

## Three new *Pseudopoda* species from northern India (Araneae: Sparassidae: Heteropodinae)

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**Three new *Pseudopoda* species from northern India (Araneae: Sparassidae: Heteropodinae).** - Three new *Pseudopoda* species are described: *P. fabularis* sp. n. (♂, ♀), *P. sicca* sp. n. (♂), and *P. perplexa* sp. n. (♂, ♀). One ♂ of *Pseudopoda* cf. *casaria* (Simon 1897) is recorded from Himachal Pradesh. The systematic position of the new species within the genus is discussed.

**Keywords:** Taxonomy - systematics - species groups - *prompta*-group - *martensi*-group.

### INTRODUCTION

After the genus *Pseudopoda* was established by Jäger (2000), a major revision on Himalayan representatives (Jäger 2001) and several papers with reviews or single descriptions of species from Japan, Taiwan, China, Vietnam and Laos were published (Jäger & Ono, 2001, 2002; Jäger *et al.*, 2002, 2006; Jäger, 2002, 2007, 2008; Jäger & Vedel, 2005). Recently the *Pseudopoda* species of Yunnan Province in China were also reviewed (Jäger & Vedel, 2007). The diversity of *Pseudopoda* seems to be much higher than currently known and is comparable to some Coelotinae genera in Asia (Platnick 2008 and papers of Wang and Wang *et al.* listed therein). During a visit of the author to the Muséum d'histoire naturelle de Genève, three new species of the genus *Pseudopoda* were recognised in its spider collection. One male specimen recognised as close to the species *Pseudopoda casaria* (Simon, 1897) is also recorded herein. One single female of the genus *Pseudopoda* was found but could not be identified, because copulatory organs of *Pseudopoda* females possess only low significance for differentiating species.

### MATERIAL AND METHODS

For diagnoses and descriptions of family, subfamily and genus see Jäger (2001, 2002). All measurements are in millimetres. Measurements of limbs are listed as: Total length (femur, patella, tibia, metatarsus, tarsus). Arising points of tegular appendices (i.e. embolus, conductor) are given as 'clock positions' on the left palp in ventral view. Hairs are omitted in all illustrations; spines on the palps are illustrated. Spination formula lists the number of spines in the following order: Prolateral, dorsal, retrolateral and ventral. For a definition and description of the median field of the epigyne in

*Pseudopoda* females, see Jäger (2001: 13, fig. 12c). This field is outlined by the anterior margins of the lateral lobes.

Abbreviations. ALE - anterior lateral eyes, AME - anterior median eyes, AW - anterior width of dorsal shield of prosoma, CC - chelicerae, CH - clypeus height, CX - coxa, FE - femur, GC - gnathocoxae, LA - labium, MT - metatarsus, OL - opisthosoma length, OS - opisthosoma, OW - opisthosoma width, PA - patella, PH - height of dorsal shield of prosoma, PJ - consecutive number for specimens of Sparassidae examined by Peter Jäger, PL - length of dorsal shield of prosoma, PLE - posterior lateral eyes, PME - posterior median eyes, PP - palpus, PS - dorsal shield of prosoma, PW - width of dorsal shield of prosoma, RTA - retrolateral tibial apophysis, ST - sternum, TA - tarsus, TI - tibia, TR - trochanter; I, II, III, IV - first to fourth leg.

Depository (with curator). MHNG - Muséum d'histoire naturelle de Genève (P. Schwendinger).

## TAXONOMY

**Sparassidae** Bertkau, 1872

**Heteropodinae** Thorell, 1873

*Pseudopoda* Jäger, 2000

*Pseudopoda prompta*-group (Jäger, 2001)

Representatives of this species group are small to large spiders (7-28 millimetres body length). Nine species were described so far from the Himalayas (Pakistan, India, Nepal and Tibet). These spiders are generally darker (reddish brown) than other *Pseudopoda* spp. and do not exhibit a distinct dorsal pattern, but a dark median band on their ventral opisthosoma instead (Jäger, 2001: fig. 3 k-l). The tip of the embolus is bent and of a characteristic shape (Jäger, 2001: 34, figs 22g, i-j). The lateral lobes of the epigyne clearly extend beyond the epigastric furrow. The first winding of the internal duct system is directed towards the longitudinal axis of the body. Some exceptional character states are present in the small-sized *P. cuneata* Jäger, 2001 (colouration, ♀ genitalia, see Jäger, 2001: figs 21a-c).

*Pseudopoda* cf. *casaria* (Simon, 1897)

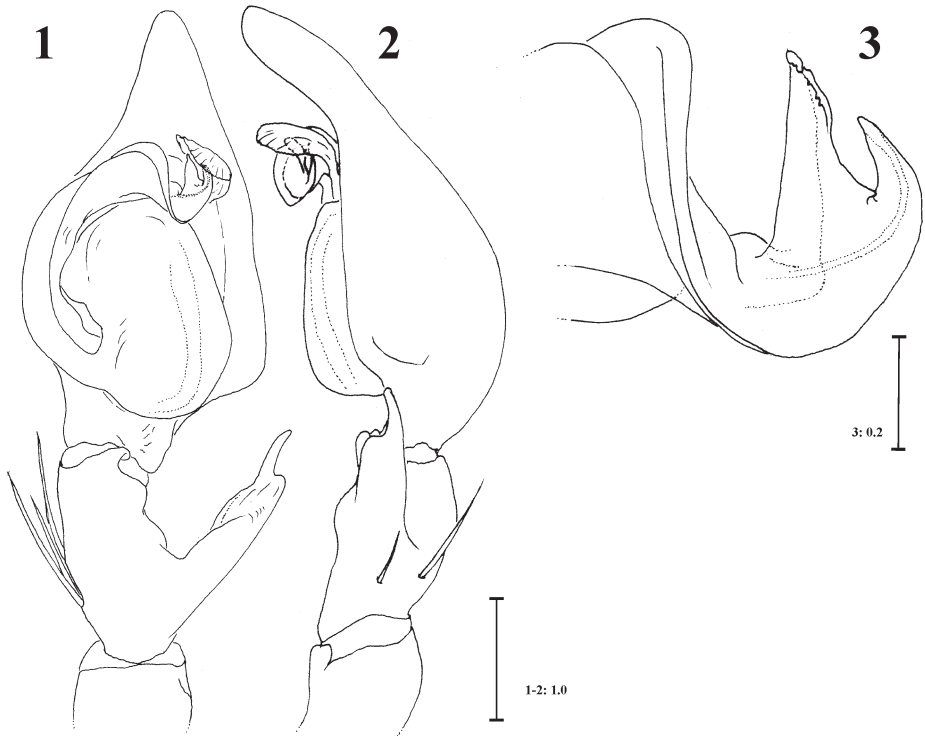
Figs 1-3

MATERIAL EXAMINED: 1 ♂ (PJ 2840): India, Himachal Pradesh: Khajiar, E-Dalhousie [32°32'20.12"N, 75°56'54.68"E], 1950 m, pied creux et écorce pourrie (?*Fraxinus*); 21.X.1988, sample n° 31, leg. S. Vit, MHNG.

DIAGNOSIS: ♂: Tip of embolus with distinct subapical distad apophysis, the latter extending beyond tip of embolus and possessing a slightly serrated distal margin (Figs 1, 3).

DESCRIPTION: ♂. PL 7.6, PW 7.0, AW 3.8, OL 8.6, OW 5.5. Leg and palp spination: PP 131, 101, 2111; FE I-III 323, IV 331; PA I 1(0)01, II 101, III 1(0)01, IV 001; TI I-III 2226, IV 2126; MT I-II 1014, III 3024, IV 3036.

Palp as in diagnosis. Otherwise as described and illustrated by Jäger (2001: figs 23e-h) except for distal loop of embolus in retrolateral view directed proximally in the present specimen (Fig. 2; directed ventrally in specimens illustrated by Jäger, 2001: figs 23c, g).



FIGS 1-3

*Pseudopoda* cf. *casaria*, ♂. (1) Left palp, ventral view. (2) Same, retrolateral view. (3) Tip of embolus, ventral view.

**Colour:** Light reddish brown to brown. Dorsal PS without pattern. Legs light reddish brown, ventral FE yellowish brown, distal leg segments darker. ST, LA and GC dark reddish brown, the latter ones with a light yellowish brown tip. Ventral CX dark reddish brown, partly mottled. Dorsal OS velvety, light brown, without pattern. Ventral OS with distinct dark longitudinal median band and 2 light lateral stripes (see Jäger, 2001: fig. 31).

♀. unknown.

**RELATIONSHIPS:** The specimen is clearly closely related to *Pseudopoda casaria* (Simon, 1897) and *P. prompta* (O. Pickard-Cambridge, 1885), but differs by the unique subdistal apophysis on its embolic tip. Jäger (2001) illustrated 1 male and 2 females under *Pseudopoda* cf. *casaria*, noting that more conspecific males and females need to be examined to recognise the status of these forms. The present specimen falls into the same category: Judging from the unique differences in embolus morphology it could be a new species, but the lack of further material makes it impossible to make a final statement. Moreover, it has to be considered that the Himachal Pradesh and the areas west of it represent the western margin of the distribution range of the genus *Pseudopoda*. Jäger (2005) revealed a high degree of variation in the copulatory organs

of *Heteropoda afghana* Roewer, 1962 and allied forms in the same region (Afghanistan, Pakistan, NW India) and attributed this to geographical isolation of marginal populations.

***Pseudopoda fabularis* sp. n.**

Figs 4-8

TYPES: ♂ holotype (PJ 1744), 1 ♀ paratype (PJ 1745): Indes orientales, H. de Saussure, *Heteropoda ?cervina* L. Koch, [Eugène] Sim[on] det., Muséum Genève, ancienne collection générale, MHNG.

ETYMOLOGY: The specific name refers to the embolus (Figs 4, 6), which resembles a fabulous creature. Latin: *f a b u l a r i s*, - e, meaning legendary, mythical; adjective.

DIAGNOSIS: ♂: Embolus distally divided into 2 parts; one part longer and bent at 180° distally containing the sperm duct (Figs 4, 6). RTA distally straight (in lateral view; Fig. 5). Dorsal margin of RTA with small tooth (in ventral view, Fig. 1 see arrow). ♀: Median epigyneal field with rounded dark patch at posterior margin. Anterior margins of lateral lobes close to the median line running transversally (Fig. 7; mostly „v“- or „U“-shaped in other members of this species group). Distal parts of fertilisation ducts separated from each other by at least half of vulva width. First windings running parallel to longitudinal axis of body (Fig. 8).

DESCRIPTION: ♂. PL 8.6, PW 8.1, AW 4.5, PH 2.0, OL 9.2, OW 6.0. Eyes: AME 0.43, ALE 0.57, PME 0.42, PLE 0.51, AME-AME 0.26, AME-ALE 0.15, PME-PME 0.46, PME-PLE 0.70, AME-PME 0.49, ALE-PLE 0.50 CH at AME 0.56, CH at ALE 0.42.

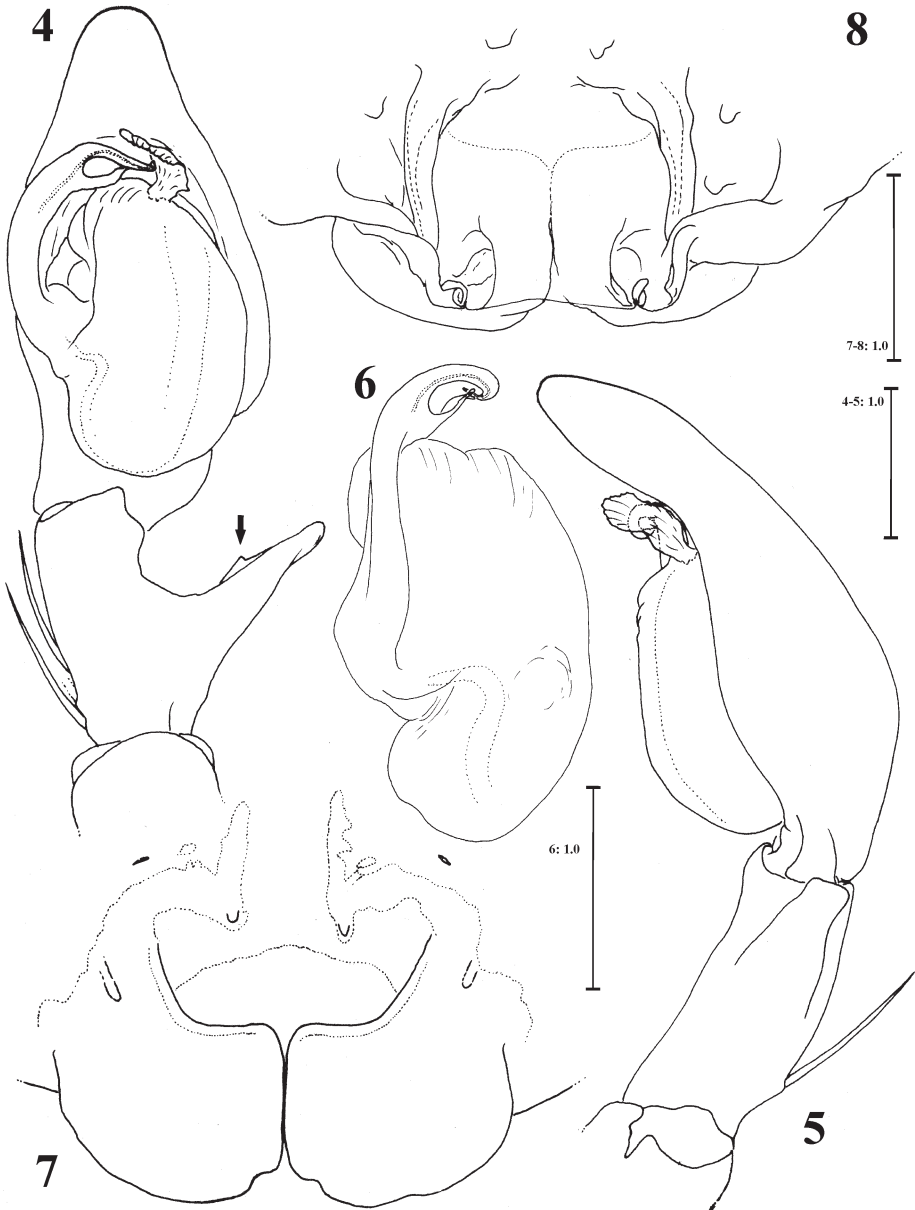
Leg formula: 2143. Leg and palp spination: PP 131, 001, 2111; FE I-III 323, IV 321; PA I-III 101, IV 100; TI I-II 2226, III-IV 2126; MT I 2024, II 2014, III 3024, IV 3036. Leg and palp measurements: PP 10.9 (3.6, 1.7, 1.9, -, 3.7), I 39.8 (10.4, 4.1, 11.6, 10.5, 3.2), II ? (11.6, 4.3, 12.7, ?, ?), III 33.8 (9.6, 3.8, 9.5, 8.3, 2.6), IV 36.2 (10.2, 3.3, 9.8, 9.9, 3.0).

Embolus arising in a 9-o'clock-position, conductor in a 1-o'clock-position on the tegulum. Sperm duct almost straight, running close to retrolateral margin of tegulum. RTA with broad base, arising medially to basally on the tibia (Fig. 4).

*Colour*: Light reddish brown. PS with some dark radial lines. CC dark red-brown. Legs almost without pattern, distal segments darker. ST, LA and GC red-brown, the latter ones with a light yellowish brown tip. Ventral CX light reddish brown. Dorsal OS with dark region above heart and 3 dark transversal bars behind it. Ventral OS with distinct dark longitudinal median band.

♀. PL 9.8, PW 9.3, AW 5.6, PH 3.0, OL 13.5, OW 10.0. Eyes: AME 0.43, ALE 0.63, PME 0.45, PLE 0.56, AME-AME 0.33, AME-ALE 0.17, PME-PME 0.51, PME-PLE 0.84, AME-PME 0.57, ALE-PLE 0.62, CH at AME 0.64, CH at ALE 0.63.

Leg formula: 2143. Leg and palp spination: PP 131, 001, 2121, 1013; FE I-III 323, IV 331; PA I-III 101, IV 100; TI I-II 22(1)26, III-IV 2126; MT I 2014, II 2024, III 3024, IV 3036. Leg and palp measurements: PP 12.7 (4.0, 2.0, 2.6, -, 4.1), I 35.7 (9.7, 4.6, 9.8, 8.9, 2.7), II 37.8 (10.7, 4.7, 10.7, 9.0, 2.7), III 30.2 (9.1, 4.0, 8.0, 7.0, 2.1), IV 32.3 (9.6, 3.9, 8.0, 8.3, 2.5). Palpal claw with 7 teeth.



FIGS 4-8

*Pseudopoda fabularis* sp. n., ♂ holotype (4-6), ♀ paratype (7-8). (4) Left palp, ventral view. (5) Same, retrolateral view. (6) Tegulum, prolateral view. (7) Epigyne, ventral view. (8) Vulva dorsal view. Arrow pointing to tooth on dorsal margin of RTA.

Lateral lobes extending beyond epigastric furrow, the length of the part extending intermediate between that of *P. cuneata* Jäger, 2001 and other representatives of the *P. prompta*-group. Epigynal field with anterior bands. Posterior margin of

lateral lobes with slight median indentation (Fig. 7). Windings of internal duct system not extending laterally beyond the first winding (Fig. 8; see *P. cuneata*; Jäger, 2001: fig. 35 b)

*Colour*: As in ♂, but dorsal OS without distinct markings.

*DISTRIBUTION*: Only known from the type locality. The term „Indes orientales“ on the label of the types could mean any locality from India to Indonesia. Since the *Pseudopoda prompta*-group is distributed in a restricted region of the central and western Himalayas (Jäger, 2001: figs 65, 68) in altitudes between 1650 and 2400 metres, it is most likely that the present specimen was collected in this region. An exact type locality cannot be given at present.

*RELATIONSHIPS*: Judging from size (ca 17-23 millimetres), colouration and most characters of ♂ and ♀ genitalia *P. fabularis* sp. n. clearly belongs to the *prompta*-group. Its systematic position within the species group is not clearly recognizable. The short embolus, the intermediate position of lateral epigynal lobes and the course of the first winding of the internal duct system indicate that it occupies a systematic position between *P. cuneata* Jäger, 2001 and other species of the group (especially those without a tegular apophysis in ♂♂, i.e. *P. marmorea* Jäger, 2001 and *P. huberti* Jäger, 2001). Jäger (2001: fig. 82) showed that in ♀ copulatory organs an evolutionary transformation especially of the first winding took place. Accordingly, the plesiomorphic state represents a first winding which runs from the median line to the lateral side, whereas the loops and glandular structures are situated dorsally, as it is the case in most *Heteropoda* spp. or in a few *Pseudopoda* spp. (e.g., *P. diversipunctata* Jäger, 2001). In most *Pseudopoda* spp. the first winding runs from laterally to the median line and the loop (including the glandular structure) is situated ventrally (e.g., *P. martensi* Jäger, 2001), which represents the apomorphic state. The transition between these two states is partially visible within the *P. prompta*-group: The first winding in *P. cuneata* is running in a plane, which is parallel to the longitudinal axis of the body. Moreover, loop and glandular structure are situated laterally. According to this evolutionary trend *P. fabularis* sp. n. forms a link between *P. cuneata* and the remaining species in the *prompta*-group.

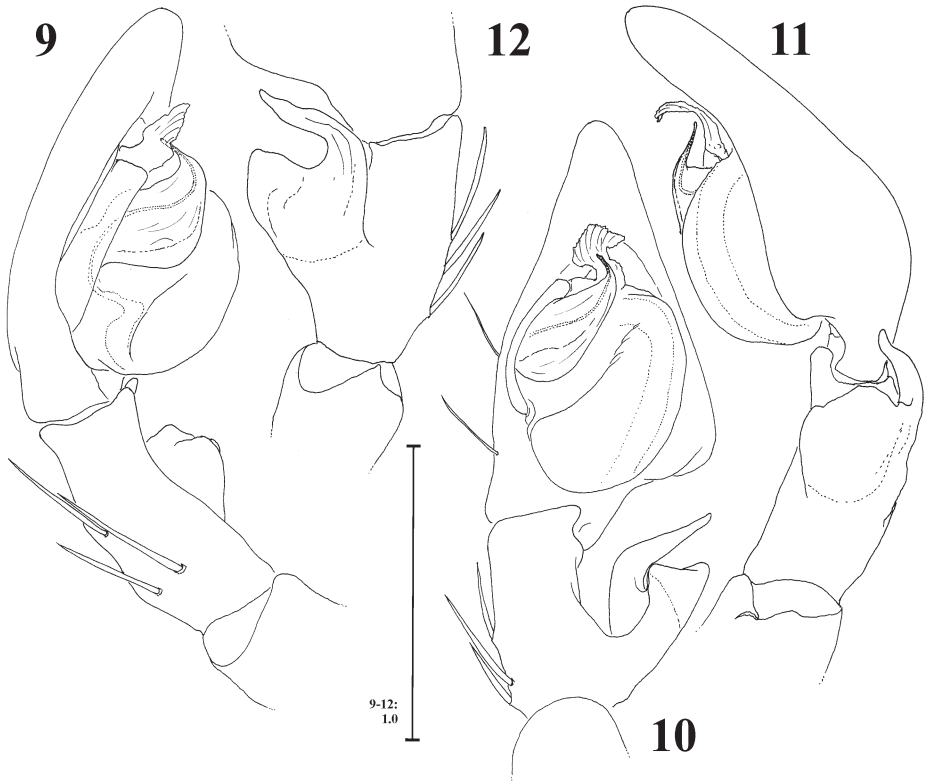
### *Pseudopoda martensi*-group

♂♂ of this species group are characterized by a strongly flattened and sickle-shaped embolus. It arises in a prolateral position on the tegulum, first bending in a retro-lateral direction and then running in a distal direction. Within this species group one lineage of species is recognisable, in which the emboli possess a subapical tooth (*martensi*-group s. str.). *Pseudopoda sicca* sp. n. seems to be closely related to this group. ♀♀ are difficult to distinguish and have only limited taxonomic value (Jäger, 2001).

### *Pseudopoda sicca* sp. n.

Figs 9-12

*TYPES*: ♂ holotype (PJ 1779): India (West-Bengal), Distr. Darjeeling, Tonglu [ca. 27° 7'4.97"N, 88° 2'1.14"E], sommet et près du sommet, 3100 m, tamassage dans une petite forêt et au pied d'arbustes dans la pâture; 16.X.1978, sample n° 16b, leg. C. Besuchet & I. Löbl, MHNG.



FIGS 9-12

*Pseudopoda sicca* sp. n., ♂ holotype. (9) Left palp, prolateral view. (10) Same, ventral view. (11) Same, retrolateral view. (12) Palpal tibia, dorsal view.

**ETYMOLOGY:** The specific name refers to the embolus (Fig. 10), which does not bear a subapical tooth as in other members of the *martensi*-group s. str. Latin: *siccus*, -a, -um, meaning simple; adjective.

**DIAGNOSIS:** ♂: Embolus flattened, sickle-shaped (Figs 9-10), without teeth (as in some other representatives of the *martensi*-group; see Jäger, 2001). Distinguished from *P. platembola* Jäger, 2001 by the distinctly narrower tip of the embolus and by the shape of the RTA, from *P. gogona* Jäger, 2001 and *P. tinjura* Jäger, 2001 by the angle between the embolus tip and the broad part of the embolus (ca 90° in *P. sicca* sp. n., ca 180° in *P. gogona* and *P. tinjura*) (Fig. 10).

**DESCRIPTION:** ♂. PL 3.3, PW 2.8, AW 1.5, PH 1.1, OL 3.3, OW 2.2. Eyes: AME 0.15, ALE 0.24, PME 0.18, PLE 0.27, AME-AME 0.09, AME-ALE 0.04, PME-PME 0.18, PME-PLE 0.22, AME-PME 0.24, ALE-PLE 0.21, CH at AME 0.25, CH at ALE 0.21.

Leg formula: 2413. Leg and palp spination: PP 131, 100, 2101, 2000; FE I 323, II-III 322, IV 321; PA 000; TI I-II 2024, III 20(1)24, IV 2124; MT I-II 1014, III 3016,

IV 3036. Leg and palp measurements: PP 4.3 (1.5, 0.6, 0.8, -, 1.4), I 11.6 (3.2, 1.4, 3.0, 2.9, 1.1), II 12.6 (3.5, 1.5, 3.2, 3.3, 1.1), III 10.8 (3.1, 1.3, 2.8, 2.7, 0.9), IV 12.2. (3.3, 1.2, 3.0, 3.5, 1.2).

CC with 3 anterior and 4 and 5 posterior teeth. Embolus arising in a 10-o'clock-position, conductor in a 12-o'clock-position on the tegulum. Sperm duct running close to the margin in the retrolateral half of the tegulum. Tip of embolus well differentiated from flattened part, bent at a right angle. Narrow part of subtegulum visible in ventral or prolateral view. RTA with long, finger-shaped dorsal part and broad, massive ventral part (Figs 9-12).

*Colour*: Yellowish brown with red-brown markings. PS with darker eye region and fovea, with 2 broad longitudinal bands. Between these bands and the dark margin a light and partly interrupted band. CC only with indistinct markings and darker base. ST with small spots near the coxae of legs. GC and LA without pattern. Ventral part of CX and entire FE covered with small spots. FE and TI with spine patches, TI with additional proximal patch prolaterally. Distal leg segments (MT, TA) darker (reddish brown). Dorsal side of OS with dark markings above heart area and sigilla. Posterior half of OS marked with transversal bar and dark apex. Ventral side of OS with some spots, and a patch in front of spinnerets.

♀. Unknown.

**DISTRIBUTION**: Only known from the type locality.

**RELATIONSHIPS**: *Pseudopoda sicca* sp. n. belongs to the *martensi*-group s.l. (Jäger, 2001). It may be most closely related to *P. gogona*, *P. tinjura* and *P. platembola*. The fact that the embolus of these species possesses no subapical tooth, but the shape of embolus strictly corresponds to the ground pattern of the *martensi*-group s. str., indicates that they are basally to the other representatives of the *martensi*-group s. str. This is supported by their geographical distribution. According to Jäger (2001: 124, fig. 84), ancestors of this species group migrated in a westward direction along the Himalayan chain. Extant species with more apomorphic characters in their genitalia are found in the west, those with more plesiomorphic character states in the east. All seven species of the *martensi*-group s. str. were found in Nepal, *Pseudopoda sicca* sp. n. in Darjeeling, *P. gogona* in W-Butan, *P. platembola* in Burma and *P. tinjura* in E-Nepal. This supports the hypothesis of Jäger (2001).

The following species cannot be assigned to a species group:

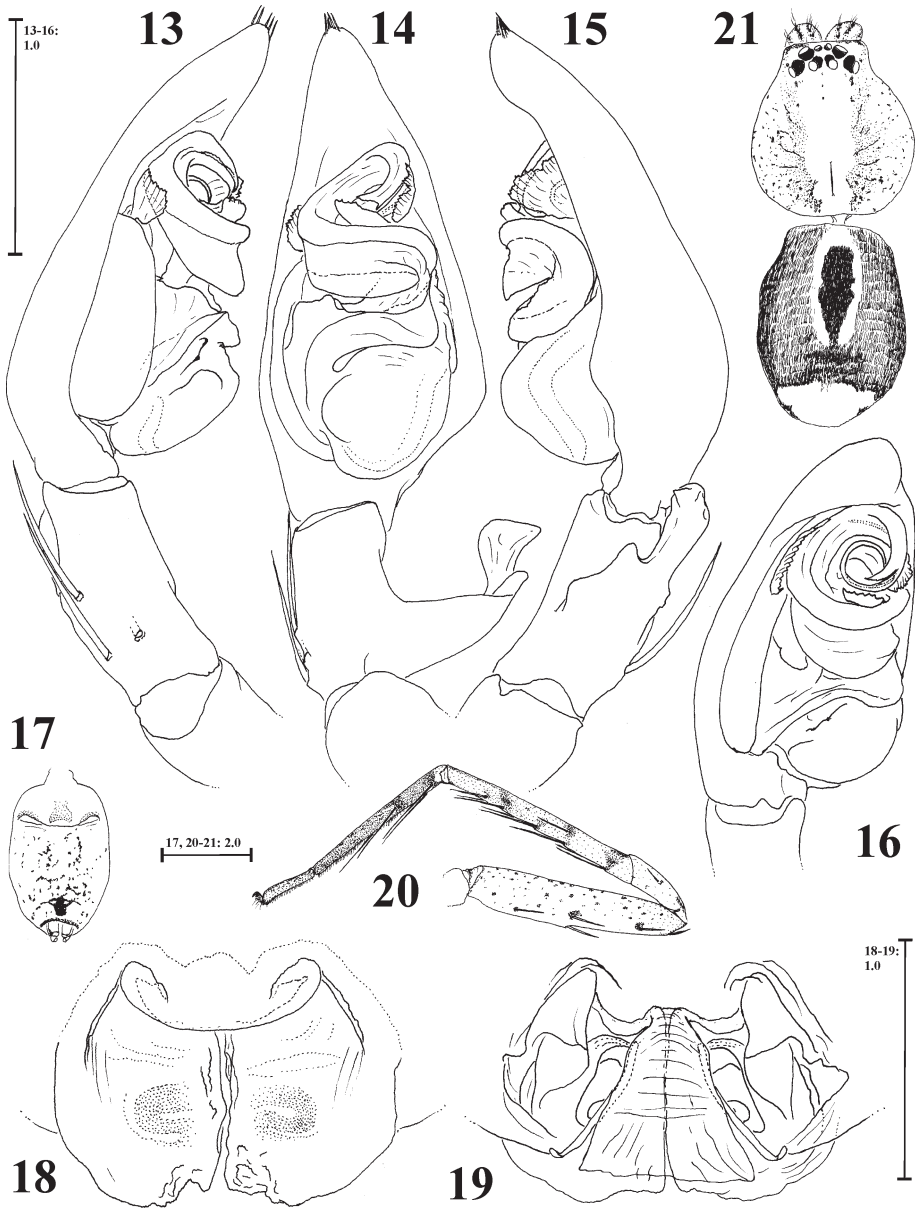
***Pseudopoda perplexa* sp. n.**

Figs 13-21

**TYPES**: ♂ holotype (PJ 1769), 1 ♀ paratype (PJ 1770): India, Meghalaya, Khasi Hills, en-dessous de Cherrapunjee [25°16'43.23"N, 91°43'25.59"E], 1200 m, sous des écorces et des bûches de bois; 26.X.1978, sample n° 28a, leg. C. Besuchet & I. Löbl, MHNG.

**ETYMOLOGY**: The specific name refers to the complex structure of the embolus (Figs 13-15). Latin: *p e r p l e x u s*, - a , - u m , meaning intricate; adjective.

**DIAGNOSIS**: ♂: Embolus tortuous, bent 2 times in different directions (Fig. 14), with subdistal tooth (Fig. 16). ♀: Lateral epigynal lobes delimited anteriorly by a pro-



FIGS 13-21

*Pseudopoda perplexa* sp. n., ♂ holotype (13-17), ♀ paratype (18-21). (13) Left palp, prolateral view. (14) Same, ventral view. (15) Same, retrolateral view. (16) Same, distal view. (17) Opisthosoma, ventral view. (18) Epigyne, ventral view. (19) Vulva dorsal view. (20) Right leg II, prolateral view. (21) Prosoma and opisthosoma, dorsal view.

curved rim, lateral endings of the latter distinctly bent (ca 180°) (Fig. 18). ♀♀ are distinguished from those of *P. kullmanni* Jäger, 2001 by the absence of a semicircular appendage anterior to the lateral epigynal lobes and the shape of the internal duct system visible through the cuticle in ventral view, and from those of *P. recta* Jäger & Ono, 2001 by the curved anterior rim of the lateral epigynal lobes (straight in *P. recta*) and the median indentation on the posterior margin of the lateral epigynal lobes (absent in *P. recta*).

DESCRIPTION: ♂. PL 3.3, PW 3.0, AW 1.4, PH 1.1, OL 3.7, OW 2.1. Eyes: AME 0.17, ALE 0.29, PME 0.24, PLE 0.29, AME-AME 0.08, AME-ALE 0.06, PME-PME 0.13, PME-PLE 0.28, AME-PME 0.25, ALE-PLE 0.27, CH at AME 0.40, CH at ALE 0.29.

Leg formula: 2143. Leg and palp spination: PP 131, 101, 2101; FE I-III 323, IV 321; PA 101; TI I-III 212 10, IV 2126; MT I-II 1014, III 2024, IV 3036. Leg and palp measurements: PP 5.7 (1.8, 0.8, 1.0, -, 2.1), I 18.6 (5.1, 1.8, 5.8, 4.5, 1.4), II 19.7 (5.6, 1.8, 6.1, 4.7, 1.5), III 14.7 (4.2, 1.5, 4.2, 3.6, 1.2), IV 18.0 (5.4, 1.4, 4.8, 5.0, 1.4).

Embolus arising in a 9-o'clock-position on the tegulum, running broadly 'S'-shaped in a distal direction (Fig. 14). Distal spiral of embolus surrounded by strongly developed membranous conductor (Figs 13-16). Basal part of RTA arising on the tibia at a right angle. Dorsal RTA distally widened, with an apical tooth (Fig. 14). RTA with an additional tooth between dorsal and ventral part (Fig. 15).

*Colour*: Yellowish brown with reddish brown markings. PS with 2 longitudinal bands, these turning into irregular spots at margins of PS. Clypeus with distinct white median patch below AME. 2 pairs of dark spots behind PLE. CC with indistinct longitudinal stripes and bristles. ST, LA, GC and CX without pattern. Legs with small spots on FE and spine patches on FE and TI. Proximal part of TI with additional prolateral patch. Distal segments of legs darker (Fig. 20). Dorsal side of OS with distinctly pointed and lightly bordered patch above heart. A broad white patch in posterior half of OS (Fig. 21). Ventral side of OS with irregular small spots, and a patch in front of the spinnerets (Fig. 17).

♀. PL 3.9, PW 3.6, AW 1.9, PH 1.3, OL 4.5, OW 3.2. Eyes: AME 0.16, ALE 0.34, PME 0.24, PLE 0.28, AME-AME 0.11, AME-ALE 0.07, PME-PME 0.15, PME-PLE 0.33, AME-PME 0.27, ALE-PLE 0.31, CH at AME 0.49, CH at ALE 0.35.

Leg formula: 2143. Leg and palp spination: PP 131, 1(0)01, 2121, 1014; FE I-III 323, IV 321; PA 101; TI I-III 212 10, IV 2126; MT I-II 1014, III 2024, IV 3036. Leg and palp measurements: PP 5.9 (1.8, 0.9, 1.3, -, 1.9), I 15.7 (4.5, 1.8, 4.6, 3.6, 1.2), II 16.5 (4.9, 1.9, 4.8, 3.7, 1.2), III 12.9 (3.8, 1.5, 3.5, 3.0, 1.1), IV 15.2 (4.7, 1.5, 3.8, 4.0, 1.2).

Palpal claw with 5 to 6 teeth. Epigyneal field wider than long, without anterior bands. Its lateral rims running transversally from lateral sides of the anterior rim. One loop of internal duct system in ventral view recognisable as a dark structure in a posterior position of the narrow fertilisation duct (Fig. 18). Internal duct system seemingly consisting of coils (dissecting the genitalia was avoided due to the type status of the specimen) (Fig. 19).

*Colour*: As in ♂, but generally more distinct. OS with hairs still present (lost in ♂). Marginal spots on PS much more distinct than in ♂ (Fig. 21).

DISTRIBUTION: Only known from the type locality.

RELATIONSHIPS: Phylogenetic relationships with other *Pseudopoda* species are not clear. Judging from the similar ♀ genitalia, *Pseudopoda perplexa* sp. n. might be closely related to *P. kullmanni* from Burma and *P. recta* from Taiwan. All 3 species have their lateral epigynal lobes delimited by a long transversal anterior rim. These lateral lobes are weakly sclerotized at the posterior margin, i.e. show distinct wrinkles. In ventral view the relatively long fertilisation ducts are visible in the anterior half of the epigyne as a transversal structure. In both sexes of *P. perplexa* sp. n. and in ♀♀ of *P. kullmanni* 8 to 10 ventral tibial spines are present on the first 3 pairs of legs. In most *Pseudopoda* spp., including *P. recta*, 6 ventral tibial spines are present. The latter case is considered the plesiomorphic state, because this kind of spination also occurs in other Heteropodinae (*Heteropoda*, *Sinopoda*, *Bhutaniella*, *Barylestis* etc.) and other genera of Sparassidae (e.g., *Rhitymna*, *Streptaedoea*). ♂♂ of *P. perplexa* sp. n. resemble in general species of the genus *Bhutaniella* Jäger, 2000. In fact males of both taxa can hardly be separated from each other, as both have a divided embolic tip and their tegulum is delimited to the basal half of the cymbium. In *P. perplexa* sp. n. the conductor is more strongly developed than in *Bhutaniella* spp. As the ♀ of *P. perplexa* sp. n. lacks the typical epigyneal pockets and the typical shape of the vulva of *Bhutaniella* spp., this species is here placed in the genus *Pseudopoda*.

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#### REFERENCES

- JÄGER, P. 2000. Two new heteropodine genera from southern continental Asia (Araneae: Sparassidae). *Acta Arachnologica* 49 (1): 61-71.
- JÄGER, P. 2001. Diversität der Riesenkrabbenspinnen im Himalaya. Über eine Radiation zweier Gattungen in den Schneetropen. (Araneae: Sparassidae: Heteropodinae). *Courier Forschungsinstitut Senckenberg* 232: 1-136.
- JÄGER, P. 2002. Heteropodinae: transfers and synonymies (Arachnida: Araneae: Sparassidae). *Acta Arachnologica* 51 (1): 33-61.
- JÄGER, P. 2005. New large-sized cave-dwelling *Heteropoda* species from Asia, with notes on their relationships (Araneae: Sparassidae: Heteropodinae). *Revue Suisse de Zoologie* 112 (1): 87-114.
- JÄGER, P. 2007. Spiders (Araneae) from Laos with descriptions of new species. *Acta Arachnologica* 56 (1): 29-58.
- JÄGER, P. in press (2008). Sparassidae from China 5. *Pseudopoda songi* sp. nov. from Yunnan Province (Arachnida, Araneae, Sparassidae, Heteropodinae). *Senckenbergiana biologica*.
- JÄGER, P., GAO, J. & FEI, R. 2002. Sparassidae in China 2. Species from the collection in Changchun. (Arachnida: Araneae). *Acta Arachnologica* 51 (1): 23-31.
- JÄGER, P. & ONO, H. 2001. First records of the genera *Pseudopoda*, *Sinopoda* and *Olios* from Taiwan with descriptions of four new species (Araneae: Sparassidae). *Acta Arachnologica* 50 (1): 21-29.

- JÄGER, P. & ONO, H. 2002. The Sparassidae from Japan. II. First *Pseudopoda* species and new *Sinopoda* species (Araneae: Sparassidae: Heteropodinae). *Acta Arachnologica* 51 (2): 109-124.
- JÄGER, P., PATHOUMTHONG, B. & VEDEL, V. 2006. First record of the genus *Pseudopoda* in Laos with description of new species (Arachnida, Araneae, Sparassidae). *Senckenbergiana biologica* 86 (2): 219-228.
- JÄGER, P. & VEDEL, V. 2005. *Pseudopoda fissa* sp. nov. - first record of the genus from Vietnam (Araneae: Sparassidae). *Zootaxa* 837: 1-5.
- JÄGER, P. & VEDEL, V. 2007. Sparassidae of China 4. The genus *Pseudopoda* (Araneae: Sparassidae) in Yunnan Province. *Zootaxa* 1623: 1-38.
- PLATNICK, N. I. 2008. The world spider catalog, version 8.5. Online available from: <http://research.amnh.org/entomology/spiders/catalog/> (accessed 2.5.2008)