., made by the Noona Dan Expedition in 1961-1962 and by Dr. T. Wolff in 1965, several females are present but no males. The results of the Rennell expeditions will be discussed in a separate paper. For comparison, especially with the next species, *A. wolfi*, I here give some figures of the female of *A. fissifrons*.

Argyrodes wolfi Strand, 1911 (figs. 160-164)

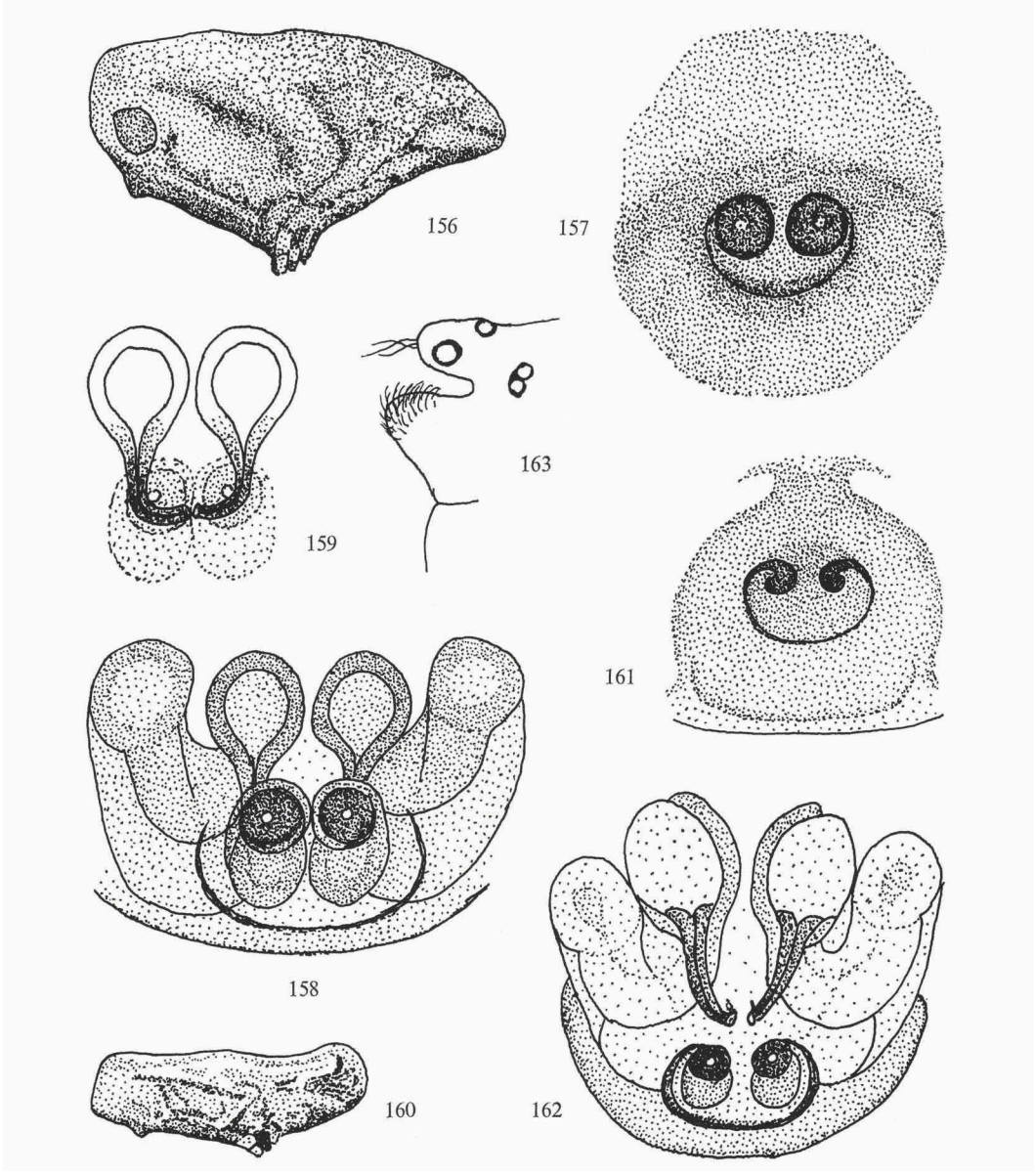
Argyrodes wolfi Strand, 1911: 202 (♀ ♂); 1915: 192, pl. 13 fig. 1, pl. 15 fig. 35 (♀ ♂).

Material. — West New Guinea: Biak, xi-xii.1953, L. van der Hammen, 4 ♀, 2 ♂; Hollandia, 31.xii.1953, L. van der Hammen, ♀ (RMNH).

Bismarck Arch.: Admiralty Is., Pak I., 10.x.1908, G. Duncker, ♀, 2 ♂; Tupinier Is., Dampier Str., 2.v.1909, G. Duncker, ♀ ♂ (ZMH).

The above mentioned males certainly agree with Strand's description and figures and the male holotype from Keule I. (Koil I. N. of East New Guinea) (SMF 3000); the females are in accordance with the female paratypes, also from Keule I. (SMF 3001, 3002) and with two females which came from Anir, a small island N.E. of New Ireland (SMF 3003), and which in Strand's opinion belong to the same species.

The males can easily be distinguished from those of *A. fissifrons* Cambridge; the identification of the females is not so easy. The shape of the abdomen of *A. wolfi* is more or less as in fig. 160, but it may be more swollen and resemble that of *A. fissifrons* (fig. 156) although it is always smaller. The most reliable character is the epigyne: in *A. wolfi* the two dark



Figs. 156-159. *Argyrodes fissifrons* Cambridge. 156, ♀, abdomen, lateral aspect; 157, epigyne; 158, vulva, dorsal aspect; 159, central part of vulva, ventral aspect. Figs. 160-163. *A. wolfi* Strand. 160, ♀, abdomen, lateral aspect; 161, epigyne; 162, vulva; 163, ♂, cephalic part, lateral aspect. — 156, 160, × 7; 157, 161, ×75; 158, 159, 162, × 105; 163, × 38.

pits in the epigyne are rather small and separated from each other by about their diameter (fig. 161), in *A. fissifrons* they are distinctly larger and almost touching each other (fig. 157); in the vulvae these differences are more marked (figs. 162, 158, 159).

Both species occur on Rennell I. and, as appears from the collecting data, in the same areas.

Argyrodes kulczynskii (Roewer, 1942)

Argyrodes kulczynskii; Chrysanthus, 1963: 741, figs. 70-75 (♀ ♂).

Material. — West New Guinea: Biak, Base, 23.xi.1953, L. van der Hammen, ♀ (RMNH).

East New Guinea: Bulolo, 2.xii.1967, B. Gray, ♀, 2 ♂ (BUL).

Bismarck Arch.: New Ireland, Lemkamin, 20.iv.1962, Noona Dan Exped., ♀ (ZMK).

Argyrodes miniaceus (Doleschall, 1857)

Argyrodes miniaceus; Chrysanthus, 1963: 739, figs. 63-66, 69 (♀ ♂).

Material. — West New Guinea: Middelburg I., 3.vii.1952, ♀ ♂; in web of *Nephila maculata,* 6 ♀, ♂, L. D. Brongersma & W. J. Roosdorp; Ok Sibil, Basiskamp, 1959, Tissing, ♂; Kouh, Digoel, 10 m, 8.ix.1959, W. Vervoort, ♀ (RMNH).

East New Guinea: Wau, in web of *Nephila,* 1971, M. H. Robinson, ♂ (RMNH).

Argyrodes scutatus spec. nov. (figs. 153-155)

Material. — West New Guinea: Ajamaroe, 2.iii.1955, L. D. Brongersma, 2 ♀ (holotype and paratype) (RMNH).

This species superficially resembles *A. wolfi* (fig. 160) but its epigyne and vulva strongly differ.

Female (holotype). — Cephalothorax: length 2.8 mm, width 1.6 mm, reddish brown; width of the eye region 0.8 mm; clypeus yellowish brown, protruding; chelicerae yellowish brown with brown tips; maxillae, labium, sternum (length 1.4 mm, width 1.0 mm), pedipalpi and legs yellowish brown. Measurements of the legs (of the paratype, in the holotype all are partly broken off): I 19, II 16, III 7, IV 14 mm.

Abdomen (fig. 153): length 4.6 mm, width 2.0 mm, greyish brown, partly dark brown and with some silvery spots; ventral side greyish brown with darker brown streaks and blotches. Epigyne: fig. 154, very dark brown, shield-shaped (scutum = shield); vulva: fig. 155. Anterior spinnerets

brownish yellow, median and posterior ones dark brown. The paratype is slightly darker than the holotype.

The male is unknown.

Rhomphaea L. Koch, 1872

Exline & Levi (1962: 76) consider this genus a synonym of *Argyrodes*.

Rhomphaea cometes L. Koch, 1872 (figs. 165-169)

Rhomphaea cometes L. Koch, 1872: 290, pl. 24 fig. 3 (♀). Simon, 1894: 502, fig. 500 (pedipalpus of ♀). Berland, 1929: 45, figs. 12, 13 (♂).

Material. — West New Guinea: Araboe bivak, 4-20.x.1939, KNAG, ♀ (RMNH).

Theridiinae

Achaearanea Strand, 1929

Achaearanea hammeni Chrysanthus, 1963

Achaearanea hammeni Chrysanthus, 1963: 746, figs. 95-98, 100 (♀).

Material. — West New Guinea: Ok Sibil, basiskamp, 1260 m, 1-18.viii. 1959, Star Mts. Exped., 2 ♀ (RMNH).

East New Guinea: Kaironk Valley, 5.750 ft, indoors, 10.i.1968, R. Bulmer, ♀ (CHR).

Achaearanea krausi Chrysanthus, 1963

Achaearanea krausi Chrysanthus, 1963: 744, figs. 89-94, 99 (♀ ♂).

Material. — West New Guinea: Sedorfojo, 20.vii.1952, Rev. Marcus, ♀; Wissel Lakes, 1954, K. W. J. Boelen, ♀; Takum, kampong Hijob, 8-10.ix. 1959, Star Mts. Exped., 11 ♀; Kouh, Digoel, 10 m, 8.ix.1959, Star Mts. Exped., 75 ♀ (RMNH).

East New Guinea: Mongi Watershed, Huon Pen., 3.700-4.000 ft, 11.iv. 1955, E. O. Wilson, ♀ (MCZ).

Solomon Is.: Guadalcanal, rain forest, 17 km W. of Honiara, 28-29.vii. 1962, Noona Dan. Exped., ♂ (ZMK).

Achaearanea mundula (L. Koch, 1872)

Achaearanea mundula; Chrysanthus, 1963: 741, figs. 76-83 (♀).

Material. — Bismarck Arch.: Dampier Str., Tupinier I., 5.v.1909, G. Duncker, ♀ (ZMH).

Great Barrier Reef: Nymph I., 23-26.ix.1967, H. Heatwole, ♀ (UNE).

Achaearanea tepidariorum (C. L. Koch, 1841) (fig. 168)

Theridium tepidariorum C. L. Koch, 1841: 75, figs. 646-648 (♀ ♂).

Material. — West New Guinea: Wissel Lakes, 1954, K. W. J. Boelen, 25 ♀, 8 ♂; Lake Tigi, Kampong Waghete, 11-12.i.1955, L. B. Holthuis & M. Boeseman, 10 ♀, ♂; Enarotali, 13.vii.1952, W. J. Roosdorp, 3 ♀, ♂; 16.xi.1953, L. van der Hammen, 3 ♀ (RMNH).

Bismarck Arch.: Durour Is. (= Ana Is., W. of Hermit Is.), 14.vi.1906, G. Duncker, 2 ♀; New Britain, N. coast, Tavanstanger Hafen, 25.xi.1908, G. Duncker, ♀ (ZMH).

Since this is a cosmopolitan and, in most regions, a common species it does not seem necessary to give figures; for the respective literature I may refer to Roewer (1942: 460, *Theridion*) and Bonnet (1959: 4536, *Theridium*).

It seems remarkable that the only locality in New Guinea where the species was collected, and even in large numbers, are the Wissel Lakes. The "Hamburg Südsee Expedition" (1905-1909, G. Duncker, material in the Zoologisches Museum, Hamburg) collected the species on three localities: 3 ♀ "an Bord des Peiho", 1908-1909; 2 ♀, Durour Is., 14.vi.1906; on the label it says (in Duncker's writing?): "mit Ethnographen eingeschleppt"; ♀, New Britain, Tavanstanger Hafen, 25.xi.1908. It may be that the same notice "mit Ethnographen eingeschleppt" should be placed for this specimen, too, and also for the specimens from the Wissel Lakes: Van der Hammen observed the species on the outside of buildings only (personal communication).

In order to be certain that the specimens from the Wissel Lakes belong to *A. tepidariorum* I have made a microscopic slide of the vulva (fig. 168): it is exactly the same as the figure given by Wiehle (1937: 157, fig. 94); also the structures of the male palp are identical.

Achaearanea vervoorti spec. nov. (figs. 169-171)

Material. — West New Guinea: Ok Tenma, 1500 m, 19.v.1959, Star Mts. Exped., ♀ (holotype), 3 ♀ (paratypes) (RMNH).

This species resembles the cosmopolitan *A. tepidariorum* (C. L. Koch) and also *A. krausi* Chrysanthus and *A. hammeni* Chrysanthus, both from Mindiptana (Chrysanthus, 1963: 744, figs. 90-94, 99, and 746, figs. 95-98, 100).

Female (holotype). — Cephalothorax (fig. 169): length 1.6 mm, width 1.4 mm, yellowish brown suffused with brown; width of the eye region 0.6 mm; chelicerae, maxillae, labium and pedipalpi yellowish brown; sternum (fig. 170): length 1.3 mm, width 1.1 mm, yellow with a longitudinal dark brown band on the posterior half. Legs: yellowish brown with some vague darker rings; measurements: I 6.5, II 5.7, III 4.3, IV 6.4 mm.

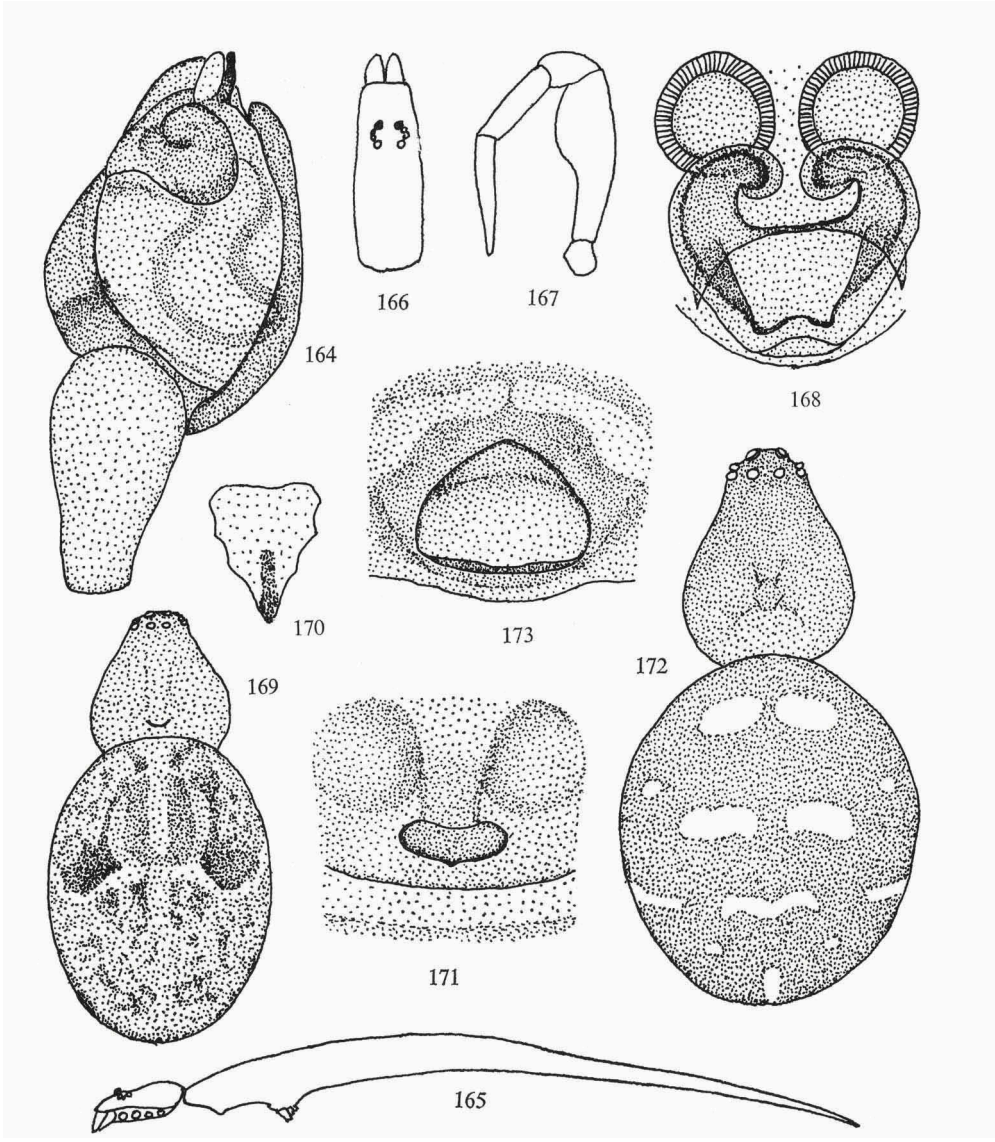


Fig. 164. *Argyrodes wolfi* Strand, ♂ palp, underside. Figs. 165-167. *Rhomphaea cometes* L. Koch. 165, ♀, lateral aspect; 166, cephalothorax, dorsal aspect; 167, pedipalp. Fig. 168. *Achaearanea tepidariorum* (C. L. Koch), ♀ from Wissel Lakes, vulva. Figs. 169-171. *A. vervoorti* spec. nov. 169, ♀; 170, sternum; 171, epigyne. Figs. 172, 173. *A. valoka* spec. nov. 172, ♀; 173, epigyne. — 164, 168, × 60; 165, × 7; 166, 169, 170, 172, × 14; 167, × 25; 171, 173, × 75.

Abdomen (fig. 169): length 3.0 mm, width 2.2 mm, yellowish grey with a reddish brown to dark brown pattern; there are a few white spots in the transverse undulating median line. Ventral side: yellowish grey with a central band, tapering towards the brown spinnerets; the epigastric field and some irregular blotches on the sides are brown. Epigyne: fig. 171.

The male has not yet been discovered.

It is a pleasure to dedicate this species to Dr. W. Vervoort, Rijksmuseum van Natuurlijke Historie, Leiden, leader of the team of zoologists who took part in the Star Mountains Expedition.

Achaearanea valoka spec. nov. (figs. 172, 173)

Material. — Bismarck Arch.: New Britain, Valoka, 8.vii.1962, Noona Dan Exped., ♀ (holotype) (ZMK).

Female (holotype). — Cephalothorax (fig. 172): length 2.2 mm, width 1.7 mm, brown; width of the eye region 0.8 mm; chelicerae, maxillae and labium: brown with brownish yellow tips; sternum: length and width 1.0 mm, brown. Pedipalpi brown with yellowish tips. Legs: brown, tibiae, metatarsi and tarsi partly yellowish; measurements: I 10.0, II 7.0, III 5.5, IV 8.0 mm.

Abdomen (fig. 172): length 3.4 mm, width 3.0 mm, rather dark brown with conspicuous yellowish white blotches. Underside dark brown; there are two small white spots, 1 mm from each other and fairly half-way between the epigastric furrow and the spinnerets. Spinnerets: basal part brown, terminal part grey. Epigyne: fig. 173.

The male is unknown.

Theridion Walckenaer, 1805

Theridion rufipes Lucas, 1846

Theridion rufipes; Chrysanthus, 1963: 748, figs. 106-109 (♀ ♂).

Material. — West New Guinea: Lake Jamur, near Etna Bay, 10.xii.1954, 2 ♀, ♂; Wissel Lakes, 1954, K. W. J. Boelen, 4 ♀, 2 ♂; Hollandia, indoors, 29.xii.1953, L. van der Hammen, ♀; Takum, kampong Hijob, 10.ix.1959, Star Mts. Exped. ♀; Kouh, Digoel, 10 m, 8.ix.1959, Star Mts. Exped., ♀ (RMNH).

East New Guinea: Finschhafen, v-vi.1945, F. E. Sawyer, 2♀ (CAS).

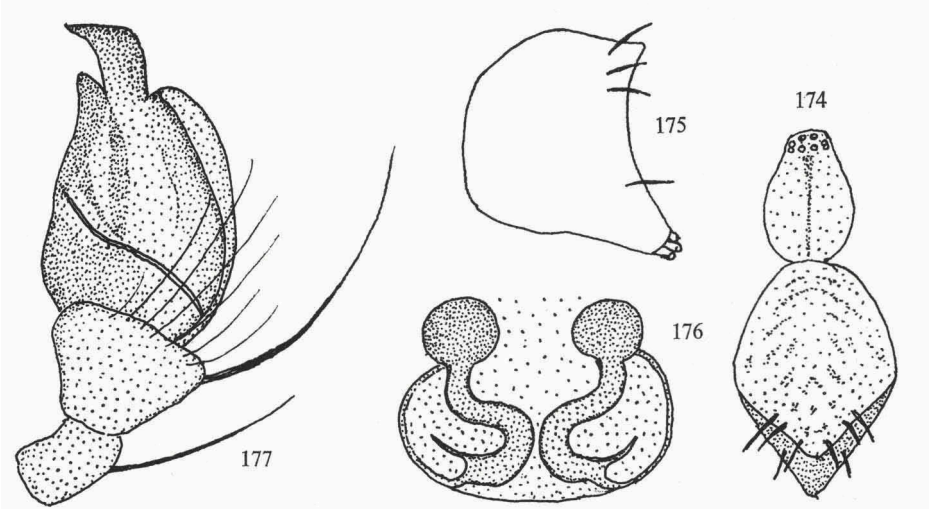
Bismarck Arch.: Durour I. (= Ana I., W. of Hermit Is.), 14.vi.1909, G. Duncker, ♂ (ZMH).

Solomon Is.: Guadalcanal, Honiara, 27.vii-4.viii.1962, Noona Dan Exped., ♀ ♂ (ZMK).

Chrysso Cambridge, 1882

Chrysso mussau spec. nov. (figs. 174-177)

Material. — Bismarck Arch.: Mussau I., Malakata, 11.vi.1962, Noona Dan Exped., ♀ (holotype), ♂ (paratype) (ZMK).



Figs. 174-177. *Chrysso mussau* spec. nov. 174, female; 175, abdomen, lateral aspect; 176, epigyne; 177, ♂ palp, inner side. — 174, 175, × 14; 176, × 150; 177, × 120.

This species is remarkable on account of the shape of its abdomen and especially by the heavy spines on the posterior border of the abdomen, and it strongly resembles *Theridion spiniventre* Cambridge (1869: 384, pl. 12 figs. 52-56, ♂) from Ceylon. A description of a subadult ♀ from Java is given by Strand (1907: 412); Van der Hammen (1949: 76, figs. 1-3) gave descriptions and figures of ♀ and ♂ after specimens collected in Dutch greenhouses. The species also resembles *Meotipa clementinae* Petrunkevitch (1930: 212, figs. 61, 62, ♀) from Portorico; good figures of that species, ♀ and ♂, are given by Levi (1962: 231, figs. 71-75, sub *Chrysso).* The position of the spines, the structure of the epigyne and of the male palp of *C. mussau,* however, differ from those in *C. spiniventris* and *C. clementinae.*

Female (holotype). — Cephalothorax (fig. 174): length 1.3 mm, width 0.9 mm, yellowish white with a narrow longitudinal red band; width of the eye region 0.5 mm; chelicerae, maxillae, labium, sternum (length 0.9 mm, width 0.6 mm) and pedipalpi: yellowish white. Legs very slender, yellowish white with numerous narrow reddish brown rings and spots; measurements: I 12.5, II 9.0, III 5.5, IV 8.5 mm.

Abdomen (figs. 174, 175): length 2.3 mm, width 1.6 mm, height 2.3 mm; yellowish white with reddish brown and dark brown lines and spots; the heavy spines on the posterior border are dark brown. Epigyne: fig. 176, reddish brown.

Male (paratype): in all respects as the female but smaller: total body length 3.0 mm. Palp: fig. 177.

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