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# **On linyphiid spiders from Java, Indonesia, with the description of three new genera and four new species (Araneae: Linyphiidae)**

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**Abstract:** Three new genera and four new species are described from Java, Indonesia: *Javagone* gen. nov., with *Javagone maribaya* sp. nov. as the type species; *Javanaria* gen. nov., with *Javanaria gracilipes* sp. nov. as the type species; *Javanyphia* gen. nov., with *Javanyphia gede* sp. nov. as the type species, and *Parameioneta javaensis* sp. nov. A new synonym and a new combination are proposed: *Walckenaeria caobangensis* Tu & Li, 2004 syn. nov. is a junior synonym of *Nasooa asocialis* (Wunderlich, 1974), *Parameioneta sulawesi* (Tanasevitch, in Tanasevitch & Stenchly, 2012) comb. nov. is transferred from *Maorineta* Millidge, 1988. The linyphiid fauna of Java (including the new species described here) contains 20 species, is characterized as Oriental, demonstrates weak relations to the East Asian Palearctic fauna and does not show any relations to the rich linyphiid fauna of the neighboring Australian Region. An annotated list of the Javanese linyphiids is given and the zoogeographical composition of the fauna is briefly discussed.

**Keywords:** Taxonomy - faunistics - Oriental Region - Australian Region - Southeast Asia.

## INTRODUCTION

The linyphiid spider fauna of the Indonesian island of Java was previously known to contain 15 species, seven of which are known only from there (Simon, 1894, 1905; Helsdingen, 1979, 1985a; Millidge & Russell-Smith, 1992; Tanasevitch, 2017a, b, 2019a, b). Four additional new species from Java, three of them each belonging to a new genus, were found in the spider collection of the Muséum d'histoire naturelle de Genève, Switzerland (MHNG). The present paper provides descriptions of new taxa, some nomenclature changes, and a short zoogeographical analysis of the Javanese linyphiid spider fauna.

## MATERIAL AND METHODS

This paper is based on material kept at the MHNG. Sample numbers are given in square brackets. Specimens preserved in 70% ethanol were studied using a MBS-9 stereomicroscope. A Levenhuk C-800 digital camera was used for photos. The terminology of copulatory organs mainly follows that of Helsdingen (1965), Hormiga (2000) and Tanasevitch (1998). Leg chaetotaxy is presented in a formula, e.g., 2.2.1.1, which refers to the

number of dorsal spines on tibiae I-IV. The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in mm. Scale lines in the figures correspond to 0.1 mm unless indicated otherwise. Figure numbers are given above the scale lines, the alternative distance below them.

## Abbreviations

a.s.l.	above sea-level
C	convector <i>sensu</i> Tanasevitch (1998)
D	duct
DSA	distal suprategular apophysis <i>sensu</i> Hormiga (2000)
E	embolus
EP	embolus proper <i>sensu</i> Saaristo (1971)
LC	lamella characteristic
MB	main body of embolus
MM	median membrane <i>sensu</i> Helsdingen (1965)
Mt	metatarsus
Pr	protegulum <i>sensu</i> Holm (1979)
R	radix
TA	terminal apophysis <i>sensu</i> Helsdingen (1965)
TO	tegular outgrowth
Tml	position of trichobothrium on metatarsus I

## TAXONOMY

**Order Araneae Clerck, 1757**  
**Family Linyphiidae Blackwall, 1859**  
**Subfamily Erigoninae Emerton, 1882**

***Javagone* gen. nov.**

**Type species:** *Javagone maribaya* sp. nov.

**Etymology:** The generic name is a combination of two words: “Java”, the “terra typica”, and part of the generic name *Erigone*. The gender is feminine.

**Diagnosis:** The genus contains medium-sized erigonines, with a total length of about 1.7, which are characterized by the following combination of somatic and genitalic characters:

- 1) Carapace unmodified, eyes somewhat enlarged, cephalic pits (= sulci) absent (Figs 1-4).
- 2) Legs relatively long and slender.
- 3) Leg chaetotaxy formula 1.1.1.1; metatarsi I-IV each with a trichobothrium; TmI about 0.31.
- 4) Palpal tibia simple, slightly modified (Figs 10, 13).
- 5) Paracymbium relatively large, L-shaped (Fig. 12).
- 6) Median membrane reduced.
- 7) Distal supratregular apophysis moderately developed (see Fig. 10).
- 8) Embolus relatively thin, semi-looped; radix small; convector present, massive (Figs 10-11, 14).

**Species included:** Only the type species, *Javagone maribaya* sp. nov.

**Taxonomic remarks:** Among more than 400 known genera of the subfamily Erigoninae only 23 show the leg chaetotaxy formula 1.1.1.1 coupled with the presence of a trichobothrium on MtIV. No other genera with the same chaeto- and trichobothriotaxy have been recorded from the Oriental Region, except for the monotypic genus *Cirrosus* Zhao & Li, 2014, known from Xishuangbanna, Yunnan Province, China (Zhao & Li, 2014), an area situated on the border between the Palaearctic and Oriental realms. Judging from the male palp conformation, *Javagone maribaya* sp. nov. does not fit into *Cirrosus* or any other known linyphiid genus. The peculiar structure of the male palp and the absence of the corresponding female make it difficult at the moment to evaluate the possible relationships of the new genus. It is most likely with still unknown Oriental erigonines.

**Distribution:** Known only from the type locality on Java, Indonesia.

***Javagone maribaya* sp. nov.**

Figs 1-4, 10-14

**Holotype:** MHNG; male [sample 20a]; INDONESIA, Java, West Java Province, 22 km NE of Bandung, Maribaya, hand collecting; 27.VII.1984; leg. J. Robert.

**Etymology:** The specific epithet is a name in apposition referring to the type locality, the Maribaya Nature Area, Java, Indonesia.

**Description:** *Male holotype.* Total length 1.64. Carapace unmodified, as in Figs 1-4, 0.75 long, 0.63 wide, pale brown. Eyes slightly enlarged, as in Figs 3-4. Chelicerae 0.30 long, mastidion absent. Legs yellow to pale yellow. Leg I 3.16 long (0.90 + 0.23 + 0.78 + 0.75 + 0.50), leg IV 3.20 (0.90 + 0.20 + 0.85 + 0.80 + 0.45). Chaetotaxy 1.1.1.1. Length of spines 1-2 diameters of corresponding leg segment. Each metatarsus with a trichobothrium. TmI 0.31. Palp (Figs 10-14): Tibia short, slightly widening distally. Paracymbium relatively large, L-shaped, hooked apically. Distal supratregular apophysis short, linguiform, rounded distally. Median membrane reduced. Convector massive, complex, boat-shaped, its largest lobe directed distad and covering embolus. Embolus relatively thin, semi-looped, with a membranous edge on inner side. Radix very small, triangular. Abdomen 1.05 long, 0.63 wide, pale grey, almost white, with slightly darkened end, as shown in Fig. 1.

*Female.* Unknown.

**Taxonomic remarks:** See above under genus description.

**Distribution:** Known only from the type locality on Java, Indonesia.

**Range:** Javanese.

***Javanaria* gen. nov.**

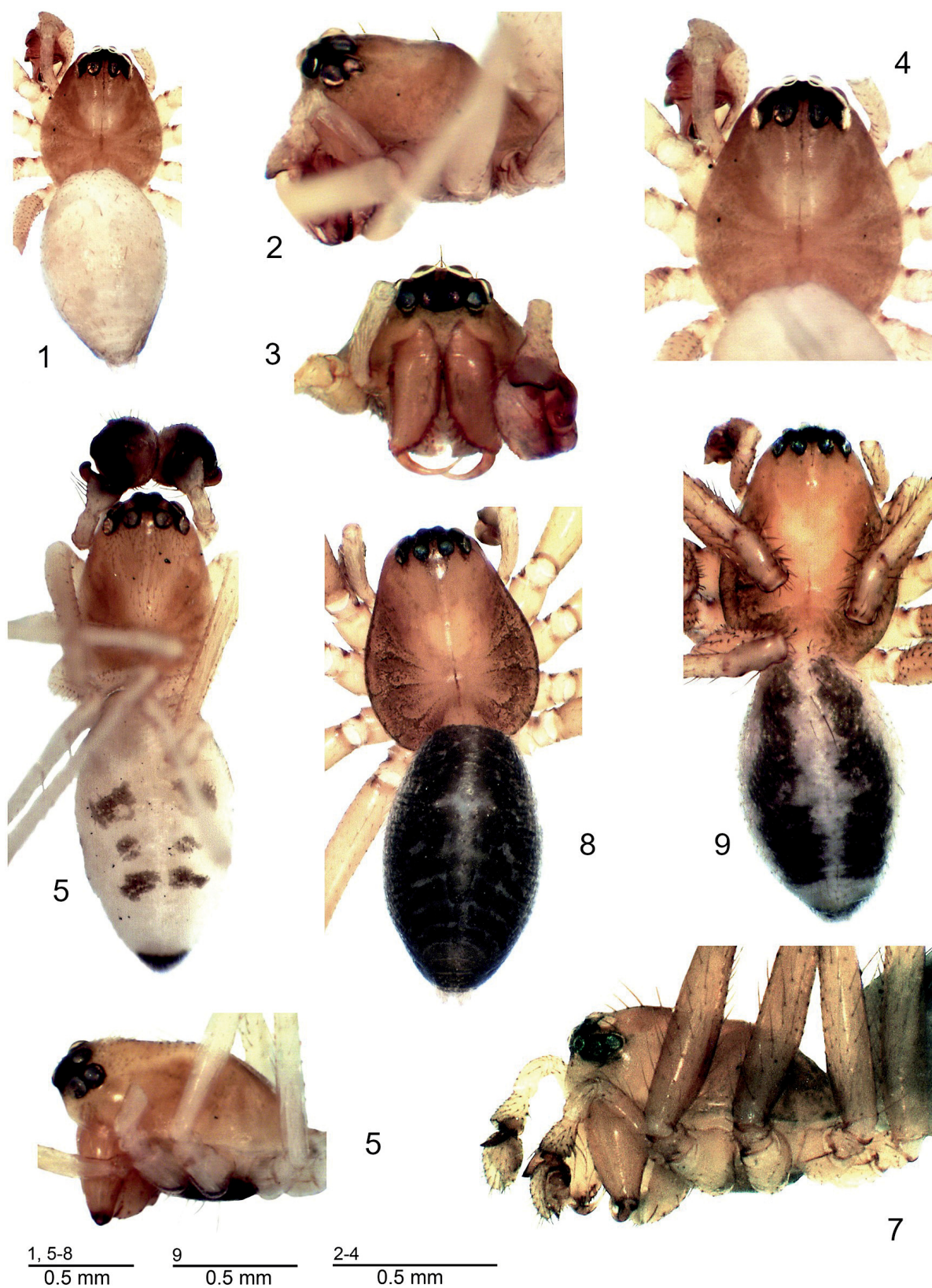
**Type species:** *Javanaria gracilipes* sp. nov.

**Etymology:** The generic name is a combination of two words: “Java”, the “terra typica”, and a part of the generic name *Nasoonaria*. Males of *Nasoonaria*, like males of the type species of the new genus, have an extremely developed distal supratregular apophysis. The gender of the new name is feminine.

**Diagnosis:** The genus contains large-sized erigonines with relatively long and slender legs, with a total length of 2.2-2.3, which are characterized by the following combination of somatic and genitalic characters:

- 1) Carapace slightly modified, eyes somewhat enlarged, cephalic pits (= sulci) absent (Figs 5-6).
- 2) Abdomen with a dorsal pattern (Fig. 5).
- 3) Legs relatively long and slender.
- 4) Chaetotaxy formula 2.2.1.1; each metatarsus with a trichobothrium; TmI 0.52-0.60.
- 5) Palpal tibia unmodified.
- 6) Paracymbium long and narrow (Fig. 15).
- 7) Median membrane strongly reduced.
- 8) Distal supratregular apophysis extremely developed, massive (Figs 15, 18).





Figs 1-9. Photographs of males: the holotype of *Javagone maribaya* sp. nov. (1-4), the paratype of *Javanaria gracilipes* sp. nov. (5-6) and the holotype (7) and both paratypes (8-9) of *Javanophia gede* sp. nov. (1, 5, 8-9) Habitus, dorsal view. (2, 6-7) Prosoma, lateral view. (3) Prosoma, frontal view. (4). Prosoma, dorsal view.

- 9) Radix strongly reduced, embolus relatively wide, flat, convector absent (Figs 19-20).

**Species included:** Only the type species, *Javanaria gracilipes* sp. nov.

**Taxonomic remarks:** In its large size and long legs *J. gracilipes* sp. nov. resembles some taxa of the subfamilies Linyphiinae and Micronetinae, but its palpal conformation is of the classically erigonine-type. The palp of *J. gracilipes* sp. nov. somewhat resembles that of *Nasoonaria*. However, this similarity is superficial, mainly due to the large distal suprategular apophysis. Today it is impossible to find a genus among the known erigonines to which *Javanaria* gen. nov. appears

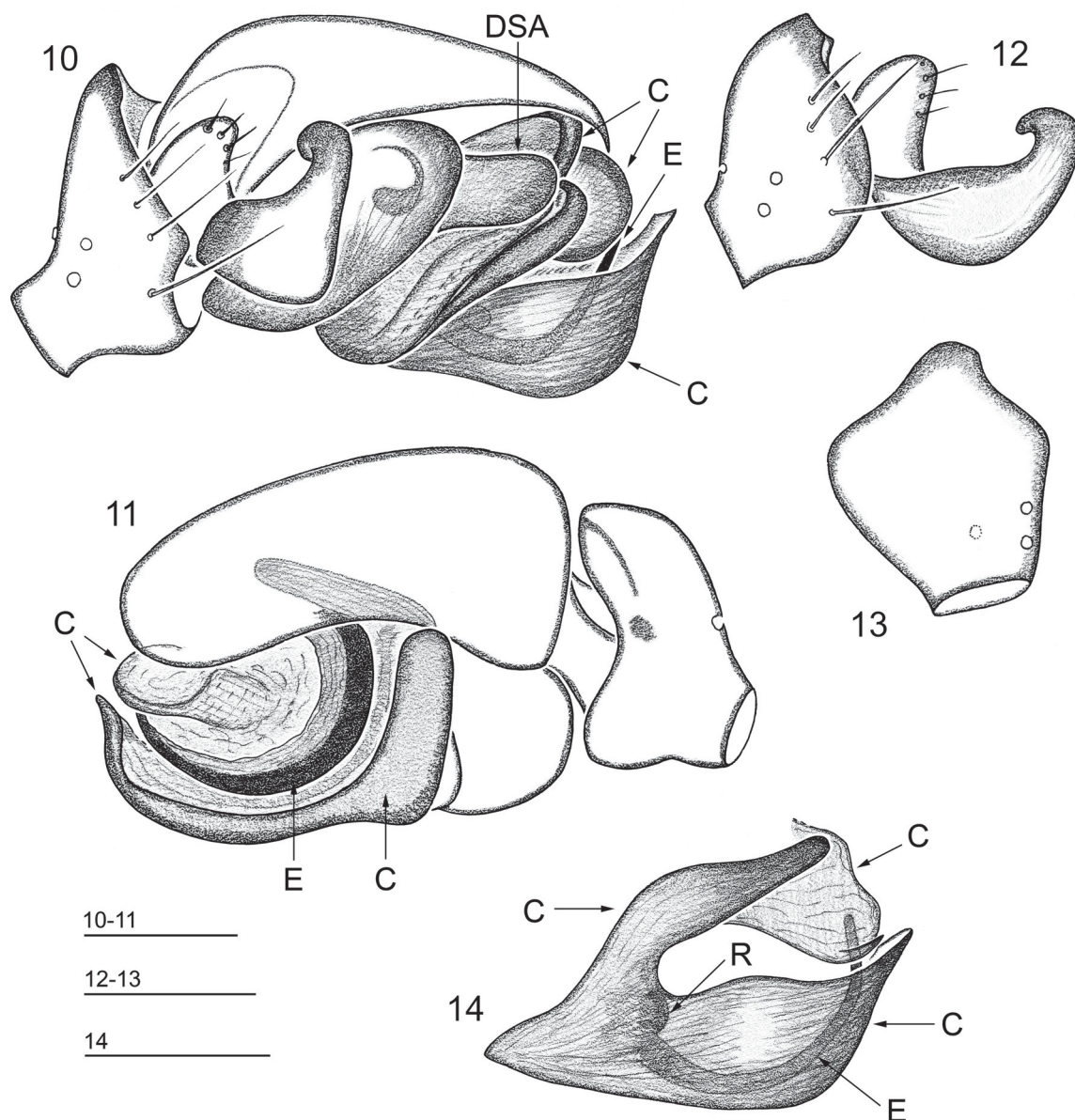
to be close. Most likely the closest relatives will be found among taxa not yet described.

**Distribution:** Known only from the type locality on Java, Indonesia.

***Javanaria gracilipes* sp. nov.**

Figs 5-6, 15-20

**Holotype:** MHNG; male [sample Sar-87/28]; INDONESIA, Java, West Java Province, Cibodas, environs of Botanical Garden, 1250-1300 m a.s.l., beating from vegetation in the low part of the garden; 27.XI.1987; leg. C. Lienhard.



Figs 10-14. Details of male palp structure of *Javagone maribaya* sp. nov., holotype. (10-11) Right palp, retrolateral and prolateral views, respectively. (12) Palpal tibia and paracymbium, lateral view. (13) Palpal tibia, dorsal view. (14) Embolic division, retrolateral view.

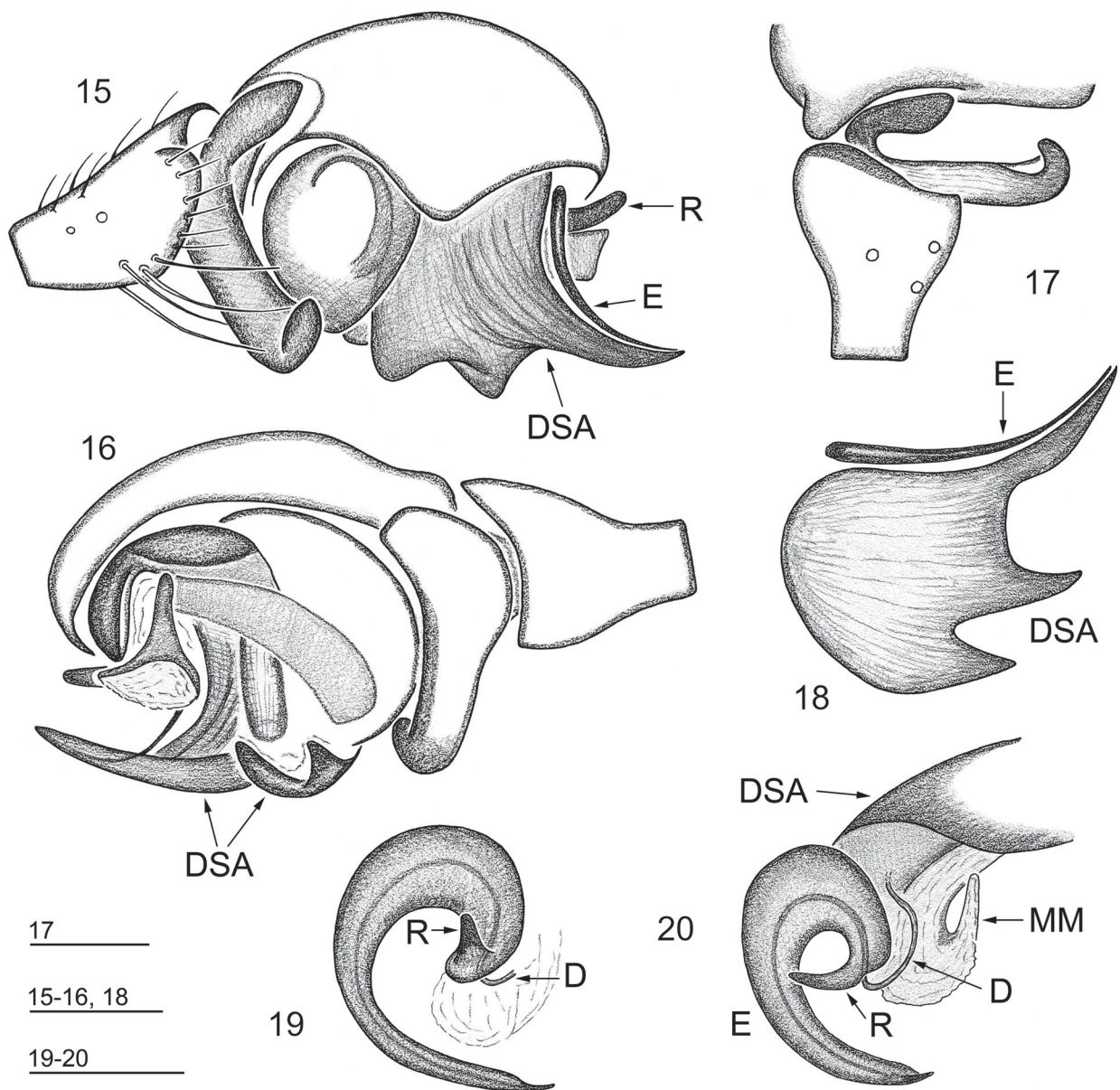


**Paratype:** MHNG; male; collected together with the holotype.

**Etymology:** The specific epithet is a Latin noun referring to the relatively long and slender legs of the holotype.

**Description:** *Male paratype*. Total length 2.20. Carapace slightly modified: its ocular part protruding forward, as shown in Fig. 6; 0.95 long, 0.65 wide, reddish pale brown. Eyes somewhat enlarged. Chelicerae 0.38 long, mastidion absent. Legs pale yellow to yellow. Leg I 4.51 long ( $1.25 + 0.25 + 1.15 + 1.13 +$

0.73), leg IV 3.89 ( $1.13 + 0.25 + 0.93 + 0.98 + 0.60$ ). Chaetotaxy 2.2.1.1. Length of spines 1-2.5 diameters of corresponding leg segment. Each metatarsus with a trichobothrium. TmI 0.59. Palp (Figs 15-20): Tibia widened distally, unmodified. Paracymbium slender, its middle part long, its distal part short and bent. Distal suprategular apophysis massive, wide, with three long and pointed processes, the distal one longest. Median membrane strongly reduced, developed as a short, narrow and curved apophysis. Embolus flat, wide at base, gradually narrowing towards needle-shaped apex. Radix strongly reduced, developed as a small, narrow



Figs 15-20. Details of male palp structure of *Javanaria gracilipes* sp. nov., paratype. (15-16) Right palp, retrolateral and prolateral views, respectively. (17) Palpal tibia, paracymbium and proximal part of cymbium, dorsal view. (18) Distal part of embolus and distal suprategular apophysis, ventral view. (19) Embolic division, ventral view. (20) Distal suprategular apophysis, median membrane and embolic division, dorso-lateral view.

outgrowth at base of embolus. Abdomen 1.25 long, 0.70 wide, white, dorsal pattern as in Fig. 5.

*Female*. Unknown.

**Taxonomic remarks:** See above under genus description.

**Distribution:** Known only from the type locality on Java, Indonesia.

**Range:** Javanese.

### *Javanyphia* gen. nov.

**Type species:** *Javanyphia gede* sp. nov.

**Diagnosis:** The genus contains large-sized, linyphiine-like erigonines, with a total length of 2.3-2.4, which are characterized by the following combination of somatic and genitalic characters:

- 1) Carapace unmodified, eyes normal in size, cephalic pits (= sulci) absent (Figs 7-9).
- 2) Abdomen with a dorsal pattern (Figs 7-8).
- 3) Chaetotaxy formula 2.2.1.1; each metatarsus with a trichobothrium; TmI 0.78-0.82.
- 4) Palpal tibia modified, with a distal claw-shaped apophysis (Figs 21, 23).
- 5) Paracymbium relatively small.
- 6) Tegulum with a protegulum (Fig. 21)
- 7) Median membrane reduced.
- 8) Distal supratregular apophysis moderately developed (Fig. 25).
- 9) Embolus relatively short, slightly curved; radix wide, flat; convector absent (Figs 22, 25).

**Etymology:** The generic name is a combination of two words: “Java”, the “terra typica”, and a part of the genus name *Linyphia*. The gender is feminine.

**Species included:** Only the type species, *Javanyphia gede* sp. nov.

**Taxonomic remarks:** There are many large-sized, robust erigonines in an informal group which show the leg chaetotaxy formula 2.2.1.1 coupled with the presence of a trichobothrium on MtIV, e.g. *Gnathonarium* Karsch, 1881, *Gongylidium* Menge, 1868, *Ummeliata* Strand, 1942, etc. In its habitus the new genus resembles these genera, and especially *Tmeticus* Menge, 1868, but it has a different palp structure. The palp conformation of *Javanyphia* gen. nov. is characterized by a simple structure of the distal supratregular apophysis and of the embolic division, and their shapes resemble those of the Palearctic-West Nearctic *Leptorhoptrum robustum* (Westring, 1851), which has the chaetotaxy formula 2.2.2.2. This similarity seems to be only a superficial resemblance, and finding a female will allow us to correctly determine the placement of the genus in the subfamily Erigoninae.

**Distribution:** Known only from the type locality on Java, Indonesia.

### *Javanyphia gede* sp. nov.

Figs 7-9, 21-25

**Holotype:** MHNG; male [sample AS-05/11]; INDONESIA, Java, West Java Province, Gunung [= Mount] Gede Pangrango National Park, near Cibodas, 6°47'0"S, 107°01'0"E, 1450-1600 m a.s.l.; 4.-11.V.2005; leg. A. Schulz.

**Paratypes:** MHNG; 2 males [sample 5a]; INDONESIA, West Java Province, Mt Gede, about 50 km SE of Bogor, 2600 m a.s.l., Ericaceae forest, sifting of vegetational debris; 5.XI.1989; leg. D. Burckhardt, I. Löbl & D. Agosti.

**Etymology:** The specific epithet is a name in apposition referring to the place of origin, Mt Gede and its environs.

**Description:** *Male paratype*. Total length 2.30. Carapace unmodified, as shown in Figs 7-9, 1.13 long, 0.83 wide, pale brown with darkened radial strips between coxal elevations. Chelicerae 0.45 long, mastidion absent. Anterior margin of fang groove with five strong teeth, posterior margin with 4-5 small teeth. Legs pale brown to yellow, covered with numerous hairs. Leg I 3.64 long (1.00 + 0.28 + 0.93 + 0.83 + 0.60), leg IV 3.79 (1.03 + 0.30 + 0.95 + 0.98 + 0.53). Chaetotaxy 2.2.1.1. Length of spines 1-2 diameters of corresponding leg segment. Each metatarsus with a trichobothrium. TmI 0.78. Palp (Figs 21-25): Tibia with a large, claw-shaped prolateral outgrowth. Paracymbium relatively small, L-shaped, hooked apically. Tegulum subdistally with a keel-shaped outgrowth on ventral side, terminating with protegulum. Distal supratregular apophysis straight, narrow and relatively short. Median membrane reduced. Embolus short, straight and narrow. Radix small, flat and triangular. Abdomen 1.25 long, 0.75 wide, dorsal pattern as shown in Fig. 8.

**Variation:** The two paratypes have a different abdominal pattern: Fig. 8 cf. Fig. 9. In the holotype the pattern is similar to that in Fig. 9, but somewhat lighter. *Female*. Unknown.

**Taxonomic remarks:** See above under genus description.

**Distribution:** Known only from two nearby localities in West Java Province, Java, Indonesia.

**Range:** Javanese.

***Parameioneta javaensis* sp. nov.**

Figs 26-31

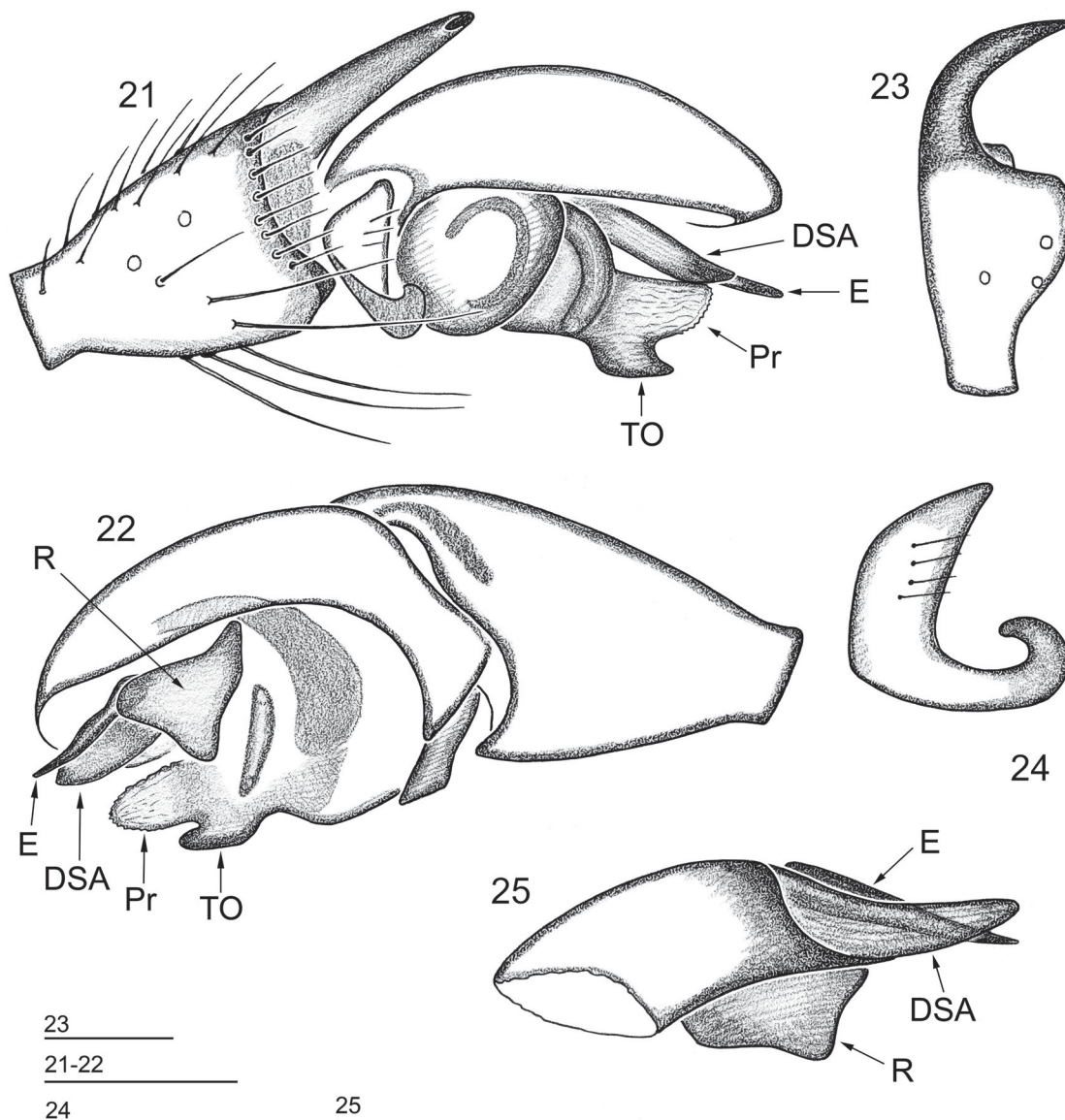
**Holotype:** MHNG; male [sample JB-89/02]; INDONESIA, Java, West Java Province, 8 km N of Bandung, Taman Hutan Raya Juanda (Forest Conservation Park), Winkler extraction; 13.X.1989; leg. J. Robert.

**Etymology:** The specific epithet is a name in apposition referring to the island where the types of this species were collected.

**Diagnosis:** The new species is well distinguished by the presence of a sharp, dorsal tooth on the palpal tibia, by the absence of a pit hook (after Saaristo, 1973) on the

distal suprategular apophysis, as well as by the specific shape of the paracymbium, lamella characteristica and embolus.

**Description:** *Male holotype.* Total length 1.40. Carapace unmodified, 0.65 long, 0.50 wide, greyish yellow. Eyes not enlarged, normal in size. Chelicerae 0.25 long, mastidion absent. Legs pale yellow. Leg I 2.04 long ( $0.53 + 0.18 + 0.53 + 0.50 + 0.30$ ), leg IV 2.03 ( $0.55 + 0.13 + 0.50 + 0.50 + 0.35$ ). Chaetotaxy 2.2.2.2. Length of spines 1-2 diameters of corresponding leg segment. Mt I-III with a trichobothrium each. TmI 0.21. Palp (Figs 26-31): Patella with a curved dorsal spine. Tibia with a small, sharp tooth dorsally. Paracymbium V-shaped, its distal



Figs 21-25. Details of male palp structure of *Javanyphia gede* sp. nov., paratype. (21-22) Right palp, retrolateral and prolateral views, respectively. (23) Palpal tibia, dorsal view. (24) Paracymbium, lateral view. (25) Distal suprategular apophysis and embolic division, ventro-lateral view.



part weakly sclerotized, almost transparent. Distal suprategular apophysis short and rounded, pit hook absent. Median membrane short and wide. Lamella characteristica long, widened distally and ending in two long, dark, stylet-shaped branches, upper branch with split apex. Terminal apophysis long, cylindrical, narrowing distally. Embolus with a long and narrow main body, embolus proper bifid terminally, branching off below apex of main body (Fig. 31). Abdomen 0.70 long, 0.45 wide, pale grey.

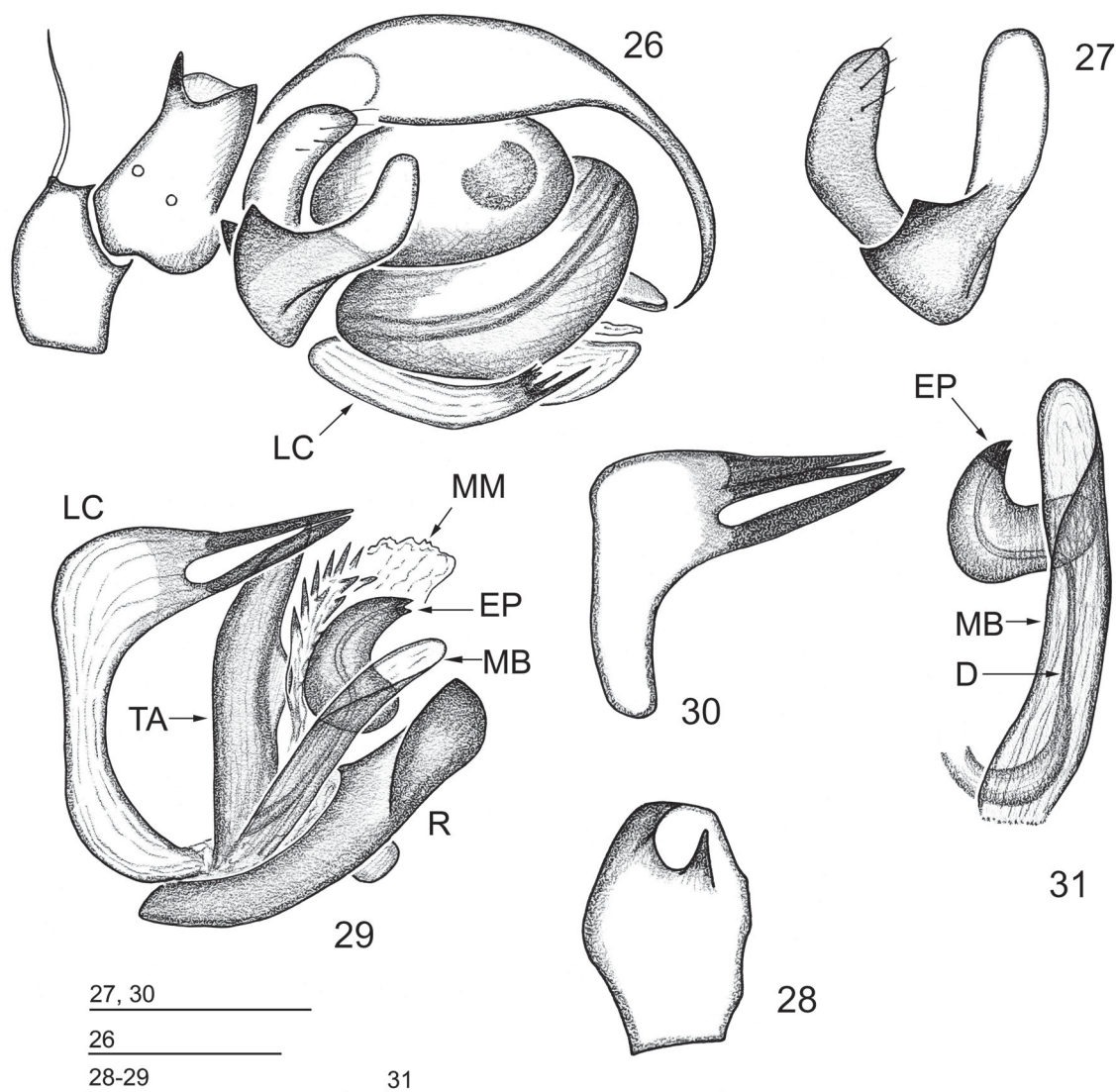
*Female.* Unknown.

**Taxonomic remarks:** The new species is similar to *Maorineta sulawesi* Tanasevitch, 2012, described from both sexes from Sulawesi, Indonesia (Tanasevitch & Stenchly, 2012). In the description the authors pointed out that *M. sulawesi* is clearly distinguished from

other known congeners. Indeed, the palp structure of *M. sulawesi* is quite different from that of other *Maorineta* Millidge, 1988, namely by the clearly differentiated sclerites in the embolic division, and this kind of conformation rather corresponds to *Parameioneta* Locket, 1982. Thus, I here transfer *M. sulawesi* to *Parameioneta*. *Parameioneta javaensis* sp. nov. clearly differs from *P. sulawesi* **comb. nov.** by a smaller dorsal tooth on the palpal tibia, by the absence of a pit hook, as well as by the shape of the lamella characteristica and of the embolus (Figs 30-31 cf. Tanasevitch & Stenchly, 2012: figs 11-13).

**Distribution:** Known only from the type locality on Java, Indonesia.

**Range:** Javanese.



Figs 26-31. Details of male palp structure of *Parameioneta javaensis* sp. nov. (26) Right palp, retrolateral view. (27) Paracymbium, lateral view. (28) Palpal tibia, dorsal view. (29) Embolic division, ventro-lateral view. (30) Lamella characteristica, ventro-lateral view. (31) Embolus, ventro-lateral view.

## FAUNISTICS

Besides the four new species described above, the spider fauna of Java contains the 16 listed below.

*Caviphantes pseudosaxetorum* Wunderlich, 1979

**Remarks:** On Java this species is known from the Cibodas Botanical Garden (1400 m a.s.l.), West Java Province (Tanasevitch, 2019b).

**Range:** East Asian Palaearctic - Oriental.

*Ceratinopsis orientalis* Locket, 1982

**Remarks:** On Java this species is known from the environs of Cipanas, West Java Province (Tanasevitch, 2017a).

**Range:** Oriental.

*Ketambea permixta* Millidge & Russell-Smith, 1992

**Remarks:** Known only from a single female from Cibodas (1600 m a.s.l.), West Java Province, Indonesia (Millidge & Russell-Smith, 1992).

**Range:** Javanese.

*Ketambea vermiformis* Millidge & Russell-Smith, 1992

**Remarks:** Known from specimens of both sexes from Cibodas, West Java Province, Indonesia (Millidge & Russell-Smith, 1992).

**Range:** Javanese.

*Metalephyphantes kraepelini* (Simon, 1905)

**Material examined:** MHNG; 1 female [sample AS-05/11]; INDONESIA, Java, West Java Province, Gunung Gede Pangrango National Park, near Cibodas, 6°47'0"S, 107°01'0"E, 1450-1600 m a.s.l.; 4.-11.V.2005; leg. A. Schulz.

**Remarks:** This species was originally described under *Bathypantes* Menge, 1866 from a single female. Later the holotype was re-described and illustrated, and the species transferred to *Metalephyphantes* Locket, 1968 by Helsdingen (1985b). Known only from West Java Province, Indonesia (Simon, 1905 and present new record).

**Range:** Javanese.

*Mitrager noordami* Helsdingen, 1985

**Remarks:** This species was described from specimens of both sexes from Central Java Province, Indonesia, as the type species of the genus *Mitrager* Helsdingen, 1985 (Helsdingen, 1985a). In its somatic and genitalic characters the genus is very similar to *Oedothorax* Bertkau, in Förster & Bertkau, 1883. This similarity is based on the same chaeto- and trichobothriotaxy, highly modified male carapace, the male palp conformation, notably by the shape of the embolus and the presence of a convector (named "lamella" by the author of the original description) in the embolic division. The epigyne structure also is very similar to that of *Oedothorax* representatives. The species is known only from the Dijeng Plateau (2580 m a.s.l.), Central Java Province, Indonesia (Helsdingen, 1985a).

**Range:** Javanese.

*Nasoona asocialis* (Wunderlich, 1974)

*Walckenaeria caobangensis* Tu & Li, 2004, **syn. nov.**

For other synonyms and combinations see World Spider Catalog (2019).

**Remarks:** *Nasoona asocialis* was described from a female from the Nepal Himalayas and originally placed in *Oedothorax* (Wunderlich, 1974). Later this species was described for a second time from a single male as *Gorbothorax ungibbus* Tanasevitch, 1998 from the same mountain region (Tanasevitch, 1998). The species is widely distributed in the Oriental Region: China, Nepal, India, Myanmar, Laos, Thailand, Malaysia (mainland), Indonesia (Bali, Java) (World Spider Catalog, 2019). *Walckenaeria caobangensis* was described on the basis of a female from Cao Bang Province, northern Vietnam (Tu & Li, 2004). The original description and figures of carapace, epigyne and vulva clearly show that *W. caobangensis* is conspecific with *Nasoona asocialis* and therefore a junior synonym. The synonymy is indirectly supported by the fact that *N. asocialis* is known from Xishuangbanna, southern China (Zhao & Li, 2014) and from northern Laos (Tanasevitch, 2014), territories close to the type locality of *W. caobangensis*. The species is known on Java from the Ijen Mts, 950 m a.s.l. (Tanasevitch, 2017a).

**Range:** Oriental.

*Nematogmus dentimanus* Simon, 1886

**Remarks:** On Java this species is known from Buitenzorg (= Bogor), West Java Province (Helsdingen, 1979).

**Range:** Oriental.

*Nerienne amiculata* (Simon, 1905)

**Remarks:** This species was described under *Linyphia* Latreille, 1804 from specimens of both sexes from Cibodas (= Tjibodas), West Java Province, Indonesia (Simon, 1905). Later the types were re-described and the species transferred to *Nerienne* Blackwall, 1833 by Helsdingen (1969). Known only from Java so far.

**Range:** Javanese.

*Nerienne macella* (Thorell, 1898)

**Remarks:** On Java this species is known from the Cibodas Botanical Garden (1250-1300 m a.s.l.) (Tanasevitch, 2017a).

**Range:** Oriental.

*Nerienne sundaica* (Simon, 1905)

**Remarks:** This species was described under *Linyphia* from a single female from Lombok, Indonesia and from a single male from Cibodas (= Tjibodas), West Java Province, Indonesia (Simon, 1905). Later the types were re-described and the species transferred to *Nerienne* by Helsdingen (1969).

**Range:** South Indonesian.

*Oedothorax bifoveatus* Tanasevitch, 2017

**Remarks:** On Java this species is known from the Cibodas Botanical Garden (1400 m a.s.l.) and from the environs of Cibodas (1450-1600 m a.s.l.) (Tanasevitch, 2017b).

**Range:** Oriental.

*Ostearius melanopygius*  
(O. Pickard-Cambridge, 1880)

**Remarks:** On Java this species is known from the Cibodas Botanical Garden (1320 m a.s.l.) (Tanasevitch, 2019b).

**Range:** Cosmopolitan.

*Piesocalus javanus* Simon, 1894

**Remarks:** This species is known only from a single female from Palabouan, Java (Simon, 1894; Jocqué, 1983).

**Range:** Javanese.

*Racata grata* Millidge, 1995

**Remarks:** On Java this species is known from the environs of Cibodas, West Java Province (Tanasevitch, 2019a).

**Range:** South Indonesian.

*Solenysa* sp.

**Material:** MHNG; 1 male [sample AS-05/11]; INDONESIA, Java, West Java Province, Gunung Gede Pangrango National Park, near Cibodas, 6°47'0"S, 107°01'0"E, 1450-1600 m a.s.l.; 4.-11.V.2005; leg. A. Schulz.

**Remarks:** This species is a probably new and similar to Palaearctic congeners. It is characterized by a long, ribbon-shaped, distally darkened radical apophysis. The shape and the position of this sclerite strongly resembles the micronetine's lamella characteristic and it was incorrectly named so by authors who described species in this genus, e.g. Tu & Li (2006), Tu & Hormiga (2011), Wang *et al.* (2015), etc.

**Range:** Javanese.

## DISCUSSION

The linyphiid spider fauna of Java is presently known to contain 20 species, 13 of them are Erigoninae, five species are Linyphiinae and two are Micronetinae. The placement of two Javanese species described under *Ketambea* Millidge & Russell-Smith, 1992 in the subfamily Linyphiinae is doubtful. The authors pointed out that based on the structure of the embolic division *Ketambea* is very similar to the Neotropical *Dubiaranea* Mello-Leitão, 1943 (see Millidge & Russell-Smith, 1992), the type genus of the subfamily Dubiaraneinae. However, the epigyne of *Ketambea* is of the Linyphiinae type, and Millidge & Russell-Smith (1992) listed it in the Linyphiinae, noting that the genus "should probably be regarded as forming part of the Linyphiinae (sensu stricto), despite the absence of the genital socket." My opinion on the subfamily placement of the genera mentioned above is briefly given in Tanasevitch (2019a).

Among the 20 known linyphiid species from Java, eleven species were described from the island and since them have never been recorded from anywhere else. There are: *Javagone maribaya* sp. nov., *Javanaria gracilipes* sp. nov., *Javanyphia gede* sp. nov., *Ketambea permixta*, *K. vermiformis*, *Metalephyphantes kraepelini*, *Mitrager noordami*, *Nerienne amiculata*, *Piesocalus javanus*, *Parameioneta javaensis* sp. nov., and *Solenysa* sp. Nevertheless these species should not yet to be considered as endemics since the fauna of Southeast Asia is still insufficiently studied. Three species, *Nerienne*



*sundaica*, *Oedothorax bifoveatus* and *Racata grata*, were also recorded from neighboring islands: Lombok, Borneo and Krakatoa, respectively. Three species, *Ceratinopsis orientalis*, *Nasoona asocialis* and *Nematogmus dentimanus*, are widely distributed in the Indo-Malayan Region, and have an Oriental range. One species, *Ostearius melanopygius*, is a cosmopolitan which is known from all regions except for the Neotropics. Today we can characterize the Javanese linyphiid spider fauna as Oriental, with weak relations to the East Asian Palearctic fauna, and without any yet recognizable relations to the rich linyphiid fauna of the neighboring Australian Region.

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## REFERENCES

- Blackwall J. 1833. Characters of some undescribed genera and species of Araneidae. *London and Edinburgh Philosophical Magazine and Journal of Science* (3)3: 104-112, 187-197, 344-352, 436-443.
- Blackwall J. 1859. Descriptions of newly discovered spiders captured by James Yate Johnson, Esq., in the island of Madeira. *Annals and Magazine of Natural History* 3(4): 255-267.
- Clerck C. 1757. Svenska spindlar, uti sina hufvud-slägter indelte samt under några och sextio särskildte arter beskrefne och med illuminerade figurer uplyste. *Literis L. Salvii, Stockholmiae*, 154 pp.
- Emerton J.H. 1882. New England spiders of the family Theridiidae. *Transactions of the Connecticut Academy of Arts and Sciences* 6: 1-86.
- Förster A., Bertkau P. 1883. Beiträge zur Kenntniss der Spinnenfauna der Rheinprovinz. *Verhandlungen des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens* 40: 205-278.
- Helsdingen P.J. van 1965. Sexual behaviour of *Lepthyphantes leprosus* (Ohlert) (Araneida, Linyphiidae), with notes on the function of the genital organs. *Zoologische Mededelingen* 41: 15-42.
- Helsdingen P.J. van 1969. A reclassification of the species of *Linyphia* Latreille based on the functioning of the genitalia (Araneida, Linyphiidae), I. *Zoologische Verhandelingen* 105: 1-303.
- Helsdingen P.J. van 1979. Remarks on *Nematogmus dentimanus* Simon, with comments on the status of related genera (Araneae, Erigonidae). *Bulletin of the British Arachnological Society* 4: 407-413.
- Helsdingen P.J. van 1985a. *Mitrager noordami*, an erigonine novelty from Java. *Bulletin of the British Arachnological Society* 6: 353-358.
- Helsdingen P.J. van 1985b. Araneae: Linyphiidae of Sri Lanka, with a note on Erigonidae. *Entomologica Scandinavica* (Suppl.) 30: 13-30.
- Holm Å. 1979. A taxonomic study of European and East African species of the genera *Pelecopsis* and *Trichopterna* (Araneae, Linyphiidae), with descriptions of a new genus and two new species of *Pelecopsis* from Kenya. *Zoologica Scripta* 8(1-4): 255-278.
- Hormiga G. 2000. Higher level phylogenetics of erigonine spiders (Araneae, Linyphiidae, Erigoninae). *Smithsonian Contributions to Zoology* 609: 1-160.
- Jocqué R. 1983. Sur la synonymie de *Callitrichia* Fage et *Atypena* Simon avec la redescription de quelques espèces paléotropicales (Araneae, Linyphiidae). *Bulletin du Muséum National d'Histoire Naturelle de Paris* (4)5(A): 235-245.
- Karsch F. 1881. Verzeichniss der während der Rohlf'schen Afrikanischen Expedition erbeuteten Myriopoden und Arachniden. *Archiv für Naturgeschichte* 47: 1-14.
- Latreille P.A. 1804. Tableau méthodique des Insectes. *Nouveau Dictionnaire d'Histoire Naturelle, Paris* 24: 129-295.
- Locket G.H. 1968. Spiders of the family Linyphiidae from Angola. *Publicações Culturais da Companhia de Diamantes de Angola* 71: 61-144.
- Locket G.H. 1982. Some linyphiid spiders from western Malaysia. *Bulletin of the British Arachnological Society* 5(8): 361-384.
- Mello-Leitão C.F. 1943. Catálogo das aranhas do Rio Grande do Sul. *Arquivos do Museu Nacional do Rio de Janeiro* 37: 147-245.
- Menge A. 1866. Preussische Spinnen. Erste Abtheilung. *Schriften der Naturforschenden Gesellschaft in Danzig* (N.F.) 1: 1-152.
- Menge A. 1868. Preussische Spinnen. II. Abtheilung. *Schriften der Naturforschenden Gesellschaft in Danzig* (N. F.) 2: 153-218.
- Millidge A.F. 1988. The spiders of New Zealand: Part VI. Family Linyphiidae. *Otago Museum Bulletin* 6: 35-67.
- Millidge A.F. 1995. Some linyphiid spiders from south-east Asia. *Bulletin of the British Arachnological Society* 10: 41-56.
- Millidge A.F., Russell-Smith A. 1992. Linyphiidae from rain forests of Southeast Asia. *Journal of Natural History* 26: 1367-1404.
- Pickard-Cambridge O. 1880. On some new and rare spiders from New Zealand, with characters of four new genera. *Proceedings of the Zoological Society of London* 47: 681-703.
- Saaristo M.I. 1971. Revision of the genus *Maro* O.P.-Cambridge (Araneae, Linyphiidae). *Annales Zoologici Fennici* 8: 463-482.
- Saaristo M.I. 1973. Taxonomical analysis of the type-species of *Agyneeta*, *Anomalaria*, *Meioneta*, *Aprolagus*, and *Syedrula* (Araneae, Linyphiidae). *Annales Zoologici Fennici* 10: 451-466.
- Simon E. 1886. Arachnides recueillis par M. A. Pavie (sous chef du service des postes au Cambodge) dans le royaume de Siam, au Cambodge et en Cochinchine. *Actes de la Société Linnéenne de Bordeaux* 40: 137-166.
- Simon E. 1894. Histoire naturelle des araignées, 1. *Roret, Paris*, pp. 489-760.

- Simon E. 1905. Arachnides de Java, recueillis par le Prof. K. Kraepelin en 1904. *Mitteilungen aus dem Naturhistorischen Museum in Hamburg* 22: 49-73.
- Strand E. 1942. Miscellanea nomenclatorica zoologica et palaeontologica. X. *Folia Zoologica et Hydrobiologica, Rigā* 11: 386-402.
- Tanasevitch A.V. 1998. *Gorbothorax* n. gen., a new linyphiid spider genus from the Nepal Himalayas (Arachnida, Araneae, Linyphiidae). *Bonner Zoologische Beiträge* 47: 421-428.
- Tanasevitch A.V. 2014. New species and records of linyphiid spiders from Laos (Araneae, Linyphiidae). *Zootaxa* 3841(1): 67-89.
- Tanasevitch A.V. 2017a. New species and new records of linyphiid spiders from the Indo-Malayan Region (Araneae, Linyphiidae). *Zootaxa* 4227(3): 325-346.
- Tanasevitch A.V. 2017b. New genera and new species of the family Linyphiidae from Borneo, Sumatra and Java (Arachnida, Araneae). *Revue suisse de Zoologie* 124(1): 141-155.
- Tanasevitch A.V. 2019a. On the spider genus *Racata* Millidge, 1995, with the description of three new species (Araneae, Linyphiidae). *Revue suisse de Zoologie* 126(1): 53-59.
- Tanasevitch A.V. 2019b. A new genus and new records of linyphiid spiders from the Oriental Region (Aranei: Linyphiidae). *Arthropoda Selecta* 28(3): 448-452.
- Tanasevitch A.V., Stenchly K. 2012. On linyphiid spiders from Sulawesi, Indonesia (Arachnida, Araneae). *Revue suisse de Zoologie* 119: 169-180.
- Thorell T. 1898. Viaggio di Leonardo Fea in Birmania e regioni vicine. LXXX. Secondo saggio sui ragni birmani. II. Retitelariae et Orbitelariae. *Annali del Museo Civico di Storia Naturale di Genova* (series 2) 19: 271-378.
- Tu L.H., Hormiga G. 2011. Phylogenetic analysis and revision of the linyphiid spider genus *Solenysa* (Araneae: Linyphiidae: Erigoninae). *Zoological Journal of the Linnean Society* 161: 484-530.
- Tu L.H., Li S.Q. 2004. A preliminary study of erigonine spiders (Linyphiidae: Erigoninae) from Vietnam. *The Raffles Bulletin of Zoology* 52: 419-33.
- Tu L.H., Li S.Q. 2006. A review of the linyphiid spider genus *Solenysa* (Araneae, Linyphiidae). *Journal of Arachnology* 34: 87-97.
- Wang F., Ono H., Tu L. H. 2015. A review of *Solenysa* spiders from Japan (Araneae, Linyphiidae), with a comment on the type species *S. mellottei* Simon, 1894. *ZooKeys* 481: 39-56.
- Westring N. 1851. Förteckning öfver de till närvarande tid Kände, i Sverige förekommande Spindlarter, utgörande ett antal af 253, deraf 132 äro nya för svenska Faunan. *Göteborgs Kungliga Vetenskaps och Vitterhets Samhälles Handlingar* 2: 25-62.
- World Spider Catalog 2019. World Spider Catalog, version 20.5. Natural History Museum Bern. Available at <http://wsc.nmbe.ch> (accessed in October 2019).
- Wunderlich J. 1974. Linyphiidae aus Nepal, II. Die Gattung *Oedothorax* Bertkau 1883 (Arachnida: Araneae). *Senckenbergiana Biologica* 55: 169-188.
- Wunderlich J. 1979. Linyphiidae aus Nepal, III. Die Gattungen *Caviphantes* Oi 1960 und *Lessertiella* Dumitrescu & Miller 1962 (Arachnida: Araneae). *Senckenbergiana Biologica* 60: 85-89.
- Zhao Q.Y., Li S.Q. 2014. A survey of linyphiid spiders from Xishuangbanna, Yunnan Province, China (Araneae, Linyphiidae). *ZooKeys* 460: 1-181.