



New species of *Atropacarus* (*Hoplophorella*), (Acari, Oribatida, Phthiracaridae) from the Afrotropical Region

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Abstract

Four new species of the subgenus *Hoplophorella* are described and identified from the Afrotropical region: *Atropacarus* (*Hoplophorella*) *curtisetosus* sp. nov. from Uluguru Mountains of Tanzania, *Atropacarus* (*Hoplophorella*) *distinctus* sp. nov. from Ambohitantely Special Reserve of Madagascar, *Atropacarus* (*Hoplophorella*) *othneios* sp. nov. from Ranomafana National Park of Madagascar, and *Atropacarus* (*Hoplophorella*) *stenos* sp. nov. from Nguru and Uluguru Mountains of Tanzania. A comparison with the most closely related species of the subgenus *Hoplophorella* is also presented.

Key words: Oribatid, ptyctimous mites, Phthiracaroida, new species, taxonomy, morphology, Tanzania, Madagascar

Introduction

The fauna of ptyctimous mites of the Afrotropical region is characterised by a high specificity of species and the separateness of the fauna is estimated by a high proportion of endemic and Ethiopian species. In this case, almost 85% of Phthiracaroida species do not occur outside this region. The largest number of endemites occurs in the eastern part of the Afrotropical Region, mainly in Madagascar, especially in the soil of virgin tropical forests (Mahunka 1990, Niedbała 2001).

Between 2010 and 2012, Dr V. Grebennikov (from Ottawa, Canada) collected a large number of litter and soil samples from the old forests in the Eastern part of Tanzania, particularly from the Southern Uluguru and Nguru Mountains. Also, Dr Baňář (from Brno in the Czech Republic) collected rich soil sample material from various localities in Madagascar. Both research expeditions were focused on collecting material from the litter insects found in the soil, especially Heteroptera and Coleoptera. Very rich soil mite material from these samples were kindly offered for our study. The soil samples contained four new species of the subgenus *Hoplophorella*. Their descriptions are the subjects of this contribution.

Material and methods

The soil samples were collected by using a leaf litter sifting method and were partly extracted using a Winkler apparatus. All of the extracted mite specimens were preserved in 85% ethanol, then cleared on slides with 80% lactic acid and mounted on temporary slides with glycerol. Observations, figures and measurements were made using a standard light microscope equipped with a drawing attachment. The determined materials were preserved in vials with 80% ethanol. These types are partly deposited at the Department of Animal Taxonomy and Ecology, Poznań, Poland (DATE) and partly at the Institute of Soil Biology BC ASCR, České Budějovice in the Czech Republic (ISB), as well as at the Natural History Museum, Geneva, Switzerland (NHMG). All measurements are given in micrometres. The terminology is based on Niedbała (2000).

Ventral region. (Figs. 5E–F). Setae *h* of mentum considerably shorter than distance between them. Genitoaggenital plates with 9 pairs of setae with formula: 9(4+2): 3. Anoadanal plates with short, needleform, similar in length setae, 2 anal and 3 adanal.

Legs. Formulae of setae and solenidia of “complete type”; big setae *d* on femora I distinctly remote from distal end of article.

Material examined. Holotype and 12 paratypes are deposited at DATE from locus typicus: TAN-006, Tanzania, Nguru Mts., Turiani, 5. XI. 2010, 06°06'24" S, 37°31'48" E, altitude 1236m, deciduous forest on steep slope, sample of leaf litter sifting, leg. V. Grebennikov. Eleven paratypes are deposited at ISB and ten paratypes at NHMG, from localities: TAN-007, Tanzania, Nguru Mts., Turiani, 3. XI. 2010, 06°06'24" S, 37°31'48" E, altitude 1236m, deciduous forest on steep slope, sifting sample of leaf litter, leg. V. Grebennikov, and TAN-016, Tanzania, Uluguru Mts., Bunduki village, 26. XI. 2010, 07°01'17" S, 37°39'10" E, altitude 1592m, mid-altitude afro-montane deciduous forest, sifting sample of leaf litter, leg. V. Grebennikov.

Etymology. The specific name *stenos* is Greek for “somewhat narrow” and refers to the narrow shape of notogaster.

Comparison. The new species is very similar to *A. (H.) minisetosus* (Mahunka, 1978) because of the shape of its sensilli and setae and the arrangement of its genital and anoadanal setae, but is easily distinguishable by the presence of the anterior cowl of its notogaster and its unusual arrangement of setae in row *p* of its notogaster, in that p_1 is situated above the line of p_{2-4} setae (while all the setae *p* positioned in one line in *A. (H.) minisetosus*) (Mahunka 1978).

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