

## New and little known oribatid mites from Madagascar (Acari: Oribatida), III

S. MAHUNKA<sup>1</sup>

**Abstract.** Further survey of the newly studied and identified oribatids from Madagascar (Malagasy Republic) is given. Altogether 20 species are mentioned and listed from several sites in the island, 13 species of them are new to science and some other known only from few localities. Two species are recorded from Madagascar for the first time. With 50 figures.

**Keywords.** Taxonomy, moss mites, new species, new data, Malagasy Republic.

### INTRODUCTION

In a series of papers I have been elaborating the Oribatids of Madagascar (Mahunka, 2009a, b, c, 2010, 2011). I identified, described and discussed earlier numerous oribatid species deriving from different parts of the island. This part comprises mainly the species which were collected in Antsiranana and Toamasina Provinces by Dr. Tamás Pócs and in the Vohimana Reserve by Dr. Csaba Csuzdi. In this part I have also elaborated some small samples, which were acquired from the Balogh Collection. Some of them were poorly provided with exact data however, they contained several very interesting new species. Therefore their elaboration was justified (e.g. *Triteremella simpliseta* and *Peloribates (Peloribatodes) incompatibilis* spp. nov.).

In this part I give a list containing 20 species belonging to different oribatid families. Of them, 13 species are new to science: *Eohypochthonius robustus*, *Mesoplophora (M.) similis*, *Microtegeus zigzag*, *Schalleriella phaseola*, *Gustavia ornata*, *G. sineornata*, *Austrocarabodes semilunatus*, *Triteremella simpliseta*, *Eupelops costulatus*, *Oripoda attenuata*, *Chaunoproctus semirugosus*, *Peloribates (Peloribatodes) incompatibilis* and *Pergalumna nasifera* spp. nov., and some other rare or little known species, which are simultaneously new records for Madagascar (e.g. *Eremella induta* Berlese, 1913 and *Scheloribates mahnerti* Mahunka, 2008).

In this paper, as in the earlier ones, I follow the system of Norton & Behan-Pelletier (2009), Subías (2004, 2011) and besides I also use some works which were mentioned in my work on this theme (Mahunka, 2010). As is the earlier descriptions the morphological terminology follows Norton & Behan-Pelletier and other listed authors (e.g. Niedbala, 2001, 2004, 2008; Weigmann, 2006; Woas, 2002) in my previous publications.

*Depositories.* The material examined is deposited in the Hungarian Natural History Museum, Budapest (HNHM), and some paratypes and voucher specimens in the Muséum d'histoire naturelle de Genève (MHNG).

### LOCALITIES

- Afr-311: Madagascar, Ranomafana, E from Fianarautsaa, soil samples from litter of tropical rain forest, 24-26. September 1979. Leg. D. Balázs.
- Afr-842: Madagascar, Andasibe (Perinet) Forest Reserve. Montane rainforest, 500 m E of the railway station on W slope of ridge near the aerial. 960 m. Coll. T. Pócs. 17 March 1990. (no. 90108).
- Afr-872: Madagascar, Mont Papango, près de Befolaka, III. 1959. Leg. AR.
- Afr-917: Madagascar, Antsiranana Province, Nosy Komba Island. Submontane rainforest remnants in the NW valley of Antaninaomby summit with tree ferns and with *Mariatta fraxinea*, at 570–580 m alt. 29. July, 1998. Coll. T. Pócs. (no. 9862).
- Afr-921: Madagascar, Toamasina Province, Mananara Nord Biosphere Reserve and National Park. Lowland rainforest on the E slopes of Mahavoho Hill (very wet types along

<sup>1</sup>Prof. Dr. Sándor Mahunka, Systematic Zoology Research Group of the Hungarian Academy of Sciences at Hungarian Natural History Museum and Eötvös Loránd University, H-1088 Budapest, Baross str. 13, Hungary. E-mail: mahunka@nhmus.hu

Manahovo River, with many tree ferns, palms and Pandanus spp., less humid on slopes) at 220-300 m alt. 16°27'S, 49°46.9-47.5'E. Date: 14-15, Aug. 1998. Leg. T. Pócs. (No. 9878).

Afr-923: Madagascar, Toamasina Province. Maromizaha forest. Mossy montane rainforest with bamboo (*Nastus* sp.) undergrowth on the summit ridge of Mt. Maromizaha, south of the Andasibe Nat. Park and the Antananarivo Toamasina road, 2 km W of Anevoka village, at 1080-1214 m alt. 18°57.8'S, 48°27.5'E. Date: 26. August 1998. Leg. T. Pócs. (No. 9890).

Afr-996: Madagascar, Vohimana reserve, primary forest. 17. 04. 2008. Leg. Cs. Csuzdi.

Afr-JB1: Madagascar, Peyrieras, Causse de Kelifely. Forest humus and litter from dry forest. 20-30. 11. 1974. Leg. D. Smith.

Afr-JB2: Madagascar, Mangabé Island, Antongie Bay. Primary rain forest, rotten wood. 19. February, 1977. Leg. WL & DL Brown.

Afr-JB3: Madagascar, Andasibe (Perinet). February 1977. Leg. WL Bown.

## LIST OF THE NEWLY IDENTIFIED SPECIES

HYPOCHTHONIIDAE Berlese, 1910

*Eohypochthonius robustus* sp. nov.

MESOPLOPHORIDAE Ewing, 1917

*Mesoplophora (Mesoplophora) similis* sp. nov.

LOHMANNIIDAE Berlese, 1916

*Paulianacarus nodosus* Balogh, 1961  
Locality: Afr-JB3.

MICROTEGEIDAE Balogh, 1972

*Microtegeus zigzag* sp. nov.

MICROZETIDAE Grandjean, 1936

*Schalleriella phaseola* sp. nov.

DAMAEOLIDAE Grandjean, 1936

*Fosseremus quadripertitus* (Paoli, 1908)  
Locality: Afr-JB2, First record for Madagascar.

GUSTAVIIDAE Oudemans, 1900

*Gustavia ornata* sp. nov.  
*Gustavia sineornata* sp. nov.

CARABODIDAE C. L. Koch, 1835

*Austrocarabodes semilunatus* sp. nov.

OPPIIDAE Sellnick, 1937

*Lanceoppia madagascarensis* Mahunka, 2002  
Locality: Afr-917

*Oppiella nova* (Oudemans, 1902)

Localities: Afr-917, Afr-JB3.

*Oxyoppiella punctulata* Mahunka, 1997

Locality: Afr-917

EREMELLIDAE Balogh, 1961

*Eremella induta* Berlese, 1913

Locality: Afr-917. First record for Madagascar.

*Triteremella simpliseta* sp. nov.

PHENOPELEPIDAE Petrunkevich, 1955

*Eupelops costulatus* sp. nov.

ORIPODIDAE Jacot, 1925

*Oripoda attenuata* sp. nov.

CALOPPIIDAE Balogh, 1961

*Chaunoproctus semirugosus* sp. nov.

SCHELORIBATIDAE Jacot, 1935

*Scheloribates mahnerti* Mahunka, 2008

Locality: Afr-JB2. First record for Madagascar.

HAPLOZETIDAE Grandjean, 1936

*Peloribates (Peloribatodes) incompatibilis* subgen. nov., sp. nov.

GALUMNIDAE Jacot, 1925

*Pergalumna nasifera* sp. nov.

## DESCRIPTIONS

### *Eohypochthonius robustus* sp. nov.

(Figures 1a-d)

*Diagnosis.* Rostrum elongate, rounded. Rostral setae setiform, lamellar setae phylliform, directed backwards, interlamellar setae spun-shaped, their peduncle conspicuously long, directed backwards. All setae smooth, surface of exobothridial region distinctly punctuate and/or foveolate. Notogastral setae – except setae *e* in the scissure – phylliform, robust. Surface of notogaster with irregular pattern. The number and form of the setae in the genitoanal region are typical for this genus.

*Material examined.* Holotype: Madagascar, Ranomafana, E from Fianarautsaa, 24–26. September 1979. Leg. D. Balázs. (Afr-311). 2 paratypes from the same sample. Holotype (1818-HO-11) and 1 paratype (1818-PO-11) are deposited in the HHNM, 1 paratype in MHNG.

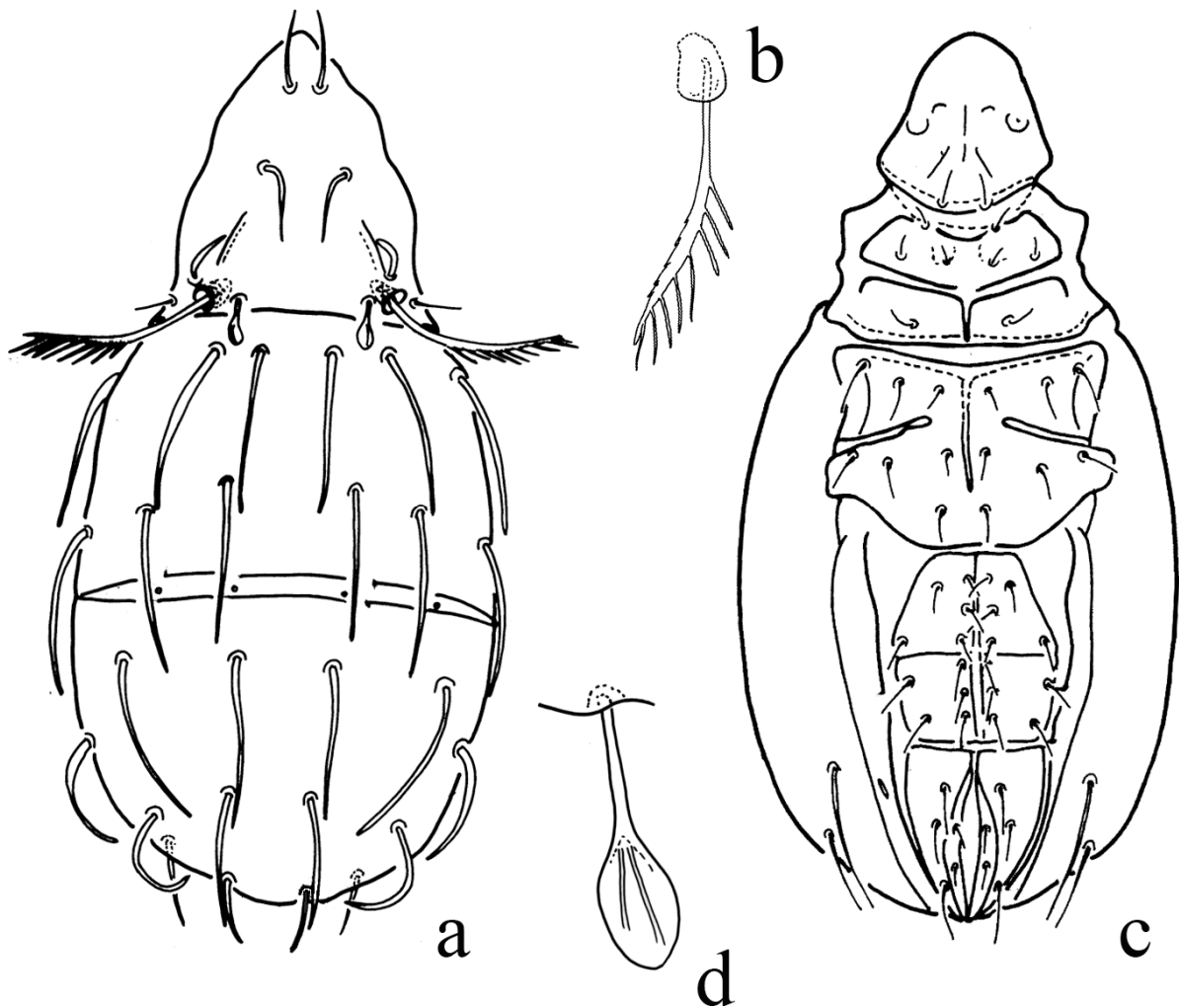


Figure 1. *Eohypochthonius robustus* sp. nov. a: body in dorsal view, b: sensillus, c: body in ventral view, d: interlamellar seta

*Measurements.* Length of body: 316–327  $\mu\text{m}$ , width of body: 158–164  $\mu\text{m}$ .

*Prodorsum.* Rostral apex rounded. Prodorsal setae varying, rostral setae setiform, lamellar setae phylliform, interlamellar setae spoon-shaped, strongly broadened, anterior exobothridial setae short, distinctly dilate, posterior exobothridial setae thin, simple, setiform. Peduncle of interlamellar setae conspicuously long, reaching over anterior margin of notogaster. Characteristic prodorsal surface pattern consists of small foveolae and ribs. Sensillus pectinate, with 9–10 obtuse branches.

*Notogaster.* Whole surface distinctly punctate, some weak ribs also observable. Notogast-

ral setae except setae *e* long, phylliform, sometimes broadened distally. Their median vein is well observable. Setae  $f_1$  much longer than the distance between the insertion of setae  $f_1$  and  $h_1$ .

*Ventral parts.* Whole surface with similar pattern as the dorsal surface. All setae very thin, simple.

*Remarks.* The new species is well characterised by the form of the interlamellar setae, by the robust, and long notogastral setae, and by the distinctly punctate and foveolate surface. The form of the interlamellar setae is unique in this genus, otherwise the new species is closest to *Eohypochthonius salicifolius* Hammer, 1980 and *E.*

*magnus* Aoki, 1977. However, the form of the interlamellar setae in both earlier described species completely differs from the new one.

*Etymology.* Name refers the long and broadened notogastral setae.

***Mesoplophora (Mesoplophora) similis* sp. nov.**

(Figures 2a–d)

*Diagnosis.* Whole body surface well punctuate. Prodorsum with lateral carinae, all prodorsal setae smooth. Sensillus strong, setiform, with 12–14 long cilia. Hysterosoma with undulate and lineate posterolateral margin bearing 8 pair of long, distinctly smooth setae. Among them setae *c* much thinner than setae *e*. Seven pairs (with 1+6 position) of genital setae, one pair of minute aggenital, two pairs of genital and 9 pairs of “adanal” setae on the “ventral plate” are present. All setae smooth.

*Material examined:* Holotype Madagascar, Andasibe (Perinet) Forest Reserve. 17 March, 1990. Coll. T. Pócs (90108) (Afr-842). 4 paratypes from the same sample. Holotype (1819-HO-11) and 3 paratypes (1819-PO-11) deposited in the HNHM, 1 paratype in MHNG.

*Measurements.* Length of prodorsum: 216–237  $\mu\text{m}$ , length of hysterosoma: 208–310  $\mu\text{m}$ , height of notogaster: 216–227  $\mu\text{m}$ .

*Prodorsum.* Rostrum pointed, prodorsal surface well punctuate, its posterior margin lineate. All prodorsal setae – except exobothridial one – well developed, rostral setae shorter than lamellar and interlamellar setae. All setae entirely smooth. Sensillus setiform, directed backwards, thicker than the prodorsal setae and bearing 12–14 long cilia. They are distinctly longer than the diameter of sensillus.

*Lateral part of podosoma.* Lateral carinae fine, hardly observable, running from the posterior border of prodorsum to the lateral rim.

*Hysterosoma.* Conspicuously rounded. Lateral and posterior margin undulate and finely lineate or striate. This part with eight pairs of setae, varying in form and length. All setae smooth.

Setae  $c_1$ – $c_3$  much thinner than the posterior ones, especially setae  $e_1$  and  $e_2$  distinctly thicker than the anterior setae. Setae  $c_1$  (50  $\mu\text{m}$ ) distinctly shorter than  $c_2$  (72  $\mu\text{m}$ ) or  $c_3$  (65  $\mu\text{m}$ ).

*Ventral parts.* Genital plates with 7 (1+6) pairs of setae, 3 pairs in anterior position longer than the remaining 4 posterior pairs. Anal plates with 2 pairs of setae, anterior ones much shorter than posterior setae. One pair of minute aggenital setae, arising far anteriorly. Ventral plate with 9 pairs of setae with different length, all smooth, without any cilia.

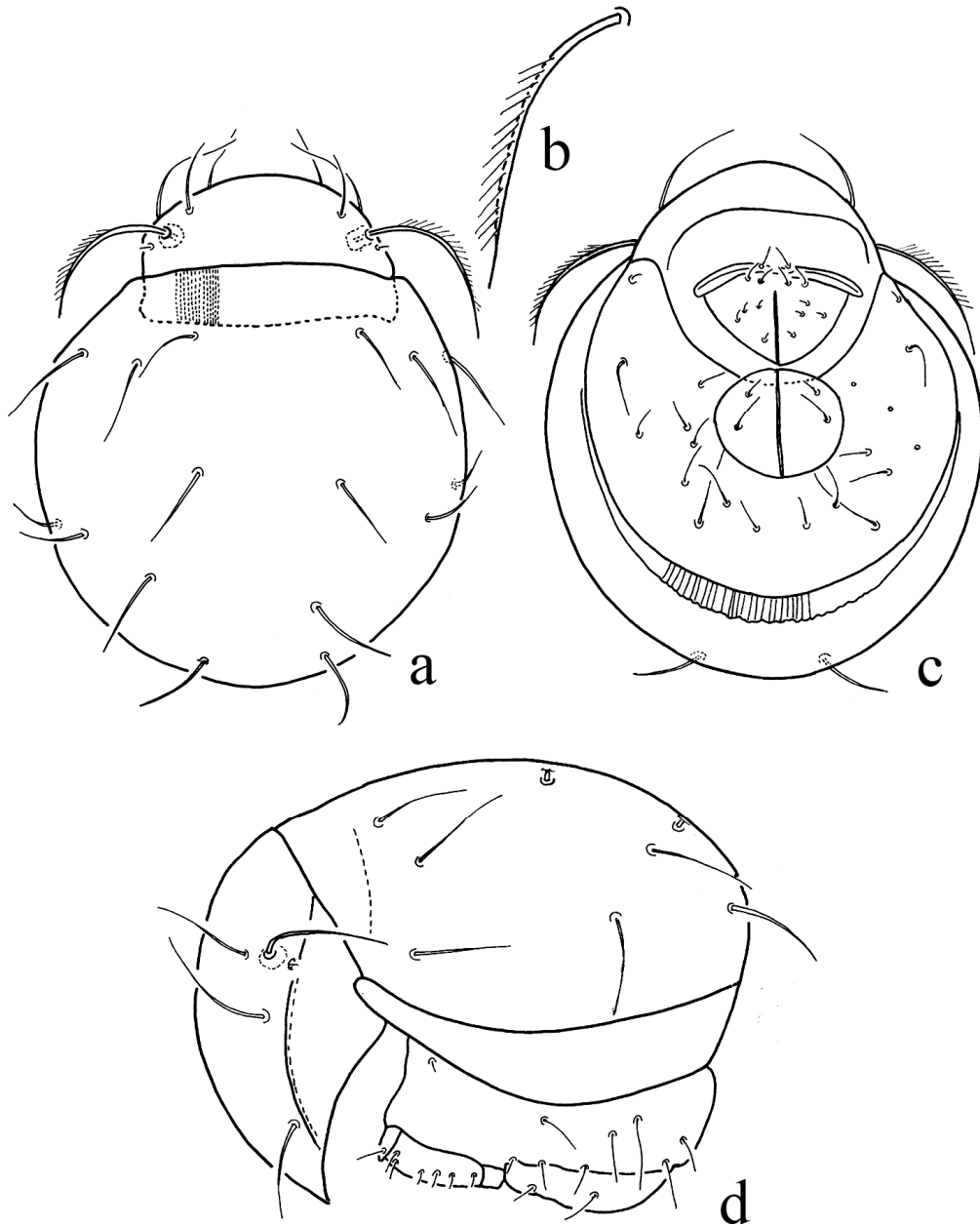
*Remarks.* There are only two species of *Mesoplophora (Mesoplophora)* group known from the Ethiopian Region (Niedbala, 2001). None of them were collected from Madagascar. This new species is closely related to both Ethiopian species but differs from *M. (M.) africana* Balogh, 1958 in the entirely smooth setae on the whole body and in the ratio of hysterosomatal setae, and furthermore differs from *M. (M.) invisitata* Niedbala, 1983 by the presence of aggenital setae, the form of the long lateral carinae and the much longer cilia on the sensillus.

*Etymology.* The species name refers to the close relationships of the other Ethiopian species.

***Microtegeus zigzag* sp. nov.**

(Figures 3a–c)

*Diagnosis.* Body surface covered by irregular, mostly granulate cerotegument. Rostral apex narrow, elongated, reaching over the widely rounded lamellar cusps. Rostral setae arising near to rostral apices, on the lamellar surface. Interlamellar setae minute, behind them a pair of S-shaped ribs is observable. Sensillus very large, its head with speculate surface. Humeral process well observable. Notogastral surface undulate, with a granulate apostolic-cross-shape formation. Ten pairs of simple notogastral setae present. Epimeral region well sclerotised, apodemes and epimeral borders well observable, their margin mostly zigzag shape. A pair of well developed apophysis is present in aggenital position. Epimeral setal formula: 3 – 1 – 3 – 3. Genitoanal setal formula: 5 – 1 – 2 – 3.



**Figure 2.** *Mesopolophora (Mesoplophora) similis* sp. n. a: body in dorsal view, b: sensillus, c: body in ventral view, d: body in lateral view

*Material examined.* Holotype: Madagascar, Andasibe (=Périnet) Province. February 1977. Leg. W. L. Brown, 1 paratype from the same sample. Holotype (1820-HO-11) deposited in the HHNM, 1 paratype in MHNG.

*Measurements.* Length of body: 496–561  $\mu\text{m}$ , width of body: 250–278  $\mu\text{m}$ .

*Prodorsum.* Rostrum elongated, rostral setae arising far from the rostral apex, on lateral side of prodorsum, slightly arched inwards. Lamellae wide, rounded distally, with a nearly triangular apophysis on their basal part, directed medially. Lamellar setae much longer and thicker than rostral setae. Interlamellar surface finely granulate, with a pair of drop shaped tubercle basally. In-

terlamellar setae very short and thin or only their alveoli observable. Peduncle of sensillus short, its head conspicuously large, with rounded, undulate, pellicular margin.

*Notogaster.* Anterior margin of notogaster slightly excavate medially. Humeral process well observable, their margins granulate. Notogastral surface with two pairs of short transversal crests anteriorly (apostolic cross-shaped), and the whole surface undulate, divided by a double dagger shape formation, this part granulate, other surface nearly smooth. Ten pairs of short, thin notogastral setae present.

*Lateral part of podosoma.* Pedotecta I small, behind it a polygonal surface visible. Undulate notogastral surface well observable in lateral view.

*Ventral parts.* Epimeral region well chitinised, all epimeral borders and apodemes well visible, epimeres well separated from each other. *Ap.* 3 not touching medially, sternal one also divided in two parts in this region. All epimeral borders characteristically zigzag-shaped. All epimeral setae minute. Pedotecta II-III bifurcate, discidium small, like tubercle. Posterior margin of epimeral region with large apophysis (*S*<sub>4</sub>) in opposite position. The posterior part of apophysis continuing long crest directed backwards. Surface of ventral plate well granulate. Genitoanal setal formula 5 – 1 – 2 – 3. No setae in preanal position, lyrifissures *iad* in direct adanal position.

*Remarks.* The new species belongs to the group of species which are well characterised by the 5 pairs of genital setae. On the basis of the undulate notogastral surface the new species resembles *Microtegeus undulatus* (Berlese, 1916) (Hammer 1977), however, the forms of the other sculpture of the notogaster and prodorsum are clearly different.

*Etymology.* The species name refers to the peculiar epimeral borders, which are characteristically zigzag-shaped.

***Schalleriella phaseola* sp. nov.**

(Figures 4a–c)

*Diagnosis.* Rostrum wide, with distinct conical apex, which is beak-shaped in lateral view. Lamellae truncate, with minute apices on their

inner and outer anterior margin. They not touching medially, a narrow translamella located near to basal part. A pair of bean-pod-shaped appendages present between the lamellae anteriorly. Rostral setae thick, lamellar, and interlamellar setae short, simple, last ones arising on the lamellar surface. Sensillus long, setiform, directed forward, bearing long cilia. Notogastral surface with characteristic pattern of cerotegument. Pteromorpha with 2–3 minute teeth. All notogastral setae short, thin. Coxisternal region with U-shaped borders (*bo.* 2 and *bo. sej.*) anteriorly and a very wide transversal one posteriorly. All epimeral setae minute or very short, setae in ventral region also short.

*Material examined.* Holotype: Madagascar, Vohimana reserve. 7. 04. 2008. Leg. Cs. Csuzdi (Afr–996). Holotype (1821-HO-11) deposited in the HNHM.

*Measurements.* Length of body: 210 µm, width of body: 157 µm.

*Prodorsum.* Prodorsum wide, truncate, with a distinct median apex. Lamellae also wide, but not touching medially, therefore median part of prodorsum not covered by them. Inner margin of lamellae dilated medially, a narrow translamella also observable. Apical part of lamellae bearing 2–3 minute teeth on their inner or outer margin, lamellar setae arising also on anterior margin. Rostral setae thick, all others prodorsal setae thin, simple, setiform. Interlamellar setae arising on the basal surface of lamellae comparatively near to notogastral margin. Sensillus long, thin setiform, directed forwards, well ciliate mostly in its outer margin.

*Notogaster.* Wide, its anterior margin convex, complete medially. A pair of distinct hollows observable in latero-marginal position. Pteromorpha comparatively small, its surface ornamented by some longitudinal and transversal lines. Anterolateral margin with some teeth. Notogastral surface ornamented with a characteristic pattern consists from cerotegument granules. Nine pairs of short and fine notogastral setae present.

*Lateral part of podosoma.* Tutorium wide, triangular. Pedotecta I large, with striate dorsal margin. Pleural carina well developed, this region distinctly granulate. Circumpedal carina not reaching to the margin of ventral plate.

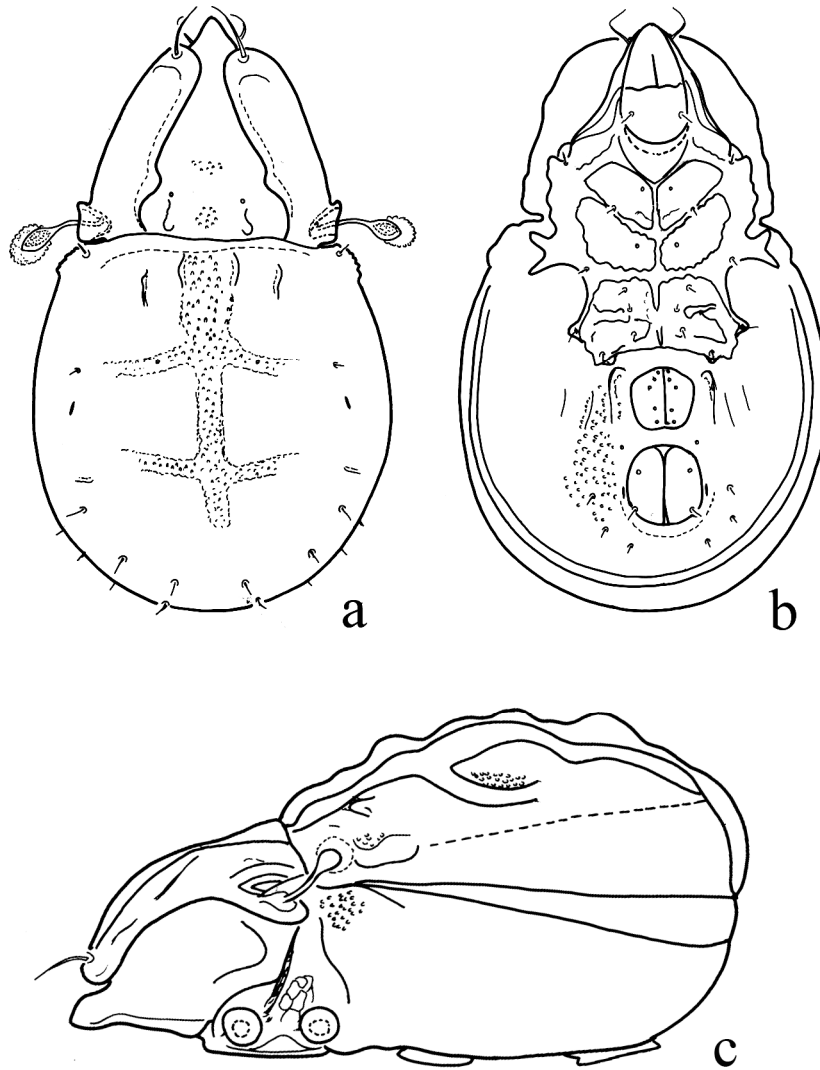


Figure 3. *Microtegeus zigzag* sp. nov. a: body in dorsal view, b: body in ventral view, c: body in lateral view

*Ventral parts.* Setae *h* arising very near to each other, near to the anterior margin of mentum. Apodemes and epimeral borders – except the short U-shaped (*bo. 2* and *bo. sej.*) epimeral borders and the broad band in front of genital aperture (*bo. 4*) – weakly developed. All epimeral setae short or minute, sometimes only their insertion visible. Some granules present on the surface of *bo. 4*. All other ventral surface smooth. Genital and anal aperture framed by weak lines. Genito-anal setal formula: 6 – 1 – 2 – 3. Genital setae longer than the others.

*Legs.* All legs monodactylous.

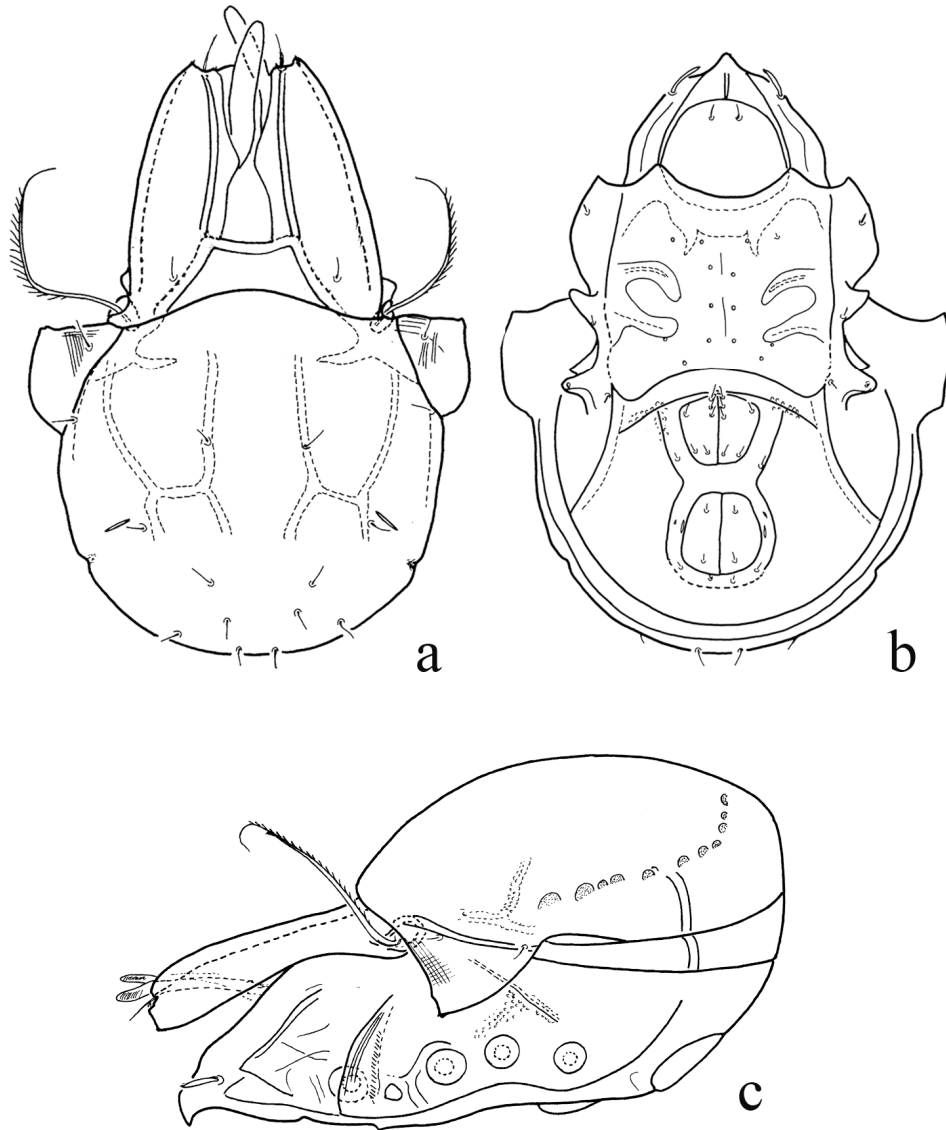
*Remarks.* The new species is well characterised by the robust rostral setae and the phaseolus-shaped interlamellar appendage. These features were previously not known in this genus.

*Etymology.* Named after the presence of bean pod-shaped appendage of the prodorsum.

***Gustavia ornata* sp. nov.**

(Figures 5a–g)

*Diagnosis.* Whole surface of body ornamented by foveolae and ribs. Rostrum simple. Lamella well developed, with long cusp laterally, continu-



**Figure 4.** *Schalleriella phaseola* sp. nov. a: body in dorsal view, b: body in ventral view, c: body in lateral view

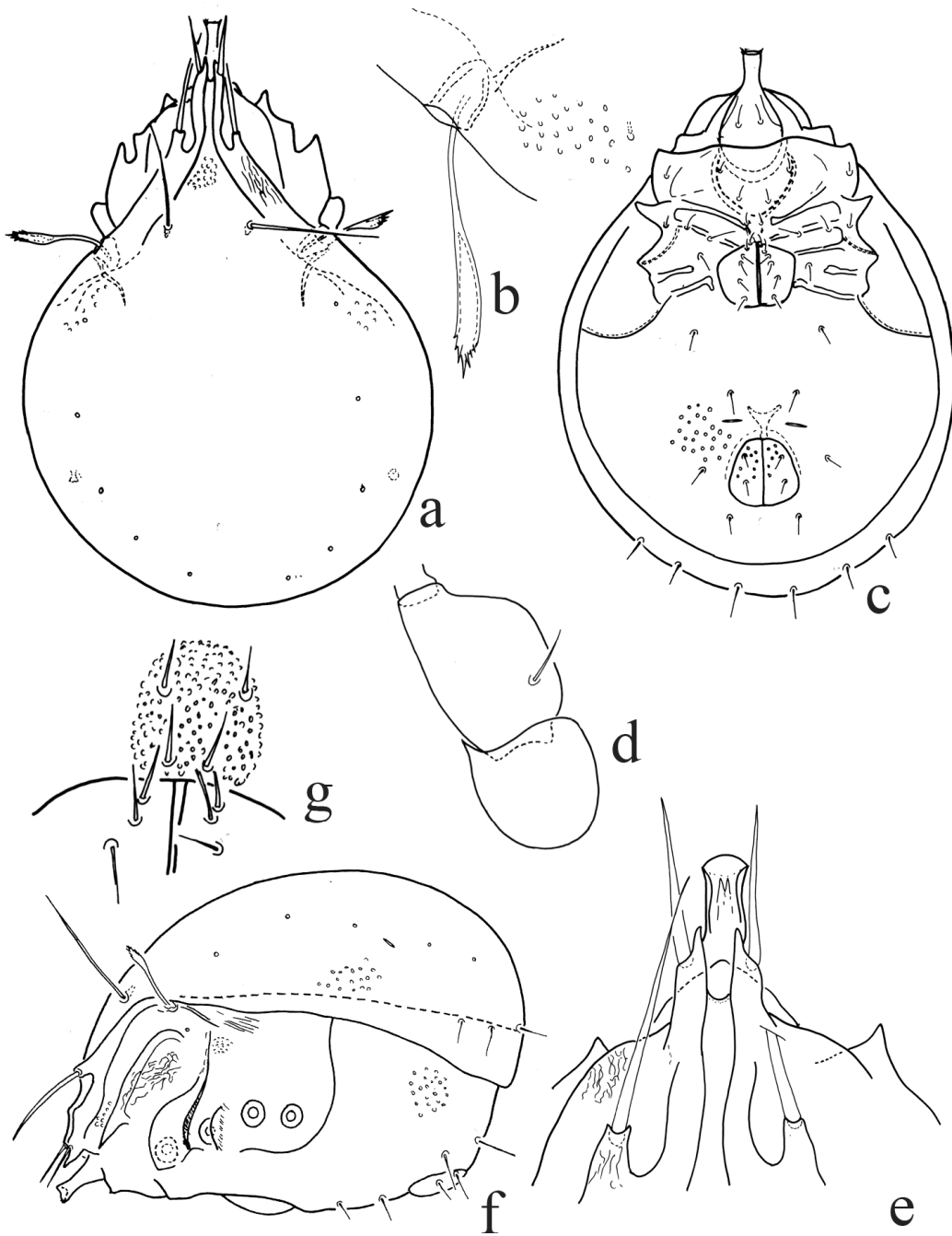
ing in prolamella with strong apex, bearing rostral seta. Tutorium present, its cusp well observable. Interlamellar setae long, bothridium opened laterally, sensillus long, with dilated head, with some short spines unilaterally. Dorsosejugal scissure absent. Seven pairs of setal alveoli and three pairs of setae present on notogaster, all hardly observable. Heart-shaped epimeral formation in the sternal region and two pairs of strong *ap. 2* and *ap. sej.* and two pairs of weak apodemes present. Circumpedal carina narrow, short, directed medially. Six pairs of genital setae, lyrifissures *iad* located far anteriorly. All legs tridactylous.

*Material examined.* Holotype: Madagascar, Toamasina Province. Maromizaha forest. 26. August 1998. Coll. T. Pócs (No. 9890). Holotype (1822-HO-11) deposited in the HNHM.

*Measurements.* Length of body: 507  $\mu\text{m}$ , width of body: 392  $\mu\text{m}$ .

*Prodorsum.* Rostrum simple covered by the prolamellae, which connected with the lamellae, ending in large, wide, spiniform cusps bearing the short and erect rostral setae. A fine transversal line (translamella?) between them also present.





**Figure 5.** *Gustavia ornata* sp. nov. a: body in dorsal view, b: sensillus, c: body in ventral view, d: trochanter of leg IV, e: rostral region, f: body in lateral view, g: epimeral surface in front of genital aperture

Lamellar cusps short, well separated from the lamellae, with distinct ornamentation consists from fine ribs and rugae. Lamellar setae long, setiform, reaching far over the rostrum. Interlamellar setae longest of all prodorsal setae. Sensillus directed

outwards, with long peduncle and well separate head bearing some short spines at its distal end.

*Notogaster.* Dorsejugal scissure absent. Ten pairs of notogastral setae, 7 dorsal pairs represent only by their alveoli, 3 pairs in posteromarginal

position comparatively long, but well observable only in ventral view. Setae  $p_1$  much longer than other two posteromarginal setae. All notogastral features hardly visible on account of the ornamentation.

*Lateral part of podosoma.* Tutorium long, curved basally, with long, blunt distal cusp. Pedotectum I large, Pedotectum II scale-shaped. Surface of the lateral region partly rugose, partly foveolate-punctate.

*Ventral parts.* Subcapitulum diarthric, with well developed characteristic rutellar tube. Surface of the mentum with some foveolae. Setae  $h$  arising near to each other. Epimeral region well sclerotised, its surface except for a small field in front of genial aperture smooth. Anteromedian epimeral formation heart-shaped. Apodemes 3 and  $ap. 4$  shorter than the others, sejugal apodemes and apodemes 2 reaching to genital aperture. Discidium and circumpedal carina weakly developed, latter reaching to the lateral margin of ventral plate, directed medially. Surface of ventral and anal plate distinctly foveolate, genital plate smooth. Genitoanal setal formula: 6 – 1 – 2 – 3. Genital setae arranged in parallel longitudinal rows, setae  $g_1$  the longest,  $g_6$  the shortest of all. Among the adanal setae  $ad_3$  located far anteriorly, in front of the lyrifissures  $iad$ . Setae  $ad_1$  located in postanal position.

*Legs.* All legs tridactylous and heterodactylous. Femora of legs II-IV with blade like formation ventrally, trochanter II and IV with sharply pointed dorsal spur.

*Remarks.* The new species is characterised by the well ornamented dorsal and ventral surface, and by the form of lamellae and prolamellae. Both features are unique in the genus and well distinguish the new species from all heretofore known *Gustavia* Kramer, 1877 species.

*Etymology.* The species name refers to the sculpture consisting of different type of foveolae on the body surface.

***Gustavia sineornata* sp. nov.**

(Figures 6a–d)

*Diagnosis.* Whole body surface smooth. Rostrum simple. Lamellae well developed. Lamellar

cusp long, located laterally, its inner part continuing with long prolamella, with long apex, bearing rostral setae. Lamellar cusp bearing longer lamellar setae. Tutorium present, its cusps well observable. Interlamellar setae long, bothridium opened laterally, sensillus long, with slightly dilated, narrow head, ending in conspicuously long, distal setiform spines. Dorsosejugal scissure absent. Nine pairs of setal alveoli and one pair of setae present on notogaster. Gnathosoma typical for the family. Apodemes and epimeral borders weakly developed,  $ap. 2$  and  $ap. sej.$  stronger than the others. Circumpedal carina narrow, directed medially. Six pairs of genital setae, lyrifissures  $iad$  and setae  $ad_1$  located far anteriorly from the anal aperture. All legs tridactylous.

*Material examined.* Holotype: Madagascar, Peyrieras, Causse de Kelifelly. 20–30. 11. 1974. Leg. D. Smith. Holotype (1823-HO-11) deposited in the HHNM.

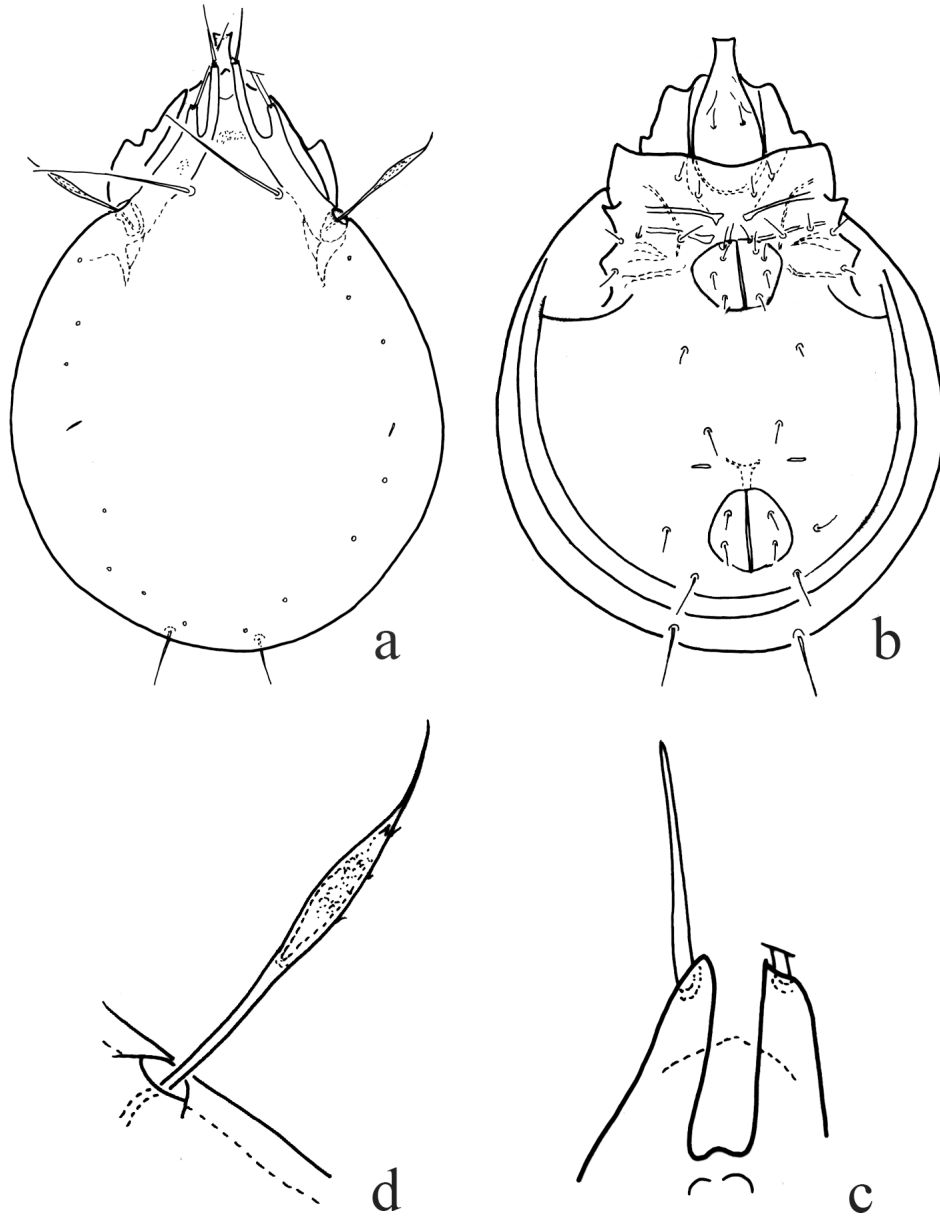
*Measurements.* Length of body: 507  $\mu\text{m}$ , width of body: 392  $\mu\text{m}$ .

*Prodorsum.* Rostrum simple. Lamellae well developed, lamellar cusp located laterally, bearing long lamellar seta. It is connected with the prolamellae, ending in large, wide, spiniform cusps, bearing the short and erect rostral setae. A fine transversal line (translamella?) between them also present. Lamellar setae long, setiform. Sensillus directed outwards, with long peduncle, narrow head with 2–3 short bristles and ending in a very long, setiform distal part.

*Notogaster.* Dorsosejugal scissure absent. Ten pairs of notogastral setae, 9 dorsal pairs represent only by their alveoli, 1 pair in posteromarginal position comparatively long, but well observable only in ventral view. Setae  $p_2$  and  $p_3$  represented only by their insertion.

*Lateral part of podosoma.* Tutorium long, curved basally, with long, distal cusp. Pedotectum I large, Pedotectum II scale-shaped.

*Ventral parts.* Epimeral region well sclerotised. Apodemes 3 and  $ap. sej.$  long, touching medially or reaching to the genital aperture. Circumpedal carina present, weakly developed,



**Figure 6.** *Gustavia sineornata* sp. nov. a: body in dorsal view, b: body in ventral view, c: lamellar cusp, d: sensillus

reaching to the lateral margin of ventral plate, medially not connecting with discidium. Surface of ventral, genital and anal plate smooth. Genito-anal setal formula: 6 – 1 – 2 – 3. Genital setae arranged in parallel longitudinal rows, setae  $g_1$  the longest,  $g_6$  the shortest of all. Among the adanal setae  $ad_3$  located far anteriorly, in front of lyri-fissures *iad*. Setae  $ad_1$  located in postanal position, much longer than setae  $ad_2$ , setae  $ad_3$  shortest of them.

*Legs.* All legs tridactylous and heterodactylous. Femora of legs II–IV with blade like formation ventrally, trochanter II and IV with sharply pointed dorsal spur.

*Remarks.* The new species is well characterised by the shape of lamellae and prolamellae and furthermore by the sensillus. These characteristic shapes are rare in this genus and their combination distinguishes well the new species from all

heretofore known *Gustavia* Kramer, 1877 species. See also the preceding new species.

*Etymology.* The species name refers to similarities with the preceding newly described species.

***Austrocarabodes semilunatus* sp. nov.**

(Figures 7a–d)

*Diagnosis.* Rostrum wide, rounded. Lamellae and translamella well developed. Rostral setae antlers-shaped, lamellar setae nearly bacilliform, with blunt distal end, arising medially on the translamella. Interlamellar setae inserted on the weakly foveolate interlamellar surface, directed outwards, phylliform. Basal part of this region with a semilunar-shaped depression medially. Sensillus long, setiform, with recurved distal end, slightly dilated medially. Median part of notogastral tectum undulate, a small humeral process observable. Notogastral surface irregularly alveolate. Fourteen pairs of phylliform notogastral setae, 4 posterolateral pairs of them smaller than setae in anteromedian position. Epimeral and ventral plate well sculptured, all epimeres and epimeral borders observable. All setae in ventral parts – except adanal ones – simple, thin and setiform. Adanal setae slightly dilated basally. Genitoanal setal formula: 4 – 1 – 2 – 3.

*Material examined.* Holotype: Madagascar, Peyrieras, Causse de Kelifelly. 20–30. 11. 1974. Leg. D. Smith. 2 paratypes from the same sample. Holotype (1824-HO-11) and 1 paratype (1824-PO-2011) deposited in the HNHM, 1 paratype in the MHNG.

*Measurements.* Length of body: 408–490 µm, width of body: 228–300 µm.

*Prodorsum.* Surface of lamella finely punctuate, interlamellar surface mostly smooth, some ribs present in its basal part. A semilunar depression present medially, in front of the notogastral margin. Lamellae long with blunt apex, rostral setae directed inwards, antler-shaped. Translamella well developed, bearing lamellar setae arising on tubercle originating in translamella.

Interlamellar setae phylliform. Shorter than lamellar setae, directed outwards. Sensillus long, strongly recurving, well barbed.

*Notogaster.* Dorsosejugal tectum of notogaster distinctly undulate, medially strongly convex. Well protruding angular humeral process present. Notogastral surface irregularly foveolate. Notogastral setae short, phylliform, with well developed median veil. Their surface distinctly barbed. Median setae nearly equal in length and shape, four posteromarginal setae smaller than others.

*Lateral part of podosoma.* Tutorium well observable, without true apex. Strongly curved, its dorsal margin undulate. Pedotectum I very large, acetabulum of leg I completely covered.

*Ventral parts.* Epimeral and ventral region well sclerotised, all apodemes and epimeral borders well visible. Median border of epimeres I characteristically curved, between sejugal apodemes a triangular spot observable medially. *Bo.* 4. convex, very wide, continuing posteriorly in wide crests. Ventral plate bearing also some large curved crests, especially strong rib present in front of the anal aperture. Epimeral setae varying in length, setae *1a*, *1c*, *2a* and *3a* short, all others much longer. Genitoanal setal formula: 4 – 1 – 2 – 3. Adanal setae slightly broadened basally.

*Legs.* Femora of leg III and IV with broad ventral keel.

*Remarks.* The new species is well characterised by the undulate anterior notogastral tectum and the characteristic semilunar feature. These features are unique in the genus *Austrocarabodes* Hammer, 1966.

*Etymology.* Named after the characteristic depression on the basal part of the prodorsum.

***Triteremella simpliseta* sp. nov.**

(Figures 8a–c)

*Diagnosis.* Whole body surface covered by thick cerotegument layer, which mostly consists of granules. Because of them the body margin

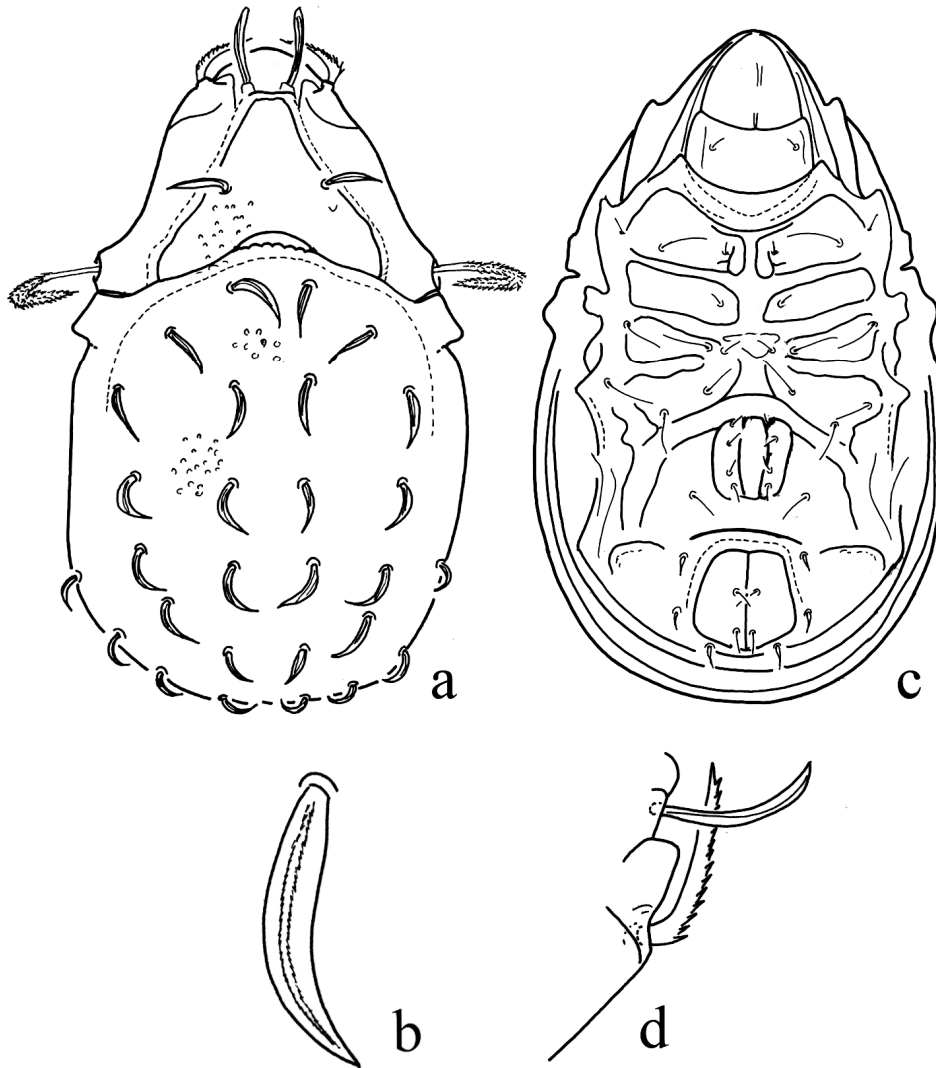


Figure 7. *Austrocarabodes semilunatus* sp. nov. a: body in dorsal view, b: body in ventral view, c: rostral part of prodorsum, d: rostral seta

seems to be undulate. Rostrum widely rounded. Costulae well developed, curved outwards, bearing lamellar setae. A pair of well developed lateral carina also present. Peduncle of sensillus thin, its head phylliform, dilate, its surface distinctly barbed. Ten pairs of simple, setiform notogastral setae, seven pairs of them arising in one row along the lateral margin. Three pairs of setae located in marginal position. Apodemes and epimeral borders weakly developed, not touching medially. All epimeral setae short, hardly observable. Genitoanal setal formula: 5 – 1 – 2 – 3. Legs tridactylous, lateral claws much thinner than median one.

*Material examined.* Holotype: Madagascar, Peyrieras, Causse de Kelifelly. 20–30. 11. 1974. Leg. D. Smith. 2 paratypes from the same sample. Holotype (1825-HO-11) and 1 paratype (1825-PO-11) deposited in HNHM, 1 paratype in MHNG.

*Prodorsum.* Surface of prodorsum well granulate, these are slightly smaller, than notogastral ones. All prodorsal setae thin, setiform, rostral setae shorter than the lamellar one, interlamellar setae shortest of all. Costula and lateral carina forms a characteristic median pattern. Bothridium opened dorsally. Sensillus with short, thin pe-

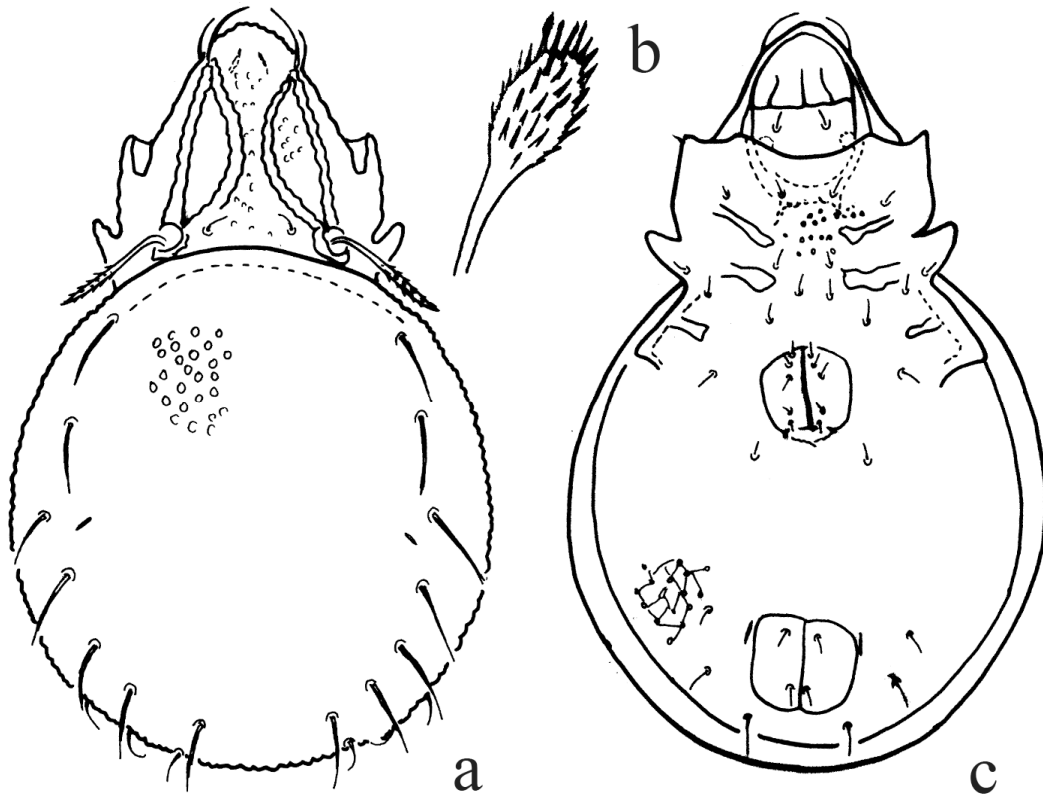


Figure 8. *Triteremella simpliseta* sp. nov. a: body in dorsal view, b: sensillus, c: body in ventral view

duncle and well dilate, rounded head. Its surface covered with bristles or short cilia.

*Notogaster.* Anterior margin gradually convex. Among the ten pairs of notogastral setae 7 pairs arising in a row along the lateral margin of notogaster. All setae simple, setiform, hardly ciliate. Three pairs of notogastral setae in postero-marginal position ( $p_1$ – $p_3$ ) slightly longer than the others.

*Lateral part of podosoma.* Tutorium weakly developed, short, without cusp.

*Ventral parts.* Surface also granulate. Granules on the ventral plate mostly connected by fine line. Epimeral region weakly sclerotised, apodemes and epimeral borders mostly short, not touches medially. Epimeral setae very short and thin, owing to distinct cerotegument hardly observable. Epimeral setal formula 5 – 1 – 2 – 3. Five pairs of genital setae arising in longitudinal rows, all very short. Lyrifissures *iad* also hardly observable, among adanal setae  $ad_1$  slightly longer than  $ad_3$ .

*Remarks.* On the basis of the number of claws and the shape of cerotegument the new species is well classified into the genus *Triteremella* Kunst, 1971 (Subias 2011). It stands nearest to *T. ensifera* (Balogh et Mahunka, 1968) comb. nov. described from Argentina. The new species is well distinguished from the heretofore known species of this genus by the number of genital setae (6 in other species) and the form of the prodorsal pattern (costulae), which is completely different in the other species.

*Etymology.* The species name refers to the shape of the notogastral setae.

***Eupelops costulatus* sp. nov.**

(Figures 9a–d)

*Diagnosis.* Whole surface covered with cerotegument, which forms a characteristic pattern. Rostrum elongate, slightly obtuse. Interlamellar setae leaf-shaped, comparatively narrow, not covered prodorsum. Sensillus elongate, lanceolate,

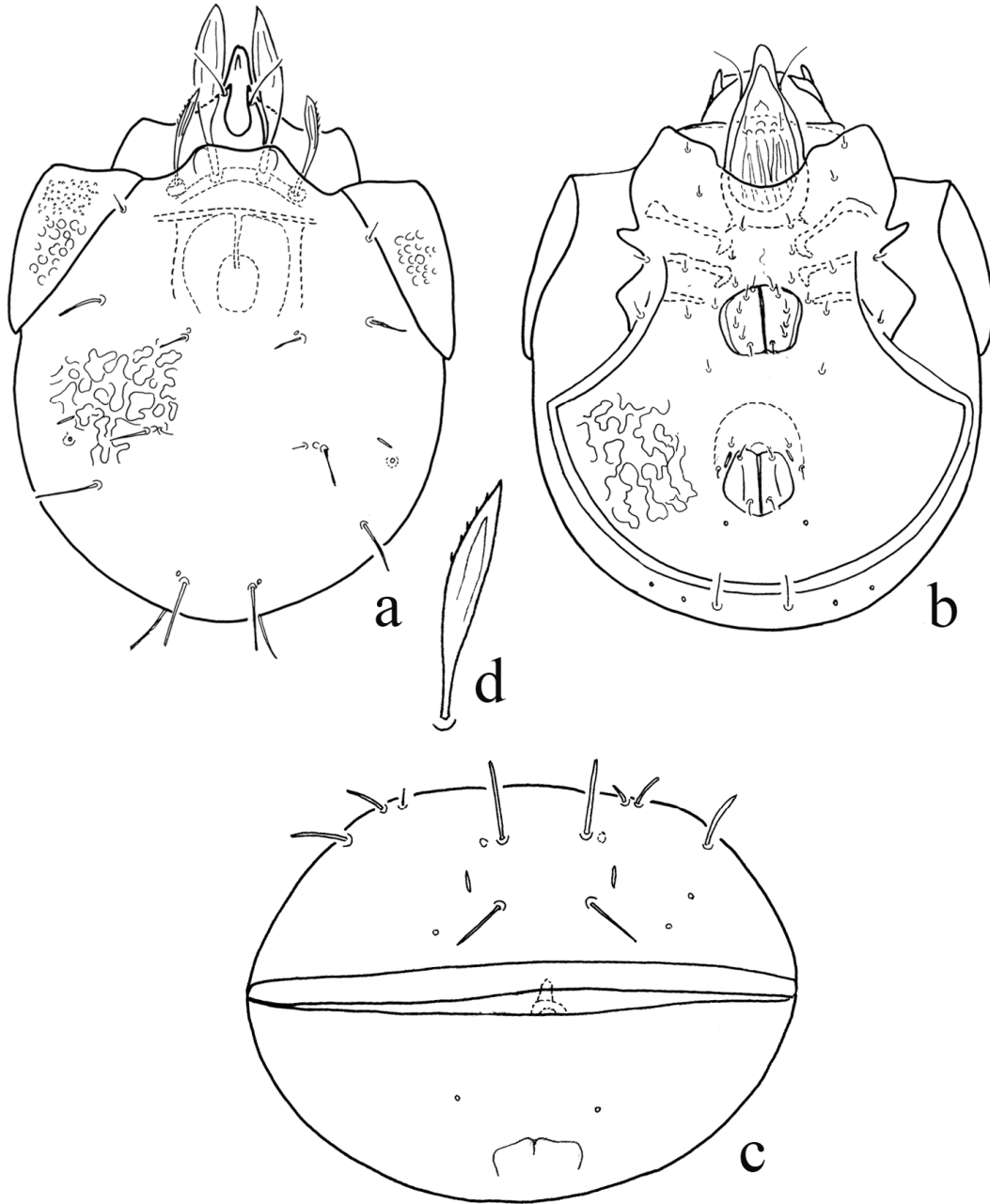


Figure 9. *Eupelops costulatus* sp. nov. a: body in dorsal view, b: body in ventral view, c: body in posterior view, d: sensillus

with pointed apex. Ten pairs of notogastral setae, two pairs of them minute or represented as setal alveoli (setae  $p_2$  and  $p_3$ ). Setae  $lp$  and  $h_3$  arising very near to each other, immediately to areae porosae  $A_1$ . Setae  $c_2$  and  $lp$  thin, and much shorter than the bacilliform remaining setae. Subcapitulum with longitudinal crests, in front of them some shell-shaped features present. Epimeral setal

formula 3 – 1 – 2 – 3. Ventral plate covered with irregular pattern of cerotegument. Genital plates smooth, anal plates with one pair of longitudinal crests. Genitoanal setal formula: 6 – 1 – 2 – 3. All setae short, adanal setae  $ad_1$  in postanal,  $ad_3$  in preanal position. Lyrifissures  $iad$  located at anterior corner of anal aperture. All legs tridactylous.

*Material examined.* Holotype: Madagascar, Vohimana reserve. 7. 04. 2008. Leg. Cs. Csuzdi (Afr-996). Holotype (1826-HO-11) deposited in the HNHM.

*Measurements.* Length of body: 454 µm, width of body: 352 µm.

*Prodorsum.* Prodorsum wide, rostral apex slightly rounded. Lamellae fused basally, form a wide interlamellar region. Rostral and lamellar setae simple, both finely roughened. Interlamellar setae long, comparatively narrow, with short bristles laterally. They do not cover the prodorsal surface. Sensillus reaching over the anterior margin of notogaster, saliciform, with sharply pointed distal end, barbed marginally.

*Notogaster.* Notogaster rounded, slightly longer than wide. Surface covered with irregular cerotegument layer, surface of the pteromorphae foveolate medially, punctuate anteriorly. Anterior margin of notogaster forming two distinct lobes. Four pairs of small porose areas present, *Aa* situated near to setae *lm*, *A*<sub>1</sub> between setae *lp* and *h*<sub>3</sub>. Some setae (*c*<sub>2</sub> and *lp*) thin, setiform, some other bacilliform and finely ciliate or barbed. Setae *h*<sub>1</sub> longest of all, setae *p*<sub>1</sub> distinctly shorter than *h*<sub>2</sub>. Setae *p*<sub>2</sub> and *p*<sub>3</sub> minute or reduced, only their insertions observable.

*Lateral part of podosoma.* Exobothridial setae minute. Tutorium well discernible, with sharply pointed apex.

*Ventral parts.* Apodemes and epimeral borders typical for the genus. Epimeral setae short, some of them hardly or uncertainly observable. Circum-pedal carina well developed, wide. Ventral plates covered with similar cerotegument as the notogaster with larger smooth median fields. Genital aperture larger than anal one, surface of preceding aperture smooth, anal plates bearing a well developed longitudinal crest. Lyrifissures *iad* located near to anterior corner of anal aperture, setae *ad*<sub>3</sub> distinctly in front of these lyrifissures. Area porosae postanal absent.

*Legs.* All legs triangular, strong heterodactily present.

*Remarks.* The new species is well characterised by the form and position of notogastral setae, the ornamentation of the subcapitulum and by the form of sensillus. On this basis it is closest to

*Eupelops foveolatus* Engelbrecht, 1975 (see Grobler, 1989) however, the head of sensillus is fusiform, widely rounded in *foveolatus* (Engelbrecht 1975: fig. 4), the interlamellar setae are also very wide and the subcapitulum is without shell-shaped sculpture (which is present in the new species). The longitudinal crest is lacking from the anal plates in *foveolatus* but it is present in the new species.

*Etymology.* Named after the longitudinal crests of the anal plates.

### *Oripoda attenuata* sp. nov.

(Figures 10a–c)

*Diagnosis.* Rostrum very wide slightly rounded, without distinct apex. Lamellae and prae-lamellae well developed, rostral and lamellar setae arising on them. All prodorsal setae very fine, smooth. Bothridium covered by the notogaster, anterior part of sensillus free. Anterior margin of notogaster nearly straight or slightly undulate. Pteromorphae simple. Notogastral surface smooth anteriorly and distinctly punctuate posteriorly. Ten pairs of short and fine notogastral setae and 4 pairs of round sacculi present. Ventral plate partly and anal plates wholly punctuate, like the notogaster. Genito-anal setal formula 2 – 1 – 2 – 3. Genital and aggenital setae simple, anal and adanal setae very long, extremely curved, flagellate. All legs tridactylous.

*Material examined.* Holotype: Madagascar, Mangabé Island, Antongie Bay. Primary rain forest, rotten wood. 19. February, 1977. Leg. WL & DL Brown. (Afr-JB2). 1 paratype from the same sample. Holotype (1827-HO-11) deposited in the HNHM, 1 paratype in MHNG.

*Measurements.* Length of body: 437–459 µm, width of body: 200–208 µm.

*Prodorsum.* Rostral part widely rounded, rostral surface nearly smooth. All prodorsal setae – except the very short exobothridial ones – very thin, fine, smooth. Their ratio  $ro < le < in$ . Prodorsal surface irregularly punctuate. Bothridium completely covered by the antero-lateral notogastral tectum, head of sensillus partly visible in dorsal view. Surface of sensillus distinctly barbed.



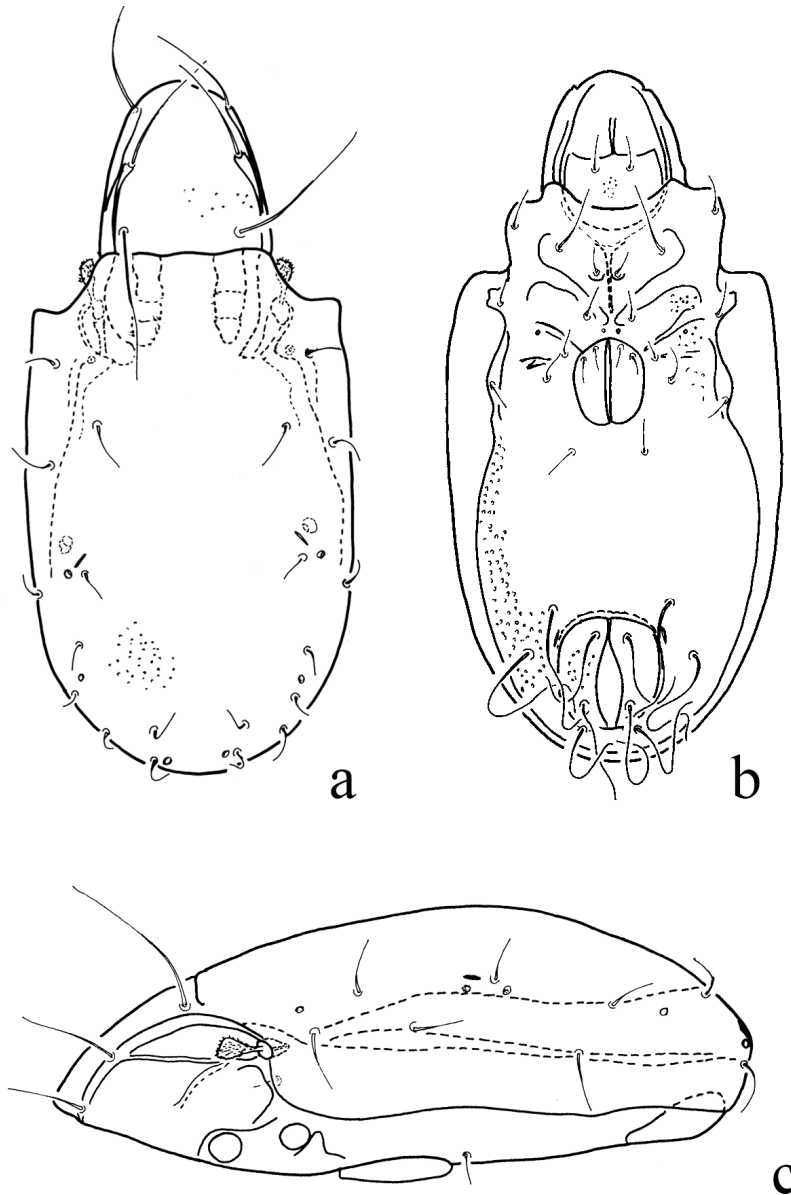


Figure 10. *Oripoda attenuata* sp. nov. a: body in dorsal view, b: body in ventral view, c: body in lateral view

*Lateral part of podosoma.* Praelamella continued from lamella, both well developed. Narrow sublammella and weak tutorium also observable. Rostral and lamellar setae arising on the surface of lamella or praelamella. Exobothridial setae short, fine, much shorter than the other prodorsal setae. Pedotecta I and II small, discidium hardly protruding laterally.

*Notogaster.* Anterior margin of notogaster nearly straight, or slightly undulate. Pteromorphae not protruding anteriorly, simple. Dorsophragma

extremely long consists of 3–4 parts. Notogastral surface smooth anteriorly and distinctly, irregularly punctuate in the posterior part. Ten pairs of short, mostly simple, and thin notogastral setae and 4 pairs of round sacculi well observable. Lyrifissures *im* located in front of insertion of setae *lp*.

*Ventral parts.* Epimeral region weakly punctuate, median part smooth, lateral part with distinct sculpture. Ventral plate distinctly punctuate poste-

romarginally, genital surface smooth, anal surface rarely punctuate. Apodemes thin their pattern similar to the genus, *ap. sej.* directed to the genital aperture. Epimeral setal formula 3 – 1 – 2 – 2, 3c and 4c not visible. Genital and aggenital setae simple, short. Genito-anal setal formula: 2 – 1 – 2 – 3. All anal and adanal setae very long, curved or flagelliform, all very thin, smooth. Lyrifissure *iad* located near to anterior corner of the anal aperture.

*Legs.* All legs tridactylous, weakly heterodactylous.

*Remarks.* The new species is well characterised by the very thin and long prodorsal setae, the nearly straight anterior notogastral margin and the punctuate dorsal and ventral surface. On this basis the new species stands nearest to *Oripoda sumonyii* Mahunka, 1985. However, the rostrum of *O. sumonyii* is excavate and the anoadanal setae short, not flagellate.

*Etymology.* Named after the very long and very thin, smooth prodorsal setae.

***Chaunoproctus semirugosus* sp. nov.**

(Figures 11a–d)

*Diagnosis.* Rostrum wide, conical, medially with slightly rounded apex. Its surface with polygonal pattern. Rostral setae long, setiform, arising in the long tutorial apices. Lamellae and translamella wide, with short lamellar apices. Lamellar setae longer than interlamellar ones, both distinctly ciliate. Sensillus short with capitate head. Dorsesejugal margin complete. Notogaster ornamented by large foveolae. Ten pairs of bacilliform, well ciliate setae, and four pairs of small, porose area present. Ventral plate and surface of anal plates with foveolae. Sejugal apodeme well developed, composing transversal band. Epimeral border and apodemes 3–4 hardly visible or absent. Genitoanal setal formula: 3 – 1 – 2 – 3. All legs tridactylous.

*Material examined.* Holotype: Madagascar, Antsiranana Province, Nosy Komba Island. 29.

July, 1998. Coll. T. Pócs (Afr–917). Holotype (1828-HO-11) deposited in the HNHM.

*Measurements.* Length of body: 394 µm, width of body: 296 µm.

*Prodorsum.* Rostrum wide, with slightly rounded apex. Its surface covered with distinct, polygonate sculpture, reaching to translamella. Rostral setae arising laterally, conspicuously far from each other, very long, reaching over the rostral apex, thin, setiform. Lamellae and translamella well-developed, all of them nearly equally thick. Lamellae with short, but distinct apices, bearing long, lamellar setae. Interlamellar setae slightly longer than the lamellar ones, both pair bacilliform and well ciliate. Interlamellar region without special sculpture. Sensillus short, with short capitate head.

*Lateral part of podosoma.* Tutorium long, with distinct head bearing the long and thin rostral seta. Pedotecta I large.

*Notogaster.* Whole surface ornamented by large alveoli, their diameter larger than the distance between them. Anterior margin of notogaster convex, complete medially. Ten pairs of bacilliform, well ciliate notogastral setae, and four pairs of small porose areas present on the notogaster. The latter mostly smaller than the alveoli. Setae  $p_1 - p_3$  shorter than the setae in median position.

*Ventral parts.* Surface of subcapitulum and genital plates nearly smooth, all other part ornamented by smaller (epimera 1–2, or anal plates) or larger foveolae or alveoli of varying shape and dimension. Short part of apodemes 1 and sejugal apodemes well developed, sejugal apodemes form a conspicuously thick transversal band, directed slightly posteriorly to genital aperture. Genital aperture framed by a characteristic border, directed to the anal plates. Epimeral borders and apodemes on epimera 3 and 4 hardly observable or absent. All epimeral setae simple and short. Genitoanal setal formula: 6 – 1 – 2 – 3. Lyrifissure *iad* small, located near to anterior corner of anal aperture.

*Legs.* All legs tridactylous.

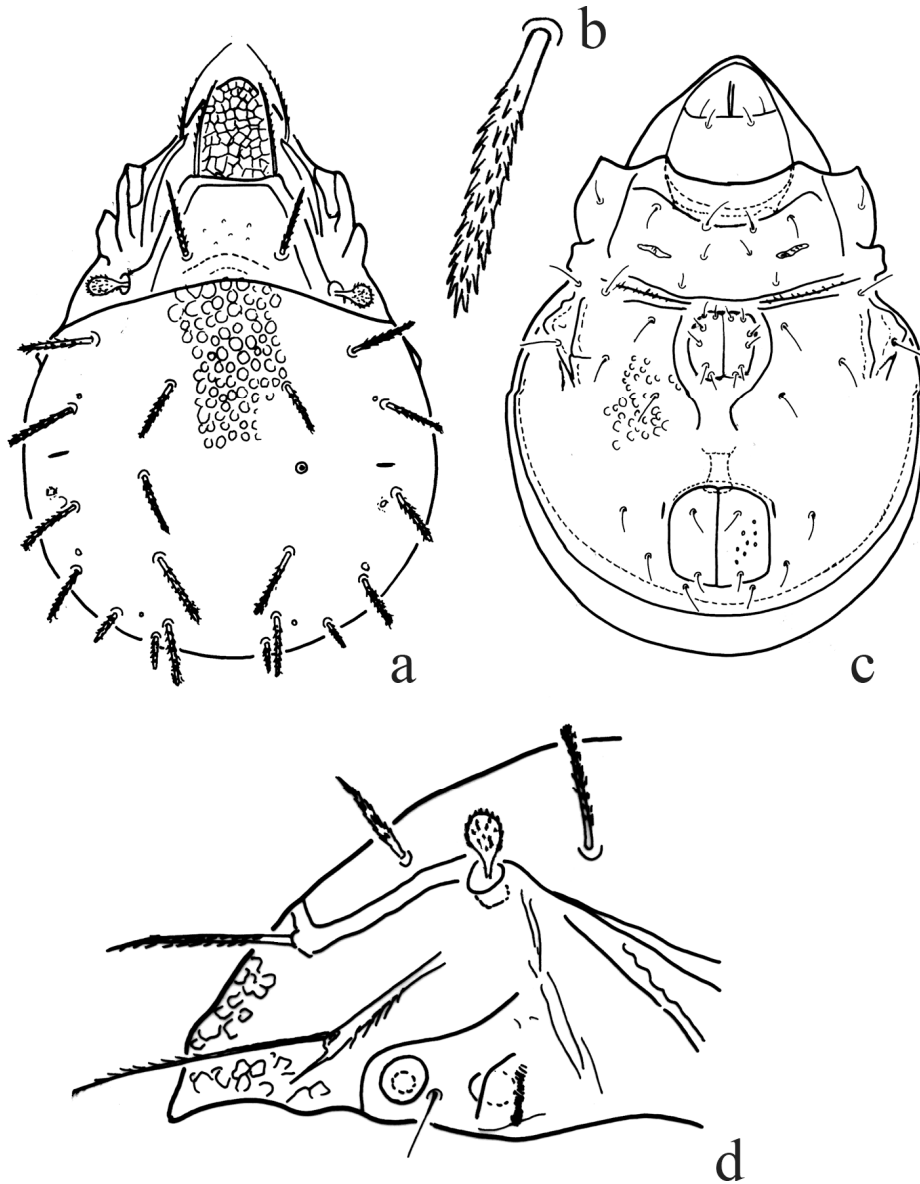


Figure 11. *Chaunoproctus semirugosus* sp. nov. a: body in dorsal view, b: notogastral seta, c: body in ventral view, d: body in lateral view

*Remarks.* The new species is well characterised by the robust, bacilliform and distinctly ciliate notogastral setae, the thin and long rostral and comparatively long but thickened lamellar and interlamellar setae and the body sculpture. The new species is closest to *C. rugosus* (Mahunka, 1992) however, well differ from it by the much larger alveoli of the notogaster, the complete dorsosejugal margin of the notogaster and by the

characteristic border surrounding the genital aperture, directing to the anal ones.

*Chaunoproctus rugosus* (Mahunka, 1992) was the type species of the erroneously established genus (*Chaunoproctellus* Mahunka, 1992) (see Mahunka 1992: 696). The examination of the type species made the former error evident; instead of 2 this species possesses 3 pairs of adanal setae.

*Etymology.* The species name refers to the nearest similar species.

***Peloribates (Peloribatodes subgen. nov.)***

*Diagnosis.* Family Haplozetidae Grandjean, 1936, similar to *Peloribates* Berlese, 1908 species. Lamella short, prolamella absent, sublamella weakly developed. Tutorium well developed bearing rostral setae. Fourteen pairs of notogastral setae, four pairs of simple sacculi present. Apodemes and epimeral borders weakly developed. Genitoanal setal formula: 4 – 1 – 2 – 3.

*Type species.* *Peloribates (Peloribatodes) incompatibilis* sp. nov.

*Remarks.* The new subgenus is distinguished from the nominate subgenus by the number of genital setae (5 pairs in the nominate subgenus), and by the anterodorsal tooth on tibia II (absent in nominate form).

***Peloribates (Peloribatodes) incompatibilis* sp. nov.**

(Figures 12a–d)

*Diagnosis.* Rostral part triangular, rostral apex rounded, beak-shaped in lateral view. Lamella short, prolamella absent, sublamella very short, bearing long, setiform lamellar setae. Tutorium well-developed, rostral setae arising on its distal end. Interlamellar setae distinctly shorter than rostral ones. Sensillus comparatively long directed outwards and backwards, peduncle thin, its head small. Notogastral and pteromorpha surface smooth. Fourteen pairs of nearly equal, straight, slightly erectile notogastral setae, and four pairs of small and simple sacculi observable. Only sejugal apodemes distinctly developed. All epimeral setae minute. Ventral and genital plates smooth, anal plate distinctly foveolate. Genitoanal setal formula: 4 – 1 – 2 – 3. All legs tridactylous. Femur II with strong, triangle dorsal tooth and a lateroventral thorn. Three of the above listed features do not characterise the so far known *Peloribates* Berlese, 1908 species. Therefore establishing a new subgenus seems to be well founded.

*Material examined.* Holotype: Madagascar, Peyrieras, Causse de Kelifelly. 20–30. 11. 1974. Leg. D. Smith. Holotype (1829-HO-11) deposited in the HNHM.

*Measurements.* Length of body: 448 µm, width of body: 303 µm.

*Prodorsum.* Wide, triangular, its apex slightly rounded. Surface smooth, lamellae conspicuously short, bearing the long lamellar setae. Rostral setae shorter than lamellar ones, both pairs setiform, ciliate. Interlamellar setae slightly bacilliform, straight. Much shorter than preceding ones. Peduncle of sensillus long, curved, its head fusiform, surface with pattern.

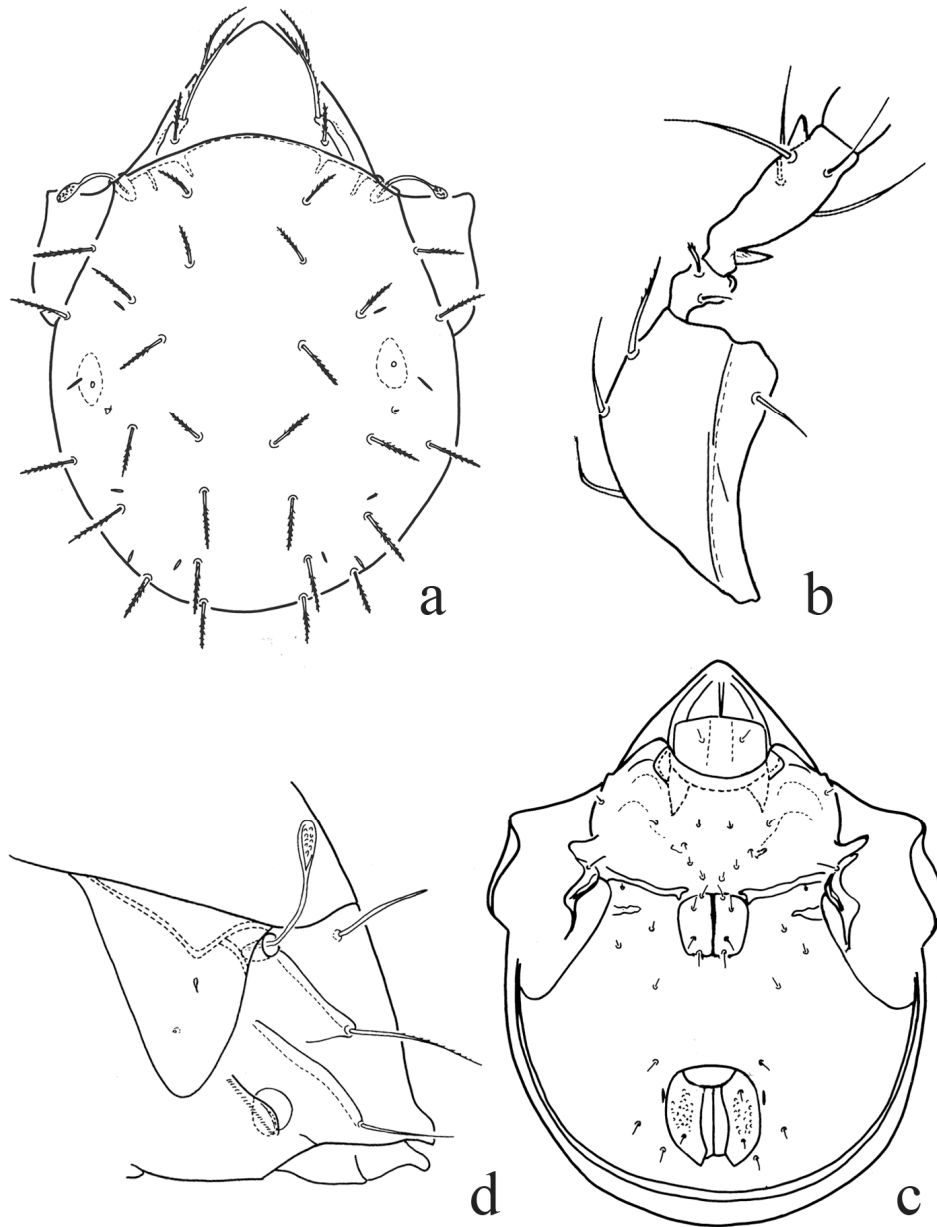
*Lateral part of podosoma.* Rostrum beak shaped in lateral view. Prolamella absent, a very weak, short sublamella observable. Tutorium well developed, without sharp distal apex, bearing rostral seta.

*Notogaster.* Dorsosejugal scissure complete, convex. Notogastral surface smooth. Dorsophragma and pleurophragma conspicuously narrow. Fourteen pairs of nearly equal length, mostly straight, slightly bacilliform, and finely barbed notogastral setae. Four pairs of small, simple sacculi present.

*Ventral parts.* Surface except that of anal plates smooth. Apodemes and epimeral borders weakly observable, only sejugal apodemes distinct and a short part of *ap.* 2 and *ap.* 3 well visible. All epimeral setae minute. Discidium with transversal plate, custodium strongly bent outwards. Circumpedial carina long well curved to the lateral margin of the ventral plate. Genital plate smooth, anal plate distinctly foveolate. Genitoanal setal formula 4 – 1 – 2 – 3. Genital setae slightly longer than the short aggenital, anal and adanal setae. Among the adanal setae *ad*<sub>1</sub> in postanal, *ad*<sub>3</sub> in preanal position.

*Legs.* All legs triheterodactylous. Surface of all legs smooth. Femur of leg II and leg IV with well developed ventral keel, femur of leg II with a sharply pointed, triangular anterodorsal tooth and a peculiarly large lateroventral apophysis.

*Remarks.* See the remarks after the description of the new subgenus.



**Figure 12.** *Peloribates (Peloribatodes) incompatibilis* subgen. nov., sp. nov. a: body in dorsal view, b: trochanter, genu and tibia of leg II, c: body in ventral view, d: anterior part of body in lateral view

*Etymology.* The species name refers to the problematic relationship of the new and the formerly described species (within the genus).

***Pergalumna nasifera* sp. nov.**

(Figures 13a–c)

*Diagnosis.* Rostrum with characteristic, nasi-form median part, it is beak-shaped in lateral

view. Prodorsal surface distinctly punctate. Lamellar and sublamellar lines well-developed, setae *le* distinctly located between lines L and S. Interlamellar setae long, longest of all. Ratio of prodorsal setae:  $in > le > ro$ . Sensillus directed backwards, simple, setiform. Dorsosejugal suture interrupted medially, its short basal part directed to insertion of interlamellar setae. Ten pairs of setal alveoli and three pairs of equally large areae

porosae. Epimeral setae comparatively long, well observable. Six pairs of genital setae, 2 pairs arising along the anterior margin. Aggenital, anal and adanal setae minute. Postanal area porosa absent.

*Material examined.* Holotype: Madagascar, Andasibe (=Périnet) Province. February 1977. Leg. W. L. Brown, 3 paratypes from the same sample. Holotype (1830-HO-11) and 2 paratypes (1830-PO-11) deposited in the HNHM, 1 paratype in MHNG.

*Measurements.* Length of body: 661–742  $\mu\text{m}$ , width of body: 513–567  $\mu\text{m}$ .

*Prodorsum.* Anterior part of prodorsum very wide, rounded, however, a short, well separated nasiform protuberance emerging from the anterior margin. This part is well observable in dorsal view. Prodorsal surface distinctly punctuate, dots arranged mostly in longitudinal lines. Lamellar and sublamellar lines well-developed running parallel. Prodorsal setae well-observable, interlamellar setae longest and strongest, rostral setae the shortest and thinnest of all. Sensillus long, filiform, smooth, directed backwards. Sejugal porose areas not observable.

*Notogaster.* Dorsosejugal furrow missing medially, its short lateral parts directed to the insertion of interlamellar setae. The whole dorsal surface well-punctuated, pteromorphae also with strong, radiate sculpture. Three pairs of small porose areas and ten pairs of insertion of notogastral setae well observable. All porose areas small, nearly rounded and approximately equally sized. Areae porosae *Aa* located conspicuously medially, far from the lateral margin of notogaster.

*Lateral part of podosoma.* The anterior margin of prodorsum steeply concave in lateral view. Lamellar and sublamellar lines running parallel, close each to other

*Ventral parts.* Entire surface punctuated, the dots arranged in different direction in short lines. Epimeral region weakly sclerotised, 2–3 pairs of

larger spots present. Epimeres not touching medially, apodemes and epimeral borders typical for the genus. Epimeral setae, except *Ia*, are represented only by their alveoli. Six pairs of short genital setae, two pairs arising on the anterior margin of the genital plates, others located in longitudinal rows. Aggenital, adanal setae short, anal setae slightly longer. Postanal area porosa absent.

*Legs.* All legs tri- and heterodactylous.

*Remarks.* The *Pergalumna* Grandjean, 1936 species collected in the Malgas Region were surveyed in an identification key by Mahunka (2011). The main character for the identification of the species groups are the number and position of notogastral porose areas, the form of the sensillus and the length of the interlamellar setae. The new species belongs to the group that is characterised by 3 pairs of the porose areas, the setiform sensillus and the long interlamellar setae. However, it is well-distinguished from the other similar species firstly by the very characteristic form of the rostrum, by the body surface consisting of punctuate lines and the median position of area porosa *Aa*. This combination is not known to exist in other species in this group. The new species stands nearest to *P. mauritii* Mahunka, 1978 however, the new species is distinguished from *mauritii* by the nasiform rostral part, the very strong sculpture of the body and by the larger distance of the porose area *Aa* (much smaller in *mauritii*).

*Etymology.* The species is named after its nasiform rostral part of the prodorsum.

**Acknowledgements** – This research was sponsored by the Hungarian Scientific Research Fund (OTKA 45889) and the French Institute of Biodiversity (IFB) Fauna-M project. I should like to thank Dr. Tamás Pócs and Dr. Csaba Csuzdi for collecting the very interesting soil samples. My sincere thanks to Dr. Csaba Csuzdi for his assistance in preparing my manuscript and to my wife Mrs. Luise Mahunka-Papp for the drawings. I also thank Dr. Tibor Fuisz for reviewing the English text of my paper.

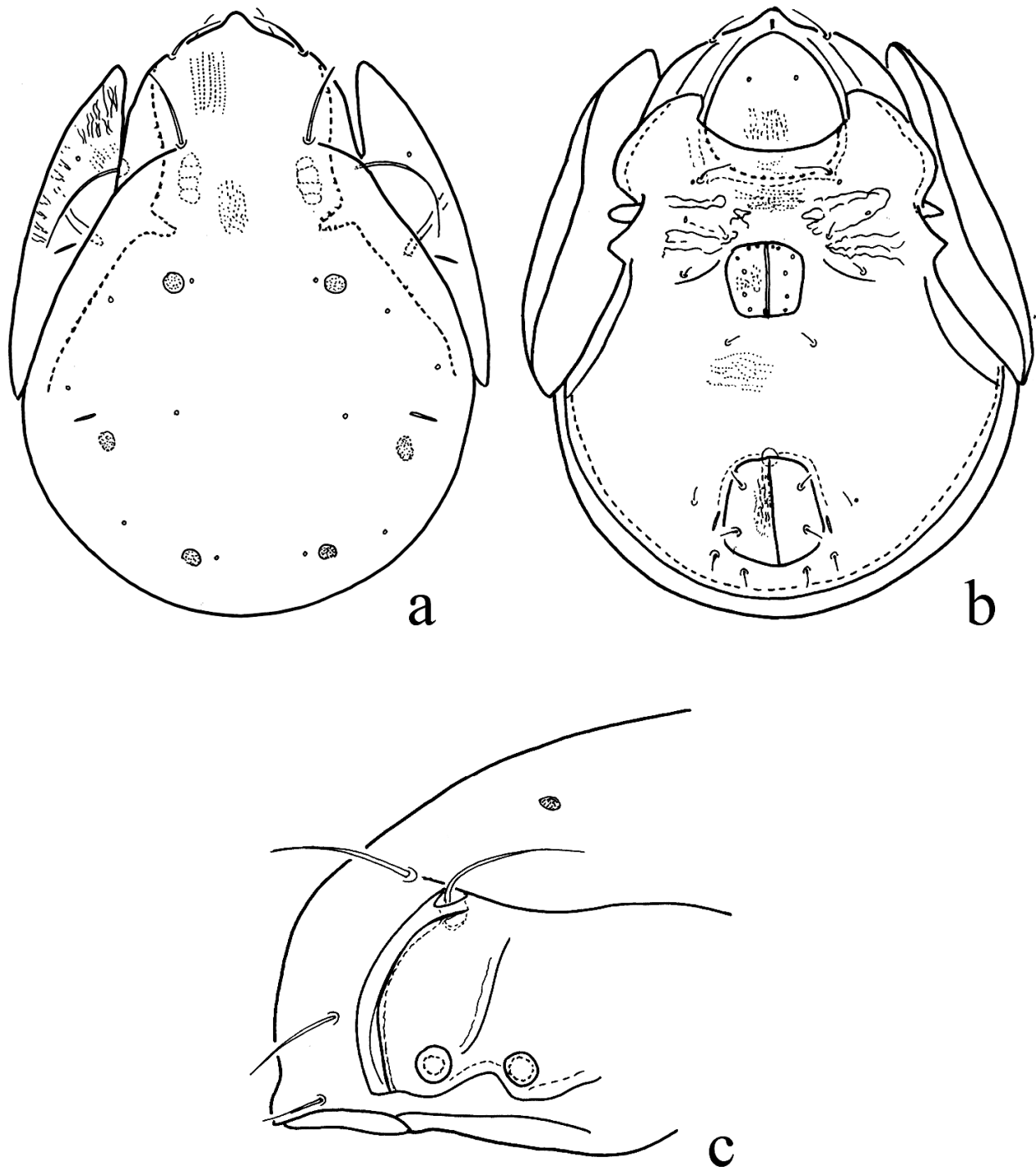


Figure 13. *Pergalumna nasifera* sp. nov. a: body in dorsal view, b: body in ventral view, c: body in lateral view

## REFERENCES

- ENGELBRECHT, C. M. (1975): Die suid-afrikaanse Pellopoidea Balogh, 1963 (Oribatei, Acari). *Navorsinge van die Nasionale Museum*, 3 (5): 89–108.
- GROBLER, M. (1989): New South African species of the genus Eupelops Ewing, 1917 (Acari: Oribatei: Phenopelopoidea: Phenopelopidae). *Navorsinge van die Nasionale Museum Bloemfontein*, 6 (5): 151–201.
- MAHUNKA, S. (1992): A survey of the Oribatid fauna of Senegal (Acari: Oribatida). New and interesting mites from the Geneva Museum LXXXIII. *Revue suisse de Zoologie*, 99 (3): 673–712.
- MAHUNKA, S. (2009a): Oribatid mites from the Vohimana reserve (Madagascar) (Acari: Oribatida). I. *Acta Zoologica Academiae Scientiarum Hungaricae*, 55(2): 89–122.
- MAHUNKA, S. (2009b): Oribatids from Madagascar IV (Acari: Oribatida). *Revue suisse de Zoologie*, 116(3–4): 337–352.
- MAHUNKA, S. (2009c): Oribatid mites from the Vohimana reserve (Madagascar) (Acari: Oribatida), II. *Opuscula Zoologica, Budapest*, 55(2): 47–61.
- MAHUNKA, S. (2010): New and little known oribatid mites from Madagascar (Acari: Oribatida). I. *Opuscula Zoologica, Budapest*, 41(1): 47–56.
- MAHUNKA, S. (2011): New and little known oribatid mites from Madagascar (Acari: Oribatida). II. *Acta Zoologica Academiae Scientiarum Hungaricae*, 57(1): 1–21.
- MAHUNKA, S. & ZOMBORI, L. (1985): The variability of some morphological features in Oribatid mites. *Folia entomologica Hungarica*, 46: 115–128.
- NIEDBALA, W. (2001): Study on the diversity of ptyctimous mites (Acari, Oribatida) and quest for centres of its origin: the fauna of the Ethiopian Region. *Monographs of the Upper Silensian Museum*, 3: 1–245.
- NIEDBALA, W. (2004): Zoogeography of the ptyctimous mites (Acari: Oribatida) of Madagascar and other eastern African islands. *International Journal of Tropical Insect Science*, 24(4): 330–335.
- NIEDBALA, W. (2008): Description of a new species of ptyctimous mites (Acari: Oribatida) from Ethiopia and a checklist of ptyctimous mites of the Afro-tropical Region. *Tropical Zoology*, 21: 1–9.
- NORTON, R. A. & BEHAN-PELLETIER, V. (2009): *Suborder Oribatida*. In: Krantz, G. W. & Walter, D. E. (eds): A manual of Acarology. 3<sup>rd</sup> edition. Texas Tech University Press, Lubbock, pp. 430–564.
- SUBÍAS, L. S. (2004): Listado sistemático, sinonímico y biogeográfico de los ácaros oribátidos (Acariformes, Oribatida) del Mundo (1758-2002). *Graellsia*, 60: 3–305.
- SUBÍAS, L. S. (2010): Listado sistemático, sinonímico y biogeográfico de los ácaros oribátidos (Acariformes, Oribatida) del Mundo (excepto fósiles). Originally published in *Graellsia* 60, 3–305, 2004, actualized April 2009), 547 pp. Available from <http://www.ucm.es/info/zoo/Artropodos/Catalogo.pdf> (last access 1 May 2011).
- WEIGMANN, G. (2006): Hornmilben (Oribatida). *Die Tierwelt Deutschlands*, 76. Teil. 520 pp.
- WOAS, S. (2002): Acari: Oribatida. In: Adis, J. (ed.) *Amazonian Arachnida and Myriopoda*. Pensoft Publishers, Sofia–Moscow, p. 21–291.