

***Rotundabaloghia (Circobaloghia) nagy* sp. nov., a New Uropodina Mite Species from a Bamboo Thicket (Acari: Mesostigmata)**

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A new species (*Rotundabaloghia (Circobaloghia) nagy* sp. nov.) of the rotundabaloghid mites is described based on females and male collected in bamboo leaf litter in Cameroon. The new species differs from the other Afrotropical rotundabaloghid mites in following character combination: female genital shield with long apical process, the setae v7 and v8 long and pilose, v6 long and smooth, v2 short and needle-like, female genital, dorsal and ventral shields are ornamented by irregular pits, sternal setae short and needle-like. This character combination is unknown within the African rotundabaloghids.

Keywords: Soil mites, Uropodina, taxonomy, Cameroon.

The family Rotundabaloghidae is one of the intensively studied groups within the Uropodina mites with more than 120 described species from the tropics. The members of the large and widely distributed subgenus *Rotundabaloghia (Circobaloghia)* occur in all the tropics; *Circobaloghia* species are reported from Neotropical, Afrotropical and Oriental regions (Kontschán 2010).

The West-African sub-region is a poorly investigated part of the Ethiopian realm from rotundabaloghid mite point of view. Rotundabaloghid mites from this sub-region are presented only from Cameroon, Ghana, Republic of Congo, Ivory Coast, Togo and Sierra Leone and till today only 15 species are reported (Kontschán 2010, 2019a, 2020a, b).

During the study on the African Uropodina mites based on the investigation of the Arachnida collection of the Natural History Museum in Geneva (Kontschán and Starý 2014, 2015, Kontschán 2019a, 2020a, b, c) by the senior author, an unknown rotundabaloghid mite were found in an unsorted bamboo leaf litter sample from Cameroon, which is described as new species herein.

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Materials and Methods

Specimens of the new rotundabaloghid mite were placed into lactic acid for a week, after the investigation, all specimens are stored in ethanol and deposited in the Natural History Museum in Geneva, Switzerland (MHNG). The drawings were made with the aid of a drawing tube of Leica 1000 scientific microscope. Abbreviations: *st* = sternal setae, *ad* = adanal setae, *v* = ventral setae, *lf* = lyriform fissure, *p* = pore-like organ. All measurements and the scales in the figures are given in micrometres (μm).

Taxonomy

Rotundabaloghia (Circobaloghia) nagy sp. nov.

(Figs 1–3)

Diagnosis. Genital, sternal, dorsal and ventral shield of both gender covered by irregular pits. Setae *v2* smooth four times shorter than other ventral setae, *v6* smooth, *v7* and *v8* pilose. All sternal setae short and smooth. Female genital shield with a long apical process.

Material examined. Holotype. Female. „CAM-73/1 Cameroon, Mt. Bambonto 2650 terre „claire” dan bamboueraie *Arundinaria*, 24.III. Jean-Luc Perret coll.”. *Paratypes.* One female and one male, collection data as in holotype.

Description. Female ($n=2$). Length of idiosoma 370–380, width 330–340. Shape circular, posterior margin rounded, color reddish brown.

Dorsal idiosoma (Fig. 1). Marginal and dorsal shields fused. Dorsal setae straight, but some curved basally on central area, margins of all dorsal setae pilose (*ca* 34–41). One pair of lyriform fissure situated on central area of dorsal shield. Surface of dorsal shield covered by irregular pits (*ca* 7–11 \times 8–17).

Ventral idiosoma (Fig. 2). Sternal shield covered by some oval pits. All sternal setae short (*ca* 8–10), smooth and needle-like. Setae *st1* situated at level of anterior margin of genital shield, *st2* at level of central area of coxae III, *st3* and *st4* at level of anterior margin of coxae IV. One pair of poroid situated close to *st2*. Ventral setae *v2*, *v6* and adanal setae (*ad*) smooth and needle-like. Setae *v2* short (*ca* 8–10) and situated close to basal line of female genital shield. Setae *v6* *ca* 36–42 long, smooth and needle-like. Setae *v7* (*ca* 36–42 long) and *v8* (*ca* 28–35 long) marginally pilose. Setae *v7* and *v8* situated close to posterior end of pedofossae IV, *v6* between *v2* and *v7*. Setae *ad* shorter (*ca* 20–22) than *v6*, *v7* and *v8*, smooth, needle-like and placed lateral to anal opening. Ventral shield covered by large irregular pits.

Stigmata situated between coxae II and III. Peritremes without poststigmatid part and a longer hook-shaped prestigmatid part. Genital shield wide, scutiform (120–125 long and 67–72 wide at base), with a long (*ca* 27–32) apical process. Surface of genital shield with irregular pits. Pedofossae deep, their surface smooth, separate furrows for tarsi IV present. Base of tritosternum narrow, vase-like, tritosternal laciniae smooth, subdivided into three smooth branches in its distal half.

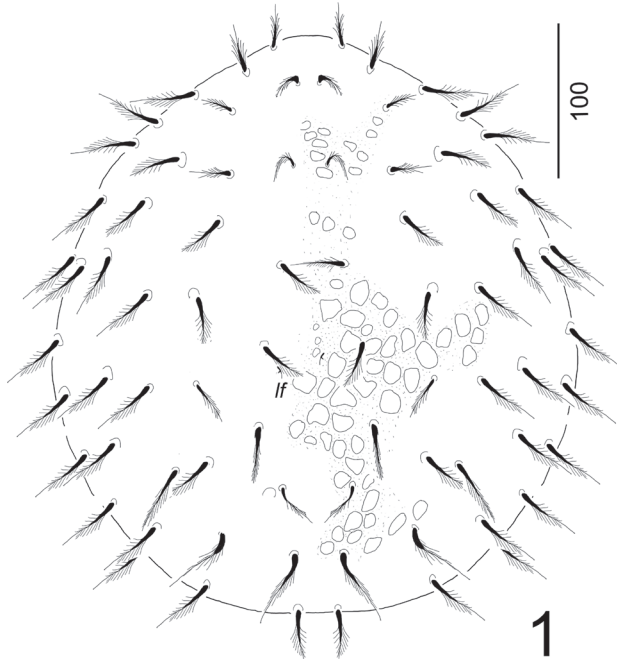


Fig. 1. Dorsal view of *Rotundabaloghia (Circobaloghia) nagy* sp. nov., female, holotype

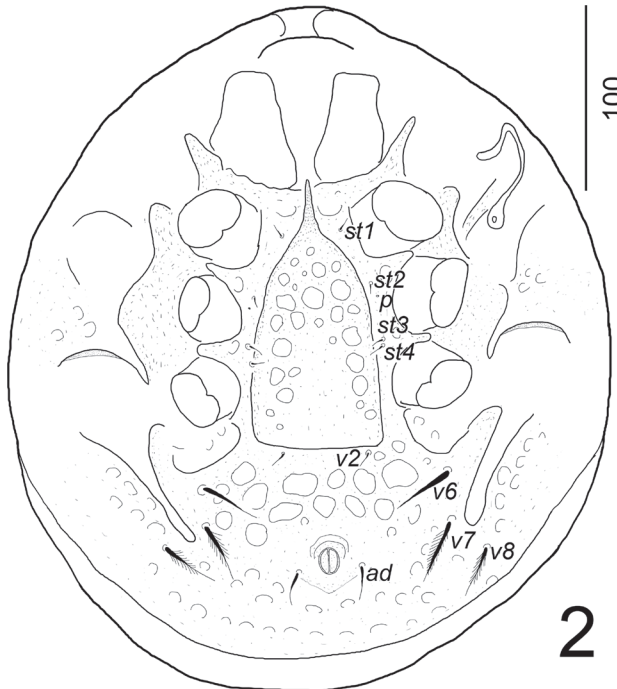


Fig. 2. Ventral view of *Rotundabaloghia (Circobaloghia) nagy* sp. nov., female, holotype

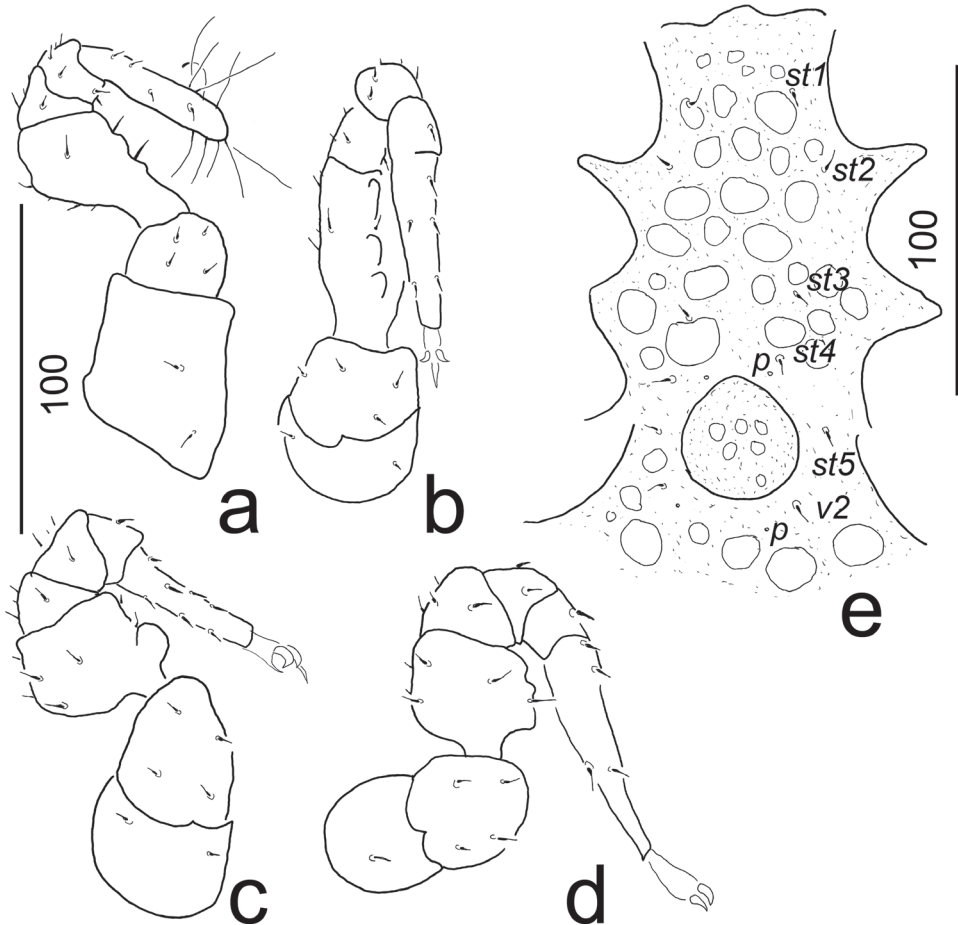
Gnathosoma. Corniculi horn-like, internal malae smooth and as long as corniculi. Hypostomal setae smooth and needle-like. Apical part of epistome marginally pilose. Palp with smooth setae. Fixed digit of chelicerae longer than movable digit and both digits bearing one central tooth. Internal sclerotized node present.

Legs (Figs 3a–d). First leg without claws and ambulacrum, all legs bearing smooth and needle-like setae. All femora bearing flap-like ventral processes. Leg I 200–210, leg II 215–220, leg III 200–210, leg IV 215–220.

Male (n = 1). Length of idiosoma 370 width 340.

Dorsal idiosoma. Ornamentation and chaetotaxy of dorsal shield as for female.

Ventral idiosoma (Fig. 3e). Four pairs of sternal setae situated anterior to genital shield, all sternal setae short (ca 8–10), smooth and needle-like. Two pairs of poroids situated on sternal shield, first pair close to *st4*, second pair close to *v2*. Surface of sternal shield covered by irregular pits. Surface of ventral shield, and shape and size of ventral



Figs 3. *Rotundabaloghia* (*Circobaloghia*) *nagy* sp. nov., female, holotype; (a) leg I in ventral view; (b) leg II in lateral view; (c) leg III in lateral view; (d) leg IV in lateral view; (e) intercoxal area of male paratype

setae as in female. Genital shield oval (37×35), surface with some oval pits and situated between coxae IV.

Larva and nymphs unknown.

Etymology. The new species is dedicated to doyen of the Hungarian plant protection zoology, the Orthoptera specialist, Dr. Barnabás Nagy (1921–2020).

Remark. The new species is similar to *R. (C.) campanellae* Hirschmann, 1992. Both species have pilose v_7 and v_8 setae, but the sternal setae are short on the new species and long on the *R. (C.) campanellae*. Setae v_2 are similar in shape and length to v_6 in the case of the known species and v_2 three or four times shorter than setae v_6 on *R. (C.) nagy*.

Notes to the habitat. In the last years some bamboo groove inhabiting Uropodina were discovered and described (Kontschán, 2019b, Kontschán et al., 2015a, b) from Asia. The African bamboo associated leaf litter dwelling mite is absolutely unknown, the now described species was mentioned on the collection label as from mount Bambonto from the thicket of bamboo *Arundinaria*. *Arundinaria* is a monotypic bamboo genus in North-America, therefore we need to suppose the above mentioned *Arundinaria* bamboo is the same as *Yushania alpina* (earlier *A. alpina*) which is native in the mountains of Cameroon and dominating dense thickets and forests on slopes between 2000–3000 m altitude also in East-African mountains.

Zoogeographical notes

The West-African sub-region of the Ethiopian realm belongs to the poorly investigated parts of the world from rotundabaloghid mite point of view. Up to now only 16 rotundabaloghid species are listed from this region. The majority of the known species are described from Cameroon (*R. (C.) campanellasimilis* Hirschmann, 1992; *R. (C.) daelei* Hirschmann, 1992; *R. (C.) masoumbouensis* Hirschmann, 1992; *R. (C.) masoumbooides* Hirschmann, 1992; *R. (C.) bueaensis* Hirschmann, 1992; *R. (C.) perstructura* Hirschmann, 1992; *R. (C.) africaguttaseta* Hirschmann, 1992; *R. (C.) camerunis* Hirschmann, 1992; *R. (C.) campanellae* Hirschmann, 1992 and the now described *R. (C.) nagy* sp. nov.). Three species are recorded from Ghana (*R. (C.) ghanaensis* Hirschmann, 1992; *R. (C.) endroedyi* Hirschmann, 1992; *R. (C.) kintampoensis* Hirschmann, 1992), one species from Republic of Congo (*R. (C.) congoensis* Hirschmann, 1992), two species from Ivory Coast (*R. (C.) browni* Kontschán, 2009 and *R. (C.) olszanowskii* Kontschán, 2020) one species from Sierra Leone (*R. (C.) leonensis* Kontschán, 2019) and one species is reported from Togo (*R. (C.) ghanaensis* Hirschmann, 1992). No other rotundabaloghid mites are presented from other countries of this sub-region.

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