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Notes on the genus *Latotutulioplitis* HIRSCHMANN, 1984, with the description of *Latotutulioplitis janae* n. sp. from Nigeria (Acari: Uropodina: Oplitidae)

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ABSTRACT. All of the previously described *Latotutulioplitis* HIRSCHMANN, 1994 species are listed accompanied by a key to the species. Short diagnosis about the genus is presented. A new species (*Latotutulioplitis janae* n. sp.) is described from Nigeria on the basis of the samples stored in the collection of the Natural History Museum, London. The new species differs from the other *Latotutulioplitis* species in the ornamentation of ventral and sternal shield and the position of the sternal setae.

Key words: acarology, taxonomy, Uropodina, *Latotutulioplitis*, new species, taxonomy, Nigeria.

INTRODUCTION

WERNER HIRSCHMANN, the noted Uropodina researcher established a new species group (*latotutuli* group) in the genus *Oplitis* for eight new and three already known species (HIRSCHMANN 1984a). The eight new species (*O. latotutuli* HIRSCHMANN, 1984; *O. ootutuli* HIRSCHMANN, 1984; *O. labyrinthi* HIRSCHMANN, 1984; *O. tutuli* HIRSCHMANN, 1984, *O. irae* HIRSCHMANN, 1984; *O. radiata* HIRSCHMANN, 1984; *O. angustifolia* HIRSCHMANN, 1984 and *O. latifolia* HIRSCHMANN, 1984) were described from Cameroon, while the other three species earlier described species were presented from East-Africa (*O. retrobarbatula* (BERLESE, 1916) and *O. szunyeghyi* HIRSCHMANN, 1983) and Angola (*O. natalensis* (MARAIS & LOOTS, 1981)).

In another publication that appeared in the same volume, HIRSCHMANN (1984b) erected a new genus (*Latotutulioplitis* HIRSCHMANN, 1984) and moved the previously

mentioned species into the new genus. Some years later, when HIRSCHANN (1991) made a revision of the *Oplitis* species where three species from the region Ethiopian East placed into other species groups. In this revision, the genus *Latotutulioplitis* was not presented, and later monographs of the Uropodina mites omitted this genus (WIŚNIEWSKI & HIRSCHANN 1993, WIŚNIEWSKI 1993a). More than ten years later, KONTSCHÁN (2006) found a new species from this group in Kenya. He placed it in the genus *Latotutulioplitis* and composed a new key to the adult species.

The author spent ten days in the Arachnida collection of the Natural History Museum London, where he found one female specimen of a new *Latotutulioplitis* species, which is described herein.

#### MATERIALS AND METHODS

Specimens were cleared in lactic acid and later stored in alcohol. Drawings were made with the aid of a drawing tube. Specimens examined are deposited in the Arachnida collection of Natural History Museum, London, UK. Abbreviations: h1-h4, hypostomal setae, St1-St5, sternal setae. Measurements are given in micrometres ( $\mu\text{m}$ ), width of idiosoma was taken at the level of coxae IV.

#### RESULTS

##### *Latotutulioplitis* HIRSCHMANN, 1984

*Latotutulioplitis* HIRSCHMANN 1984b: 175.

*Latotutulioplitis* KONTSCHÁN 2006: 165.

as *latotutuli* group: HIRSCHMANN 1984a: 156-162.; HIRSCHMANN 1991: 30-32; WIŚNIEWSKI & HIRSCHANN 1993: 54.

DIAGNOSIS: Idiosoma oval, dorsally domed, marginal and dorsal shield fused anteriorly. All of dorsal setae short, with or without basal prolongations. Genital shield of female linguliform, without perigenital line, sternal setae with additional setae. Peritremes R-shaped or labyrinth-shaped. Tritosternum with vase-like basis, its laciniae subdivided into four or two pilose branches. Corniculi horn-like, internal malae subdivided into several pilose branches. Chelicerae with internal sclerotized nodes. First leg with ambulacral claws and with smooth setae.

SYSTEMATIC POSITION: The genus *Latotutulioplitis* belongs to the family Oplitidae, on the basis of the subdivided and pilose internal malae, the internal sclerotised nodes of chelicerae and the smooth dorsal surface (LINDQUIST ET AL. 2009).

#### LIST OF THE *LATOTUTULIOPLITIS* SPECIES

##### *Latotutulioplitis latotutuli* (HIRSCHMANN, 1984)

*Oplitis latotutuli* HIRSCHMANN, 1984: 162-164.

*Oplitis latotutuli*: HIRSCHMANN 1991: 30-32., WIŚNIEWSKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis latotutuli*: HIRSCHMANN 1984b: 175., KONTSCHÁN 2006: 167.

DISTRIBUTION: Cameroon, Mt Koupé.

***Latotutulioplitis ootutuli* (HIRSCHMANN, 1984)**

*Oplitis ootutuli* HIRSCHMANN, 1984: 169-170.

*Oplitis ootutuli*: HIRSCHMANN 1991: 30-32., WIŚNIESKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 390.

*Latotutulioplitis ootutuli*: HIRSCHMANN 1984b: 175., KONTSCHÁN 2006: 167.

DISTRIBUTION: Cameroon, Mt Koupé.

***Latotutulioplitis labyrinthi* (HIRSCHMANN, 1984)**

*Oplitis labyrinthi* HIRSCHMANN, 1984: 166-169.

*Oplitis labyrinthi*: HIRSCHMANN 1991: 30-32., WIŚNIESKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis labyrinthi*: HIRSCHMANN 1984b: 175., KONTSCHÁN 2006: 166.

DISTRIBUTION: Cameroon, Mt Koupé.

***Latotutulioplitis tutuli* (HIRSCHMANN, 1984)**

*Oplitis tutuli* HIRSCHMANN, 1984: 170-171.

*Oplitis tutuli*: HIRSCHMANN 1991: 30-32., WIŚNIESKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis tutuli*: HIRSCHMANN 1984b: 175., KONTSCHÁN 2006: 167.

DISTRIBUTION: Cameroon, Mt Koupé.

***Latotutulioplitis irae* (HIRSCHMANN, 1984)**

*Oplitis irae* HIRSCHMANN, 1984: 164-165.

*Oplitis irae*: HIRSCHMANN 1991: 30-32., WIŚNIESKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis irae*: HIRSCHMANN 1984b: 175.

DISTRIBUTION: Cameroon, Nkolbisson.

NOTE. The adult stage of this species is unknown; HIRSCHMANN (1984a) described it only on the basis of larvae, proto- and deutonymphs.

***Latotutulioplitis radiata* (HIRSCHMANN, 1984)**

*Oplitis radiata* HIRSCHMANN, 1984a: 171-172.

*Oplitis radiata*: HIRSCHMANN 1991: 30-32., WIŚNIESKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 390.

*Latotutulioplitis radiata*: HIRSCHMANN 1984b: 175.

DISTRIBUTION: Cameroon, Mt Koupé.

NOTE. Only male specimens are known.

***Latotutulioplitis angustifolia* (HIRSCHMANN, 1984)**

*Oplitis angustifolia* HIRSCHMANN, 1984a: 173.

*Oplitis angustifolia*: HIRSCHMANN 1991: 30-32., WIŚNIEWSKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis ootutuli*: HIRSCHMANN 1984b: 175.

DISTRIBUTION: Cameroon, Mt Koupé.

NOTE. The adult stage of this species is unknown; HIRSCHMANN (1984a) described it on the basis of larvae.

***Latotutulioplitis latifolia* (HIRSCHMANN, 1984)**

*Oplitis latifolia* HIRSCHMANN, 1984a: 173.

*Oplitis latifolia*: HIRSCHMANN 1991: 30-32., WIŚNIEWSKI & HIRSCHANN 1993: 54., WIŚNIEWSKI 1993a: 243., WIŚNIEWSKI 1993a: 389.

*Latotutulioplitis ootutuli*: HIRSCHMANN 1984b: 175.

DISTRIBUTION: Cameroon, Mt Koupé.

NOTE. The adult stage of this species is unknown; HIRSCHMANN (1984a) described it on the basis of larvae.

***Latotutulioplitis kenyaensis* KONTSCHÁN, 2006**

*Latotutulioplitis kenyaensis* KONTSCHÁN, 2006: 165-166.

DISTRIBUTION: Kenya, Shimba-hills.

***Latotutulioplitis janae* n. sp.**

(Figs 1-9)

DIAGNOSIS

Sternal and ventral shields bearing small alveolar pits, ventral shield laterally covered by tile-like pattern. Genital shield linguliform, without sculptural pattern. Peritremes R-shaped. Tarsi of legs II-IV bearing setiform and robust setae, all of legs with ambulacral claws.

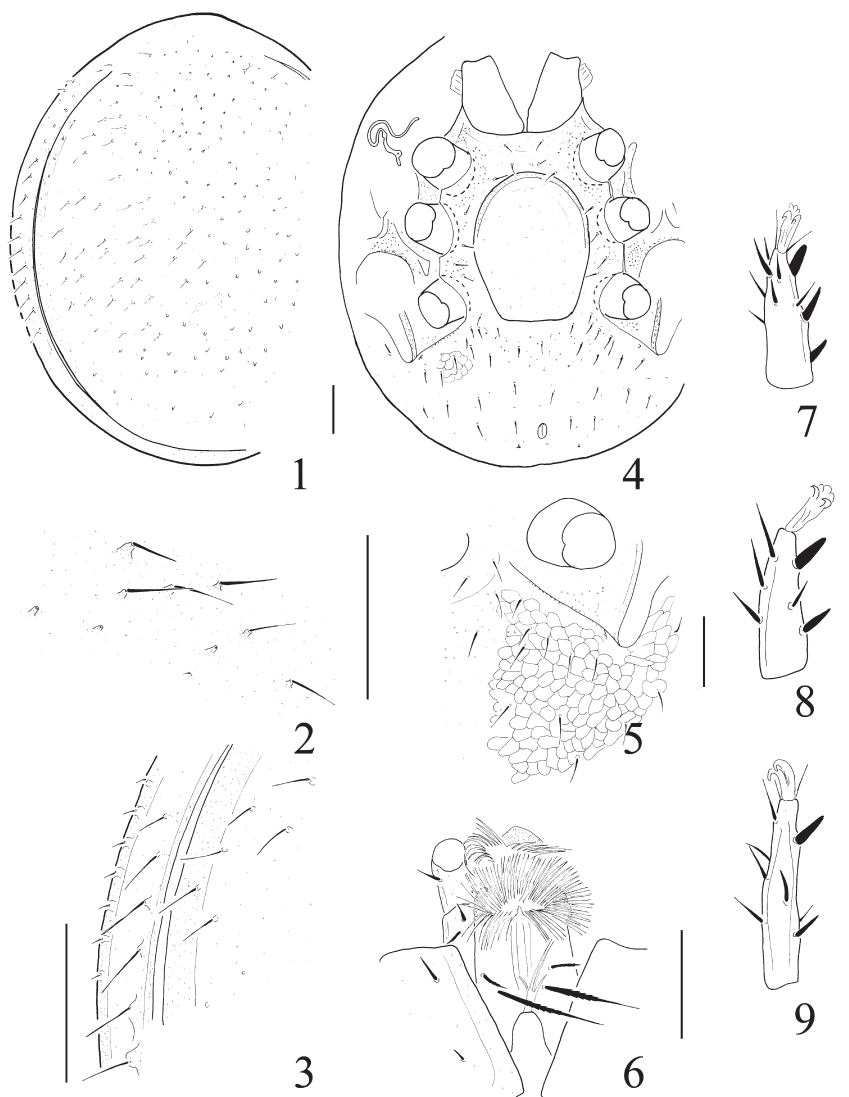
MATERIAL EXAMINED

Holotype: Female. Nigeria, Ahmed Bello University, Zaria, Botany Garden, from litter, 29.06-15.08.1968. leg. John Lewis. The holotype stored in alcohol and deposited in the Arachnida collection of Natural History Museum, London, UK.

## DESCRIPTION

Female. Length of idiosoma 870  $\mu\text{m}$ , width 730  $\mu\text{m}$  (n=1). Shape oval, posterior margin rounded.

Dorsal idiosoma (Fig. 1). Marginal and dorsal shields fused anteriorly. Dorsal shield bearing smooth and needle-like setae placed on small protuberances (Fig. 2).



1-9. *Latotutulioplitis janae* n. sp. 1 – female, holotype dorsal view, 2 – dorsal setae, 3 – dorsal and marginal setae, 4 – ventral view, 5 – ornamentation of ventral shield, 6 – ventral view of gnathosoma, 7 – tarsus of leg II, 8 – tarsus of leg III, 9 – tarsus of leg IV (scale bar: 100  $\mu\text{m}$ )

Setae on marginal shield similar in shape and length to dorsal setae. Setae on margins of idiosoma needle-like and five times shorter than setae on marginal shield (Fig. 3). Surface of dorsal and marginal shields smooth.

Ventral idiosoma (Fig. 4). Sternal shield bearing small alveolar pits near coxae. Sternal shield bearing smooth and needle-like setae, a couple of supplementary setae present. St1 placed near anterior margin of sternal shield, St2 and St3 near anterior margin of genital shield, St4 situated between coxae II and III, St5, St6 and St7 between coxae III and IV. Ventral shield hypertrichous, ventral setae similar in shape and length to sternal setae. Adanal and postanal setae absent. One pair of lyriform fissures placed near pedofossae, one pair of lyriform fissures can be seen near anal platelets. Ventral shield bearing tile-like ornamentation and small alveolar pits laterally (Fig. 5). Stigmata situated between coxae II and III, peritremes R-shaped. Genital shield linguliform, without sculptural pattern and without anterior process. Tritosternum with narrow basis, laciniae subdivided into four branches (Fig. 6).

Gnathosoma (Fig. 7). Corniculi horn-like, internal malae subdivided into several branches. Hypostomal setae as follows: h1 not clearly visible, covered by branches of internal malae, h2 short and serrate, h3 long and marginally serrate, h4 not clearly visible, covered by coxae I. Trochanter of palp with one smooth and one serrate setae. Epistome not clearly visible, its apical part bearing long branches.

Legs (Figs 8-10). All legs with ambulacral claws and smooth and needle-like setae, except tarsi of legs II-IV, where several robust setae can be found.

#### ETYMOLOGY

I dedicate the new species to Mrs Janet BECCALONI for her kind hospitality during my study in London.

#### NOTES

The tile-like sculptural pattern on ventral shield, the small alveolar pits on sternal and ventral shields, and the position of sternal setae are unique in the genus *Latotutulioplitis*.

#### KEY TO THE ADULTS *LATOTUTULIOPLITIS* SPECIES

- |   |                      |
|---|----------------------|
| 1. Peritremes labyrinth-shaped .....                          | <i>L. labyrinthi</i> |
| – Peritremes R-shaped .....                                   | 2                    |
| 2. Dorsal setae placed on small protuberances .....           | 3                    |
| – Dorsal setae without protuberances .....                    | 4                    |
| 3. Small alveolar pits on sternal and ventral shields .....   | <i>L. janae</i>      |
| – Dorsal and sterna shields without small alveolar pits ..... | <i>L. kenyaensis</i> |
| 4. Dorsal setae smooth .....                                  | <i>L. ootutuli</i>   |
| – Dorsal setae not smooth .....                               | 5                    |
| 5. Sternal shield with seven pairs of sternal setae .....     | <i>L. tutuli</i>     |
| – Sternal shield with six pairs of sternal setae .....        | 6                    |

6. Length of idiosoma approximately 780  $\mu\text{m}$  ..... *L. latotutuli*  
 –. Length of idiosoma approximately 1080  $\mu\text{m}$  ..... *L. radiata*

## ZOOGEOGRAPHICAL AND ECOLOGICAL NOTES

First species of the genus *Latotutulioplitis* were described from West Africa, from Cameroon (HIRSCHMANN 1984b). More than twenty years later they were reported from East Africa (KONTSCHÁN 2006) as well, and today the known species are known to occur in all of tropical Africa. Presumably this genus is endemic to the African continent. The West African species were presented from the tropical rain forests in Cameroon; the Nigerian species was collected in a botanic garden, and the East African species was found in an extraordinary region of East Africa, the Shimba hills, where East-African rain forests can be found. My assumption is that the species of this genus are associated to the wet and warm tropical forest, where they inhabit in the soil and leaf litter.

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