**Rotundabaloghia browni** spec. nov.,
a new uropodine mite from Ivory Coast

(Acarı, Mesostigmata, Uropodina, Uropodidae)

Jenő Kontschán


One new species, *Rotundabaloghia browni* spec. nov., is described and illustrated from Ivory Coast. A key is provided for the known species of *Rotundabaloghia* that are known from West Africa.

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

**Introduction**

The genus *Rotundabaloghia* Hirschmann, 1975 is one of the richest Uropodina genera in the tropical regions (Wiśniewski 1993). Species of this genus occur in soils, mosses and leaf litter, and they are members of the canopy fauna as well. Currently, the genus contains more than one hundred species from all around the world (Wiśniewski & Hirschmann 1993; Kontschán 2004, 2005, 2006, 2007, 2008a), however our knowledge on the *Rotundabaloghia* species of the tropical regions is highly unbalanced.


**Materials and methods**

Specimens were cleared in lactic acid and later stored in alcohol. Drawings were made with a camera lucida. The specimens examined are stored in ethanol and deposited in the Collections of Soil Zoology of the Hungarian Natural History Museum (HNHM), Budapest and in the Section Arthropoda varia of Zoologische Staatssammlung München (ZSM). The nomenclature and the abbreviations follow Kontschán’s (2008) paper: h1-h4, hypostomal setae, St1-St5, sternal setae, V2, V6, V7 and V8 are the ventral idiosomal setae, ad are the adanal setae. Measurements are given in micrometres (μm).
Rotundabaloghia browni, spec. nov.  
(Figs 1-6)

Diagnosis. Dorsal, ventral, genital shields of female and sternal shield of male ornamented by alveolar sculptural pattern. Dorsal setae pilose distally, brush-like, sternal setae smooth, st2 and st3 longer than st1 and st4. Ventral setae V2, V6 and ad smooth, V7 and V8 pilose apically. Peritreme V-form.


Description

Female. Length of idiosoma 370 μm, width 310 μm (n=2). Shape subcircular, posterior margin rounded.

Dorsal side (Fig. 1). All of dorsal setae bear short hairs on their margins and dorsal shield bear alveolar ornamentation (Fig. 2).

Ventral side (Fig. 3). Sternal shield without ornamentation, all of sternal setae smooth and needle-like. St1 and St4 three times shorter than St2 and St3. St1 placed near anterior margin of genital shield, St2 can be seen near inner margin of coxae III. St3 and St4 can be found near inner margin of coxae IV. Ventral setae V2 and V6 smooth and needle-like, V2 placed near the posterolateral corners of genital shield. Margins of V7 and V8 bear short hairs. V7, V8 and V6 placed near the metapodal line. Setae ad long, as long as V7 and V8, and needle-like. Sculptural pattern of ventral shield alveolar. Stigmata situated at the level of coxae II-III. Peritreme V-shaped. Genital shield scutiform, with alveolar pattern on surface, and without process on its anterior margin. Base of tritosternum narrow, laciniae smooth and subdivided into three branches.

Gnathosoma (Fig. 5). All part of gnathosoma not clearly visible. Observable structures (corniculi, internal malae and setae h1) typical for the genus. Palp trochanter with two smooth setae, other setae of the palp smooth and simple.

Male. Length of idiosoma 370 μm, width 310 μm (n=1). Shape subcircular, posterior margin rounded.

Dorsal side. Ornamentation and setation of dorsal shield as in female. Ventral side (Fig. 10). Sternal region with five pairs of smooth and needle-like setae, St1-St4 with anterior position to genital operculum, and st5 with posterior position to operculum. Position and form of setae V2, V6, V7, V8 and ad as for female. Genital operculum alveolar and placed between coxae IV.

Gnathosoma and legs. Same as in the females.

Larvae and nymphs are unknown.

Etymology. I dedicate the new species to W. L. & D. E. Brown, who collected the specimens in Ivory Coast.

Notes. The new species belongs to the mahunkai-species group established by Hirschmann (1992b). Only three species (Rotundabaloghia campanellae, R. ghanaensis and R. rwandae) occur in West and Central Africa from this group. The most important differences between the most similar species are shown in Table 1.

Key to the West African Rotundabaloghia species

1. Ventral shield ornamented ........................................ 2
   – Ventral shield without ornamentation .................... 5
2. Genital shield of female ornamented ...................... 3
   – Genital shield of female without ornamentation .... 4
3. Setae V6, V7 and V8 pilose ...................................  
   Rotundabaloghia masoumbouoides Hirschmann, 1992 (Cameroon)
   – Setae V6, V7 and V8 smooth ............................  
   Rotundabaloghia congoensis Hirschmann, 1992 (Republic of the Congo)

Table 1. Main differences between Rotundabaloghia campanellae, R. ghanaensis and R. browni.

<table>
<thead>
<tr>
<th></th>
<th>R. campanellae</th>
<th>R. ghanaensis</th>
<th>R. browni spec. nov.</th>
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</thead>
<tbody>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peritreme</td>
<td>Mushroom-form</td>
<td>V-form</td>
<td>V-form</td>
</tr>
<tr>
<td>Genital shield</td>
<td>With anterior process</td>
<td>(only the male known)</td>
<td>Without anterior process</td>
</tr>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>st1</td>
<td>Reach to basis of st2</td>
<td>Reach to anterior margin of operculum</td>
<td>Not reach to basis of st2</td>
</tr>
<tr>
<td>st3</td>
<td>Reach to anterior margin of operculum</td>
<td>Reach to anterior margin of operculum</td>
<td>Not reach to anterior margin of operculum</td>
</tr>
</tbody>
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Figs 1-6. *Rotundabaloghia browni* spec. nov. (holotype, female) 1. dorsal view of idiosoma; 2. marginal dorsal setae and sculptural ornamentation; 3. ventral view of idiosoma; 4. ventral setae and sculptural ornamentation; 5. ventral view of gnathosoma; 6. sternal and ventral regions of paratype male (scale: a = 100 µm, b = 50 µm).

4. Setae V7 pilose, V6 and V8 smooth .......................... 
   *Rotundabaloghia camerunis* Hirschmann, 1984 (Cameroon)
   
   – Setae V6, V7 and V8 pilose ............................... 
   *Rotundabaloghia masoumbouensis* Hirschmann, 1992 (Cameroon)

5. Setae V6, V7 and V8 smooth ................................. 
   – One pair of ventral setae pilose .......................... 

6. Sternal setae long .............................................. 
   – Sternal setae short ...........................................
7. St5 and V2 shorter than V6 ...........................................
   Rotundabaloghia campanellasimilis Hirschmann, 1992 (Cameroon)
   - St5 and V2 as long as V6 ...........................................
     Rotundabaloghia kintampoensis Hirschmann, 1992 (Ghana)

8. V7 longer than V6 and V8, anal region sculp-
tured .................................................................
   Rotundabaloghia daelei Hirschmann, 1984 (Cameroon)
   - V7 as long as V8 and V6, circumanal ornamen-
tation absent ..........................................................
     Rotundabaloghia endroedyi Hirschmann, 1992 (Ghana)

9. At most one pair of ventral setae pilose ............
   Rotundabaloghia africaguttaseta Hirschmann, 1984 (Cameroon)
   - At least two pairs of ventral setae pilose ...... 10

10. V6 smooth.......................................................... 11
    - V6 pilose .......................................................... 13

11. Peritreme mushroom-like ......................................
    R. campanellae Hirschmann, 1992 (Cameroon)
    - Peritreme V-form ............................................... 12

12. St1 reaching to basis of st2.................................
    Rotundabaloghia ghanaensis Hirschmann, 1992 (Ghana)
    - St1 not reaching to basis of st2...........................
      Rotundabaloghia browni spec. nov. (Ivory Coast)

13. V2 placed near central region of operculum......
    Rotundabaloghia bueaensis Hirschmann, 1992 (Cameroon)
    - V2 placed near the posterior margin of opercu-
     lum.................................................................
      Rotundabaloghia perstructura Hirschmann, 1984 (Cameroon)

Acknowledgements

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