

Spiders (Arachnida, Araneae) from the Seychelle Islands, with notes on taxonomy

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Fourteen species are added to the 73 species known from the Seychelle Islands. The following taxa are described: *Pritha heikkii* sp. n. (Filistatidae), *Seychellia wiljoi* gen. n., sp. n. (Telemidae), *Oecobius reefi* sp. n. (Oecobidae), *Bristowia* gen. n. (Lycosidae), *Argyrodus fissifrontella* sp. n., *A. recurvatus* sp. n., and *A. pusillus* sp. n. (Theridiidae), and *Microdipoena elsae* sp. n. (Mysmenidae). The taxonomy of most of the species treated is discussed, with special reference to the secondary genital organs. The general distribution of each species is given.

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A few papers on the spider fauna of the Seychelle Islands have been published earlier (BLACKWALL 1877, SIMON 1893 and 1898, HIRST 1911). Together with some scattered information these studies bring the total number of the spiders found on the Seychelles up to 73 species. Most of them come from the main island, Mahé, and a few species also from Silhouette, Praslin, Félicité and Récif.

At the end of 1975 the author made a short visit to these islands, and collected about 200 adult specimens of 31 species of spiders from Mahé and Praslin. The present material includes 7 new species, which are described here, and 7 other species not recorded earlier from these islands. The spider fauna of these islands now totals 87 species representing 28 families and 70 genera.

The ranges and taxonomy of tropical spiders are still poorly known. Moreover, many species have been described under different names in different parts of the tropics. Therefore faunal comparisons between different regions are difficult. At present it can be said that of the spider species now known from the Seychelles 46 are endemic and 18 cosmopolitan. Of the remaining species 10 are Mediterranean and African, 2 known from Africa and Madagascar, 2 from Madagascar and Mauritius, and 9 are Indo-Australian. However, these numbers may include several species which have been de-

scribed from other parts of the tropics under different names.

Filistatidae

Pritha heikkii sp. n.

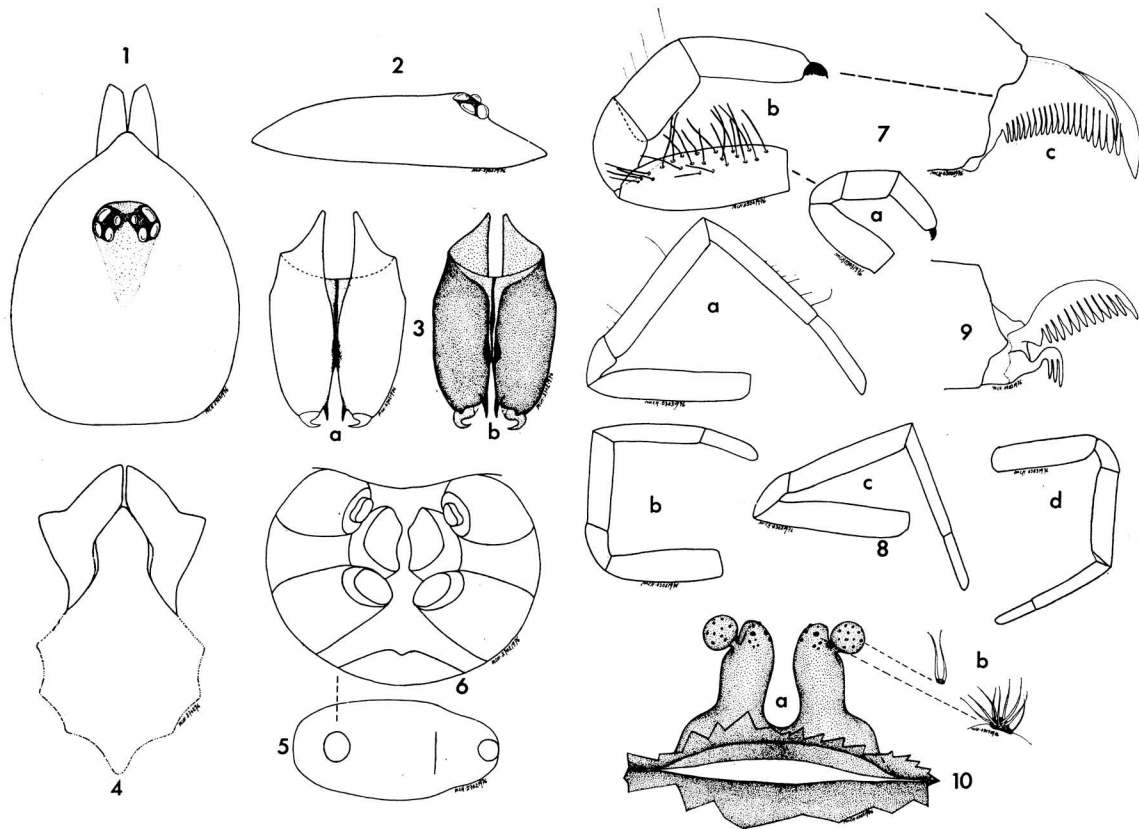
Holotype, ♀: the Seychelles, Mahé 30.X.1975, M. Saaristo leg. Paratypes, 6 ♀♀: same date and locality. Preserved in the Zoological Museum, University of Turku.

Female (Figs. 1—10)

Total length 4.4 mm, carapace 1.6×1.3 mm, and abdomen 2.8×1.6 mm. Long, stout, darkish hairs cover the whole animal except ventral surface of chelicerae. Carapace and sternum pale yellow. Legs also yellow with palpal tarsus, and tarsus and metatarsus of leg I brownish yellow. Abdomen clay-coloured without any pattern.

Chelicerae projecting forwards, dorsally free but ventrally connected by thin membrane with strongly chitinized median rod. Sternum flat, the horizontal labium contiguous with it. Legs rather short and stout, spineless; carapace/tibia I = 1.07 and carapace/leg I = 0.70. Female palp with one big claw bearing numerous denticles; its tibia with four mediodorsal trichobothria and ventral surface of femur with numerous long, swollen sensory hairs. Abdomen long ovoid, somewhat depressed, extending beyond spinnerets.

No sclerotized epigynal area; vaginal opening surrounded by thick hairs, mostly short. Vulva consisting of two tubular sacs with common orifice. Each sac with a spherical side bulge. On apex of sacs and side



Figs. 1–10. *Pritha heikkii* sp. n. — 1: Carapace and chelicerae dorsally. — 2: Carapace dextrolaterally. — 3: Chelicerae dorsally (a) and ventrally (b). — 4: Maxillae, labium, and sternum. — 5: Abdomen ventrally. — 6: Spinnerets and cribellum. — 7: Female palp (a), special hairs and trichobothria (b), and claw (c) of female palp. — 8: Dextrolateral views of the legs I (a), II (b), III (c), and IV (d). — 9: Claws of leg I. — 10: Vulva dorsally (a) and vulval corpuscles (b). — Orig.

bulges several black corpuscles which, at high magnification, appear to be smaller or larger elevations of outer integument of vulva with thread-like projections.

This species may be closely related to *Filistata littoralis* Roewer, 1938 from Kaimana, New Guinea. Both have concolorous abdomens and spineless legs. However, *P. heikkii* has a broader carapace and slightly different eye pattern (cf. ROEWER 1938: Fig. 3.)

Named in honour of my friend and colleague Mr. Heikki Hippa, Phil. lic.

The species was very common in minute crevices of the walls of the Reef Hotel, though only 7 females and 6 juveniles were collected. Presumably this was not the right time for males.

Telemididae

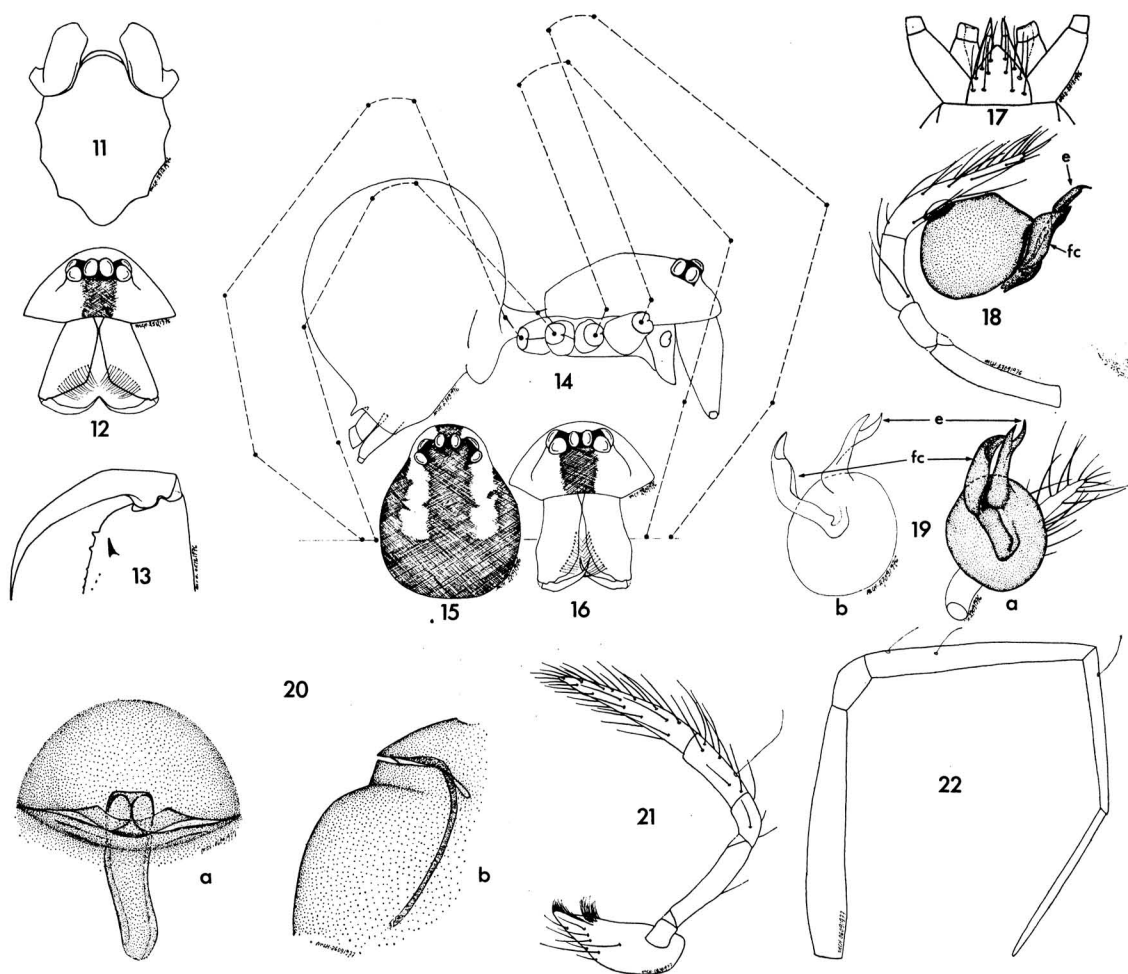
Seychellia gen. n.

Type-species: *Seychellia wiljoi* sp. n.

Eyes large. Legs unmodified in both sexes;

leg sequence: I, II, IV, III. Alveolus ca. its diameter distally from tibiocymbial articulation. Bulbus relatively small. Functional conductor twice the length of embolus, articulating with bulbus. Embolus bifurcate. Epigynal area slightly modified, with a shallow median lip projecting over epigastric sulcus. Vulva consisting of a median, posteriorly curved plate, with fertilizing ducts running on its lateral edges.

Three different genera (*Telema* Simon, 1882, *Apneumonella* Fage, 1921, *Usophila* Keyserling, 1891) have been placed in this family. Their affinities and zoogeography have recently been discussed by BRIGNOLI (1973, 1977). Of the three, *Usophila* seems to be closest to *Seychellia*, differing, for example, in the following respects: eyes small; femora I of male modified; alveolus touching tibiocymbial articulation, bulbus large,



Figs. 11–22. *Seychellia wiljoi* sp. n. — 11: Maxillae, labium, and sternum. — 12: Female carapace and chelicerae frontally. — 13: Apex of male chelicera from behind. — 14 = Dextrolateral view of male. — 15: Male carapace dorsally. — 16: Male carapace and chelicerae frontally. — 17: Spinnerets and colulus ventrally. — 18: Male palp dextrolaterally (a) and ventrally (b). — 19: Vulva ventrally (a) and sinistrolaterally (b). — 20: Left female palp. — 21: Leg I of male. — 22: Leg I of female. — Abbreviations: e = embolus, fc = functional conductor. — Orig.

conductor of the same length as unbranched embolus and both firmly attached to bulbus.

It is also noteworthy that the members of the three first-mentioned genera are cave-dwellers or live in rock beds but *S. wiljoi* was collected by sieving leaf litter.

Seychellia wiljoi sp. n.

Holotype, ♂: the Seychelles, Mahé near La Misère, ca. 600 m, in leaf litter, 30.X.1975, M. Saaristo leg., and alloparatype, ♀: same date and locality. Preserved in the Zoological Museum, University of Turku.

Male and female (Figs. 11–22)

Very small species, male and female equal in size but legs of female shorter; total length 0.93 mm, carapace 0.45×0.35 mm, abdomen $0.48 \times 0.40 \times 0.60$ mm. Leg I of ♂ 2.5 mm and of ♀ 2.0 mm. Carapace brown, with purple-blue pattern; legs and chelicerae brown, suffused with dark purple-blue; maxillae, labium, and sternum dark purple-blue.

Eyes slightly larger in the female. Chelicerae of male and female different; those of male also with one large and three tiny retromarginal teeth absent in female. Labium rebordered, vertical and fused with sternum. Legs long and slender, with a few spines and two basidorsal trichobothria on tibia and one on metatarsus

of leg I; carapace/ tibia I of ♂ = 0.60 and ♀ = 0.78, carapace/leg I of ♂ = 0.18 and ♀ = 0.22. No claw on female palp. Anterior spinnerets long, cylindrical, median ones narrow with pointed tips, and posterior ones broad, laterally depressed; colulus very large.

I name this species in honour of my uncle Mr. Wiljo Saaristo, who sponsored the trip to the Seychelles.

Pholcidae

Smeringopus pallidus (Blackwall, 1858)

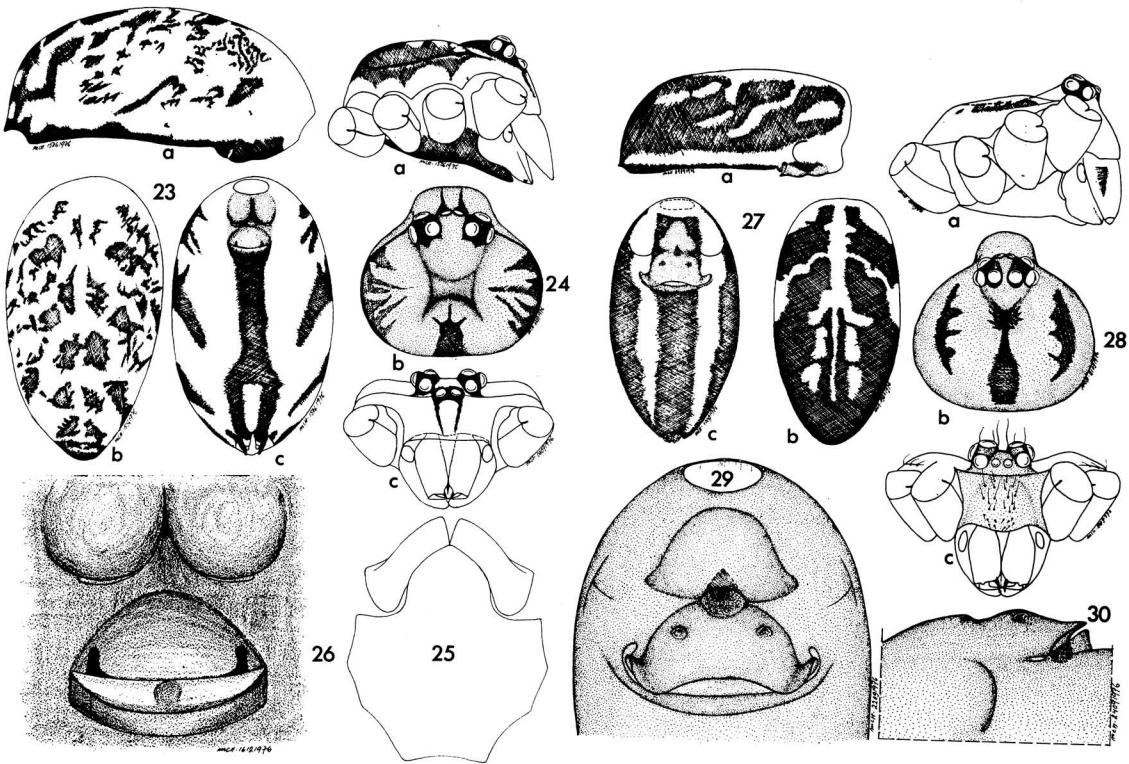
Male and female (Figs. 23—26, 31—38)

Rather large species: total length of ♂ 5.5 mm and ♀ 5.3 mm, carapace of ♂ 1.8 × 1.8 mm and ♀ 1.5 × 1.5 mm, abdomen of ♂ 3.7 × 1.9 mm and ♀ 3.8 × 2.1 mm. Carapace and abdomen dirty white with dark purple-blue patterns; maxillae yellow-brown, partially suffused with dark purple-blue; legs brown, tinged with dark purple-blue and apices of femora and tibiae white. Lengths of legs and their segments (in mm):

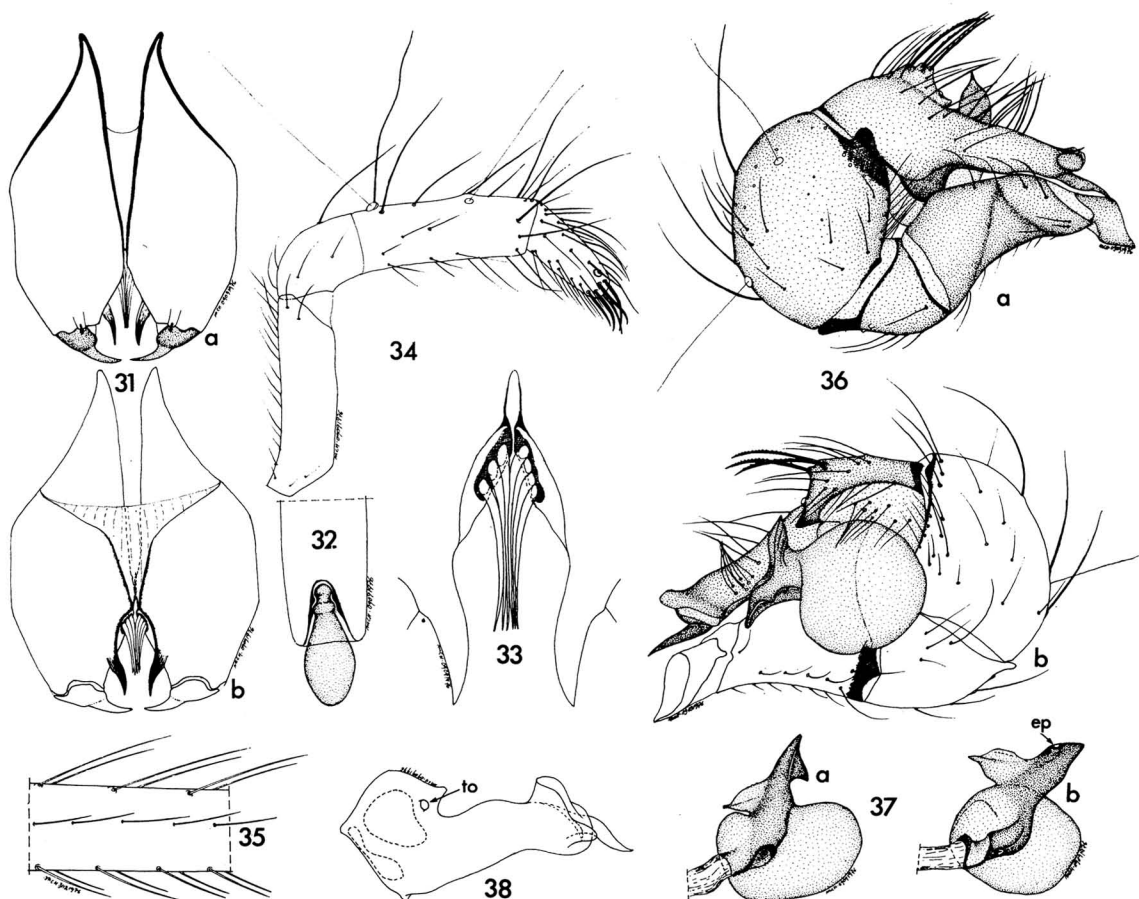
	I		II		III		IV	
	♂	♀	♂	♀	♂	♀	♂	♀
Femur	12.7	10.0	9.3	6.8	7.1	5.3	9.9	7.6
Patella	0.8	0.7	0.7	0.5	0.7	0.5	0.7	0.5
Tibia	12.4	10.0	8.4	6.0	6.0	4.4	8.4	6.7
Metat.	20.5	16.0	13.6	10.0	9.7	7.2	13.6	11.7
Tarsus	1.6	2.0	1.3	1.3	1.1	0.9	1.3	1.2
Total	48.0	38.7	33.3	24.7	24.7	18.4	33.9	27.7

Chelicerae with posterior connecting membrane and median stilet formed of special hairs; male chelicerae also with apicomedian condyle obviously composed of a greatly enlarged hair base with a highly modified apical hair. Legs very long and thin, spineless but covered with regularly arranged hairs, the ventral ones about half the length of the dorsal ones; carapace/ tibia I of ♂ = 0.14 and ♀ = 0.15, carapace/leg I of ♂ and ♀ = 0.04. Abdomen long, cylindrical.

There seems to be no ejaculatory duct inside the bulbus of the Pholcid palp. Instead, on a certain branch of the bulbal apophysis a distinct



Figs. 23—30. *Smeringopus pallidus* (Blackwall) (Figs. 23—26) and *Holocnemus culiculus* Simon (Figs. 27—30). — 23 and 27: Dextrolateral (a), ventral (b), and dorsal (c) views of female cephalothorax. — 24 and 28: Dextrolateral (a), dorsal (b), and frontal (c) views of female cephalothorax. — 25: Maxillae, labium, and sternum. — 26 and 29: Epigyne ventrally. — 30: Epigyne sinistrolaterally. — Orig.



Figs. 31–38. *Smeringopus pallidus* (Blackwall). — 31: Male chelicerae frontally (a) and from behind (b). — 32: Condyle of male chelicera. — 33: Median stilet of chelicerae. — 34: Female palp dextrolaterally. — 35: Proximal part of tibia I. — 36: Male palp dextrolaterally (a) and mesially (b). — 37: Ventral (a) and lateral (b) views of bulbus. — 38: Cymbium dorsally. — Abbreviations: ep = embolic pore, ta = tarsal organ. — Orig.

opening, here called the embolic pore, leads into the bulbal lumen.

Usually reported under the name *S. elongatus* (Vinson, 1863) which, however, is a junior synonym of *S. pallidus* (Blackwall, 1858); the present students of Pholcids (e.g. TIMM 1976) seem to prefer the latter name.

Two ♂♂ and 4 ♀♀ of this cosmopolitan species were collected in Mahé, 30.X.1975, beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, under huge granite blocks forming spacious caverns.

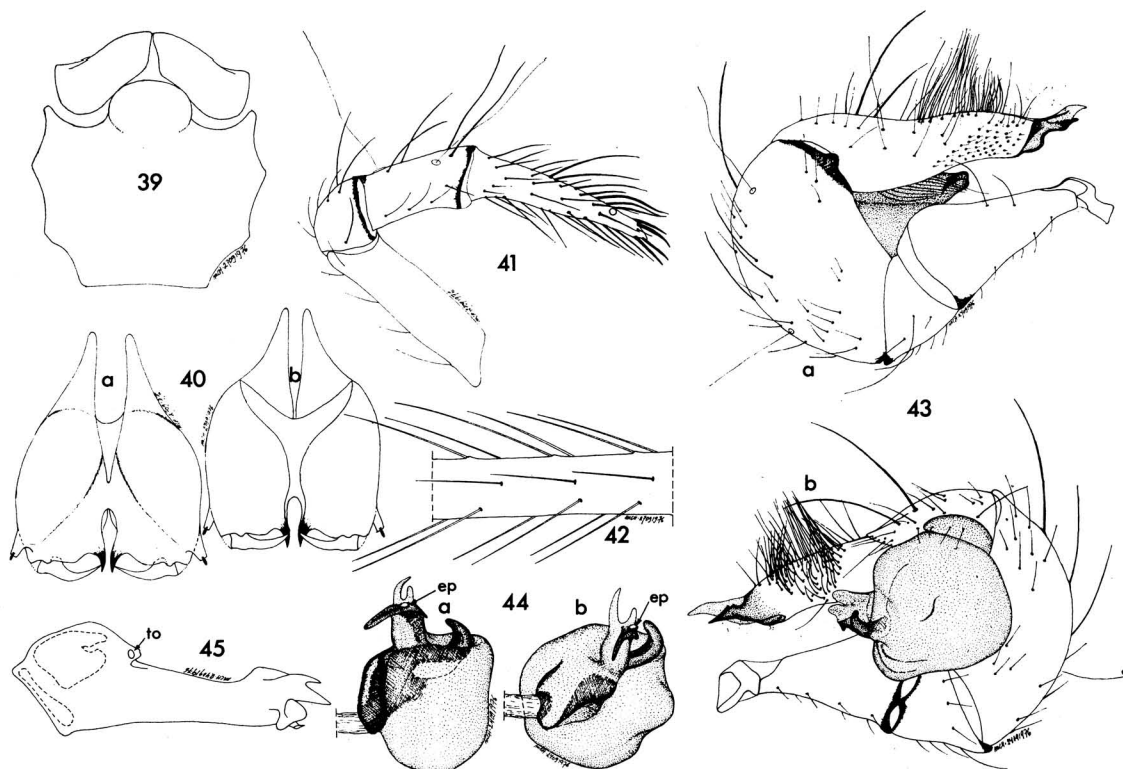
Holocnemus culiculus Simon, 1898

Male and female (Figs. 27–30, 39–45)

Medium-sized species: total length of ♂ 4.3 mm and ♀ 4.5 mm, carapace of ♂ 1.4 × 1.5 mm and ♀ 1.4 ×

1.4 mm, abdomen of ♂ 2.9 × 1.2 mm and ♀ 3.1 × 1.5 mm. Carapace snow white with black median and moss green lateral bands; chelicerae, maxillae, and labium brown; sternum dark purple with yellow-brown edges and median stripe; abdomen dirty white with dark blueish grey pattern; legs brown tinged with dark purple-blue, tips of femora and tibiae snow white. Lengths of legs and their segments (in mm):

	I		II		III		IV	
	♂	♀	♂	♀	♂	♀	♂	♀
Femur	12.3	12.0	8.0	8.0	6.4	Wanting	7.2	7.2
Patella	0.7	0.7	0.7	0.7	0.7		0.7	0.7
Tibia	12.3	12.0	7.3	7.2	5.2		6.1	6.3
Metat.	23.1	21.9	11.9	11.5	8.3		9.9	9.9
Tarsus	3.3	3.3	2.1	2.1	1.3		1.6	1.6
Total	51.6	49.9	30.4	29.5	21.9		25.5	25.6



Figs. 39–45. *Holocnemus culiculus* Simon. — 39: Maxillae, labium, and sternum. — 40: Male chelicerae frontally (a) from behind (b). — 41: Female palp dextrolaterally. — 42: Proximal part of tibia I. — 43: Male palp dextrolaterally (a) and mesially (b). — 44: Ventral (a) and lateral (b) views of bulbus. — 45: Dorsal view of cymbium. — Abbreviations: see legend to Figs. 31–38. — Orig.

Chelicerae devoid of median stilet and those of female also without condyle. Legs very long and thin, spineless but covered with regularly arranged hairs, of equal length dorsally and ventrally; carapace/tibia I of ♂ and ♀ = 0.12, carapace/leg I of ♂ and ♀ = 0.03. Abdomen long, cylindrical.

The identity of my specimens was verified by Dr. P. T. Lehtinen, who compared one of the females with the type, which is a juvenile specimen and preserved in the National Institute of Zoology and Zoological Museum in Hamburg. The adults are described here for the first time.

The morphology of the genital organs suggest that this species does not belong to the genus *Holocnemus*.

One ♂ and 2 ♀♀ of this endemic species were collected in Mahé, 30.X.1975, with the previous species.

Oecobiidae

Oecobius reefi sp. n.

Holotype, ♂: the Seychelles, Mahé, the Reef Hotel,

27.X.1975, M. Saaristo leg. Preserved in the Zoological Museum, University of Turku. Captured on a table in a hotel room.

Male (Figs. 46–51)

Small species: total length 1.5 mm, carapace 0.6×0.6 mm, abdomen (excluding spinnerets) 0.9×0.6 mm. Carapace white, slightly tinged with very pale yellow and with a black pattern; abdomen clay-coloured, dorsally with some rather large, white shining spots and black pattern, ventral side with dark blueish purple band in front of spinnerets and large patch of the same colour in front of vaginal opening also bordered with the same colour; chelicerae pale brownish yellow with dark frontal spot proximally; maxillae, labium, and sternum pure white; coxae and femora pure white; other segments of legs yellowish white with rather wide black half rings on under surface of middle and apical parts of femora, proximal and apical parts of tibiae, and proximal parts of metatarsi; apical black mark of metatarsi forming complete ring.

Carapace length/width = 0.95. AME and PLE black and convex, ALE and PME colourless and flat. Paturon of chelicerae very narrow, breadth/length = 0.31, toothless; fangs small, hook-like. Labium horizontal, slightly convex like sternum and fused with it. Legs

(front ones missing except coxae and femora) laterigrade, rather stout and thick with but a few spines and sparsely clothed with hairs, some fine and short, others flat and scale-like; carapace/tibia II = 1.29 and carapace/leg II = 0.29. Abdomen long ovoid, dorsoventrally depressed.

Careful study of the literature and correspondence with Dr. W. A. Shear have assured me that this is an undescribed species readily distinguishable from other Oecobiids by its palpal structure.

Uloboridae

No studies have been made on the structure of the male palp or female epigyne in any species of Uloboridae. Therefore preliminary data are presented here concerning represen-

tatives of *Uloborus* and *Zosis* (Figs. 69—77 and 83—87).

In both genera the bulk of the bulbus of the male palp is formed by a tegulum, the circular embolus arising from its anteromedian border. Near the base of the embolus is attached a flat, circular sclerite, here called the bulbal disc. In *Uloborus* it bears at its median border a small, strongly chitinized beak and a functional conductor (disc conductor) running laterally and clockwise from the beak. In *Zosis* the disc conductor is vestigial and a new functional conductor (tegular conductor) has been formed. It arises from the anterolateral border of the tegulum opposite to the point of attachment of the embolus and runs anticlockwise.

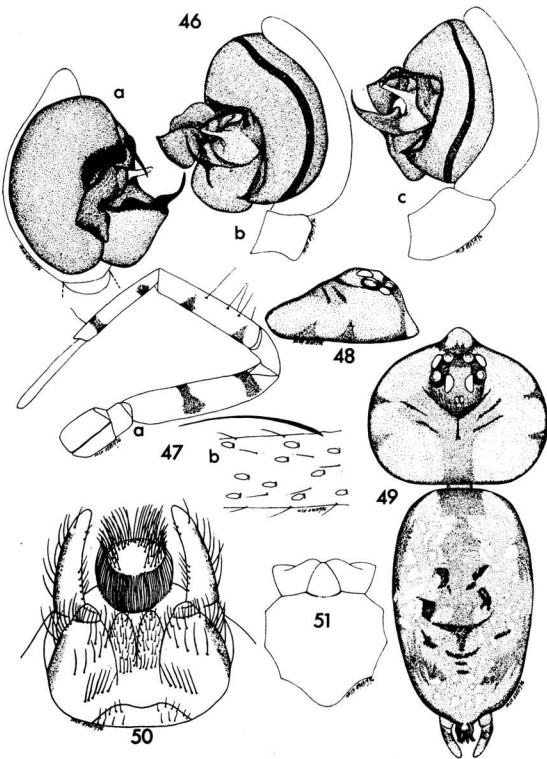
The species of these two genera also differ in their epigynes. *Uloborus* has a pair of weakly chitinized, more or less triangular lobes projecting posteriorly over the vaginal opening. On these lobes run laterodorsal grooves leading to the openings of the entrance ducts. *Zosis* also has a pair of lobes, but they project downwards and the entrance ducts open directly at the bases of these lobes without preceding grooves.

Taken with the other morphological features (e.g. LEHTINEN 1967: 392—393), these fundamental differences in the structure of the secondary genital organs leave no doubt about the correctness of separating *Zosis* from *Uloborus*.

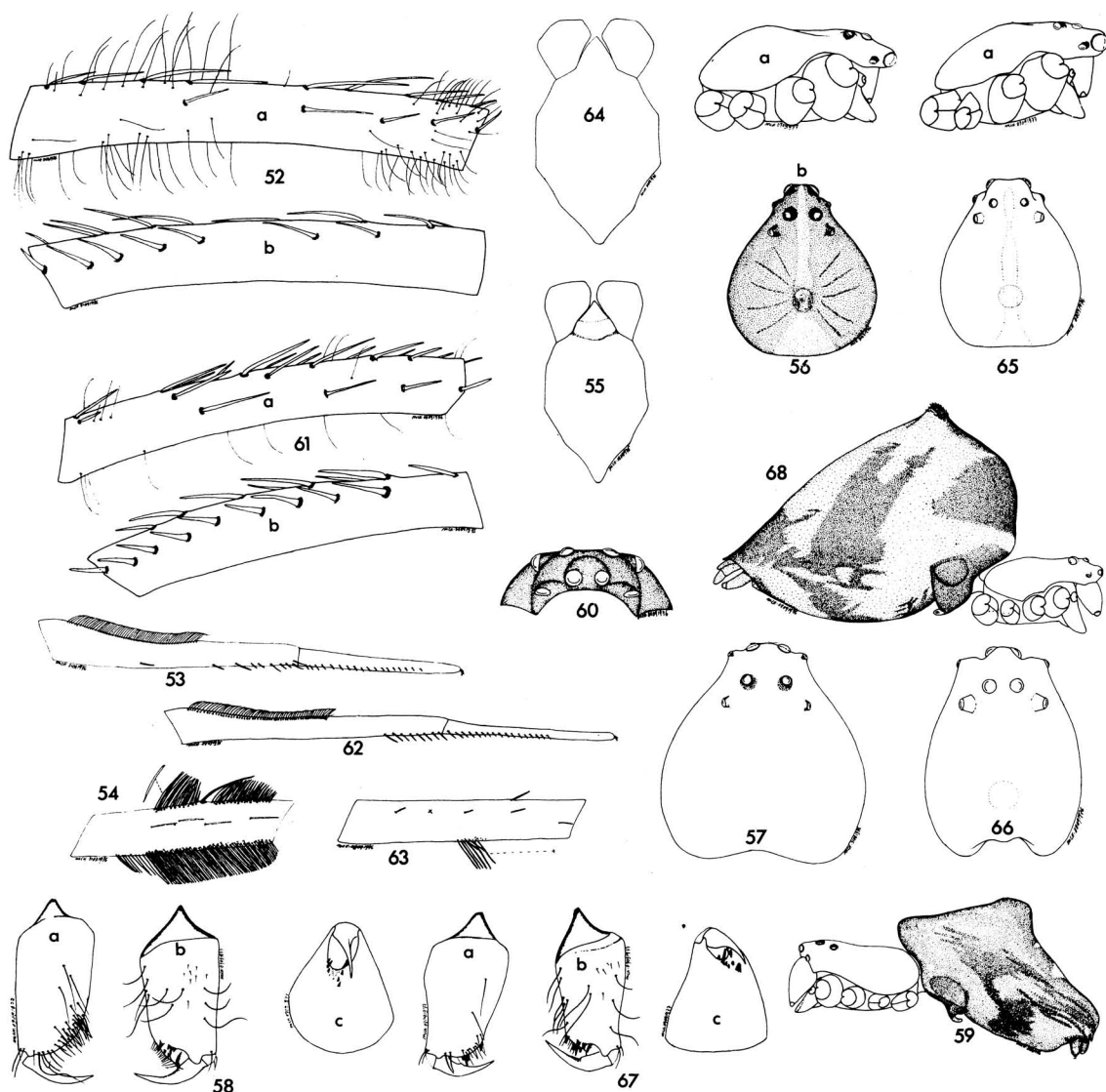
Uloborus Latreille, 1806

Uloborus is a large genus, with over 100 species, many of uncertain taxonomic status. The whole genus requires revision. Most of the species have been described without figures, usually mainly by their colours, which are very variable even in a single population, and the few figures of the genitalia are usually so inexact that recognition of the species is impossible. Therefore the two species presented here are not named, but presented by numbers only.

Two *Uloborus* species, viz. *U. gnavus* (Blackwall, 1865) and *U. luteolus* (Blackwall, 1865) have been recorded from the Seychelles. Both were originally described from the Cape Verde Islands. My specimens may represent one or both of the above-mentioned species, but their types seem to have been lost.



Figs. 46—51. *Oecobius reefi* sp. n. — 46: Male palp mesially (a), ventrally (b), and sinistrolaterally (c). — 47: Sinistrolateral view of leg II (a) and part of it under high magnification (b). — 48: Dextral view of carapace. — 49: Dorsal view of carapace and abdomen. — 50: Anal tubercle, spinnerets, and cribellum. — 51: Maxillae, labium, and sternum. — Orig.



Figs. 52–68. *Uloborus* sp. 1. (Figs. 52–59) and sp. 2 (Figs. 60–68). — 52 and 61: Dextrolateral (a) and mesial (b) views of tibia I of male. — 53 and 62: Tarsus and metatarsus of leg IV of female. — 54 and 63: Mesial views of tibia I of female. — 55 and 64: Maxillae, labium, and sternum. — 56 and 65: Male carapace laterally (a) and dorsally (b). — 57 and 66: Female carapace dorsally. — 58 and 67: Female chelicera frontally (a), from behind (b), and ventrally (c). — 59 and 68: Body of female laterally. — 60: Female carapace frontally. — Orig.

Uloborus sp. 1

Male and female (Figs. 52–59, 69–77)

Colour variable, from uniformly yellow to dark and pale brown.

Carapace of female broad, pear-shaped, that of male narrower, drop-like; fovea in both sexes shallow, circular. Tibia I of male with several strong spines and

numerous thin, erect hairs; that of female with few weak spines, thickly covered dorsally and ventrally with swollen hairs.

Male palp with long embolus forming a full circle. Epigynal lobes narrow, triangular and covered with thick white hairs arising near base of lobes; these hairs are difficult to detach.

One ♂ and two ♀♀ were collected in Mahé, 30.X.

1975, beside Montagne Posée Road under huge granite blocks.

Uloborus sp. 2

Male and female (Figs. 60—68, 73—77)

Colour variable, from black and white to almost uniform blackish. Legs strongly annulated with black and white.

Carapace of female narrow, tapering only moderately anteriorly and strongly notched posteriorly; that of male drop-like; fovea in both sexes shallow, circular. Chelicerae of male of the same type as in female but much smaller. Tibia I of male with several strong spines and a few thin erect hairs, that of female with a few weak spines and rather sparsely covered dorsally and ventrally with swollen hairs (in preserved specimens most of them had fallen off).

Male palp with rather short embolus. Epigynal lobes sub-rectangular and usually without covering hairs.

Two ♂♂, 7 ♀♀ and 2 juveniles were collected in Mahé, 30.X.1975, from the same place as the previous species.

Zosis geniculatus (Oliver, 1789)

A very common and well-known cosmopolitan species (Figs. 78—87).

Collected in Mahé near the Reef Hotel under a small bridge, 24. X. 1975 (1 ♂, 2 ♀♀) and beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel under huge granite blocks, 27.X.1975 (1 ♀), and 30. X.1975 (3 ♀♀ and 2 juv.).

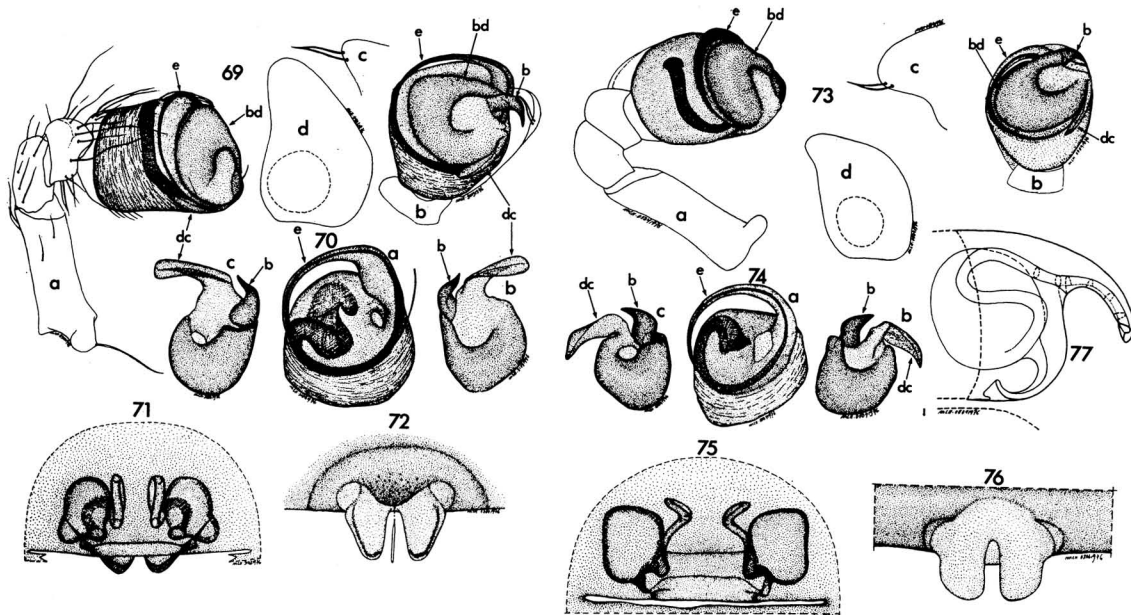
Lycosidae

Bristowia gen. n.

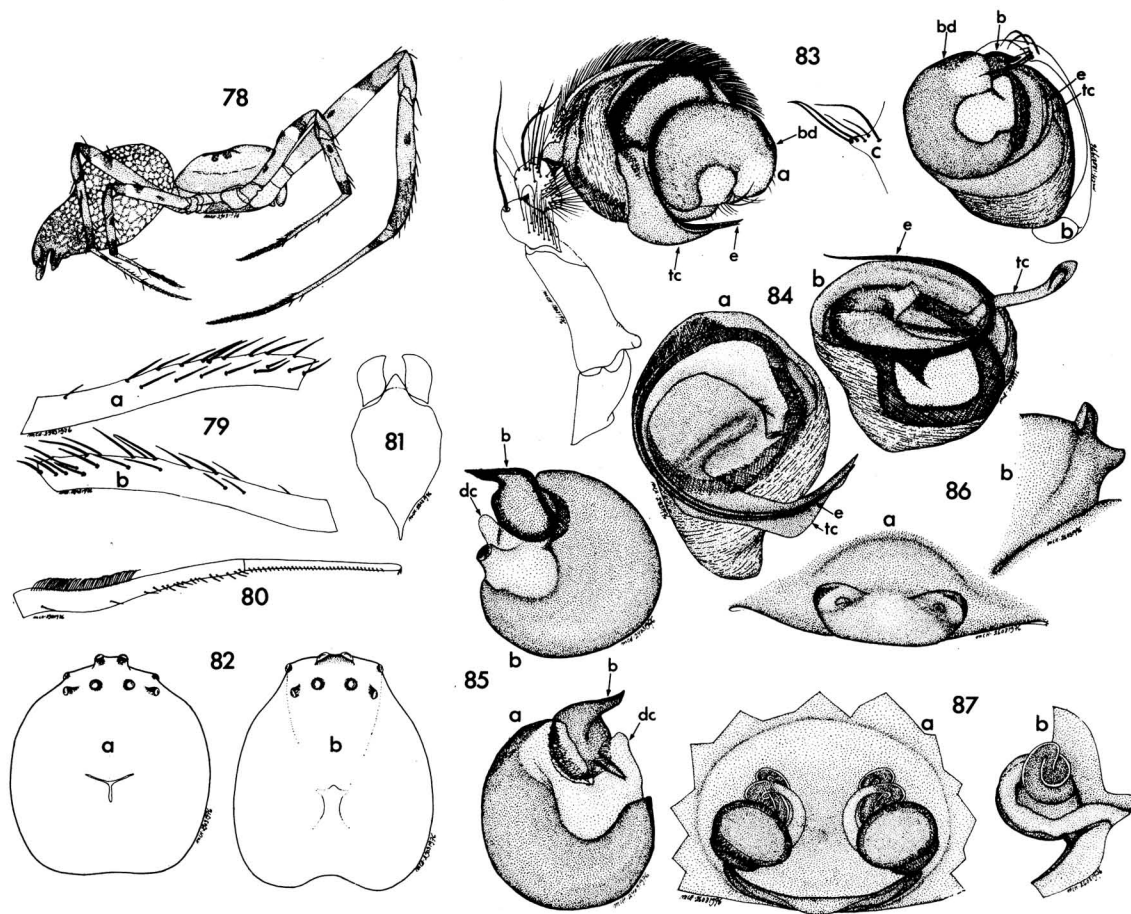
Type-species: *Pardosa seychellensis* Bristowe, 1973.

BRISTOWE (1973) described *Pardosa seychellensis* from Mahé, but this species is not congeneric with the type-species of *Pardosa*, viz. *Lycosa hortensis* Thorell, 1872, nor is there any other genus in which it could be placed. Therefore I create a new genus which is named in honour of Mr. W. S. Bristowe.

The new genus is characterized by the peculiar structure of the epigyne with a heart-shaped median plate and in front of it a rather deep atrium with a large oval opening. The anterior wall of this atrium bears two pointed, upward turning pockets with circular openings.



Figs. 69—77. *Uloborus* sp. 1 (Figs. 69—72) and sp. 2 (Figs. 73—77). — 69 and 73: Ventral (a) and frontal (b) views of male palp, tip of cymbium (c), and cymbium dorsally (d). — 70 and 74: Anterior views of tegulum (a) and anterior (b) and posterior (c) views of bulbal disc. — 71 and 75: Vulva dorsally. — 72 and 76: Epigyne ventrally. — 77: Vulva laterally. — Abbreviations: b = beak, bd = bulbal disc, dc = disc conductor, e = embolus. — Orig.



Figs. 78–87. *Zosis geniculatus* (Oliver). — 78: Dextrolateral view of male. — 79: Dextrolateral (a) and mesial (b) views of tibia I of male. — 80: Tarsus and metatarsus of leg IV of female. — 81: Maxillae, labium, and sternum. — 82: Male (a) and female (b) carapaces dorsally. — 83: Anterolateral (a) and anterior (b) views of male palp and tip of cymbium (c). — 84: Anterior (a) and anteroventral (b) views of tegulum. — 85: Anterior (a) and posterior (b) views of bulbal disc. — 86: Epigyne ventrally (a) and laterally (b). — 87: Vulva dorsally (a) and laterally (b). — Abbreviations: b = beak, bd = bulbal disc, dc = disc conductor, e = embolus, tc = tegular conductor. — Orig.

Bristowia seychellensis (Bristowe, 1973) comb. n.

Female (Figs. 88–91)

Total length 3.5 mm, carapace 1.8×1.3 mm, and abdomen 1.7×1.3 mm. Cephalothorax and abdomen with darkish dorsal colour pattern; venter and legs more or less uniformly pale.

Carapace and eyes of normal Lycosid type; four anterior eyes very small, equal in size. Legs rather long and stout, with exceptionally long spines; carapace/tibia I = 1.57 and carapace/leg I = 0.57.

This endemic species was collected in Praslin, 28.X.1975 (2 ♀♀ and 1 juv.) and in Mahé, 24.X.1975, near the Reef Hotel (1 juv.).

Gnaphosidae

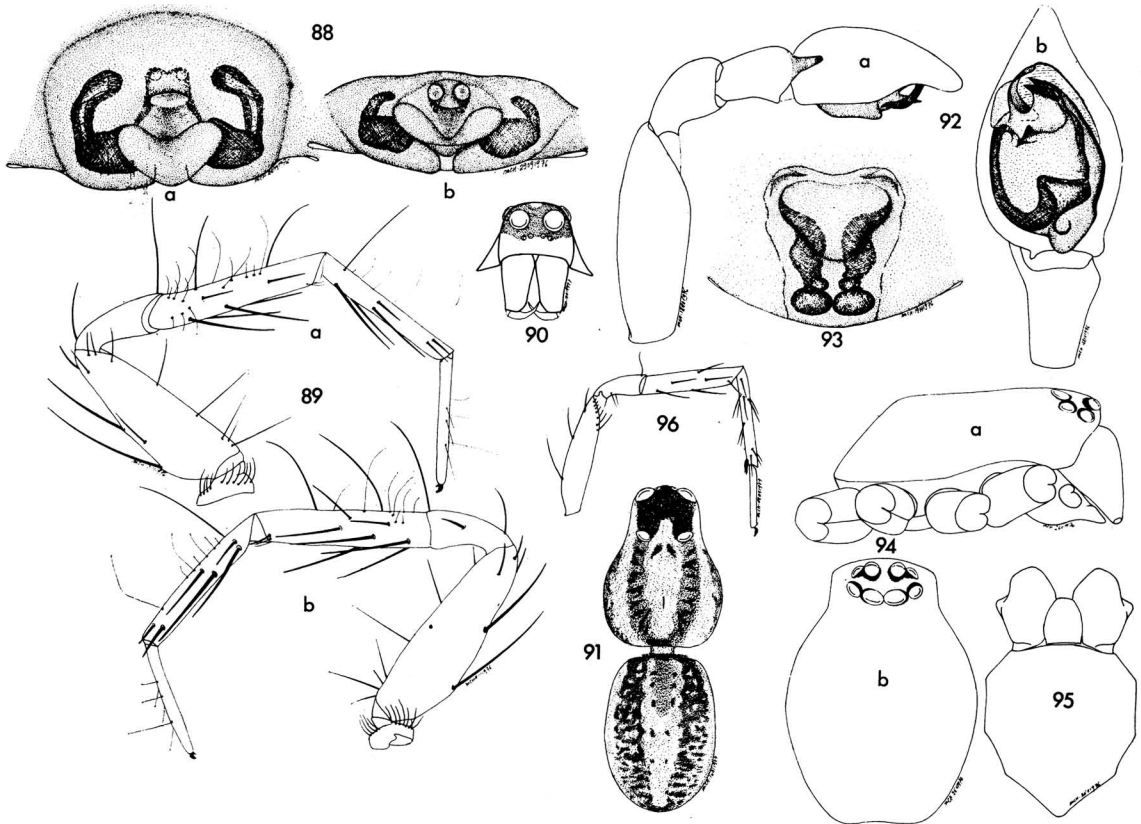
Camillina cordifera (Tullgren, 1910)

Male and female (Figs. 92–96)

Rather small species: total length 2.8–3.9 mm, carapace 1.5–1.6 mm, and abdomen 1.4–2.3 mm, females larger.

Tibiae and metatarsi of legs I and II spineless, those of legs III and IV with strong spines.

Identified from TUCKER'S (1923: Fig. 59) excellent figure of epigyne. *Drassodes inaudax* Simon, 1898 from Mahé, the Seychelles, is probably an older name for this species. SIMON'S



Figs. 88–96. *Bristowia seychellensis* (Bristowe) (Figs. 88–91) and *Camillina cordifera* (Tullgren) (Figs. 92–96). — 88: Epigyne ventrally (a) and from behind (b). — 89: Front leg dextrally (a) and mesially (b). — 90: Carapace and chelicerae frontally. — 91: Dorsal view of female. — 92: Male palp dextrally (a) and ventrally (b). — 93: Epigyne ventrally. — 94: Cephalothorax of male dextrally (a) and dorsally (b). — 95: Maxillae, labium, and sternum. — 96: Leg IV of male sinistrolaterally. — Orig.

(1898) original description agrees with my specimens, but there are no figures and the type seems to have been lost.

Recorded earlier from South and East Africa. One ♂ and 3 ♀♀ were collected in Praslin, 28.X.1975.

One female of this endemic species was collected in Mahé, 27.X.1975, near the Reef Hotel.

“*Salticus*” *acutus* Blackwall, 1877

Male (Figs. 103–105)

Salticidae

Heliophanus activus (Blackwall, 1877)

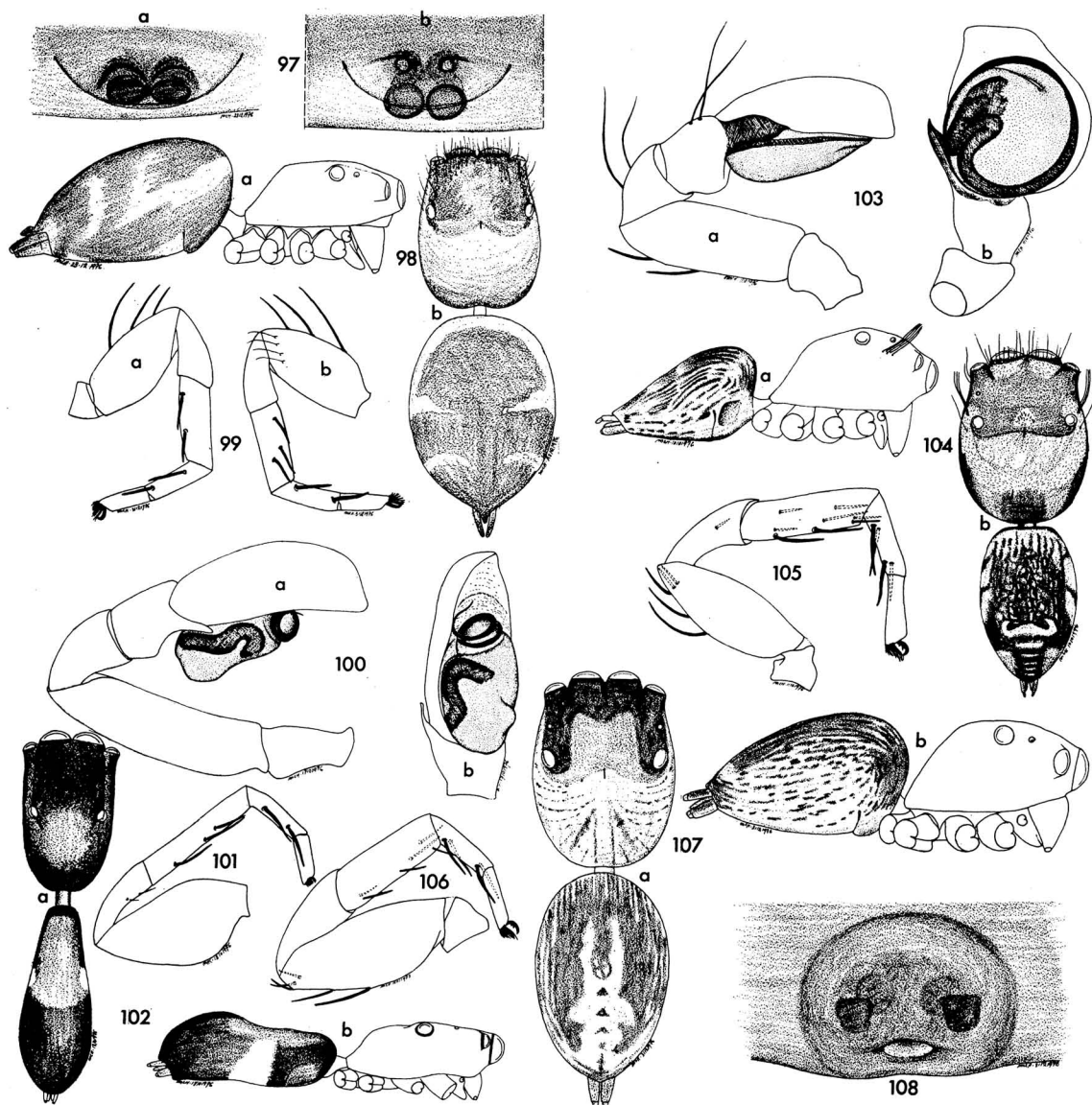
Female (Figs. 97–99)

Rather small species: total length 3.7 mm, carapace 1.7×1.3 mm, and abdomen 2.0×1.5 mm. Cephalothorax glossy red-brown; legs brownish yellow suffused with black, especially at articulations; two last palpal segments covered with white hairs; abdomen blackish with yellow-white bands.

Legs rather short, with strong spines.

Rather small species: total length 3.2 mm, carapace 1.8×1.4 mm, and abdomen 1.4×1.0 mm. Carapace red-brown with ocular area and lateral edges suffused with black, a patch of white hairs just in front of fovea, behind anteromedian eyes, and a curved band of similar hairs on its posterior part. Anterior eyes bright green, encircled with short white hairs and some longer dark hairs; below the small intermediate eyes a bundle of a few long, dark hairs. Legs red-brown but tarsi I and femora II, III, and IV white; abdomen yellowish white with black-and-brown pattern.

Legs I much longer than the others, with strong spines.



Figs. 97–108. *Heliophanus activus* (Blackwall) (Figs. 97–99), „*Myrmarachne*” *constrictus* (Blackwall) (Figs. 100–102), „*Salticus*” *acutus* Blackwall (Figs. 103–105), and *Hasarius albocircundatus* (L. Koch) (Figs. 105–108). — 97: Epigyne ventrally (a) and from behind (b). — 98: Female dextrolaterally (a) and dorsally (b). — 99: Leg I of female dextrolaterally (a) and mesially (b). — 100: Male palp dextrolaterally (a) and ventrally (b). — 101: Leg I of male dextrolaterally. — 102: Male dorsally (a) and dextrolaterally (b). — 103: Male palp dextrolaterally (a) and ventrally (b). — 104: Male dextrolaterally (a) and dorsally (b). — 105: Leg I of male dextrolaterally. — 106: Leg I of female dextrolaterally. — 107: Female dorsally (a) and dextrolaterally (b). — 108: Epigyne ventrally. — Orig.

Certainly not *Salticus*, but no attempt has been made to place it more properly since several other authors are working on Salticids on a world-wide basis.

One male of this endemic species was collected in Mahé, 30.X.1975, beside Montagne Posée Road ca. 2.5 km from the Reef Hotel.

"Myrmarachne" constrictus (Blackwall, 1877)

Male (Figs. 100—102)

Rather small species: total length 3.7 mm, carapace 1.7×1.0 mm, and abdomen 2.0×0.8 mm. Cephalothorax mostly black with posterior and lateral red-brown areas, its surface rough with sparse hairs mainly encircling anterior eyes; maxillae, labium, and sternum red-brown; first leg red-brown with white tarsus, other legs yellowish white with outer side of femora blackish;

abdomen with black, red-brown, and white pattern.

Abdomen clearly constricted at about one-third of its length from posterior end and widest posteriorly. Legs I longer and more heavily built than the others, with strong spines.

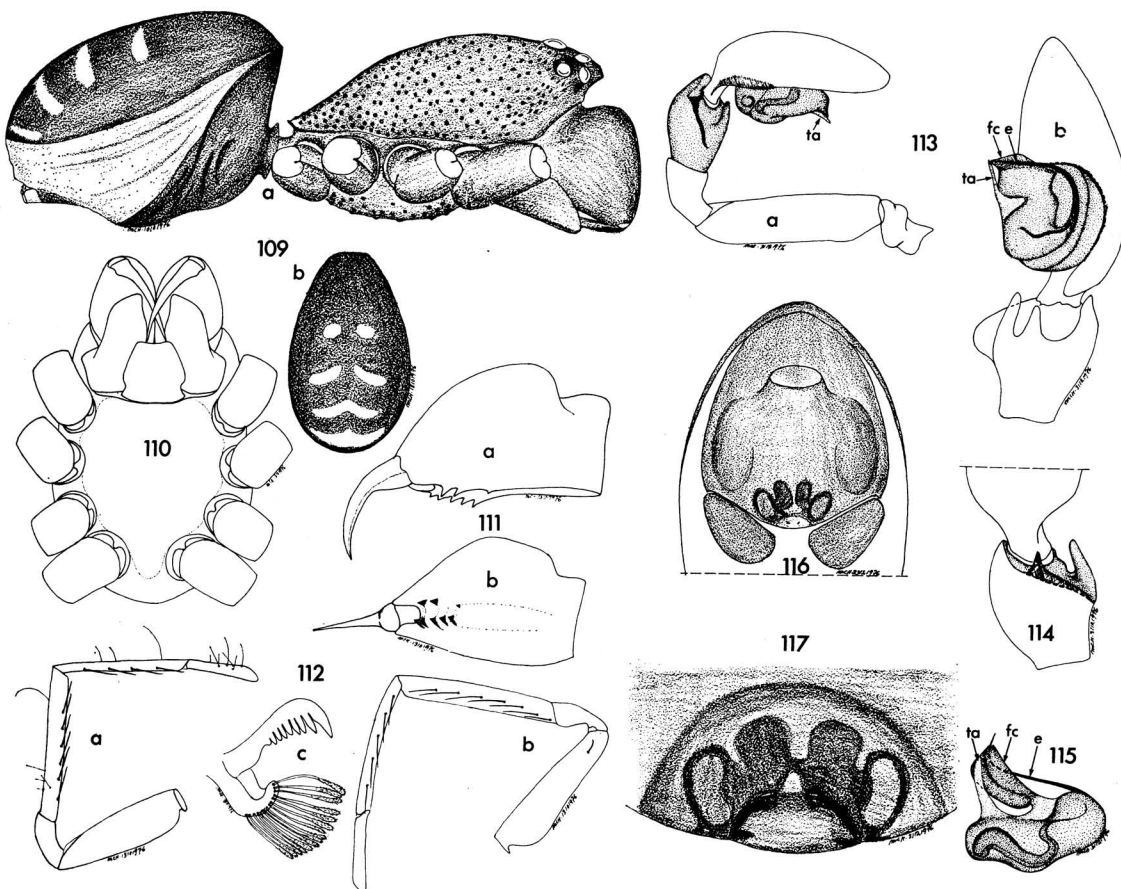
Certainly not a *Myrmarachne* but, as in the previous species, no attempt at proper generic placing was made.

Endemic. One male was found in Mahé by sieving leaf litter on a hillside, ca. 600 m, opposite the Reef Hotel, 25.X.1975.

Hasarius albocircumdatus (L. Koch, 1881)

Female (Figs. 105—108)

Medium-sized species: total length 4.0 mm, carapace 1.7×1.5 mm, and abdomen 2.2×1.5 mm. Carapace



Figs. 109—117. *Oedignatha scrobiculata* Thorell. — 109: Dextrolateral view of male (a) and abdomen dorsally (b). — 110: Cephalothorax of male ventrally. — 111: Chelicerae mesially (a) and ventrally (b). — 112: Leg I of male dextrolaterally (a), mesially (b), and claw with scopula (c). — 113: Male palp dextrolaterally (a) and ventrally (b). — 114: Male palpal tibia dorsally. — 115: Bulbus anteriorly. — 116: Ventral view of anterior part of female abdomen. — 117: Epigyne ventrally. — Abbreviations: e = embolus, fc = functional conductor, ta = tegular apophysis. — Orig.

light red-brown with black ocular area; maxillae dark red-brown; labium, sternum, palps, and legs yellow-brown; abdomen dirty white with grey pattern.

Legs rather short and robust, about equal in size, with strong spines.

Identified by Dr. P. T. Lehtinen. Previously recorded only from Tahiti, but clearly a great number of records of *Hasarius adamsoni* (Savigny & Audouin, 1825) in fact refer to this species.

One female collected in Mahé, 24.X.1974, near the Reef Hotel.

Corinnidae

Oedignatha scrobiculata Thorell, 1881

Male and female (Figs. 109—117)

Medium-sized species: total length 3.9 mm, carapace 2.0×1.3 mm, and abdomen 1.9×1.2 mm. Chestnut brown except for dirty white dorsal pattern of abdomen and weakly chitinized integument between dorsal and ventral scuta.

Body hairless. Chelicerae almost paraxial, strongly protruding. Legs of moderate length; rather robust, with two claws and well-developed scopula.

New to the Seychelles. Collected in Mahé, 24.X.1975, near the Reef Hotel (3 ♂♂, 1 ♀) and in Praslin, 28.X.1975 (7 ♂♂, 2 ♀♀ and 10 juv.). Previously recorded from India and Ceylon to Java.

Theridiidae

LEVI (1961) described the male palp of the Theridiidae and discussed the evolution of the sclerites. A study of the Theridiids from the Seychelles prompts some comments on his statements.

Almost every Theridiid male palp has a peculiar system which seemingly locks the bulbous with the cymbium. According to LEVI (1961:3), this locking "... prevents the contracted bulbous from tipping out of the cymbium distally". This "tipping", however, does not happen in other families with apparently similar palps but without any kind of locking system. The meaning of this locking is therefore not yet clear. Moreover, LEVI (1961) did not realize that this coupling of bulbous and cymbium is accomplished in two entirely different ways, which possibly represent two main evolutionary lines in Theridiidae. They are here referred to as locking systems A and B.

In system A a hook on the cymbium fits into a pit (arm pit) near the apex of an arm-like

bulbal sclerite (locking apophysis A). Inside this apophysis the seminal duct makes a loop near the arm pit. In system B the apex of another arm-like bulbal sclerite (locking apophysis B) fits into a pit on the cymbium (cymbial pit). Locking apophysis B is without a seminal duct.

In both these locking systems several variations complicate the situation. They are not treated here, however, because further studies are needed for a subdivision into the two main lines. Also when comparing the figures of Theridiid palps in this paper, one must be aware that those of *Argyrodes* species are drawn from the left palp, the others from the right one.

LEVI (1961) called the cymbial hook the paracymbium, assuming it to be homologous with the paracymbium of Araneids and Linyphiids. This must be an error, because the cymbial hook lies near the tarsal organ and distally to it, whereas in Araneids and Linyphiids the paracymbium is far from the tarsal organ and proximal to it. The terms median apophysis and radix as well as conductor used by him (LEVI 1961) are also confusing, because they are not used for homologous structures even within Theridiidae.

The term median apophysis was used for both the non-homologous locking apophyses A and B. The radix is currently used for quite different structures in the Araneidae — Linyphiidae complex, and is here replaced by a topographic term, terminal apophysis. The term embolus (LEVI 1961) is here changed to embolic complex, since embolus refers only to the projection of that complex and is pushed into the vulva during copulation.

Especially difficult is the use of the term conductor, which refers to structures closely associated with the embolus and often seemingly supporting it. In different groups this function is performed by different sclerites or their parts. So far, it is impossible to say which is the preliminary conductor in Theridiidae. Here these different conductors are shown by letters added to the term conductor.

Argyrodes Simon, 1864

More than 100 species of this fairly large genus are found in warm and tropical parts of the world. The species are so-called cleptoparasites, which live in the webs of larger spiders. In the

Seychelles I found specimens in webs of *Nephila inaurata*, *Nephilengys cruentata*, and *Cyrtophora citricola*. Altogether six species of this genus are now known from the Seychelles.

EXLINE & LEVI (1962) revised the American species of this genus. Even though *Argyrodes* Simon, 1864, is a junior homonym of *Argyrodes* Guenée, 1845, I have followed EXLINE & LEVI's (1962) suggestion to the ICZN that the former name should be stabilized for this genus.

Argyrodes argyroides (Walckenaer, 1841)

Male and female (Figs. 118—130)

Size, especially that of abdomen, very variable: length of carapace 1.3—1.7 mm, females larger. Coloration variable, usually with a pattern of dark and light, with silvery shining corpuscles on light areas; however, the dark colours may be much reduced.

Legs relatively longer in the male than in the female: carapace/tibia I of male = 0.69 and ♀ = 0.79 and carapace/leg I of ♂ = 0.18 and ♀ = 0.20.

New to the Seychelles. Collected in Mahé near the Reef Hotel, 24. X.1975 (1 ♂, 1 ♀) and beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, 30.X.1975 (2 ♂♂, 1 ♀). Earlier recorded from the Mediterranean and North Africa.

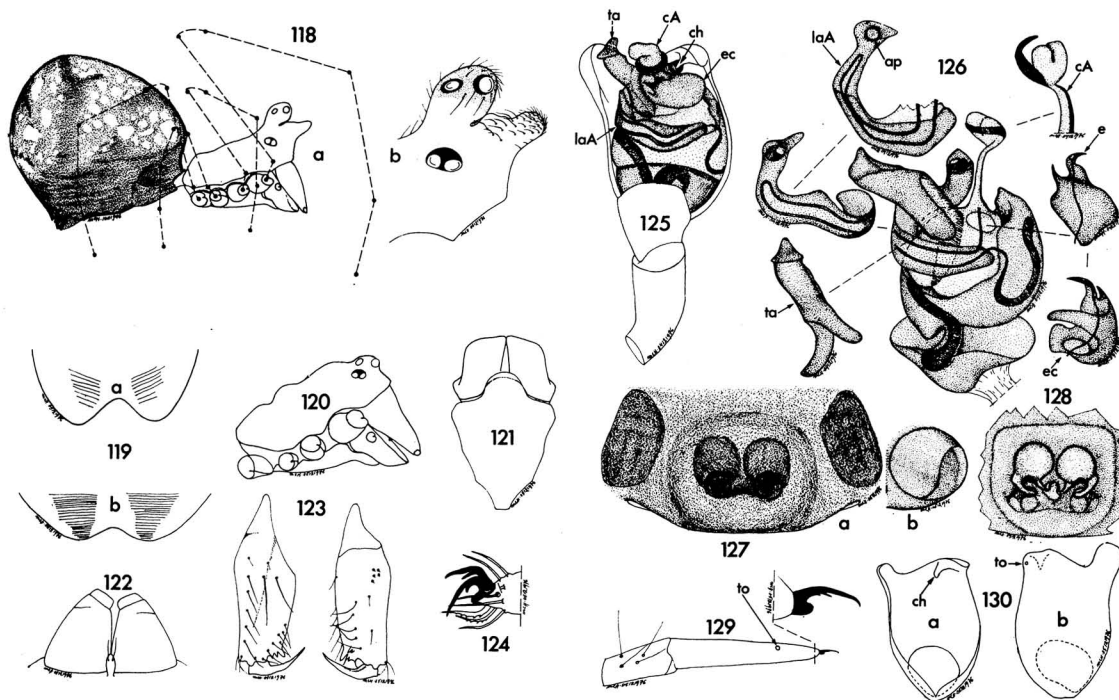
Argyrodes nephilae *rostratus* Blackwall, 1877 status n.

Male and female (Figs. 131—140)

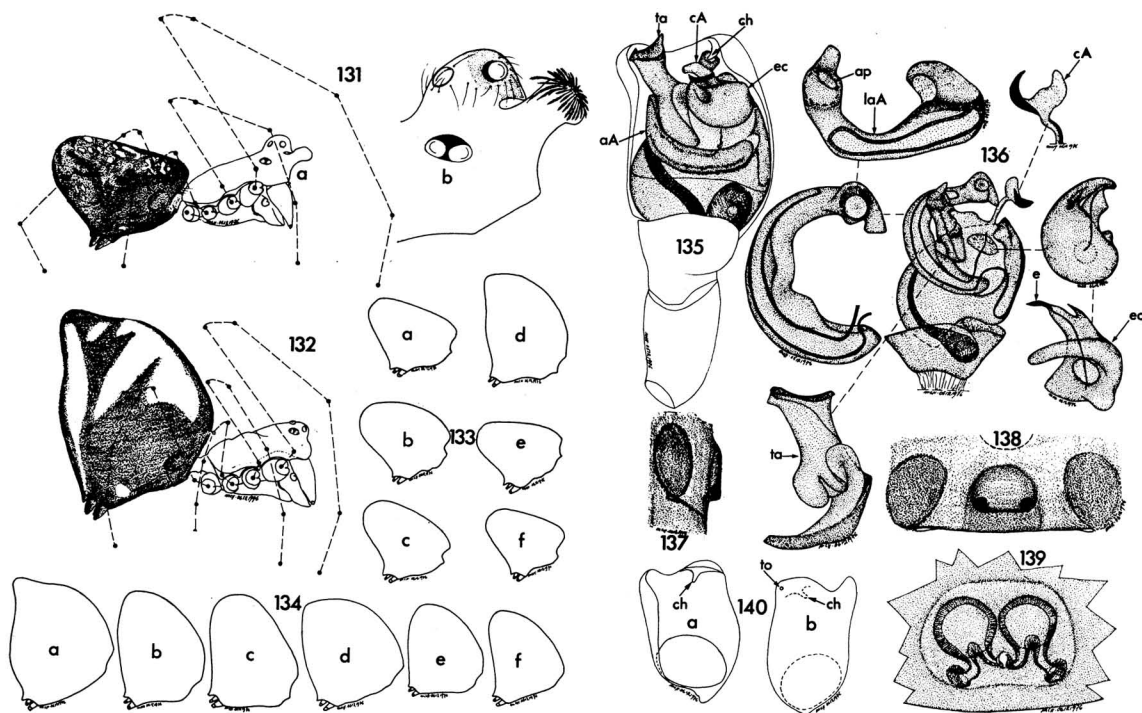
Rather small species: length of carapace 1.0—1.4 mm, males larger. Coloration variable, usually with pattern of dark (brown-black) and light, with silvery shining corpuscles on the light areas; these corpuscles are usually fused to cover the light areas entirely.

Legs of male relatively longer than those of female: carapace/tibia I of ♂ = 0.84 and ♀ = 0.86 and carapace/leg I of ♂ = 0.16 and ♀ = 0.20.

This species is a good example of a geographical isolate and its taxonomic status is somewhat puzzling. It is clearly very closely related to *A. nephilae* Taczanowski, 1872, which ranges from warm and tropical parts of America



Figs. 118—130. *Argyroides argyroides* Walckenaer. — 118: Male dextrolaterally (a) and head in detail (b). — 119: Stridulatory files on posterior end of carapace of male (a) and female (b). — 120: Dextrolateral view of female carapace. — 121: Maxillae, labium, and sternum. — 122: Anterior spinnerets and colulus. — 123: Male chelicerae frontally (a) and from behind (b). — 124: Claws of leg I. — 125: Ventral view of left male palp. — 126: Bulbus ventrally, dissected bulbal sclerites at various angles. — 127: Epigyne ventrally (a) and fossa in detail (b). — 128: Vulva dorsally. — 129: Dextrolateral view of two distal segments of female palp. — 130: Cymbium ventrally (a) and dorsally (b). — Abbreviations: cA = conductor A, ch = cymbial hook, e = embolus, ec = embolic complex, f = epigynal fossa, la A = locking apophysis A, ta = terminal apophysis, to = tarsal organ. — Orig.



Figs. 131–140 *Argyrodes nephilae rostratus* Blackwall. — 131: Male dextrolaterally (a) and head in detail (b). — 132: Female dextrolaterally. — 133: Variation of male abdomen (a – f). — 134: Variation of female abdomen (a – f). 135: Ventral view of left male palp. — 136: Bulbus ventrally, dissected bulbal sclerites at various angles. — 137: Epigyne ventrally. — 138: Epigyne sinistrolaterally. — 139: Vulva dorsally. — 140: Cymbium ventrally (a) dorsally (b). — Abbreviations: see legend to Figs. 118–130. — Orig.

through the Pacific Islands to India and Ceylon. Specimens from Florida, New Guinea, and Ceylon are all extremely similar, even to minute details, but the Seychellian specimens exhibit some very slight differences in the shape of certain palpal sclerites, for instance at the apex of locking apophysis A. Moreover, the abdomen of Floridan–New Guinean–Ceylonian species is cone-shaped and silvery in colour, except for a narrow, dorsomedian black line and an apical black spot; the ventral surface and the lower part of the sides are black. The hairs on the cephalic rostrum are not so flattened in the Indo-American species as in the Seychellian ones. My samples from the range of *A. nephilae* consists of too few specimens for a more detailed analysis, so I have followed MAYR's (1969:49) suggestion and placed *A. rostratus* Blackwall, 1877 as a subspecies of *A. nephilae* Taczanowski, 1872.

BRIGNOLI (1976: Fig. 6) described the great variation in the shape and size of the male

and female abdomens of *A. argyroides*. This is also true of *A. n. rostratus*.

Collected in Mahé near the Reef Hotel, 24.X.1975 (2 ♂♂, ♀) and 27. X. 1975 (3 ♂♂, 3 ♀♀), and beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, 27. X. 1975 (6 ♂♂, 2 ♀♀) and 30. X. 1975 (3 ♂♂, 2 ♀♀). The commonest cleptoparasite and one of the commonest spiders in Mahé.

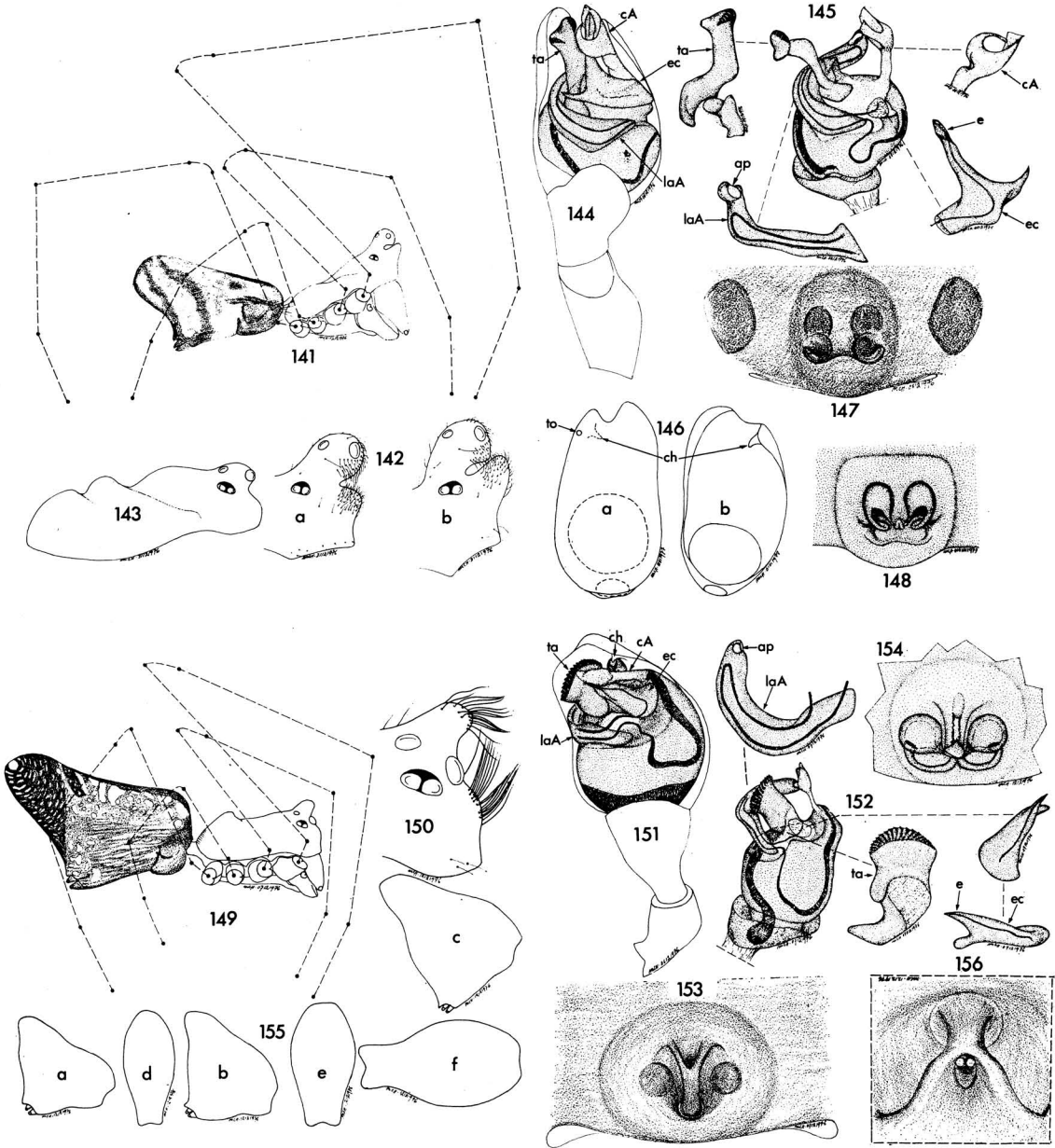
Argyrodes fissifrontella sp. n.

Holotype, ♂: the Seychelles, Mahé, beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, 30.X.1975, M. Saaristo leg. Allotype (♀) and paratypes (♂, 2 ♀♀) with same date and locality. Preserved in the Zoological Museum, University of Turku.

Male and female (Figs. 141–148)

Medium-sized species: length of carapace 1.5–2.0 mm, males larger. Colour pattern of abdomen of dirty white, black, and silver.

Carapace of male with ocular area of variable shape. Legs long; carapace/tibia I of ♂ = 0.52 and ♀ =



Figs. 141–156. *Argyrodes fissifrontella* sp. n. (Figs. 141–148) and *Argyrodes cognatus* (Blackwall) (Figs. 149–156). — 141 and 149: Males dextrally. — 142 and 150: Male heads in detail. — 143: Female carapace dextrally. — 144 and 151: Ventral views of left male palp. — 145 and 152: Bulbus ventrally, dissected bulbal sclerites at various angles. — 146: Cymbium dorsally (a) and ventrally (b). — 147 and 153: Epigyne ventrally. — 148 and 154: Vulva dorsally. — 155: Variation of female abdomen laterally (a – c) and dorsally (d – f). — 156: Detail of epigyne frontally. — Abbreviations: see legend to Figs. 118–130. — Orig.

0.63 and carapace/leg I of ♂ = 0.14 and ♀ = 0.13; total length of leg I of ♂ = 14.6 mm and ♀ = 11.8 mm.

Argyroides cognatus (Blackwall, 1877)

Male and female (Figs. 149—156)

Medium-sized species: length of carapace 1.6—1.9 mm, females larger. Shape, size, and coloration of abdomen variable; two distal segments of female palp darker than the others; legs with dark areas at articulations.

Carapace of female similar to that of male, except that it lacks the anteromedian horn. Legs long: carapace/tibia I of ♂ = 0.52 and ♀ = 0.56 and carapace/leg I of ♂ = 0.14 and ♀ = 0.16; total length of leg I of ♂ = 11.4 mm and ♀ = 12.0 mm.

Endemic. Collected in Mahé, 27.X.1975, beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel (2♂♂, 3♀♀, 8 juv.).

Argyroides recurvatus sp. n.

Holotype, ♀: the Seychelles, Mahé, beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, 27.X.1975, M. Saaristo leg. Preserved in the Zoological Museum, University of Turku.

Female (Figs. 157—163)

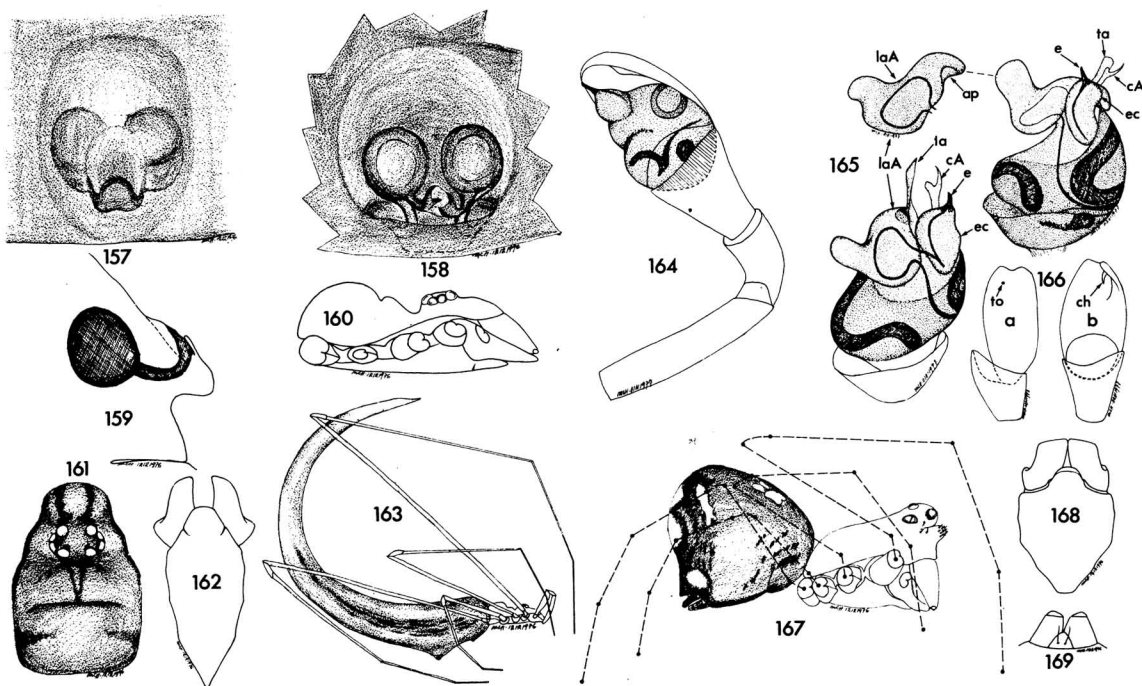
Medium-sized species: length of carapace 1.2 mm and of abdomen ca. 7.2 mm. Cephalothorax yellow with dark pattern continuing on outer surfaces of otherwise yellow chelicerae; legs, maxillae, labium, and sternum yellow; palps yellow with dark brown dorsal surfaces; abdomen silvery with black lateral stripes.

Eyes on sides of median elevation, those of the same side contiguous. Chelicerae projecting forwards at a slight angle. Abdomen cylindrical, posteriorly evenly tapering and forming a half circle. Legs very long and slender: carapace/tibia I = 0.26 and carapace/leg I = 0.08; dimensions of leg I as follows: femur = 6.1 mm, patella = 0.4 mm, tibia = 4.5 mm, metatarsus = 2.3 mm, tarsus = 1.4 mm, and total length = 14.7 mm.

Very close to the American *A. fliticus* (Henz, 1850), but differing in shape of abdomen and epigyne (cf. E-LINE & LEVI 1962: Figs. 6—7).

Argyroides pusillus sp. n.

Holotype, ♂: the Seychelles, Mahé, beside the Montagne Posée Road ca. 2.5 km from the Reef Hotel, 30.X.1975, M. Saaristo leg. Preserved in the Zoological Museum, University of Turku.



Figs. 157—169. *Argyroides recurvatus* sp. n. (Figs. 157—163) and *Argyroides pusillus* sp. n. (Figs. 164—169). — 157: Epigyne ventrally. — 158: Vulva dorsally. — 159: Vulva sinistrolaterally. — 160: Cephalothorax dextrilaterally. — 161: Cephalothorax dorsally. — 162: Maxillae, labium, and sternum. — 163: Female dextrilaterally. — 164: Left male palp ventrally. — 165: Bulbus lateroventrally (a) and mesoventrally (b). — 166: Cymbium dorsally (a) ventrally (b). — 167: Male dextrilaterally. — 168: Maxillae, labium, and sternum. — 169: Anterior spinnerets and colulus. — Abbreviations: see legend to Figs. 118—130. — Orig.

Male (Figs. 164—169)

Small species; length of carapace 0.8 mm. Carapace and sternum yellow-brown suffused with black; chelicerae, maxillae, and labium yellow; legs also yellow with dark markings at articulations; abdomen yellowish with black and silvery markings.

Colulus rather large and triangular, with two hairs.

Placed in *Argyrodes* because of the general arrangement of male palpal sclerites, although they are simpler than in other species of this genus, and although the colulus is slightly different.

Chryso acrobeles (Thorell, 1895) comb. n.

Theridion acrobeles Thorell, 1895. Br. Mus. London, 1895: 88.

Theridion conurum Thorell, 1895. Br. Mus. London, 1895: 90. syn. n.

Female (Figs. 170—174)

Rather small species: total length 2.1 mm, carapace 0.6×0.5 mm, abdomen $1.5 \times 0.8 \times 1.1$ mm. Carapace, maxillae, labium, and sternum dark brown suffused with black; chelicerae yellowish brown with dark pattern; palps blackish with yellow-brown tips; legs pale yellow with black annuli at tips of fourth tibiae; abdomen with blackish and dirty white pattern with some silvery corpuscles within light areas.

Legs relatively short; carapace/tibia I = 1.05 and carapace/leg I = 0.24; dimensions of leg I as follows: femur = 0.9 mm, patella = 0.3 mm, tibia = 0.6 mm, metatarsus = 0.7 mm, tarsus = 0.3 mm, total length = 2.8 mm.

The abdomen is very variable in shape, size and coloration even within a single population. Dr. P. T. Lehtinen (oral comm.) established this from a sample of numerous females from Thailand; he also established the synonymy of *Theridion acrobeles* and *T. conurum* from the female type specimens in the British Museum.

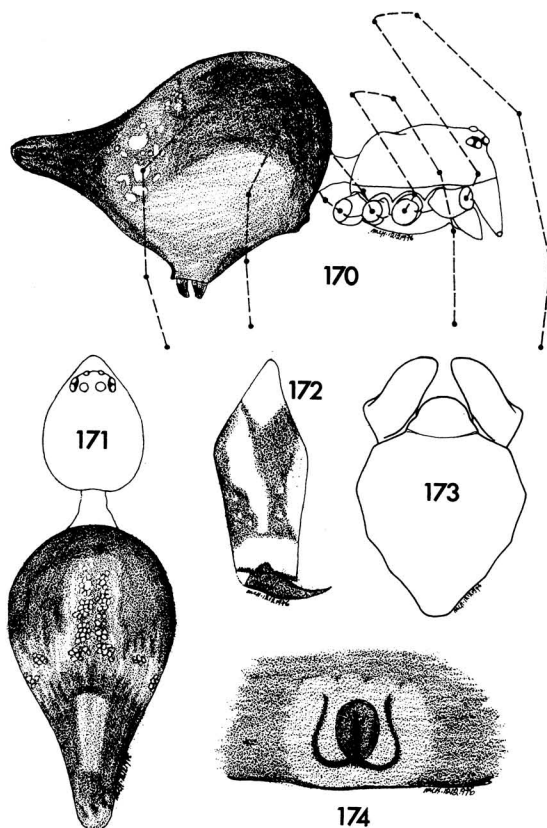
The genus *Chryso* as revised by LEVI (1957, 1962) seems to be polyphyletic. I regard the present species as congeneric with the type-species of the genus.

First record from the Seychelles. Collected in Mahé near the Reef Hotel, 24.X.1975 (1 ♀).

Coleosoma floridana (Banks, 1900)

A well-known species found in the tropical and warm parts of the world (Figs. 175—182).

Collected in Mahé at 600 m altitude on a hill slope opposite the Reef Hotel, 25.X.1975 (1 ♂, 2 ♀♀) and in Praslin, 28.X.1975 (1 ♂). Not previously recorded from the Seychelles.



Figs. 170—174. *Chryso acrobeles* (Thorell). — 170: Female dextrolaterally. — 171: Female dorsally. — 172: Chelicera frontally. — 173: Maxillae, labium, and sternum. — 174: Epigyne ventrally. — Orig.

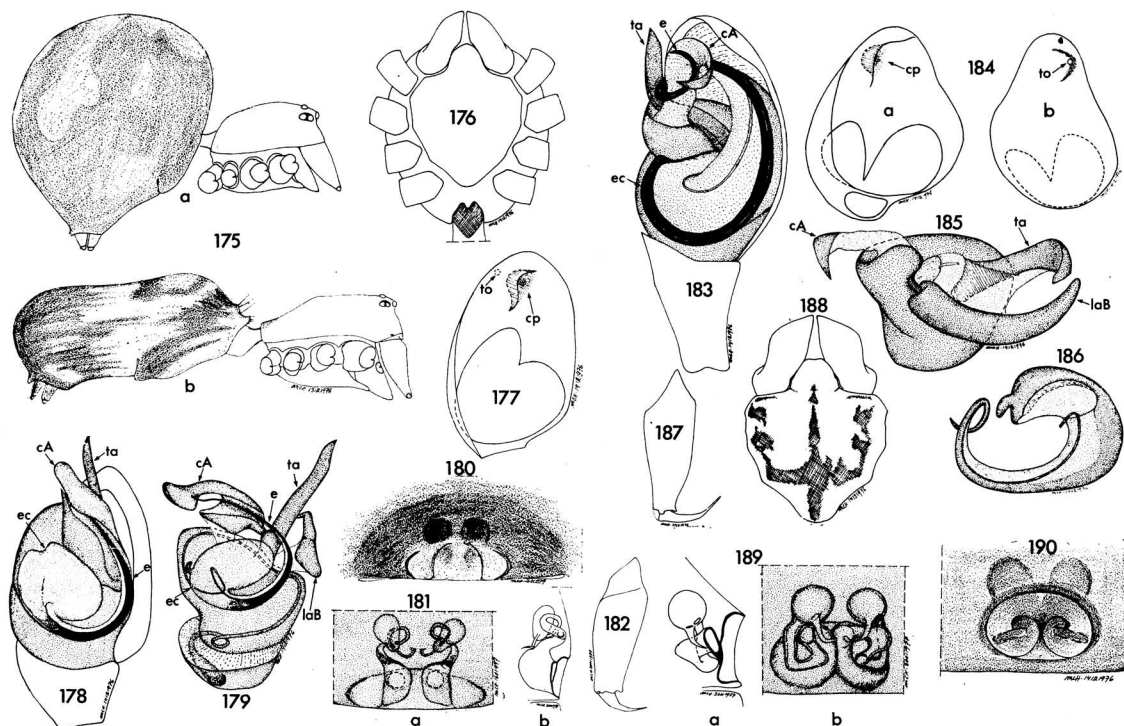
Coleosoma adamsoni (Berland, 1935) comb. n.

Male and female (Figs. 183—191)

Rather small species: length of carapace in ♂ 1.0 mm and in ♀ 1.2 mm. Carapace yellow-brown with black anterior edges; chelicerae, maxillae, and labium of the same colour suffused with black; sternum also yellow-brown with black pattern; abdomen and legs dirty white with black markings, abdomen also with white shining corpuscles on lighter areas, especially numerous in female.

Chelicerae without teeth. Legs of moderate length; carapace/tibia I of ♂ = 0.58 and ♀ = 0.86 and carapace/leg I of ♂ = 0.16 and ♀ = 0.21. Abdomen spherical in both sexes.

Described from Tahiti (as *Theridion a.*) by BERLAND (1935), but transferred here to *Coleosoma* on grounds of genital morphology. Now known from a wide area in the tropics:



Figs. 175–190. *Coleosoma floridana* (Banks) Figs. 175–182) and *Coleosoma adamsoni* (Berland) (Figs. 183–190). — 175: Dextralateral views of female (a) and male (b). — 176: Cephalothorax ventrally. — 177: Cymbium ventrally. — 178: Right male palp ventrally. — 179: Bulbus ventrally. — 180: Epigyne ventrally. — 181: Vulva dorsally (a) and laterally (b). — 182: Chelicera frontally. — 183: Male palp ventrally. — 184: Cymbium ventrally (a) and dorsally (b). — 185: Bulbus ventrally with embolic complex dissected. — 186: Embolic complex dorsally. — 187: Chelicera frontally. — 188: Maxillae, labium, and sternum. — 189: Vulva laterally (a) and dorsally (b). — 190: Epigyne ventrally. — Abbreviations: see legend to Figs. 192–202. — Orig.

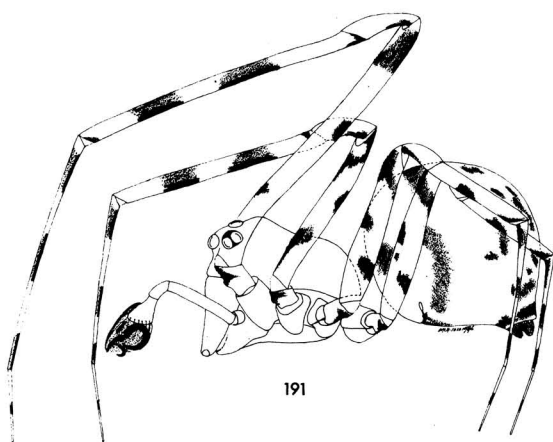


Fig. 191. *Coleosoma adamsoni* (Berland), sinistrolateral view of male. — Orig.

Florida, West Indies, South America from Panama to Brazil, Pacific Islands, and Ghana (LEVI 1963, 1967), Tahiti (BERLAND 1935), Samoa (MARPLES 1964). The species may have been described under an older name.

Collected in Mahé in the garden of the Reef Hotel, 27.X.1975 (1 ♂, 1 ♀). Not previously recorded from the Seychelles.

Anelosimus placens (Blackwall, 1877) comb. n.
Male and female (Figs. 192–202)

Medium-sized species: total length of ♂ 3.3 mm and ♀ 3.8 mm, carapace of ♂ and ♀ 1.7 mm, abdomen of ♂ 1.7 mm and ♀ 2.0 mm. Cephalothorax and appendages yellow-brown except for black patterns on carapace and sternum; abdomen with dorsal pattern, its sides and venter clay-coloured with lateral black stripes and black median band ventrally.

Chelicerae with three anterior and five posterior teeth. Legs longer in male than in female; carapace/tibia I of ♂ = 0.71 and ♀ = 0.86, carapace/leg I of ♂ = 0.19 and ♀ = 0.23, total length of leg I of ♂ 8.6 mm and ♀ 7.5 mm. Metatarsus I of male with a double row of ventral spines with swollen bases. Colulus consisting of only two setae. Male palp with very complex bulbal sclerites.

Described as *Theridion* but transferred here to *Anelosimus* because it is very close to *A. vittatus* (C. L. Koch, 1836) and *A. pulchellus* (Walckenaer, 1836), which LEVI (1956a) transferred to *Anelosimus*. However, it is not quite certain that these species are congeneric with *A. eximius* (Keyserling, 1884), the type-species of *Anelosimus*.

Collected in Mahé near the Reef Hotel, 24.X.1975 (3♂♂, 7♀♀).

Nephila inaurata (Walckenaer, 1841)

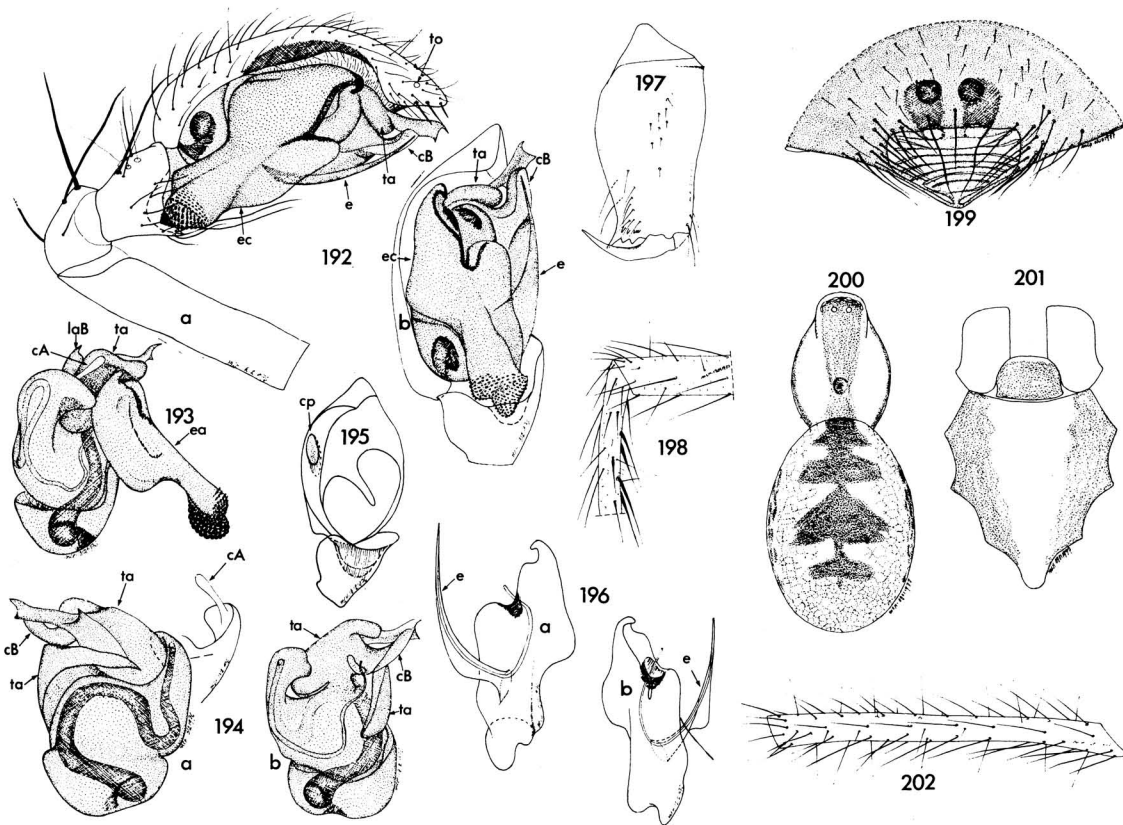
Male (Figs. 203, 205—207, 210)

Size variable: total length 3.7—6.9 mm, carapace 1.9—3.2 mm, and abdomen 2.2—2.5 mm. Carapace yellow-brown with blackish lateral patches at about the middle; chelicerae yellow-brown; maxillae and labium also yellow-brown suffused with black and with white tips; sternum blackish with backwardly tapering yellow-brown median stripe; scutum yellowish brown with dark median stripe extending backwards ca. two-thirds of length of abdomen; legs yellow-brown with femora I and tips of tibiae I blackish.

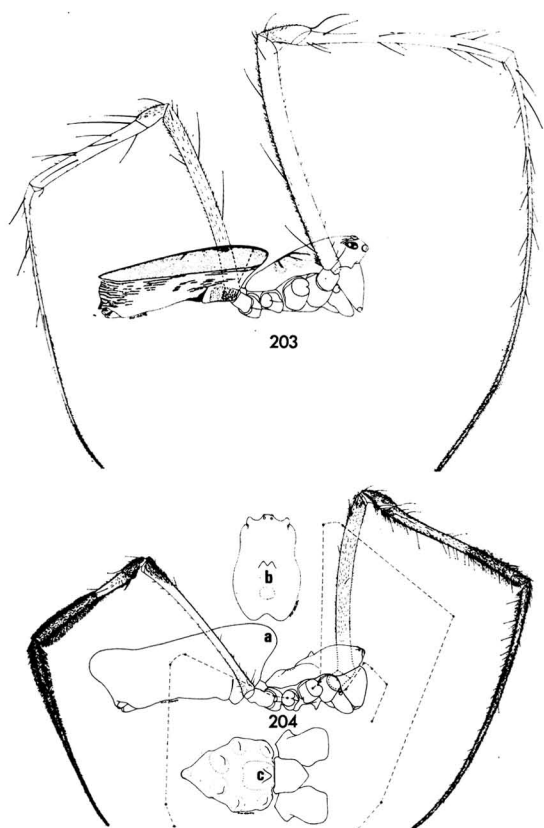
Legs with several long, strong spines and sparsely covered with hairs. Abdomen with scutum markedly extending over carapace.

Female (Figs. 204, 208, 209)

Size somewhat variable: total length 28.3—30.7 mm, carapace 10.0—13.3 mm, and abdomen 17.6—18.7 mm.



Figs. 192—202. *Anelosimus placens* (Blackwall). — 192: Male palp sinistrolaterally (a) and ventrally (b). — 193: Bulbus dorsolaterally. — 194: Bulbus, with embolic complex removed, dorsally (a) and laterally (b). — 195: Cymbium ventrally. — 196: Embolic complex ventrally (a) and dorsally (b). — 197: Chelicera from behind. — 198: Tip of tibia and proximal part of metatarsus of leg I of male. — 199: Epigyne ventrally. — 200: Female dorsally. — 201: Maxillae, labium, and sternum. — 202: Lateral view of tibia I of female. — Abbreviations: cA = conductor A, cB = conductor B, cp = cymbial pit, e = embolus, ec = embolic complex, la B = locking apophysis B, ta = terminal apophysis, to = tarsal organ. — Orig.



Figs. 203–204. *Nephila inaurata* (Walckenaer). — 203: Male dextrolaterally. — 204: Female dextrolaterally (a), carapace dorsally (b), and maxillae, labium, and sternum (c). — Orig.

Carapace and chelicerae very dark red-brown; maxillae, labium, and sternum red-brown; legs yellow-brown with patella, distal half of tibia, metatarsus, and tarsus black; palps yellow-brown with distal segment black; abdomen more or less uniformly clay-coloured in specimens preserved in alcohol.

Carapace at its middle with a pair of blunt elevations. Sternum with seven blunt, horn-like elevations. Legs long, heavily built and with peculiar pattern of hairs.

CANARD's (1975) description of a subspecies (*seychellensis*) of this species is based on one male, one female, and a juvenile specimen from Mahé. This material was too small for recognition of a subspecies and is ignored here.

Very common all over Mahé and Praslin; 15 ♂♂ and 7 ♀♀ were collected in Mahé, 27. — 31.X.1975.

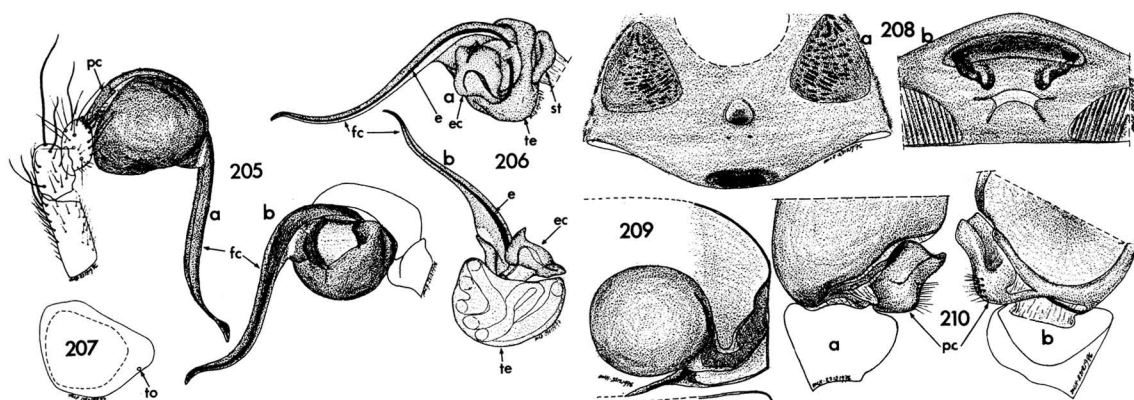
Tetragnathidae

Nephilengys cruentata (Fabricius, 1775)

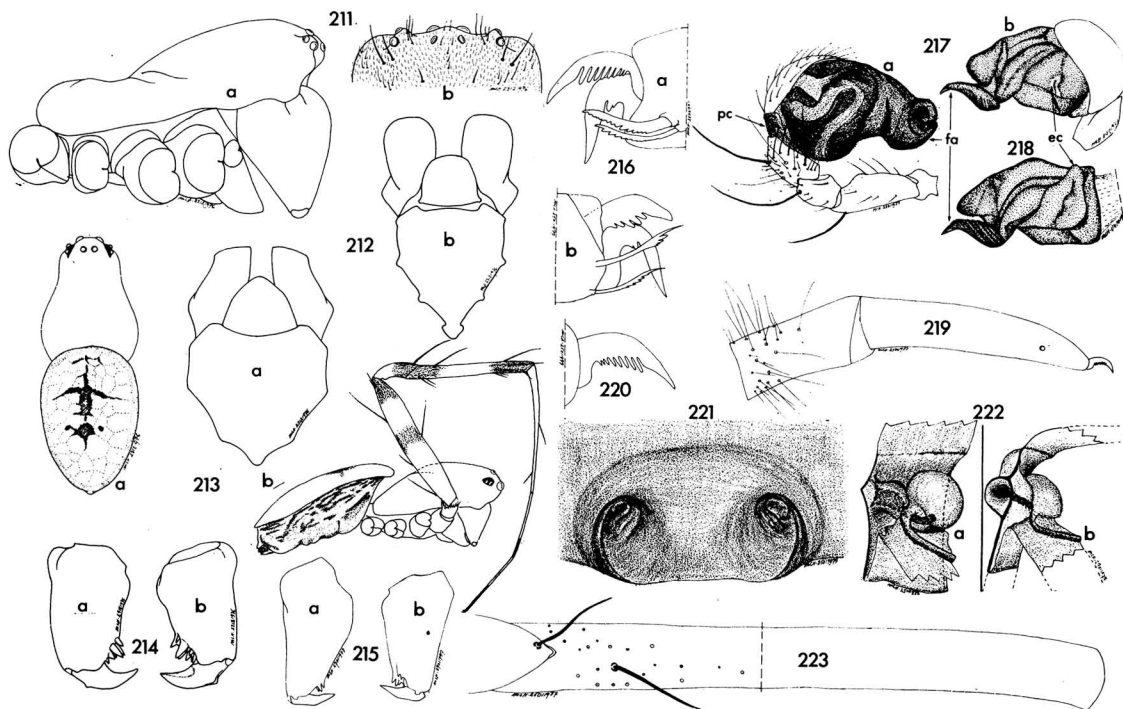
Male (Figs. 212b, 213, 215, 217, 218)

Size variable: total length 3.7–4.8 mm, carapace 2.1–2.7 mm, and abdomen 2.1–2.9 mm. Carapace and sternum yellow white; chelicerae, maxillae, and labium yellow-brown; legs dirty white with black markings; abdominal scutum with numerous white corpuscles and a pattern of dirty white; sides of abdomen with variable number of black stripes, venter dirty white with four indistinct white spots.

Body depressed dorsoventrally and legs somewhat laterigrade, the whole animal resembling a crab spider. Abdomen with scutum and extending markedly over carapace.



Figs. 205–210. *Nephila inaurata* (Walckenaer). — 205: Male palp laterally (a) and mesially (b). — 206: Bulbus mesially (a) and ventrally (b). — 207: Cymbium dorsally. — 208: Epigyne ventrally (a) and from behind (b). — 209: Vulva dextrolaterally. — 210: Proximal part of cymbium dorsally (a) and ventrally (b). — Abbreviations: e = embolus, ec = embolic complex, fc = functional conductor, pc = paracymbium, st = subtegulum, te = tegulum, to = tarsal organ. — Orig.



Figs. 211–223. *Nephilengys cruentata* (Fabricius). — 211: Female cephalothorax dextroraterally (a) and ocular area dorsally (b). — 212: Maxillae, labium, and sternum of female (a) and male (b). — 213: Male dorsally (a) and dextroraterally (b). — 214: Female chelicera frontally (a) and from behind (b). — 215: Male chelicera frontally (a) and from behind (b). — 216: Claw of leg I of female laterally (a) and mesially (b). — 217: Male palp dextroraterally (a) and mesially (b). — 218: Bulbus mesially. — 219: Female palp dextroraterally. — 220: Claw of female palp. — 221: Epigyne ventrally. — 222: Left half of vulva dorsally (a) and laterally (b). — 223: Tibia I of female dorsally. — Abbreviations: see legend to Figs. 205–210. — Orig.

Female (Figs. 211, 212a, 214, 216, 219, 220–223)

Size variable: total length 13.1–19.3 mm, carapace 6.9–8.7 mm, and abdomen 8.7–12.7 mm. Carapace, chelicerae, maxillae, and labium yellow-brown; legs with coxae, femora, and proximal parts of tibiae yellow-brown, otherwise red-brown; palps with two distal segments red-brown, others yellow-brown; abdomen (in liquid) clay-coloured with four snow-white ventral spots.

Abdomen more or less egg-shaped. Second segment of female palp with numerous basal trichobothria.

While *N. inaurata* has the customary orb web, *N. cruentata* has a triangular web slanting towards the ground, with a rather large, cup-like retreat slung under stones, etc. In both species there are several males in the web of each female; the males are found close to the female, in *N. inaurata* in the middle of the web, but in *N. cruentata* inside the retreat. I counted as many as five males in a single web

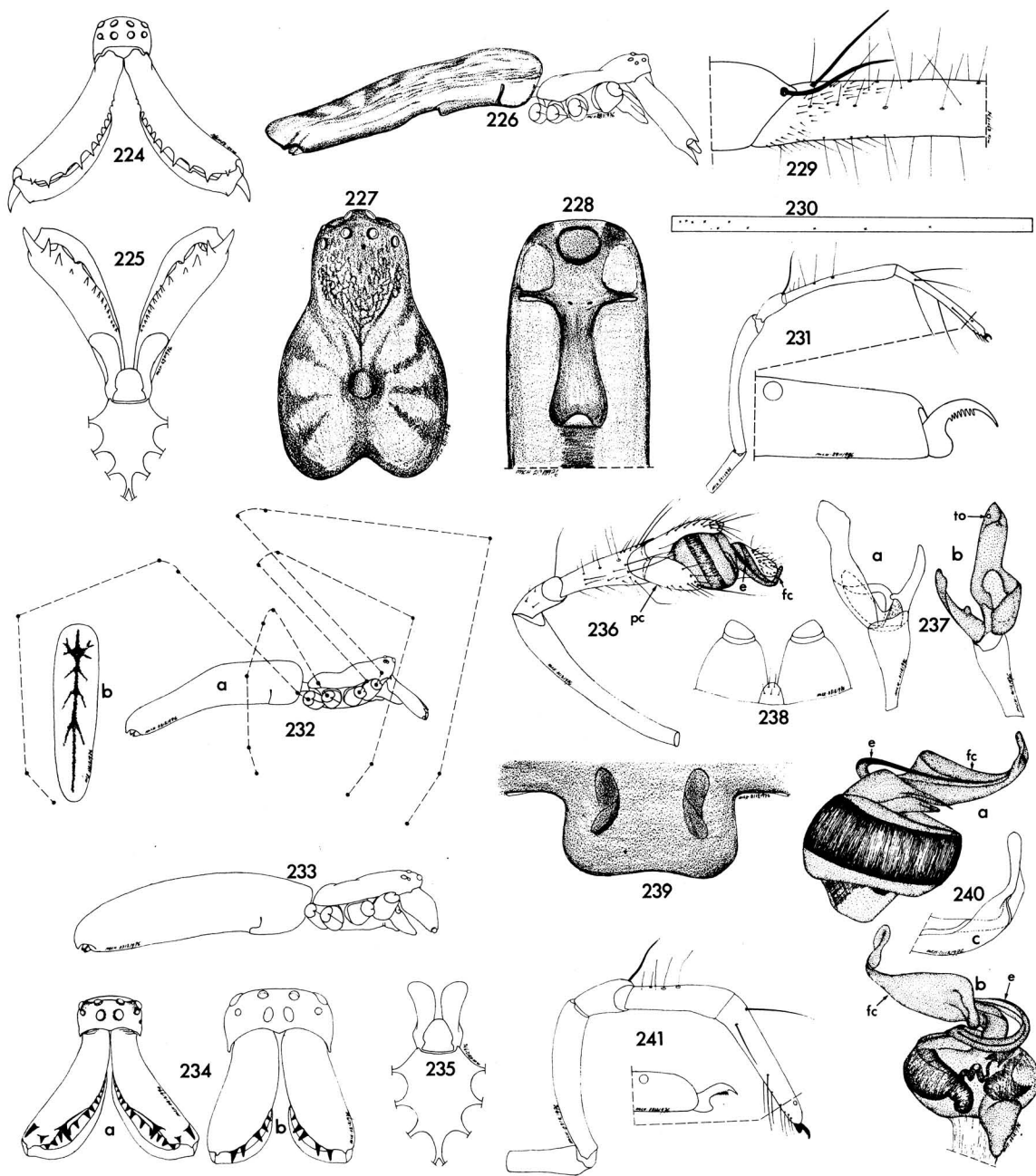
of *N. inaurata* and three males of *N. cruentata* inside one retreat.

Cosmotropical. Collected in Mahé beside the Montagne Posée Road, ca. 2.5 km from the Reef Hotel, 27. X. 1975 and 30. X. 1975 (4 ♂♂, 7 ♀♀).

Tetragnatha mandibulata Walckenaer, 1842

Female (Figs. 224–231)

Rather large species: total length 10.4 mm (chelicerae excluded), carapace 3.2×1.7 mm, and abdomen 7.9×1.9 mm. Carapace brownish yellow with blackish edges, central area, and radiating striae; chelicerae brownish yellow with dark brown fangs; maxillae brownish yellow, laterally suffused with black; sternum and labium blackish; palps very pale yellow suffused with black; legs brownish yellow suffused with black except venters of femora, which are pale yellow; dirty white ground colour of abdomen split into a network by silvery corpuscles scattered all over it; abdomen also with very narrow dirty white dorsomedian stripe, dorsolateral rows of elongate blackish dots, bundles of



Figs. 224–241. *Tetragnatha mandibulata* (Walckenaer) (Figs. 224–231) and *Tetragnatha marginata* (Thorell) (Figs. 232–241). — 224: Female chelicerae and carapace frontally. — 225: Female chelicerae, maxillae, labium, and sternum ventrally. — 226: Female dextrolaterally. — 227: Carapace dorsally. — 228: Epigyne ventrally. — 229: Apex of patella and proximal part of leg I of female. — 230: Trichobothrial pattern of tibia I of female. — 231: Female palp dextrolaterally. — 232: Male dextrolaterally (a) and abdomen dorsally (b). — 233: Female dextrolaterally. — 234: Carapace and chelicerae of male (a) and female (b) frontally. — 235: Maxillae, labium, and sternum of female. — 236: Male palp dextrolaterally. — 237: Cymbium and paracymbium dorsally (a) and ventrally (b). — 238: Anterior spinnerets and colulus. — 239: Epigyne ventrally. — 240: Bulbus dextrolaterally (a) and dorsally (b) and apex of functional conductor (c). — 241: Female palp dextrolaterally. — Abbreviations: see legend to Figs. 205–210. — Orig.

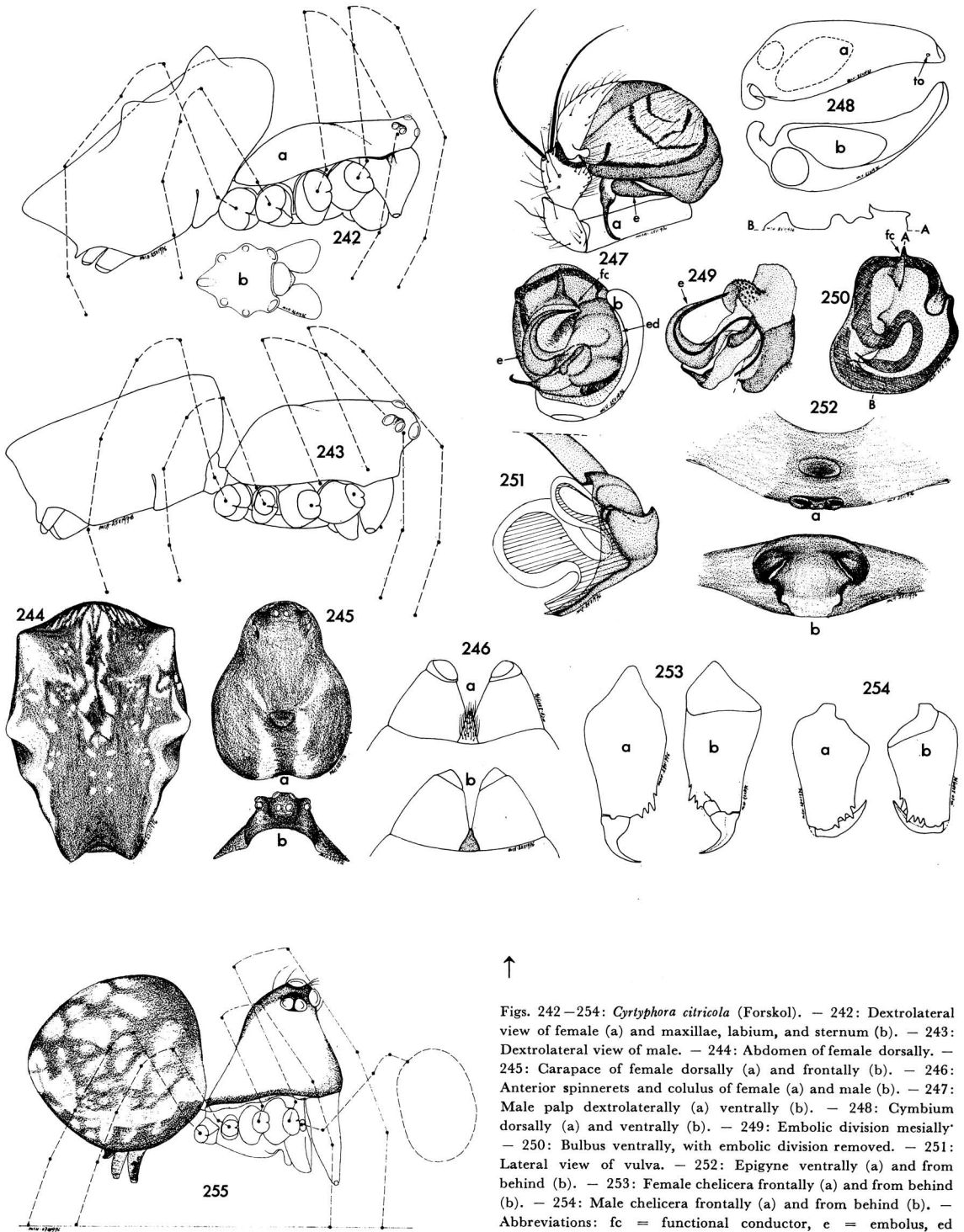


Fig. 255. *Microdipoena elsa* sp. n., male dextrolaterally. — Orig.

Figs. 242–254: *Cyrtophora citricola* (Forsk.). — 242: Dextrolateral view of female (a) and maxillae, labium, and sternum (b). — 243: Dextrolateral view of male. — 244: Abdomen of female dorsally. — 245: Carapace of female dorsally (a) and frontally (b). — 246: Anterior spinnerets and colulus of female (a) and male (b). — 247: Male palp dextrolaterally (a) ventrally (b). — 248: Cymbium dorsally (a) and ventrally (b). — 249: Embolic division mesially. — 250: Bulbus ventrally, with embolic division removed. — 251: Lateral view of vulva. — 252: Epigyne ventrally (a) and from behind (b). — 253: Female chelicera frontally (a) and from behind (b). — 254: Male chelicera frontally (a) and from behind (b). — Abbreviations: fc = functional conductor, e = embolus, ed = embolic division, pc = paracymbium, to = tarsal organ. — Orig.

black, wavy lines on both sides and a broad, black ventromedian band. Lengths of legs and their segments (in mm):

	I		II		III		IV	
Femur	8.7		5.7		3.7		6.0	
Patella	1.3		1.1		0.7		0.8	
Tibia	9.3		5.1		1.9		4.9	
Metat.	11.6		5.5		2.4		5.6	
Tarsus	1.9		1.2		0.8		1.1	
Total	32.8		18.6		9.5		18.4	

Chelicerae large, strongly divergent with numerous anterior and posterior teeth. Palps long and thin with few spines.

Cosmotropical. Collected in Mahé from mangrove thicket near the Reef Hotel, 24.X.1975 (1 ♀, 3 juv.).

Tetragnatha marginata (Thorell, 1890)

Tetragnatha quadridens Dondale, 1966. Austr. J. Zool. 14: 1175—1176. syn. n.

Male and female (Figs. 232—241)

Medium-sized species: total length (chelicerae excluded) of ♂ 6.8 mm and ♀ 6.4 mm, carapace of ♂ 2.3×1.3 mm and ♀ 2.0×1.1 mm, and abdomen of ♂ 4.5×1.2 mm and ♀ 4.4×1.0 mm. Carapace brownish yellow with lateral, silvery shining bands; chelicerae, maxillae, labium, and sternum brownish yellow; legs pale yellow with faint black spots, a spine standing inside each spot; tips of metatarsi and tarsi black; abdomen dirty white with numerous silvery white corpuscles forming a narrow, dirty white medio-dorsal stripe with some lateral branches and a wider unbranched medioventral band. Lengths of legs and their segments (in mm):

	I		II		III		IV	
	♂	♀	♂	♀	♂	♀	♂	♀
Femur	5.7	3.7	4.3	2.7	2.3	1.3	4.7	2.8
Patella	0.9	0.8	0.8	0.7	0.5	0.4	0.7	0.5
Tibia	5.9	3.5	3.7	2.1	1.3	0.8	3.6	2.0
Metat.	6.0	3.5	4.0	2.1	1.6	0.9	4.0	2.0
Tarsus	1.5	1.1	1.1	0.8	0.5	0.5	0.9	0.7
Total	20.0	12.6	13.9	8.4	6.2	3.9	13.9	8.0

Chelicerae of male long, narrow and divergent, with numerous teeth, those of female short, thick and almost parallel, with few teeth. Female palp with few spines.

T. marginata was originally described from Burma and has not been recorded since. In

the Zoological Museum of Turku University there is material of this species collected by Dr. P. T. Lehtinen from Papua New Guinea and New Caledonia, the last-mentioned sample having been compared with the type by Dr. Lehtinen. The species was described from Australia under the name *T. quadridens* by DONDALE (1966). DONDALE's (1966) excellent figures leave no doubt that his species is identical with those compared with the type of *T. marginata*.

Collected in Mahé from the garden of the Reef Hotel in *Casuarina* bushes, 24.X.1975 (1 ♂, 1 ♀, 1 juv.). First record from the Seychelles.

Cyrtophora citricola Forskol, 1775

Male and female (Figs. 242—254)

Female much larger than male: average total length of ♂ 3.2 mm, and ♀ 11.6 mm, carapace of ♂ 1.5 mm and ♀ 5.3 mm. Colour pattern of abdomen stable but varying from almost uniformly dark or dirty white to quite patchy, perhaps depending on stage of maturity. Female carapace brown with paler areas, that of male uniformly brown. Legs densely annulated.

A well-known species of warm and tropical parts of the world. Collected in Mahé beside the Montagne Posée Road, 27.X.1975 (7 ♂♂, 3 ♀♀, 9 juv.) and 30.X.1975 (2 ♂♂, 5 ♀♀, 9 juv.).

Mysmenidae

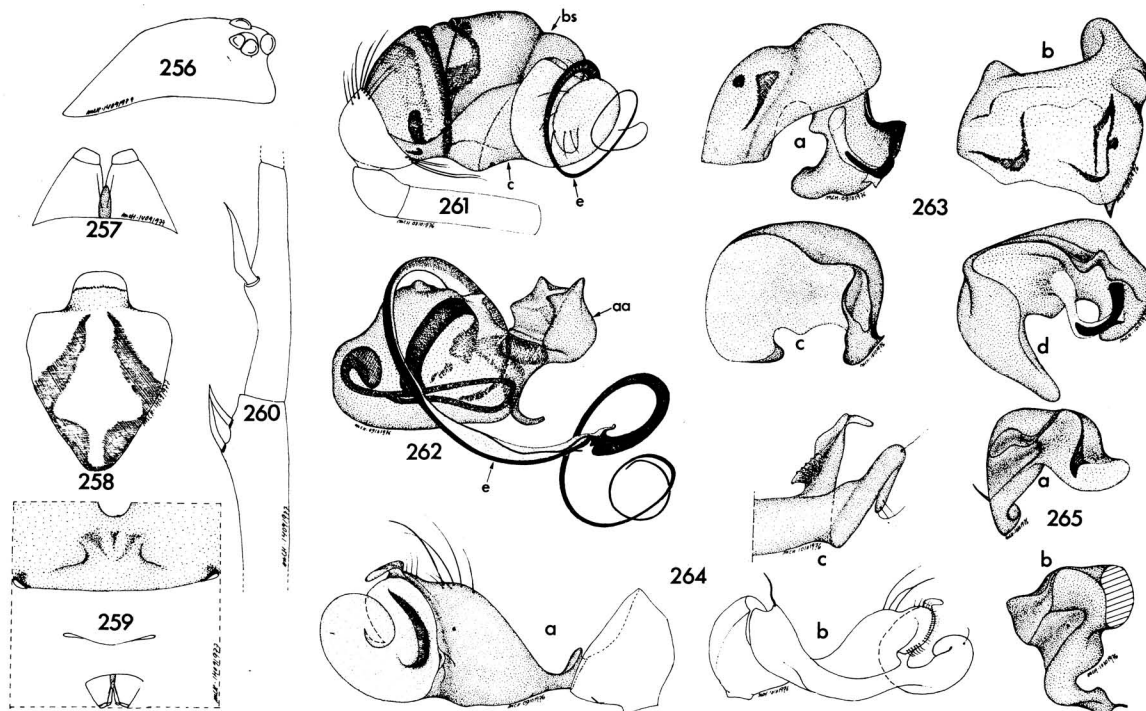
Microdipoena elsae sp. n.

Holotype, ♂: the Seychelles, Mahé near La Misère, 600 m, 30.X.1975, sieving leaf litter, M. Saaristo leg. Allotype, ♀ and 4 ♂♂ and 8 ♀♀ paratypes with the same data and locality. Preserved in the Zoological Museum, University of Turku.

Male and female (Figs. 255—265)

Very small species: total length of ♂ 1.0 mm and ♀ 1.2 mm, carapace of ♂ $0.43 \times 0.46 \times 0.40$ mm and ♀ $0.50 \times 0.46 \times 0.28$ mm, abdomen of ♂ $0.58 \times 0.50 \times 0.58$ mm and ♀ $0.73 \times 0.60 \times 0.63$ mm. Carapace yellowish brown with eye region, edges and lower part of clypeus suffused with black; legs pale yellow with dark ring at tips of all segments, femur and patella with entirely black basal ring; chelicerae, maxillae, labium, and sternum yellowish, sternum also with dark pattern; abdomen blackish with dirty white spots, inside these spots here and there white shining corpuscles.

Eyes of female somewhat larger than those of male. Male carapace with very high clypeus. Legs of moderate



Figs. 256–265. *Microdipoena elsa* sp. n. — 256: Female carapace dextrilaterally. — 257: Anterior spinnerets and colulus. — 258: Labium and sternum. — 259: Part of female abdomen ventrally. — 260: Metatarsus I and apical part of tibia I of male dextrilaterally. — 261: Male palp dextrilaterally. — 262: Bulbus dextrilaterally with bulbal shield removed. — 263: Bulbal shield dextrilaterally (a), dorsally (b), from behind (c), and anteriorly (d). — 264: Cymbium mesially (a), posterolaterally (b), and tip of it laterally (c). — 265: Anterior apophysis dorsally (a) and dorsolaterally with dorsal half cut away (b). — Abbreviations: aa = anterior apophysis, bs = bulbal shield, c = cymbium, e = embolus. — Orig.

length; male with very strong spines on leg I, one on metatarsus I and two on tibia I; female with so-called femoral tubercles on apicoventral parts of femora I and II, male with only reduced one on femora I. Abdomen high, drop-shaped in both sexes. Colulus long, narrow and with two setae.

I name this species in honour of my aunt Mrs. Elsa Saaristo.

Very close to *Microdipoena guttata* Banks, 1895 (cf. LEVI 1956b: Figs. 20–30), the type-species of *Microdipoena* Banks, 1895. CROSBY (1925) synonymized *Microdipoena* with *Mysmena* Simon, 1894 and he has been followed ever since. However, the male palpus and the epigyne of *Mysmena leucoplagiata* (Simon, 1879), the type-species of *Mysmena*, are quite different

in structure (cf. KRAUS 1967: Figs. 1–11). Therefore I regard *Microdipoena* as a valid genus consisting of the two species mentioned above.

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