

NEW AND LITTLE KNOWN UROPODINA SPECIES FROM BRAZIL (ACARI: MESOSTIGMATA)

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Nine Uropodina species were found in Brazilian soil samples of the Soil Zoology Collections of the Hungarian Natural History Museum. Four of them are already known species (*Cillibula zicsii* ZIRNGIEBL-NICOL et HIRSCHMANN, 1977; *Deraiphorus loksaisimilis* HIRSCHMANN, 1973; *Uropoda disetosa* HIRSCHMANN, 1972 and *Uropoda schusteri* HIRSCHMANN, 1972). *Deraiphorus loksaisimilis* is new to the fauna of Brazil. The female of *Uropoda schusteri* is described firstly in the present paper. Five species, *Brasiluropoda palmiformis* sp. n., *Clivosurella brasílica* sp. n., *Longicarinaturella baloghi* sp. n., *Laqueaturo-poda brasíliana* sp. n., and *Nenteria trisetosa* sp. n., are new to science and two new combinations (*Clivosurella venezuelensis* (HUȚU, 1987) comb. n. and *Clivosurella simonbolivari* (HUȚU, 1987) comb. n. are presented. Original drawings of known and new species and description of new species, key to the genera *Clivosurella* HIRSCHMANN, 1979 and *Longicarinaturella* HIRSCHMANN, 1979 are given. With 42 figures.

Key words: Acari, Uropodina, new records, new species, Brazil

INTRODUCTION

The first Hungarian studies of tropical soil fauna started in the mid-twentieth century, when Prof. JÁNOS BALOGH and his colleagues from the Department of Systematic Zoology and Ecology of the Eötvös Lóránd University and from the Hungarian Natural History Museum collected soil, leaf and moss samples from tropical regions. Three expeditions (1966, 1971 and 1993) were lead to Brazil, resulting in several hundred soil samples from rain forests. Numerous mite groups have already been described from this material (BALOGH, J. & MAHUNKA 1992, BALOGH, P. 1995, MAHUNKA 1969, MAHUNKA 1970, MAHUNKA 1983). WERNER HIRSCHMANN, Uropodina researcher, also described several new species from Brazil on the basis of the expeditions of 1966 and 1971 (see: WIŚNIEWSKI 1993), and later KONTSCHÁN (2009) presented new Uropodina species from material collected during the last (1993) expedition in Brasil. This paper contributes to the knowledge of Uropodina of Brazil, with nine interesting, already known or new species from the material collected during the expedition in 1993.

MATERIALS AND METHODS

Specimens collected were cleared in lactic acid and drawings were made with the aid of a drawing tube. Most specimens are stored in alcohol, other specimens on slides in gelatin-lactic acid mixture and deposited in the Soil Zoology Collections of the Hungarian Natural History Museum, Budapest.

Abbreviation: St = sternal setae, h = hypostomal setae, V = ventral setae, I and i = central row of dorsal setae (after CHRISTIAN & KARG 2008), ad = adanal setae. All measurements are given in μm .

LIST OF THE SPECIES FOUND

Eutrachytidae TRÄGARDH, 1944

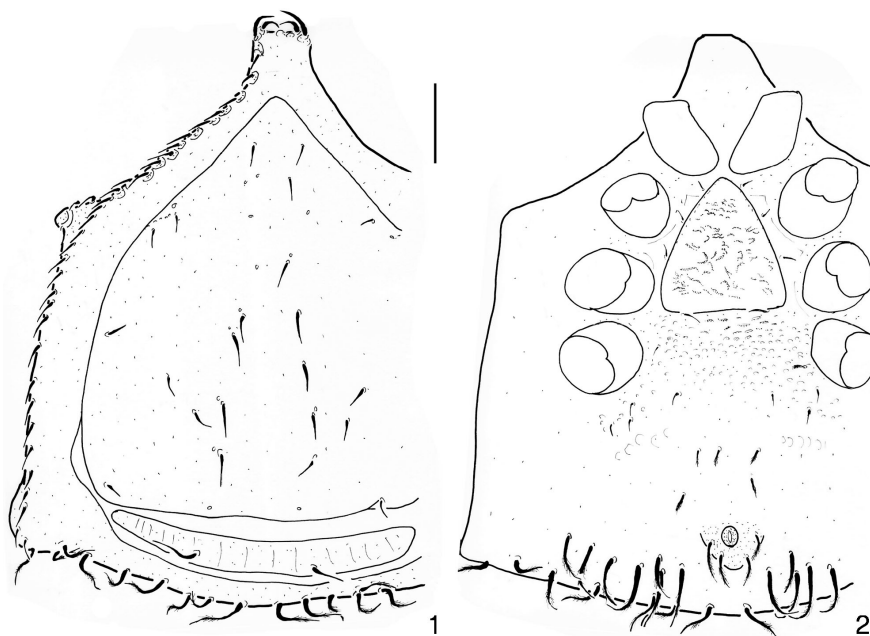
Deraiphorus loksaisimilis HIRSCHMANN, 1973

(Figs 1–2)

Material examined: Eight females. Brazil, Itatiaia National Park, leaf litter from rain forest, 27.05.1992 leg. J. BALOGH.

Distribution: Paraguay (WIŚNIEWSKI & HIRSCHMANN 1993).

Remark. This is the first record in Brazil.



Figs 1–2. *Deraiphorus loksaisimilis* HIRSCHMANN, 1973: 1 = dorsal view, 2 = ventral view (scale bar: 100 μm)

Cyllibulidae HIRSCHMANN, 1979

Cyllibula zicsii ZIRNGIEBL-NICOL & HIRSCHMANN, 1977

(Fig. 3)

Material examined: One female. Brazil, Itatiaia National Park, decayed tree from rain forest, 27.05.1992 leg. J. BALOGH.

Distribution: Brazil (WIŚNIEWSKI & HIRSCHMANN 1993).

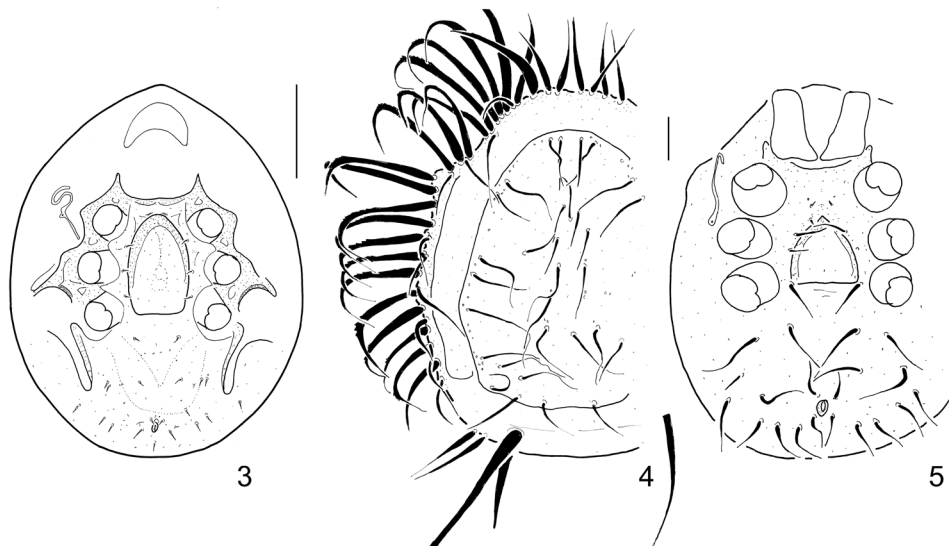
Uropodidae BERLESE, 1917

Uropoda disetosa HIRSCHMANN, 1972

(Figs 4–5)

Material examined: Two females. Brazil, Serra do Mar, Caraugatatuba National Park, rain-forest, from leaf litter, 900–1000 m a.s.l., 27.05.1992 leg. J. BALOGH.

Distribution: Brazil (WIŚNIEWSKI & HIRSCHMANN 1993).



Figs 3–5. *Cyllibula zicsii* ZIRNGIEBL-NICOL et HIRSCHMANN, 1977: 3 = ventral view. 4–5: *Uropoda disetosa* HIRSCHMANN, 1972, 4 = dorsal view, 5 = ventral view (scale bar: 100 μ m)

Uropoda schusteri HIRSCHMANN, 1972
(Figs 6–8)

Material examined: Two females. Brazil, Pico Itatiaia, mountain forest, 1700–1800 m.a.s.l., from leaf litter, 27.05.1992 Leg. J. BALOGH.

Distribution. Brazil (WIŚNIEWSKI & HIRSCHMANN 1993).

Remark. HIRSCHMANN (1972) described only males of the species, females were unknown so far. During this investigation, female specimens were found and observed as well, which are described below.

Description of females. Length of idiosoma 1470–1500 μm , width 1140–1150 μm ($n = 2$). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 6). Marginal and dorsal shields completely separated. Dorsal shield hypotrichous, most of dorsal setae on the central region long, smooth, thickend and needle-like, other dorsal setae on margins four times shorter than setae on central region and smooth and needle-like. Setae i1 and I4 apically pilose, others smooth. Marginal shield reduced and its posterior margins reaching to setae I4. Marginal setae as long as dorsal setae, six pairs of setae can be found on caudal and lateral parts of dorsal idiosoma situating on small platelets on membranous cuticle. Irregular web-like sculptural pattern can be seen on the central region of dorsal shield.

Ventral idiosoma (Fig. 7). Sternal and ventral shields without sculptural pattern. Sternal setae short, smooth and needle-like, St1 placed near to the anterior margin of genital shield, St2 near to the central region of coxae II, St3 near to the anterior region of coxae III, St4 near to the central region while St5 situated near to the posterior margins of coxae IV. Four pairs of ventral setae on central region long, smooth, thickend and needle-like, other ventral setae on the margins half as long as setae on central region and needle-like. One pairs of adanal setae smooth, needle-like, and as long as setae on margins of ventral shield. Postanal seta half as long as adanal setae. Stigmata situated between coxae II and III. Peritremes L-shaped. Genital shield scutiform, without ornamentation and with a long, spine-like anterior process. Base of tritosternum wide, subdivided into three parts, central part bearing tritosternal laciniae, which long and subdivided branches (Fig. 8).

Gnathosoma (Fig. 8). Corniculi horn-like, internal malae long, apical part pilose. Hypostomal setae are the follows: h1, long, smooth and placed near the anterior margin of gnathosoma, h2 smooth and five times shorter than h1, h3 similar in length and shape to h2, h4 two times longer than h2, but their margin serrate. Epistome and chelicerae not clearly visible.

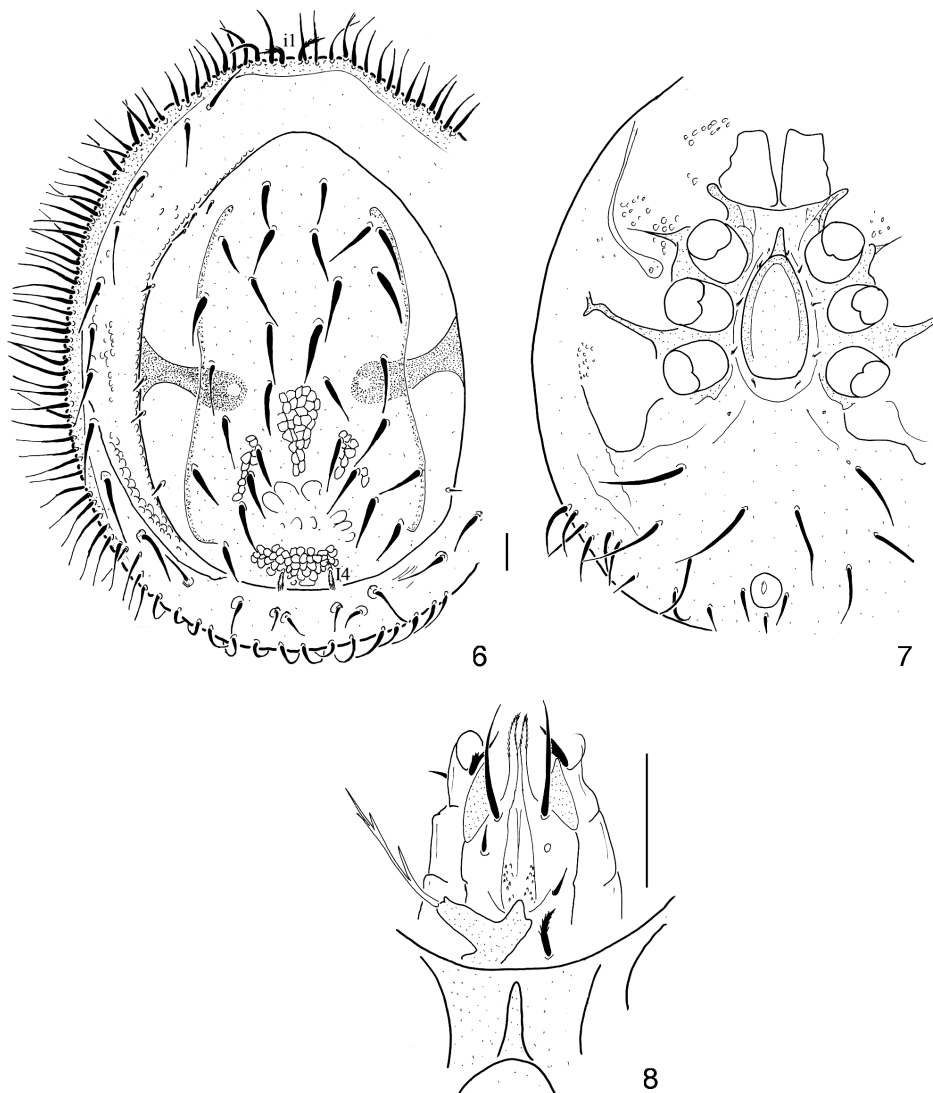
Cillibidae TRÄGARDH, 1944

Laqueaturopoda brasiliana sp. n.
(Figs 9–16)

Diagnosis. Dorsal setae smooth and needle-like, marginal setae serrate and pilose marginally. Genital shield of female covered by web-like sculptural pattern

anteriorly. Ventral setae smooth and needle-like. Ornamentation on marginal, dorsal and ventral shields absent. Peritreme hook-form.

Material examined. Holotype: Female. Brazil, Itatiaia National Park, Araucaria forest, from moss, 12.12.1992 Leg. J. BALOGH. Paratype: one female and seven males. Locality and date same as holotype.

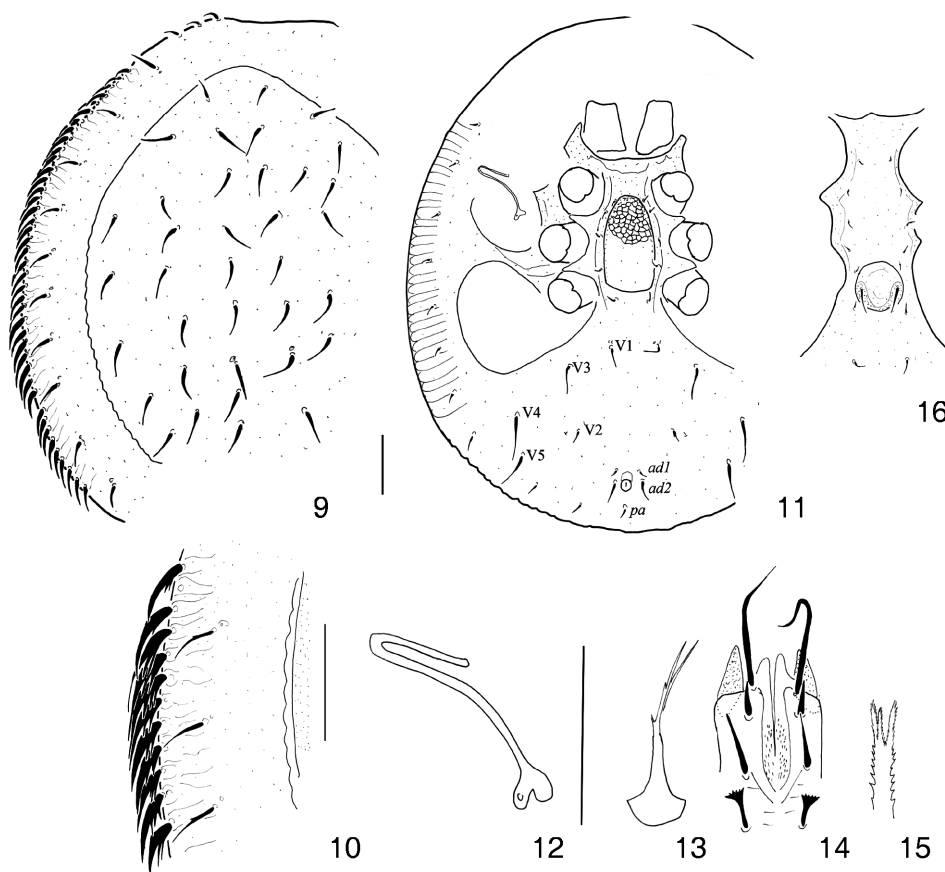


Figs 6–8. *Uropoda schusteri* HIRSCHMANN, 1972: 6 = dorsal view, 7 = ventral view, 8 = ventral view of gnathosoma (scale bar: 100 μ m)

Description. Female. Length of idiosoma 850–880 μm , width 710–740 μm (n = 2). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 9). Marginal and dorsal shields completely separated. Dorsal shield hypertrichous, all dorsal setae smooth and needle-like. (c. 45–50) Setae of marginal shield situated on central and marginal part of the former. Setae on central part needle-like and distally serrate and setae on margins of marginal shield needle-like, with pilose margins. Margin of dorsal shield undulate (Fig. 10). Marginal and dorsal shields without ornamentation.

Ventral idiosoma (Fig. 11). Ornamentation on sternal and ventral shields absent. Sternal setae short, smooth and needle-like. (c. 10–15) St1 placed near to the anterior margin of genital shield, St2 on the level of posterior margin of coxae II, St3 on the level central region of coxae III, St4 on the level of anterior margin while St5 on the level of posterior margin of coxae IV. Ventral setae smooth and needle-like, their length follows: V1 c. 30–31, V2 c. 19–20, V3 c. 46–50, V4 69–75, V5 c. 54–57,



Figs 9–16. *Laqueaturopoda brasiliana* sp. n.: 9 = female, holotype, dorsal view, 10 = lateral part of dorsal idiosoma with marginal setae, 11 = ventral view, 12 = peritreme, 13 = tritosternum, 14 = ventral view of gnathosoma, 15 = epistome, 16 = sternigenital region of male paratype (scale bar: 100 μm)

ad1 c. 12–13, *ad2* c. 31–32, *pa* c. 40. Their places illustrated on Fig. 11. Stigmata situated between coxae II and III. Peritreme hook-shaped (Fig. 12). Genital shield scutiform, with web-like sculptural pattern and without process on its apical margin. Base of tritosternum narrow, tritosternal laciniae subdivided into smooth branches (Fig. 13).

Gnathosoma (Fig. 14). Corniculi horn-like, internal malae smooth and shorter than corniculi. Hypostomal setae are the follows: h1 smooth and situated near the anterior margins of gnathosoma, h2 smooth five times shorter than h1, h3 smooth and two times longer than h2, h4 as long as h2 and its shape antler-like. Epistome with serrate margins and subdivided into three branches apically (Fig. 15). Chelicerae not clearly visible.

Male. Length of idiosoma 780–880 μm , width 680–800 μm ($n = 7$). Shape oval, posterior margin rounded.

Dorsal idiosoma. Ornamentation and chaetotaxy of dorsal shield as in female.

Ventral idiosoma (Fig. 16). Sternal and ventral shields without ornamentation. Sternal setae short and needle-like, their situation and shape illustrated on Fig. 16. Genital shield oval, placed between coxae III and IV and bearing two long and needle-like setae.

Gnathosoma. Similar to that of the female.

Nymphs and larvae. Unknown.

Etymology. The name of the new species refers to the country where it was collected.

Remark. The pilose marginal setae are unique among the species of the genus *Laqueaturopoda* HIRSCHMANN, 1979.

Notes on the genus *Laqueaturopoda*. HIRSCHMANN (1979) established the genus *Laqueaturopoda* with the type species *Laqueaturopoda laqueta* (HIRSCHMANN, 1972), by original designation. Earlier, Uropodina specialists placed similar species into the genus *Cilliba* v. HAYDEN, 1826, ignoring several characters different from the *Cilliba* species (e.g. shape of the peritreme). Later HIRSCHMANN (1993) and his co-workers (WIŚNIEWSKI 1993, WIŚNIEWSKI & HIRSCHMANN 1993) placed every *Laqueaturopoda* species into the large catch-all genus *Uropoda*, forming the *laqueata* species group, which contains six Neotropical species. ATHIAS-BINCHE and BŁOSZYK (1988) described a similar genus from the Australian region and named it *Australocilliba* ATHIAS-BINCHE et BŁOSZYK, 1988. I consider the Australian genus *Australocilliba* and the European genus *Cilliba* v. HAYDEN, 1826 closely related to *Laqueaturopoda*, and belonging to the family Cillibidae. The three genera differ in the shapes of h1 setae, genital shield of female, peritremes, corniculi and internal malae (Table 1).

In my opinion, the characters presented in Table 1 are synapomorphies for the genus *Laqueaturopoda*, hence I suggest the resurrection of this name.

Table 1. Most important differences between genera *Australocilliba*, *Laqueaturopoda* and *Cilliba*

	<i>Australocilliba</i>	<i>Laqueaturopoda</i>	<i>Cilliba</i>
Shape of h1 setae	foliate	setiform	setiform
Genital shield of female	trapezoid with anterior extension	oval without anterior extension	oval without anterior extension
Peritremes	Hook-shaped	hook-shaped	L-shaped
Corniculi	long	short	short
Internal malae	pilose	smooth	smooth

Brasiluropodidae HIRSCHMANN, 1979

Brasiluropoda palmiformis sp. n.

(Figs 17–24)

Diagnosis. Dorsal shield hypertrichous, covered by short and needle-like setae. Two pairs of marginal setae on caudal region with pilose margins, other marginal setae smooth and needle-like. Genital shield of female scutiform without ornamentation. Genital shield of male oval, with one pair of pilose setae near its anterior margins. Peritreme palm tree-like.

Material examined. Holotype: Female. Brazil, Pico Itatiaia, mountain forest, 1700–1800 m a.s.l., from leaf litter, 27.05.1992 Leg. J. BALOGH. Paratype: one female and five males. Locality and date same as holotype.

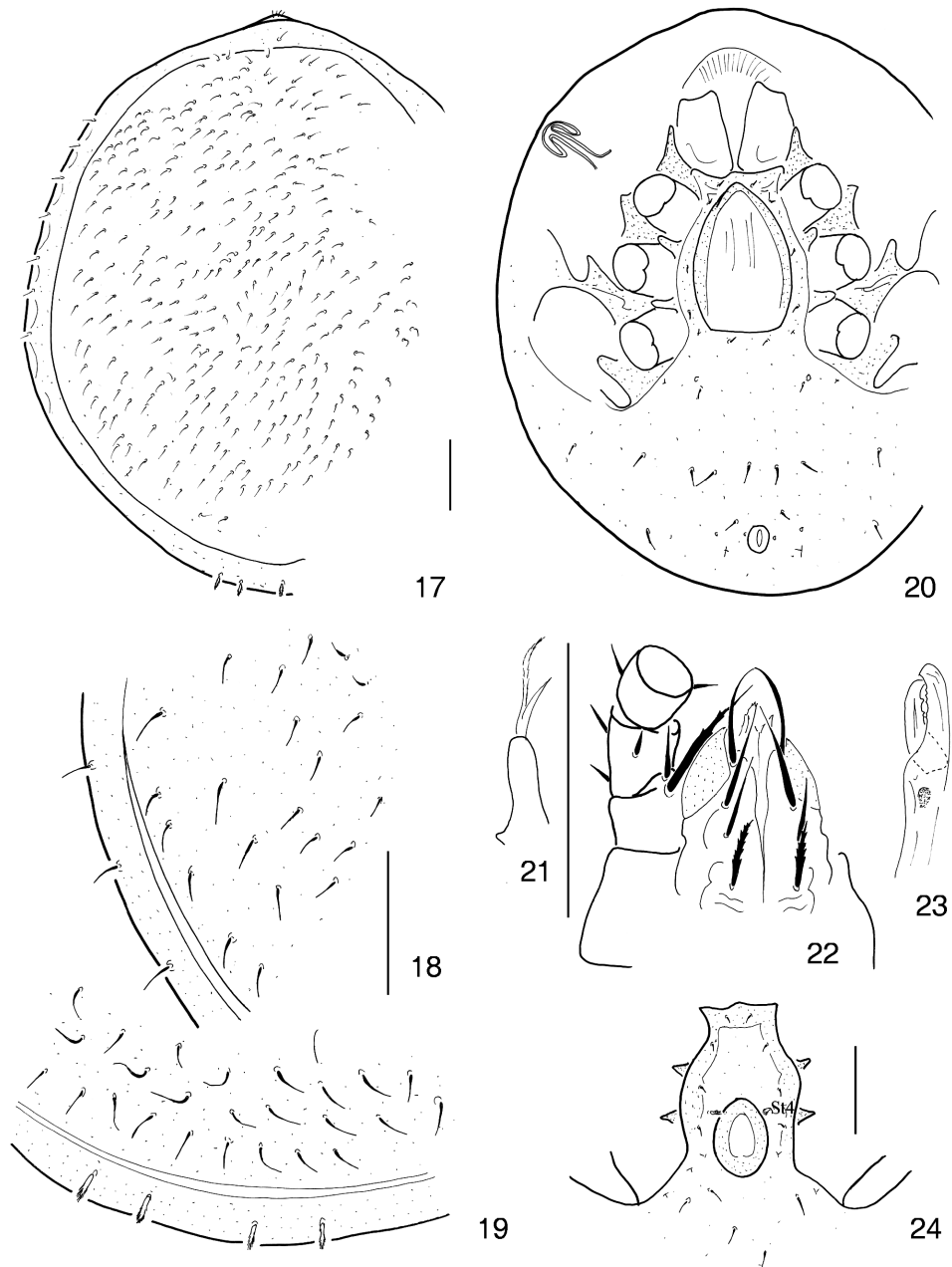
Description. Female. Length of idiosoma 780–810 µm, width 660–730 µm (n = 2). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 17). Marginal and dorsal shields completely separated. Dorsal shield hypertrichous, all dorsal setae smooth and needle-like (c. 9–14) (Fig. 18). Setae on marginal shield similar in length and shape to dorsal setae, two pairs of marginal setae (c. 18–19) on caudal region with pilose margins (Fig. 19). Marginal and dorsal shields without ornamentation.

Ventral idiosoma (Fig. 20). Ornamentation on sternal and ventral shields absent. Sternal setae short (c. 9–10), smooth and needle-like. St1 placed near to the anterior margin of genital shield, St2 on the level of posterior margin of coxae II, St3 on the level central region of coxae III, St4 on the level of anterior margins of coxae IV, St5 can be found near the basis of genital shield. Ventral setae smooth and needle-like, one pair of lyriform fissures placed near anal platelets. Stigmata situated between coxae II and III. Peritremes palm tree-like. Genital shield scutiform, without sculptural pattern and process on its apical margin. Base of tritosternum narrow, tritosternal laciniae subdivided into smooth lateral and pilose central branches (Fig. 21).

Gnathosoma (Fig. 22). Corniculi horn-like, internal malae smooth. Hypostomal setae similar in length, h1, h2 and h3 smooth, h4 with serrate margins, h1 situated near the anterior margin of gnathosoma. Epistome not clearly visible. Chelicerae with nodes, movable digit shorter than fixed digit (Fig. 23).

Male. Length of idiosoma 750–800 µm, width 650–680 µm (n = 5). Shape oval, posterior margin rounded.



Figs 17–24. *Brasiluopoda palmiformis* sp. n.: 17 = female, holotype, dorsal view, 18 = lateral part of dorsal idiosoma, 19 = caudal part of dorsal idiosoma, 20 = ventral view, 21 = tritosternum, 22 = ventral view of gnathosoma and palp, 23 = chelicera, lateral view, 24 = sternigenital region of male paratype (scale bar: 100 μ m)

Dorsal idiosoma. Ornamentation and chaetotaxy of dorsal shield as in female.

Ventral idiosoma (Fig. 24). Sternal and ventral shields without ornamentation. Sternal setae short and needle-like except St4 which marginally pilose, their situation and shape illustrated on Fig. 24. Genital shield oval, placed between coxae III and IV, one pair of pilose setae placed anteriorly to genital shield.

Gnathosoma. Similar to that of the female.

Nymphs and larvae. Unknown.

Etymology. The name of the new species refers to the shape of peritreme.

Remark. The extraordinary palm tree-like peritreme is unique in the genus *Brasiluropoda* HIRSCHMANN et ZIRNGIEBLE-NICOL, 1964.

Nenteriidae HIRSCHMANN, 1979

***Nenteria trisetosa* sp. n.**

(Figs 25–32)

Diagnosis. Most dorsal setae smooth, short and needle, except I2, I3 and I4, four times longer than other dorsal setae and their margins apically pilose. Dorsal, marginal and ventral shields smooth, sternal region ornamented by several oval pits near the basis of genital shield. Genital shield with bifurcate anterior process. Peritremes hook-form.

Material examined. Holotype: Female. Brazil, Itatiaia National Park, leaf litter from rain forest, 27.05.1992 leg. J. BALOGH. Paratypes: two females. Locality and date same as holotype.

Description. Female. Length of idiosoma 600–610 μm , width 510–540 μm (n = 3). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 25). Marginal and dorsal shields completely separated. Most of dorsal setae smooth, short (c. 11–16) and needle, except I2, I3 and I4, which four times longer (c. 44–48) than other dorsal setae and their margins apically pilose. Marginal setae similar in shape and length to dorsal setae. Ornamentation on marginal and dorsal shields absent.

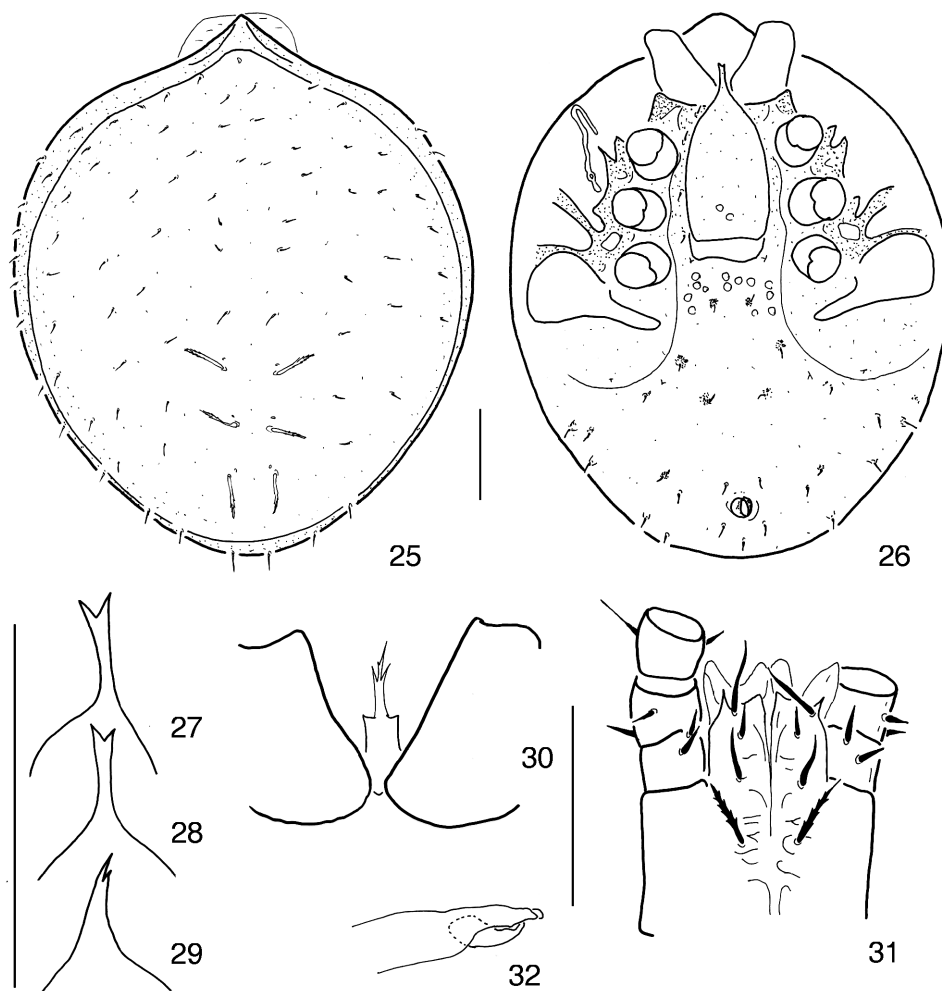
Ventral idiosoma (Fig. 26). Surface of sternal and ventral shields mainly smooth, only a few oval pits can be found near the posterior margin of genital shield on intercoxal region. Sternal setae short (c. 9–11), smooth and needle-like. Ventral setae similar in shape and length to sternal setae. Position of sternal and ventral setae illustrated on Fig. 26. Stigmata situated between coxae II and III. Peritremes hook-like in shape. Genital shield scutiform, with some oval pits and a long, bifurcated anterior process (Figs 27–29). Base of tritosternum narrow, tritosternal laciniae subdivided into two smooth and one serrate branches (Fig. 30).

Gnathosoma (Fig. 31). Corniculi horn-like, internal malae and paralaciniae smooth. Hypostomal setae are the follows: h1, long, smooth and placed near the anterior margin of gnathosoma, h2 smooth and three times shorter than h1, h3 smooth and as long as h2, h4 1.5 times longer than h1, with serrate margins. Epistome not clearly visible. Chelicerae without nodes, its shape is illustrated in Fig. 32. Palp with smooth setae.

Male, nymphs and larvae are unknown.

Etymology. The name of the new species refers to the three pairs of long setae on dorsal shield.

Remark. The presence of three pairs of long and pilose dorsal setae between the numerous short and needle-like setae is an unusual character which has not been observed till now in the genus *Nenteria* OUDEMANS, 1915.



Figs 25–32. *Nenteria trisetosa* sp. n.: 25 = female, holotype, dorsal view, 26 = ventral view, 27 = anterior process of genital shield in holotype, 28 = anterior process of genital shield in one of the paratype, 29 = anterior process of genital shield in another paratype, 30 = tritosternum, between coxae I, 31 = ventral view of gnathosoma and palps, 32 = chelicerae, lateral view (scale bar: 100 μ m)

Discourellidae BAKER et WHARTON, 1952

Longicarinaturella baloghi sp. n.

(Figs 33–38)

Diagnosis. Central region of dorsal shield elevated from the other parts of dorsum and bearing smooth and needle-like setae and characteristic web-like ornamentation. Marginal setae smooth and needle-like. Sculptural pattern of dorsal and marginal shields characteristic web-like. Surface of genital shield smooth in female. Ventral setae smooth and needle-like. Ventral shield with alveolar pits. Peritremes hook-form.

Material examined. Holotype: Female. Brazil, Pantanal, Chapada Dos Guimaraes, forest, from leaf litter, 09.12.1992 leg. J. BALOGH. Paratype: one female and four males (one of the males on slide, the others in alcohol). Locality and date same as holotype.

Description. Female. Length of idiosoma 360–390 μm , width 300–310 μm ($n = 2$). Shape pear-like, posterior margin rounded.

Dorsal idiosoma (Fig. 33). Marginal and dorsal shields fused anteriorly at level of coxae II. Central region of dorsal shield elevated from the other parts of dorsum and bearing smooth and needle-like setae (c. 10–12) and characteristic web-like ornamentation. Marginal setae smooth and needle-like (c. 7–8). Marginal and dorsal shields with characteristic web-like sculptural pattern.

Ventral idiosoma (Fig. 34). Surface of sternal shield smooth. Sternal setae short (c. 4–6), smooth and needle-like. St1 placed near to the anterior margin of genital shield, St2 on the level of central region of coxae II, St3 on the level of anterior margin of coxae III, St4 on the level of anterior margin while St5 on the level of posterior margin of coxae IV. Ventral setae smooth and needle-like. VI and adanal setae three times shorter than other ventral setae. Ventral shield covered by alveolar pits. Stigmata situated between coxae II and III. Peritremes hook-form. Genital shield linguliform, without ornamentation and anterior process. Base of tritosternum vase-like, tritosternal laciniae subdivided into five smooth branches (Fig. 35).

Gnathosoma (Fig. 36). Corniculi horn-like, internal malae shorter than corniculi and smooth. Hypostomal setae are the follows: h1 smooth and situated near the anterior margins of gnathosoma, h2 similar in shape and length to h1, h3 and h4 smooth, needle-like and half as long as h1 and h2. Base of epistome with serrate margins, apically part not clearly visible. Chelicera as in Fig. 37.

Male. Length of idiosoma 370–380 μm , width 280–290 μm ($n = 4$). Shape peak-like, posterior margin rounded.

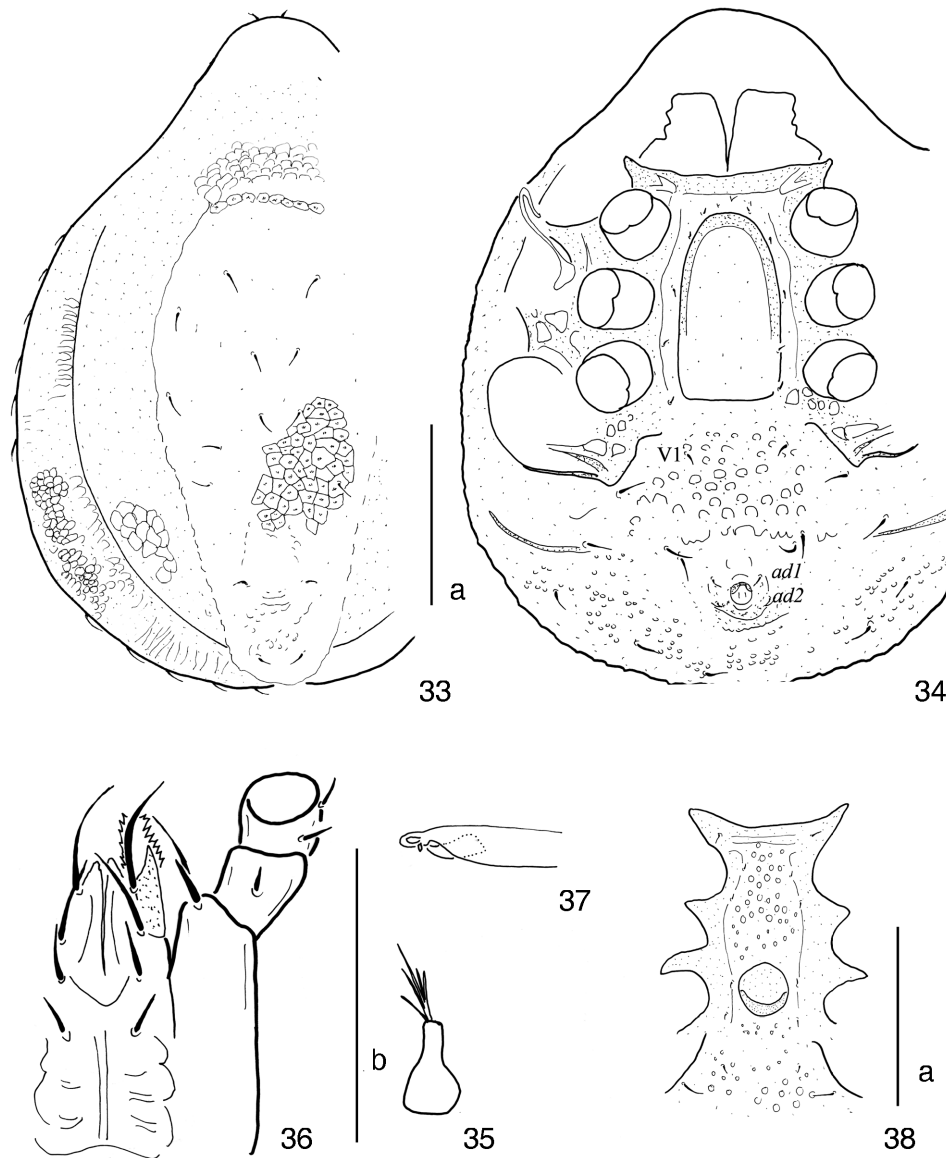
Dorsal idiosoma. Ornamentation and chaetotaxy of dorsal shield as in female.

Ventral idiosoma (Fig. 38). Sternal shield with alveolar pits. Sternal setae short and needle-like, their situation and shape illustrated on Fig. 38. Genital shield rounded, placed between coxae IV.

Gnathosoma. Similar to that of the female.

Nymphs and larvae. Unknown.

Etymology. The new species is dedicated in honor to Prof. Dr. JÁNOS BALOGH, the famous Hungarian acarologist, who collected the soil samples in Brazil.



Figs 33–38. *Longicarinaturella baloghi* sp. n.: 33 = female, holotype, dorsal view, 34 = ventral view, 35 = tritosternum, 36 = ventral view of gnathosoma, 37 = chelicera, lateral view, 38 = sternigenital region of male paratype (scale bar: 100 μ m)

Notes on the genus *Longicarinaurella*. HIRSCHMANN (1979) established the genus *Longicarinaurella* (type species: *Longicarinaurella longicarinata* (HIRSCHMANN, 1972) by original designation) to separate members of the *longicarinata* species group from the genus *Discourella* BERLESE, 1910. The newly described genus differs by several characters from the genus *Discourella* (Table 2), regarding the basis of the shape of the idiosoma, marginal shield on caudal region, peritreme, and internal malae. Nevertheless, later HIRSCHMANN (1993) and his co-workers (WIŚNIEWSKI 1993, WIŚNIEWSKI & HIRSCHMANN 1993) placed all *Longicarinaurella* species back into the genus *Discourella*, re-establishing the *longicarinata* species group, which contains recently three species from Japan and another three from Brazil. The Brazilian and the Japanese species differ from each other sufficiently to regard the Brazilian species as the genus *Longicarinaurella* and the Japanese species are members of an undescribed genus. However, the Japanese species require a thorough revision, which is beyond the scope of this work. Hence, in the meantime I place the Japanese species into the genus *Discourella* until this revision is made. I consider *Longicarinaurella* a well-defined genus and easy to separate from the other similar genera. Therefore, I regard *Longicarinaurella* a valid genus that comprises four species that are likely endemic in the Neotropical region and belongs in the family Discourellidae.

Table 2. Most important differences between genera *Discourella* and *Longicarinaurella*

	<i>Discourella</i>	<i>Longicarinaurella</i>
Shape of idiosoma	oval	pear-like
Marginal shield on caudal region	subdivided into platelets	not subdivided
Shape of peritreme	straight	hook-form
Internal malae	pilose	smooth

KEY TO THE *LONGICARINATURELLA* SPECIES

- 1 Dorsal shield covered by small alveolar pits 2
- Dorsal shield with web-like sculptural pattern 3
- 2 Sternal shield bearing small alveolar pits
L. tuberosa (HIRSCHMANN, 1972)
- Sternal shield without small alveolar pits
L. pectoralis (HIRSCHMANN, 1972)

- 3 Genital shield of female with smooth surface, web-like sculptural pattern near the fusion of dorsal and marginal shields **L. baloghi** sp. n.
- Genital shield of female with short spine-like ornamentation, sculptural pattern near the fusion of dorsal and marginal shields punctuate
L. longicarinata (HIRSCHMANN, 1972)

Clivosurella brasilica sp. n.

(Figs 39–42)

Diagnosis. Central region of dorsal shield elevated from the other parts of dorsum and bearing smooth and needle-like setae and irregular, small pits. Marginal setae smooth and needle-like, situated on small protuberances. Dorsal and marginal ornamentation characteristic web-like. Pygidial shield present. Anterior surface of genital shield with alveolar pits in female. Ventral setae smooth and needle-like. Ventral shield with alveolar pits.

Material examined. Holotype: Female. Brazil, Pantanal, Chapada Dos Guimaraes, forest, from leaf litter, 09.12.1992 leg. J. BALOGH. Paratype: four female (two in alcohol, two in slides). Locality and date same as holotype.

Description. Female. Length of idiosoma 340–350 µm, width 210–220 µm (n = 5). Shape pentangular.

Dorsal idiosoma (Fig. 39). Marginal and dorsal shields fused anteriorly. Central region of dorsal shield elevated from the other parts of dorsum and bearing smooth (c. 6–7) and needle-like setae and irregular small pits. Marginal setae smooth (c. 8–10) and needle-like as well and situated on small protuberances. Marginal shield subdivided into two lateral parts and one pygidial shield. Pygidial shield trapezoid, bearing alveolar pits and three pairs of needle-like setae (c. 5–6) on small protuberances.

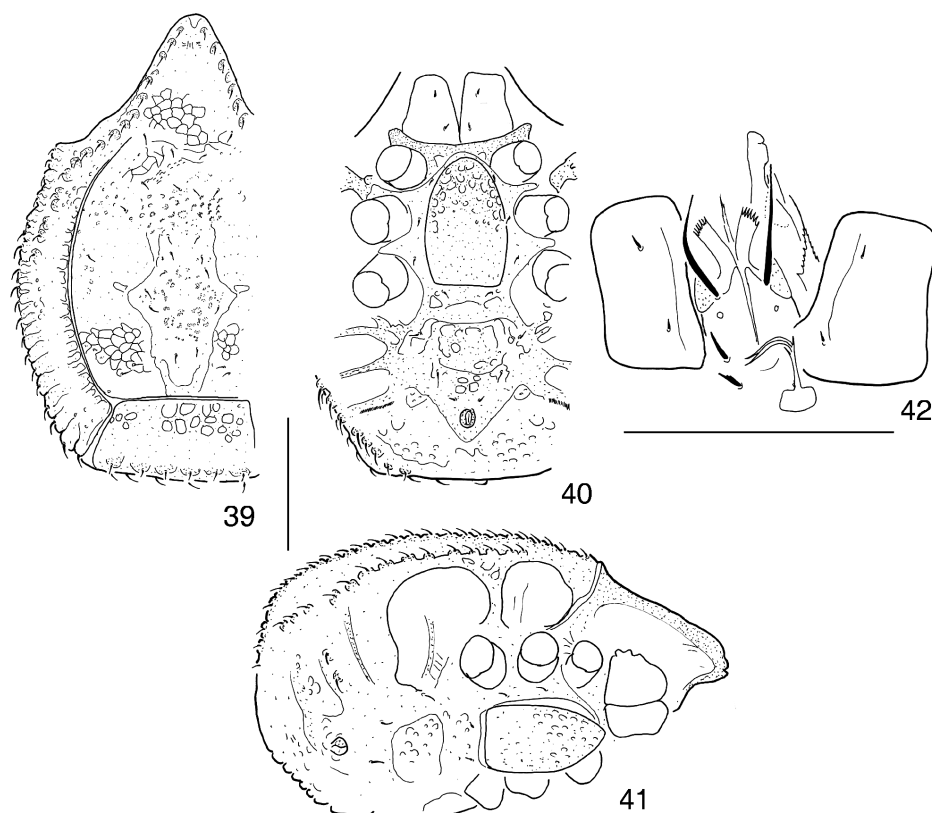
Ventral idiosoma (Fig. 40). Ornamentation on sternal shield absent. Sternal setae short (c. 4–5), smooth and needle-like. St1 absent, St2 on the level of central region of coxae II, St3 on the level of central region of coxae III, St4 on the level of anterior margin while St5 on the level of posterior margin of coxae IV. One large, irregular depression present posteriorly to the basis of genital shield, containing several small, oval pits. Ventral setae smooth and needle-like (c. 6–7). Ventral shield covered by alveolar pits. Stigmata between coxae II and III. Peritremes straight. Genital shield linguliform, anteriorly covered by alveolar pits and without process on its apical margin. Base of tritosternum wide, tritosternal laciniae subdivided into four smooth branches (Fig. 42).

Gnathosoma (Fig. 42). Corniculi horn-like, internal malae longer than corniculi and their margins pilose. Hypostomal setae are the follows: h1 smooth and situated near the anterior margins of gnathosoma, h2 not clearly visible, h3 four times shorter than h1, h4 as long as h3 and apically serrate. Base of epistome subtriangular, with serrate margins, apical part long and smooth. Movable digit shorter than fixed digit.

Male, nymphs and larvae. Unknown.

Etymology. The name of the new species refers to the country where it was collected.

Notes on the genus *Clivosurella* HIRSCHMANN, 1979. Like to the genus *Longicarinaturella*, the genus *Clivosurella* (type species *Clivosurella clivosa* (HIRSCHMANN, 1972) by original designation) was a species group (*clivosa* species group) of the genus *Discourella* and was elevated to full generic rank by HIRSCHMANN (1979). However, this newly described genus differs by several characters (shape of idiosoma and of the caudal region of the dorsal idiosoma) from the genus *Discourella* (Table 3); later HIRSCHMANN (1993) and his co-workers (WIŚNIEWSKI 1993, WIŚNIEWSKI & HIRSCHMANN 1993) placed it back into the genus *Discourella*, as the *clivosa* species group, which now contains eight species from the Neotropical region (Venezuela and Brasil). *Clivosurella* is endemic to the Neotropics and belongs in the family Discourellidae, with the previously mentioned genera *Longicarinaturella* and *Discourella*. *Clivosurella* is well-defined and thus easily distinguished from the other similar genera, hence here I resurrect the genus.



Figs 39–42. *Clivosurella brasilica* sp. n.: 39 = female, holotype, dorsal view, 40 = ventral view, 41 = lateral view, 42 = ventral view of gnathosoma, tritosternum and chelicerae (scale bar: 100 μ m)

Table 3. Most important differences between genera *Discourella* and *Clivosurella*

	<i>Discourella</i>	<i>Clivosurella</i>
Shape of idiosoma	oval	pentangular
Caudal region of dorsal idiosoma	with platelets	with trapezoid pygidial shield

KEY TO THE KNOWN *CLIVOSURELLA* SPECIES
(only for the females)

- | | | |
|---|---|---|
| 1 | Genital shield bearing ornamentation | 2 |
| – | Genital shield without ornamentation | 4 |
| 2 | Whole surface of genital shield ornamented | 3 |
| – | Genital shield ornamented anteriorly | <i>C. brasilica</i> sp. n. |
| 3 | Depression on ventral shield near anterior region of anal platelets with irregular pits | <i>C. venezuelensis</i> (HUȚU, 1987) comb. n. |
| – | Depression on ventral shield near anterior region of anal platelets without pits | <i>C. simonbolivari</i> (HUȚU, 1987) comb. n. |
| 4 | Genital shield linguliform | <i>C. frondosa</i> (HIRSCHMANN, 1972) |
| – | Genital shield scutiform | 5 |
| 5 | Ventral shield with alveolar pits | <i>C. deraiophoroides</i> (HIRSCHMANN, 1972) |
| – | Ventral shield without alveolar pits | <i>C. porosa</i> (HIRSCHMANN, 1972) |

Notes to the key. Unfortunately only the males of the three species are known (*C. brasiliensis* (HIRSCHMANN, 1972); *C. clivosa* (HIRSCHMANN, 1972), and *C. spumans* (HIRSCHMANN, 1972)). Two of them (*C. brasiliensis* and *C. spumans*) bear smooth, short and needle-like setae with normal setal basis, but the homologous setae are placed on small protuberances in the new species and these setae are marginally pilose in species *C. clivosa*.

*

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