Two new species of *Pedrocortesella*,
with the checklist of oribatid mites from riverine substrata in southern Vietnam

*(Acari, Oribatida, Pedrocortesellidae)*

Sergey G. Ermilov & Alexander E. Anichkin


An annotated checklist of oribatid mite taxa from riverine substrata near Dong Nai river in southern Vietnam is provided, which consisted of 37 species from 29 genera and 20 families. Four species, *Peloribates guttatoides*, *Phyllhermannia bimaculata*, *Transoribates agricola* and *Vesiculobates silvaticus*, and two genera, *Transoribates* and *Vesiculobates*, are recorded for the first time in Vietnam; of these, *Transoribates agricola* and *Transoribates* are recorded for the first time in the Oriental region. Two new species of the genus *Pedrocortesella* are described. *Pedrocortesella dongnaiensis* spec. nov. is morphologically most similar to *P. callitarsus* Hunt, 1996, however, the new species differs from the latter by the localization of notogastral foveolae and bothridia, length of notogastral ridge and subcapitular setae, and morphology of posterior part of notogaster. *Pedrocortesella vietnamica* spec. nov. is morphologically most similar to *P. anica* Hunt, 1996 and *P. bithongabela* Hunt, 1996, however, the new species differs from both mentioned species by body size, morphology of lamellar and notogastral setae, localization of bothridia, and morphology of notogastral longitudinal ridge. Juvenile instars of *Pedrocortesella dongnaiensis* spec. nov. are described and compared to known juveniles of *Pedrocortesella* (*P. africana*, *P. montis* and *P. monica*).

Sergey G. Ermilov, Tyumen State University, Semakova 10, Tyumen 625003, Russia; e-mail: ermilovacari@yandex.ru

Alexander E. Anichkin, A. N. Severtsov Institute of Problems of Ecology and Evolution, Russian Academy of Sciences, Leninsky 33, Moscow 119071, Russia; Joint Russian-Vietnamese Tropical Research and Technological Center, Hanoi-Ho Chi Minh, Vietnam; e-mail: repetty@yandex.ru

Introduction

This work is part of our continuing study of the Southern Vietnamese mite fauna (see for example Ermilov & Anichkin 2011, 2013a,b; Ermilov et al. 2012a,b; Ermilov & Niedbała 2013) and includes data about oribatid taxa collected from some riverine substrata (epiphytic roots of trees, with ferns and mosses covered stones and bases of trunks of trees, leaf litter), which are located near to the Dong Nai river and flooded by water during a damp season annually (June–September). Earlier the oribatid mites of riverine substrata were not studied in Vietnam. A primary goal of our paper is to present an annotated checklist of oribatid mites from these substrata and also to annotate taxa, which are recorded for the first time from Vietnam and the Oriental region.

In the course of taxonomic identification, we found two new species of the genus *Pedrocortesella* Hammer, 1961. The second goal of our paper is to
describe and illustrate these species as *Pedrocortesella dongnaiensis* spec. nov. and *P. vietnamica* spec. nov. For the Vietnamese fauna *Pedrocortesella* has been recorded earlier, only represented by unidentified species (Ermilov et al. 2012b). Thus, the two new species are the first identified members of this genus recorded in Vietnam. We compared our present material with that of previously found specimens of *Pedrocortesella* sp. (Ermilov et al. 2012b), and clarified that *Pedrocortesella vietnamica* spec. nov. and the latter are the same species.

The genus *Pedrocortesella* of the family *Pedrocortesellidae* (see Paschoal 1988, Norton & Behan-Pelletier 2009, Schatz et al. 2011) was proposed by Hammer (1961) with *Pedrocortesella pulchra* Hammer, 1961 as type species. It comprises about 35 species (see different opinions on classification, for example: Hunt 1996, Bayartogtokh 2001, Subías 2004, updated 2013) with a semicosmopolitan distribution. The main morphological characters of *Pedrocortesella* were summarized, for example, by Paschoal (1988), Balogh & Balogh (1992), Hunt (1996), Bayartogtokh (2010). The identification keys to selective species of the genus have been presented earlier by, for example: Ryabinin (1986), Hunt (1996), Balogh & Balogh (2002), Bayartogtokh (2010).

Additionally, the juvenile instars of *Pedrocortesella dongnaiensis* spec. nov. were studied and described. The morphology of the juveniles in this genus was described for three species: *Pedrocortesella africana* (Pletzen, 1963), *P. monicae* Eugaras, Martinez & Fernandez, 1990, and *P. montis* Fernandez, 1990 (see Ermilov et al. 2010, Eugaras et al. 1990, Fernandez 1990, respectively). Also, Hammer (1961) described a nymph (instar not identified) of *P. pulchra* Hammer, 1961.

Materials and methods

Material examined

Southern Vietnam, Dong Nai Province, Dong Nai Biosphere Reserve, 11°26’ N, 107°26’E, near Dong Nai river, riverine substrata flooded by water during a damp season, collected by A. E. Anichkin and S. G. Ermilov in October and November 2013.

List of substrata

| V-RS-a: mosses and ferns on stones, 28.XI.2013 |
| V-RS-b: soil, 28.XI.2013 |
| V-RS-c: leaf litter, 28.XI.2013 |
| V-RS-d: leaf litter, 28.XI.2013 |
| V-RS-e: mosses on bases of trunks of trees, 28.XI.2013 |
| V-RS-f: mosses on bases of trunks of trees, 28.XI.2013 |

The samples were put in zip-lock plastic bags, properly labelled and brought to laboratory for further examinations. In the laboratory the substrates (leaves, epiphytic roots, fern and moss) were immediately put in the Tullgren funnel and illuminated with a 40-watt bulb for 10 days to extract the mites into a small jar containing 70 % ethanol placed under each funnel.

Studied specimens were mounted in lactic acid on temporary cavity slides for measurement and illustration. The body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate. The notogastral width refers to the maximum width in dorsal aspect (without pteromorphs). Length of body setae were measured in lateral aspect. All body measurements are presented in micrometers. General terminology used in this paper follows that of F. Grandjean (summarized by Norton & Behan-Pelletier 2009) and Hunt (1996).

Checklist of identified oribatid mite taxa

| Lohmanniidae |

| Malaconothridae |

| Hermanniidae |

| Pedrocortesellidae |
| *Pedrocortesella dongnaiensis* spec. nov. Locality: V-RS-a (1 ex.), V-RS-f (1 ex.) |
| *Pedrocortesella vietnamica* spec. nov. Locality: V-RS-2 (1 ex.), V-RS-a (1 ex.) |

| Gymnodamaeidae |
| *Arthrodamaeus vietnamicus* Ermilov & Anichkin, 2011. Locality: V-RS-2 (1 ex.) |

| Oppiidae |
| *Lasiodelba kuehnelti* (Csiszár, 1961). Locality: V-RS-d (1 ex.) |

1 The species which remained unidentified are not included in the checklist.
Neoamerioppia vietnamica (Mahunka, 1988). Locality: V-RS-2 (1 ex.), V-RS-a (2 ex.), V-RS-e (1 ex.), V-RS-f (1 ex.).

Taiwanoppia hungarorum (Mahunka, 1988). Locality: V-RS-2 (1 ex.).

Suctobelbidae
Suctobelbella (Ussuribata) variotosa (Hammer, 1961). Locality: V-RS-a (1 ex.).

Otoceheidae
Basiceramerus igorotus Corpuz-Raros & Gruèzo, 2011. Locality: V-RS-a (1 ex.).

Carabodidae
Chistyakovella insolta Ermilov, Aoki & Anichkin, 2013. Locality: V-RS-6 (5 ex.).

Tectoceheidae
Tectocephus velatus (Michael, 1880). Locality: V-RS-4 (1 ex.).

Idiozetidae

Licneremaide
Licneremaeus polygonalis Hammer 1971. Locality: V-RS-6 (1 ex.).

Oribatellidae

Mycobatidae
Lamellobates molecule (Berlese, 1916). Locality: V-RS-2 (18 ex.), V-RS-3 (3 ex.), V-RS-6 (7 ex.), V-RS-7 (1 ex.), V-RS-a (7 ex.).

Mochlozetidae
Unguizetes clavatus Aoki, 1967. Locality: V-RS-6 (3 ex.).

Caloppiidae
Zetorchella reticulata (Willmann, 1933). Locality: V-RS-3 (1 ex.).

Scheloribatidae
Scheloribates (Scheloribates) latipes (Koch, 1844). Locality: V-RS-b (8 ex.), V-RS-c (7 ex.).

Scheloribates (Scheloribates) praecinctus praecinctus (Berlese, 1910). Locality: V-RS-3 (3 ex.), V-RS-7 (3 ex.).

Vesiculobates silvaticus Hammer, 1979. Locality: V-RS-1 (1 ex.), V-RS-d (1 ex.).

Haplozetidae
Peloribates guttatoides Hammer, 1979. Locality: V-RS-3 (2 ex.).


Peloribates spiniformis Ermilov & Anichkin, 2011. Locality: V-RS-2 (1 ex.), V-RS-6 (1 ex.).

Peloribates stellatus Bologh & Mahunka, 1967. Locality: V-RS-6 (4 ex.), V-RS-a (2 ex.).

Protoribates paracapucinus (Mahunka, 1988). Locality: V-RS-1 (1 ex.).

Trachyoribates ovulum Berlese, 1908. Locality: V-RS-3 (1 ex.), V-RS-4 (3 ex.), V-RS-a (4 ex.).


Phenopelopidae

Galumnidae

Galumna (Cosmogalumna) dongnaiensis Ermilov & Anichkin, 2013. Locality: V-RS-2 (2 ex.), V-RS-6 (2 ex.), V-RS-e (4 ex.).


Hence, we identified 37 species from 29 genera and 20 families. Four species, Peloribates guttatoides (distribution: Indonesia), Phyllhermannia bimaculata (Java and Thailand), Transoribates agricola (Palaearctic region) and Vesiculobates silvaticus (Java), and two genera, Transoribates Pérez-Íñigo, 1992 and Vesiculobates Hammer, 1979, are recorded for the first time in Vietnam; of these, Transoribates agricola and Transoribates are recorded for the first time in the Oriental region.
**Descriptions**

*Pedrocortesella dongnaiensis* spec. nov.

Figs 1–14

**Adult**


**Description**

Measurements. Body length: 614 µm (holotype, male), 630 µm (paratype, male); body width: 348 µm (holotype), 365 µm (paratype).

Integument (Figs 1–4). Body colour dark brown. Body surface and legs covered with round cerotegumental granules (diameter up to 1 µm) and verrucular cerotegument. All body setae without cerotegument. Surface of prodorsum, notogaster and anogenital region with round foveolae (diameter up to 6 µm), clearly distanced from one another.

Prodorsum (Figs 1, 3). Rostrum rounded. Rostral (ro) and lamellar (lc) setae of medium size, similar in length (61–69 µm), setiform, smooth, directed anterio-median. Interlamellar setae (in) short (8 µm), spiniform, directed upwards. Sensilli (ss, 82–90 µm) clavate, directed posterio-laterad; sensillar head elongated, densely covered by small scales. Bothridia distanced from anterior margin of notogaster. Exobothridial setae and their alveoli absent. Two pedotectal tooth (pdt) well developed, triangular, weakly blunted.

Notogaster (Figs 1–4) oval in dorsal view, flattened in lateral view. Anterior margin convex, weakly extending anteromedially and reaching level of bothridia. Posterior margin concave medially. Dorsal part with central longitudinal ridge (r) large and wide, distinctly visible, about ½ length of notogaster. Circummarginal furrow (cmf) U-shaped, represented by deep depression, bordering central longitudinal ridge. Five pairs of notogastral setae (h1, h2, p1–p3) similar in length (22–24 µm), thin, smooth, inserted (except p1) dorso-laterally in one row. Lyrifissures ia, im, ip, ih, ips short, thin. Opisthonotal gland openings not visible.

Gnathosoma (Fig. 2). Morphology of subcapitulum, palps and chelicerae typical for *Pedrocortesella* (Fernandez 1990, Hunt 1996, Bayartogtokh 2001).

Epimeral region (Figs 2, 3). Epimeral setal formula: 3–1–3–3. Epimerial setae (18–20 µm) thin, smooth.

Anogenital region (Figs 2, 3). Seven pairs of genital (g1, 18–20 µm; g2–g5, 12–14 µm), one pair of aggenital (ag, 16–18 µm), two pairs of anal (an1, an2, 12–14 µm) and three pairs of analad (ad1–ad3, 16–18 µm) setae setiform, thin, smooth. Left anal plate holotype with three anal setae. Adanal setae ad, located in postanal position, ad2 in latero-postanal position, ad3 in paraanal position. Lyrifissures ad not visible.


Table 1. Setal and solenidial counts on legs of *Pedrocortesella dongnaiensis* spec. nov. during ontogeny (same data for adult *P. vietnamica* spec. nov.).

<table>
<thead>
<tr>
<th>Leg</th>
<th>Formula of setae</th>
<th>Formula of solenidia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larva</td>
<td>0–2–3–4–16</td>
<td>1–1–1</td>
</tr>
<tr>
<td>Protonymph</td>
<td>0–4–3–4–16</td>
<td>1–1–2</td>
</tr>
<tr>
<td>Deutonymph</td>
<td>0–4–3–5–16</td>
<td>1–2–2</td>
</tr>
<tr>
<td>Tritonymph</td>
<td>1–5–3–5–18</td>
<td>1–2–2</td>
</tr>
<tr>
<td>Adult</td>
<td>1–5–4–4–18</td>
<td>1–2–2</td>
</tr>
<tr>
<td><strong>II</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larva</td>
<td>0–2–3–3–13</td>
<td>1–1–1</td>
</tr>
<tr>
<td>Protonymph</td>
<td>0–4–3–3–13</td>
<td>1–1–1</td>
</tr>
<tr>
<td>Deutonymph</td>
<td>0–4–3–4–13</td>
<td>1–1–2</td>
</tr>
<tr>
<td>Tritonymph</td>
<td>1–4–3–5–15</td>
<td>1–1–2</td>
</tr>
<tr>
<td>Adult</td>
<td>1–4–4–5–15</td>
<td>1–1–2</td>
</tr>
<tr>
<td><strong>III</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larva</td>
<td>0–2–2–2–13</td>
<td>1–1–0</td>
</tr>
<tr>
<td>Protonymph</td>
<td>0–3–2–2–13</td>
<td>1–1–0</td>
</tr>
<tr>
<td>Deutonymph</td>
<td>1–3–2–3–13</td>
<td>1–1–0</td>
</tr>
<tr>
<td>Tritonymph</td>
<td>2–3–2–4–15</td>
<td>1–1–0</td>
</tr>
<tr>
<td>Adult</td>
<td>2–3–3–4–15</td>
<td>1–1–0</td>
</tr>
<tr>
<td><strong>IV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protonymph</td>
<td>0–0–0–0–7</td>
<td>0–0–0</td>
</tr>
<tr>
<td>Deutonymph</td>
<td>0–2–2–3–12</td>
<td>0–1–0</td>
</tr>
<tr>
<td>Tritonymph</td>
<td>1–2–2–4–12</td>
<td>0–1–0</td>
</tr>
<tr>
<td>Adult</td>
<td>1–2–3–4–12</td>
<td>0–1–0</td>
</tr>
</tbody>
</table>
Juvenile instars

Description


Integument (Figs 5–14). Body cuticle colourless to yellowish. Microgranular (diameter less than 1 µm) cerotegument covers body and legs in all juvenile instars. Interlamellar, exobothridial, subcapitular, epimeral, genital and aggenital setae usually without cerotegument, other setae consistently covered with cerotegument, described together as a unit. Cuticle of prodorsum and gastronotic regions, and segments of legs with reticular ornamentation.

Cuticle of epimeral and anogenital regions folded.


Gastronotic region (Figs 5, 6, 11–14) weakly flat

Figs 5–6. Pedrocortesella dongnaiensis spec. nov., juvenile instars. 5. Larva, dorsal view. 6. Tritonymph, dorsal view. Scale bars 5 = 100 µm, 6 = 200 µm.

Figs 7–14. Pedrocortesella dongnaiensis spec. nov., juvenile instars. 7–10. Epimeral region (legs except trochanters not shown) of larva, proto-, deut- and tritonymph, respectively. 11–14. Anogenital region of larva, proto-, deut- and tritonymph, respectively. Scale bars 7, 8, 11, 12 = 50 µm; 9, 10, 13, 14 = 100 µm.
in lateral posteriorly. Centrodorsal region convex. Larva with eight pairs of gastronotic setae ($c_1, c_2, da, dm, dp, lp, h_1, h_2$). Setae $c_3$ and their alveoli absent. Setae $h_1$ longest, leaf-shaped; other setae short, simple. Nymphs also with eight pairs of gastronotic setae ($c_1, c_2, lp, h_1, h_2, p_1-p_3$). All setae leaf-shaped, $h_1$ longest. Larval exuvial scalp with seven pairs of setae ($c_1, c_2, da, dm, dp, lp, h_1$); nymphal exuvial calps with six pairs of setae ($c_1, c_2, lp, h_1, h_2, p_1$). Cupules $ia$, $im$, $ip$ and opisthonal gland openings poorly visible.

Gnathosoma. Morphology of subcapitulum, palps and chelicerae typical for juveniles of Pedrocortesella (Ermilov et al. 2010).

Epimeral region (Figs 7–10). Setal formulae for epimeres: larva 3–1–2 (1c forms protective scale over Claparède’s organ), protonymph 3–1–2–1, deutonymph 3–1–2–2, tritonymph 3–1–3–3. Epimeral setae simple, thin, smooth.

Anogenital region (Figs 11–14). Ontogeny of genital, aggenital, anal epimeral setal formulae, larva to tritonymph, 0–1–4–6, 0–0–1–1, 0–0–3–3, 0–0–0–2, respectively. Deutonymphal instar with two pairs of vestigial alveoli of anal setae. Genital and aggenital setae simple, smooth; anal and adanal setae leaf-shaped. Cupules $ih$, $ips$, $iad$ and opisthonal gland opening appearing in normal ontogenetic pattern.

Legs. One claw of each leg barbed on dorsal side. Morphology of leg segments, setae and solenidia typical for juveniles of Pedrocortesella (Ermilov et al. 2010). Formulae and homology of leg setae and solenidia indicated in Tables 1 and 2.

**Material examined.** Collection data: V-RS-a (holotype and juvenile instars), V-RS-f (paratype).

**Type deposition.** The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; one paratype and juvenile instars are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

**Etymology.** The specific name “dongnaiensis” refers to the Dong Nai river, near to which a new species has been found.

**Remarks.** Adult. In having the combination of main morphological characters (body surface foveolate;
notogaster with central longitudinal ridge and circummarginal furrow U-shaped; five pairs of notogastral setae rather short, setiform), *Pedrocortesella dongnaiensis* spec. nov. is most similar to *P. callitarsus* Hunt, 1996 from Australia (Hunt 1996). However, the new species differs from the latter by the notogastral foveae located sparsely (versus densely in *P. callitarsus*), bothridia distanced from anterior margin of notogaster (versus close in *P. callitarsus*), notogastral ridge about 1/2 length of notogaster (versus ridge posteriorly continues in apophysis in *P. callitarsus*), posterior part of notogaster distinctly concave medially (versus weakly concave *P. callitarsus*), and subcapitular setae a similar to m in length (versus m longer than a in *P. callitarsus*).

Juvenile instars. The morphological comparative analysis of juvenile instars of *Pedrocortesella africana*, *P. montis* and *P. monicai* has been presented earlier (Ermilov et al. 2010).

1) Distinctions between *Pedrocortesella dongnaiensis* spec. nov. and *P. africana* (data from Ermilov et al. 2010).

The larval instar of *P. dongnaiensis* spec. nov. is characterized by: body setae (except *h*) simple; gastronotic setae *da* ~ *dm* ~ *dp*; gastronotic setae *c* absent; setae *h*, longest in gastronomic region; centrodorsal gastronomic region reticulate. The larva of *P. africana* is characterized by: body setae leaf-shaped; gastronotic setae *da* ~ *dm* ~ *dp*; gastronotic setae *c* present; setae *dp*, *lp* and *h* longest in gastronomic region; centrodorsal gastronomic region folded.

The nymphal instars of *Pedrocortesella dongnaiensis* spec. nov. are characterized by: rostral setae setiform; gastronomic setae *lp*, *h*, *p*,~*p* of medium size; gastronomic setae *c* absent; epimeral, genital and aggenital setae simple; deutonymphal instar with two pairs of anal vestigial alveoli. The nymphal instars of *P. africana* are characterized by: rostral setae leaf-shaped; gastronomic setae *lp*, *h*, *p*,~*p* small; gastronomic setae *c* present; epimeral, genital, aggenital and adanal setae leaf-shaped; deutonymphal instar without anal vestigial alveoli.

2) Distinctions between *Pedrocortesella dongnaiensis* spec. nov. and *P. monicai* (description of larva absent, only data about larval scalp present; data from Eguaras et al. 1990).

The exuvial larval scalp of *P. dongnaiensis* spec. nov. is characterized by: gastronomic setae (except *h*) simple; gastronotic setae *da* ~ *dm* ~ *dp*; *c* and *c* present; setae *h* longest on scalp. The exuvial larval scalp of *P. monicai* is characterized by: gastronomic setae leaf-shaped; gastronomic setae *da* ~ *dm* < *dp*; one pair of setae *c* present; setae *dp* longest on scalp.

The nymphal instars of *Pedrocortesella dongnaiensis* spec. nov. are characterized by: interlamellar and exobothridial setae developed; eight pairs of gastronomic setae present (including *c*, *c*); adanal setae leaf-shaped; deutonymphal instar with two pairs of anal vestigial alveoli. The nymphal instars of *P. monicai* are characterized by: interlamellar and exobothridial setae not evident; six pairs of gastronomic setae present (*c*, *c* absent); adanal setae simple; deutonymphal instar without anal vestigial alveoli.

3) Distinctions between *Pedrocortesella dongnaiensis* spec. nov. and *P. montis* (data from Fernandez 1990).

The larval instar of *P. dongnaiensis* spec. nov. is characterized by: rostral setae setiform; gastronomic setae (except *h*) simple; setae *c* absent; setae *c* and *c* distanced; setae *h*, longest in gastronomic region; centrodorsal gastronomic region reticulate. The larva of *P. montis* is characterized by: rostral and gastronomic setae leaf-shaped; setae *c* present, *c* and *c* close together; setae *h*, not longer than other gastronomic setae; centrodorsal gastronomic region folded.

The nymphal instars of *Pedrocortesella dongnaiensis* spec. nov. are characterized by: rostral setae setiform; setae *c* absent; setae *c* and *c* distanced; setae *h*, longest in gastronomic region; epimeral formula for deutonymphal instar: 3–1–2–2; deutonymphal instar with two pairs of anal vestigial alveoli. The nymphal instars of *P. montis* are characterized by: rostral setae leaf-shaped; setae *c* present; setae *c* and *c* close together; setae *h*, not longer than other gastronomic setae; epimeral formula for deutonymphal instar: 3–1–3–2; deutonymphal instar without anal vestigial alveoli.

---

**Pedrocortesella vietnamica** spec. nov.

Figs 15–19

**Adult**


**Description**

Measurements. Body length: 381 μm (holotype, male), 365 μm (paratype, male); body width: 182 μm (holotype), 166 μm (paratype).

Integument (Figs 15–18). Body colour yellow-brownish. Body surface and legs covered with round cerotegumental granules (diameter up to 1 μm) and reticulate ornamentation. Subcapitular, epimeral,
genital, aggenital and anal without cerotegument; other setae with cloud-like or vermicular cerotegument.


Notogaster (Figs 15–18) oval in dorsal view, flattened in lateral view. Anterior margin convex. Posterior margin rounded. Dorsal part with central longitudinal ridge large and wide, distinctly visible, reaching posterior part of notogaster. Circum marginal furrow represented by two deep, elongate longitudinally depressions, bordering central longitudinal ridge. Five pairs of notogastral setae similar in length (28–32 µm), leaf-shaped, inserted (except p1) dorso-laterally in one row. Lyrifissures and opisthontal gland openings not visible.

Gnathosoma (Fig. 16). Morphology of subcapitulum, palps and chelicerae typical for Pedrocortesella (Fernandez 1990, Hunt 1996, Bayartogtokh 2001).


Anogenital region (Figs 16, 17). Posterior part of ventral plate weakly concave medially. Seven pairs of genital (g1, 18–20 µm; g2–g5, 10–12 µm), one pair of aggenital (10–12 µm) and two pairs of anal (10–12 µm) setae setiform, thin, smooth. Three pairs of anal setae (16–18 µm) leaf-shaped. Adanal setae ad1, located in postanal position, ad2, in latero-postanal position, ad3, in paranal position. Lyrifissures iad not visible.

Legs (Fig. 19). Three claws of each leg smooth. Medial claw thicker than lateral ones. Morphology of leg segments, setae and solenidia typical for Pedrocortesella (Fernandez 1990, Eguaras et al. 1990, Hunt 1996, Bayartogtokh 2001, Bayartogtokh & Smelyansky 2004). Formulae and homology of leg setae and solenidia indicated in Tables 1 and 2.

Material examined. Collection data: V-RS-a (holotype), V-RS-2 (paratype).

Type deposition. The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; paratype is deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

Etymology. The specific name “vietnamica” refers to the country origin, Vietnam.

Remarks. Adult. In having the combination of main morphological characters (body surface reticulate; notogaster with central longitudinal ridge and two circummarginal furrows of elongate form; five pairs of notogastral setae of medium size, leaf-shaped, Pedrocortesella vietnamica spec. nov. is most similar to P. anica Hunt, 1996 and P. bithongabela Hunt, 1996 from Australia (Hunt 1996). However, the new species differs from both by the smaller body size (365–381 × 166–182 µm versus 450–530 × 250–350 µm in P. anica, 465 × 250–330 µm), lamellar setae leaf-shaped (versus setiform in P. anica and P. bithongabela), bothridia distanced from anterior margin of notogaster (versus close in P. anica and P. bithongabela), notogastral longitudinal ridge strongly developed (versus weakly developed); notogastral setae of medium size, leaf-shaped (versus shorter, setiform).

Acknowledgements

We cordially thank Dr. Ilya Smelyansky (Siberian Environmental Centre, Novosibirsk, Russia) and one anonymous reviewer for the valuable comments. We thank the staff of Dong Nai Biosphere Reserve for support during the field work. The reported study was supported by Russian Science Foundation, grant No. 14-14-01134.

References


