

## New Uropodina species (Acari: Mesostigmata) and records from Kenya

Jenő KONTSCHÁN

*Systematic Zoology Research Group of Hungarian Academy of Sciences and Department of Zoology, Hungarian Natural History Museum, Baross u. 13, H-1088 Budapest, Hungary; e-mail: kotscha@zool.nhmus.hu*

**Abstract:** *Chelonuropoda africana* sp. n. is described with original drawings and scanning micrographs. New records of two other Uropodina species, *Neodiscopoma crenulatum* Marais et Theron, 1986 and *Rotundabaloghia feherdii* Kotschán, 2004 from Kenya are given.

**Key words:** Acari; Uropodina; new records; new species; Kenya

### Introduction

Till 2004, the Uropodina fauna of Kenya had been absolutely unknown (Wiśniewski 1993a). The first mention of the Uropodina mites of Kenya can be found in Kotschán's paper (2004), in which descriptions of four new *Rotundabaloghia* species are presented. Two years later Kotschán (2006a) investigated the Uropodina mites of Shimba Hills. In the same year Kotschán (2006b) published new results on the investigation of East Africa and described five new species. One of the new species (*Macrodinychus alveolaris* Kotschán, 2006) was collected in Kenya. Recently, Kotschán (2008) has found the third African Metagynurid species in Kenya and described it as *Metagynella masani* Kotschán, 2008.

In the recent paper a new *Chelonuropoda* Sellnick, 1954 species is described and new records of two already known species are presented.

### Material and methods

Mite specimens were studied with traditional methods. Lactic acid was used to clear the specimens. Drawings were made with camera lucida. Scanning micrographs were taken in the Hungarian Natural History Museum, Budapest with a HITACHI SN 2600 scanning electron microscope.

The specimens identified are stored in alcohol and deposited in the Collections of Soil Zoology of the Hungarian

Natural History Museum. Measurements are given in micrometers ( $\mu\text{m}$ ).

### *Chelonuropoda* Sellnick, 1954

*Chelonuropoda* (Sellnick 1954: 195–196)  
*Oplitis bispirata* species group (Hirschmann 1991: 10–12; Wiśniewski & Hirschmann 1993: 51)  
*Chelonuropoda* (Hirschmann 1979: 67; Wiśniewski 1993b: 373; Kotschán 2006c: 9)

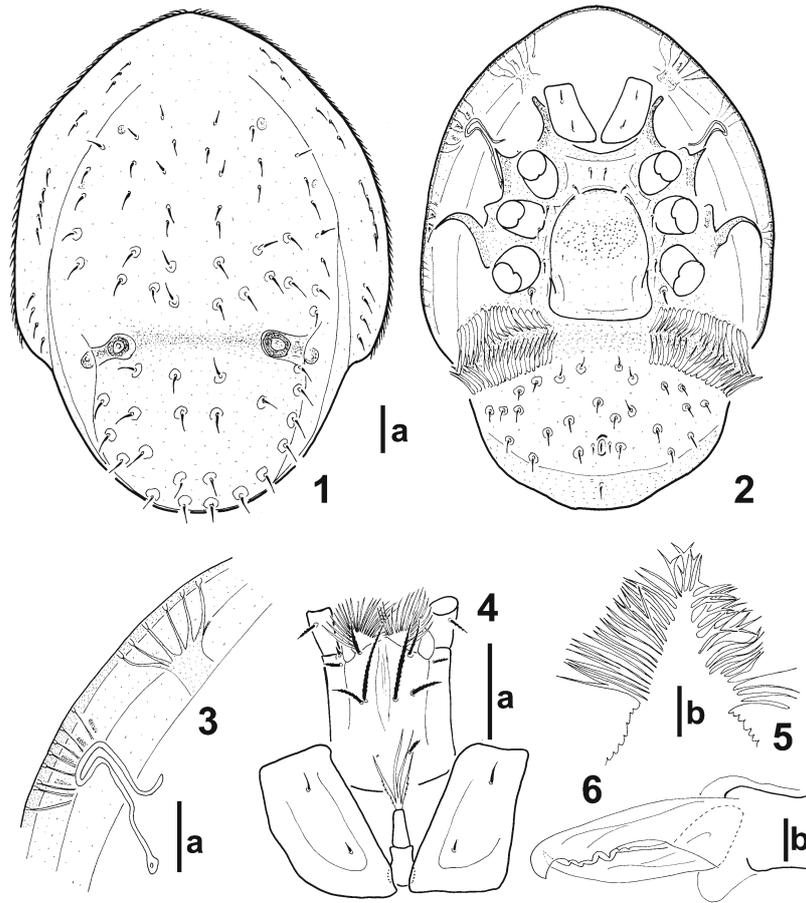
**Diagnosis.** Idiosoma oval, posterior margin rounded. Anterior region of marginal shield wide and fused with dorsal shield. Dorsal- and ventral setae are smooth and needle-like. Metapodal regions with a deep transversal furrow bordered with two rows of phylliform setae. Corniculi horn-like, laciniae with several long branches. Tritosternum with narrow basis, laciniae with four branches. Epistome triangular with long hairs on its anterior margin.

**Type species.** *Chelonuropoda bispirata* Sellnick, 1954 by original designation.

**Distribution.** Circum-tropical. We know species from Brasilia, Chad, Bolivia (Wiśniewski 1993a) and Angola (Kotschán 2006c).

Table 1. The most important differences between the genus *Chelonuropoda* Sellnick, 1954 and genus *Oplitis* Berlese, 1884

|   | <i>Chelonuropoda</i>  | <i>Oplitis</i> |
|---|-----------------------|----------------|
| Shape of idiosoma                             | oval                  | circular       |
| Marginal shield on the anterior region        | wide                  | not wide       |
| Genital shield of female                      | scuti- or linguliform | oval           |
| Deep transversal furrow with phylliform setae | present               | absent         |



Figs 1–6. *Chelonuropoda africana* sp. n., female: 1 – dorsal view; 2 – ventral view; 3 – region of peritreme; 4 – ventral view of gnathosoma; 5 – epistome; 6 – chelicera. Scales 100  $\mu\text{m}$  (a), 20  $\mu\text{m}$  (b).

**Habitat.** All of known species were collected from leaf litter.

**Remarks.** Hirschmann & Zirngiebl-Nicol (1973) synonymised the genus *Chelonuropoda* Sellnick, 1954 under the genus *Oplitis* Berlese, 1884 based only on the processes of the gnathosoma. I do not accept this conception because several characters of the species *Chelonuropoda* (shape of the idiosoma, shape and setation of the metopodal region) differ to the species of the genus *Oplitis* (Table 1).

*Chelonuropoda africana* sp. n. (Figs 6–15)

**Diagnosis.** Genital shield of female wide, linguliform, bear small alveolar ornamentation. Peritreme P-form. All ventral and dorsal setae smooth and needle-like, with bases inserted in rounded depression.

**Description. Female.** Length of idiosoma 1,270  $\mu\text{m}$ , width 990  $\mu\text{m}$  ( $n = 1$ ). Shape oval, posterior margin rounded.

Dorsal side (Fig. 1). Dorsal and marginal shields fused close to anterior margin. Anterior marginal shield wide, bear short, smooth and needle-like setae. All dorsal setae smooth and needle-like, placed in small, rounded depressions. Two strongly sclerotised postero-

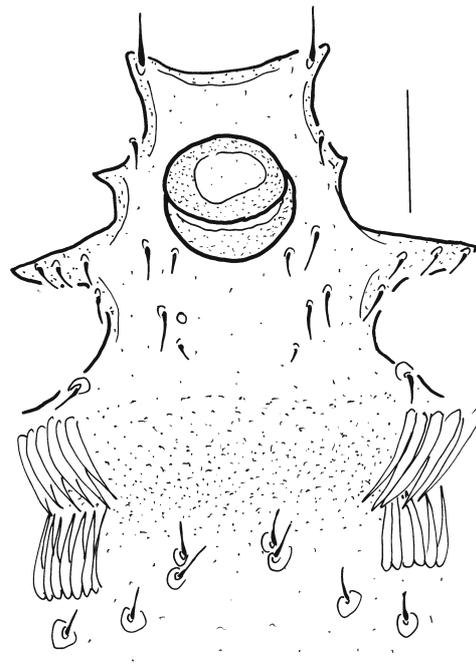
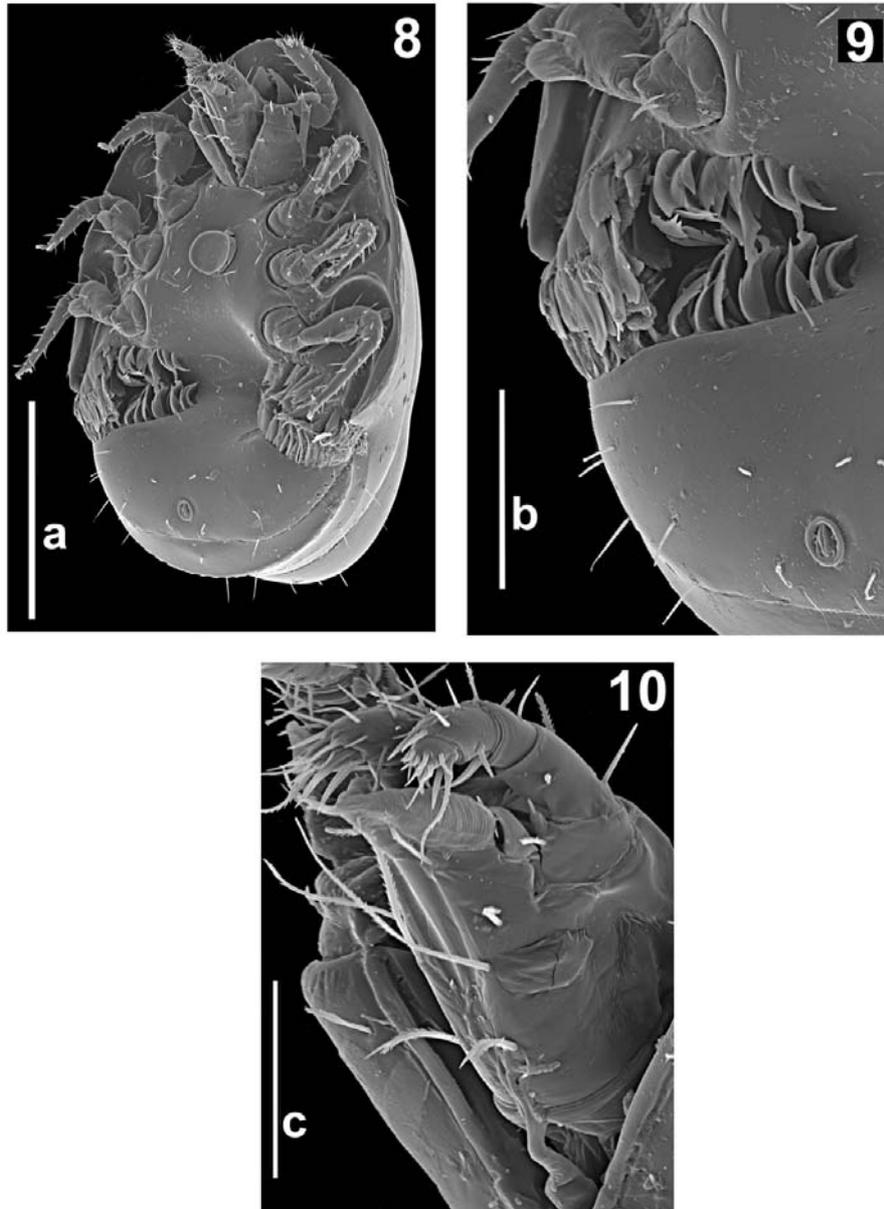


Fig. 7. *Chelonuropoda africana* sp. n., sternal region of male. Scale 100  $\mu\text{m}$ .

lateral rings present, between these rings a deep furrow is well developed.



Figs 8–10. Scanning micrographs of *Chelonuropoda africana* sp. n., male: 8 – ventral view; 9 – phylliform setae on metapodal region; 10 – ventro-lateral view of gnathosoma. Scales 500  $\mu\text{m}$  (a), 200  $\mu\text{m}$  (b), 100  $\mu\text{m}$  (c).

Ventral side (Fig. 2). Sternal and ventral shields without ornamentation, all sternal setae smooth and needle-like. Ventral setae smooth, needle-like and placed in small rounded depressions. Metapodal regions with a deep transversal furrow bordered with two rows of phylliform setae. Adanal setae two times shorter than other ventral setae, not inserted in rounded depressions. Postanal seta as long as ventral setae, not associated with rounded depression. Narrow anterolateral parts of marginal shield expanded ventrally and with three pairs of tree-like patterns. Stigmata situated between coxae II and III. Peritreme P-form (Fig. 3). Genital shield wide, linguliform, with small alveolar ornamentation and without anterior process.

Legs. All segments with simple and smooth setae

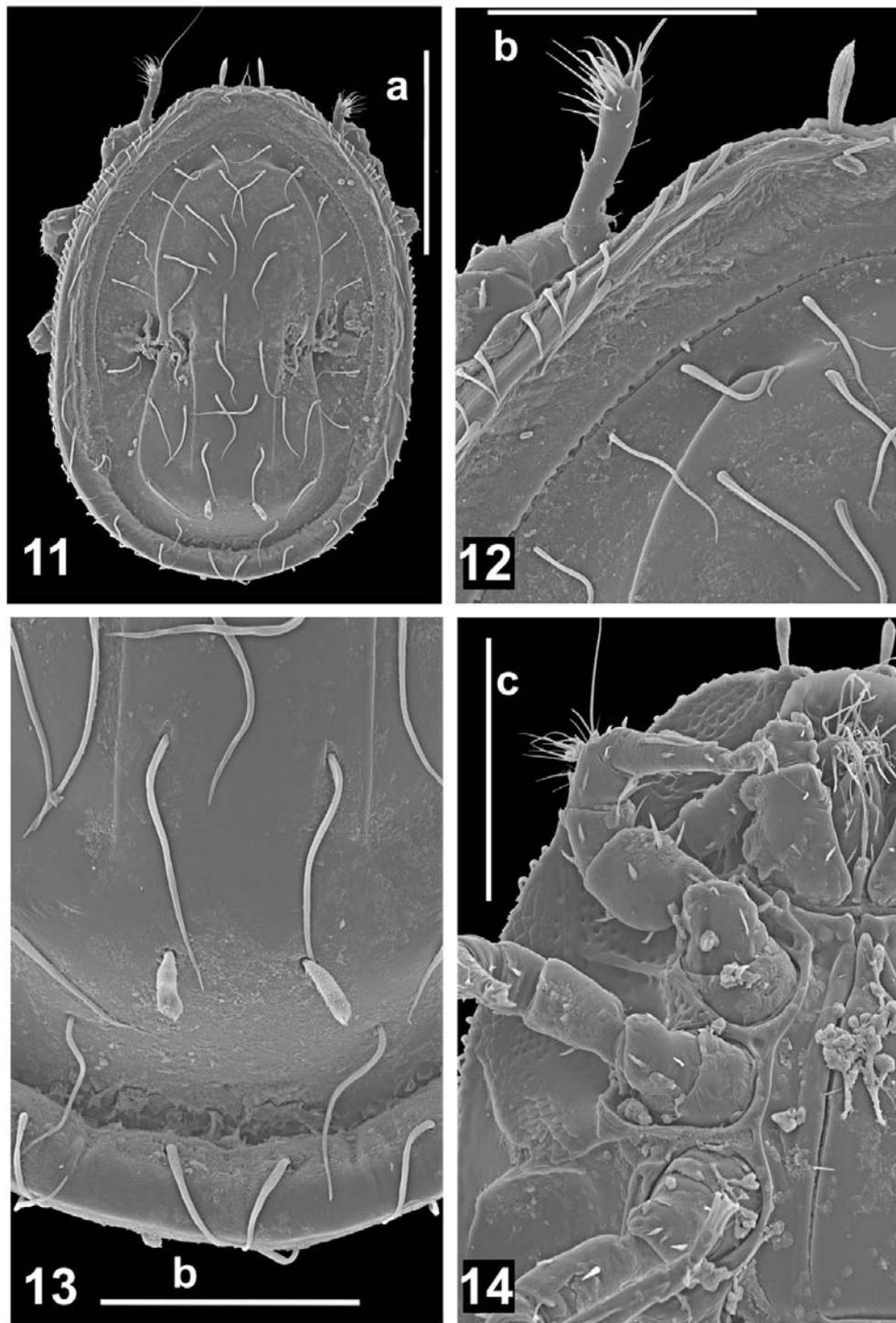
and a pair of claws at tip of the ambulacral prolongation.

Gnathosoma (Fig. 4). Corniculi horn-like, laciniae with several smooth and long branches. All hypostomal setae serrate marginally, h1 as long as h2 and h3, h2 two times longer than h1. Tritosternum with narrow basis, laciniae with four branches, the two lateral branches serrate marginally. Epistome triangular with long hairs on its anterior margin (Fig. 5). Chelicera is shown on Fig. 6.

**Male.** Length of idiosoma 1220–1280  $\mu\text{m}$ , width 920–950  $\mu\text{m}$  ( $n = 4$ ). Shape oval, posterior margin rounded.

Dorsal side. Ornamentation and chaetotaxy as for female.

Ventral side (Figs 7–9). Ornamentation and chae-



Figs 11–14. Scanning micrographs of *Neodiscopoma crenulatum* Marais et Theron, 1986, female: 11 – dorsal view; 12 – setae on the anterolateral region of dorsal shield; 13 – setae on the posteromedial region of dorsal shield; 14 – anterolateral part of the venter. Scales 500  $\mu\text{m}$  (a), 200  $\mu\text{m}$  (b), 250  $\mu\text{m}$  (c).

totaxy of ventral shield as for female. Sternal shield without sculptural pattern, the positions of sternal setae are shown in Fig. 7. All sternal setae smooth and needle-like. Genital shield rounded and placed between coxae II–III.

Legs. Similar to the female, but setae of coxae I bear serrated margin.

Gnathosoma (Fig. 10). Corniculi, laciniae, hypostomal setae, tritosternum and epistome similar to fe-

male. Chelicerae not clearly visible (covered by gnathosoma).

Nymph and larva are unknown.

**Material examined. Holotype (female):** Afr-973, Kenya Estate village from leaf-litter and soil, 3.I.2004, leg. S. Mahunka et L. Mahunka-Papp. **Paratypes:** 4  $\sigma\sigma$ , collection data as in holotype.

**Etymology.** The name of the new species refers to the continent where it is origin.

**Remarks.** The new species is well characterised by the P-form peritremes and the wide linguliform genital shield. This combination of features is unknown in the heretofore species of the genus *Chelonuropoda* Sellnick, 1954.

*Neodiscopoma crenulatum* Marais et Theron, 1986 (Figs 11–14)

*Neodiscopoma crenulatum* (Marais & Theron 1986: 214)  
*Uropoda (Phaulodinychus) crenulata* (Wiśniewski & Hirschmann 1993: 194)

Material examined: 2 ♀♀, 3 ♂♂, 1992/123, Kenya, Tsavo West National Park, Mzima springs, from decaying debris and litter near to waterside, 25.VI.1992; 1 ♀, 2 ♂♂, 1992/146, Kenya Shimba Hills National Reserve, Kwale, from soil and leaf litter, 30.VI.1992; 3 ♂♂, 1992/130, Tsavo West National Park, ca. 50 km S from Kilaguni Lodge, sifted material from decaying stumps, 26.VI.1992; 2 ♀♀, 12 ♂♂, 1992/104, Amboseli National Park Amboseli Serena Lodge, from soil, 22.VI.1992 (all samples leg. S. Mahunka et L. Mahunka-Papp).

Remarks. The species is known from Southern Africa, near Potchefstroom, Republic of South-Africa. These are the first records from Kenya and East-Africa.

*Rotundabaloghia feherdii* Kontschán, 2004

*Rotundabaloghia feherdii* (Kontschán 2004: 8)

Material examined: 1 ♀, Afr-973, Kenya Estate village, from leaf-litter and soil, 03.01.2004, leg. S. Mahunka et L. Mahunka-Papp.

Remarks. This species is origin in Kenya. The type material was collected in the Shimba Hills, but new collection site is situated near to the type locality.

## Acknowledgements

This paper was supported by the János Bolyai Research Scholarship of the Hungarian Academy of Sciences.

## References

- Hirschmann W. 1979. Stadienfamilien und Stadiengattungen der Atrichopygidiina, erstellt im Vergleich zum Gangsystem Hirschmann, 1979. *Acarologie* **26**: 57–68.
- Hirschmann W. 1991. Die Ganggattung *Oplitis* Berlese 1884 – Artengruppen – Bestimmungstabellen – Diagnosen – (Trachyuropodini, Oplitinae). *Acarologie* **38**: 1–106.
- Hirschmann W. & Zirngiebl-Nicol I. 1973. Adultengruppen und Peritrema-Bestimmungstabelle von 51 *Oplitis*-Arten. *Acarologie* **19**: 130–135.
- Kontschán J. 2004. Uropodina mites of East-Africa (Acari: Mesostigmata) II. New *Rotundabaloghia* Hirschmann, 1975 species from Kenya. *Folia Entomol. Hung.* **65**: 5–11.
- Kontschán J. 2006a. Uropodina species from East-Africa III. A new genus and five new species of Uropodina (Acari: Mesostigmata) from Shimba Hills (Kenya). *Ann. Hist. Nat. Mus. Natn. Hung.* **98**: 159–171.
- Kontschán J. 2006b. Uropodina mites of East-Africa (Acari: Mesostigmata) I. *Opusc. Zool. Budapest* **35**: 53–62.
- Kontschán J. 2006c. Uropodina (Acari: Mesostigmata) species from Angola. *Acta Zool. Hung.* **52**: 1–20.
- Kontschán J. 2008. Description of *Metagymella masani* n. sp. from Kenya. *Biologia* **63**: 104–106. DOI 10.2478/s11756-008-0005-3
- Marais J.F. & Theron P.D. 1986. Four new species of *Neodiscopoma* Vitzthum, 1941 (Acari: Mesostigmata) from Southern Africa. *Acarologia* **27**: 211–220.
- Sellnick M. 1954. Neue Milben aus Brasilien I. *Chelonuropoda bispirata* nov. gen., nov. spec. (Acar. Urop.). *Dusenja* **5** (3–4): 195–208.
- Wiśniewski J. 1993a. Die Uropodiden der Erde nach Zoogeographischen Regionen und Subregionen geordnet (Mit Angabe der Lander). *Acarologie* **40**: 221–291.
- Wiśniewski J. 1993b. Alphabetisches Verzeichnis der Uropodiden (Gattungen, Arten, Synonyma). *Acarologie* **40**: 371–429.
- Wiśniewski J. & Hirschmann W. 1993. Katalog der Ganggattungen, Untergattungen, Gruppen und Arten der Uropodiden der Erde. *Acarologie* **40**: 1–220.

Received June 5, 2008  
Accepted January 20, 2009