

Several new records of millipedes (Diplopoda) from southern Vietnam, including three new species

Несколько новых находок двупарноногих многоножек (Diplopoda) из Южного Вьетнама, включая три новых вида

Sergei I. Golovatch¹, Alyona M. Korotayeva²
С.И. Головач¹, А.М. Коротаева²

¹ A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Leninsky prospekt 33, 119071 Moscow, Russia.

² Institute of Biology and Chemistry, Moscow State Pedagogical University, Zoology and Ecology Department, Moscow 129164 Russia.

¹ Институт проблем экологии и эволюции им. А.Н. Северцова РАН, Ленинский проспект, 33, Москва 119071 Россия.

² Институт биологии и химии МПГУ, кафедра зоологии и экологии, Москва 129164 Россия.

Sergei I. Golovatch sgolovatch@yandex.ru; <https://orcid.org/0000-0001-7159-5484>

Alyona M. Korotayeva alenakorotayeva2017@mail.ru; <https://orcid.org/0009-0009-2716-5140>

KEY WORDS: taxonomy, faunistics, *Rhopalomeris*, *Atopochetus*, *Annamina*, distribution, iconography.

КЛЮЧЕВЫЕ СЛОВА: таксономия, фаунистика, *Rhopalomeris*, *Atopochetus*, *Annamina*, распространение, иконография.

ABSTRACT. Results are presented of a taxonomic treatment of some Diplopoda collected recently in southern Vietnam. These concern eight species from eight genera, five families and four orders, including *Rhopalomeris tenebris* sp.n. (Glomeridae, Glomerida), *Atopochetus vietnamicus* sp.n. (Pachybolidae, Spirobolida), and *Annamina spinigera* sp.n. (Paradoxosomatidae, Polydesmida). The status of varieties is returned to the following formal subspecies: *Orthomorpha scabra grandis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019 = *O. scabra* var. *grandis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019, and *O. rotundicollis subrotundicollis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019 = *O. rotundicollis* var. *subrotundicollis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019, both **syn.n.** New faunistic information is provided, allowing for the distribution of several millipede species to be refined.

How to cite this paper: Golovatch S.I., Korotayeva A.M. 2026. Several new records of millipedes (Diplopoda) from southern Vietnam, including three new species // Arthropoda Selecta. Vol.35. No.1. P.1–10. doi: 10.15298/arthsel.35.1.01

РЕЗЮМЕ. Приведены результаты таксономической обработки некоторых Diplopoda, собранных недавно в Южном Вьетнаме. Они касаются восьми видов из восьми родов, пяти семейств и четырех отрядов, включая *Rhopalomeris tenebris* sp.n. (Glomeridae, Glomerida), *Atopochetus vietnamicus* sp.n. (Pachybolidae, Spirobolida), and *Annamina spinigera* sp.n. (Paradoxosomatidae, Polydesmida). Двум формальным подвидам возвращен статус варьететов: *Orthomorpha scabra grandis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019 = *O. scabra* var.

grandis Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019, и *O. rotundicollis subrotundicollis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019 = *O. rotundicollis* var. *subrotundicollis* Likhitrakarn, Golovatch, Semenyuk, Efeykin et Panha, 2019, оба **syn.n.** Представлены новая фаунистическая информация, позволяющая уточнить распространение нескольких видов диплопод.

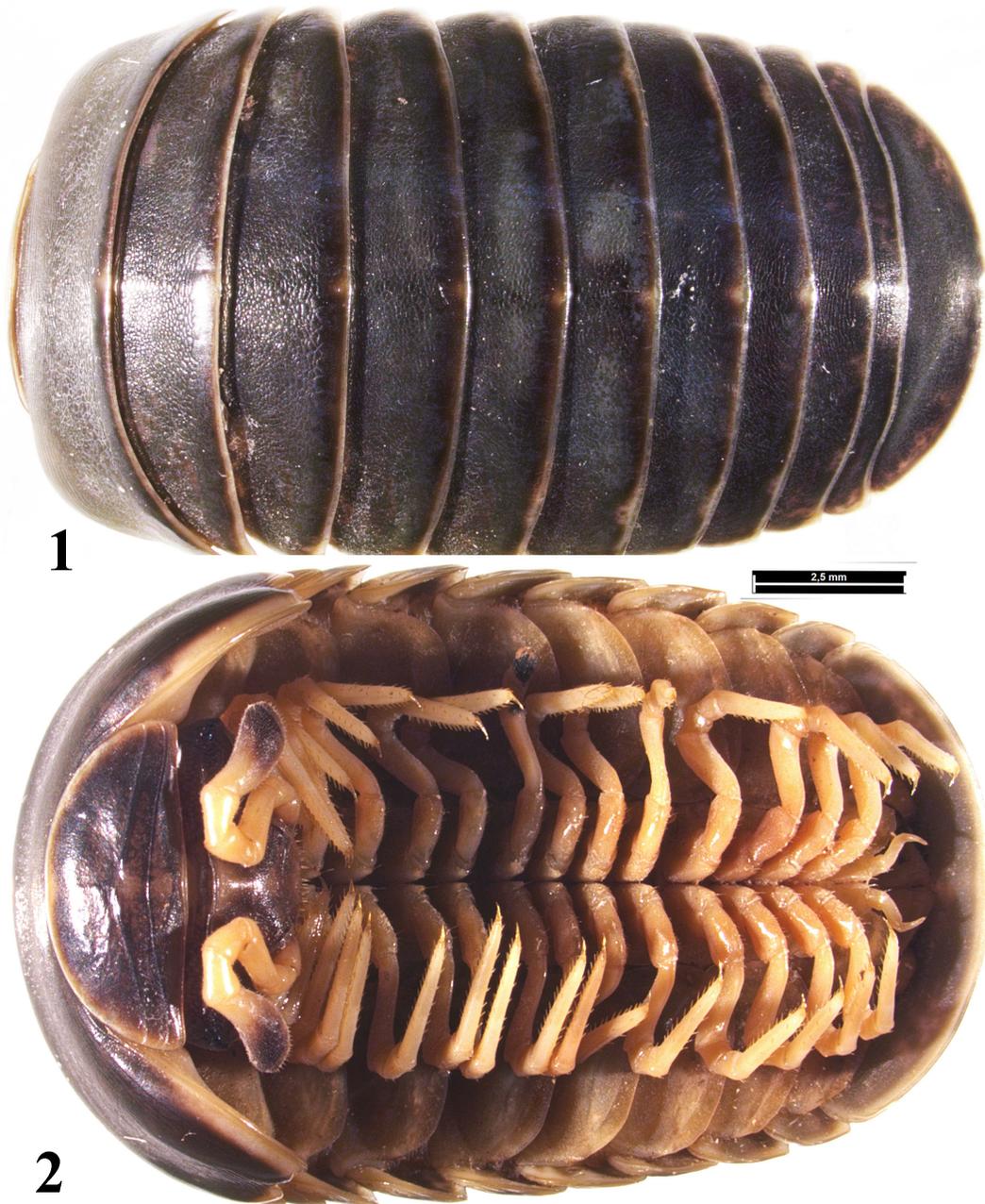
Introduction

Almost any fresh collection of Diplopoda from Vietnam still happens to yield new or especially poorly known species (e.g., Golovatch & Nguyen [2025]). The present contribution proves this, even though the latest catalogue of the millipede fauna of Vietnam already contains as many as 280 species belonging to 97 genera, 31 families and 14 orders [Nguyen *et al.*, 2025].

Material and methods

The fresh samples underlying the present contribution are housed in the collection of the Zoological Museum of the Moscow University (ZMUM). The colour photographs and SEM micrographs were taken at the Paleontological Institute, Russian Academy of Sciences (PIN), Moscow, using either a Flexacam C1 camera mounted on a Leica M165C stereo microscope with built-in LasX software or a Tescan Vega 2 electron scanning microscope (Brno, Czech Republic). Image processing was performed utilizing Adobe Photoshop CC software.

The terminology used to describe the gonopods of two new species largely follows that by Pimvichai *et al.* [2018] for the new pachybolid, and that by Golovatch *et al.* [[2017] for the new paradoxosomatid.



Figs 1, 2. *Rhopalomeris tenebris* sp.n., ♂ holotype, dorsal and ventral views, respectively. Scale bar: 2.5 cm.
 Рис. 1, 2. *Rhopalomeris tenebris* sp.n., голотип ♂, соответственно сверху и снизу. Масштаб 2,5 см.

Taxonomy

Order Glomerida
 Family Glomeridae

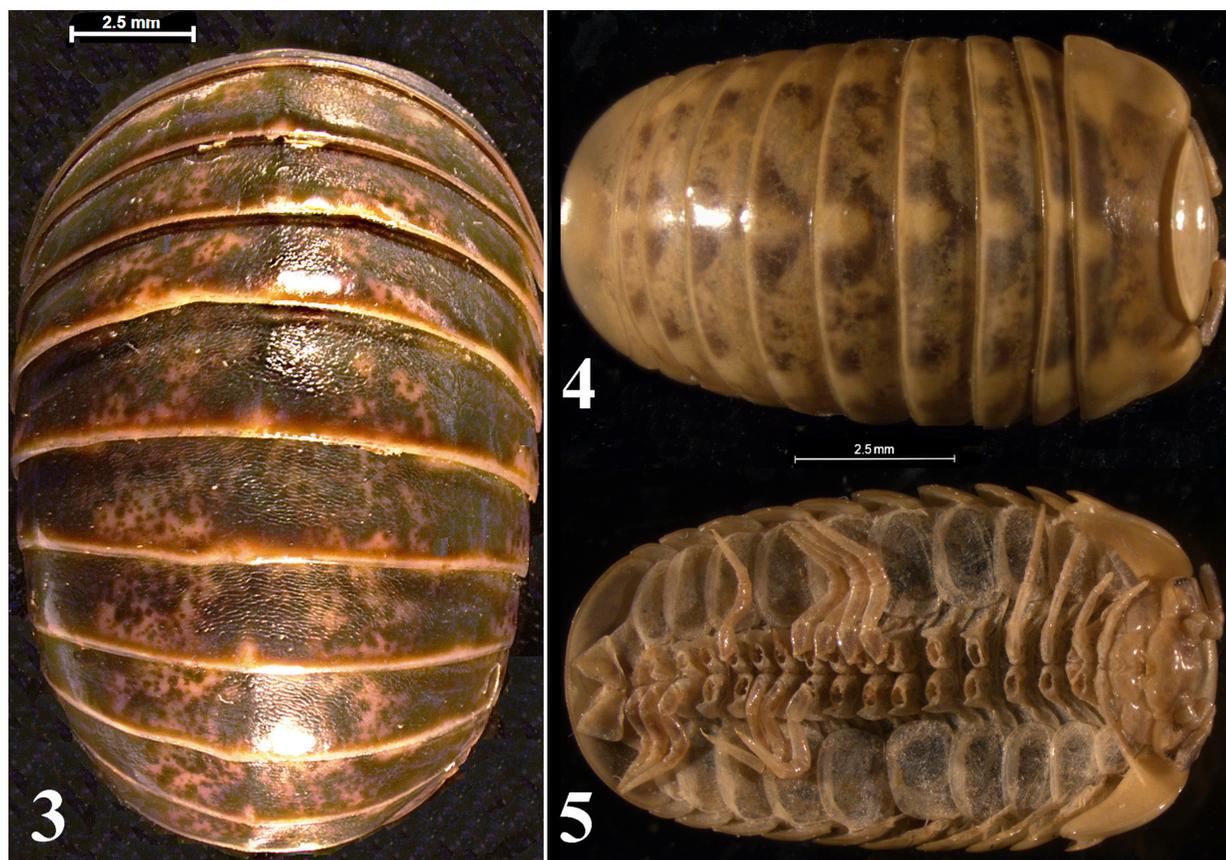
Rhopalomeris tenebris sp.n.
 Figs 1–10.

HOLOTYPE ♂ (ZMUM), Vietnam, Gia Lai Prov., ca 40 km ENE of Pleiku, 14°12'N, 108°19'E, Kon Ka Kinh National Park, 890–1500 m a.s.l., 21–30.V.2017, D. Fedorenko leg.

PARATYPES: 2 ♀♀, 1 juv. ♀ (ZMUM), same place and date, together with holotype.

NAME. To emphasize the usually very dark, up to blackish coloration of the dorsum.

DIAGNOSIS. Differs from the geographically closest congener, *R. variegata* Golovatch et Semenyuk, 2016, from both Kon Chu Rang Nature Reserve, 1000 m a.s.l., Gia Lai Province (14°30'54"N, 108°32'47"E) and Bak Khe River, 1030 m a.s.l., Kon Plong District, Kon Tum Province (14°43'N, 108°19'E) [Golovatch, Semenyuk, 2016; Golovatch, 2017], by the mainly blackish coloration of the dorsum, only sometimes slightly variegated and clearly so only in juveniles, vs always well



Figs 3–5. *Rhopalomeris tenebris* sp.n., ♀ paratypes, adult (3) and juvenile (4, 5), dorsal, dorsal and ventral views, respectively. Scale bars: 2.5 cm.

Рис. 3–5. *Rhopalomeris tenebris* sp.n., паратипы ♀♀, взрослая (3) и ювенильная (4, 5), соответственно сверху, сверху и снизу. Масштаб 2,5 см.

variegated all over the dorsum, and, above all, by the absence of a trichostele from the telopod prefemur.

DESCRIPTION. Length of holotype, ca 18 mm, width (maximum on tergum 2), ca 10 mm; length of adult paratypes, ca 19–20 mm, width on tergum 2, ca 10 mm (♂, ♀); juvenile paratype ca 11 mm long and 5.5 mm wide. Adult body usually rather uniformly very dark, blackish to blackish brown (Figs 1, 2), a variegated, marbled, lighter pattern on dorsum only sometimes traceable (Fig. 3); juvenile much lighter, its variegated pattern being very clear (Figs 4, 5). Venter largely light yellowish brown to yellowish. Antennae mostly light yellow, in adults only distal half to third of antennomere 6 and entire antennomere 7 contrasting blackish brown, in juvenile only very slightly infuscate; antennomere 8 pallid. Head largely brown, only labrum and mid-dorsal parts somewhat lighter.

Tergal tegument very finely leathery, moderately shining. In adults, ocelli 8+1, convex, completely translucent. Tömösváry's organ transverse-oval, ca 1.4 times wider than long. Antennomere 6 rather short, ca 2.0 times as long as high, dorsal margin clearly curved (Fig. 2). Disk of antennomere 8 beset with numerous, small, sensory cones. Collum as usual, with two transverse striae. Tergum 2 (= thoracic shield) with a very small and narrow hyposchism not produced past caudal tergal margin; transverse striae very numerous, often confused, likewise numerous ones crossing the dorsum. Anal shield regularly rounded at caudal margin (Figs 1, 2, 4, 5).

In regular legs (Fig. 6), podomere length ratios as follows: tarsus > femur > prefemur > coxa > postfemur = tibiae >> claw.

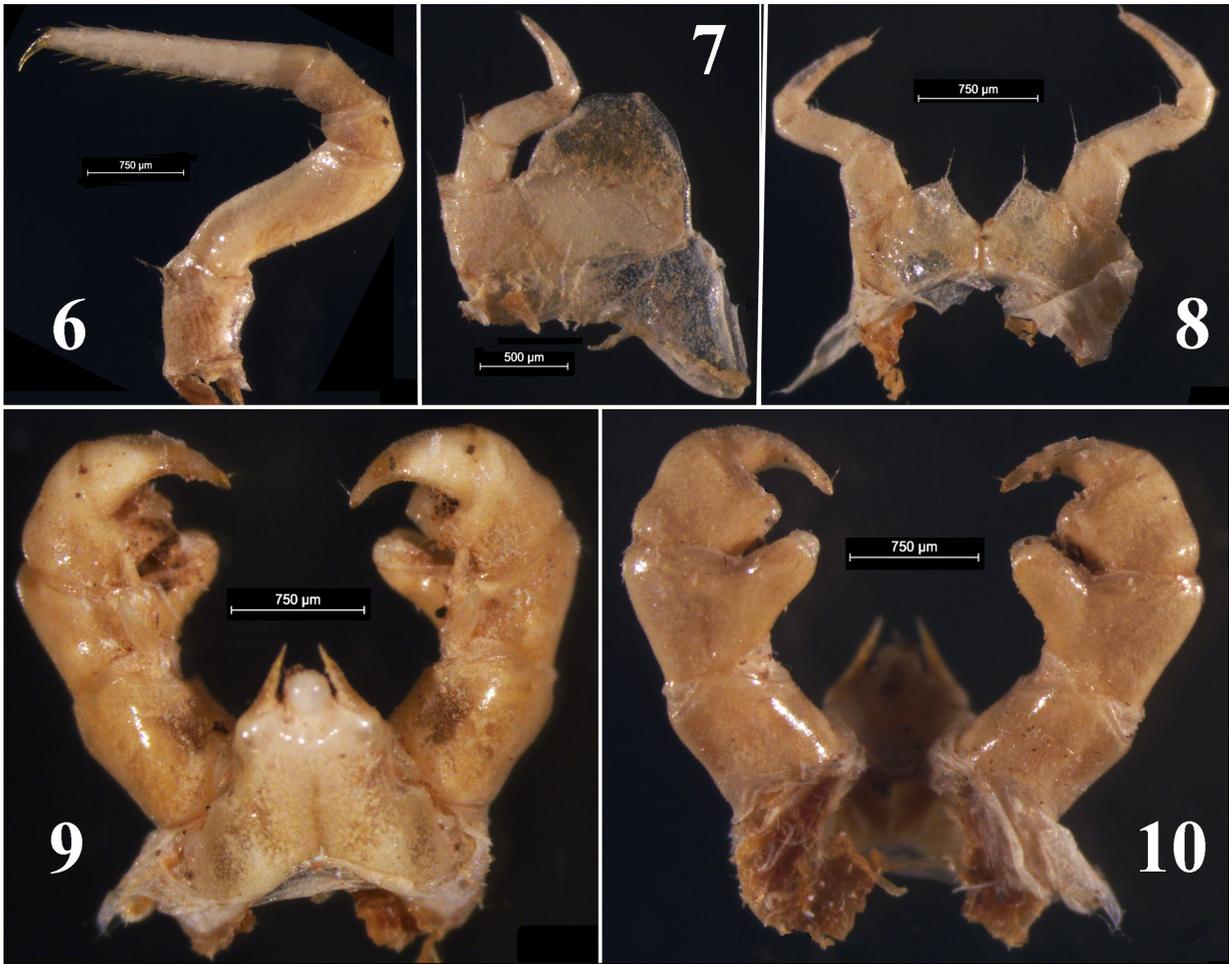
Tarsi especially densely and strongly setose both ventrally and dorsally. Claws regularly curved and simple.

♂ leg 17 (Fig. 7) strongly reduced, with a very high, regularly rounded, outer coxal lobe; telopodite 4-segmented, with only one strong apical spine.

♂ leg 18 (Fig. 8) less strongly reduced, with an ogival syncoxital notch; telopodite also 4-segmented, tarsus with one apical spine.

♂ legs 19, or telopods (Figs 9, 10), as usual, very strongly incrassate, with a relatively low, roundly trapeziform, central, syncoxital lobe flanked by two poorly setose horns, each latter about twice as high as syncoxital lobe and crowned by a very small, sharp, spiniform lobule. Prefemur devoid of a trichostele distoventrally. Femur distoventrally with a small anterior trichostele and a large posterior outgrowth, the latter set at ca 120° to femur and bearing a membranous apical sac folded anteriorly. Tibia distoventrally with a strong anterior seta and a rather large posterior outgrowth, the latter also bearing a membranous apical sac folded anteriorly. Tarsus rather strongly curved, subacuminate apically.

REMARKS. The genus *Rhopalomeris* Verhoeff, 1906 has hitherto been known to comprise only seven species, nearly all keyed, that range from the southern peninsular regions of Malaysia, Myanmar and Thailand in the south to northern Vietnam in the north [Likhitrakarn *et al.*, 2024; Sapparojattana *et al.*, 2025]. Among the four species that occur in Vietnam, all narrowly endemic [Nguyen *et al.*, 2025], *R. variegata* Golovatch et Semenyuk, 2016 is the only congener that shows a full-grown



Figs 6–10. *Rhopalomeris tenebris* sp.n., ♂ holotype, legs 16 (6), 17 (7), 18 (8) and 19 (9, 10), anterior, anterior, anterior, anterior and posterior views, respectively. Scale bars: 0.5 (7) and 0.75 mm (6, 8–10).

Рис. 6–10. *Rhopalomeris tenebris* sp.n., голотип ♂, ноги 16 (6), 17 (7), 18 (8) и 19 (9, 10), соответственно спереди, спереди, спереди, спереди и сзади. Масштаб 0,5 (7) и 0,75 мм (6, 8–10).

trichostele on the telopod prefemur as a distinctive character [Golovatch, Semenyuk, 2016; Golovatch, 2017]. This feature is only shared with *R. sirindhornae* Sapparoj pattana, Jeratthitikul et Likhitrakarn, 2025, from southern Thailand, and *R. carnifex* (Pocock, 1889), the type species from Myanmar, Malaysia and southern Thailand [Likhitrakarn *et al.*, 2024; Sapparoj pattana *et al.*, 2025]. An intermediate case of only a somewhat reduced trichostele is observed in *R. nagao* Nguyen, Nguyen et Eguchi, 2021, from Vietnam [Nguyen *et al.*, 2021], whereas the remaining congeners have none. *Rhopalomeris tenebris* sp.n., although superficially being especially similar to *R. variegata* in size, coloration and numerous other characters, also both being the closest geographically and the only congeners that populate southern Vietnam, totally lacks a trichostele on the telopod prefemur, like most congeners do.

Order Platydesmida
Family Androgathidae

Pseudodesmus bidoup Nguyen, Nguyen et Korsós,
2024

MATERIAL. 1 ♀ (ZMUM), Vietnam, Lam Dong Prov., Bidoup–Nui Ba National Park, 12°11'34.2"N, 108°42'42.6"E, tropical rainforest, litter, VII.2025, M. Bizin leg.

REMARK. This species seems to be endemic to the Bidoup–Nui Ba National Park, while above is a strict topotype [Nguyen *et al.*, 2024, 2025].

Order Spirobolida
Family Pachybolidae
Atopochetus vietnamicus sp.n.
Figs 11–23.

HOLOTYPE ♂ (ZMUM), Vietnam, Gia Lai Prov., ca 40 km ENE of Pleiku, 14°12'N, 108°19'E, Kon Ka Kinh National Park, 890–1500 m a.s.l., 21–30.V.2017, D. Fedorenko leg.

PARATYPES: 2 ♂♂ (ZMUM), same place and dates, together with holotype.

NAME. To reinforce the presence of *Atopochetus* Attems, 1953 in Vietnam.

DIAGNOSIS. Differs from congeners by the following combination of characters: adults the smallest (length ca 46–50 mm, diameter 4.0–4.1 mm, vs length 60–100 mm, diameter ca 4.9–7.7 mm [Pimvichai *et al.*, 2018]); adult coloration in alcohol mainly light, red-brown, with a slight to moderate cingulation pattern of lighter, yellowish to orange prozona and metazona, both translucent, and only slightly to moderately contrasting infuscate, marbled, red- to grey-brown mesozona (Figs 11–14),



Figs 11–13. *Atopochetus vietnamicus* sp.n., ♂ paratype. 11 — habitus, lateral view; 12 — anterior part of body (head and rings 1–7), ventral view; 13 — posterior part of body, lateral view. Scale bars: 2.5, 1.0 and 2.5 mm, respectively.

Рис. 11–13. *Atopochetus vietnamicus* sp.n., паратип ♂. 11 — общий вид, сбоку; 12 — передняя часть тела (голова и туловищные сегменты 1–7), снизу; 13 — задняя часть тела, сбоку. Масштаб соответственно 2,5, 1,0 и 2,5 мм.

vs more varied, sometimes dark to very dark, often with evident cingulate patterns [Pimvichai *et al.*, 2018]; triangular process (**tp**) of anterior gonopod the smallest triangle on top, sharp and fully apical in position; meso-distad process (**mpd**) of posterior gonopod prominent and subtruncate; tip of posterior gonopod subsecuriform, with a small subapical flagellum (**f**) marking the orifice of an entirely mesal seminal groove.

DESCRIPTION. Holotype ca 46 mm long and 4.0 mm in diameter, with 54+T body rings. Paratypes ca 48 or 50 mm long and 4.0–4.1 mm in diameter, with 47+T or 49+T body rings, one paratype the darkest (Fig. 14). No apodous rings before telson.

Body cylindrical. Tegument smooth and shining. Postcollum constriction evident until a clearly enlarged ring 7 (♂) (Fig. 11). Head nearly fully red-brown, with 2+2 supra-labral and several labral setae, clearly incised and tridentate anteromesally; axial supra-labral suture deep, coming to naught between antennae; interantennal isthmus ca 2.5x as broad as antennal socket; antennae short and clavate, antennomeres 1 and 2 located inside a clear-cut notch, tips of antennae lighter brownish; ocellaria blackish, round, ca 20 flat ocelli per ocellarium (Fig. 12). Collum broadly and regularly rounded laterally, finely bordered anteroventrally (Fig. 11). Postcollum rings only slightly vaulted on metazona (Figs 11, 14), ring 7 complete ventrally due to a wide band (♂) (Fig. 12). Sutures between meso- and metazona faint, but visible due to small arcuated impressions or, dorsally, punctures. Both meso- and metazona finely and increasingly densely striate in ventral halves below ozopore level, metazona striate longitudinally and mesozona obliquely dorsad. Ozopores lateral, starting with ring 6, small and inconspicuous, lying on mesozona just in front of sutures (Fig. 11). Limbus inconspicuously crenulate (Fig. 12). Telson with a small, but evident, dorsoventrally slightly flattened, finger-shaped, apically rounded

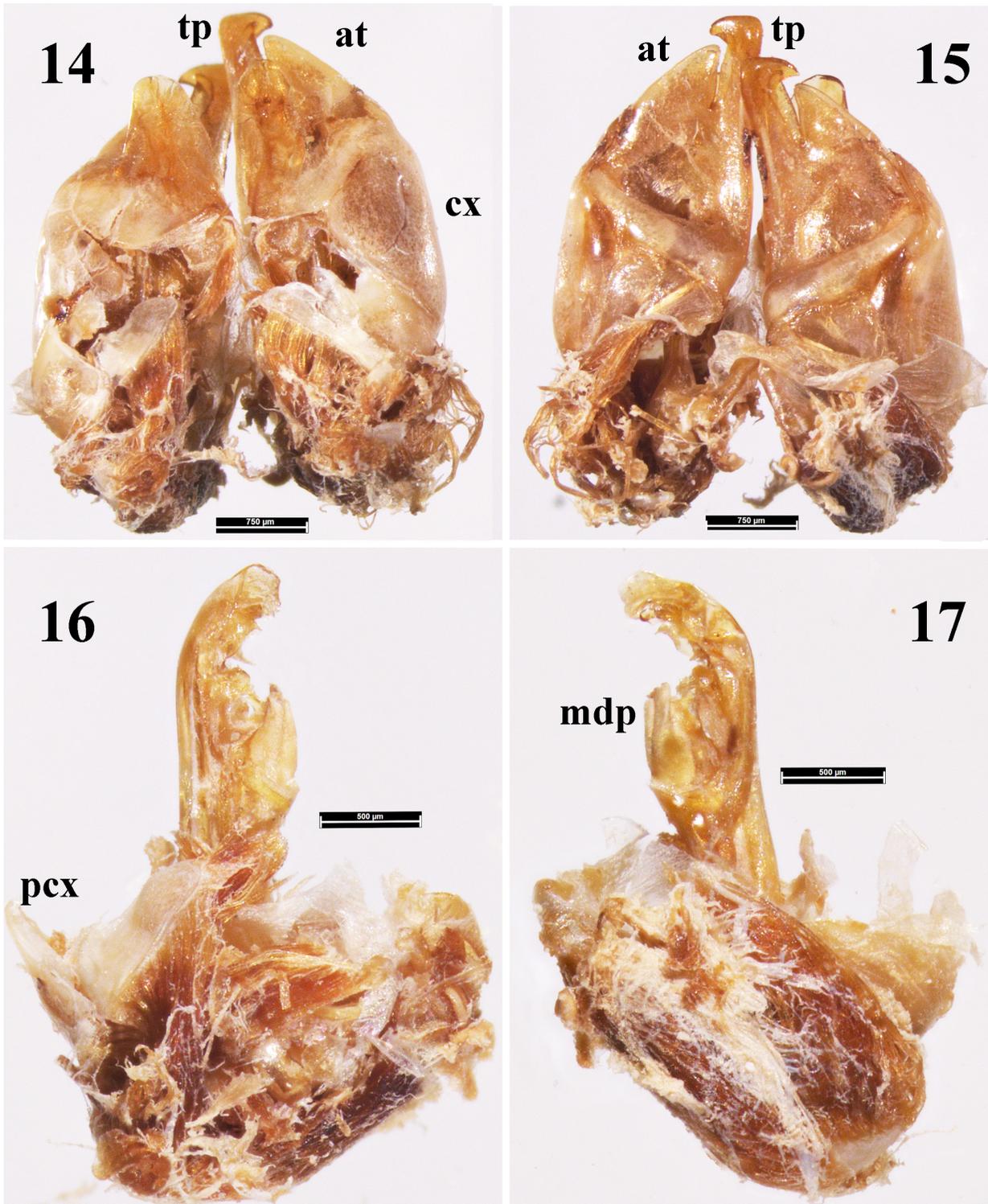
epiproct; paraprocts slightly, but visibly impressed off caudal margins (Figs 11, 13), both subcontiguous; hypoproct a small, spindle-shaped, strongly transverse sclerite.

Sterna very narrow; legs yellow-red, contiguous at base, rather densely setose only ventrally, short, about half as long as midbody height (Figs 11, 12); each tarsus with a strong, slightly curved claw and, starting with leg 3, with a soft sole pad (♂).

Anterior gonopods (Figs 14, 15, 19–21) with a high, gradually and moderately attenuated, and apically rounded sternum (**st**) bearing a small, axial keel on caudal face; a slightly longer telopodite (**at**) with a subtriangular tip on top of a squarish coxite (**cx**), and the highest, mesal, triangular process (**tp**) directed laterad and originating apically on posterior surface, and showing a sharp tip.

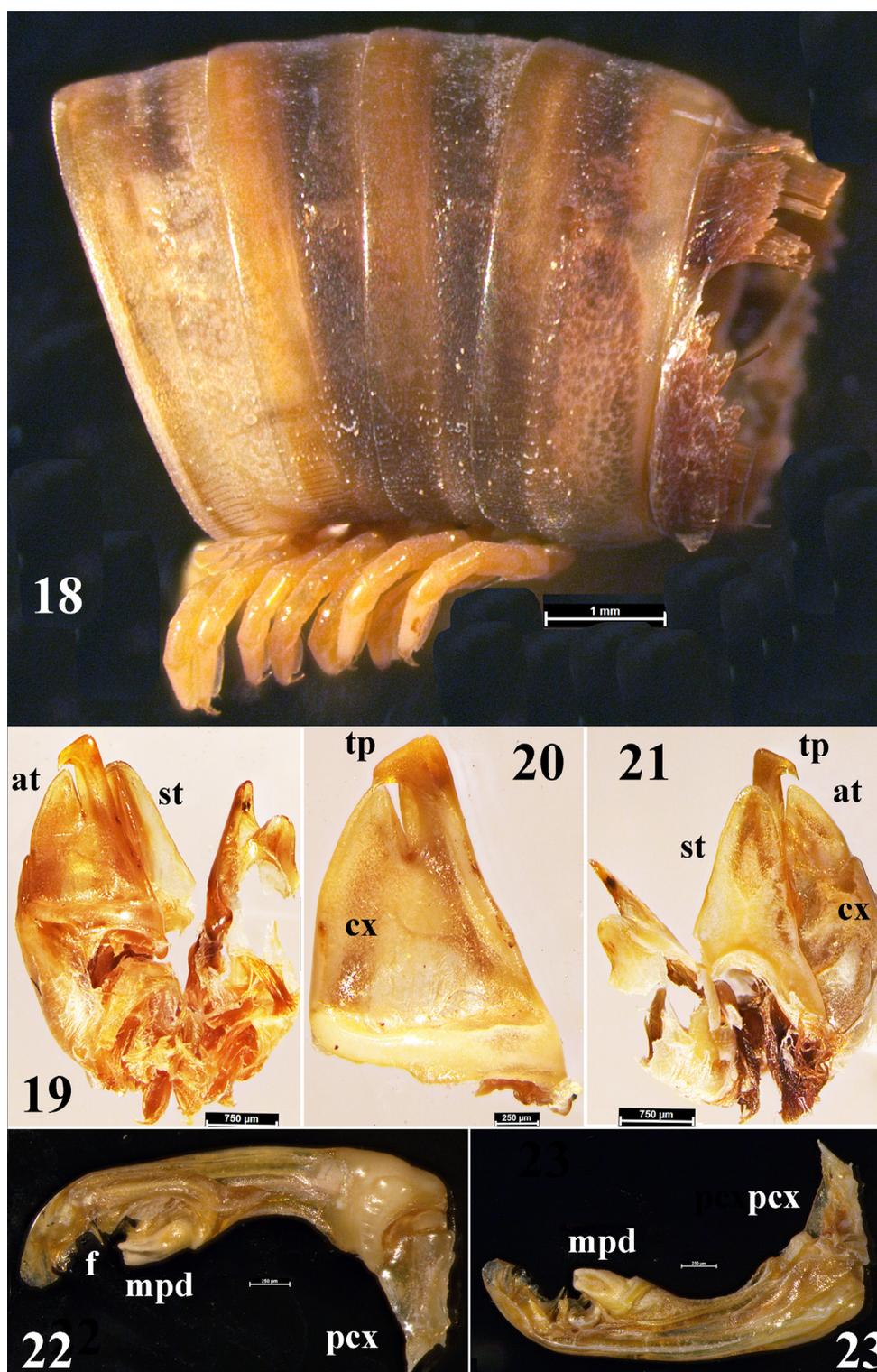
Posterior gonopods (Figs 16, 17, 22, 23) simple, with a short coxal part (**pcx**) forming a nearly right angle with a much larger and only slightly curved telopodital part; the latter ribbon-shaped, with a prominent, subtruncate, meso-distad process (**mpd**) and a subsecuriform tip with a small subapical flagellum (**f**) marking the orifice of an entirely mesal seminal groove.

REMARKS. The Southeast Asian genus *Atopochetus* Attems, 1953 presently comprises 13 accepted species ranging from Sumatra (Indonesia), Western Malaysia, Myanmar and Thailand to Cambodia and Vietnam [Pimvichai *et al.*, 2018]. The only congener reported from Vietnam so far, and also from Cambodia, is *A. dolfussii* (Pocock, 1893) which, like *R. vietnamicus* sp.n., seems to inhabit only the southern part of the country [Nguyen *et al.*, 2025]. Both these species mainly differ in *A. dolfussii* adults being larger (length ca 70–100 mm, diameter 5.4–7.3 mm), the anterior gonopods showing considerably larger triangular processes (**tp**), and the posterior gonopod tips being clearly bifid/bidentate [Pimvichai *et al.*, 2018].



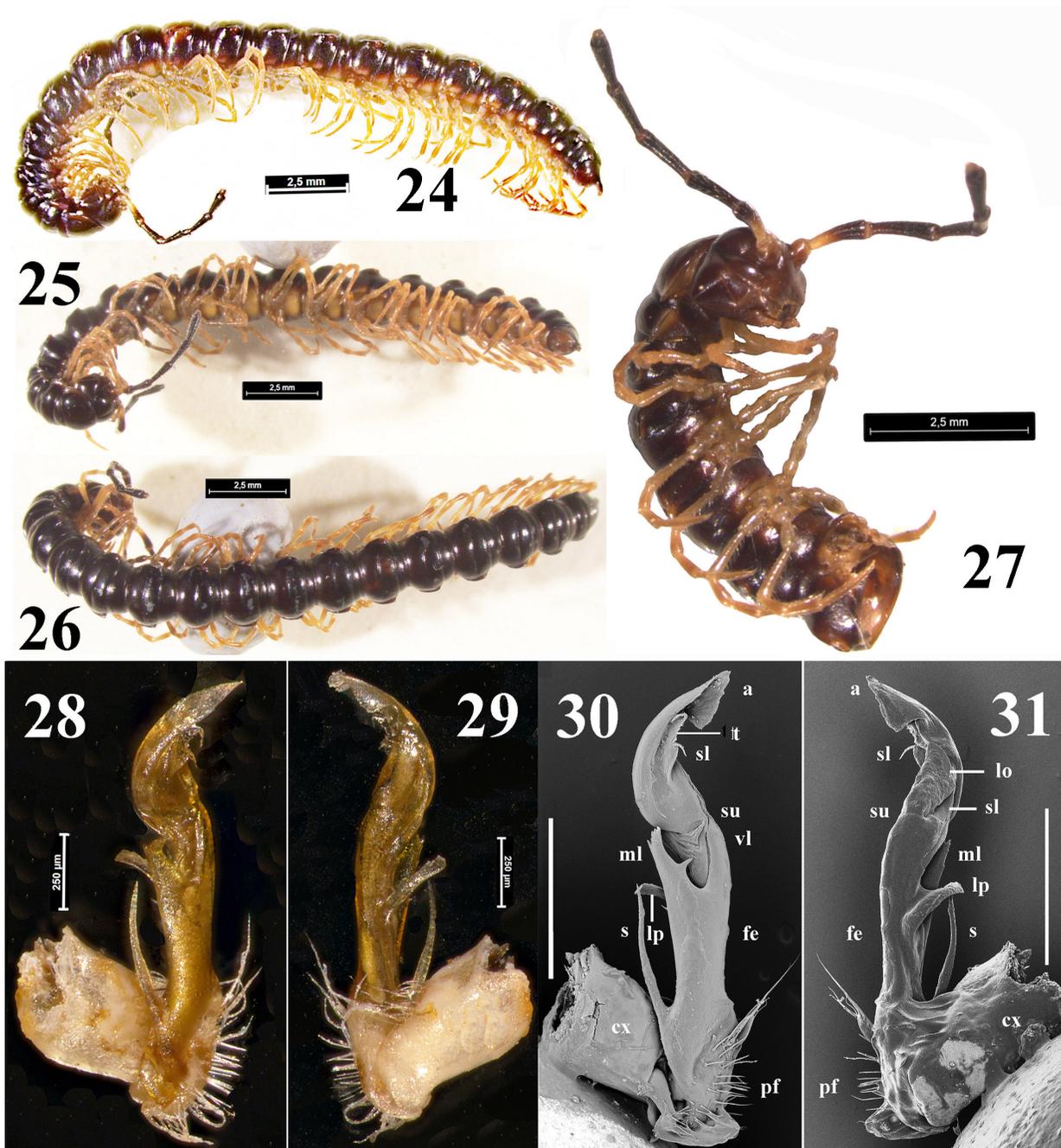
Figs 14–17. *Atopochetus vietnamicus* sp.n., ♂ paratype. 14, 15 — anterior gonopods (sternum removed), anterior and posterior views, respectively; 16, 17 — left posterior gonopod, anterior and posterior views, respectively. Abbreviations: at — telopodite; cx — coxite; mdp — meso-distad process; pcx — posterior gonopod coxite; tp — triangular process. Scale bars: 0.75 (14, 15) and 0.5 mm (16, 17).

Рис. 14–17. *Atopochetus vietnamicus* sp.n., паратип ♂. 14, 15 — передние гоноподы (стернит удален), соответственно спереди и сзади; 16, 17 — левый задний гонопод, соответственно спереди и сзади. Обозначения: at — телоподит; cx — коксит; mdp — средне-дистальный отросток; pcx — коксит заднего гонопода; tp — треугольный отросток. Масштаб 0,75 (14, 15) и 0,5 мм (16, 17).



Figs 18–23. *Atopochetus vietnamicus* sp.n., ♂ paratype. 18 — midbody rings, lateral view; 19 — anterior gonopods (intact right and destroyed left anterior gonopod), posterior view; 20 — right anterior gonopod, posterior view; 21 — anterior gonopods (intact right and destroyed left anterior gonopod), anterior view. Abbreviations: at — anterior gonopod telopodite; cx — anterior gonopod coxite; f — flagellum at orifice of seminal groove; mdp — meso-distad process; pcx — posterior gonopod coxite; st — anterior gonopod sternum; tp — triangular process. Scale bars: 1.0 (18), 0.75 (19, 21) and 0.25 mm (20, 22, 23).

Рис. 18–23. *Atopochetus vietnamicus* sp.n., паратип ♂. 18 — среднетуловищные сегменты, сбоку; 19 — передние гоноподы (неповрежденный правый и разрушенный левый передние гоноподы), сзади; 20 — правый передний гонопод, сзади; 21 — передние гоноподы (неповрежденный правый и разрушенный левый передние гоноподы), спереди. Обозначения: at — телоподит переднего гонопода; cx — коксит переднего гонопода; f — жгутик у выхода семенной бороздки; mdp — средне-дистальный отросток; pcx — коксит заднего гонопода; st — стернит передних гоноподов; tp — треугольный отросток. Масштаб 1,0 (18), 0,75 (19, 21) и 0,25 мм (20, 22, 23).



Figs 24–31. *Annamina spinigera* sp.n., ♂ holotype (24–26) and ♂ paratype (27–31). 24–26 — habitus, lateral, ventral and dorsal views, respectively; 27 — anterior part of body, ventrolateral view; 28–31 — left gonopod, mesal, lateral, mesal and lateral views, respectively. Abbreviations: a — apical process; cx — coxite; fe — femorite; fl — flagellum; lp — lateral process; ml — mesal lobe; pf — prefemorite; s — spine; sl — solenomere; su — postfemoral sulcus; t — solenophore lobe; vl — ventral lobe. Scale bars: 2.5 (24–27), 0.5 (30, 31) and 0.25 mm (28, 29).

Рис. 24–31. *Annamina spinigera* sp.n., голотип ♂ (24–26) и паратип ♂ (27–31). 24–26 — общий вид, соответственно сбоку, снизу и сверху; 27 — передняя часть тела, одновременно снизу и сбоку; 28–31 — левый гонопод, соответственно изнутри, сбоку, изнутри и сбоку. Обозначения: а — вершинный отросток; cx — коксит; fe — феморит; fl — жгутик; lp — боковой отросток; ml — внутренняя пластина; pf — префеморит; s — шип; sl — соленомер; su — постфеморальная бороздка; t — пластинка соленофора; vl — нижняя пластина. Масштаб 2,5 (24–27), 0,5 (30, 31) и 0,25 мм (28, 29).

Order Polydesmida
Family Cryptodesmidae

Trichopeltis kometis (Attems, 1938)

MATERIAL. 1 ♀, 1 subad. ♀ (ZMUM), Vietnam, Lam Dong Prov.,

Bidoup–Nui Ba National Park, 12°11'34.2"N, 108°42'42.6"E, tropical rainforest, litter, VII.2025, M. Bizin leg.

REMARK. This species seems to be endemic to Vietnam, yet being quite widespread in the country, including the Lam Dong Province [Nguyen *et al.*, 2025].

Family Paradoxosomatidae

Annamina spinigera sp.n.

Figs 24–31.

HOLOTYPE ♂ (ZMUM), Vietnam, Lam Dong Prov., Bidoup–Nui Ba National Park, Hon Giao Peak, 12°11'34.2"N, 108°42'42.6"E, tropical rainforest, night collection, litter, VII.2025, M. Bizin leg.

PARATYPE: 1 fragmented ♂ (ZMUM), same place and date, together with holotype.

NAME. To emphasize the presence of a long dorsal spine (s) basally on the gonopodal femorite; adjective in feminine gender.

DIAGNOSIS. Differs from congeners by the lack of anterior denticles on most paraterga, but chiefly in certain details of gonopodal structure, first of all the presence of a long dorsal spine (s) basally on the gonofemorite and the shapes of the processes and outgrowths.

DESCRIPTION. Body length, ca 25 mm (holotype), width of midbody pro- and metazona, 1.7 and 2.0 mm (holotype) or 1.9 and 2.3 mm (paratype), respectively.

General coloration in alcohol mainly dark brown to blackish, devoid of a distinct pattern; clypeolabral region, antennomere 7, sides, ozopore regions, paraterga 1 (on collum) and 2, caudal parts of following paraterga, paraprocots and tip of epiproct lighter, brownish to red-brown; antennomere 1 and basal half of antennomere 2, as well as venter, legs and gonopods light brown to yellowish brown (Figs 24–27).

Body clearly moniliform. Clypeolabral region setose, setae becoming scattered between antennae; vertex nearly bare; epicranial suture thin, superficial. Antennae very long, slender and very moderately clavate, slightly extending back past ring 3 when stretched dorsally (♂); in length, antennomere 3 > 4 = 5 > 2 = 6 >> 1 > 7 (Fig. 27). Interantennal isthmus about as wide as diameter of antennal socket. In width, collum = ring 3 = 4 < 2 < head = 5–16 (♂); thereafter body gradually tapering towards telson on rings 17–19. Tegument generally smooth and shining, finely shagreened; metaterga just above paraterga mostly striolate to rugulose; surface below paraterga usually rugose and finely microgranulate; tergal setae mostly fully abraded. Collum regularly rounded laterally, more angular so caudally; dorsum strongly and regularly convex, sometimes with a few short setae, finely rimmed anteriorly and laterally, but paraterga directed ventrolaterad. Postcollum paraterga moderately developed, but evident, mostly set high at about upper 1/4–1/3 metazonal height, subhorizontal; paraterga 2 lower than others, drawn both forward and caudad into rounded lobes, with a small lateral tooth near anterior corner. Following paraterga broadly and regularly rounded anterolaterally, devoid of teeth; caudal corner rounded to dentiform, but drawn past rear tergal margin only on ring 3; calluses narrow, demarcated by a complete sulcus only dorsally and, only in caudal halves, by a somewhat incomplete one ventrally; poriferous calluses only a little thicker than poreless ones (Figs 24–27). Ozopores lateral, but slightly visible even from above, each placed inside an elongated ovoid groove mostly located at about rear 1/4 callus. Transverse metatergal sulci thin, deep, faintly sinuate medially and beaded at bottom, nearly reaching the bases of paraterga, present on metaterga 5–18 (Fig. 25). Stricture dividing pro- and metazona thin and deep, finely striolate at bottom down to a little below paraterga. An axial line wanting. Pleurosternal carinae a small ventral lobule on ring 2, thereafter very faint, arcuated ridges or sulci traceable until ring 7, vestigial on ring 8 (♂). Epiproct (Fig. 24) long, clearly flattened dorsoventrally, conical, slightly curved ventrad, subtruncate at apex, subapical and apical lateral papillae small, but evident. Hypoproct roundly subtriangular, transverse, with a rounded apex, caudal 1+1 setae well-separated, borne on minute knobs.

Sterna flat, sparsely setose to nearly bare, cross-impressions very faint, without modifications other than a prominent, very high, narrow, triangular, subtruncate and only apically rounded lobe between ♂ coxae 4 (Fig. 27). Legs very long, ca 2 times as long as midbody height, very slender in both sexes, with neither adenostyles nor ventral brushes; prefemora not bulged laterad; in length, femora = tarsi > prefemora = postfemora = tibiae > coxae (Figs 24–27).

Gonopods (Figs 28–31) complex, telopodites stout. Coxite (cx) very considerably shorter than telopodite, subcylindrical, densely setose distoventrally. Prefemoral (= densely setose) part (pf) short, set off from femorite (fe) by an oblique sulcus. Femorite (fe) relatively slender, flattened dorsoventrally, showing a prominent, suberect spine (s) dorsobasally, a finger-shaped and subtransverse lateral process (lp) near fe midlength, and a barely spiculate-microdenticulate mesal lobe (ml) distally, and a small, hyaline, ventral lobe (vl) tightly pressed to fe end opposite ml; seminal groove running laterad along dorsal part of fe, distally detached near a subtransverse postfemoral sulcus (su) into a conspicuously short, flagelliform, coiled solenomere (sl). A very complex solenophore with a free sl starting distal to su, subtended at base by a large, subtriangular, membranous lobe (lo) laterally, a short, delicately barbed, apical flagellum (t) ventrally distal to sl apex, and a prominent, subsecuriform, apical process (a).

REMARKS. The Vietnamese endemic genus *Annamina* Attems, 1937 has hitherto been known to comprise only four species, all keyed and all confined to the southern part of the country [Golovatch *et al.*, 2017]. The new species described above fails to key out to any of the congeners, differing readily from *A. attemsi* Golovatch, Geoffroy et Akkari, 2017, *A. irinae* Golovatch, Geoffroy et Akkari, 2017, *A. mikhaljovae* Golovatch, Geoffroy et Akkari, 2017, and *A. xanthoptera* Attems, 1937 (the type species) by certain details of gonopodal conformation, including the development of a highly conspicuous spine (s) dorsally at the base of the femorite. Some of the secondary elements like a, lp or su, are easy to homologize throughout [Golovatch *et al.*, 2017], thus making the generic assignment of *A. spinigera* sp.n. very clear, but several others remain obscure, spine s being perhaps the most remarkable.

Nedyopus dawydoffiae (Attems, 1953)

MATERIAL. 2 ♂♂ (ZMUM), Vietnam, Lam Dong Prov., Bidoup–Nui Ba National Park, 12°11'34.2"N, 108°42'42.6"E, tropical rainforest, litter, VII.2025, M. Bizin leg.

REMARKS. This vividly bichromous and large species, apparently forest-dwelling, has already been recorded from the Bidoup–Nui Ba National Park [Golovatch, 2009]. Endemic to Vietnam, it has been reported from Lam Dong, Dak Lak and Dong Nai provinces at various elevations [Golovatch, 2016; Nguyen *et al.*, 2025].

Orthomorpha scabra Jeekel, 1964

MATERIAL. 1 ♂ (ZMUM), Vietnam, Lam Dong Prov., Bidoup–Nui Ba National Park, 12°11'34.2"N, 108°42'42.6"E, inside house, VII.2025, M. Bizin leg.

REMARKS. This species seems to be endemic to the Bidoup–Nui Ba National Park, being represented there by two varieties, *O. scabra* var. *scabra* and *O. scabra* var. *grandis* [Likhitrakarn *et al.*, 2019]. Recently, Nguyen *et al.* [2025] elevated both varieties to subspecies, thus allotting each a taxonomic status. The same concerned *O. rotundicollis*, a species known from both Vietnam and Laos [Nguyen *et al.*, 2025], elevating both *O. rotundicollis* var. *rotundicollis* and *O. rotundicollis* var. *subrotundicollis* to subspecies, and therefore turning them into taxa. Yet neither reasons nor arguments for such taxonomic actions have been given.

We return the subspecies the status of varieties, formally advancing the following new synonymies: *O. scabra grandis* = *O. scabra* var. *grandis*, and *O. rotundicollis subrotundicollis* = *O. rotundicollis* var. *subrotundicollis*, both **syn.n.**

Tylopus tuberculatus Golovatch et Semenyuk, 2016

MATERIAL. 2 ♀♀ (ZMUM), Vietnam, Lam Dong Prov., Bidoup–Nui Ba National Park, 12°11'34.2"N, 108°42'42.6"E, inside house, VII.2025, M. Bizin leg.

REMARKS. This species has originally been described from the Kon Ka Kinh National Park, Gia Lai Province [Golovatch, Semenyuk, 2018], not Pu Mat National Park, Nghe An Province, as erroneously stated by Nguyen *et al.* [2025]. The above new record somewhat extends its range to the not too remote Bidoup–Nui Ba National Park which lies within the adjacent Lam Dong Province of southern Vietnam.

Compliance with ethical standards

CONFLICT OF INTEREST: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

Acknowledgements. We thank sincerely Dmitry N. Fedorenko and Mikhail S. Bizin (both Moscow, Russia), the collectors who kindly rendered to us their material for treatment. Roman A. Rakitov (PIN) very skillfully helped us take all photo- and micrographs.

References

- Golovatch S.I. 2009. On several new or poorly-known Oriental Paradoxosomatidae (Diplopoda Polydesmida), VIII // *Arthropoda Selecta*. Vol.18. Nos 1–2. P.1–7.
- Golovatch S.I. 2016. On several new or poorly-known Oriental Paradoxosomatidae (Diplopoda: Polydesmida), XIX // *Arthropoda Selecta*. Vol.25. No.2. P.131–152.
- Golovatch S.I. 2017. Another two new species of the millipede family Glomeridae from Vietnam, with a new record of *Rhopalomeris variegata* Golovatch et Semenyuk, 2016 from southern Vietnam (Diplopoda: Glomerida) // *Russian Entomological Journal*. Vol.26. No.2. P.195–202.
- Golovatch S.I., Geoffroy J.-J., Akkari N. 2017. Revision of the Vietnamese millipede genus *Annamina* Attems, 1937, with descriptions of three new species (Diplopoda, Polydesmida, Paradoxosomatidae) // *ZooKeys*. Vol.669. P.1–18.
- Golovatch S.I., Nguyen D.A. 2025. Three interesting new records of millipedes from southern Vietnam, with the description of a new species of the genus *Enghoffosoma* Golovatch, 1993 (Diplopoda: Polydesmida: Platyrhacidae, Paradoxosomatidae) // *Arthropoda Selecta*. Vol.34. No.3. P.303–311.
- Golovatch S.I., Semenyuk I.I. 2016. Two new species of the millipede family Glomeridae from Vietnam (Diplopoda: Glomerida) // *Russian Entomological Journal*. Vol.25. No.4. P.411–416.
- Golovatch S.I., Semenyuk I.I. 2018. On several new or poorly-known Oriental Paradoxosomatidae (Diplopoda: Polydesmida), XXIV // *Arthropoda Selecta*. Vol.27. No.3. P. 187–200.
- Likhitrakarn N., Golovatch S.I., Semenyuk I.I., Efeykin B.A., Panha S. 2019. Review of the millipede genus *Orthomorpha* Bollman, 1893 (Diplopoda, Polydesmida, Paradoxosomatidae) in Vietnam, with several new records and descriptions of two new species // *ZooKeys*. Vol.898. P.121–158.
- Likhitrakarn N., Golovatch S.I., Srisonchai R., Jirapatrasilp., Sapparojattana P., Jeratthitikul E., Panha S., Sutcharit C. 2024. A new species of the pill millipede genus *Rhopalomeris* Verhoeff, 1906 (Diplopoda, Glomerida, Glomeridae) from Myanmar, and notes on *Rhopalomeris carnifex* (Pocock, 1889) // *ZooKeys*. Vol.1215. P.235–257.
- Nguyen A.D., Nguyen L.T.P., Korsós Z. 2024. A review of the millipede genus *Pseudodesmus* Pocock, 1887 (Diplopoda, Platydesmida, Andrognathidae) from Vietnam, with descriptions of five new species and notes on its phylogeny // *Zoosystematics and Evolution*. Vol.104. No.4. P.515–541.
- Nguyen A.D., Nguyen S.G., Eguchi K. 2021. A new *Rhopalomeris* species (Diplopoda: Glomerida: Glomeridae), and notes on the phylogenetic relationships between glomeridans in Vietnam // *Zootaxa*. Vol.4927. No.2. P.257–264.
- Nguyen D.A., Nguyen T.A.T., Le A.H., Le S.X., Tran B.T.T. 2025. An updated checklist of the millipedes of Vietnam and research perspectives (Arthropoda, Diplopoda) // *Zootaxa*. Vol.5649. P.1–71.
- Pimvichai P., Enghoff H., Panha S., Backeljau T. 2018. Morphological and mitochondrial DNA data reshuffle the taxonomy of the genera *Atopochetus* Attems, *Litostrophus* Chamberlin and *Tonkinbolus* Verhoeff (Diplopoda: Spirobolida: Pachybolidae), with descriptions of nine new species // *Invertebrate Systematics*. Vol.32. P.159–195.
- Sapparojattana P., Jeratthitikul E., Likhitrakarn N. 2025. A new species of the pill millipede genus *Rhopalomeris* Verhoeff, 1906 (Diplopoda, Glomerida) from southern Thailand // *Tropical Natural History, Supplement* 8. P.52–61.

Responsible editor K.G. Mikhailov