

On a collection of the millipede family Platyrrhacidae from Peru (Diplopoda: Polydesmida)

О коллекции многоножек-диплопод семейства Platyrrhacidae из Перу (Diplopoda: Polydesmida)

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КЛЮЧЕВЫЕ СЛОВА: таксономия, новый вид, распространение, иконография.

ABSTRACT. The collection of large-sized Platyrrhacidae from Peru, kept in the Zoological Museum in Moscow, Russia, presently contains four species. Three of them belong to the very large genus *Barydesmus* Cook, 1896, and one to the somewhat less diverse *Psammodesmus* Cook, 1896. Two *Barydesmus* come from the Andes of Selva Alta in central Peru, identified as *B. cf. azulae* (Kraus, 1956) and *B. melniki* sp.n. The former species differs from the typical *B. azulae* (Kraus, 1956), from northern Peru, by the monochromous black-brown or light beige colouration. The new species *B. melniki* sp.n. is distinguished from its 52 presently named congeners by the peculiar bichromatic colouration, in which the head, prozonae, strictures between pro- and metazonae, entire metazonae and most of the telson are dark grey-brown, all conspicuously contrasting to the whitish to light yellowish paraterga, legs and hypoproct. In addition, the gonopodal telopodite is highly characteristic through a particularly long prefemorite and a considerably shortened and suberect acropodite, the latter bearing a regularly rounded tip only slightly curved mesad. One more *Barydesmus*, *B. loretus* (Chamberlin, 1941), as well as *Psammodesmus cf. chuncho* (Chamberlin, 1941), both from Peruvian Amazonia, are also described and properly illustrated. *Barydesmus loretus* is recorded from near the delta of Rio Marañon for the first time, thus providing a very considerable range extension of this species along that river. *Psammodesmus cf. chuncho*, albeit coming from near Iquitos, the type locality of *P. chuncho*, differs from the nominate species primarily by a longer and sigmoid solenomere.

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РЕЗЮМЕ. Коллекция крупных Platyrrhacidae из Перу, хранящаяся в Зоологическом музее в Москве (Россия), в настоящее время содержит четыре вида. Три из них принадлежат очень большому роду *Barydesmus* Cook, 1896, а один — несколько менее крупному роду *Psammodesmus* Cook, 1896. Два вида *Barydesmus* из района Selva Alta в Андах Центрального Перу определены как *B. cf. azulae* (Kraus, 1956) и *B. melniki* sp.n. Первый из видов отличается от номинального *B. azulae* из Северного Перу одноцветно черно-бурой или светлой бежевой окраской. Новый вид отличается от остальных 52 известных пока видов рода особой двухцветной окраской, где голова, прозониты, шов между про- и метазонитами, сами метазониты и большая часть тельсона темно-серо-бурые и резко контрастируют с белесыми или светло-желтоватыми паратергитами, ногами и гипопроктом. Кроме того, телоподит гонопода очень своеобразен за счет особенно удлиненного предбедра и особенно укороченного акроподита с правильно округленной вершиной. Также описаны и снабжены иллюстрациями *Barydesmus loretus* (Chamberlin, 1941) и *Psammodesmus cf. chuncho* (Chamberlin, 1941), оба вида из департамента Лорето (перуанская Амазония). Вид *Barydesmus loretus* впервые отмечен близ устья реки Мараньон, тем самым очень значительно расширяя его ареал вдоль этой реки. При этом вид *P. cf. chuncho*, хотя и найден в окрестностях Икитоса, типовой местности *P. chuncho*, отличается от номинативного *P. chuncho* прежде всего более длинным и сигмовидным соленомером.

Introduction

The large tropical millipede family Platyrrhacidae includes ca 30 genera of medium- to large-sized species (30–134 mm long) occurring in two conspicuously disjunct areas, namely, the Indo-Australian Region, from Myanmar, Malaysia, Thailand and Indochina through Indonesia and the Philippines, to New Guinea with some adjacent archipelagos of Melanesia and Palau in Oceania, and the Neotropical Region, from the Antilles and Nicaragua to Peru and Brazil [Enghoff *et al.*, 2015]. The American Platyrrhacidae presently contain 85 named species, including a few *nomina dubia*, in nine accepted genera [Recuero, Sánchez-Vialas, 2018]. This fauna is considerably subordinate in diversity to the Indo-Australian one [Jeekel, 2007].

Among the American Platyrrhacidae, 52 species (almost 2/3 of the family's species diversity) belong to the genus *Barydesmus* Cook, 1896, which ranges from Costa Rica and Panama in the north to both central and northern Peru in the south, then east across the Amazonian parts of Peru, Colombia, and up to the state of Pará, Brazil [Shelley, Martínez-Torres, 2013; Recuero, Sánchez-Vialas, 2018]. *Psammodesmus* Cook, 1896 is also a fairly large genus, at the moment encompassing 11 described species and a little more restricted in distribution: from Panama in the north to northern Peru and Brazil? in the south [Recuero, Sánchez-Vialas, 2018].

The present paper has been prompted by the recovery of three rather fresh samples containing four large species of Platyrrhacidae from Peru. Three of them represent *Barydesmus* spp., and one a *Psammodesmus* sp. We deal below with their descriptions and quality iconographies so as to assist in revealing their true identities and partly untangling the very confused taxonomy of those genera. As noted elsewhere [Recuero, Sánchez-Vialas, 2018], since many of their species have been described quite inadequately or come from unclear localities, or both, thus being likely to represent synonyms of some other, older congeners, naming further new species without solid grounds is to be avoided. However, since one species found now appears to be so readily distinguished from all congeners, we dare describe it as new.

Material and methods

The samples underlying this contribution are fully housed in the Zoological Museum of the State University of Moscow (ZMUM), Russia. The pictures were taken with a Canon EOS 550D digital camera. Final image processing was performed with Adobe Photoshop CC. The line drawings of the gonopods were executed with a camera lucida.

Taxonomic part

Since the highly convoluted taxonomy of the American Platyrrhacidae, including *Barydesmus* and *Psam-*

modesmus, has recently been nicely reviewed [Recuero, Sánchez-Vialas, 2018], below we only treat all four species contained in the ZMUM collection.

Barydesmus cf. *azulae* (Kraus, 1956) Figs 1–7.

Platyrrhacus (*Tirodesmus*) *azulae* Kraus, 1956: 148, Pl. 19, figs 32–33 (original description)

Platyrrhacus (*Tirodesmus*) *azulae* — Kraus, 1957: 99, Pl. 8, figs 15–18 (comments on morphological variability; new records).

Barydesmus azulae — Recuero, Sánchez-Vialas, 2018: 252 (new combination, comments on type locality and type material).

MATERIAL. 5 ♂♂, 4 ♀♀ (ZMUM), Peru, Pasco Region, Oxapampa Prov., ca 5 km W of Santa Rosa, Selva Alta, 1550 m a.s.l., S 10°00'23", W 75°27'36", 22–29.XI.2016, I. Melnik leg.

DESCRIPTION. Body length ca 73–83 mm, width of midbody pro- and metazonae 8.0–9.0 and 13.0–15.0 mm, respectively (♂, ♀).

Colouration in alcohol uniformly black-brown (Figs 1–5), only occasionally light beige (1 ♂, 1 ♀, both apparently freshly molted); legs usually dark reddish brown. Body with 20 segments.

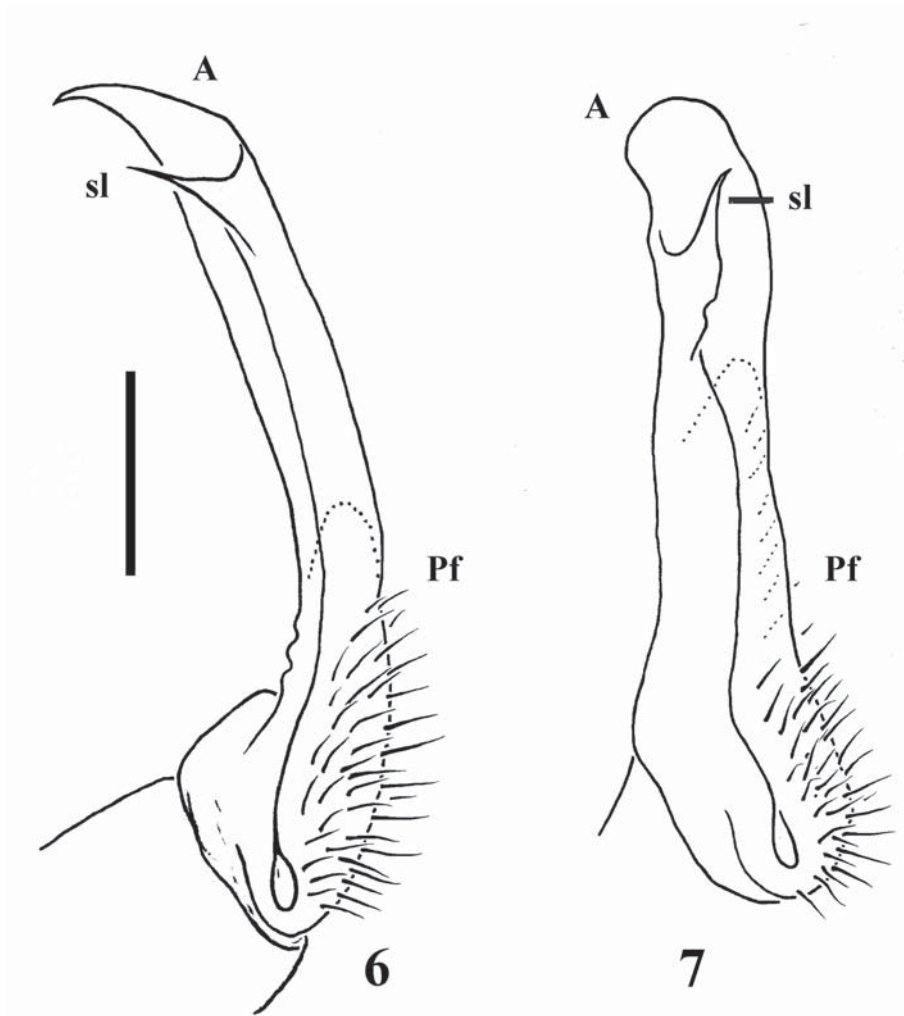
Tegument of prozonae and strictures between pro- and metazonae dull, very delicately shagreened, of metaterga often shining; body often soiled with an earth crust in various places. Head with rounded genae, three central teeth at anterior margin of labrum and a distinct epicranial suture; setae usually compound (= arranged in bundles): 9–10 + 9–10 labral, 2+2 supra-labral, 2+2 lateral and 2+2 central, all arranged in a trapeze, plus 1+1 intermediate and shifted anteriorly between both latter groups (Fig. 2); a few setae scattered on vertex. Antennae short and robust, in situ extending past end (♂) or middle (♀) of ring 2 when stretched dorsally; in length, antennomeres 6>2=3=4=5>1>7, with four apical cones on antennomere 8. Interantennal isthmus half as large as diameter of antennal socket (Fig. 2).

In width, head << collum < 3=15 < ring 2; starting with ring 15, body gradually tapering towards telson (Figs 1–5). Paraterga very strongly developed, broad and wing-shaped, clearly and increasingly arcuate, set high (at about upper ¼ of midbody height), starting with collum, dorsum regularly convex, a little more convex in ♀ than in ♂; paraterga only slightly declivous (2nd a little better so) to subhorizontal. Paraterga on collum subtriangular and broadly rounded laterally, devoid of evident depressions at base and behind anterior margin (Fig. 4). Anterior shoulders of postcollum paraterga narrowly bordered and mostly straight to only slightly rounded, directed increasingly caudolaterad toward telson; caudolateral corner of paraterga narrowly rounded to (nearly) pointed, subrectangular until ring 6 or 7, thereafter directed increasingly caudad to extend past rear tergal margin starting with ring 14, only on ring 19 finger-shaped and well rounded; caudal margin of paraterga microdenticulate and increasingly concave; lateral margin of paraterga 2 clearly rounded, thereafter nearly straight and undulate due to 3–4 small and usually rounded denticles (Figs 1–5). Entire surface of head and body mostly roughly and irregularly microtuberculate/granulate, caudal 1–2 rows of tuberculations on metaterga usually slightly more regular and evident, albeit similarly as flat as others. Pore formula normal (5, 7, 9, 10, 12, 13, 15–19), ozopores on midbody rings lying inside small, but clear-cut round disks located in the middle and about equidistant from base to all three other margins of poriferous paraterga. Stricture between pro- and metazona narrow, shallow and very faintly striolate longitudinally.



Figs 1–5. *Barydesmus* cf. *azulae* (Kraus, 1956), ♂ from near Santa Rosa. 1–3 — habitus, dorsal, ventral and sublateral views, respectively; 4 — anterior part of body, lateral view; 5 — posterior part of body, dorsal view. Photographs by A. Korotaeva, not taken to scale.

Рис. 1–5. *Barydesmus* cf. *azulae* (Kraus, 1956), ♂ из окрестностей Santa Rosa. 1–3 — общий вид, соответственно сверху, снизу и почти сбоку; 4 — передняя часть тела, сбоку; 5 — задняя часть тела, сверху. Фотографии А. Коротаевой, сняты без масштаба.



Figs 6, 7. Left gonopods of *Barydesmus* cf. *azulae* (Kraus, 1956), ♂ (6), and *Barydesmus melniki* sp.n., ♂ holotype (7), both from near Santa Rosa, mesal views. Scale bars: 1.0 mm (6) and 0.5 mm (7). Designations: A — acropodite; Pf — prefemurite; sl — solenomere.

Рис. 6, 7. Левые гоноподы *Barydesmus* cf. *azulae* (Kraus, 1956), ♂ (6), и *Barydesmus melniki* sp.n., голотип ♂ (7), оба из окрестностей Santa Rosa, изнутри. Масштаб: 1,0 мм (6) и 0,5 мм (7). Обозначения: А — акроподит; Pf — префеморит; sl — соленомер.

Limbus thin and entire, albeit usually cracked into small scales of varying shape. Pleurosternal carinae low, but evident subtransverse/skewed ridges present on rings 2–4, occasionally incomplete on 5th as well. Epiproct spade-shaped, very broad and flat, rounded and sparsely setose at caudal margin, setae again being mostly arranged in bundles. Each paraproct with two bundles of setae borne on distinct tubercles. Hypoproct subtrapeziform with 1+1 very prominent tubercles at caudal margin, each supporting a bundle of setae (Fig. 2).

Sterna modified, a small cone/tooth present near each coxa (Fig. 2); pregonopodal sternites very narrow, much deeper and more narrow than those behind gonopods. Gonopore in ♂ borne on a small round tubercle. Legs robust, densely setose, ca 1.4–1.5 (♂) or 1.2–1.3 times (♀) as long as midbody height; claws simple, slender, slightly curved ventrad, ca 1/3 as long as tarsus (Figs 1–5). In length, femur > tarsus > coxa = prefemur = postfemur = tibia (Fig. 2).

Gonopods (Fig. 6) with short subcylindrical coxites, closely adjacent and fused medially at base through a mem-

branous sternite; a short, simple and unciform cannula, as usual. Telopodite elongate, twice as long as coxite, simple, directed cephalad and only slightly curved dorsad; prefemurite (= densely setose part, Pf) poorly delimited, better so laterally, ca 1.5 times as long as acropodite (A); the latter with a short, erect, spiniform solenomere (sl) on mesal face, directed ventromesad; tip of A lamelliform and acuminate, also directed ventromesad; seminal groove entirely mesal.

REMARKS. According to Kraus [1956, 1957], the holotype was 74 mm long and 12.6 mm wide, whereas 1 ♀ and 3 ♂♂ topotypes were not measured. This size fully agrees with our material. The same seems to hold true for all other characters, those of the gonopods above all.

The most significant differences between our samples and those from the Cordillera Azul (Peru, Dept. San Martin: “Divisoria in der Cordillera Azul” (water divide between Ucayali and Huallaga river basins), <https://search.senckenberg.de/aquila-public-search/>) seem to concern colouration alone. Thus, the holotype and topotypes were said to show the paraterga broadly bordered with yel-

low, and two ♂ typotypes also with horn yellowish paramedian stripes, vs our material being monochromous black-brown or occasionally light beige. Kraus [1957] also noted a number of other morphological variations in body ornamentation he all considered minor. Whether such variations are significant enough to warrant a full species rank or not, remains a question. At the moment, however, having found no better match among the well-documented congeners, we choose to identify our material from Pasco Region, Oxapampa Province, as something particularly close to *B. azulae*. Both areas/populations concerned, San Martín and Oxapampa, lie in the northern and central parts of Peru, respectively, on the eastern, Amazon-facing macro slope of the Andes, in the upper reaches of Amazon River, separated by ca 400 air-km. To our mind, however, relying solely on colour variations is too shaky a ground to describe species.

Generally, Peru is a country particularly rich in nominate *Barydesmus* species: 23 [Recuero, Sánchez-Vialas, 2018], most of which belong to Chamberlin [1941], too often a highly superficial author whose descriptions (and illustrations of the gonopods, if any) were too often too schematic to be of any real use for comparative purposes. The first four species came from near Iquitos alone, the capital of Peruvian Amazonia: *B. acompus* (Chamberlin, 1941), *B. fuscatus* (Chamberlin, 1941), *B. iquitus* (Chamberlin, 1941), and *B. medius* (Chamberlin, 1941). The remaining 19 were from other parts of Peru, either Andean or Amazonian: *B. socius* (Chamberlin, 1941), *B. balsapuertus* (Chamberlin, 1941), *B. bombonus* (Chamberlin, 1941), *B. brunior* (Chamberlin, 1941), *B. celinus* (Chamberlin, 1941), *B. chuncho* (Chamberlin, 1941), *B. contayus* (Chamberlin, 1941), *B. incus* (Chamberlin, 1941), *B. leucus* (Chamberlin, 1941), *B. loretus* (Chamberlin, 1941), *B. manserichus* (Chamberlin, 1941), *B. obscurus* (Kraus, 1955), *B. orellanus* (Chamberlin, 1941), *B. retentus* (Chamberlin, 1941), *B. tambonus* (Chamberlin, 1952), *B. tapichus* (Chamberlin, 1941), *B. trichotypus* (Chamberlin, 1941), *B. utoquinius* (Chamberlin, 1941), and *B. zygethus* (Chamberlin, 1941). Considering another four especially poorly documented congeners of unknown provenance, *B. broelemanni* (Attems, 1914), *B. exsul* (Cook, 1896), *B. helophorus* (Attems, 1899), and *B. rufipes* (C.L. Koch, 1847), we inevitably arrive to the option of only provisionally identifying our material: hence our qualifications. Moreover, it is likely, also given the quite vast geographic gap between the type locality of *B. azulae* and the above new record from near Oxapampa, that actually both are distinct species, but all basic characters, including the gonopodal structure, sufficiently clearly indicate their close morphological proximity. The rather small differences in colouration, coupled with the generally messy taxonomy of the entire genus, do not seem to us enough to separate both at the species level yet. Molecular evidence could be instructive in this respect, a task for future research.

Chamberlin [1941], like many of his predecessors, based much of his descriptions on the colouration and colour patterns, also naming species regardless of sex. As the colouration of two of the following species treated below fails to exactly match that of any congener presently known from Peru, we are again bound to identify some of our samples only provisionally. It seems noteworthy, however, that at least one of the American platyrhacids, *Nyssodesmus alboalatus* Cook, 1896, from Costa Rica, seems to show entirely white paraterga, as implied by its name.

What seems even more important is that our next *Barydesmus* described below appears to be distinctive among congeners not only in colouration, but it also shows remark-

able and unique traits in gonopodal structure. The situation thus strongly resembles that faced by Recuero and Sánchez-Vialas [2018], who felt sufficiently strongly tempted to describe yet another new *Barydesmus*, *B. nangaritza* Recuero et Sánchez-Vialas, 2018, from Ecuador, based on several conspicuous morphological characters alone.

Barydesmus melniki sp.n.

Figs 7–14.

HOLOTYPE ♂ (ZMUM), Peru, Pasco Region, Oxapampa Prov., ca 5 km W of Santa Rosa, Selva Alta, 1550 m a.s.l., S 10°00' 23", W 75°27'36", 22–29.XI.2016, I. Melnik leg.

PARATYPE ♀ (ZMUM), same place, together with holotype.

NAME. Honours Ilya Melnik (Moscow, Russia), the collector.

DIAGNOSIS. Differs readily from all congeners by the peculiar bichromous colouration, in which the head, prozonae, strictures between pro- and metazonae, entire metazonae and most of the telson are dark grey-brown, conspicuously contrasting to the whitish to light yellowish paraterga, legs and hypoproct (Figs 8–14). In addition, the gonopodal telopodite is highly characteristic through being suberect and showing a particularly elongate prefemorite and a considerably shortened acropodite, the latter bearing a regularly rounded tip (Fig. 7).

DESCRIPTION. Body length ca 42 mm (♂, ♀), width of midbody pro- and metazonae 3.1 and 8.0 mm (♂), respectively, or 4.0 and 7.0 mm (♀), respectively.

Colouration in alcohol bichromous: head, prozonae, strictures between pro- and metazonae, entire metazonae and most of telson dark grey-brown, conspicuously contrasting to whitish to light yellowish paraterga, legs and hypoproct (Figs 8–14).

All other characters as in *B. cf. azulae* (see above), except as follows.

Paraterga clearly more narrow and more strongly arcuate, on collum angular and only relatively slightly depressed both at base and behind anterior margin, with a distinct axial impression (Fig. 12); caudolateral corner of following paraterga increasingly acute, directed caudad, clearly extending past rear tergal margin starting with ring 12; lateral margin of paraterga mostly gently rounded and undulate due to 5–6 small and usually rounded denticles (Figs 8–14). Entire surface of head and body usually more roughly microtuberculate/granulate. Pleurosternal carinae low, but evident ridges present only on ring 2. Hypoproct subtrapeziform with 1+1 very prominent tubercles at caudal margin and a small lappet in between, each tubercle supporting a bundle of setae (Fig. 14).

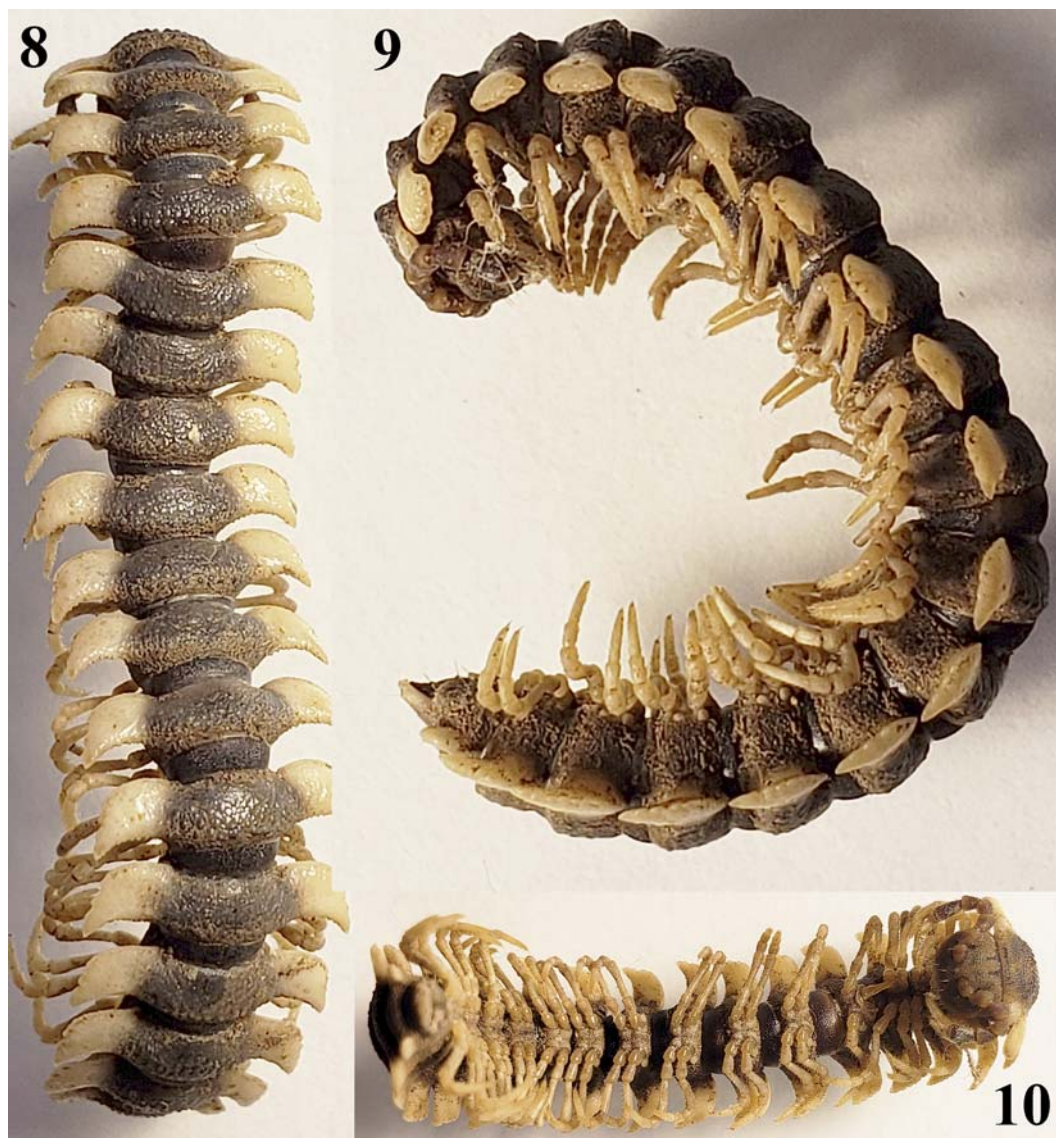
Sterna barely modified, only a minute knob usually present near each coxa (Figs 10, 14). Claws shorter, ca 1/4–1/5 as long as tarsus (Figs 11, 14).

Gonopods (Fig. 7) highly peculiar in telopodite being suberect; prefemorite (Pf) setose and delimited mainly laterally, strongly elongate, ca 3 times as long as a clearly shortened acropodite (A); the latter with a short, slightly curved, spiniform solenomere (sl) on mesal face; tip of A lobe-shaped, regularly rounded and only slightly curved mesad.

Barydesmus loretus (Chamberlin, 1941)

Figs 15, 17–22.

Platyrhacus loretus Chamberlin, 1941: 492, figs 127–130 (original description).



Figs 8–10. Habitus of *Barydesmus melniki* sp.n., ♂ holotype, dorsal, lateral and ventral views, respectively. Photographs by A. Korotaeva, not taken to scale.

Рис. 8–10. Общий вид *Barydesmus melniki* sp.n., голотип ♂, соответственно сверху, сбоку и снизу. Фотографии А. Коротаевой, сняты без масштаба.

Barydesmus loretus — Recuero, Sánchez-Vialas, 2018: 257 (new combination, comments on type locality and type material).

MATERIAL. 9 ♂♂, 11 ♀♀ (ZMUM), Peru, Loreto Dept., Rio Marañon, 2–8 km upstream of Nauta, várzea forest, on tree trunks, 25.III.1998, J. Adis & S. Golovatch leg.

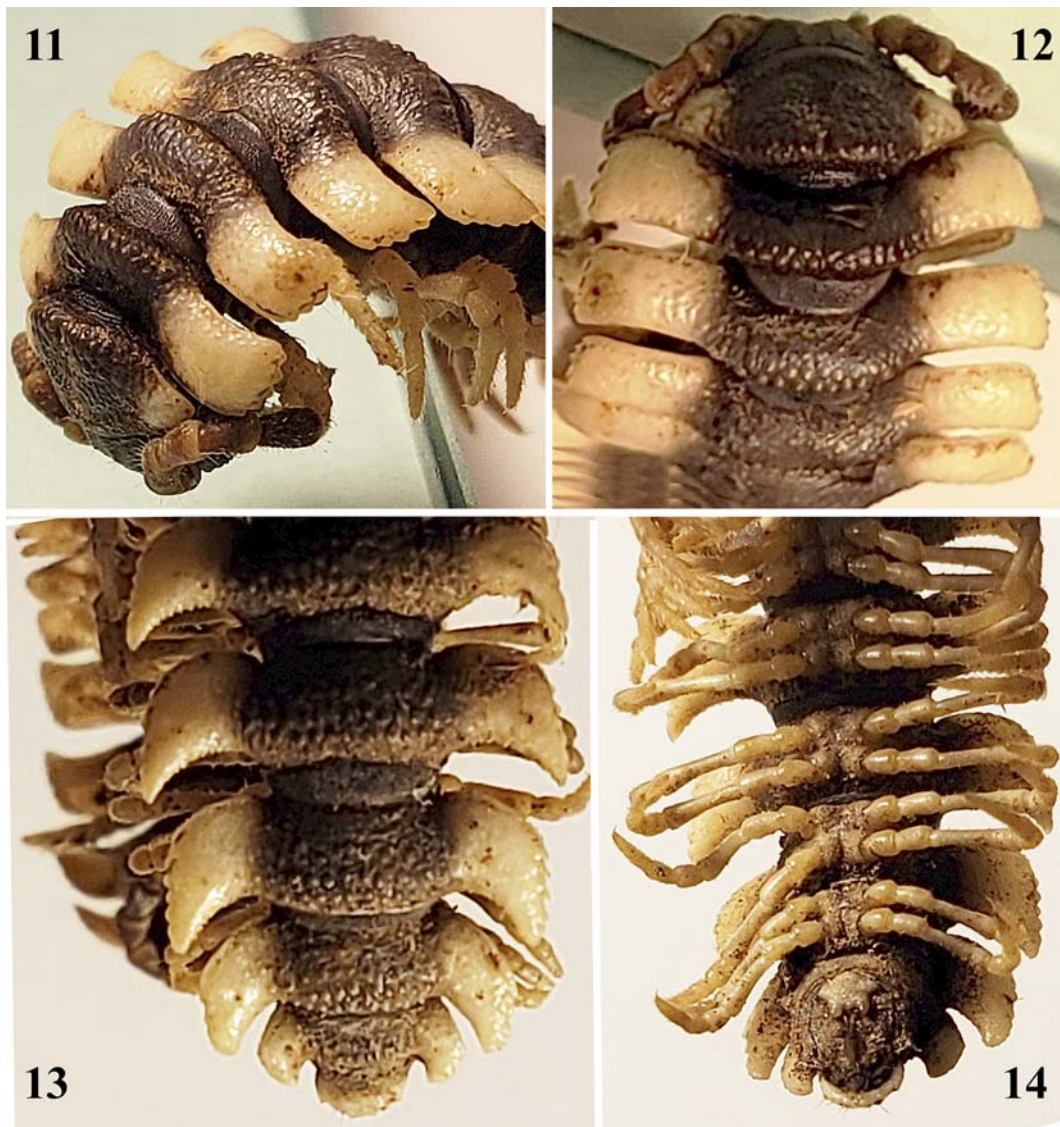
DESCRIPTION. Body length ca 70–78 mm (♂) or 76–80 mm (♀), width of midbody pro- and metazonae 5.0–5.5 and 13–14 mm (♂) or 6.5–8.0 and 14–16 mm (♀), respectively (vs 8 mm in length and 13.5 mm in width in the original description of the ♂ holotype); ♂♂ usually somewhat smaller than ♀♀.

Colouration in alcohol bichromous, albeit not too contrasting, generally dark/dirty grey-brown, dorsum with a more or less distinct pattern of light, usually whitish stripes or bands as follows: two rather narrow, paramedian and well separated stripes (much wider on collum and slightly more strongly apart on following proterga than on metaterga) and

paraterga narrowly bordered with whitish at both anterior and posterior margins; caudal row of tubercles on metaterga, lateral teeth/tubercles on paraterga and subventral teeth on sides of metazonae often lighter as well, up to whitish. Venter light grey-brown, legs and sometimes antennae and epiproct tip reddish brown (Figs 17–22).

All other characters as in *Barydesmus* cf. *azulae* (see above), except as follows.

Collum with paraterga narrowly rounded apically, clearly elevated ridge-like across behind anterior margin and distinctly impressed both behind anterior ridge and at base of paraterga. Following paraterga with both anterior shoulders and posterior margin parallel to each other, only slightly curved and increasingly well drawn caudad to surpass caudal margin starting with ring 15; posterior margin of metazonae just before a typical, entire, but densely cracked



Figs 11–14. *Barydesmus melniki* sp.n., ♂ holotype. 11, 12 — anterior part of body, anterolateral and dorsal views, respectively; 13, 14 — posterior part of body, dorsal and ventral views, respectively. Photographs by A. Korotaeva, not taken to scale.

Рис. 11–14. *Barydesmus melniki* sp.n., голотип ♂. 11, 12 — передняя часть тела, соответственно одновременно спереди и сбоку и сверху; 13, 14 — задняя часть тела, соответственно сверху и снизу. Фотографии А. Коротаевой, сняты без масштаба.

limbus finely denticulate dorsally and increasingly dentate ventrad to appear strong teeth subventrally (Fig. 19). Paraterga relatively smaller and lower in ♀♀ compared to ♂♂. Lateral margin of paraterga mostly uneven, usually with 3–4 larger and sharp teeth and often on individual rings emarginate to notched near middle, sometimes with more, up to nine denticulations, but then these much smaller and roughly grain-shaped, emarginate or notched lateral margins being more common in and especially characteristic of ♂♂ compared to ♀♀.

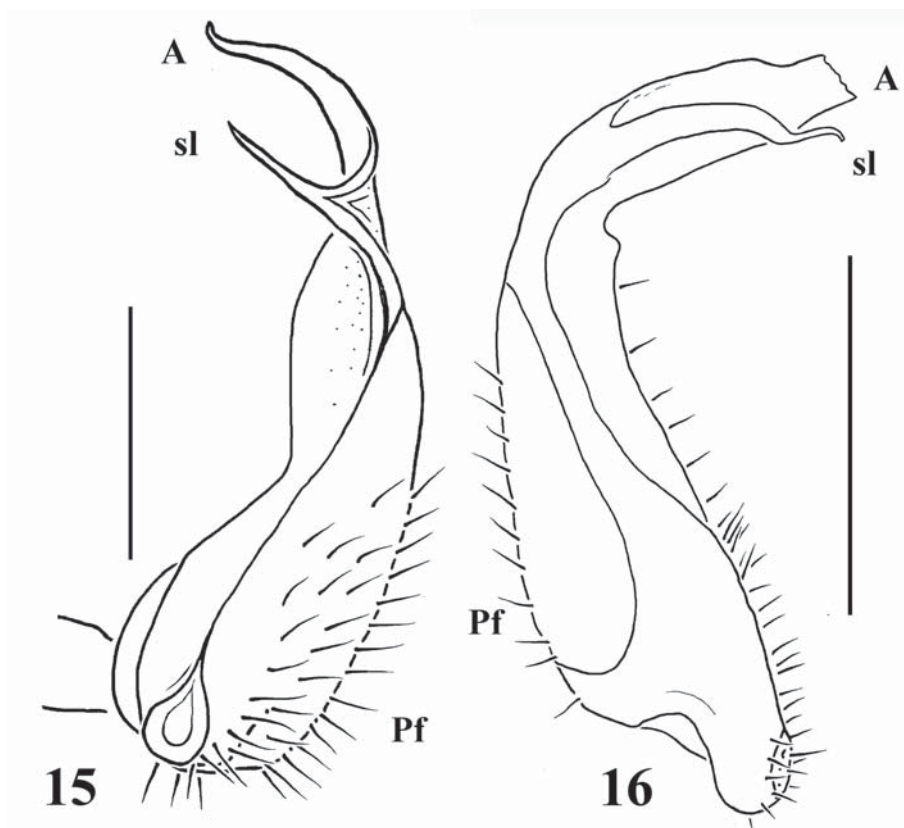
Pleurosternal carinae subtransverse ridges evident only on ring 2. Hypoproct subtrapeziform with 1+1 very prominent tubercles at caudal margin, even in-between and each supporting a bundle of setae (Fig. 22).

Sternal knobs near each coxa very small and indistinct (Fig. 18). Legs robust, densely setose, ca 1.4–1.5 (♂) or

1.2–1.3 times (♀) as long as midbody height; claws simple, slender, slightly curved ventrad, ca 1/4 as long as tarsus (Fig. 19).

Gonopods (Fig. 15) simple, prefemorate (Pf) setose as usual, taking up ca 2/3 telopodite; acropodite (A) and its top relatively slender, A being only slightly shorter than a usual spiniform solenomere (sl).

REMARKS. This species was described based on a single ♂ (holotype) coming from below Pongo de Manseriche on the Rio Marañon, Departamento de Loreto [Chamberlin, 1941], i.e. ca 450 air-km west of Nauta. However concise, the original description by Chamberlin [1941] was sufficiently detailed to consider the above new samples from near Nauta as fully conspecific with the holotype which came from very much further upstream along the same Rio Marañon. In addition to stemming from the same river basin



Figs 15, 16. Left or right gonopod of *Barydesmus loretus* (Chamberlin, 1941), ♂ (15), and *Psammodesmus* cf. *chuncho* (Chamberlin, 1941), ♂ (16), both from Loreto Dept., mesal views. Scale bars: 1.0 mm. Designations: A — acropodite; Pf — prefemorite; sl — solenomere.

Рис. 15, 16. Левый и правый гонопод *Barydesmus loretus* (Chamberlin, 1941), ♂ (15), и *Psammodesmus* cf. *chuncho* (Chamberlin, 1941), ♂ (16), оба из департамента Лорето, изнутри. Масштаб: 1,0 мм. Обозначения: А — акроподит; Pf — префеморит; sl — соленомер.

and administrative department, nearly all basic features contained in Chamberlin's [1941] description of *B. loretus* nicely fit in, be this the same size, the characteristic colour pattern, the shapes of the collum and following paraterga etc. What really fails to match is only the right gonopod crudely depicted (fig. 130) in lateral view. It improperly showed the prefemorite as being only about half the length of the telopodite (*vs* ca 2/3, Fig. 15, Pf) and the acropodite, albeit slender enough, leaf-shaped and acuminate (*vs* even more slender and slightly sigmoid at the end, Fig. 15, A). This discrepancy seems to be minor and superficial though, as the gonopodal outlines strongly depend on the angle of observation (our Fig. 15 showing the gonopod in conventional mesal view) and possible defects (Chamberlin [1941] explicitly stated that the end of the solenomere was broken off).

Psammodesmus cf. *chuncho* (Chamberlin, 1941)

Figs 16, 23–26.

Ernostyx chuncho Chamberlin, 1941: 497, fig. 197a (original description).

Psammodesmus chuncho — Hoffman, 1953: 304 (new combination, key); Recuero, Sánchez-Vialas, 2018: 267 (comments on type locality and type material).

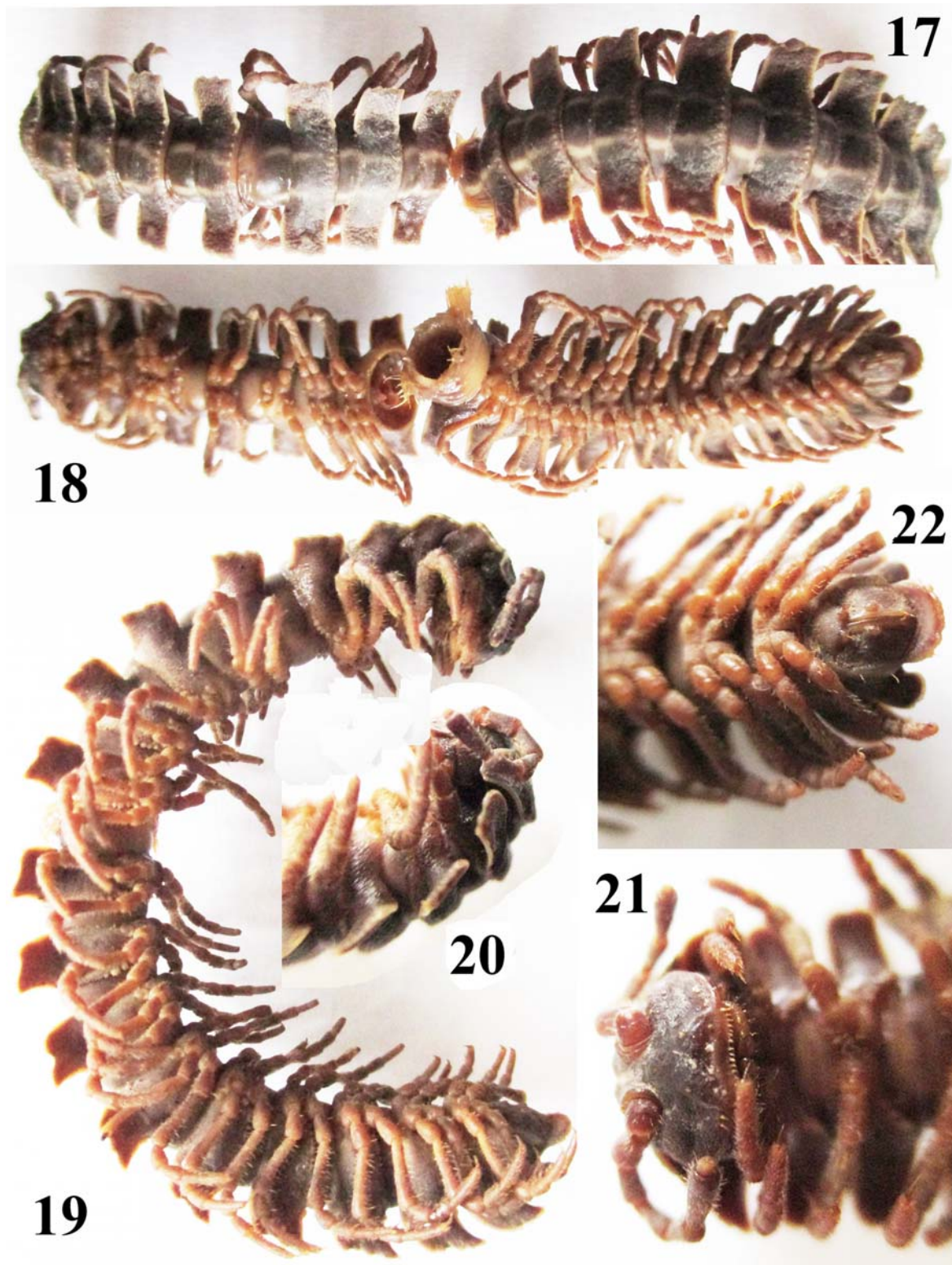
MATERIAL. 4 ♂♂, 4 ♀♀ (ZMUM), Peru, Loreto Dept., Rio Napa, Mazan, ca 40 km N of Iquitos, várzea forest, 22.III.1998, J. Adis, S. Golovatch & A. Mármol leg.

DESCRIPTION. Body length ca 50–60 mm, width of midbody pro- and metazonae 4.1–5.0 and 7.0–8.0 mm (♂, ♀), respectively; ♂♂ usually somewhat smaller than ♀♀.

Colouration in alcohol usually nearly mono- to faintly bichromous at most, not contrasting, generally dark/dirty grey-brown with head, paraterga, antennae, legs and epiproct partly being reddish, only proterga usually nearly entirely to only mid-dorsally with a vague, broad, lighter, grey stripe (Figs 23–26). More rarely (1 ♂), lighter axial stripe extending from vertex to the end of epiproct.

All other characters as in *Barydesmus* cf. *azulae* (see above), except as follows.

Interantennal isthmus 0.8x as large as diameter of antennal socket (Figs 24, 26). Dorsum slightly more convex and paraterga lower in ♀ compared to ♂. Paraterga on collum broadly rounded laterally, only poorly depressed at their bases and behind an anterior row of only slightly elevated, but larger and rounded tubercles; axial impression clear-cut (Fig. 26). Following paraterga with 6–7 small rounded tubercles at a nearly straight and only slightly sinuate/undulate lateral margin; anterior shoulders obtuse-angled, narrowly bordered and nearly straight, increasingly well inclined caudad like posterior margins; caudolateral corner of following paraterga increasingly acute, directed caudolaterad, clearly extending past rear tergal margin starting with mid-body rings (♂) (Figs 23–25) or in posterior body third alone



Figs 17–22. *Barydesmus loretus* Chamberlin, 1941, ♂ from near Nauta. 17–19 — habitus, dorsal, ventral and lateral views, respectively; 20, 21 — anterior part of body, lateral and ventral views, respectively; 22 — posterior part of body, ventral view. Photographs by A. Korotaeva, not taken to scale.

Рис. 17–22. *Barydesmus loretus* Chamberlin, 1941, ♂ из окрестностей Nauta. 17–19 — общий вид, соответственно сверху, снизу и сбоку; 20, 21 — передняя часть тела, соответственно сбоку и снизу; 22 — задняя часть тела, снизу. Фотографии А. Коротаевой, сняты без масштаба.



Figs 23–26. *Psammodesmus* cf. *chuncho* (Chamberlin, 1941), ♂ from Mazan, 23–25 — habitus, dorsal, ventral and lateral views, respectively; 26 — anterior part of body, ventrolateral view. Photographs by A. Korotaeva, not taken to scale.

Рис. 23–26. *Psammodesmus* cf. *chuncho* (Chamberlin, 1941), ♂ из Мазан, 23–25 — общий вид, соответственно сверху, снизу и сбоку; 26 — передняя часть тела, одновременно снизу и сбоку. Фотографии А. Коротаевой, сняты без масштаба.

(♀). Hypoproct with a very small central lobule between 1+1 usual paramedian setigerous tubercles at caudal margin (Fig. 24).

Sterna barely modified, at most only a minute knob present near each coxa (Fig. 24).

Gonopods (Fig. 16) peculiar in prefemorite (Pf) taking up ca 2/3 telopodite, acropodite (A) and solenomere (sl) subequal in length, A being subtruncate at end and delimited by a rounded step at base on caudal face, sl being sigmoid and subacuminate.

REMARKS. Since Hoffman [1953], the concept of *Psammodesmus* vs *Barydesmus* remains very clear, the gonopodal

telopodite in the latter genus being retrorse and curved towards the coxite, vs curved in the opposite direction in the former genus.

As *P. chuncho* was described from Iquitos, the capital of Peruvian Amazonia [Chamberlin, 1941], the above ZMUM sample could represent near-topotypes had it not been for one sharp discrepancy contained in the original description. About the only meaningful information there concerned the tip of the gonopodal acropodite which depicted a remarkably short and unciform solenomere, a trait Hoffman [1953] also emphasized in his key. As in our sample the solenomere is considerably longer and sigmoid (Fig. 16, sl), we believe

our material is not conspecific with, albeit definitely close to, *P. chuncho*. Hence the necessary qualifications. Our *P. cf. chuncho* differs from *P. dasys* (Chamberlin, 1941) and *P. moyobambus* (Chamberlin, 1941), both from northern Peru and both showing longer and sigmoid solenomereres, by colouration (light brown to nearly yellow in *P. dasys*) or less strongly depressed and more broadly rounded paraterga on collum and ring 19 (more strongly depressed and more narrowly rounded in *P. moyobambus*) [Chamberlin, 1941].

Finding strict topotypes of *P. chuncho* seems important enough, because the original description was poor and illustrated with a single sketch showing only the tip of the gonopod [Chamberlin, 1941], while the holotype seems to be lost [Recuero, Sánchez-Vialas, 2018].

Disclosure statement

No potential conflict of interest was reported by the authors.

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