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

(Acari, 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.

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**Introduction**

The genus **Rotundabaloghia** Hirschmann, 1975 is one of the richest Uropodina genera in the tropical regions (Wiśniowski 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 (Wiśniowski & Hirschmann 1993; Kontschán 2004, 2005, 2006, 2007, 2008a), however our knowledge on the **Rotundabaloghia** species of the tropical regions is highly unbalanced.

The first **Rotundabaloghia** species were presented from West Africa by Hirschmann (1984), who described four new species from Cameroon, three of them from Mt. Koupe (**R. africaguttaseta** Hirschmann, 1984, **R. daelei** Hirschmann, 1984 and **R. perstructure** Hirschmann, 1984) and one of them from Mount Oku (**R. camerunis** Hirschmann, 1984). Some years later Hirschmann (1992a) described nine new species from this region. Three species (**R. endroedyi** Hirschmann, 1992, **R. ghanaensis** Hirschmann, 1992 and **R. kintampoensis** Hirschmann, 1992) were found in Ghana, five species (**R. buaensis** Hirschmann, 1992, **R. campanella** Hirschmann, 1992, **R. campanellae** Hirschmann, 1992, **R. campanellae similis** Hirschmann, 1992, **R. masoumbouensis** Hirschmann, 1992 and **R. masoumbouoides** Hirschmann, 1992) from Cameroon and one species (**R. congoensis** Hirschmann, 1992) from Republic of Congo. Recently Kontschán (2008b) presented a new record of **R. congoensis** from Republic of Congo. The species of the genus **Rotundabaloghia** are unknown from the other West African countries. Present paper consists of the first record of the genus in Ivory Coast with the description of a new species.

**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 analan 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.

**Material examined.** Holotype: Female. Ivory Coast, Nzi Noua, N. of Ndouci, degradeate forest, from decayed tree, 13.01.1977, leg. W. L. & D. E. Brown (HNHM). Paratypes: female (ZSM) and male (HNHM). Locality and date same as in holotype.

**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

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<tr>
<td>2. Genital shield of female ornamented</td>
<td>Mushroom-form</td>
<td>V-form</td>
<td>V-form</td>
</tr>
<tr>
<td>3. Setae V6, V7 and V8 pilose</td>
<td>With anterior process</td>
<td>(only the male known)</td>
<td>Without anterior process</td>
</tr>
<tr>
<td>4. Setae V6, V7 and V8 smooth</td>
<td>Reach to basis of st2</td>
<td>Reach to basis of st2</td>
<td>Not reach to basis of st2</td>
</tr>
<tr>
<td>5. Setae V6, V7 and V8 smooth</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>
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### Table 1. Main differences between *Rotundabaloghia campanellae*, *R. ghanaensis* and *R. browni*.

- Legs. All legs with a pair of ambulacrual claws and with smooth simple setae.

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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 .......................6
   – One pair of ventral setae pilose ..................9

6. Sternal setae long ................................7
   – Sternal setae short .............................8
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 sculptured ..................
   Rotundabaloghia daelei Hirschmann,
   1984 (Cameroon)
   - V7 as long as V8 and V6, circumanal ornamentation 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)

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References

Rotundabaloghia-Arten aus Rwanda, Kolumbien und Kamerun (Dinychini, Uropodinae). Acarologie.
Schriftenreihe für Vergleichende Milbenkunde 31, 25-32.
     Kamerun, Kongo, Rwanda, Tanzania) (Dinychini, Uropodinae). Acarologie. Schriftenreihe für Ver-
     gleichende Milbenkunde 39, 25-45.
   - 1992b. Gangsystematik der Parasitiformes. Teil 537. Adultengruppen, Verzeichnisse der 129 Rotundaba-
     loghia-Arten (Dinychini, Uropodinae). Acarologie. Schriftenreihe für Vergleichende Milbenkunde 39,
     96-99.

Kontschán, J. 2004. Uropodina mites of East Africa
   (Acari: Mesostigmata) II. New Rotundabaloghia
   Hirschmann, 1975 species from Kenya. Folia Ento-
   mologica Hungarica 65, 5-11.
   - 2005. New Rotundabaloghia Hirschmann, 1975 spe-
     cies (Acari: Mesostigmata: Uropodina) from the
     Dominican Republic. Annales Historico-Naturales
     Musei Nationalis Hungarici 97, 241-249.
   - 2006. Uropodina (Acari: Mesostigmata) species
     from Angola. Acta Zoologica Academiae Scientia-
     rum Hungaricae 52, 1-20.
     species from Cuba (Acari: Mesostigmata: Uropo-
   - 2008a. Four new species of Rotundabaloghia Hirs-
     Zootaxa 1853, 18-30.
   - 2008b. New and rare Rotundabaloghia species (Aca-
     ri: Uropodina) from the tropics. Opuscula Zoolo-
     gica Budapest 39, 15-41.

   Teil 549. Die Uropodiden der Erde nach Zoogeogra-
   phischen Regionen und Subregionen geordnet
   (Mit Angabe der Lande). Acarologie. Schriftenreihe
   für Vergleichende Milbenkunde 40, 221-291.
   - & Hirschmann, W. 1993. Gangsystematik der Pa-
     rasitiformes. Teil 548. Katalog der Ganggattungen,
     Unterfamilien, Gruppen und Arten der Uropo-
     diden der Erde. Acarologie. Schriftenreihe für Ver-
     gleichende Milbenkunde 40, 1-220.
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