

TAXONOMICAL AND FAUNISTICAL STUDIES ON
ORIBATIDS COLLECTED IN KENYA (ACARI: ORIBATIDA) I.

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A list of newly collected and identified oribatids from Kenya, 8 of them represents new species, belonging to the family Hermanniellidae, Tetracondylidae, Oppiidae and Suctobelbidae. With 36 figures.

Key words: Acari: Oribatida, new taxa, new distributional data, taxonomical notes, Kenya.

INTRODUCTION

East Africa, primarily those of Kenya and Tanzania, has long been a particularly favoured research area of zoologists and acarologists (expeditions like SJÖSTEDT 1905–1906 (SJÖSTEDT 1910), ALLAUD & JEANNEL 1911–1912 (JEANNEL 1950), PAOLI 1913). The materials of numerous collectors or smaller or bigger expeditions (e.g. SALT 1948, BASILEWSKY & LELEUP 1957) have been elaborated (e.g. BERLESE 1916*a, b*, EVANS 1953, BALOGH 1962). The oribatids of this territory have been collected and studied also by my wife and me in the last 25 years (e.g. MAHUNKA & MAHUNKA-PAPP 1992). The preliminaries of our research will be discussed in more detail in a monograph to be published later.

This is just about time to assess the earlier results and the information accumulated and at the same time to corroborate with the newly, yet unelaborated materials and to complete the faunistical and taxonomical study of the territory (first Kenya) along with the monographic elaboration of the taxa. Presently we have several hundred soil samples which come from characteristic areas of the two countries.

Owing to the activity of Hungarian collectors several older (K. KITTENBERGER 1903–1906, J. SZUNYOGHY 1961) or more recent (T. PÓCS and Cs. CSUZDI, and S. MAHUNKA and L. MAHUNKA-PAPP since 1984) soil sample materials are at our disposal.

These are well complemented with those large series of soil samples which originate from our East African project performed together with Dr. T. PÓCS, the renown bryologist professor, and Dr. Cs. CSUZDI, specialist of African earth-

worms carried out on the soils of East Africa, and on the moss and epiphyte plants living on the trees (e.g. MAHUNKA 2001, 2003). This project was organised in order to study the fauna of the forest canopy being highly similar with those made in Venezuela in the years of 2002–2005 (e.g. MAHUNKA 2005, 2006).

Recently we have been asked by the Musée d'Histoire naturelle of Geneva to elaborate a large material comprising some 150 samples collected mainly by Dr. V. MAHNERT and his co-workers (primarily J.-L. PERRET), but other smaller lots deriving from other expeditions were also added.

The work has been done continuously over several years. Owing to the great mass of the samples the progress of elaboration is slow, thus, the results are and will have to be published in parts, nevertheless, the basic concept of our complete fauna work is also adumbrated.

This time we studied those materials deriving from the collecting activity of Dr. Cs. CSUZDI and some staff members of the Geneva Museum, as well as those collected by ourselves. The samples harboured 13 known species, the collecting localities with their zoogeographical specialities are listed, furthermore, we give the description of 8 new species.

The present communication follows the system of GRANDJEAN (1954), MARSHALL *et al.* (1987) with some new, more significant modifications (BALOGH & BALOGH 1992, WOAS 2002, SUBIAS 2004, WEIGMANN 2006) that are also acceptable to us. In the descriptions we use the morphological terms as elaborated by e.g. GRANDJEAN 1952, again with some minor modifications and recently published results (e.g. NIEDBAŁA 1992, BEHAN-PELLETIER 1993, NORTON & BEHAN-PELLETIER 1986, NORTON *et al.* 1997, WOAS 2002 and MAHUNKA 1990). A detailed list of references will be attached to the monograph in preparation.

LIST OF THE COLLECTING SITES

AFR-950 (HNHM): Kenya, Shimba Hills National Park, Shimba Hills lodge. Wet decaying debris, litter and soil under trees. 10.03.2001, Leg. S. MAHUNKA and L. MAHUNKA-PAPP.

AFR-974 (HNHM): Kenya, Nairobi, Park of the Natural History Museum. Litter and soil. 21.11.2004. Leg. Cs. CSUZDI.

AFR-978 (HNHM): Kenya, Muguga, near to Nairobi, experimental forest station. Moss and bark from a primary forest patch. 20.11.2004. Leg. Cs. CSUZDI.

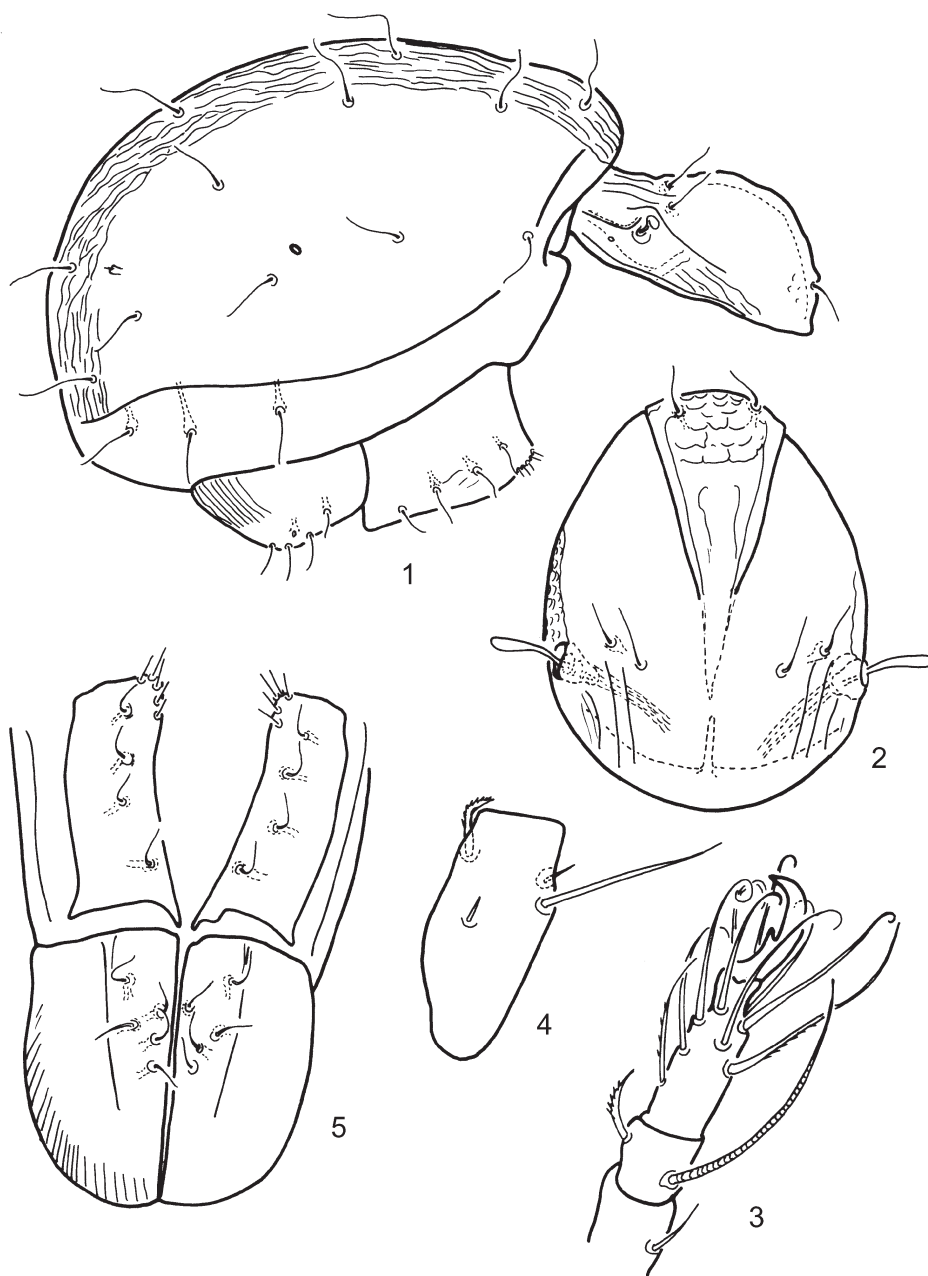
G-77/66: (MHNG): Kenya, Nakuru district, Lac Naivasha, près de Mundui Estate (Fishing Club), tamisage dans broussailles. Alt. 1950 m, 8.XI.1977. Leg. V. MAHNERT and J.-L. PERRET.

LIST OF THE STUDIED SPECIES

- Steganacaridae NIEDBAŁA, 1986
Kakophthiracarus subitus (NIEDBAŁA, 1983) – Locality: Afr-974.
- Euphthiracaridae JACOT, 1930
Rhysotritia ardua (C. L. KOCH, 1841) – Locality: Afr-974.
- Epilohmanniidae OUDEMANS, 1923
Epilomannia pallida WALLWORK, 1962 – Locality: Afr-974.
- Hermanniellidae GRANDJEAN, 1934
Hermanniella dubiosa sp. n.
Hermanniella spiniseta sp. n.
- Aleurodamaeidae PASCHOAL et JOHNSTON, 1985
Aleurodamaeus (Trichodamaeus) africanus MAHUNKA, 1984 – Locality: Afr-978.
- Teteacondylidae AOKI, 1961
Dolicheremaeus csuzdii sp. n.
- Oppiidae GRANDJEAN, 1951
Neoamerioppia csabai sp. n.
Arcoppia (Wallworkoppia) directa sp. n.
Dissorhina ornata (OUDEMANS, 1900) – Locality: Afr-974.
Ramusella (Insculptoppia) lunata sp. n.
Ramusella (Rectoppia) pararadiata sp. n.
- Suctobelbidae JACOT, 1938
Flagrosuctobelba kotschani sp. n.

NOTES ON THE STUDIED SPECIES
AND DESCRIPTION OF NEW TAXA*Kakophthiracarus subitus* (NIEDBAŁA, 1983)
(Figs 1–5)

Originally the species was described by NIEDBAŁA (1983) as one belonging to the genus of *Hoplophorella* BERLESE, 1923, later it was discussed in the degraded subgenus of *Hoplophorella* of the genus *Atropacarus* Ewing (NIEDBAŁA 2001). Subsequently, MAHUNKA (1992) regarded this species group as an independent genus named *Kakophthiracarus* MAHUNKA, 1992, which was accepted by SUBIAS (2004) so that the latter is only a subgenus of the genus *Hoplophorella*, and the species were relegated accordingly. My personal opinion is that *Kakophthi-*



Figs 1–5. *Kakophthiracarus subitus* (NIEDBAŁA, 1983) – 1 = body in lateral view, 2 = aspis in dorsal view, 3 = tibia and tarsus of leg IV, 4 = femur of leg IV, 5: anogenital region

racarus is an independent taxon on its own, and that it is not a near relative of the genus *Atropacarus*. Time will tell that *Kakophthiracarus* is a subgeneric or a generic taxon, subsequent examinations are needed.

The specimens recovered just now from Kenya are easily identifiable with the description and published figures of NIEDBAŁA. Of course, some minor variations are observable but they are of infraspecific value. The clearly recognisable differences are:

Measurements – Length of aspis: 332 µm, length of notogaster: 720 µm, height of notogaster: 485 µm.

Aspis (Fig. 2): Rostral part foveolate, rostral setae straight, lamellar and interlamellar setae equal in length. Sensillus rounded at distal end. Exobothridial setae vestigial or absent, its insertion discernible.

Notogaster (Fig. 1): Surface irregularly striate dorsally. Notogastral setae very thin, sometimes flagellate.

Anogenital region (Fig. 5): Anal plates with a well observable longitudinal line, their posterolateral surface distinctly striated.

Leg: Setae of femur of leg I and tarsus and tibia of leg IV as shown in Fig 3, 4.

Epilohmannia pallida WALLWORK, 1962

On the basis of the short, spiniform *ft*'' bristle the examined specimens unequivocally belong to the relationship of "*pallida*". AOKI (1965, 1967), BAYOUMI and MAHUNKA (1976) also recognised that this circle comprises either a species group or, at most, a group of subspecies of a single species, rather, than the various populations coming from different localities belong to one species.

The specimens from Kenya – provided that the drawing of WALLWORK is correct in all respects – are nearer to the subspecies of *E. pallida egyptica* BAYOUMI and MAHUNKA, 1976 than to the nominal species. It is characteristic for the specimens of Kenya that the head of the sensillus is long, the apical spine is similarly long, and the lateral spines are scarce and far in between. The setae of notogaster are similar to those of *egyptica*, i.e. setae *c2* stands behind *c1*, and *p1* is much longer and rather bent than setae *c*.

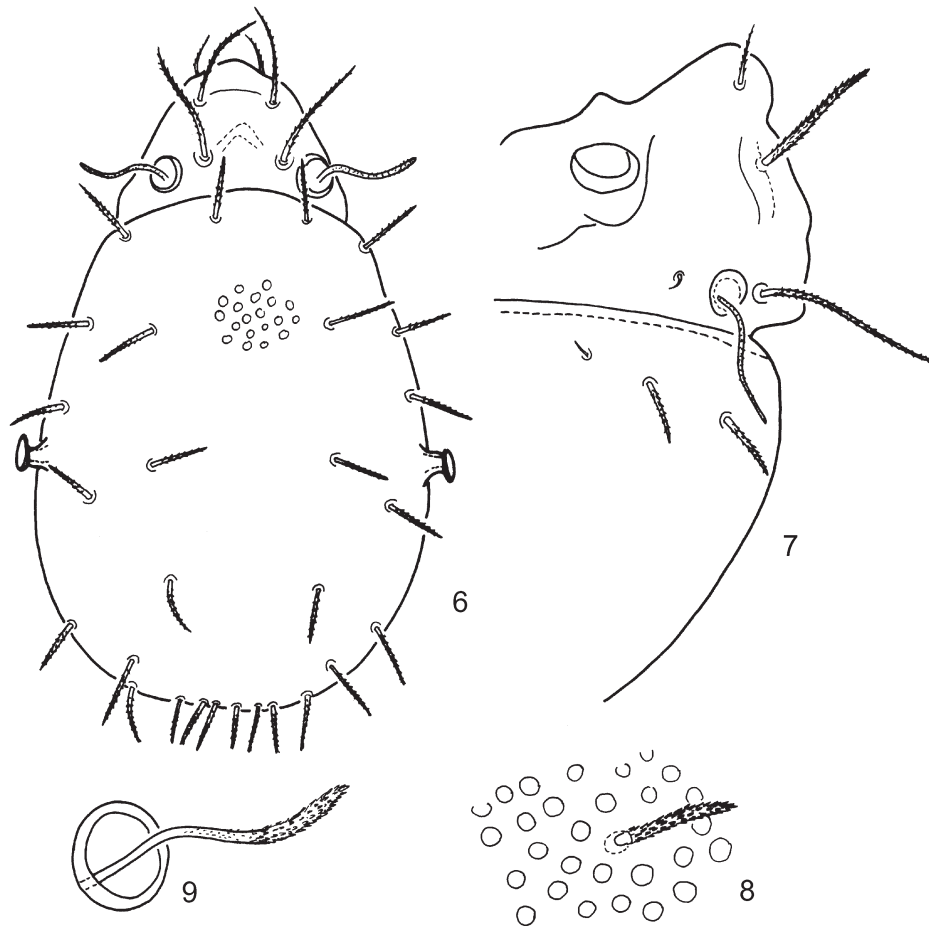
Hermanniella dubiosa sp. n.

(Figs 6–9)

Diagnosis – Whole surface covered by secretion granules. Prodorsum with weak crests. Sensillus bacilliform, curved, comparatively long. All prodorsal setae

– except setae *ro* and *ex* – bacilliform, interlamellar setae much longer than the sensilli. All notogastral setae – except the minute *c3* – bacilliform. Setae *e1*, minute, setiform. Notogastral surface ornamented by alveoli. Epimeral setae spiniform, their formula: 3–1–3–3. Genitoanal setal formula: 7–1–2–3, all genital setae spiniform. Legs tridactylous.

Material examined – Holotype: Kenya, Nakuru district, Lac Naivasha: 08.11.1977. Leg. V. MAHNERT & J.-L. PERRET, (G 77/66). 30 paratypes from the same sample. Holotype and 15 paratypes: MHNG, 15 paratypes (1720-PO–2006): HNHM.



Figs 6–9. *Hermanniella dubiosa* sp. n. – 6 = body in dorsal view, 7 = anterior part of prodorsum in lateral view, 8 = sculpture of notogaster, 9 = sensillus

Measurements – Length of body: 582–651 µm, width of body: 360–416 µm.

Prodorsum: Strongly concave in lateral view (Fig. 7), between the rostral and lamellar setae a distinct hollow present. Some weak crests observable, a pair directed to the lamellar alveoli, stronger than the others (Fig. 6). Rostral setae setiform, sharply pointed, lamellar and interlamellar ones much stronger, curved bacilliform. The latter ones spiculate, rostral setae roughened. Exobothridial setae minute, arising on the lateral surface, thin, spiniform, curved backwards. Interlamellar setae much longer than the bacilliform sensilli, the latter ones finely roughened, the setae shortly acuminate, pilose or barbed (Fig. 9).

Notogaster: Surface ornamented by roundish alveoli of various dimensions (Fig. 8). Distance among them similar to the diameter of alveoli. All setae – except *e1* – nearly equal in length, bacilliform, distinctly pilose or barbed.

Lateral part of podosoma: Ratio of prodorsal setae as shown in Fig. 7. Exobothridial setae arising near to the bothridia on the prodorsal surface.

Ventral regions: Infracapitulum and apodemes are typical for the genus. All epimeral setae spiniform, slightly pilose. Ventral plate ornamented by irregular ribs, anal plates alveolate. Genital setae also spiniform, 7 pairs arranged in two rows, 4 pairs medially, three pairs laterally. Anal and adanal setae varying in length, *an1* much longer than *an2* and *ad1* much longer than *ad2*, *ad3* the longest of all. Lyrifissures *iad* located transversally, near to the anterior corner of the anal aperture.

Legs: Typical for the genus.

Remarks – The new species belongs to the “*congoensis*” group. The differential diagnosis is given in the “Remarks” of the next *Hermanniella* species.

Etymology – Named after the great similarity to the related species.

***Hermanniella spiniseta* sp. n.**

(Figs 10–13)

Diagnosis – Prodorsum with some crests. Sensillus bacilliform, comparatively long. All prodorsal setae – except setae *ex* – spiniform, interlamellar setae much longer than the sensilli. All notogastral setae – except the minute *c3* – spiniform, in the males bacilliform. Setae *e1* much shorter than the others. Notogastral surface ornamented by alveoli. Epimeral setae spiniform, their formula: 3–1–3–3. Genitoanal setal formula: 7–1–2–3. Legs tridactylous.

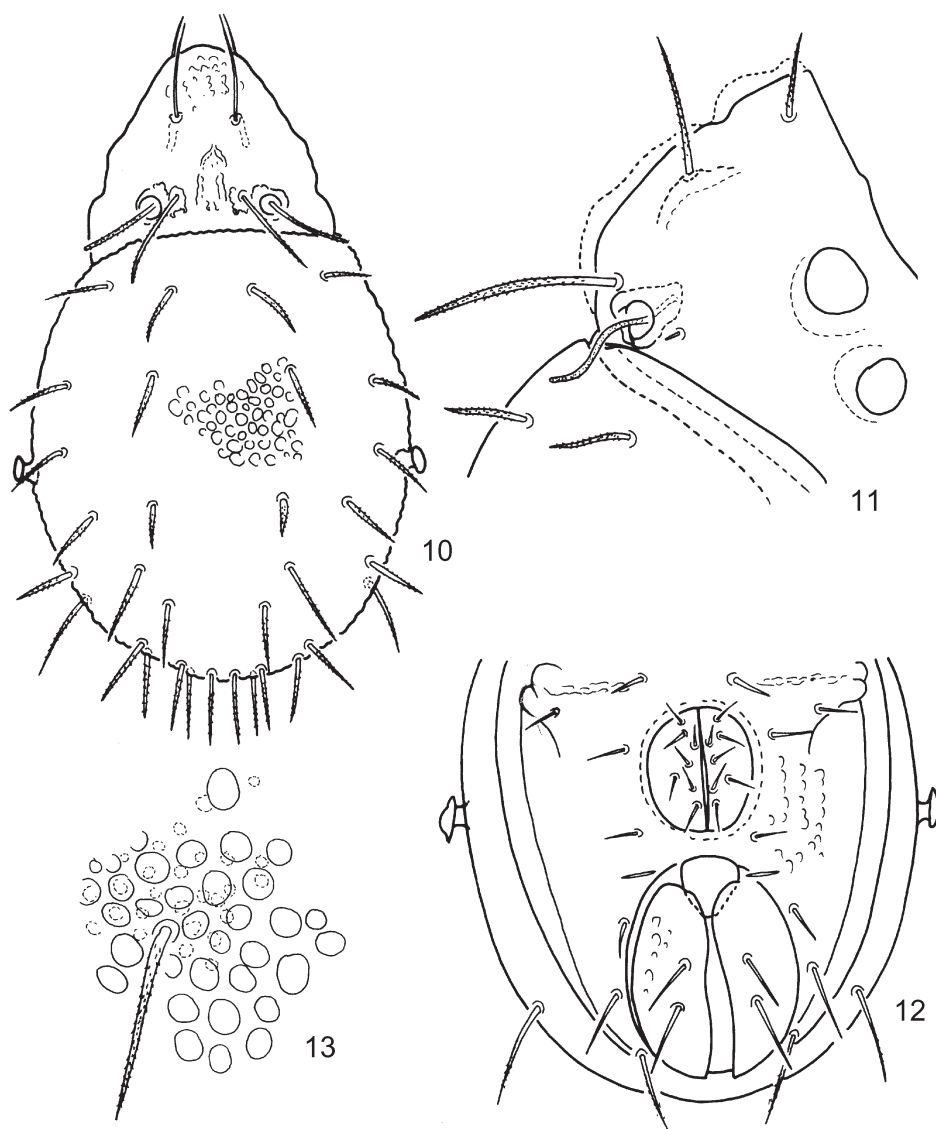
Material examined: Holotype: Kenya, Muguga: 20.11.2004. Leg. Cs. CSUZDI, (Afr. 978). 7 paratypes from the same sample. Holotype (1719-HO-2006) and 5 paratypes (1719-PO-2006): HNHM, 2 Paratypes: MHNG.

Measurements: Length of body: 623–694 µm, width of body: 429–485 µm.

Prodorsum: Strongly concave in lateral view (Fig. 11), between the rostral and lamellar setae a distinct hollow observable. Dorsal surface ornamented by crests and irregular alveoli. A pair also stronger crests present between the interlamellar setae, and irregular crest present around the alveoli of the interlamellar setae. Prodorsal setae spiniform, rostral, lamellar and interlamellar setae sharply

pointed. Exobothridial ones minute, arising on the lateral surface. Interlamellar setae much longer than the bacilliform sensilli, the latter ones finely roughened, the setae shortly pilose or barbed (Fig. 10).

Notogaster: Surface ornamented by roundish alveoli of various dimensions (Fig. 13). All setae – except *e*1 – nearly equal in length, spiniform, weakly pilose. Setae *e*1 mch thicker but shorter than the others.



Figs 10–13. *Hermanniella spiniseta* sp. n. – 10 = body in dorsal view, 11 = prodorsum in lateral view, 12 = anogenital region, 13: sculpture of notogaster

Lateral part of podosoma: Ratio of prodorsal setae as shown in Fig. 11. Exobothridial setae arising near to the bothridia on the prodorsal surface.

Ventral regions: Infracapitulum and apodemes are typical for the genus. All epimeral setae spiniform, slightly pilose. Ventral plate ornamented by irregular ribs, anal plates alveolate. Genital setae also spiniform, 7 pairs arranged in two rows, 4 pairs medially, three pairs laterally (Fig. 12). Anal and adanal setae varying in length, *an1* much longer than *an2* and *ad1* much longer than *ad2*, *ad3* the longest of all. Lyrifissures *iad* located transversally, near to the anterior corner of the anal aperture.

Legs: Typical for the genus.

Remarks – Both new species belong to the “*congoensis*” group (see BALOGH 1962). The interlamellar setae are much longer in the new species than in *H. humilis* BALOGH, 1962. The notogastral setae in the latter species are strongly dilated, while the others are not. The notogastral setae of *H. congoensis* are bacilliform, blunt at tip, while those of *spiniseta* are spiniform. The latter species clearly differs from *congoensis* in the size of the alveoli, furthermore, its notogastral setae are shorter than those of *congoensis*.

Etymology – Named after the form of the notogastral setae.

Dolicheremaeus csuzdii sp. n.

(Figs 14–20)

Diagnosis – Rostrum widely rounded. Lamellae long, their apices reaching over the insertion of lamellar setae. Sensillus long, narrow, its head minute, hardly dilated. Two pairs of prodorsal and two pairs of notogastral dorsosejugal condyles present. Ten pairs of long notogastral setae observable, varying in length, some of them slightly flagellate. Epimeral setae normal, comparatively long. Surface of genital plates striate. Adanal setae long. Type of the ultimate setae of leg: L–L–L–L.

Material examined – Holotype: Kenya, Nairobi: 19.11.2004. Leg. Cs. CSUZDI (Afr. 974). Holotype (1692-HO-05): HNHM.

Measurements: Length of body: 734 µm, width of body: 379 µm.

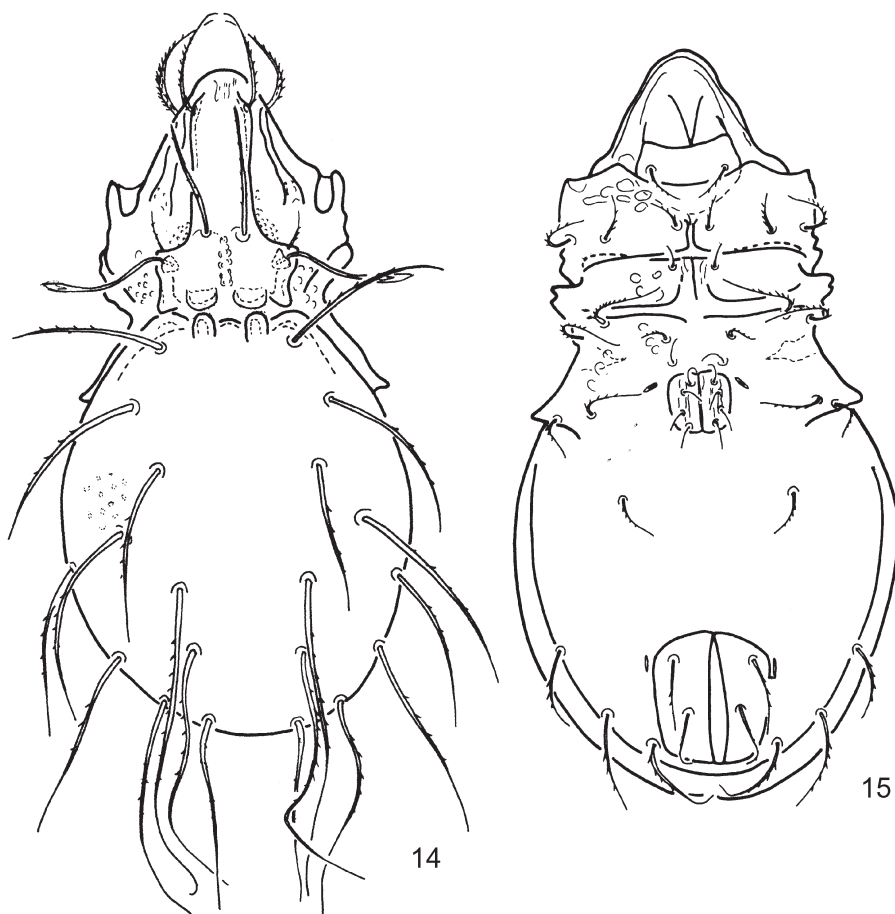
Prodorsum: Rostral apex round, ornamented by some foveolae. The whole prodorsal surface nearly smooth, only some granulate fields observable along the basal part of the lamellae and a pustulate exobothridial part also visible. Lamellae very long and narrow, running parallel to each other (Fig. 14). Their distal part narrowing anteriorly and their apices curved inwards (Fig. 17). Both pairs of prodorsal condyles distinct, median ones rounded and covered by small granules basally, lateral ones slightly angulate (Fig. 19). Rostral and lamellar setae simple, setiform, strongly ciliate or barbed. Interlamellar setae reaching to the insertion of lamellar setae. Exobothridial setae simple, short. Sensillus long, curved, with a slightly dilated lanceolate head (Fig. 20).

Notogaster: Surface ornamented by small, weak, hardly observable foveolae. Two pairs well developed condyles present, median pair rounded, lateral pair simple. Great differences in length

among notogastral setae. Setae *c2* and *p3* shortest of all, setae *p1* shorter than *p2*. Some of the setae in the posterior half of the notogaster curved or partly flagellate. All setae slightly ciliate. Lyrifissure *ips* located between setae *p3* and *h3*.

Lateral part of podosoma (Fig. 16): Tutorium weak, hardly observable. Lateral lamelliform expansion long, arching upwards, directed and reaching to the insertion of rostral setae. Pedotecta 1 narrow, pedotecta 2–3 rectangular in lateral view. Sejugal region pustulate.

Ventral parts (Fig. 15): The shape of the apodemes and epimeral borders typical for the genus, but the posterior border of this region (*bo. 4*) weak, hardly observable. Great differences exist among the epimeral setae, setae *1c*, *3b*, *3c* and *4b* conspicuously long, *1a*, *2a*, *3a* and *4a* much shorter. Surface of the ventral plate nearly smooth, somewhere weakly foveolate, genital plate striated. Anterior pair of the genital setae shorter than the others (Fig. 18). Adanal setae located in pairs very far from each other, setae *ad3* near to the lateral margin of the ventral plate, setae *ad1* in adanal position.

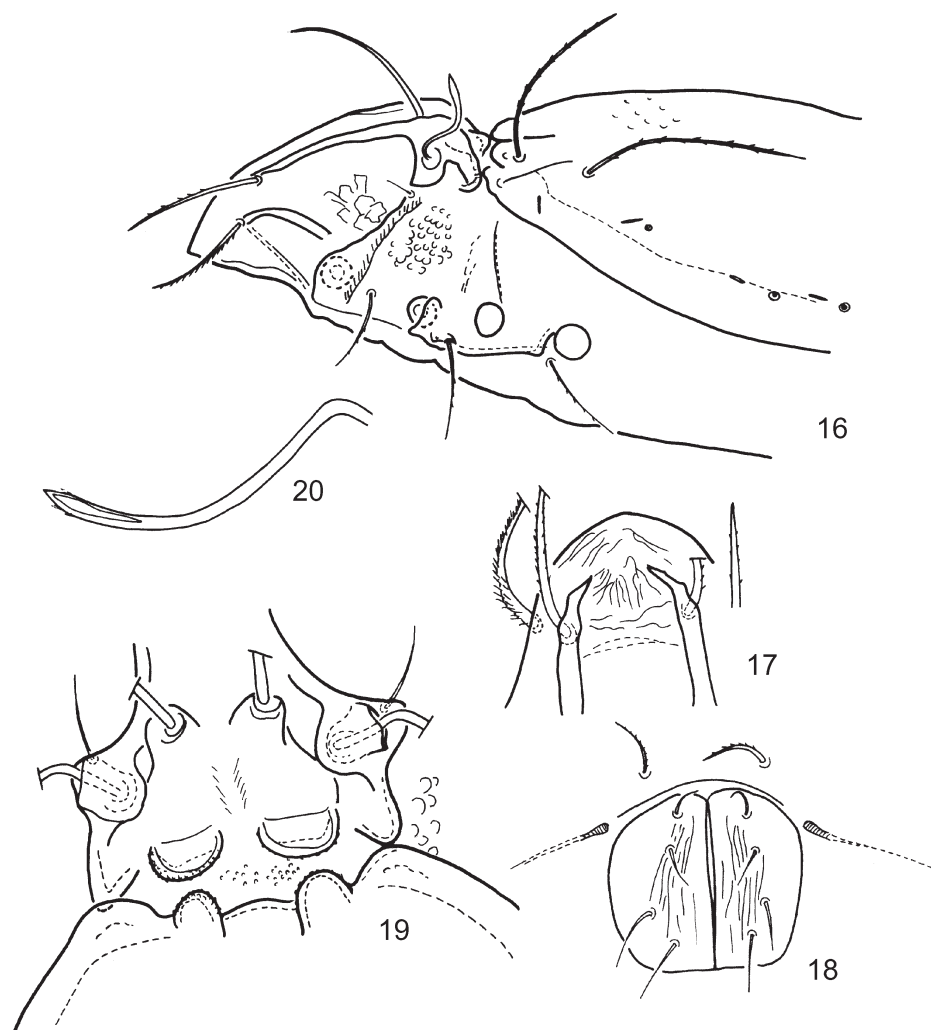


Figs 14–15. *Dolicheremaeus csuzdii* sp. n. – 14 = body in dorsal view, 15 = body in ventral view

Lyrifissures *iad* stand near to the anterior corner of anal opening. Aggenital, anal and adanal setae pilose.

Legs: Type of ultimate setae: L-L-L-L. Tarsi of all legs without teeth.

Remarks – The survey of the Ethiopian species of this genus was completed by WALLWORK (1961, 1962) and by BALOGH and BALOGH (2002). The new species belongs to a species group which may be characterised by the well developed,



Figs 16–20. *Dolicheremaeus csuzdii* sp. n. – 16 = body in lateral view, 17 = rostral part of prodorsum, 18 = genital plates, 19 = basal part of the prodorsum, 20: sensillus

rounded median condyles (*co.pm.* and *co.nm.*), the thin, slightly lanceolate sensillus, the partly long and flagellate notogastral setae and the equal adanal setae. It stands nearest to *Dolicheremaeus africanus* (WALLWORK, 1962), however, it is distinguished from the latter by the ratio in the length of prodorsal and notogastral setae (e.g. *r2* very short in *africanus*), and by the striate genital plates (smooth in *africanus*).

Etymology – We dedicate the new species to our friend and excellent earthworm specialist, Dr. CSABA CSUZDI (Budapest), for his continuous pedozoological field work and the organization of some successful projects.

***Neoamerioppia csabai* sp. n.**

(Figs 21–23)

Diagnosis – Rostrum conical, rostral setae well pilose, arising on the dorsal surface, medially, near to each other. Interlamellar setae absent. A pair of thin lamellar lines and three pairs of interbothridial maculae present. Sensillus long, directed backwards, its head lanceolate. Ten pairs notogastral setae present, varying in length. Two pairs tubercles present on sejugal borders in opposite position. Genitoanal setal formula: 5–1–2–3.

Material examined: Holotype: Kenya, Nakuru district, Lac Naivasha: 08.11.1977. Leg. V. MAHNERT & J.-L. PERRET (G 77/66). 9 paratypes from the same sample. Holotype and 5 paratypes: MHNG, 4 paratypes (1714-PO-2006): HNHM.

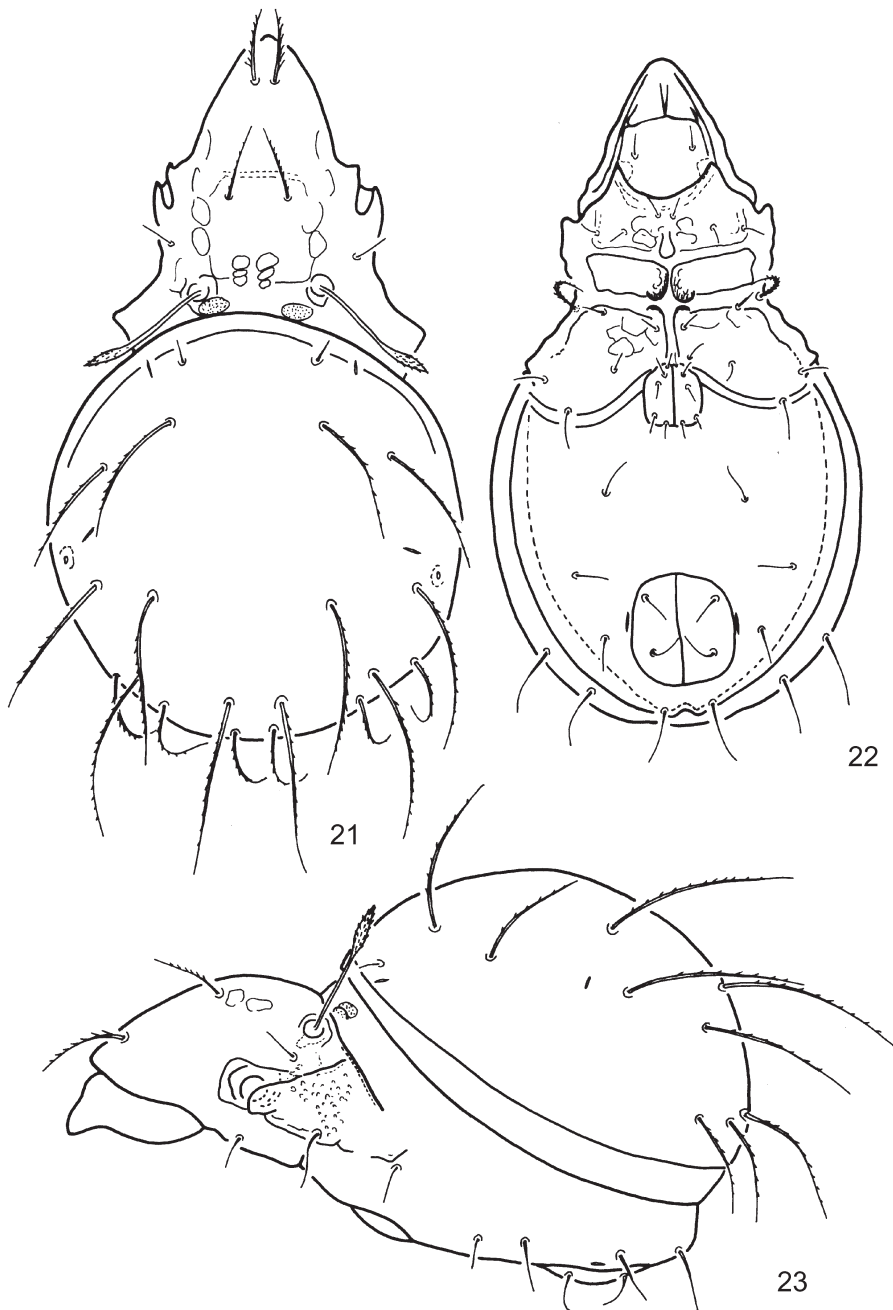
Measurements: Length of body: 416–482 µm, width of body: 252–280 µm.

Prodorsum: Rostral apex conical, rostral setae arising far from it, conspicuously medially, on the prodorsal surface, near to each other. They are much thicker than the other prodorsal setae and their cilia are also longer and thicker. A pair of lamellar lines, running anteriorly from the 3 pairs of interbothridial maculae and a weak, but thicker translamellar line present (Fig. 21). Interlamellar setae absent. Sensillus long, directed backwards and outwards, its head short, gradually dilated, lanceolate, finely pilose. Behind the bothridium a pair of porose field observable.

Notogaster: Dorsosejugal suture convex. Ten pairs of notogastral setae present, setae *ta* minute, much shorter than the preceding setae. The remaining ones also varying in length, setae *p* much shorter than other ones, and located in median position.

Lateral part of podosoma (Fig. 22): Exobothridial region granulate, without stronger lath or other structure. Pedotecta I small, pedotecta II hardly visible.

Ventral regions (Fig. 23): Epimeral region well sclerotised, sejugal apodemes with two pairs of very strong tubercles in opposite position. Epimeral setae – except setae *3c* – short, thin, simple. Setae *3c* thicker and much more pilose than the others. Genitoanal setal formula: 5–1–2–3. Setae *ad1* longer than *ad2*. Margin of the ventral plate with a deep hollow medially.



Figs 21–23. *Neoamerioppia csabai* sp. n. – 21 = body in dorsal view, 22 = body in ventral view, 23 = body in lateral view

Remarks – The new species is well characterised by the ratio of the notogastral setae and first of all by the characteristic structure in the sejugal region.

Etymology – We dedicate the new species to our friend, Prof. Dr. JÁNOS CSABA (Budapest), who helped our work in different ways.

Arcoppia (Wallworkoppia) directa sp. n.
(Figs 24–27)

Diagnosis – Rostrum tripartite, median apex smaller than the lateral ones. Typical prodorsal structure, but the median horseshoe-like costula short, straight or waved medially. Sensillus with 5–6 gradually shortened branch in one side, its peduncle slightly dilated. Two pairs of maculae in the interbothridial region, tubercles absent. No essential difference – except the short setae *ta* – in the length of notogastral setae, setae *ti* and *te* located along a transverse line. Six pairs of genital setae arranged nearly in two rows. Inner costula along the discidium well developed. Legs IV removed backwards.

Material examined: Holotype: Kenya, Nairobi, 19.11.2004. Leg. Cs. CSUZDI (Afr. 974). 11 paratype from the same sample. Holotype (1693-HO-2005) and 9 paratypes (1693-PO-2005): HNHM, 2 paratypes: MHNG.

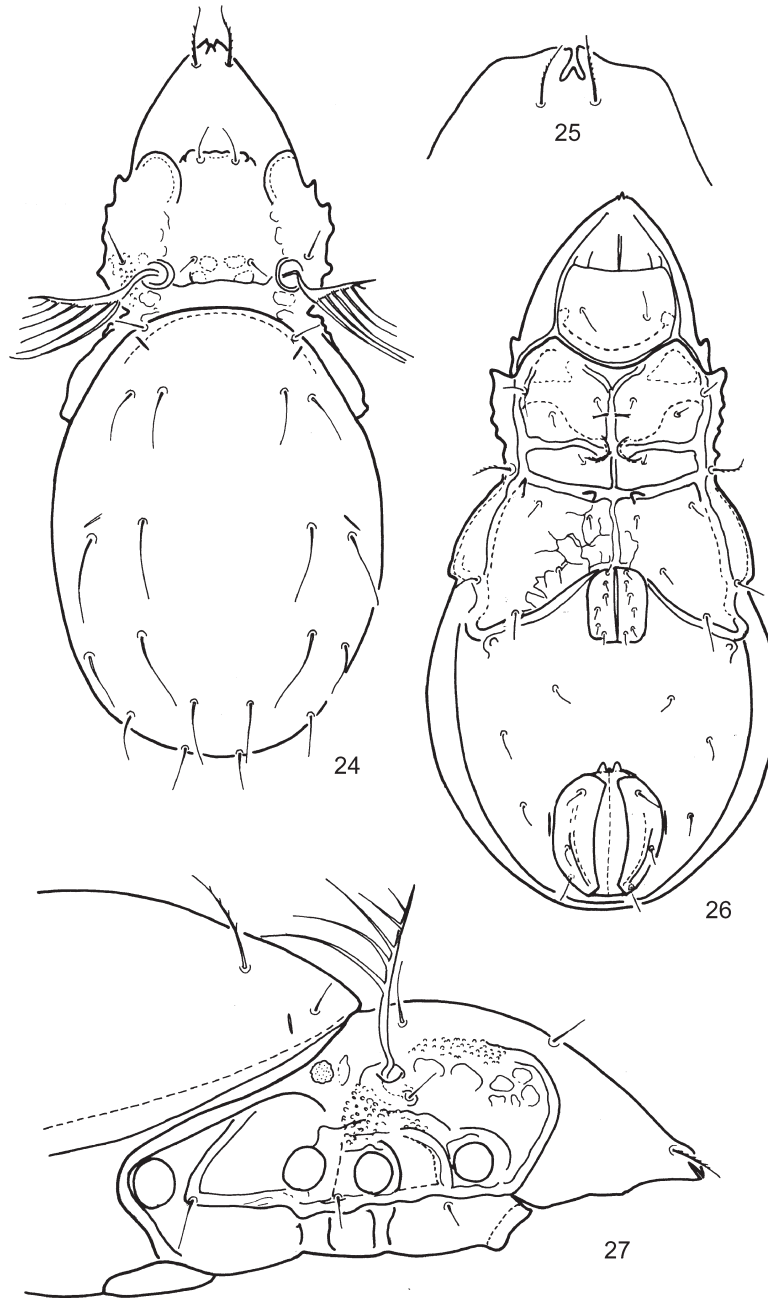
Measurements: Length of body: 275–302 μm , width of body: 132–143 μm .

Prodorsum: Median rostral apex clearly shorter than the lateral ones, among them deep incisure present (Fig. 25). Shape of the prodorsal costulae atypical, the median, horseshoe-shaped one without longitudinal parts (Fig. 24). S-shaped lateral costulae distinct. Interlamellar region with two pairs of maculae present, behind them a transversal line frames the posterobothridial region, which bears no tubercles or other structures. All prodorsal setae short, lamellar and exobothridial ones shorter than the two other pairs. Sensillus pectinate, without a distinct head, bearing 5–6 distally gradually shortened branches.

Notogaster: Narrow and elongate. Dorsosejugal suture slightly convex. Ten pairs of notogastral setae present, setae *c2* short and simple, all others much longer and finely roughened or sometimes ciliate. No essential difference among them, only *lp*, *h2* and *h3*, slightly longer than the others.

Lateral part of podosoma: S-shaped lateral costula well sclerotised, reaching to the acetabula of leg I, its basal part continuing as line of granules towards the to bothridium. Exobothridial region also well granulated by large granules. Acetabulum of leg IV removed posteriorly from acetabulum III (Fig. 27).

Ventral parts (Fig. 26): Epimeral borders and apodemes mostly well developed and sclerotised. On the sejugal borders a pair of triangular tubercles observable. A weak polygonal pattern visible on epimeres III and IV. All epimeral setae simple and short, setae *3c* the longest. Setae *1c* arising on the ridge framing the epimer I. Anal plate with a longitudinal crest, directed somewhat obliquely. Position of genital aggenital and adanal setae normal, *ad1* arising postanally.



Figs 24–27. *Arcoppia (Wallworkoppia) directa* sp. n. – 24 = body in dorsal view, 25 = rostrum, 26 = body in ventral view, 27 = prodorsum in lateral view

Remarks – The new species is well characterised by the form of median rostral apex, the short longitudinal part of the median prodorsal costula, the pectinate sensillus, the absence of the structure in the posterobothridial region, the position of the notogastral setae, and by the great distance between legs III and IV, as well as the position of adanal setae (see MAHUNKA 1999). On the basis of these characters it stands nearest to *Arcoppia* (*Wallworkoppia*) *machadoi* (BALOGH, 1958), however, the median rostral apex in the new species is much smaller, setae *la* and *lm* arising in a transversal line (setae *la* clearly in front of the *lm* along the *machadoi*) and no tubercle-like structure in the posterobothridial region in the new species (2 pairs in *machadoi*).

Etymology – Named after the short, but nearly straight transverse costula on the prodorsum.

Ramusella (Insculptoppia) lunata sp. n.
(Figs 28–30)

Diagnosis – Rostral apex conical, rostral setae arising on the median surface of the rostrum. Lamellar and translamellar lines distinct, well observable. Three pairs of interlamellar maculae present. Sesillus pectinate. Nine pairs of notogastral setae and a pair of alveoli on the notogaster. Epimeral region with well developed apodemes and borders. Sejugal borders with a pair of crescentiform structures. Genitoanal setal formula typical for the genus.

Material examined: Holotype: Kenya, Nairobi: 04.08.2005. Leg. Cs. CSUZDI. 1 paratype from the same sample. Holotype (1694-HO-2005) and 1 paratype 1694-PO-2005): HNHM.

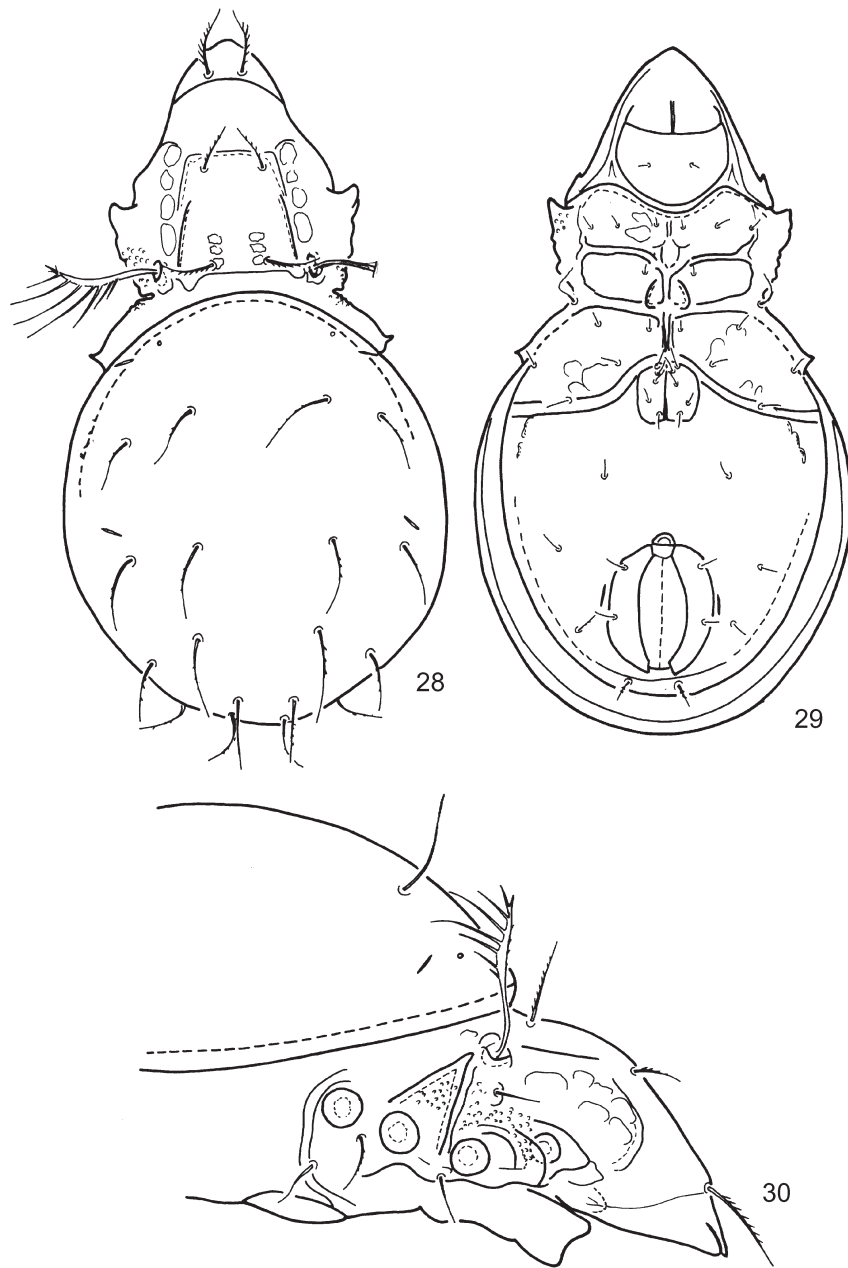
Measurements: Length of body: 345–357 μm , width of body: 186–192 μm .

Prodorsum: Rostral apex wide basally, conical anteriorly. Insertion of the rostral setae located medially, comparatively far from each other and far from the lateral margin of the rostral margin. They curved inwards and distinctly pilose. Behind them a fine, convex transversal line present. In front of the lamellar setae a transversal line (near costula) with two longitudinal laths (Fig. 28). A pair of longitudinal laths also present, independently of them. Three pairs of interbothridial maculae and behind them a transversal line with a pair of hollows present. Bothridial cup well sclerotised, with basal protuberance. Sensillus pectinate, medially slightly dilated, with 7–8 branches. Among them 3–4 median ones much longer than the others.

Notogaster: Wide, roundish. Nine pairs comparatively long notogastral setae and one pair of alveoli of setae *c2* present. No essential difference among the setae, all slightly, but distinctly pilose.

Lateral part of podosoma: Exobothridial region well granulate (Fig. 30). Ratio of the prodorsal setae: *ro* > *in* > *ex* > *le*. Pedotecta 1 roundish, small. Exobothridial setae arising on a distinct tubercle.

Ventral regions (Fig. 29): All apodemes and epimeral borders well developed, composing a network. The surface with weak polygonate pattern. Discidium sharply pointed. Sejugal apodemes



Figs 28–30. *Ramusella (Insculptoppia) lunata* sp. n. – 28 = body in dorsal view, 29 = body in ventral view, 30 = prodorsum in lateral view

with a characteristic, well sclerotised structure. All setae on the ventral surface simple and short. Anogenital setal formula: 5–1–2–3. Lyrifissures *iad* in adanal, setae *ad1* in postanal position.

Remarks – The new species belongs to the “*peregovitsi*” group, characterisable by the pectinate sensillus, the medially located, inwards bent rostral setae and the distinct costula-like lines on the prodorsum. It stands nearest to *Ramusella (Insculptoppia) peregovitsi*, however the latter has much longer branches on its sensillus and much shorter notogastral setae. The tubercles on the sejugal borders also different.

Etymology – Named after the crescentiform, large tubercles on the sejugal borders.

***Ramusella (Rectoppia) paradiata* sp. n.**
(Figs 30–33)

Diagnosis – Rostrum conical. In front of the lamellar setae a fine transversal line present, a pair of separate longitudinal ones also observable. Rostral setae straight, arising in divergent position. Three pairs of maculae in the interbothridial region. Sensillus fusiform, bearing long cilia of different lengths. Nine pairs of notogastral setae. Exobothridial and epimeral regions well sclerotised, on the sejugal border a pair of conspicuously large tubercles present. Genitoanal setal formula: 5–1–2–3.

Material examined: Holotype: Kenya, Nairobi, 19.11.2004. Leg. Cs. CSUZDI, (Afr. 974), 5 paratypes from the same sample. Holotype (1695-HO-2005) and 4 paratypes 1695-PO-2005): HNHM, 1 paratypes: MHNG.

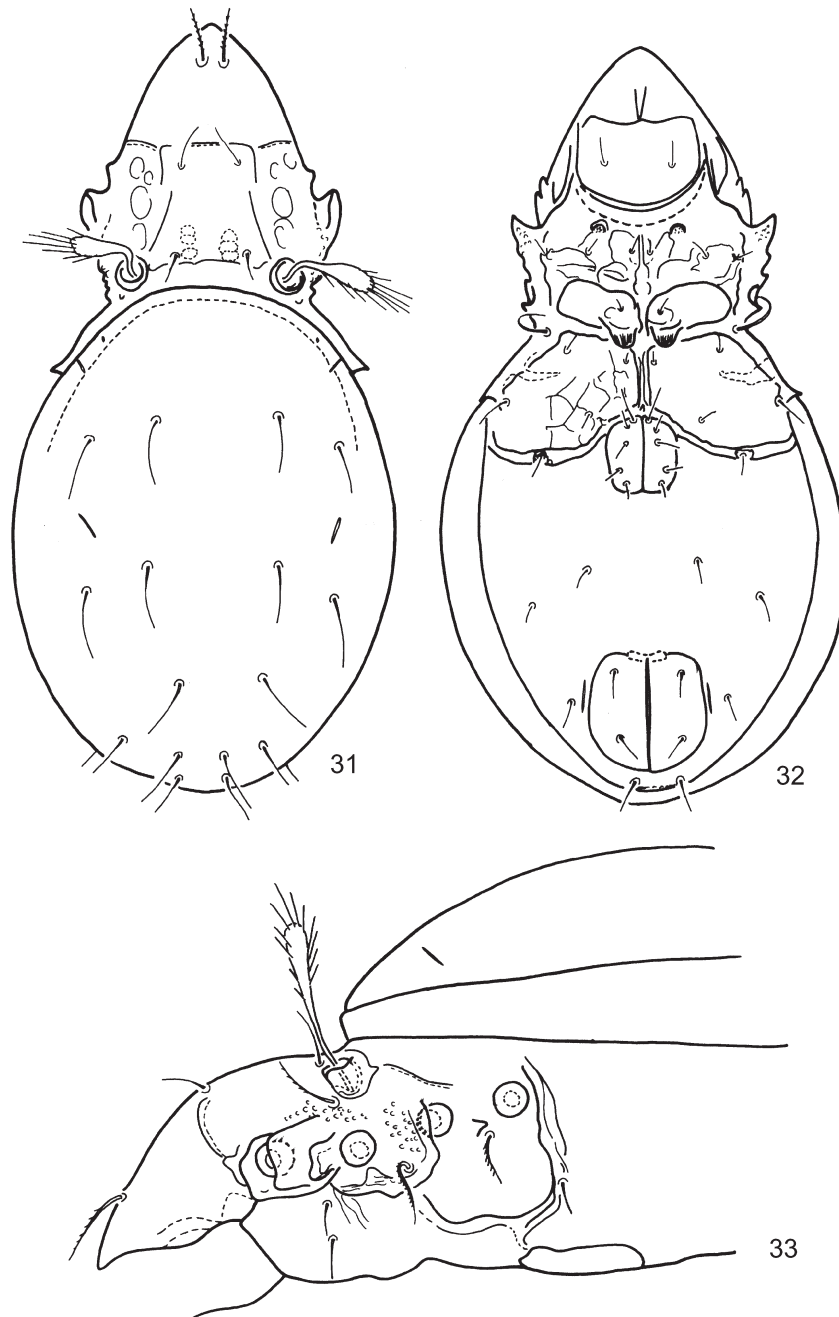
Measurements: Length of body: 258–286 µm, width of body: 137–148 µm.

Prodorsum: Rostral region broad, rostral apex rounded, conical. Rostral setae located near to each other, on the median surface. A fine transversal line observable in front of the lamellar setae, from which a pair of short lines run posteriorly. One pair of arched lines – like fine costulae – also observable, separately from the preceding one. Three pairs of distinct maculae medially, and some irregular pairs laterally. Interbothridial region framed by a distinct line basally (Fig. 31). Ratio of the length of prodorsal setae: *ro in ex @ le*. Setae *ro* well pilose. Bothridium strongly sclerotised. Sensillus directed laterally, fusiform. Its head bearing progressively longer cilia from basal to distal end, on both lateral margin.

Notogaster: Ovoid in shape. Nine pairs of medium short, simple notogastral setae and the alveoli of setae *c2* present. Setae *p1* and *p2* shorter than the remaining notogastral setae. No essential difference among the latter ones,

Lateral part of podosoma (Fig. 33): Strongly sclerotised and well granulate. Pedotecta 1 comparatively large, pedotecta 2–3 reduced. Discidium sharply pointed.

Ventral regions (Fig. 32): All epimeral borders – except the anterior part of the longitudinal one – well sclerotised and broad. A distinct polygonal pattern visible. A pair of round porose field ob-



Figs 31–33. *Ramusella (Rectoppia) pararadiata* sp. n. – 31 = body in dorsal view, 32 = body in ventral view, 33 = prodorsum in lateral view

servable on epimere 1 and a pair of large and strong tubercles on the sejugal border visible. Epimeral setal formula: 3–1–3–3, setae *1c* arising on the lateral margin, on small tubercles. Except setae *3c* and *4c*, all setae short and simple. Setae *4b* located on posterior border of epimeral region. All setae also simple in anogenital region, setae *ad1* arising on a strong lath, setae *ad3* located far from each other, near to the lateral margin of the ventral plate.

Remarks – The new species stands nearest to *Ramusella (Rectoppia) radiata* BALOGH, 1961, however, it is distinguishable from the BALOGH's species by the presence of the transversal lines on prodorsum and the large tubercles on the epimeral and sejugal regions. The ratio of the notogastral setae (*p1* and *p2*) also different. Porose field on epimere 1 was not known in this relationship.

Etymology – Named after its relation.

Flagrosuctobelba kotschani sp. n.
(Figs 34–36)

Diagnosis – Rostral apex elongate, nasiform. Rostral region with large teeth. Tectopedial fields wide, short. Lamellar knob connected with the prebothridial rib. Sensillus long, directed forwards, flagellate distally. Four pairs of separate notogastral condyles. Notogaster with a light spot. Nine pairs of long, flagellate notogastral setae. Sternal field opened anteriorly. Posterior border of epimeres undulate. Genitoanal setal formula: 6–1–2–3.

Material examined: Holotype: Kenya, Nairobi 19.11.2004. Leg. Cs. CSUZDI, (Afr. 974). 6 paratypes from the same sample. Holotype (1696-HO-2005) and 5 paratypes (1696-PO-2005): HNHM, 1 paratype: MHNG.

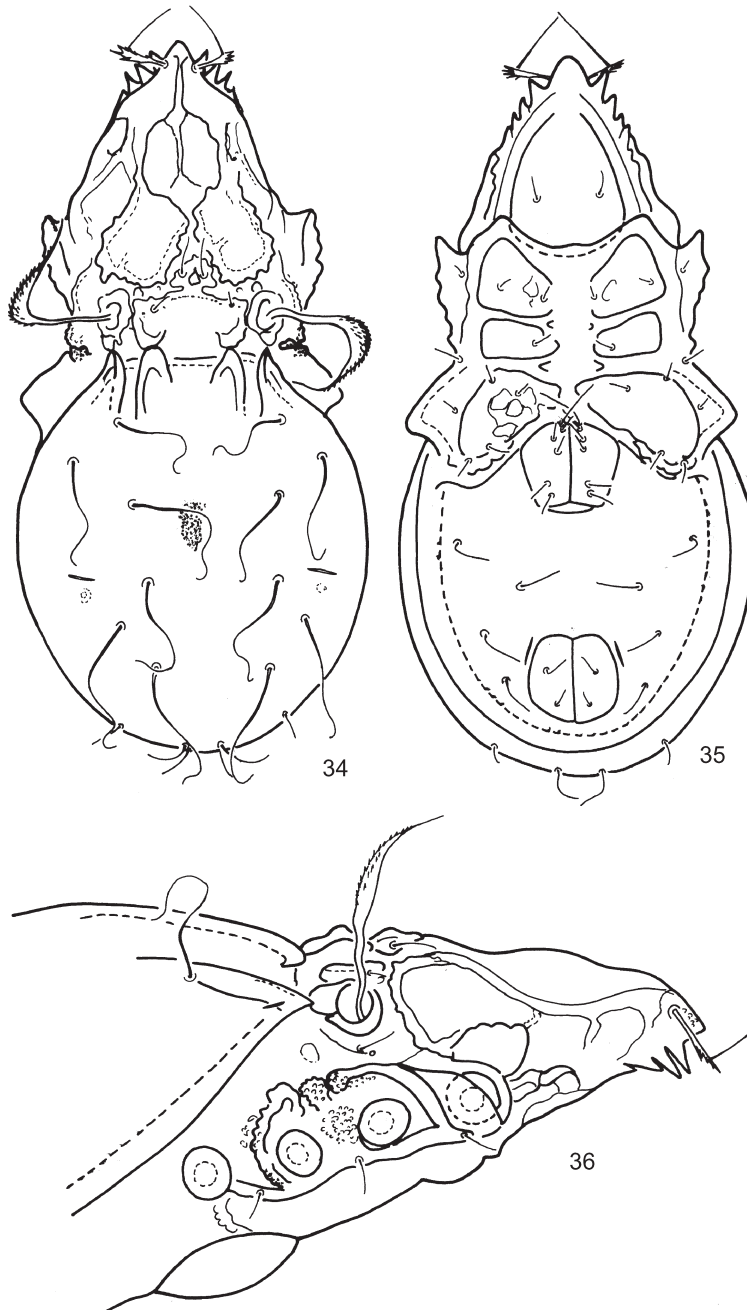
Measurements: Length of body: 206–218 μm , width of body: 102–111 μm .

Prodorsum: Rostral apex elongate, rostrum divided by deep incisions, separating 4 pairs sharply pointed strong teeth. The posterior accessory teeth the smallest of all. Rostral rib absent. In front of the wide tectopedial field, a well framed median field also present. Lamellar knob large, triangular, distinctly connected with the prebothridial and the interbothridial ribs. Sensillus large, typical for the genus, dilated medially, distinctly barbed, with a long, setiform end. Exobothridial arch well observable. Posterobothridial tubercle absent.

Notogaster: Dorsosejugal suture with two pairs of large, separate condyles, both pairs connecting long, longitudinal laths, directed posteriorly (Fig. 34). Light spot large, distinct, located in the middle of the notogaster. Nine pairs of notogastral setae present, among them 6 pairs long, flagellate, 3 pairs short, simple.

Lateral part of podosoma: Some granules visible on rostral apex, laterally a polygonal pattern also visible. Exobothridial region, including podosomal tubercle and some laths granulate (Fig. 36).

Ventral regions (Fig. 35): Sternal field wide, opened anteriorly. Posterior border of epimeral region undulate, epimeral fields with a weak polygonal pattern. All epimeral setae simple, setiform.



Figs 34–36. *Flagrosuctobelba kotschani* sp. n. – 34 = body in dorsal view, 35 = body in ventral view, 36 = prodorsum in lateral view

Setae of the anogenital region much longer, slightly roughened. Anterior pairs of genital setae longer than the others. Setae *ad1* arising in paraanal position.

Remarks – On the basis of the form of rostral part, the shape of the sensillus and the notogastral condyles the new species is readily ranged to the genus *Flagrosuctobelba* HAMMER, 1979. It belongs to the “*ruzsinszkyi*” group [(*F. kaliurangensis* HAMMER, 1979, *F. sinulata* HAMMER, 1982, *F. ruzsinszkyi* (MAHUNKA, 1983)], however the new species is distinguished from them by the large median light spot, by the form of the notogastral condyles and the very long and flagelliform tip of the sensillus.

Etymology – We dedicate the new species to our collaborator and friend Dr. JENŐ KONTSCHÁN (Budapest), for his excellent field work and for his results in the studies on the Uropodina mites.

*

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