

New Oppioidea taxa from Madagascar (Acari: Oribatida)

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Abstract. Within the framework of the continuous survey of the Madagascan Oribatida Fauna some newly surveyed Oppioidea (Acari: Oribatida) species are discussed. Altogether 15 species are listed of the recently studied, identified and described taxa originating from several sites of the island (Malagasy Republic). Seven species of them are new to science and some other known only from few localities. One species represents also a new genus, *Interbelba* gen. nov. Three species, *Berniniella bicarinata* (Paoli, 1908), *Quadroppia circumita* (Hammer, 1961) and *Discosuctobelba variosetosa* (Hammer, 1961) are recorded from Madagascar for the first time. With 22 figures.

Keywords. Moss mites, taxonomical studies, new species, new distribution, Republic of Madagascar.

INTRODUCTION

In this series of our papers we elaborate continuously the oribatids of Madagascar (Mahunka, 2009a, b, c, 2010, 2011; Mahunka & Mahunka-Papp, 2011). In our last work we identified, described and discussed oribatids with the exception of species belonging to the superfamily Oppioidea (sensu Norton & Behan-Pelletier, 2009). In the present paper we fill this gap giving a list containing description of fifteen species belonging to different oribatid families (Oppiidae Sellnick, 1927, Quadropiidae Balogh, 1983 and Suctobelbidae Jacot, 1938). Of them, the following seven species are new to science: *Oxyoppia (Oxyoppiella) crassata* sp. nov., *Ramusella (Ramusella) arcuata* sp. nov., *Ramusella (Insculptoppia) lata* sp. nov., *Interbelba solifera* sp. nov., *Persuctobelba flagellatissima* sp. nov., *Suctobelbilla punctocostulata* sp. nov. and *Suctobelbilla tumida* sp. nov.

One of them represent also a new genus *Interbelba* gen. nov., and further three species *Quadroppia circumita* (Hammer, 1961), *Berniniella bicarinata* (Paoli, 1908) and *Discosuctobelba variosetosa* (Hammer, 1961) are recorded for the first time in Madagascar.

In this paper, as in the earlier ones, we follow the system of Norton and Behan-Pelletier (2009) and Subías (2004, 2010), and besides we also use

some work, which was mentioned in Mahunka (2010). In the descriptions the morphological terminology follows our previous publications, the work of Norton and Behan-Pelletier (2009) and other listed authors (e.g. Weigmann, 2006 and Woas, 2002).

Depositories. The main part of the studied material and species examined are deposited in the Hungarian Natural History Museum, Budapest (HNHM), some types and voucher specimens also in the Muséum d'histoire naturelle de Genève (MHNG).

LOCALITIES

Afr – 858. Madagascar, Masoala Peninsula, Tropical rainforest the W coast, on the E side ridge of Ambanizana village. 9–11. September, 2009. Leg. T. Pócs (No. 9447).

Afr – 859. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroanetra town, 13. September, 1994. Leg. T. Pócs (9450)

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. Leg. T. Pócs. (No. 9862).

Afr – 921. Madagascar, Toamasina Province, Mananara North Biosphere Reserve and National Park. Lowland rainforest on the E slopes of Mahavoho Hill (very wet types along Manahovo River, with many tree ferns, palms and *Pandanus* ssp., less humid on slopes) at 220–300 m alt. 14–15. August, 1998. Leg. T. Pócs. (No. 9878).

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†Luise Mahunka-Papp deceased on 28. November, 2011.

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 National Park and the Antananarivo – Toamasina road, 2 km W of Anevoka village, at 1080–1214 m alt. 26. August, 1998. Leg. T. Pócs (No. 9890).

Mad – 89/3. Madagascar, Prov. Tamatave Moramanga: Analamazoatra special reserve (Perinet) before Andasibe, primary forest with dominating *Ravensara* sp. (Lamuraceae). 1020 m. 21. November, 1989. Leg. B. Hauser.

LIST OF THE NEWLY IDENTIFIED SPECIES

OPPIIDAE Sellnick, 1927

Aethioppia cucheana (Mahunka, 1994)

Locality. Afr – 921.

Berniniella bicarinata (Paoli, 1908)

Locality. Afr – 917.

Lanceoppia madagascarensis Mahunka, 2002

Locality. Afr – 917.

Oppiella (Oppiella) nova (Oudemans, 1902)

Locality. Afr – 917.

Oxyoppiella (Oxyoppiella) zszusankae Mahunka, 2002

Locality. Afr – 859

Oxyoppia (Oxyoppiella) crassata sp. nov.

Pseudoramusella arcuata sp. nov.

Ramusella (Insculptoppia) lata sp. nov.

Striatoppia madagascarensis Balogh, 1961

Locality. Afr – 917.

QUADROPPIIDAE Balogh, 1983

Quadroppia circumita (Hammer, 1961)

Locality. Afr – 917

SUCTOBELBIDAE Jacot, 1938

Discosuctobelba variosetosa (Hammer, 1961)

Locality. Afr – 858.

Interbelba solifera gen. nov., sp. nov.

Persuctobelba flagellatissima sp. nov.

Suctobelbila punctocostulata sp. nov.

Suctobelbila tumida sp. nov.

DESCRIPTIONS

Oxyoppia (Oxyoppiella) crassata sp. nov.

(Figures 1a – 1b)

Diagnosis. Prodorsum wide, gradually narrowed anteriorly, rostral apex slightly rounded. Costulae long, distinctly converging medially, a short translamella present. Lamellar cusp short, lamellar setae located behind the apices. Rostral, lamellar and interlamellar setae very short. Interbothridial region with two pairs of sigilla and one pair of short longitudinal crista observable. Bothridium large, sensillus very long, with fusiform, distinctly barbed head. Anterior margin of notogaster gradually convex, with a pair of very small apophysis. Ten pairs of setiform, simple notogastral setae present. Epimeral region well sclerotized, a pair of characteristic, sack-shaped formation present in sejugal region, laterally. Posterior part of sternal apodema absent, *ap.* 3 directed to genital apertures. Genito-anal setal formula: 5 – 1 – 2 – 3. Setae *ad*₃ in preanal, lyrifissures *iad* in inverse apoanal position.

Material examined. Holotype. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroansetra town. 13. September, 1994. Leg. T. Pócs (9450) (Afr – 859). 1 paratype from the same sample. Holotype (1835-HO-2012) deposited in HNHM, paratype in MHNG.

Measurements. Length of body 275 µm, width of body 135 µm.

Prodorsum. Simple, wide, rostral part narrowed its surface punctuate. Costulae long, with short weak anterior part present in front of transversal parts. These parts bearing lamellar setae. Two pairs of round, interbothridial sigilla and one pair of short crests present in basal position. All four pairs of prodorsal setae very short and simple. Bothridium well sclerotized. Sensillus conspicuously long, its distal part dilate, with long bristles, scopulate.

Notogaster. Surface finely punctuate. Anterior margin of notogaster simply convex, with one pair

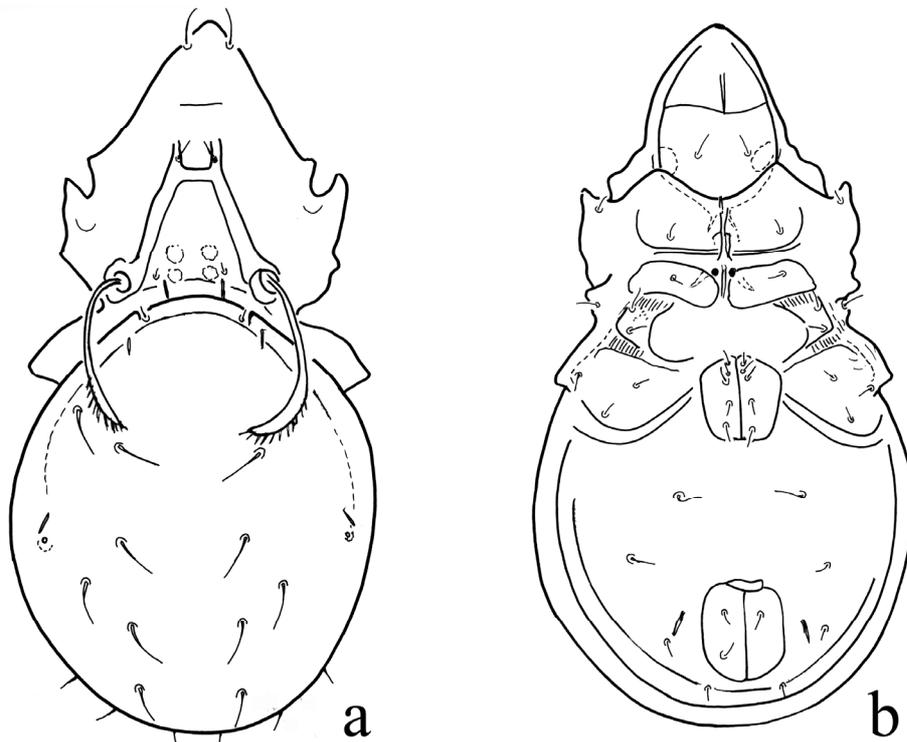


Figure 1. *Oxyoppia (Oxyoppiella) crassata* sp. nov. a = body in dorsal view, b = body in ventral view

of short apophysis laterally. Ten pairs of notogastral setae present, setae c_2 and p much shorter than the median setae. These latter pairs simple, setiform.

Ventral parts. Epimeral region with peculiar formation, epimere I and II normal, well sclerotized, this part with well developed sternal apodema. Sejugal and epimere III modified, between them a sack-shaped formation present. This part with darker cuticle. Posterior part of sternal apodema absent. Apodemes 4 bent behind the genital aperture. All epimeral setae short, simple, epimeral setal formula 3 – 1 – 3 – 3. Ventral plate finely punctuate. All setae of this region short and simple. Genitoanal setal formula 5 – 1 – 2 – 3. Among the adanal setae ad_1 in postanal, ad_3 in preanal position. Lyrifissures *iad* distinctly inverse apoanal type.

Remark: The new species is readily distinguishable from all related taxa by the unique sculpture of the epimeral region.

Etymology. The species name refers to the dilated, well sclerotized sculpture.

***Ramusella (Ramusella) arcuata* sp. nov.**

(Figures 2a – 2c)

Diagnosis. Prodorsum wide, rostral part widely rounded. Rostral setae arising dorsally, near to each other, gradually bent inwards. Costulae and lateral carinae well distinct, Sensillus pectinate, slightly dilated medially, with 5–6 different ciliae. Epimeral region simple, All apodemes and borders typical for this group. Anogenital setal formula 5 – 1 – 2 – 3. Lyrifissures *iad* located in adanal position.

Material examined. Holotype. Madagascar, Toamasina Province, Mananara North Biosphere Reserve and National Park. Lowland rainforest on the E slopes of Mahavoho Hill (very wet types along Manahovo River, with many tree ferns, palms and *Pandanus* ssp., less humid on slopes) at 220–300 m alt. 14–15. August, 1998. Leg. T. Pócs. (No. 9878). (Afr – 921). 1 paratype from the same sample. Holotype (1836-HO-2012) deposited in HNHM, paratype in MHNG.

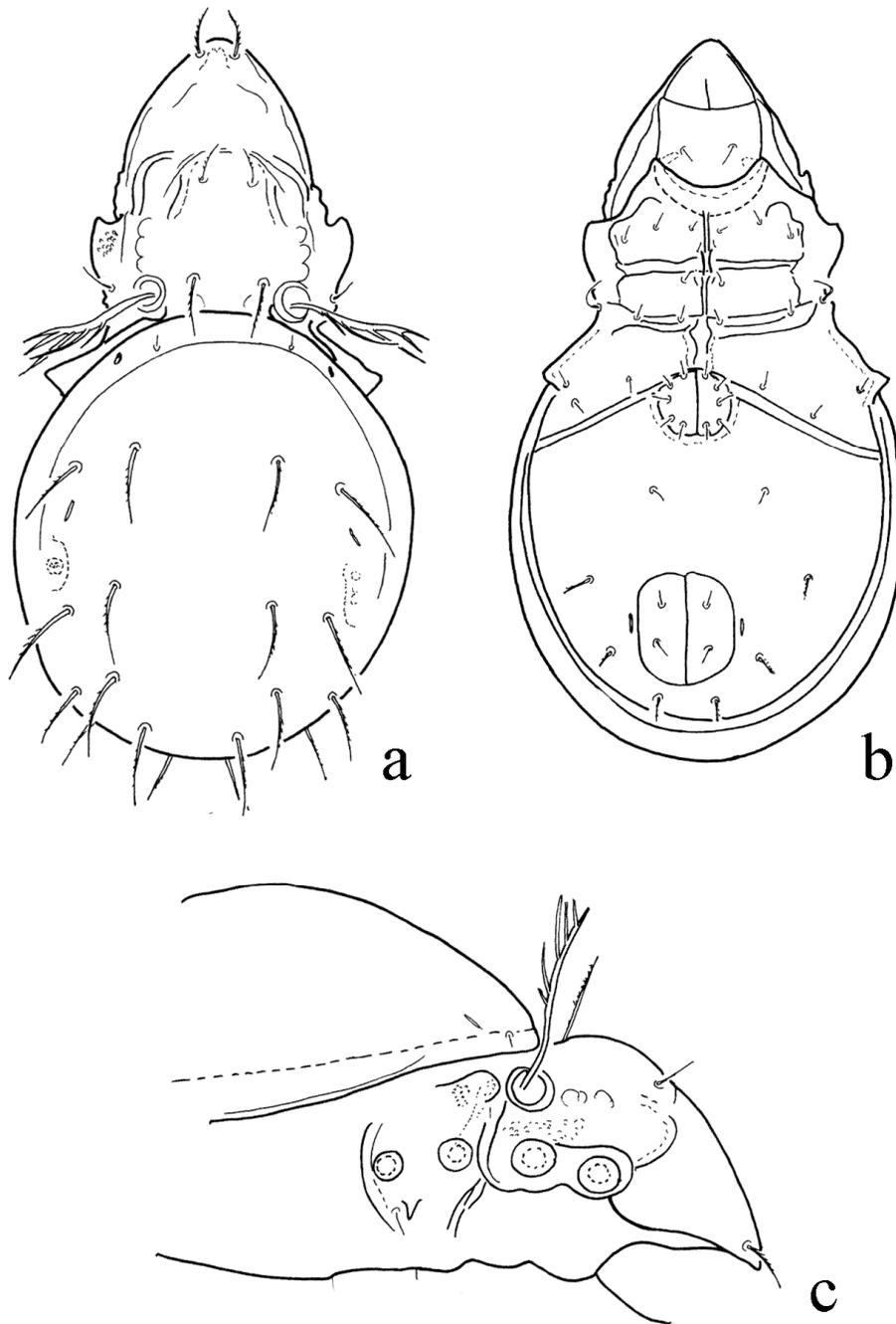


Figure 2. *Ramusella(Ramusella) arcuata* sp. nov. a = body in dorsal view, b = body in ventral view, c = body in lateral view

Measurements. Length of body 324–342 μm , width of body 178–219 μm .

Prodorsum. Rostral apex widely rounded. Rostral setae arising on dorsal surface, comparatively near to each other. Their shape simple, arch-

ed inwards, with short setae on lateral surface. Lamellar setae shorter, interlamellar one longer than rostral ones. Prodorsal costula distinct, well developed longitudinally, only a fine line anteriorly, transversally. A pair of well developed, horse-shoe-shaped lateral carina also present. Sensillus

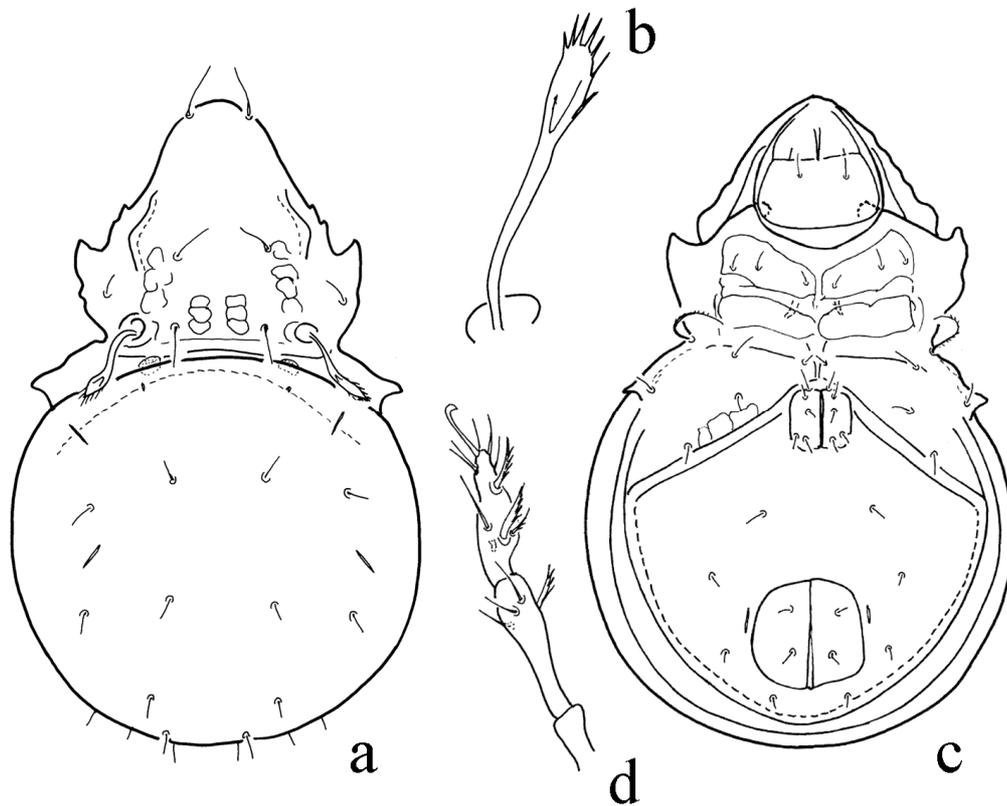


Figure 3. *Ramusella (Insculptoppia) lata* sp. nov. a = body in dorsal view, b = sensillus
c = podosoma in ventral view, d = leg IV

distinctly dilated medially, pectinate, its cilia different in length. Exobothridial setae short, simple. Interbothridial sigilla absent.

Notogaster. Ten pairs of notogastral setae present, setae c_2 very short. Nine pairs nearly equal in length well ciliate.

Ventral parts. Epimeral region well sclerotized, this part divided by transversal and sternal apodemes and borders. Apodemes 4 straight, directed laterally, posteriorly to genital plates. All epimeral setae simple, short.

Remarks. The new species can be identified as member of subgenus *Ramusella* (*Ramusella*) Hammer, 1962. It is well characterised by the conspicuous form of prodorsal crests, costula and the dilated, pectinate sensillus.

Etymology. Named after the form of prodorsal crests.

***Ramusella (Insculptoppia) lata* sp. nov.**

(Figures 3a – 3d)

Diagnosis. Whole body conspicuously wide, notogaster high in lateral view. Rostrum widely rounded, rostral setae originate very far from each other, arising in lateral position. Lamellar and translamellar lines absent. Three pairs of very large sigillae between the interlamellar setae. All prodorsal setae very fine. Sensillus fusiform with ciliate distal part. One pair of round area in dorsosejugal region. Nine pairs of same length notogastral setae, setae la posterior to setae lm . Apodemes and epimeral borders strongly sclerotized, compose a well observable network. Genital plates with 5 pairs of setae. Adanal setae in usual position, lyrifissures iad paraanal.

Material examined. Holotype. Madagascar, Toamasina Province, Mananara North Biosphere

Reserve and National Park. Lowland rainforest on the E slopes of Mahavoho Hill (very wet types along Manahovo River, with many tree ferns, palms and Pandanus ssp., less humid on slopes) at 220–300 m alt. 14–15. August, 1998. Leg. T. Pócs. (No. 9878) (Afr – 921). 1 paratype: Madagascar, Prov. Tamatave, Moramanga, Analamazoatra special reserve (Perinet) before Andasibe. 21. November, 1989. Leg. B. Hauser (Mad – 89/3). Holotype (1837-HO-2012) deposited in HNHM, paratype in MHNG.

Measurements. Length of body 302–324 µm, width of body 194–206 µm.

Prodorsum. Rostral apex widely rounded, rostral setae arched inwards, originate comparatively near to each other. Median costula well developed, with very thin and fine transversal line. Lateral crests directed medially, horseshoe shaped. Lamellar setae shorter than interlamellar ones. Sensillus pectinate, slightly dilate medially, with furcating distal end.

Ventral part. Epimeral region well sclerotized, but transversal apodemes and epimeral borders narrow. Sternal apodema present, but thinner than preceding ones. Epimeres with some weak polygonal pattern. Epimeral setae short, fine. Genitoanal setal formula: 5 – 1 – 2 – 3. All ventral setae simple, short. Setae ad_1 postanal, ad_3 in preanal position, lyrifissures iad in paraanal position.

Legs. All legs' articles short. Setae pv' and pv'' with characteristic bristles.

Remarks. The new species is well characterised by the conspicuous body size, by the characteristic prodorsal formation and the shape of sensillus.

Etymology. The species name refers to the form of the costulae and prodorsal crests.

***Quadroppia circumita* (Hammer, 1961)**

(Figures 4a – 4b)

Notes to the morphology. Rostrum rounded, rostral field wide, quadrangular, its margins mostly straight, with small teeth on their outer side, anterior margin also well observable. Lamellae normal, translamellae continue in short and indis-

tinct longitudinal crests posteriorly. Lateral crests well developed. Interlamellar surface smooth. Bothridium large, with angular basal part, sensillus directed mostly backwards, its head conspicuously large, well barbed. Notogaster with distinct longitudinal crests, its posterior part also well visible. Epimeral surface with wide sternal field between the epimer 1 and epimer 3. Apodemes IV with distinct longitudinal transversal crests.

Measurements. Length of body 157–166 µm, width of body 80–88 µm.

***Interbelba* gen. nov.**

Diagnosis. Suctobelboid type. Rostral part of prodorsum wide, without elongated median apex. Rostral setae simple, setiform. Tectopedial field partly reduced, without median border, a large unpaired ring present medially. Lamellar knob modified, divided into two small tubercles bearing lamellar setae. Bothridium with large lateral lobe, sensillus long with fusiform head. Anterior margin of notogaster with an elongate median and one pair connected curved, lateral crests. Notogastral surface ornamented with longitudinal necklace of pearls. Wide sternal field absent, sternal apodema well developed, with median thickened parts. Apodemes IV with curved thickening laterally. Along the genital opening a pair of fine crest, on the ventral plate some necklace-shape rows observable. Genitoanal setal formula: 6 – 1 – 2 – 3.

Type species. *Interbelba solifera* sp. nov.

Remarks. On the basis of the main features as described above the new genus is without relation. First of all the median formation of prodorsum, the median part of notogaster and the form of apodemes are unique features in the family Suctobelbidae.

***Interbelba solifera* sp. nov.**

(Figures 5a – 5b)

Diagnosis. Rostrum elongated, its apex narrow. Lateral part angularly dilated, with characteristic pattern. Tectopedial field well framed laterally, between them a characteristic sun-shaped ring present. Lateroprodorsal crest also distinct, reach-

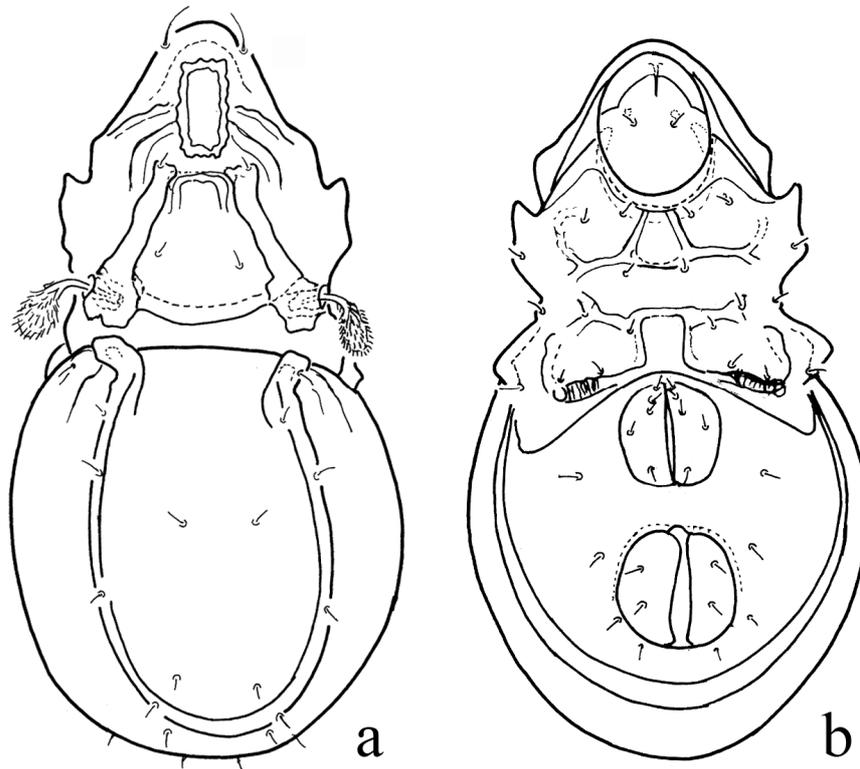


Figure 4. *Quadropia circumita* (Hammer 1961). a = body in dorsal view, b = body in ventral view

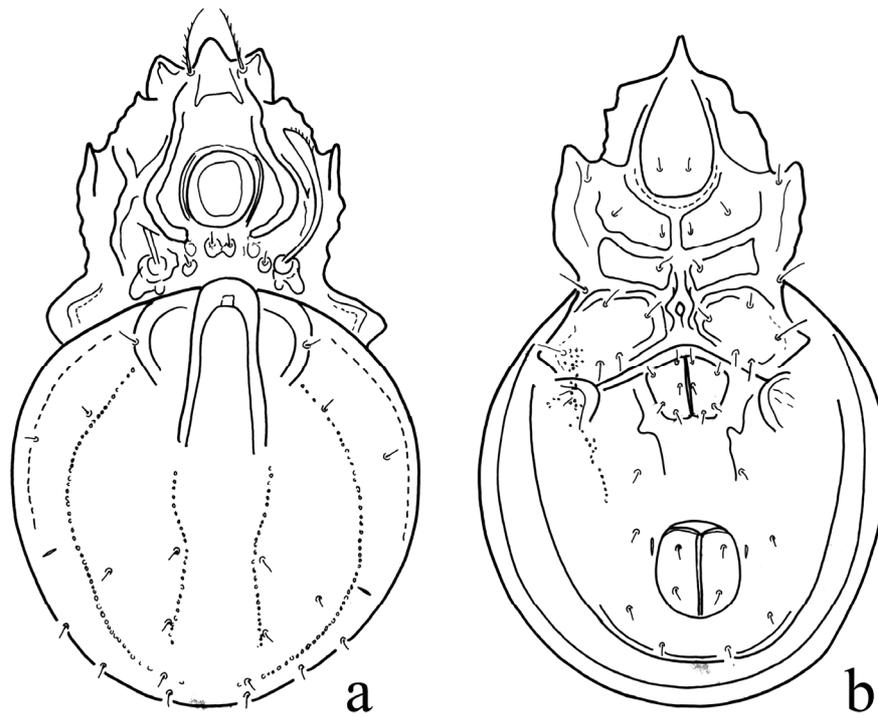


Figure 5. *Interbelba solifera* gen. nov., sp. nov. a = body in dorsal view, b = sensilus, c = body in ventral view

ing to the bothridium. Lamellar knob divided into two parts, weak, slightly dilated, bearing minute lamellar setae. Interbothridial field small, located far from each other. Bothridium well developed with large posterolateral lobe. Sensillus long with narrow, on its head some short bristles observable. Notogaster with characteristic longitudinal crests. Dorsosejugal crests consist of a longer and narrow medial and a pair of curved lateral crests. They are continuing in a longitudinal line of granules like pearl necklaces. Ten pairs of very short setae present. Epimeral region well sclerotised, sternal field absent, sternal apodema partly present. *Ap.* 4 with semicircle formation laterally. Genitoanal setal formula: 6 – 1 – 2 – 3.

Measurements. Length of body 260 µm, width of body 157 µm.

Material examined. Holotype. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroanetra town. 13. September, 1994. Leg. T. Pócs (9450). (Afr – 859) Holotype (1838-HO-2012) deposited in the HHNM.

Prodorsum. Rostral tooth very large and wide. Rostral elevation weak, bearing the setiform rostral setae, with 5–6 distinct cilia. Some weak accessory teeth (or serrated margin) also observable on the lateral margin of prodorsum. Median part of prodorsum modified, a very large ring-shaped costula present medially between the tectopedial fields. The position of lamellar knob also modified, basally 2–3 pairs of rounded tubercles observable. Bothridium well developed, bothridial lobe large, directed outwards. Sensillus long, its head asymmetrically dilate, with some short bristles.

Notogaster. Dorsosejugal margin with an unpaired median and a pair of lateral thickening, true normal "condyles" absent. Longitudinal rows of granules like pearl-necklaces also observable. Ten pairs of short simple and smooth notogastral setae.

Ventral parts. Epimeral region well sclerotized. Sternal field very narrow or absent, sternal apodema partly present, near to the sejugal region an angular field observable. Epimeres IV bordered by characteristic apodemes ending in concave

lateral parts. Epimeral surface partly granulate, these sometimes ordered in longitudinal rows. Along the genital aperture a pair of fine line present. All setae in the epimeral and genitoanal region short and simple. Genitoanal setal formula: 6 – 1 – 2 – 3. Behind the anal aperture a semicircle crest present, setae *ad*₁ arising on it.

Remarks. See the remarks of the description and the differential diagnosis of the new genus.

Etymology. The species name refers to the characteristic, sun-shaped sculpture in the middle of prodorsum.

***Persuctobelba flagellatissima* sp. nov.**

(Figures 6a – 6c)

Diagnosis. Rostrum elongated, with nasiform comparatively wide rounded apex. Four pairs of rostral teeth present laterally. Rostral setae simple, setiform. Tectopedial field framed laterally, its inner part with polygonal pattern. Lamellar knob confluent with interbothridial tubercles. Sensillus with dilated head bearing some short and a long distal seta. Anterior margin of notogaster with one pair of large rounded lateral condyles. Thirteen pairs of flagellate notogastral setae. Apodemes and borders of epimeral region well developed, without sternal apodema. Genitoanal setal formula: 5 – 1 – 2 – 3.

Material examined. Holotype. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroanetra town. 13. September, 1994. Leg. T. Pócs (9450) (Afr – 859). Holotype (1839-HO-2012) deposited in the HHNM.

Measurements. Length of body 297 µm, width of body 172 µm.

Prodorsum. Rostral apex elongated nasiform. Four pairs of lateral teeth comparatively large well separated from each other by rostral incisions. Median rostral elevation long bearing simply curved rarely ciliate rostral setae. Tectopedial field distinct, its lateral border well separated. Inner surface ornamented by polygonal

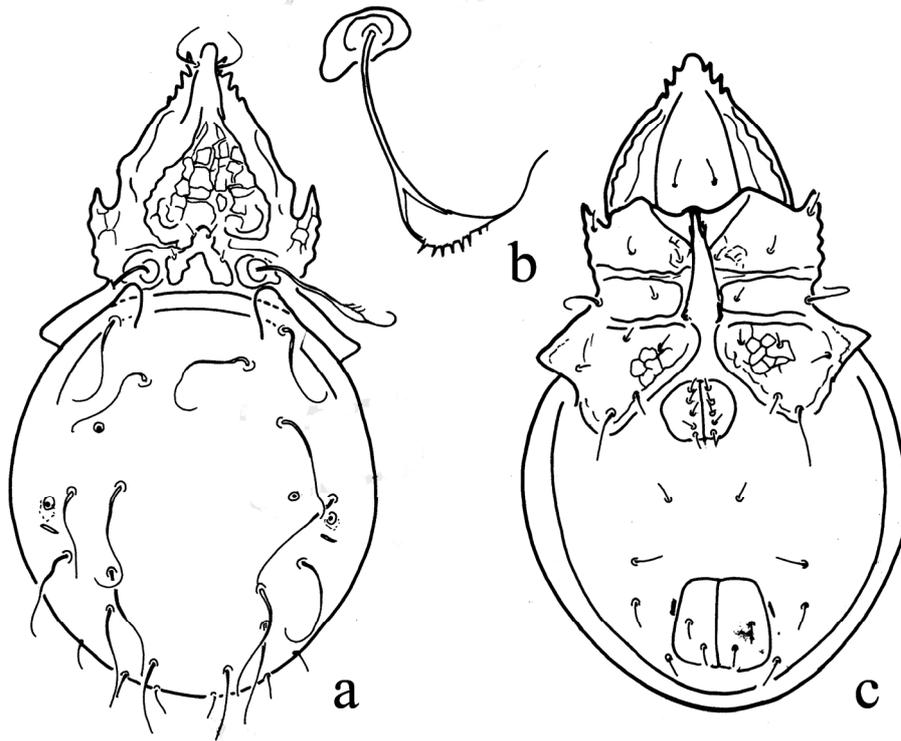


Figure 6. *Persuctobelba flagellatissima* sp. nov. a = body in dorsal view, b = sensillus, c = body in ventral view

pattern. Lamellar knob large, confluent with interbothridial tubercles. Lamellar and interlamellar setae minute. Bothridium large with large bothridial lobe directed laterally. Sensillus with dilated head bearing some short and a long distal seta.

Notogaster. Anterior margin of notogaster with one pair of large rounded lateral condyles, median condyles absent. Thirteen pairs of long, partly flagellate notogastral setae. Setae $p_1 - p_3$ short, simple.

Ventral parts. Apodemes and borders of epimeral region well developed, without sternal apodema. A narrow sternal field between the epimeres observable. Epimeral surface with irregular pattern. Epimeral setae simple, setae 3c and 4b longest of all. Genitoanal setal formula: 5 – 1 – 2 – 3, arising in one longitudinal row. Aggenital setae arising medially, anal setae located in the posterior part of anal plates.

Remarks. The new species is the third one of the genus *Persuctobelba* Mahunka, 2001, all described from Madagascar. The new species is well

distinguishing from the earlier ones by the form of the rostrum and by the flagellate sensillus.

Etymology. The species name refers to the flagellate notogastral setae.

***Suctobelbilla punctocostulata* sp. nov.**

(Figures 7a – 7c)

Diagnosis. Large species, its length larger than 250 μm . Anterior part of prodorsum nasiform, with small rounded apex. Lateral margin of prodorsum with some small lateral teeth and incisure. A pair of tectopedial fields present, between them an undulate field visible. A rounded lamellar knob and behind it a characteristic, crescent-shaped, transversal rib observable. Bothridium large, they have a large, laterally dilated bothridial lobe. Sensillus long directed forwards, its head fusiform with dilated velum. Anterior margin of notogaster protruding medially, with two pairs of bent crests. Surface partly smooth, partly covered by small secretion granules ordered in two pairs of longitu

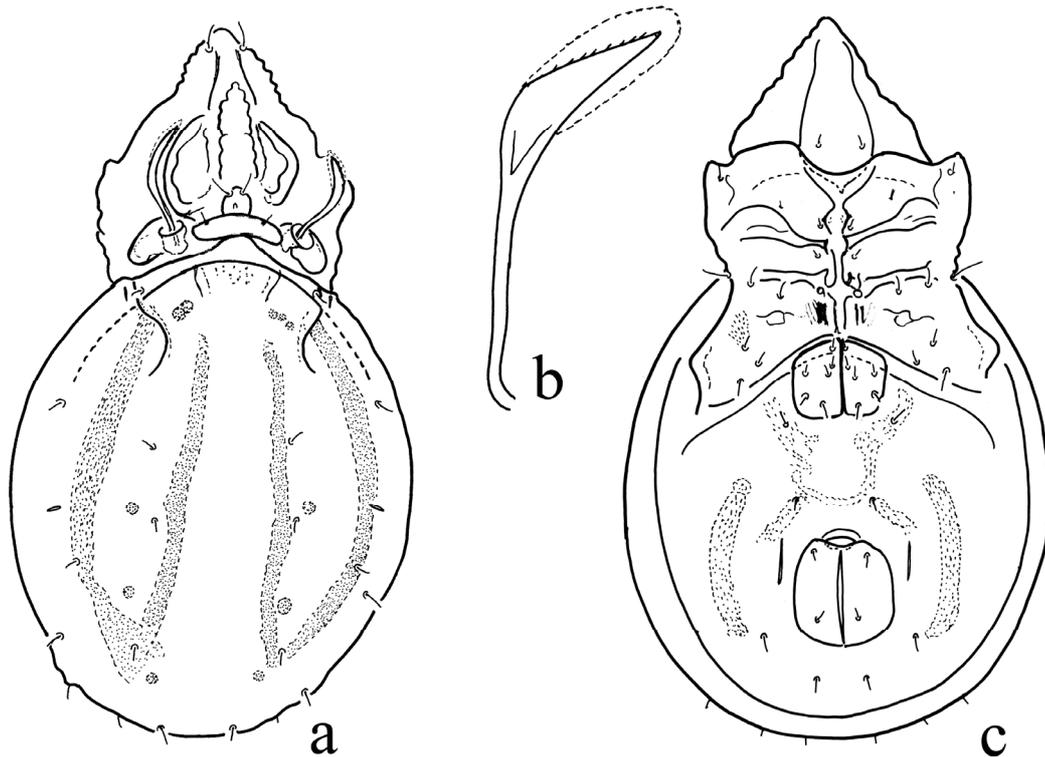


Figure 7. *Suctobelbila punctocostulata* sp. nov. a= body in dorsal view, b = sensillus, c = body in ventral view

dinal rows. Four pairs of porose fields also present. Ten pairs of very short notogastral setae present. Epimeral region well sclerotized, with sternal apodema and a pair of short, bridge shaped formation. Ventral plate with irregular, mostly in longitudinal rows ordered granulate crests. Genito-anal setal formula: 6 – 1 – 2 – 3. Setae ad_3 in preanal position Lyrifissures *iad* in paraanal position.

Material examined. Holotype. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroanetra town. 13. September, 1994. Leg. T. Pócs (9450) (Afr – 859). Holotype (1840-HO-2012) deposited in the HHNM.

Measurements. Length of body 280 μm , width of body 160 μm .

Prodorsum. Rostrum comparatively narrow, its apex nasiform slightly rounded. Some lateral teeth and incisura observable, so the margin seems to be serrate. A pair of tectopedial fields

present, well framed laterally, between them an undulate field visible, its margin undulate. A rounded, comparatively large lamellar knob, with lamellar setae present. Lamellar knob connected with a transversal, crescent shaped crista, bearing short interlamellar setae. Bothridium with very large, laterally dilated bothridial lobe. Sensillus long, directed forwards, its head fusiform with dilated, serrated velum.

Notogaster. Anterior margin of notogaster with an unpaired median protuberance and a pair of S-shaped crista. Notogastral surface with granulate field, there are two pairs of longitudinal narrow fields and four pairs of small, round spots. Ten pairs of minute notogastral setae present, all equal in length.

Ventral parts. Epimeral region well sclerotized, epimeral surface partly finely granulate. Sternal apodema narrow, with some broadening parts. Bridge-shaped formation also observable, especially strong at the sejugal apodemes. A pair of characteristic, bridge-shaped formation visible on epimeres II-IV. All epimeral setae short, some

of them hardly observable. Ventral plate with granulate crests, among them one pair stronger in lateral, some other mostly in irregular position. Genito-anal setal formula: 6 – 1 – 2 – 3. Setae ad_3 in preanal position. Lyrifissures *iad* in paraanal position.

Remarks. On the basis of the sculpture of the prodorsum (e.g. tectopedial field present or absent, interbothridial region with or without transversal crest) and the notogaster (e. g. notogaster with tubercles or only granulate crests), the species of the genus *Suctobelbilla* Jacot, 1937 can be divided into more groups. The new species belongs to a group which is characterised by the presence of tectopedial field, basal transversal crest, and absence of notogastral tubercles. The new species is well characterised by the tectopedial fields, the shape of notogastral basal crista and the granulate longitudinal lines. However, the new species is also well distinguished from all congeners by the form of bothridium, the median protruding tubercles, as well as by the four pairs of notogastral porose areas. The latter is a unique feature in this genus.

Etymology. Named after the peculiar sculpture of costula.

***Suctobelbilla tumida* sp. nov.**

(Figures 8a – 8c)

Diagnosis. Large species, its length longer than 250 μm . Anterior part of prodorsum nasi-form, with small rounded apex. Lateral margin of prodorsum without lateral teeth and incisure. True tectopedial fields absent. Prodorsum with a characteristic, nearly reversed U-shaped, strongly protruding field. Lamellar knob hardly observable, bearing lamellar setae. Interbothridial region with a transversal crest, also rise from the prodorsal surface. Bothridium large, cup-shaped. Sensillus long, directed forwards, its head wide, fusiform, with serrated margin. Anterior margin of notogaster simply convex, without condyles. Notogastral surface ornamented by one pair of long, longitudinal crest, median part with fine irregular polygonal pattern. Ten pairs of very

short notogastral setae present. Epimeral region well sclerotized, with sternal apodema with a ring shaped formation between the sejugal and 4 apodemes. Ventral plate with granules sometimes in polygonal order observable. All setae minute, hardly observable. Genito-anal setal formula: 5 – 1 – 2 – 3. Setae ad_3 in paraanal, lyrifissures *iad* in adanal position.

Material examined. Holotype. Madagascar, Antongil Bay, Nosy Mangabe Island. S of Maroansetra town. 13. September, 1994. Leg. T. Pócs (9450) (Afr – 859). 3 paratypes from the same sample. Holotype (1841-HO-2012) and 2 paratypes (1841-PO-2012) deposited in the HNHM, 1 paratype in MHNG.

Measurements. Length of body 269–274 μm , width of body 168–182 μm .

Prodorsum. Very wide, rostral apex rounded. Rostral incisure and teeth absent, rostral setae very short, simple. Median part with conspicuous, protruding part, with distinct border. True tectopedial field absent. Lamellar knob small, semi-circle, hardly observable, bearing minute lamellar setae. Interbothridial region with a strong transversal crest, which connected with bothridium. Sensillus comparatively long, its head with a fine serrated velum.

Notogaster. Anterior margin well convex medially, protruding anteriorly between the bothridia. Median surface with fine, map-shaped sculpture, it consists of small, mostly polygonal field. This part framed by a pair of stronger longitudinal crest. Lateral part of notogaster with granules, ordered in short rows.

Lateral part. Rostral part beak-shaped. Rostral tubercles projecting, well observable in this view. Lateral part of notogaster with characteristic granulate lines.

Ventral part. Epimeral borders and apodemes well developed, composing a connected network. Sternal apodema also present, bearing a ring shaped formation. Epimeral region smooth, ventral plate with granulate lines, the setae of this region hardly or not observable. Five pairs of genital setae present.

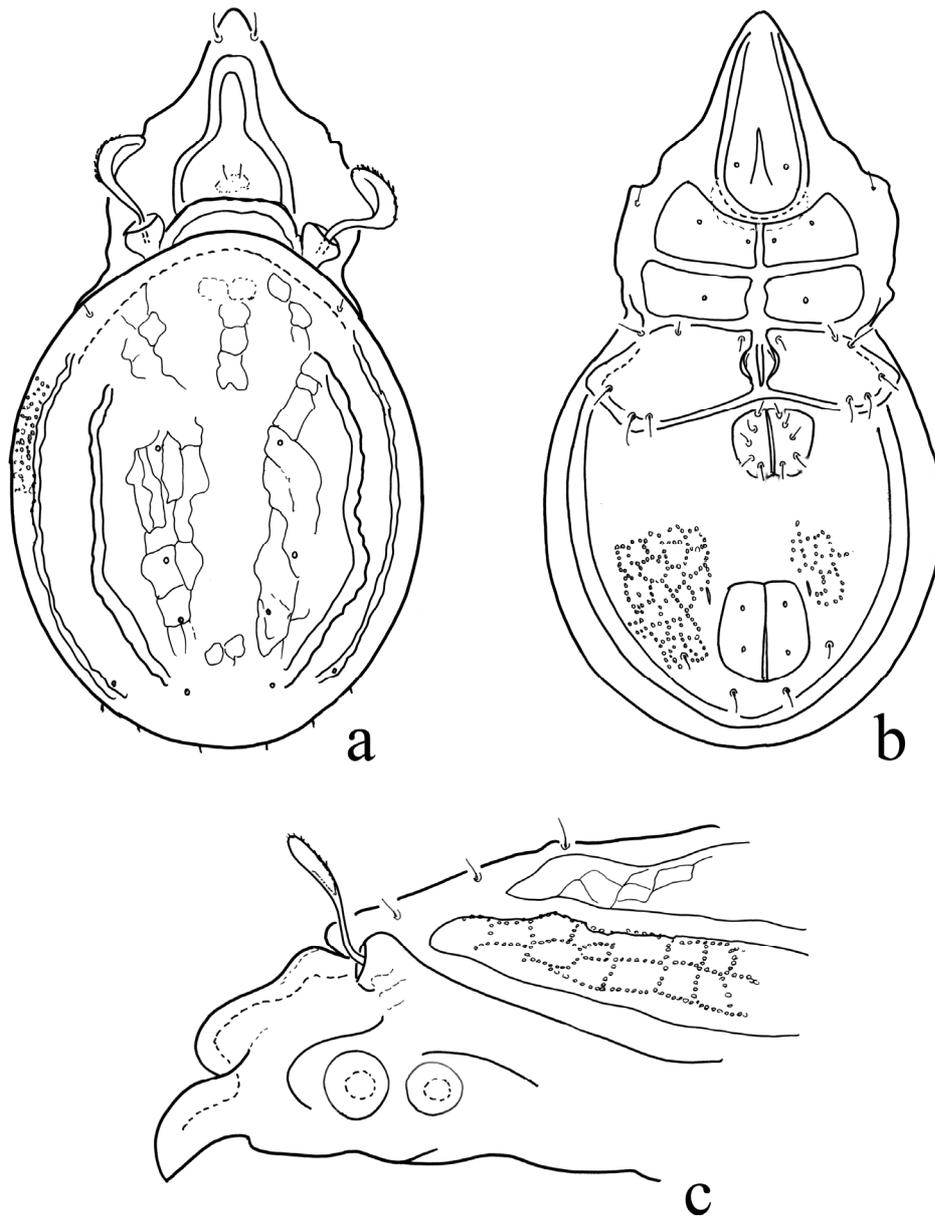


Figure 8. *Suctobelbilla tumida* sp. nov. a = body in dorsal view, b = body in ventral view, c = body in lateral view

Remarks. The new species is closest to *Suctobelbilla transrugosa* Mahunka, 1985, described from Tanzania. However the median projection of prodorsum much larger in the new species and the pattern of the median part of notogaster consists of irregular field (regular in *transrugosa*).

Etymology. The species name refers to the sculpture, which consists of different foveolae on

the body surface.

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REFERENCES

- 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*, 40(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. & MAHUNKA-PAPP L. (2011): New and little known oribatid mites from Madagascar (Acari: Oribatida). IV. *Opuscula Zoologica, Budapest*, 42(2): 125–145.
- NORTON, R. A. & BEHAN-PELLETIER, V. (2009): *Suborder Oribatida*. In: Krantz, G. W. & Walter, D. E. (eds): A manual of Acarology. 3rd 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> (accessed 1 May 2010).
- WEIGMANN, G. (2006): Hornmilben (Oribatida). *Die Tierwelt Deutschlands*, 76: 1–520.
- WOAS, S. (2002): 4. 1. Acari: Oribatida. In: Adis, J. (ed.) *Amazonian Arachnida and Myriopoda*. Pensoft Publishers, Sofia –Moscow, p. 21–291.