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MAHNERTELLA GEN. N. AND SOME NEW OPPIOID MITES FROM KENYA (ACARI: ORIBATIDA) (*ACAROLOGICA GENAVENSIA* LXXXVII)[1]

BY

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ABSTRACT

***Mahnertella* gen. n. and some new oppioid mites from Kenya (Acari: Oribatida) (*Acarologica Genavensia* LXXXVII).** – Four new oribatid species of the family *Oppiidae* Grandjean, 1951 are described from Kenya. One of them represents a new genus (*Mahnertella* gen. n.), two belong to the genus *Separatoppia* Mahunka, 1983 and one to the genus *Neoamerioppia* Subías, 1989.

INTRODUCTION

Dr Volker Mahnert, the Director of the Muséum d'Histoire naturelle, Geneva, on numerous occasions collected and extracted soil samples of great interest primarily in Africa and South America. This time, through the kindness of Dr B. Hauser, Head of the Arthropod Department, I received materials for study collected in Kenya. These materials complete my personal collects from this region and contribute to my studies on the relations between the oribatid fauna of East Africa and that of South-east Asia (MAHUNKA & MAHUNKA-PAPP 1992). This research program was partly sponsored by the Hungarian Scientific Research Fund (OTKA 16729).

In the present contribution I study the taxa, found in a single sample from Mt. Kenya (altitude 3250 m), belonging to the superfamily Oppioidea Grandjean, 1951 (sensu BALOGH 1983 and SUBÍAS & BALOGH 1989), well known from this region with now more than 50 species described by several authors.

From the 4 species identified, 2 belong to the monotypic genus *Separatoppia* Mahunka, 1983, already recorded from Kenya (MAHUNKA 1983). For one species, related to the genus *Pulchroppia* Hammer, 1980, I must established a new genus: *Mahnertella* gen. n.. The fourth species can be placed into the genus *Neoamerioppia* Subías, 1989, which was not known from Kenya.

The terminology used in this paper corresponds to my earlier works (e.g. MAHUNKA 1994).

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[1] New title of the series "Neue und interessante Milben aus dem Genfer Museum I.–LX." and "New and interesting mites from the Geneva Museum LXI.–LXXX.".

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DESCRIPTIONS

Mahnertella gen. n.

D i a g n o s i s : Family *Oppiidae* Grandjean, 1951, subfamily *Pulchroppiinae* Balogh, 1983. Prodorsum with well developed costulae, interbothridial structure also present. Sensillus pectinate. Ten pairs of notogastral setae visible, setae c_2 thinner and shorter than the other notogastral setae, but well visible. Epimeral region typical for this subfamily, apodeme IV absent, behind the sejugal apodeme two pairs of strong condyles and the typical polygonal sculpture. Epimeral setal formula: 3 – 1 – 3 – 3. Anogenital setal formula: 6 – 1 – 2 – 3. Lyrifissures *iad* in adanal position, setae ad_1 in postanal position. Legs with normal oppioid characters.

T y p e s p e c i e s : *Mahnertella quadrituberculata* sp. n.

R e m a r k s : The validity of some oppiid subfamilies is questionable, but on the basis of the characteristic form of the coxisternal and ventral regions (e.g. the absence of apodemes III and IV and the form of epimeres IV) the subfamily *Pulchroppiinae* Balogh, 1983 seems to be a well definied unit. The genera belonging to this group are distinguishable from each other by the number of notogastral setae, the sculpture and structure of the prodorsum or the notogaster and the position of the lyrifissure *iad*. The new taxon is well characterised by the prodorsal structure, the presence of the setae c_2, the 2 pairs of strong epimeral condyles and by the position of the adanal lyrifissure. This combination of main features was unknown before in the subfamily *Pulchroppiinae*.

D e r i v a t i o n o m i n i s : I dedicate the new genus to my friend Dr V. Mahnert, one of the collectors of this very interesting material.

Mahnertella quadrituberculata sp. n.

(Figs 1–4)

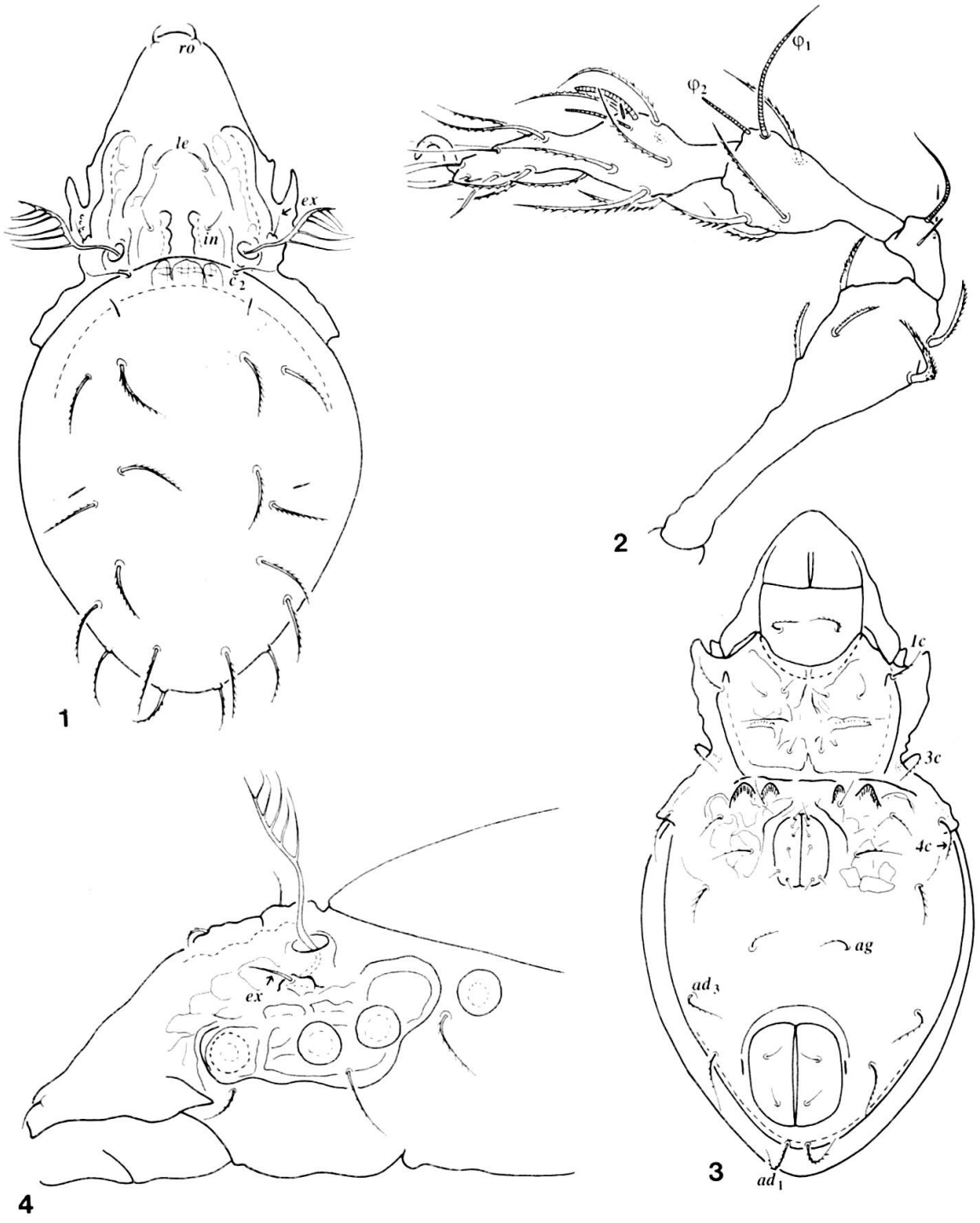
M a t e r i a l e x a m i n e d : Holotype: Kenya-74/42b: KENYA, Mt. Kenya, 3250 m, mousse des arbres, 23.11.1974, leg. V. Mahnert et J.-L. Perret (extraction par appareil Berlese); 1 paratype from the same sample. Holotype: MHNG[3] and the paratype (1526-PO-95): HNHM[4].

M e a s u r e m e n t s . – Length of body: 520–525 µm, width of body: 265–272 µm.

P r o d o r s u m : Rostrum simply rounded, the rostral setae arising very far anteriorly, on small tubercles, near to the rostrum. A pair of strong longitudinal costulae present, they reach beyond the insertion of the lamellar setae. A pair of strong, arched laths are observable laterally and a characteristic structure in the interbothridial region, consisting of a pair of short longitudinal laths and three fused median tubercles (Fig. 1). Bothridium normal, sensillus long, pectinate, with 6 branches.

[3] MHNG = deposited in the Muséum d'Histoire naturelle, Genève.

[4] HNHM = deposited in the Hungarian Natural History Museum, Budapest, with identification number of the specimens in the Collection of Arachnida.



FIGS 1–4

Mahnertella quadrituberculata gen. n., sp. n. — 1: body in dorsal view, 2: leg I, 3: body in ventral view, 4: podosoma in lateral view.

N o t o g a s t e r : Three characteristic formations are observable in the dorsosejugal region (Fig. 1). Setae c_2 fine, short and simple. All other notogastral setae strong, well ciliate unilaterally. These setae nearly equal in length.

L a t e r a l p a r t o f p o d o s o m a : Exobothridial setae arising on tubercles. Acetabula of legs I–III well framed by well sclerotized laths. A weak polygonal sculpture in front of the exobothridial setae is also visible (Fig. 4).

V e n t r a l r e g i o n s (Fig. 3): Apodemes and epimeral borders of the anterior part of the epimeral region well sclerotised, a lateral border also present. Setae *1c* arising on them. Behind the sejugal borders 2 pairs of strong forward directed condyles present. All epimeral setae pilose. Genital setae fine and short, aggenital, anal and first and foremost adanal setae much longer than the genital ones and well pilose. Their position is shown in Fig. 3.

L e g s : Setae of femur of leg I nearly equal in size, all well pilose. Setal formula of leg I: 1 – 5 – 2+1 – 4+2 – 20+2 – 1 (Fig. 2).

R e m a r k s : Refer to the remarks after the generic diagnosis.

D e r i v a t i o n o m i n i s : Referring to the two pairs of conspicuous tubercles in the epimeral region.

Neoamerioppia costulifera sp. n.

(Figs 5–7)

M a t e r i a l e x a m i n e d : Holotype: Kenya-74/42b: KENYA, Mt. Kenya, 3250 m, mousse des arbres, 23.11.1974, leg. V. Mahnert et J.-L. Perret (extraction par appareil Berlese); 3 paratypes from the same sample; Holotype and 2 paratypes: MHNG, 1 paratype (1527-PO-95): HNHM.

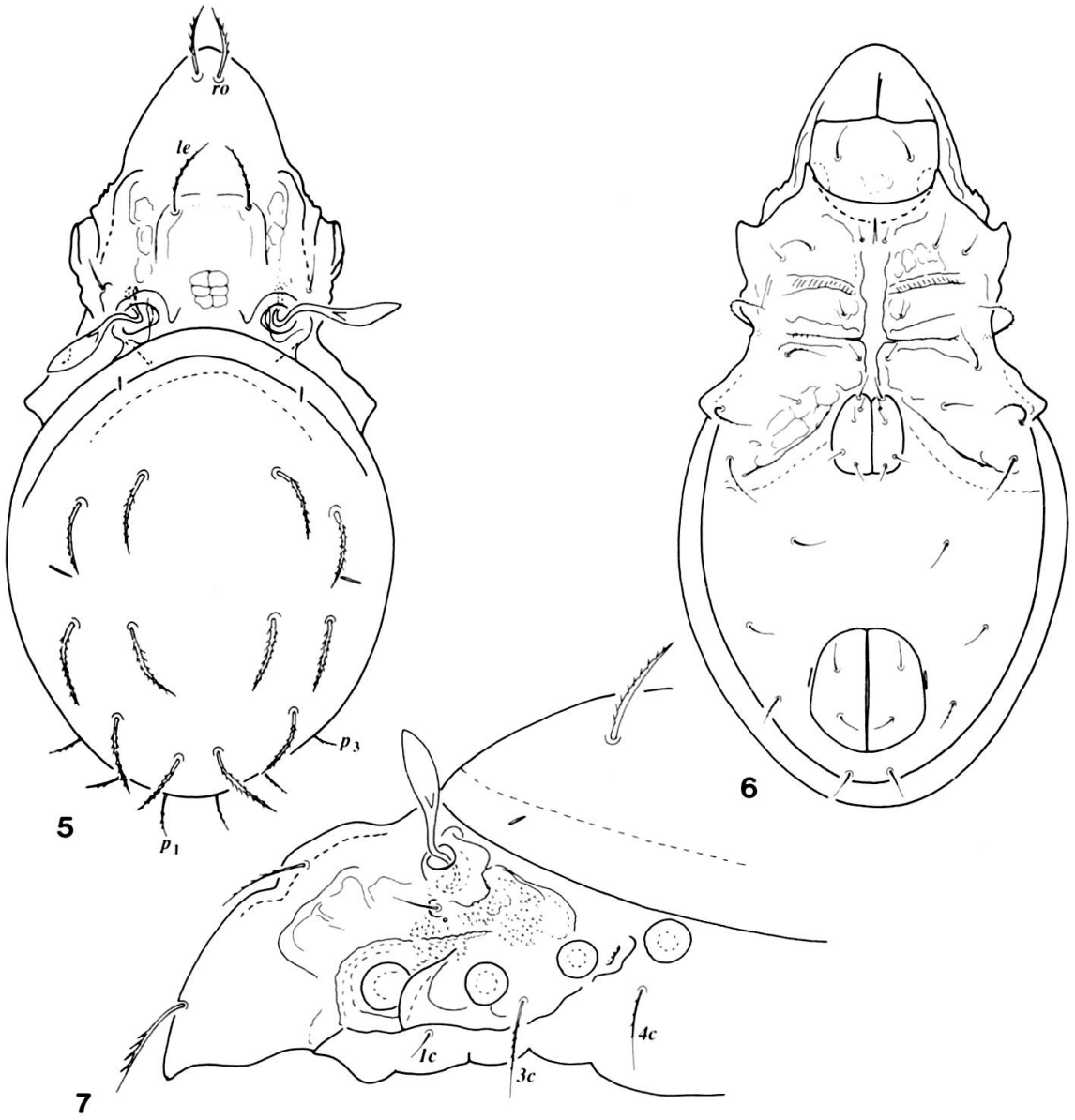
M e a s u r e m e n t s . – Length of body: 286–297 µm, width of body: 115–122 µm.

P r o d o r s u m : Rostrum rounded, rostral setae well pilose, arising on the prodorsal surface, conspicuously near to each other. A pair of well developed arched costulae present, quite unexpected in this genus, bending inwards but not touching each other (Fig. 5). A shorter and similarly arched lateral lath also observable. Three pairs of touching median spots and a pair of teeth-like thickenings present in the interbothridial region (Fig. 5). Lamellar setae hardly shorter than rostral ones, but less ciliate, interbothridial setae absent. Sensillus elongately fusiform.

N o t o g a s t e r : Nine pairs of strong, well pilose notogastral setae present, setae c_2 absent, their alveoli also missing. Posteromarginal setae (p_1-p_3) shorter than anterior ones.

L a t e r a l p a r t o f p o d o s o m a (Fig. 7): Exobothridial setae arising on small tubercles. Bothridium with a well-developed basal lobe. A polygonal region observable in front of it. Lateral part of this region well granulate.

V e n t r a l p a r t s (Fig. 6): Epimeral surface with a weak polygonal sculpture. Epimeral setae short and simple, seta *1b* arising far from pedotecta 1. Epimeres well framed, between them a long, free field visible in sternal position (Fig. 6). Anogenital setal formula: 5 – 1 – 2 – 3. All setae in this region short and simple.



FIGS 5–7

Neoamerioppia costulifera sp. n. — 5: body in dorsal view, 6: body in ventral view, 7: podosoma in lateral view.

R e m a r k s : The new species is well distinguished from all heretofore known species of this genus which are distributed all over the world, by the strong, arched costulae (like in *Arcoppia* Hammer, 1977) and the strong, well ciliate notogastral setae.

D e r i v a t i o n o m i n i s : After the strong prodorsal structure.

Separatoppia gracilis sp. n.

(Figs 8–10)

M a t e r i a l e x a m i n e d : Holotype: Kenya-74/42b: KENYA, Mt. Kenya, 3250 m, mousse des arbres, 23.11.1974, leg. V. Mahnert et J.-L. Perret (extraction par appareil Berlese); 16 paratypes from the same sample; Holotype and 10 paratypes: MHNG, 6 paratypes (1528-PO-95): HNHM.

M e a s u r e m e n t s . – Length of body: 203–215 µm, width of body: 108–117 µm.

P r o d o r s u m : The form of costula and transcostula, the separate tubercles with lamellar setae and the position of prodorsal setae typical for this genus. Median and lateral surface well granulate. Median condyles of the interbothridial region triangular (Fig. 8). Two pairs of weak spots visible between them. Ratio of the prodorsal setae: *ro* > *le* > *in* = *ex* (Fig. 10). Sensillus comparatively long, its head sparsely spinose.

N o t o g a s t e r : Humeral process in the dorsosejugal region weakly developed, short. All setae on the notogaster simple and short, setae *la* and *lm* arising in a transversal line.

V e n t r a l r e g i o n s (Fig. 9): Epimeral fields not always touching medially. One pair of tubercles and a bridge-like, characteristic structure observable in sejugal region. A weak polygonal sculpture also observable. Epimeral setae thin and simple, setae *1c* arising far from the pedotecta 1. Anogenital setal formula: 6 – 1 – 2 – 3, characteristic for the genus. All setae in this region thin and simple.

R e m a r k s : Refer to the following species.

D e r i v a t i o n o m i n i s : after the sculpture on prodorsum, which is thinner and finer than in the following species.

Separatoppia robusta sp. n.

(Figs 11–14)

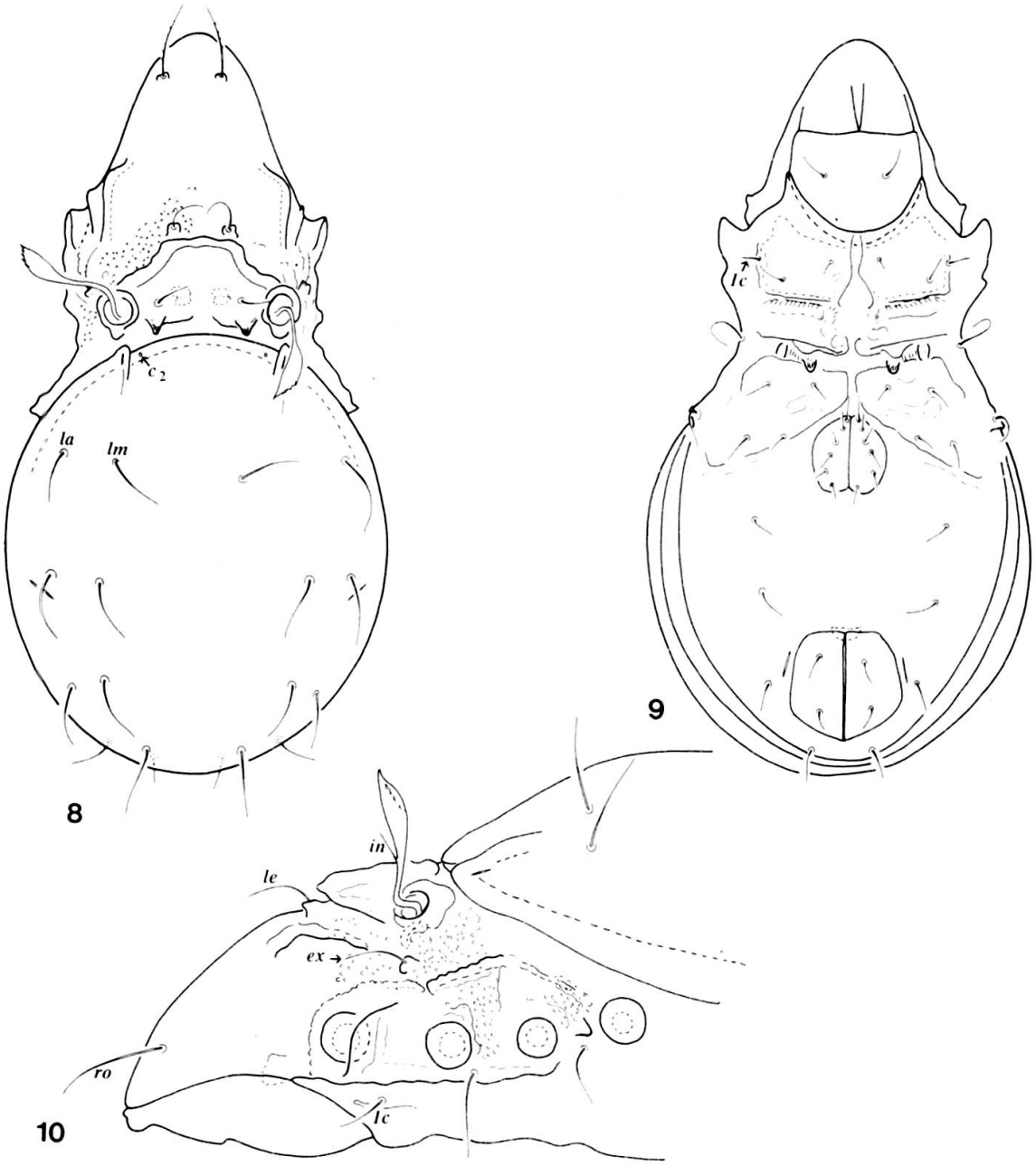
M a t e r i a l e x a m i n e d : Holotype: Kenya-74/42b: KENYA, Mt. Kenya, 3250 m, mousse des arbres, 23.11.1974, leg. V. Mahnert et J.-L. Perret (extraction par appareil Berlese); 5 paratypes from the same sample; Holotype and 3 paratypes: MHNG, 2 paratypes (1529-PO-95): HNHM.

M e a s u r e m e n t s . – Length of body: 232–258 µm, width of body: 115–137 µm.

P r o d o r s u m : The form of the costula and transcostula, the separate tubercles with lamellar setae, and the position of the prodorsal setae are typical for this genus. All of these structures are robust and thick. One pair of interbothridial condyles, rounded posteriorly (Fig. 11). Between them 2 pairs of larger round spots visible. Sensillus comparatively short, with rounded head (Fig. 14), its surface distinctly spinose.

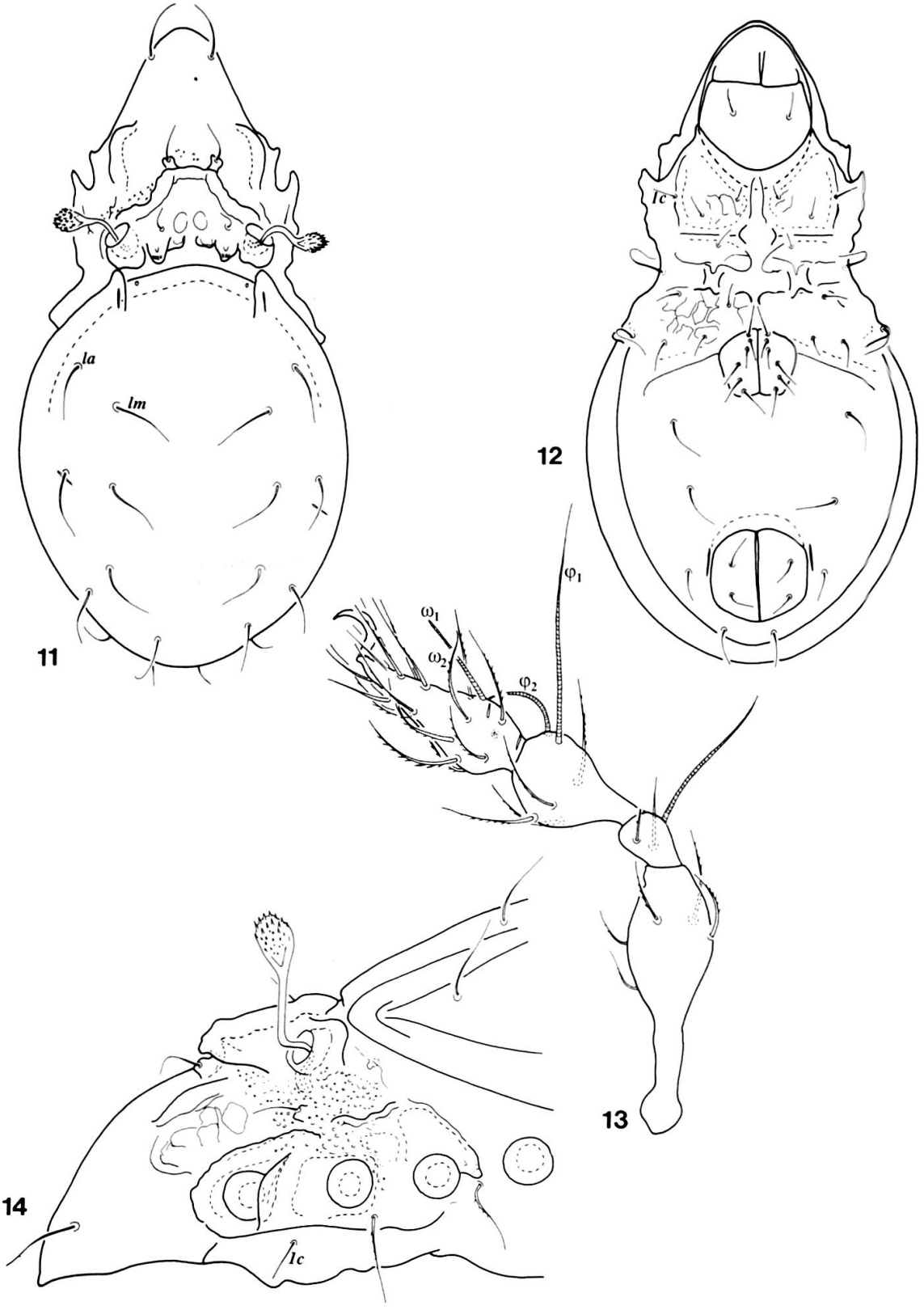
N o t o g a s t e r : Humeral process also large, rounded anteriorly. Nine pairs of notogastral setae and the alveoli of setae c_2 observable. Seta *la* arising nearer to the dorsosejugal region than seta *lm*. All setae thin and simple.

V e n t r a l r e g i o n s : Very similar to the previous species, however a pair of the characteristic tubercles lacking on the sejugal region and the bridge-like formation



FIGS 8–10

Separatoppia gracilis sp. n. — 8: body in dorsal view, 9: body in ventral view, 10: podosoma in lateral view.



FIGS 11–14

Separatoppia robusta sp. n. — 11: body in dorsal view, 12: body in ventral view, 13: leg I, 14: podosoma in lateral view.

wider amd thicker. All setae in the anogenital region much longer than in the preceding species (Fig. 12).

L e g s : All legs characteristic for this group of genera. A figure of the leg of a *Separatoppia* species has never been published before, therefore I give now one of leg I (Fig. 13). Its setal formula: 1 – 5 – 2+1 – 4+2 – 20+2 – 1.

R e m a r k s : The genus *Separatoppia* Mahunka, 1983 now comprises three species. They are well distinguishable from each other by the form and the surface structure of the sensillus, the position of notogastral setae and the structure of the sejugal region. The sensillus of the type species of the genus, *S. africana* (Evans, 1953), known from the type locality Kilimandjaro only, is elongated, bearing long spines, setae *la* and *lm* are arising along a transversal line, and no tubercles are present in the sejugal region. One of the new species (*S. robusta*) has a globular sensillus and the position of the notogastral setae is different, *la* stands nearer to the dorsosejugal suture than setae *lm*. The third species (*S. gracilis*) has an elongated sensillus, but it carries fewer and smaller spines on its head and the sejugal region has well-developed tubercles.

D e r i v a t i o n o m i n i s : After the robust structure of the prodorsum.

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