

Spiders of the Oriental-Australian region.

IV. Stenochilidae

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Diagnostic characters of *Stenochilus* and *Colopea* are reviewed and corrected on the basis of new material and accurate information about the structure of the genital organs of both sexes. The genital organs of both genera can be shown to be totally homologous and they represent typical haplogyne structures.

The embolic division of *Colopea* comprises soft, finger-like white processes that are completely granulate. These processes are normally concealed within the bulbous and are expanded only when functional. This expansion has more or less occurred in material collected with pitfall traps using ethylene glycol as preservative. There are no ejaculatory ducts, and the transfer of sperm is suggested to occur with the aid of the granulate surface of the embolic division. These granulate areas are also present in males of *Stenochilus*, but are most probably not turned inside out in the normal position of the bulbous.

The vulva of *Colopea* consists of a small transverse vulval tube with small receptacula at both ends and usually with an unpaired central process. This sclerotized part is attached to a strong paired bundle of longitudinal muscles and a smaller pair of transverse muscles.

Adult males and females are described both for the type-species, *C. pusilla* (Simon), and for *C. laeta* (Thorell). This has enabled correction of the recent specific revision of this genus listing only two species in the whole genus and a single one in Southeast Asia. Nine species of *Colopea* are regarded valid here, including the new species *C. malayana* (Malayan peninsula), *C. unifoveata* (Borneo), *C. silvestris* (Papua New Guinea), *C. xerophila* (Papua New Guinea), *C. romantica* (Bali & Sumatra), and *C. virgata* (Central Thailand & Vietnam).

The range of Stenochilidae extends from northwestern India to Fiji, but species of *Colopea* are not known from India, although the type-species has been incorrectly listed from there. All species of *Stenochilus* seem to prefer xerophilic conditions in open habitats, and a few species of *Colopea* are ecologically similar, but the majority of *Colopea* spp. are regularly found in the leaf litter of tropical forests.

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1. Introduction

Stenochilidae is a small family of primitive spiders which is endemic to the Oriental region and adjacent areas of Melanesia. This family has been quite poorly represented in collections until now and Platnick & Shadab (1974) recently revised all material available at the time. They listed only three species of *Stenochilus* and two species of *Colopea*. However, their material of the latter genus consisted of only two adult males and one adult female from continental Asia and only the juvenile syntypes of the type-species were available to them. It is therefore easy to understand that their revision of Southeast Asian *Colopea* was not successful.

The field expeditions of the author have resulted in specimens of seven species of *Colopea*, but the geographic range of the genus is not enlarged. Most species are represented by a few specimens only, in spite of extensive collecting in

habitats peculiar to this genus. In most areas, only one species has been found, but in Central District of Papua New Guinea fairly rich material of two sympatric species was collected, mainly by pitfall trapping. However, these two species are ecologically very different, one of them being a hygrophilous species of jungle and rain forest, and the other a xerophilous species of dry open habitats. All species of the present material are ground living and most of them are hygrophilous species of forest litter, although some of them have also been found in more open habitats. No web or tube has been observed, but they most probably live in silken tubes as repeatedly shown for *Stenochilus hobsoni*.

The material from recent expeditions by the author does not include any specimens of *Stenochilus*, but two unpublished records of *S. hobsoni* are added.

I totally agree with Platnick & Shadab (1974) with regard to the family status and limitation of

Stenochilidae, and more detailed discussion about the phylogenetic relationships of the family is excluded here, as much information about the taxonomy of the haplogyne spiders is still unused. Stenochilidae is most probably not a sister group of Palpimanidae and their scopulae on legs I and II may simply be convergent adaptations to digging habits.

2. Taxonomic revision of Stenochilidae

Definition, delimitation, and taxonomic history of the concept of Stenochilidae was recently presented by Platnick & Shadab (1974) and nothing essential can be added here. However, the phylogenetic position of Stenochilidae in relation to Palpimanidae and Huttoniidae may need some minor corrections. These three families are undoubtedly all haplogyne and at least Stenochilidae and Palpimanidae seem to belong to the same main line of spider evolution. The striking similarity in the distal parts of leg I between these two families was regarded as synapomorphy by Platnick & Shadab (1974) and thus they also regarded these two families as sister groups. The present revision shows that there is no ejaculatory duct in the bulbus of Stenochilidae, while the bulbus of Palpimanidae always has an ejaculatory duct typical of most Sicarioidea and Oonopoidea. The presence of a soft granulate embolic division is apparently correlated with the lack of an ejaculatory duct, but is completely different from the normal type of embolus in Palpimanidae. The ultrastructures of the trichobothrial base, tarsal organ, and several types of hairs also differ widely between these two families. Furthermore both of them are autapomorphic in relation to other haplogyne groups studied.

The apomorphic anterior legs of both Stenochilidae and Palpimanidae are undoubtedly adaptations to digging habits. There are not many optimal structures for this purpose as far as a spider leg is concerned, and although the modification is striking at first sight, it does not include many complicated structures, but simply a deviating position of the tarsus, a strong development of the scopula, and exceptional relative lengths of the patella and tibia. It must also be stressed here that this modification concerns both legs I and II in Stenochilidae, but practically only leg I in Palpimanidae. Taking into account the large and fundamental differences in the details of both male and female genital organs and the other structures described above, it is probable that the striking similarity of the front legs is only the result of parallel evolution or even convergence. A more detailed discussion

about the relationships between Stenochilidae and Huttoniidae will be possible only when all structural patterns of the latter family have been properly described.

The trichobothrial pattern of Stenochilidae has recently been described and compared with other haplogyne groups (Lehtinen 1980). The basic pattern is the most widespread (type 1), and minor modifications to the pattern of the tibial trichobothria do not give any additional information about relationships of Stenochilidae and Palpimanidae.

The cheliceral armature of Stenochilidae consists of a single, strong, more or less tapering tooth that may be homologous with the triangular lamella of Sicarioidea. Thus Stenochilidae may be closer to Sicarioidea than to Oonopoidea, but it cannot be included into either of these superfamilies. A more accurate placing is not possible according to the information available at this moment.

Stenochilus O. Pickard-Cambridge, 1870

Stenochilus O. Pickard-Cambridge, 1870. Proc. Zool. Soc. London 1870: 729, type-species by monotypy *S. hobsonii* O. Pickard-Cambridge, 1870 from India.

Metronax Simon, 1893. Hist. Nat. Araign. 1 (2): 396, type-species by original designation *Stenochilus crocatus* Simon, 1884 from Burma, synonymized by Platnick & Shadab (1974).

Described in detail by Platnick & Shadab (1974). Adult males are easily differentiated from those of *Colopea* spp. by cylindrical cymbium embracing most of the bulbus as well as by the presence of bulbal hooks. Females are best differentiated from *Colopea* by the absence an oblique lateral comb in the palpal tarsus. Platnick & Shadab (1974) also stressed the presence of lateral undulations of the carapace as a differential character for *Stenochilus*. However, the carapace of most species of *Colopea* is also slightly undulate and that of juvenile specimens of *Stenochilus hobsonii* is very weakly undulate.

An additional differential character is found in the shape of the tarsi. The modification of tarsi I—II is characteristic for all adult specimens of *Colopea* as well as for subadult and fairly small juvenile specimens.

The vulva of *Stenochilus* is not known in detail, but a fundamental difference (unpaired/paired) between this genus and *Colopea* is not present as argued by Platnick & Shadab (1974).

The carapace of most species of *Colopea* is relatively shorter and wider than that of *Stenochilus*, but there may be some overlap, and thus this character is not absolutely diagnostic for stenochilid genera.

Stenochilus hobsonii O. Pickard-Cambridge, 1870

Stenochilus hobsonii O. Pickard-Cambridge, 1870. Proc. Zool. Soc. London 1870: 729, Pl. 44, fig. 1.

S. raudus Simon, 1884. Ann. Mus. Civ. Stor. Nat. Genova 20: 368.

Metronax raudus, Simon, 1893. Hist. Nat. Araign. 1 (2): 396, fig. 354.

S. hobsoni, Simon, 1893. Hist. Nat. Araign. 1 (2): 396. Emendation of the specific name regarded as unjustified

according to present code of ICZN (1964 § 32 (a) (ii)).

Colopea pusilla, Simon, 1897. Bull. Mus. Hist. Nat. 1897: 289, misidentification.

S. hobsoni, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 8, figs. 1—12.

Holotype of *S. hobsonii* from India, Maharashtra, Bombay, in HD (Oxford not examined, holotype of *S. raudus* from Genji, near Pondicherry, Madras (Andhra Pradesh), India, in MNHN (Paris), examined.

Male 4.82—7.42 mm, female 5.67—6.62 mm. Both sexes described and depicted in detail by Platnick & Shadab (1974). They also list numerous records of this species from peninsular India.

Differentiated from *S. scutulatus* by structure of genital organs and from *S. crocatus* by less undulate margin of carapace.

New records:

India, Maharashtra, Kurrachee: 1 juv. ♀, in MNHN (Paris), examined. This specimen was identified as *Colopea pusilla* by Simon (1897).

India, Maharashtra, Poona, silk retreats under stones, September (no year), B.K. Tikader (MZT), kindly made available by Dr. Norman I. Platnick.

Stenochilus scutulatus Platnick & Shadab, 1974

Stenochilus scutulatus Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 9, figs. 13 & 15.

Holotype male from south of Pali, Rajasthan, India, 275 m, 8.I.1962, E.S. Ross & D.Q. Cavagnaro, in CAS (San Francisco), not examined.

Male 4.68—5.36 mm, described and depicted in detail by Platnick & Shadab (1974), differentiated from *S. hobsonii* by long apophyses of the bulbous.

Stenochilus crocatus Simon, 1884

Stenochilus crocatus Simon, 1884. Ann. Mus. Civ. Stor. Nat. Genova 20: 341, figs. 4—5.

Metronax crocatus, Simon, 1883. Hist. Nat. Araign. 1 (2): 396, figs. 349—353.

M. crocatus, Thorell, 1897. Ann. Mus. Civ. Stor. Nat. Genova 37: 192.

Stenochilus crocatus, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 9, figs. 16—18.

Holotype female from Minhla, Burma, in MCSN (Genoa), not examined, material from Burma in ZMH (Hamburg) and BMNH (London) examined.

Female 6.59—9.80 mm, described and depicted by Platnick & Shadab (1974). This largest species of Stenochilidae is further differentiated from other *Stenochilus* spp. by strongly undulate carapace.

Colopea Simon, 1893

Colopea Simon, 1893. Hist. Nat. Araign. 1 (2): 397.

Colopea, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 11.

Type-species by original designation and monotypy: *Stenochilus pusillus* Simon, 1893 from Luzon, The Philippines.

Small (3.1—7.6 mm) stenochilid spiders with weakly undulate diamond-shaped carapace. Two foveae usually present, but the anterior one may be indistinct. 8 eyes in circular or transversely oval group, PME largest and usually longitudinally oval. Surface of carapace more or less granulate, at least in marginal parts, dorsum sometimes almost smooth.

Chelicerae with toothlike lamella, but without additional teeth, fang semicircular, similar to *Stenochilus*.

Gnathocoxae and labium close to those of *Stenochilus*, but on average relatively longer. Labium in all species studied by the author sub-basally more distinctly concave than in *Stenochilus*.

Sternum totally pitted, similar to that of *Stenochilus*.

Abdomen long oval, unicolorous yellowish grey or with more or less distinct pattern of purple or dark brown coloration. Spinnerets and ventral scutum as in *Stenochilus*.

Legs much as in *Stenochilus*, but modifications of tarsi I—II more distinct. Metatarsi I—II also relatively shorter than in *Stenochilus*. Coxae I—II with dorsal granules. Female palpal tarsus dorsally and laterally with a dense scopula. Base of palpal tarsus laterally with an oblique comb of a few rows of hairs. This comb is easily observed as a separate, dark bundle of hairs, and it also constitutes a diagnostic character in comparisons with *Stenochilus*.

Male palp with cylindrical, unmodified femur, almost globular patella, and tibia as short as patella, but more cylindrical. Cymbium long oval, apex rounded. Bulbal cavity within cymbium (= alveolus of Araneomorpha) much shallower than in *Stenochilus*, its distal part narrow, rounded, but close to the cymbial apex. The basal haematodocha is very simple and does not significantly differ from the basal connecting membrane of the bulbous of other haplogyne spiders (cf. Platnick & Shadab, 1974: 5).

The structure of the palpal bulbous was misunderstood by Platnick & Shadab (1974). There are no externally visible, rigid sclerites attached to the bulbous which are comparable to the bulbal apophyses of *Stenochilus*, but the 'embolic division' is probably of the same fundamental type. The distal part of bulbous in *Stenochilus hobsoni* comprises two fairly soft, bulging parts, partly covered with superficial granules. Similar soft, but finger-shaped structures with granular surfaces are present in the bulbous of all species of *Colopea*, but normally they are concealed within the bulbous like the fingers of a glove turned inside out. The function of these granular processes of *Stenochilus* and *Colopea* is not known and the stability of their shape within a species is not proved. No ejaculatory duct can be seen in the cleared bulbous, and thus it is possible that the sperm is directly squeezed into the granular surface of "the embolus".

The vulval structure of *Colopea* was seriously misunderstood by Platnick & Shadab (1974), and actually the difference in female genital organs between *Stenochilus* and *Colopea* is slight. The genital organs are covered by a sclerotized plate which is continued around the epigastric furrow by a thin sclerotized rim. The lateral thirds of the inner face of this plate are attached to posteriorly rounded sacks of soft tissue (cf. corresponding structures in *Stenochilus crocatus*, Platnick &

Shadab 1974: fig. 17). The sclerotized parts of the vulva are fairly small and are all situated close to the posterior margin of the plate. All these sclerites are attached to a pair of thick longitudinal muscles and also to a pair of small transversal muscles. These muscles are well developed even in juvenile specimens, and the sclerotized parts of the vulva are gradually developed during several moults. The longitudinal muscles were regarded as paired receptacula by Platnick & Shadab (1974: 11). The detached vulva of the only female *Colopea* (*C. malayana* n. sp.) available to them was thoroughly studied by the author after clearing in clove oil. The reason for this confusion has evidently been the fact that the specimen had, at some time, been dried and the muscles are more compact than in normally preserved specimens of *Colopea*.

The diagnostic part of the sclerotized vulva of *Colopea* comprises a small transverse tube with paired small receptacula at both ends and usually an unpaired central process (cf. similar process in *S. crocatus* and *S. hobsoni* in figs. 9 & 17 by Platnick & Shadab, 1974). A transverse porous plate can be seen between this 'vulval tube' and the epigynal plate in strongly sclerotized vulvae of *C. xerophila* n. sp., and most probably a homologous part is present in all fully developed vulvae of this genus, although it has been membranous or soft in most specimens examined up till now.

I do not understand what Platnick & Shadab (1974: 6) mean when speaking about two quite different types of palpi in *Stenochilus* and *Colopea*. In my opinion, the bulbus of both genera is undoubtedly haplogyne, i.e. without a subtegulum and without movable complex sclerites functionally coordinating with the embolus. Rigid bulbal apophyses are present in

the palpi of most haplogyne groups, at least in some species, and they are best regarded as typical autapomorphies. It is highly improbable that the simple bulbus of *Colopea* could have been developed from a more complex type like that of *Stenochilus*. The structure and function of the genital organs of *Stenochilidae* and *Palpimanidae* cannot be derived from each other in either direction, and as all other characters are largely different, it is easy to suggest that the similarities in leg structure are convergent adaptations to digging habits only.

Species of *Colopea* are most easily differentiated from those of *Stenochilus* by strong modifications of the distal segments of legs I–II, the less distinct undulations of the carapace, and, in the case of adult specimens, by their smaller size. The males are easily differentiated by lack of bulbal apophyses, while the external epigynal plate of the female is strikingly similar in both genera.

Taxonomic characters of Colopea. The usefulness of the male palpal characters is greatly reduced by the fact that the embolic division is soft and usually concealed within the bulbus. The sclerotized basal margin of the embolic division is always visible in the distal part of the bulbus, but even this structure may be misleading in those cases in which part of the embolic division is pressed out. The shape of the bulbus is slightly different in different species, but its position is easily changed in relation to the cymbium in partly expanded palps.

The female genital area is externally similar in all species, but sclerotizations of the inner parts are useful in the comparison of species of this genus. The only vulval figure by Platnick & Shadab (1974) is schematic and even misleading.

Table 1. Measurements of *Colopea* spp.

		Carapace		Abdomen		Leg I (f+pat+tib+mt+t)					Leg IV: (f+pat+tib+mt+t)					Carap. & tib. ind.		
<i>C. pusilla</i>	♂	1.66	1.22	2.14	1.28	1.28	0.72	0.84	0.36	0.50	1.04	0.60	0.97	0.57	0.44	1.36	0.51	0.58
	♀	2.02	1.48	2.20	1.40	1.46	0.90	0.98	0.44	0.54	1.26	0.70	1.12	0.66	0.53	1.36	0.49	0.55
<i>C. malayana</i>	♂	2.02	1.40			1.48												
	♀	1.91	1.28	1.72	1.08	1.18	0.81	0.86	0.44	0.48	1.28	0.62	1.17	0.70	0.54	1.49	0.45	0.61
<i>C. unifoveata</i>	♂	(1.34	0.97	1.98	1.18	0.90	0.58	0.58	0.36	0.42	0.80	0.43	0.75	0.48	0.45)	1.38	0.43	0.56
<i>C. laeta</i>	♂	2.44	1.55	2.34	1.36	1.52	0.96	1.07	0.46	0.48	1.38	0.78	1.25	0.75	0.46	1.57	0.44	0.51
<i>C. silvestris</i>	♂	3.22	2.02	4.44	2.40	1.82	1.24	1.26	0.57	0.57	1.67	0.97	1.57	0.95	0.58	1.59	0.39	0.49
	♀	1.57	1.20	1.58	0.95	1.12	0.72	0.68	0.33	0.38	0.94	0.53	0.83	0.54	0.42	1.31	0.43	0.53
<i>C. xerophila</i>	♂	2.10	1.53	2.32	1.54	1.26	0.80	0.84	0.40	0.48	1.12	0.70	1.03	0.38	0.50	1.37	0.40	0.49
	♀	2.25	1.47	2.28	1.50	1.42	0.86	1.00	0.46	0.50	1.25	0.67	1.16	0.58	0.44	1.53	0.44	0.52
<i>C. romantica</i> (Bali)	♂	2.96	1.94	3.34	2.00	1.92	1.24	1.32	0.60	0.57	1.62	0.94	1.56	0.74	0.54	1.53	0.45	0.53
	♀	1.64	1.08	1.90	1.12	1.12	0.68	0.76	0.35	0.34	1.00	0.55	0.90	0.43	0.37	1.52	0.46	0.55
(Sumatra)	♂	1.68	1.14	2.16	1.28	1.14	0.73	0.75	0.39	0.39	1.04	0.58	0.88	0.48	0.42	1.47	0.45	0.52
	♀	1.96	1.30	1.97	1.33	1.16	0.77	0.84	0.38	0.38	1.10	0.63	1.02	0.47	0.36	1.51	0.43	0.52
<i>C. virgata</i>	♂	2.02	1.36	2.16	1.40	1.16	0.78	0.88	0.37	0.37	1.16	0.58	1.08	0.66	0.46	1.49	0.44	0.53
	♀	2.37	1.58	2.24	1.34	1.44	1.02	1.06	0.38	—	1.40	0.84	1.35	0.70	0.51	1.50	0.45	0.57
<i>C. tuberculata</i>	♂	2.41	1.69			1.69												

Incomplete data: according to Platnick & Shadab (1974)
Data in brackets: subadult specimens.
All legs measured from dorsal face of segments.

Table 2. Relative lengths of segments in legs I & IV (in %) and relative thickness of femur, tibia, and tarsus I (l/w).

		Leg I					l/w			Leg IV					I/IV
<i>C. pusilla</i>	♂	34.6	19.5	22.7	9.7	13.5	3.28	3.82	2.50	28.1	16.2	26.2	15.4	11.9	1.02
	♀	33.8	20.8	22.7	10.2	12.5	3.04	4.08	3.18	29.2	16.2	25.9	15.3	12.3	1.01
<i>C. malayana</i>	♂	31.3	21.5	22.8	11.2	12.7	2.95	3.91	3.20	34.0	16.4	31.0	18.6	14.3	0.87
<i>C. unifoveata</i>	♂	32.3	20.4	20.4	12.7	14.8	2.90	3.22	2.47	28.2	15.1	26.4	16.9	15.8	0.98
<i>C. laeta</i>	♂	33.9	21.4	23.8	10.2	10.7	2.87	3.69	2.40	30.7	17.4	27.8	16.7	10.2	0.97
	♀	33.3	22.7	23.1	10.4	10.4	2.64	3.50	2.38	30.6	17.8	28.8	17.4	10.6	0.95
<i>C. silvestris</i>	♂	36.1	22.3	21.1	10.2	11.8	2.95	3.40	2.24	29.1	16.4	25.7	16.7	13.0	0.99
	♀	33.3	21.2	22.2	10.6	12.7	2.47	3.65	3.20	29.6	18.5	27.2	10.0	13.2	1.01
<i>C. xerophila</i>	♂	33.5	20.3	23.6	10.8	11.8	2.90	3.85	2.78	29.5	15.8	27.4	13.7	10.4	1.03
	♀	34.0	21.9	23.4	10.6	10.1	2.91	3.88	2.59	28.7	16.6	27.6	13.1	9.6	1.05
<i>C. romantica</i> (Bali)	♂	34.5	20.9	23.4	10.8	10.5	3.11	4.00	2.43	30.8	16.9	27.7	13.2	11.4	1.00
	♀	33.5	21.5	22.1	11.5	11.5	3.00	3.75	2.44	30.6	17.1	25.9	14.1	12.4	1.00
(Sumatra)	♂	32.9	21.8	23.8	10.8	10.8	2.64	4.00	2.38	31.2	17.8	28.9	13.3	10.2	0.99
<i>C. virgata</i>	♂	32.6	21.9	24.7	10.4	10.4	2.42	3.67	1.68	32.6	16.3	30.3	18.5	12.9	0.90
	♀	33.6	23.8	24.8	8.9	?	2.72	4.08	?	32.7	19.6	31.5	16.4	11.9	0.89

In contrast to most other families of haplogyne spiders Stenochilidae is rich in taxonomically useful non-genital characters and their use in the identification of species often seems to be more practical than the use of genital characters.

The shape and relative length of all tarsi seems to be diagnostic for most species, but separately for males and females. Thus the shape of the tarsi in juvenile specimens is seldom applicable. The relative length of other segments of the legs seems to be fairly constant within a single species, as is most probably the relative thickness of the tibiae and femora, too. The distribution of tarsal and tibial trichobothria may also be slightly different between different species, but this character is not easily used in practical routine identification.

The eye pattern is usually different in different species, but most probably minor variations occur both between and within different populations of the same species. On the other hand, the relative size of the eyes is not the same in juvenile specimens. The most practical characters of the eye pattern include the shape and relative size of PME as well as the relative size and distance between AME.

The surface structure and even shape of the carapace is very different in some species at least. However, it is possible that a strongly granular surface is a general adaptation to a dry environment, and thus ecologically different populations of the same species may have slightly different surfaces. The most useful character of the carapace seems to be the shape of both foveae. In samples examined by me the shape of both foveae is the same in juveniles, males, and females, although many other structural characters are different.

The coloration of the abdomen is the best diagnostic character for species with a distinct pattern, but the majority of species seem to be unicolorous yellowish grey, even with regard to fresh specimens.

Colopea pusilla (Simon, 1893)

Figs. 1, 13, 14, 25, 34. Tables 1—2.

Stenochilus pusillus Simon, 1893. Ann. Soc. Ent. France 62: 76.

Colopea pusilla Simon, 1893. Hist. Nat. Araign. 1 (2): 397, in part.

C. pusilla, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 11, in part, not figs. 14 & 19—24.

Two juvenile syntypes from Philippines, Luzon, (Rizal Province), Antipolo, in MNHN (Paris), examined.

New material: Philippines, Luzon, Laguna Province, Mt Makiling, 1200 m, L. Corpus-Raros: ♂, in MZT (Turku); Los Baños, base of Mt Makiling, in litter of moist jungle slope, 16.XI.1979, PTL: 1♀ (MZT). — Occ. Mindoro, Nangol, in litter of spiny bamboo, 27.VIII.1981, PTL: 2♀ (MZT), Nangol, Ayunganan Hill, in litter of virgin forest, 27.VIII.1981, PTL: 3 juv. (MZT). The adult specimens from Mt Makiling may be regarded as topotypes. The distance between Antipolo and Mt Makiling is only c. 30 km, although they are at opposite sides of Laguna de Bay.

Male 3.8 mm. Carapace moderately granulate, both foveae distinct, but narrow. Marginal undulations distinct in posterior half of the carapace. Eye group transversely oval, lateral eyes much smaller than both pairs of median eyes, ALE long oval, PLE rounded triangular. AME 3/5 of diameter from each other, very close to ALE. PLE long oval, more than their diameter apart and very close to PLE.

Cheliceral lamina acute, slightly curved. Gnathocoxae with numerous warts along the lateral face.

Abdomen oval, uniform yellowish grey, a pair of sclerotized dorsal spots very distinct.

Coxae dorsally with distinct granules, especially I, II & IV. Tarsi I—II distinctly longer than metatarsi, ventrally moderately swollen.

Male palpal cymbium with wide distal cavity. Distal ring of bulbus long reniform. Details of soft embolus not visible.

Female 4.3 mm. The only specimen available is less distinctly granulate than the male from the same locality. It is also more yellow in coloration and probably recently molted. The eye pattern is largely similar to that of the male, but AME are only 2/5 of diameter apart. PME are more shortly oval than in male and slightly more separated from each other.

Chelicerae as in male, but gnathocoxae without lateral granules. Abdomen as in the male, but dorsal sclerotized spots less distinct.

Legs mostly as in male, but tarsi I—II only slightly swollen. Coxal granules very insignificant and surface of femora relatively smoother than in the male.

Vulval tube with long, distally widened central unpaired process. Seminal receptacula very weakly sclerotized, and

their exact shape not known. Most probably different parts of vulva are not simultaneously sclerotized, and thus all figures of vulvae of *Colopea* must be judged with some reservation. However, the shape of the unpaired central process is an excellent diagnostic character for the female of *C. pusilla*.

There are minor variations in the eye pattern and intensity of the granulation of the surface of the carapace between known specimens of *C. pusilla*, all of them originating from southern Luzon and Mindoro. The juvenile syntypes have relatively larger PME than the adult specimens described above, but otherwise they agree well in all non-genital characters. Their conspecificity is finally proved by the similarity of the foveae. Both foveae of *C. pusilla* are narrower than the foveae of all geographically closest species (*C. unifoveata*, *C. malayana*, and *C. virgata*).

Colopea malayana sp. n.

Figs 2, 15, 37, Tables 1—2.

Colopea pusilla, Simon, 1893. Hist. Nat. Araign. 1 (2): 397, in part: female from Singapore only.

C. pusilla, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 11, figs. 14 & 22—24, not figs. 19—21, in part.

Holotype male from southern Thailand, Bang Phra, around shores of artificial lake, 4.1.1958, N. Meinkoth, in MCZ (Cambridge), not examined.

Other material: Singapore: 1 ♀, in MNHN (Paris), examined. — Malaysia, Selangor, Ulu Selangor district, Templer Park, in jungle litter, 20.IX.1979, PTL: 1 juv. ♂ (MZT). A female specimen of unicolorous *Colopea* was captured by the author in Thailand, Chanthaburi Province, western margin of Khao Yai National Park, in dry open meadow, 28.X.1979, but it escaped and was not rediscovered. It most probably belonged to *C. malayana*, too.

Male 3.94 mm, described and drawn by Platnick & Shadab (1974: figs. 22—24).

Female 3.7 mm. Shape of carapace much as in *C. pusilla*, but marginal undulations very indistinct. Surface of carapace finely granulate. Eye pattern close to that of *C. pusilla*, but PME less than their diameter apart. AME subequal to ALE in size, but circular, 3/5 of diameter apart. Cephalic area relatively wider anteriorly than in *C. pusilla*. Anterior fovea long and narrow, but its anterior end widened to a subcircular pit. Posterior fovea very distinct, deep, long oval.

Cheliceral lamina wide, distally rounded. Abdomen unicolorous yellowish grey, sclerotized dorsal spots very indistinct. Relative lengths of leg segments very different from that of female *C. pusilla* (Table 1). Metatarsi and tarsi IV relatively long and slender, femur I shorter than femur IV. Tarsus I not swollen at all. Coxae I with dorsal granules, coxae II—IV practically smooth.

The juvenile male specimen from Malaysia has foveae almost identical to those of the adult specimen, but PME are still closer to each other (c. 2/3 of diameter only). Its first tarsi are fairly distinctly swollen.

The vulva of *C. malayana* is very different from that of all other species of *Colopea*. It was shown by Platnick & Shadab (1974: fig. 14), but their figure is quite schematic and the vulval parts were completely misinterpreted (cf. p. 118). The vulval tube is long, transverse, and its lateral ends are slightly curved backwards. However, no thickened receptacula can be seen in the specimen studied by the author and by Platnick & Shadab. There are sclerotized strips between the muscle bundles and originating from the transverse vulval tube. Such a structure is absent from all other vulvae of *Colopea*, including the most strongly sclerotized vulvae of *C. xerophila*. This might infer that the specimen studied by us could be a slightly teratological form. It must be emphasized here that the male of

this species is not radically different from the other species of *Colopea*. Artificial hardening of the margins of the muscles could also explain this deviating pattern.

The specimens included here into *C. malayana* are excluded from *C. pusilla* because of the different shape of the foveae, shape of tarsi I and more closely spaced PLE, and also by the considerable distance between their known ranges, if the striking differences in the vulvae are not taken into account. *C. malayana* is further differentiated from the geographically closest *C. virgata* and *C. romantica* by the absence of abdominal pattern and details of the genital organs in both sexes. *C. malayana* may prefer open habitats, and even the specimen from Templer Park was found in the forest margin.

Colopea unifoveata sp. n.

Fig. 4, Tables 1—2.

Holotype subadult female from Malaysian Borneo, Sabah, Taway district, Bal Estate, Tiger Hill, in litter of dark, dense jungle, 2.XI.1979, PTL, in MZT (Turku).

Subadult female 3.3 mm. Carapace fairly smooth, marginal undulations distinct, but low. Anterior fovea represented only by a very indistinct longitudinal depression, posterior fovea deep, oval. All eyes subequal in size, but PME largest. AME separated by half of their diameter. PME subcircular, 4/5 of diameter from each other and touching PLE.

Cheliceral lamina short and wide, distally obtuse. Gnathocoxae smooth. Labium centrally fairly wide.

Abdomen unicolorous yellowish grey and without sclerotized spots, but a faint pattern and sclerotized spots are possible in adult stage; they are generally absent from subadult stage.

Leg characters hardly comparable to relative lengths of adult stage.

C. unifoveata is easily differentiated from the geographically closest species *C. pusilla* and *C. romantica* by absence of the anterior fovea. The foveal pattern of all species studied by the author is the same in adult and subadult specimens, and much so even in juvenile specimens. This specimen is therefore undoubtedly not conspecific with any other species of *Colopea* listed here. Its phylogenetic relationships cannot be discussed as long as the genital organs are not known.

Colopea sp.

A juvenile specimen from the Philippines, Palawan, Mangaruac River, in small leaved litter of jungle, 24.VIII.1981, PTL (MZT), most probably represents an additional allopatric species, but it is not named here. Its posterior fovea is similar to that of the only fovea of *C. unifoveata*, but a distinct anterior fovea is also present. The abdomen is unicolorous and AME circular.

Colopea silvestris sp. n.

Figs. 3, 12, 28, 36, Tables 1—2.

Holotype male and alloparatype female from Papua New Guinea, Central district, S of Motumotu, Goragatabu Creek, in leaf litter of shady jungle, 12.II.—22.III.1974 (pitfall trapping), PTL & H. Hippa, in MZT (Turku).

Other paratypes, all from Central district: Taurama, shady forest slope 11.II.—21.III.1974 (pitfall trapping), PTL: 1 ♂ with well expanded embolus. — Korobosea, in litter of jungle, 22.IX.1973 (by sieving), Jyrki Nieminen, 1 juv. — Laloki River, in litter of teak forest (funnel sample), 12. II.1974: PTL 1 subad, ♂, 1 subad. ♀ — Laloki River, in litter of rain forest

12.II.1974, PTL: 1 ♂. — Girinumu (Owers Corner), in dark, dense jungle 13.II.—22.III.1974 (pitfall trapping), PTL: 2 ♀ juv., all paratypes in MZT (Turku).

Platnick & Shadab (1974: 12) mentioned two juvenile specimens of *Colopea* from Port Moresby (OMD). They may belong to this species but may equally well belong to the totally sympatric *C. xerophila*.

Male 3.1—3.2 mm. Carapace relatively wider than in *C. pusilla*, its posterior half without traces of undulations. Marginal parts finely granulate, central parts more finely granulate or reticulate only. Anterior fovea long and distinct, its anterior end surrounded with dark spot, but not significantly widened. Posterior fovea deep, very long oval and thus much narrower than in *C. malayana* and *C. unifoveata*. Anterior margin of the cephalic area relatively much wider than in *C. pusilla*, ocular area relatively shorter. Eyes almost subequal in size, but PME largest. AME only 1/3 of diameter from each other and 1/4 of diameter from ALE. PME subcircular, 4/5 of their diameter from each other.

Cheliceral lamina almost straight, distally rounded, and relatively long. Gnathocoxae without granules.

Abdomen practically unicolorous yellowish grey in specimens preserved for a long period, but a faint darker anterior folium is present in fresh material. Sclerotized spots hardly visible.

All segments of legs relatively short and thick in comparison with the more western species. Weak granules on dorsal side of coxae I, other coxae smooth. Tarsi I—II distinctly swollen ventrally. Femora and less distinctly tibiae II relatively thicker than corresponding segments of leg I.

Distal cavity of palpal cymbium relatively small and narrow, separated from the distal end of cymbium by much thicker margin than in *C. pusilla*. Distal ring of bulbous subdistal, almost semicircular in unexpanded palp and only subdistal in position, when compared with *C. pusilla*. Expanded soft embolus consists of two narrow mesial, finger-like processes and two much thicker, more lateral processes, all of them completely granulate.

Female 3.9—4.3 mm. Non-genital characters much as in male, but at least allotype specimen with more distinctly granulate carapace and well-defined pair of sclerotized spots present on abdomen, but these spots are relatively further apart than corresponding structures in *C. pusilla*.

Tarsi I—II only slightly swollen ventrally as in all females of this genus.

Vulva with short and thick vulval tube. Its lateral receptacula globular, connected with each other by a mesh of narrow curved ducts. Central unpaired part of vulva well sclerotized, circular and directed backwards. Epigynal plate without subcircular dark area, characteristic of well sclerotized specimens of the sympatric *C. xerophila*.

Differentiated from the sympatric *C. xerophila* by entirely different habitat, smaller size, more finely granulate carapace and by details of genital organs. Only further material will prove whether or not minor differences in the structure of the foveae and in the eye pattern are taxonomically significant. Juvenile specimens identified here according to accompanying adult specimens or (Korobosea) habitat only; small juveniles will most probably remain difficult to place.

Differentiated from other species of *Colopea* by shape of carapace, type of fovea, and naturally by careful comparison of genital organs and relative lengths of leg segments.

Colopea xerophila sp. n.

Figs. 5, 9, 19, 23—24, 31, 39, Tables 1—2.

Holotype male, allotype female, and one additional paratype female from Papua New Guinea, Central district, Sapphire, dry and sunny grassy slope in cultivated area far

from any forest, 13.II.—22.III.1974 (pitfall traps), PTL, in MZT (Turku).

Other paratypes: Central district, Taurama, in dry savanna with sparse vegetation of kunaigrass and other Graminae spp., 11.II.—21.III.1974 (pitfall trapping), PTL: 2 ♀, in MZT.

Male 4.5 mm. Carapace relatively narrower than in *C. silvestris*, completely coarsely granulate and margins quite weakly undulate. Anterior fovea deep and narrow, its anterior part distinctly widened. Posterior fovea deep, narrow oval. Ocular area semicircular, thus relatively much longer than in *C. silvestris*. Eyes very unequal, PME>AME>ALE>PLE, the last pair relatively smaller than in any other species of *Colopea*. PME slightly more than half of diameter apart, oval, AME only 1/3 of diameter apart and separated by a distinct tubercle.

Gnathocoxae laterally granulate, cheliceral lamina wide triangular. Abdomen unicolorous yellowish grey, dorsally with a pair of small but distinct sclerotized spots. These spots are relatively more distinctly separated than the same spots in all other species of *Colopea*, including *C. silvestris*. No traces of colour pattern.

Legs much as in *C. silvestris*, tarsi I—II ventrally less swollen, thickest point more central.

Male palpal bulbous relatively long, distal cymbial cavity wide and separated from the actual tip of cymbium only by quite narrow hairy strip. Distal ring of bulbous relatively small. Visible part of the embolic division consists of one thin finger and one very thick sack, but additional processes may be present, as the holotype specimen has only one bulbous left and it may be only partly expanded.

C. xerophila is the largest known species of this genus and thus a part of the structural characters may be influenced by allometry. The eye pattern in particular is expected to be slightly different in possible smaller specimens.

Female 5.0—6.3 mm. Ocular group more transverse oval and anterior foveae more distinctly widened also in central part, otherwise more or less similar to the male. Tarsi I—II more distinctly swollen than in females of *C. silvestris*.

Epigynal plate of well sclerotized specimen with a wide subcircular dark rim shining through from vulva, and corresponding to the angular figure of the vulva of *C. pusilla*. This figure is mainly due to connective tissue which gradually becomes softened and obscured in cleared vulva. A smaller and less distinct arch can be seen in the vulva of less sclerotized specimens (Fig. 37a). The vulval tube of this species is relatively thinner than in *C. silvestris*, undulate and laterally not significantly thickened. The unpaired central process is rounded triangular and directed anteriorly. A porous plate is present in both well sclerotized vulvae of this species, and its normal position seems to be immediately dorsal to the epigynal plate.

For diagnostic characters, see discussion under *C. silvestris*. In spite of considerable differences in the vulva and the surface structure these two species seem to be the most closely related of the known species of *Colopea*. Thus they constitute an instance of sympatric speciation through adaptation to different habitats.

Colopea tuberculata Platnick & Shadab, 1974

Colopea tuberculata Platnick & Shadab, 1974. Amer. Mus. Novit. 2556:12, figs. 25—30.

Holotype male and one paratype male from Fiji, Viti Levu, Nandirivatu, W.M. Mann, in MCZ (Cambridge), not examined.

Male 4.43—4.82 mm, described and depicted in detail by Platnick & Shadab (1974). Differentiated from other large, granulate species of *Colopea* by small, widely spaced PME and

the whole eye pattern, short and wide foveae and small distal ring of the male palpal bulb. Obviously a relative of *C. xerophila*, and geographically closest to this species and *C. silvestris*.

Colopea laeta (Thorell, 1895) comb. n.

Figs 6, 17, 18, 26, 27, 40, Tables 1—2.

Metronax laetus Thorell, 1895. Descr. Catal. Spid. Burma: 18.

Colopea pusilla, Platnick & Shadab, 1974. Amer. Mus. Novit. 2556: 11, figs. 19—21, not 14 & 22—24 (in part), not *C. pusilla* Simon, 1893.

Juvenile holotype from Burma, Tharrawaddy, leg. Oates, in BMNH (London) examined before collection of my own material of Oriental *Colopea*.

Other material: Thailand, Mae Chiang Hai, (17°22'N, 99°07'E) 200 m, 13.VIII.1962. E.S. Ross & D.Q. Cavagnaro: 1 ♂ 1 ♀ in CAS (San Francisco), examined. This locality in western Thailand is only 350 km from Tharrawaddy. The male specimen was depicted by Platnick & Shadab (1974: fig. 19—21) as showing an example of an unexpanded palp in *C. pusilla*, while the very large female specimen (largest known specimen of *Colopea*) was regarded by them as juvenile. The latter inaccuracy is explained by the fact that they had detached the epigynal plate, but the sclerotized vulval tube had remained in the abdomen.

The conspecificity of the above adult material with the holotype cannot be proved with extant material, and the status of *C. laeta* can be finally settled only with adult material from the Tharrawaddy area. However, the inclusion of any specimens from continental Asia into *C. pusilla* is extremely improbable since adult specimens of *C. pusilla* are known. In this situation, the listing of the specimens from Mae Chiang Hai under *C. laeta* is a much more preferable alternative than a description of a new species. Thorell (1895) described in detail the holotype of *C. laeta* and nothing in this description is in conflict with the characters of the specimens from Mae Chiang Hai, including the large size (4.25 mm for a juvenile).

Male 4.7 mm. Carapace similar to that of *C. xerophila*. Posterior undulations very indistinct, surface coarsely granulate. Both foveae of equal length, narrow, but fairly deep. Ocular area almost as long as wide, due to very large, long oval PME. AME separated from each other by 2/5 of diameter, PME separated from each other by 2/5 of their own diameter.

Cheliceral lamina short and wide, but distally acute. Gnathocoxae laterally granulate.

Abdomen unicolorous light brown, two well-separated sclerotized spots as in the New Guinean species.

Legs similar to those of *C. xerophila* except that metatarsi IV are relatively longer. Tarsi I—II thickest in distal half.

Distal cavity of palpal cymbium relatively wide, separated from the distal end of cymbium by fairly thick margin that is laterally almost straight, but mesially strongly convex. Bulbus thick, its distal ring long oval. Margins of this ring with well-sclerotized processes (Fig. 26).

Female 7.6 mm. Similar to male, but AME 2/3 of diameter from each other and PME 5/6 of diameter from each other. Tarsi II swollen almost as in male, tarsi I less distinctly swollen. Lateral comb of female palp very conspicuous, separated from the hairy dorsal and lateral face by a narrow hairless field.

Epigynal plate anteriorly wide. Vulval type similar to *C. xerophila*, but its lateral ends relatively thicker. The vulval tube of the only known female (Fig. 40b) seems to be incompletely sclerotized, as no well-defined receptacula can be seen.

C. laeta is a close relative of the New Guinean *C. xerophila*, but is differentiated from it by a relatively much longer eye group,

relative sizes of eyes and narrower foveae. It is differentiated from other species of continental Asia by its much larger size, strongly granulate carapace, and type of genital organs. It is further differentiated from the geographically closest (probably sympatric) *C. virgata* by lack of abdominal pattern.

Colopea romantica sp. n.

Figs. 8, 21, 32, Tables 1—2.

Holotype male and subadult paratype female from Indonesia, Bali, Tabanan district, Tabanan, grassy roadside slope, 10.X.1979, PTL, in MZT (Turku).

Other material: Indonesia, Sumatra, Riau, Bangkinang district, Rantaubrangin, in jungle litter, 6.XII.1980, PTL: 1 ♂ and 1 ♀ with both palpi deformed, 1 juv. (MZT). This sample may represent a subspecies of its own, but in the absence of females and due to a lack of information about the variability of this species, both samples are preliminarily listed under the same taxon.

Male 3.5—3.7. Carapace heavily granulate, granules fused into coarse wrinkles along the dorsum of the cephalic area. Margins distinctly undulate. Anterior fovea relatively short, but throughout deep and margins sloping. Posterior fovea deep, long oval. Cephalic area narrow. Eye group subcircular, all eyes relatively larger than in most species of *Colopea*, and AME largest. AME separated in the holotype by only 1/4 of their diameter, but in the Sumatran specimens by 1/2 of their diameter. PME of all specimens separated 3/4 of diameter from each other. All median eyes well separated from the lateral eyes (1/6—1/5 of diameter of corresponding median eyes).

Cheliceral lamina wide, more or less hook-shaped, its apex pointing anteriorly. Margins of gnathocoxae with some granules.

Abdomen oval, purplish or yellowish grey, with a distinct pale purple pattern in fresh specimens. This pattern consists of a longitudinal stripe in the posterior 3/4 of the abdominal dorsum and a wide posterior spot consisting of obscurely limited, oblique stripes. The bright purple pigment soon fades in alcohol, leaving the holotype from Bali with a corresponding brown pattern, but the Sumatran specimens remain practically unicolorous. The ground colour of the holotype is light purplish brown, not yellowish as in all other *Colopea*, including the Sumatran specimens listed here. The holotype abdomen is also relatively narrower. The specific name is derived from the exceptional coloration of this species.

Palpal cymbium with wide, rounded distal cavity, its apex situated distinctly lateral by from the apex of cymbium. Bulbus fairly thick, distal ring small, more or less oval. One of the Sumatran specimens has both palpi with quite small, deformed bulb, but both palpi are practically identical.

Legs characterized by more or less equal length of metatarsi and tarsi I. Tarsi I—II distinctly swollen ventrally, the thickest point close to the distal end. Coxae I sparsely granulate dorsally, other coxae practically smooth.

Female 3.7 mm (subadult). Similar to the holotype in all non-genital characters, except that tarsi are swollen throughout their length and thus the thickest point is central. Cf. also the relative lengths of leg segments, Table 1.

The vulva of the only female specimen is more or less soft and its structures are not sufficiently developed for a description of the diagnostic features. However, the strong muscles attached to the vulva are fully developed at this stage.

Fresh material of *C. romantica* is very easily differentiated from all other species by the bright purple pattern. Other diagnostic characters are the eye pattern with AME as the largest eyes, and hook-shaped cheliceral lamina. This species is also differentiated from the geographically close *C. malayana* by the heavily granulate carapace and from *C. xerophila* by much smaller size and distinctly undulate posterior part of carapace.

Colopea virgata sp. n.

Figs. 7, 10, 16, 33, 38, Tables 1—2.

Holotype male from Thailand, Phetchabum Province, Nam Nao National Park, in dry savanna close to mixed bamboo forest, 19.XI.1976, PTL, in MZT (Turku). Allotype female from Nam Nao National Park, in litter of dark and dense bamboo thicket, 19.XI.1976, PTL, in MZT. — Vietnam, Bac Thai, Thai Nguyen Plateau, 35 km N An Khe, in litter of tropical rain forest, 2.I.1980, A. Pokarzhevsky: 1 juv. (NKBM), 4—9.I.1981, T. Sergeeva: 4 juv. (NKBM), 12.I.1981, A. Druk: 1 subad ♀ (NKBM).

Male 4.25 mm. Carapace without undulations in the posterior half. Surface moderately granulate, less distinct in dorsum of cephalic area. Anterior fovea deep, but fairly short and narrow. Posterior fovea deep, long oval. Ocular area exceptionally long, eyes very unequal in size, $PME > AME > ALE > PLE$. AME separated by less than half of their diameter, PME about 4/5 of their diameter. PME very long oval. Thoracic area with a paired pit close to the margin at the level of posterior fovea (left pit much better developed).

Cheliceral lamina short and wide, distally obtuse. Gnathocoxae smooth. Abdomen with very distinct dark brown pattern of stripes and anterior star (Fig. 7), ventral side with two wide, dark brown longitudinal bands and a dark brown ring around the spinnerets. The abdominal pattern is weak in some small juvenile specimens from Vietnam, but still diagnostic.

Legs as in other species of *Colopea*, but tarsi I—II ventrally very strongly swollen, thickest point subcentral. First femora dorsally concave as in all species of this genus, but the whole segment is quite thick and almost abruptly narrowed distally, while the distal part of femur II is more gradually narrowed. Coxae I & IV dorsally with weak granules, coxae II & III practically smooth.

Palpal cymbium with rounded rectangular distal cavity, its apex practically touching the apex of cymbium. Distal ring of bulbus wide oval, relatively large. Two dark sclerotizations visible inside this ring in unexpanded palpus, possibly referring to partly sclerotized embolic division.

Female 4.5 mm. Non-genital characters as in male, except that sublateral pits of the thoracic area are absent. The left tarsus I is completely broken and the right tarsus I is regenerated: their normal shape is not known.

The sclerotized parts of the vulva are unique in *Colopea*. The vulval tube is centrally constricted and without the unpaired process. Lateral parts consist of two successive thickenings, each of them with a cavity. Thus receptacula are bipartite. No other sclerotizations can be seen in the vulva and the shape of the posterior margin of the epigynal plate is less convex than in other species of *Colopea*.

C. virgata is easily recognizable even in the field through its distinct dark pattern. Excessive swelling of male tarsi I, sublateral pits on carapace, long eye group and type of vulva

prove that *C. virgata* is not closely related to any other species. However, it is undoubtedly a member of the genus *Colopea* and only much additional information will give reason for discussion about possible subgeneric groupings.

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Abbreviations

- AMNH = American Museum of Natural History, New York
- BMNH = British Museum, Natural History, London
- CAS = Californian Academy of Sciences, San Francisco
- HDE = Hope Department of Entomology, Oxford
- MCSN = Museo Civico di Storia Naturale, Genoa
- MCZ = Museum of Comparative Zoology, Harvard University, Cambridge, Mass.
- MNHN = Muséum National d'Histoire Naturelle, Paris
- MZT = Zoological Museum, University of Turku, Turku
- NKBM = National Komitet Biologii, Moscow
- OMD = Otago Museum, Dunedin
- ZMH = Zoologisches Museum der Universität, Hamburg
- PTL = Pekka T. Lehtinen (collector)

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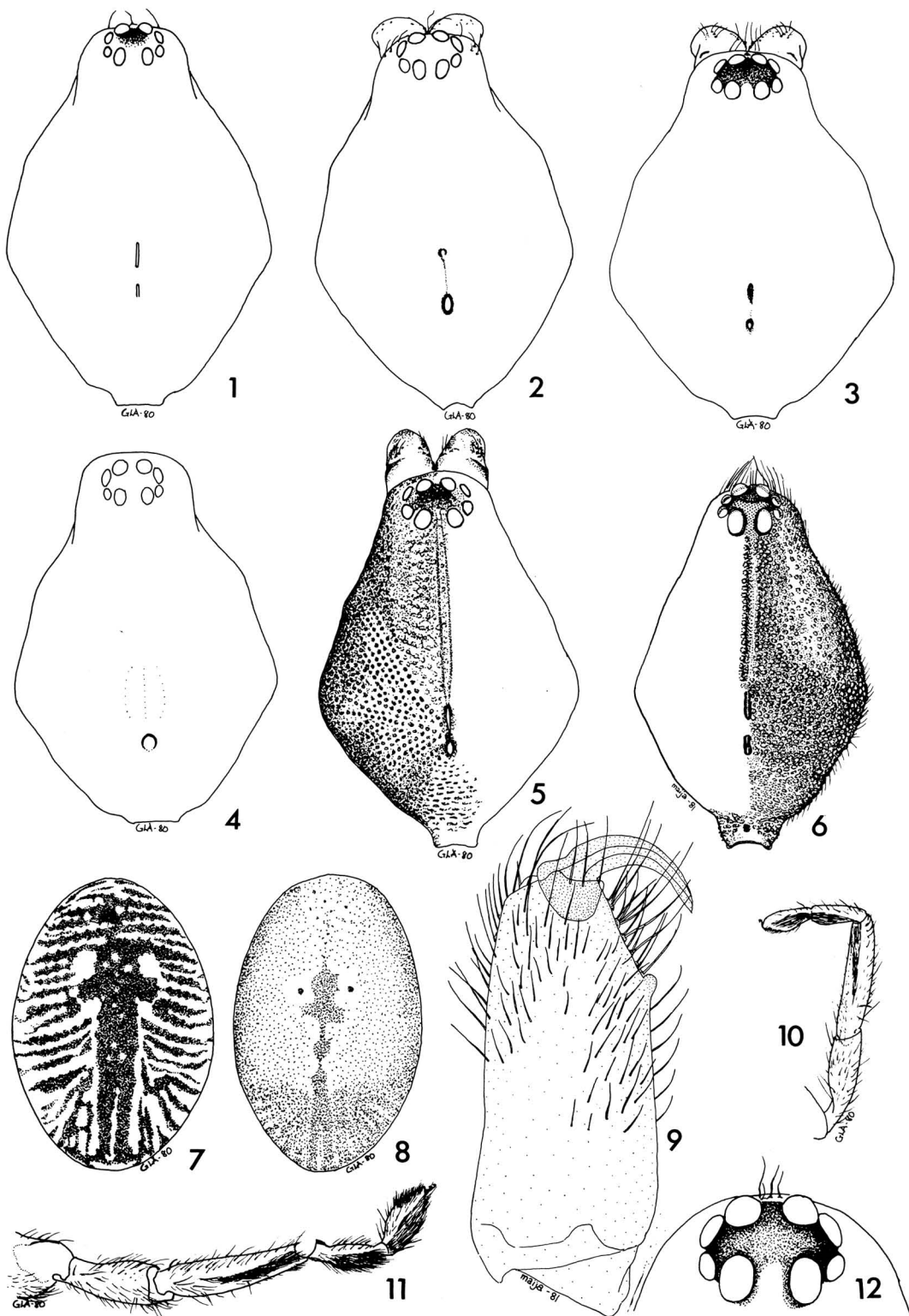
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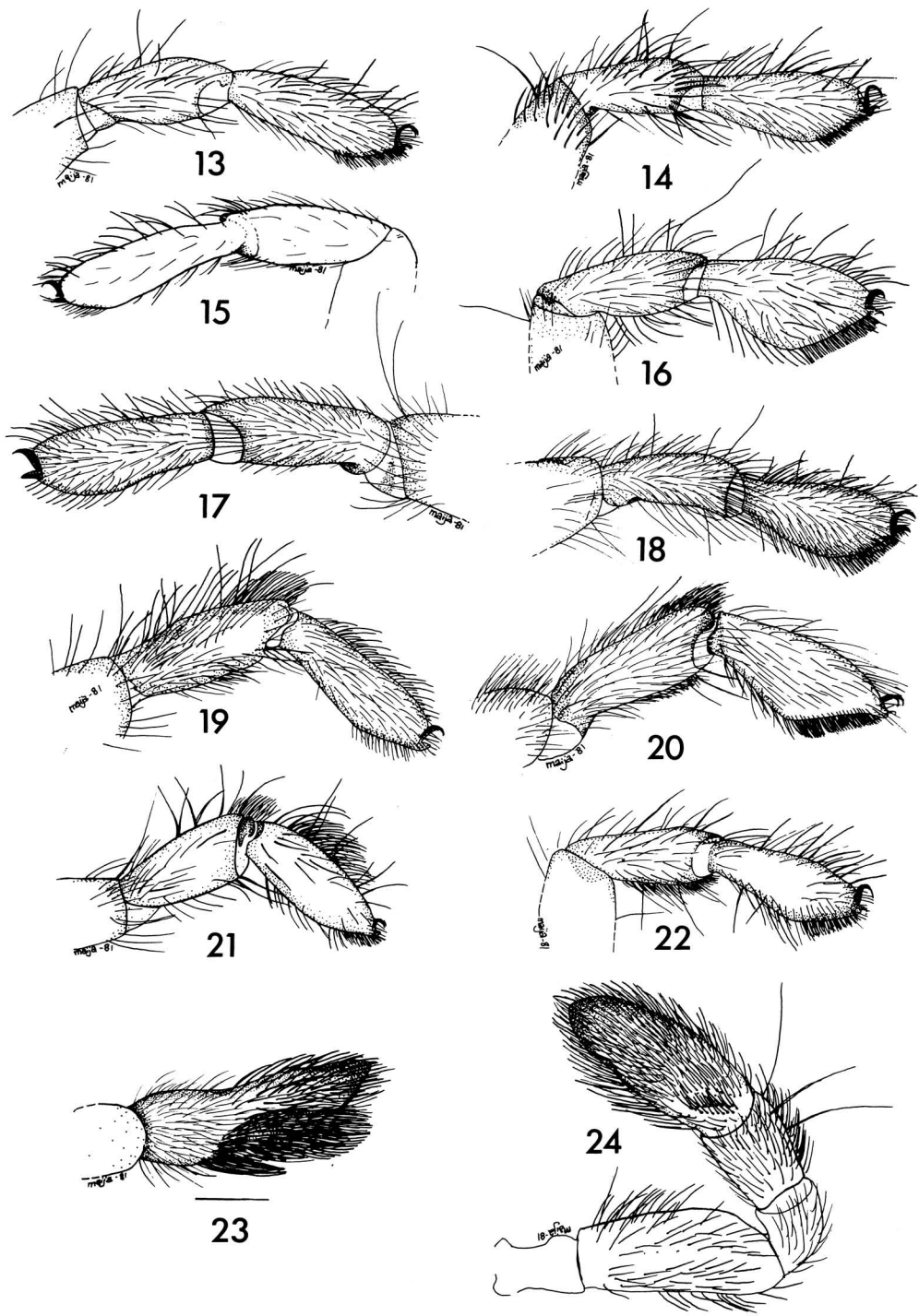
Figs. 1—12. Carapace (1—6) and abdomen (7—8) dorsally, chelicera posteriorly (9), male leg I (10—11), and ocular area (12). — 1: *Colopea pusilla* (Simon) (♀ Mt Makiling, Luzon). — 2: *C. malayana* sp. n. (♀ Singapore). — 3 & 12: *C. silvestris* sp. n. (♀ alloparatype, Motumotu, New Guinea). — 4: *C. unifoveata* sp. n. (holotype). — 5 & 9: *C. xerophila* sp. n. (holotype). — 6: *C. laeta* (Thorell) ♀ Mae Chiang Hai, Thailand — 7 & 10: *C. virgata* sp. n. (holotype). — 8: *C. romantica* sp. n. (holotype). — 9: *C. xerophila* (♀ Sapphire, New Guinea).

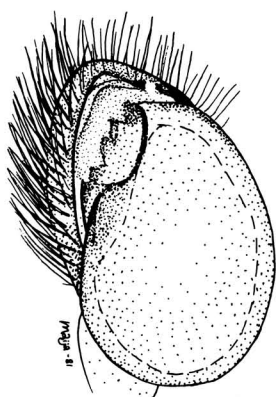
Figs. 13—24. Metatarsus and tarsus of leg I (13—22), female palpal tarsus laterally (23), and female palp dorsally (24). — 13: *Colopea pusilla* (Simon) (♀ Mt Makiling, Luzon). — 14: the same (♂ Mt Makiling, Luzon). — 15: *C. malayana* sp. n. (♀ Singapore). — 16: *C. virgata* sp. n. (holotype). — 17: *C. laeta* (Thorell) (♀ Mae Chiang Hai, Thailand). — 18: the same (♂ Mae Chiang Hai, Thailand). — 19: *C. xerophila* sp. n. (♀ Sapphire, New Guinea). — 20: the same (♂ holotype). — 21: *S. romantica* sp. n. (subad ♀ Tabanan, Bali). — 22: the same (♂ holotype). — 23—24: *C. xerophila* (♀ Taurama, New Guinea).

Figs. 25—33: Male palps. — 25: *Colopea pusilla* (Simon) (Mt Makiling, Luzon). — 26—27: *C. laeta* (Thorell) (Mae Chiang Hai, Thailand). — 28: *C. silvestris* sp. n. (Taurama, New Guinea). — 29—30: the same (holotype). — 31: *C. xerophila* sp. n. (holotype). — 32: *C. romantica* sp. n. (holotype). — 33: *C. virgata* sp. n. (holotype).

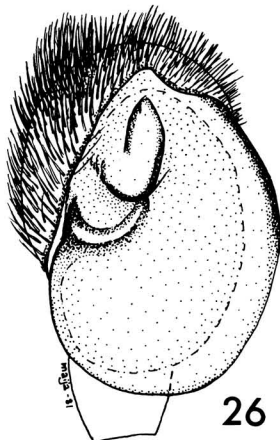
Figs. 34—39. Vulvae (34, 36—39) and male pulmonary plate (35). — 34: *Colopea pusilla* (Simon) (Mt Makiling — partly sclerotized only). — 36: *C. silvestris* sp. n. (alloparatype: Motumotu, New Guinea). — 37: *C. malayana* sp. n. (Singapore — radiating curves represented hardened muscle bundles, largely covering the partly sclerotized vulval tube). — 38: *C. virgata* sp. n. (alloparatype: Nam Nao, Thailand) — 39: *C. xerophila*, subadult (Taurama, New Guinea) (a), subadult and adult vulvae of molting specimen (Sapphire, New Guinea) (b), and well sclerotized vulva (alloparatype: Sapphire, New Guinea) (c). — 40: *C. laeta* (Thorell), shape of pulmonary plate and separate vulval tube (Mae Chiang Hai, Thailand).



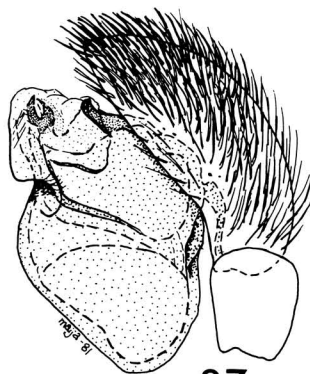




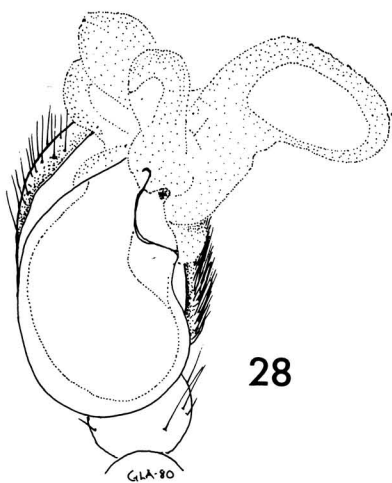
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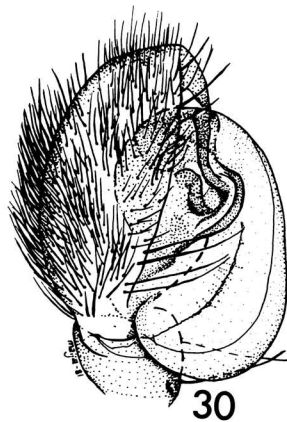
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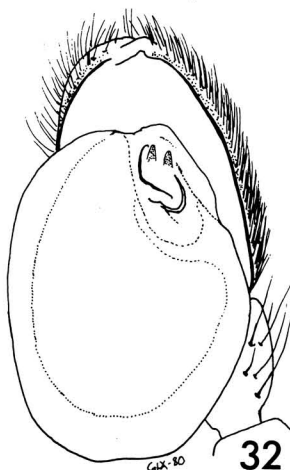
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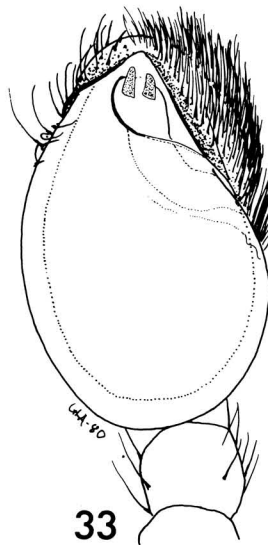
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