Calapnita vermiformis Simon, 1892

Simon, E. 1892. Étude sur les arthropodes cavernicoles de l'île de Luzon. Ann. Soc. ent. France 61: 35-52; pl. 2.

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9. **C. vermiformis**, sp. nov. (Pl. 2, fig. 5-6). — ♂. Long. 4 mill. — *Cephalothorax sternum, pedesque pallide lurida, subpellucentia, oculis*

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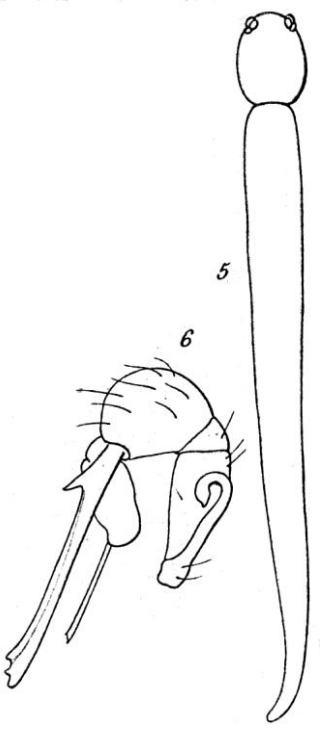
tenuiter nigro-marginatis, femoribus tibiisque ad apicem anguste infuscatis. Abdomen vermiforme, albido-opacum. Pedes-maxillares insignes; trochantere apophysi exteriore longissima, secundum femur ducta, tereti sed apice leviter incrassata atque uncata; femore brevi et robusto ad basin attenuato; patella parva annuliformi; tibia magna, late inflata et ovata; tarso sat parvo sed ramulo exteriore maximo et subrecto, articulis cunctis simul sumptis longiore, gracili et subrecto, subtus nigro-carinato, supra, prope basin acute dentato, apice leviter ampliato et minute lacinioso; bulbo ovato et obtuso sed prope apicem apophysem tenuissimam subsetiformem longam et rectam emittente.

Grotte de Calapnitan (prov. Camarines-Sur).

Pl. 2



Simon, E. 1893. Histoire Naturelle des Araignées. 2e edit, 1(2): 256-488. Paris.

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Fig. 463. *M. vermiformis* E. Sim. Fémur et trochanter de la patte-mâchoire du mâle.

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L'abdomen est ordinairement cylindrique et très long, presque vermiforme et tronqué à l'extrémité, avec l'angle supérieur un peu saillant ; celui des ***Leptopholcus*** et du ***Micromerys*** (***Calapnita***) ***vermiformis*** E. Sim. est près de sept fois plus long que le céphalothorax (fig. 460)

La patte-mâchoire du mâle est du même type que celle des ***Pholcus;*** son trochanter, longuement appendiculé, est toujours pourvu, à l'extrémité, d'une petite apophyse dentiforme et d'une apophyse inférieure beaucoup plus longue, souvent droite, obtuse et resserrée à la base, quelquefois grêle et hamiforme (***M. vermiformis*** E. Sim.) (fig. 463) ; son fémur est très convexe

Deeleman-Reinhold, C. L. 1986. Studies on tropical Pholcidae II. Redescription of *Micromerys gracilis* Bradley and *Calapnita vermiformis* Simon (Araneae, Pholcidae) and description of some related new species. Mem. Qd. Mus. 22(2): 205-224.

Calapnita vermiformis Simon
(Figs 26–31, 59a)

Calapnita vermiformis Simon, 1892 *Ann. Soc. Ent. France* **61:** 42—Luzon (♂).

MATERIAL EXAMINED

HOLOTYPE: 1 ♂, Luzon, Philippines, 'Cueva de Calapnita', Mus. N.H. Paris.

OTHER: Quezon National Park, Atimonan, 14°00'N, 121°52'E, 200 m a.s., 1 ♂, 4 ♀, underside of Araceae leaves, 12–13.x.'79, P.R. Deeleman. Mindanao : Mt. Apo National Park, 6°53'N, 125°16'E, 800 m a.s., secondary forest, 1 ♀, juvs., under palmate leaves, 26.iv.'82, P.R. Deeleman. Indonesia, southwest Sulawesi : 23 km west of Camba, 5°00'S, 119°45'E, low forest on karst, 3 ♂, 5 ♀, underside of leaves of various plants, 1–2 m above the ground, 9 + 14.vii.'80, P.R. and C.L. Deeleman. East Kalimantan : Sepaku, 1°00'S, 116°54'E, 40 km north of Balikpapan, primary lowland dipterocarp rainforest, 1 ♀, 16.vii.'79, 1 ♂, 1 ♀, 5–8.viii.'80, 1 ♂, 3 ♀, 21–22.vii.'82, underside of leaves, P.R. and C.L. Deeleman; Santan, 0°3'S, 117°7'E, sea level, 1 ♂, 2 ♀, (Burke Museum, Seattle), 3.vii.'76, J.R. Thomson. North Sumatra : Bohorok Orang Utan Rehabilitation Centre, 3°29'N, 98°7'E, 90 km west of Medan, primary dipterocarp rainforest, 1 ♂, 2 ♀, 12–19.ii.'83, P.R. Deeleman and Suharto Djojosudharmo.

DESCRIPTION

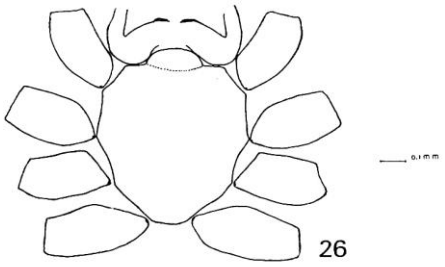
MALE (Quezon Nat. Park): all parts pale yellow, no markings on carapace or abdomen; legs with darkened femoral apex, patella, base and apex of tibia and base of metatarsus. al eyes slightly smaller than posterior eyes. Chelicerae as in Fig. 27, the anterior tooth with two tines. Sternum (Fig. 26) a little longer than wide, roundly truncated behind, coxa I section of anterior margin at a distinct approx. 90° angle with maxillar section. Measurements in mm : carapace 0.91 × 0.82, abdomen 5.05; leg measurements are given in Table 5.

TABLE 5: Leg measurements (mm) of *Calapnita vermiformis* (♂)

Legs:	femur	patella	tibia	meta-tarsus	tarsus
I	7.65	0.33	7.80	13.10	2.80
II	6.55	—	—	—	—
III	4.32	0.33	3.35	5.28	0.86
IV	6.72	0.33	6.66	10.08	1.30

Palp (Figs 28, 29) : spur of trochanter bent like a walking stick; femur ventrally with a series of three knobs, the most proximal of which sticks out proximally to the femoral-trochanter joint, bulb elongate, with a slender, transparent apophysis reaching just beyond the bulbal apex, with a wider, sclerotized base, the much longer embolus is provided with a subapical pore and the tip is crowned with 5 bristles.

FEMALE (Quezon Nat. Park): similar to the ♂, chelicerae unmodified. Measurements in mm : carapace 1.00 × 0.91, abdomen 5.50; leg measurements are given in Table 6.



FIGS 24–26 : sternum and coxae, ventral.
26. *Calapnita vermiformis* Simon ♀ Quezon Nat. Park.

TABLE 6: Leg measurements (mm) of *Calapnita vermiformis* (♀)

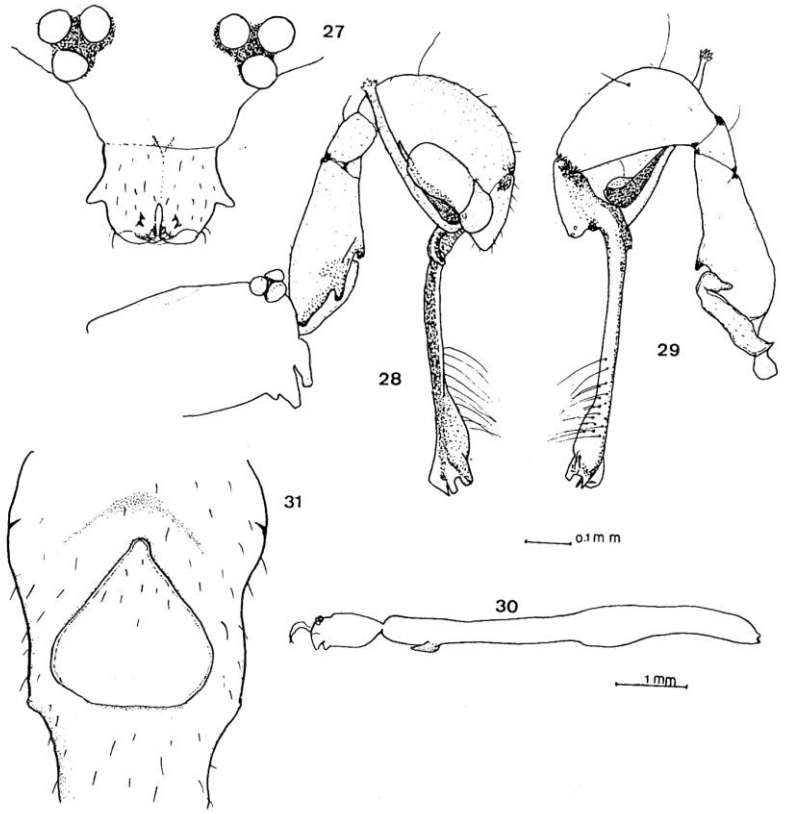
Legs:	femur	patella	tibia	meta-tarsus	tarsus
I	7.40	0.33	7.20	12.70	2.90
II	6.70	0.33	4.56	9.12	1.80
III	4.32	0.33	3.36	5.40	0.95
IV	7.20	0.33	6.20	10.10	1.45
palp:	0.23	0.10	0.14	—	0.21

Genital organ (Figs 30, 31) : epigyne prolonged into a smooth, V-shaped lobe with chitinized margins, folded back. It overlies the slitlike opening of the uterus externus, at the bottom of which the crescent locking valve ('Verschluss', cf. Wiehle 1967, p. 185) appears through the tegument. Schematic longitudinal section, see Fig. 59a.

The material from Mindanao, Sulawesi, Sumatra and Kalimantan does not show any relevant differences.

REMARKS

In the field, all individuals were found sitting on the underside of large leaves with outstretched legs, apparently without a web. Some specimens from Sulawesi were taken alive to The Netherlands and kept in glass jars on young palm plants, where they lived for several weeks. Here, between the leaves, they constructed flat webs, very delicate structures of silk, so thin as to be almost invisible. The spiders stayed in their webs upside down in the fashion of *Pholcus phalangioides* Fuesslin. Some of the females held an elongate bunch of eggs in their chelicerae, up to half their body length, which was held in front of them like a sateh stick, in prolongation of the body.



FIGS 27–32 : *Calapnita vermiformis* Simon, Quezon Nat. Park. **27.** ♂, head and chelicerae, front; **28.** ♂, cephalothorax and left palp, mesal; **29.** left palp, lateral; **30.** ♀ lateral; **31.** epigyne and part of abdomen, ventral.

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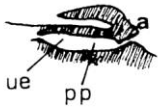

FIG 59. Diagrammatic longitudinal section of female genital organ, ventral suface uppermost. **a.** *Calapnita vermiformis Simon;*

ue: uterus externus; ui: uterus internus; pp: porous plate; el: epigynal lip; v: vestibulum; vs: 'Verschluss'.

Huber, B. A. 1998. Genital mechanics in some neotropical pholcid spiders (Araneae: Pholcidae), with implications for systematics. J. Zool. London 244: 587-599.

p. 595

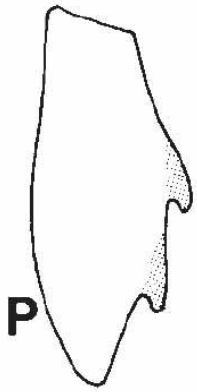

Fig. 8. Different morphologies of male pedipalpal femora in pholcids; apophyses shaded.

(P) *Calapnita vermiformis*;

Huber, B. A. 2000. New World pholcid spiders (Araneae: Pholcidae): a revision at generic level. Bull. Amer. Mus. Nat. Hist. 254: 1-348.

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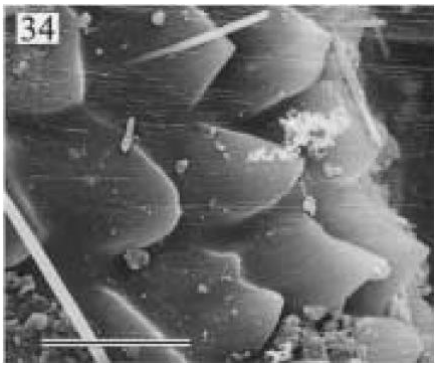

Figs. 30–35. Sexual modifications on male chelicerae. **34**. *Calapnita vermiformis* Simon. Scale 3 μm (34).

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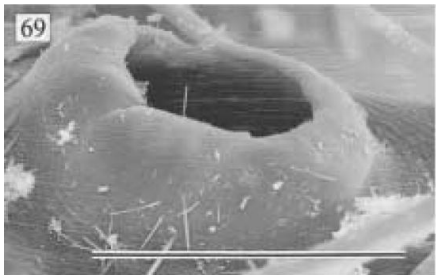

Figs. 67–72. Tarsal organs in some Old World genera (all on pedipalps). **69**. *Calapnita vermiformis* Simon, male. Scale lines: 20 μm.

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Figs. 119–124. Male gonopore with epiandrous spigots in various Old World genera. **124**. *Calapnita vermiformis* Simon. Scale lines: 30 μm (122–124).

Figs. 170–178. Anterior lateral spinnerets.

177. *Calapnita vermiformis* Simon, male.
Scale lines: 30 μm (172, 174, 176, 178), 10 μm (170–171, 173, 175, 177).

Huber, B. A. 2011. Revision and cladistic analysis of *Pholcus* and closely related taxa (Araneae, Pholcidae). Bonner zool. Monographien 58: 1-510.

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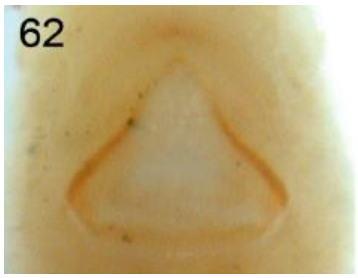
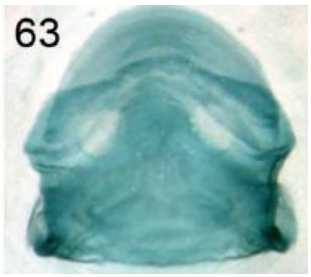
41, 42. *Calapnita vermiformis*, male, dorsal and lateral views.

p. 21





62, 63. *Calapnita vermiformis*.

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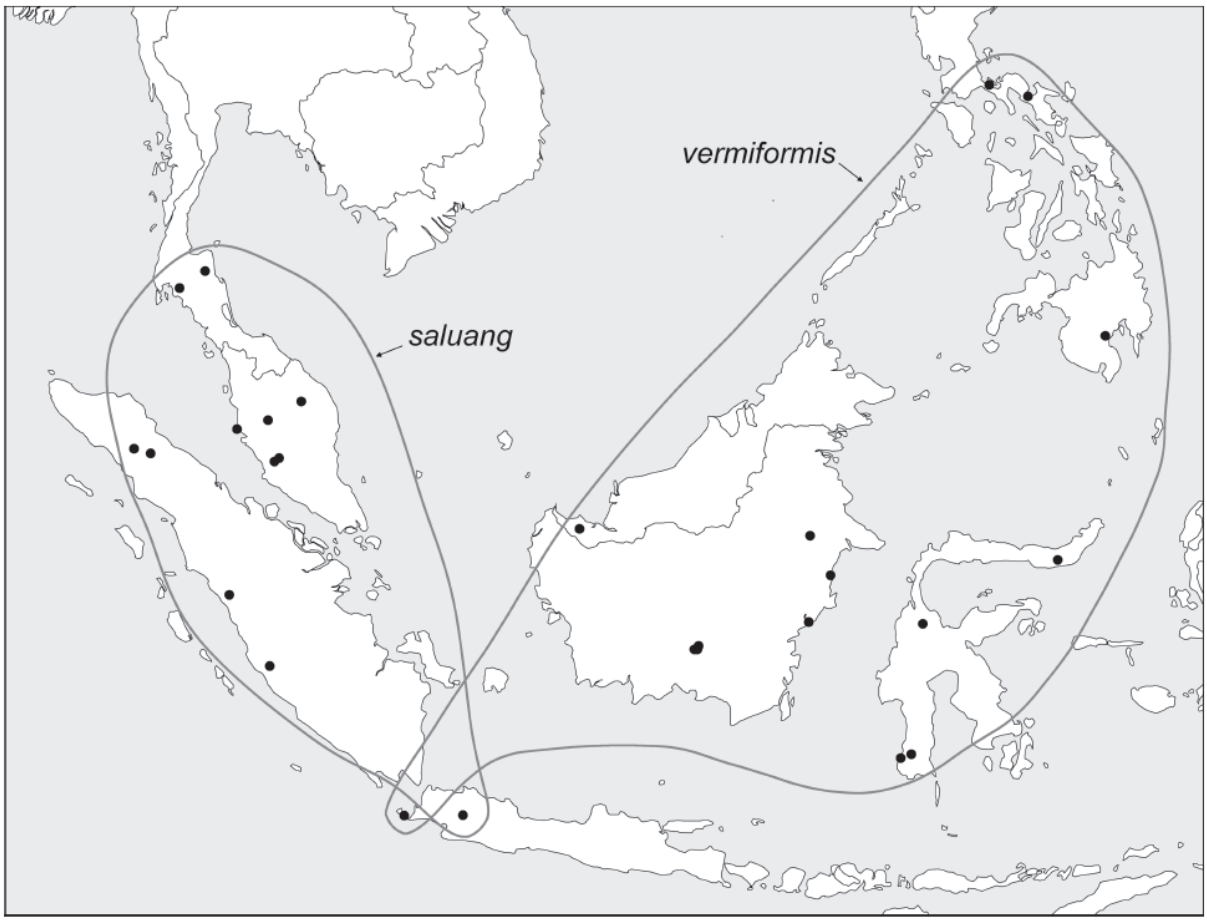


FIG. 137. Known distribution of *Calapnita*, part 1.

Calapnita vermiformis Simon, 1892

Figs. 41, 42, 62, 63, 139-144, 147-152

Calapnita vermiformis Simon 1892: 42-43, pl. 2, figs. 5-6. Deeleman-Reinhold 1986b: 212-213, figs. 26-31, 59a. Huber 1998a: fig. 8p (copied from Deeleman-Reinhold 1986b). Huber 2000: figs. 34, 69, 124, 177. [Murphy & Murphy 2000 and Huber 1998b: see *C. saluang*].

Micromerys vermiformis: Simon 1893a: 472-473, fig. 463 (copied from Simon 1892). [Simon 1901: see *C. saluang*].

Type. Male holotype from Philippines, Luzon, Camarines Sur, Calapnitan cave [~13°41'N, 123°04'E], with Simon's original label "14791 Mic. vermiformis E.S., Cueva de Calapnitan", no further data, in MNHN (Ar 10504), examined.

Diagnosis. Easily distinguished from most congeners by strong curved trochanter apophysis (Fig. 140), ventral modifications on male palpal femur (Fig. 139), and triangular epigynum (Figs. 62, 143); from the very similar *C. saluang* by much longer and more slender procursus (Fig. 140), simple embolus tip (Fig. 139), and round pore plates (Fig. 144).

Male (Quezon N.P.). Carapace width 0.75, abdomen partly missing. Legs 1 and 2 missing, tibia 3: 3.0, tibia 4: 5.5. Habitus as in Figs. 41 and 42. Prosoma and abdomen pale ochre-yellow, legs whitish, patella area and tibia-metatarsus joints light brown. Distance PME-PME 220 µm, diameter PME 80 µm, distance PME-ALE 25 µm, no trace of AME. Ocular area not elevated, each triad on very low hump. No thoracic furrow; clypeus unmodified. Chelicerae as in Fig. 142, frontal apophyses divided into two parts each, lateral apophyses also very distal. Sternum longer than wide (0.55/0.50), unmodified. Palps as in Figs. 139 and 140, coxa unmodified, trochanter with strong retrolatero-ventral apophysis curving clockwise distally, femur with three distinctive proximo-ventral apophyses directed proximally, procursus long but simple, only tip more complex (Fig. 147), almost straight, tarsal organ capsulate (Fig. 150), bulb (turned away from natural position in Fig. 139) elongated, with long pale embolus and sclerite (putative uncus) that tapers strongly into fine transparent process (Fig. 149). Legs without spines and curved hairs, few vertical hairs (most hairs missing). Gonopore with four epiandrous spigots (Fig. 151); ALS with only two spigots each (Fig. 152). Further data from a male from Borneo: tibia 1: 6.2, tibia 4: 5.2; retrolateral trichobothrium on tibia 1 at 1.5%, tibia 1 L/d: 117; prolateral trichobothrium absent on tibia 1, seen on tibiae 2 and 4; pseudosegments not visible in dissecting microscope.

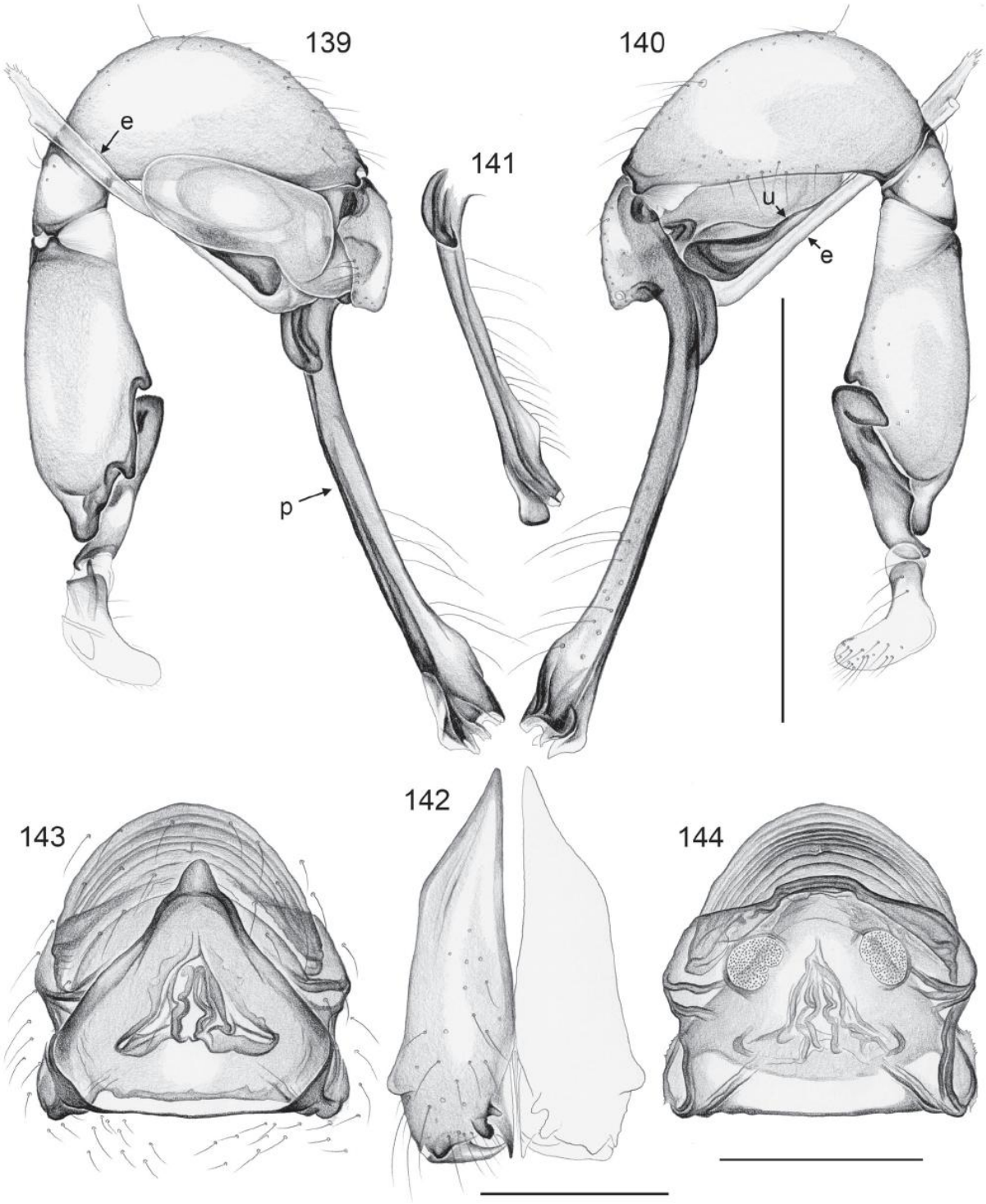
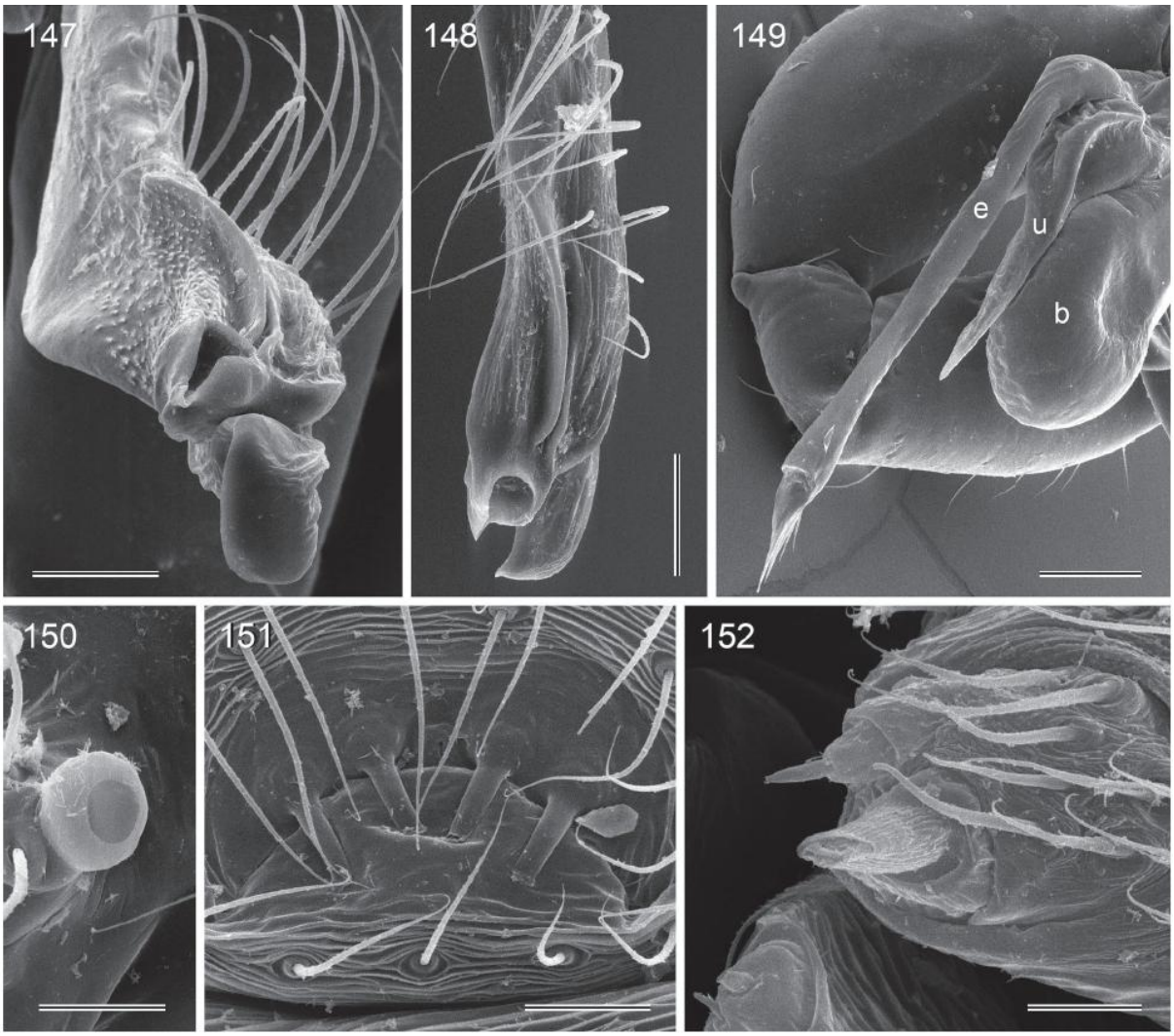


FIG. 139-144. *Calapnita vermiformis*. 139, 140. Left male palp, prolateral and retrolateral views, male from Philippines. 141. Left procursus of male from Sulawesi at same scale. 142. Male chelicerae, frontal view. 143, 144. Cleared female genitalia, ventral and dorsal views. Scale lines: 1.0 (139-141), 0.3 (143, 144), 0.2 (142).



147-152. *Calapnita vermiformis*. 147, 148. Left procursus, dorso-distal and retrolateral views. 149. Processes of left bulb. 150. Male palpal tarsal organ. 151. Male gonopore. 152. Male ALS. Scale lines: 100 µm (149), 60 µm (148), 50 µm (147), 20 µm (145, 146, 150, 151), 10 µm (152).

Variation. The holotype is in fair condition but most legs are missing (tibia 4: 6.5), total body length: ~6.0 (not 4.0 as in Simon 1892). All material from outside the Philippines is here assigned tentatively due to minor differences: males from Sulawesi have a smaller procursus with a slightly different tip (Fig. 141), stronger fringes distally on the embolus, and a slightly thinner trochanter apophysis; males from Borneo are more variable: the procursus is mostly like in males from Sulawesi but sometimes thicker, the thickness of the trochanter apophysis varies, the frontal cheliceral apophyses may be undivided or even more distinctly divided (as in *C. saluang*, cf. Fig. 155); in the male from Java the procursus is like in males from Sulawesi. Tibia 1 in 14 males from Borneo and Sulawesi: 5.5-7.9 (mean 6.7).

Female. In general similar to male; triads at about same distance (distance PME-PME 210 µm). Tibia 1 in females from Philippines: 5.9, 6.8 (missing in others); in 12 females from Borneo, Sulawesi and Java: 5.5-6.7 (mean 6.1). Epigynum with distinctive triangular fold directed anteriorly, with 'knob' at tip (Figs. 62, 143); internal genitalia as in Figs. 63 and 144.

Distribution. Possibly widely distributed in Southeast Asia, but all records from outside the Philippines are from specimens here assigned tentatively (see above) (Fig. 137). The specimens from Sumatra in Deeleman-Reinhold (1986b) are here considered to belong to a different species (*C. saluang*, see below).

Material examined. PHILIPPINES: *Luzon*: Camarines Sur, Cueva de Calapnitan: ♂ holotype above; Quezon National Park, Atimonan (14°00'N, 121°52'E), 200 m a.s.l., under leaf, 12.-13.x.1979 (P.R. Deeleman), 1♂3♀ in RMNH. *Mindanao*: Davao Nature Reserve, Mt. Apo (6°53'N, 125°16'E), 800 m a.s.l., under leaves in secondary forest, 26. iv.1982 (P.R. Deeleman), 3♀ in RMNH.

Assigned tentatively. MALAYSIA-BORNEO: *Sarawak*: Semengoh Arboretum [1°24'N, 110°19'E], lower track, 23.iii.-6.iv.1985 (C.L. & P.R. Deeleman), 3♂5♀ in RMNH.

INDONESIA-BORNEO: *Central Kalimantan*: Kaharian (2°02'N, 113°40'E), swampy primary forest, in foliage, 2.-16.ix.1985 (S. Djojosudharmo), 1♂1♀ in RMNH; same data, 1♀ in RMNH; Tumbang Tahai (2°02'N, 113°35'E), primary marshy forest, from leaves, 3.-13.ix.1985 (S. Djojosudharmo), 3♂1♀ in RMNH. *East Kalimantan*: Santan (0°03'N, 117°28'E), near sea level, 3.vii.1976 (J.R. Thomson), 1♂2♀ in RMNH; Russian road km 5 (1°12'N, 116°52'E), near sea level, 15.ii.1976 (J.R. Thomson), 1♂ in RMNH. Balikpapan [~1°15'S, 116°50'E], primary forest, 20.vii.1982 (Murphy, 11872), 1♂2♀ in ZFMK. 40 km N Balikpapan, Sepaku [1°00'S, 116°54'E], degraded primary forest, underside of leaf, 16.vii.1979 (P.R. Deeleman), 2♀ in RMNH. *South Kalimantan*: 40 km NW of Palangkaraya [~1°56'S, 113°42'E], secondary forest, from leaves, ix.1985 (S. Djojosudharmo), 1♂2♀ in RMNH.

INDONESIA-SULAWESI: *South Sulawesi*: 55 km from Udjung Pandang, 23 km from Camba [~5°S, 119.75°E], under leaves in karst forest, 9.viii.1980 (C.L. & P.R. Deeleman), 1♂1♀ in RMNH; same data but 9. & 13.-14.viii.1980, 4♂5♀ in RMNH; probably same locality ("Udjung Pandang, Camba, karst forest"), 19.viii.1980 (Deeleman), 1♂1♀ in AMNH; Udjung Pandang [~5°07'S, 119°27'E], specimen died 10.x.1980, no further data, 1♀ in RMNH. *Central Sulawesi*: Palu, Marena, Lore Lindu Reserve [~1°18'S, 120°05'E], "dark little stream valley, from leaves", 24.vii.1982 (collector not given), 2♂2♀ in RMNH. *North Sulawesi*: Dumoga, near Doloduo [~0°31'N, 123°55'E], primary forest, from leaves, 27.-30.vii.1982 (collector not given), 2♂3♀ in RMNH.

INDONESIA-JAVA: *Jawa Barat Prov.*: Udjung [=Ujung] Kulon Reserve [~6°45'S, 105°20'E], from leaves, 17.-19.xi.1986 (S. Djojosudharmo), 1♂2♀ in RMNH.