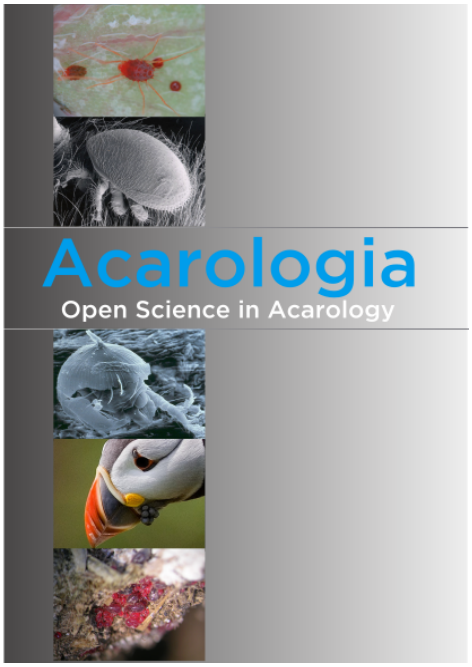

Acarologia

A quarterly journal of acarology, since 1959
Publishing on all aspects of the Acari

All information:

http://www1.montpellier.inra.fr/CBGP/acarologia/
acarologia-contact@supagro.fr

OPEN ACCESS

Acarologia is proudly non-profit,
with no page charges and free open access

Please help us maintain this system by
encouraging your institutes to subscribe to the print version of the journal
and by sending us your high quality research on the Acari.

Subscriptions: Year 2020 (Volume 60): 450 €
http://www1.montpellier.inra.fr/CBGP/acarologia/subscribe.php
Previous volumes (2010-2018): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France
ISSN 0044-586X (print), ISSN 2107-7207 (electronic)

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d'avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

SOME ORIBATEI FROM GHANA. IV. THE GENUS *BASILOBELBA* BALOGH

BY

John A. WALLWORK.

(Department of Zoology, University College of Ghana) [1].

INTRODUCTION

In a recent (1959) publication Dr. GRANDJEAN has given a comprehensive description of a new genus and new species of Oribatid mite, *Hammation sollertius*, from a specimen collected in Queensland, Australia. It is now almost certain that this is a synonym of *Damaeus retiarius* Warb. 1912, which BALOGH has selected as the type for a new genus, *Basilobelba* Balogh 1958.

I have collected 33 specimens of this genus from six different sampling localities in Ghana. My collections comprise two distinct species, one of which closely resembles GRANDJEAN'S description of *Hammation sollertius* and is here considered as a new combination, *Basilobelba retiarius* ; the other is described below as a new species, *Basilobelba africana*.

Basilobelba retiarius (Warb.) n. comb. (Fig. 6).

Three individuals of this species were found in the same sampling locality and were the only representatives of the genus in this locality. Two were definitely identified as females, each containing two large elongate eggs. One specimen has a length of 425 μ, the other two are smaller (400 μ). Tritonymphal and deutonymphal scalps are present in one specimen ; in the second only the tritonymphal scalp remains, while in the third all scalps are missing.

Tritonymphal hairs c_1 and c_2, inserted on the buckle attachment of the tritonymphal scalp, are present on both sides in two of the three specimens ; tritonymphal hair c_2 is lacking on the right side in the third specimen. Adult hairs c_1 and c_2 are lacking in all three specimens. Deutonymphal hairs c_1 and c_2 are

1. Present address : *Department of Zoology, University of Kentucky, U. S. A.*

in the usual locations, but differ in appearance from the corresponding hairs in Grandjean's description in that c_1 carries two thick branches and is deeply forked, and c_2 has five short thick branches (Fig. 6) instead of fine spines. There is no appreciable size difference between these two hairs in the Ghanaian specimen. The features of the ventral surface of the body have much in common with GRANDJEAN'S description. One slight difference is the presence, in only one of the specimens from Ghana, of an additional hair on the ventral plate in the adanal region, inserted postero-laterally to the fissure in this region. This hair is unpaired and appears only on the left side of the animal. It is present also in *B. africana* where it is paired.

Distribution of *B. retiarius* in Ghana : Nsawam (2 mi. N. on Bunso Road) (3 adults).

Basilobelba africana n. sp. (Figs. 1-5 & 7-9).

Collected in Ghana : 30 adults.
Average length : 440 μ (range : 426 μ-497 μ).
Average width : 279 μ (range : 248 μ-319 μ).

This species appears to be larger than *B. retiarius*, although the number of specimens of the latter is too small for a satisfactory comparison. The body is enveloped in a cerategument which appears amorphous when viewed under low magnification, dirty white or grey in colour, variable in thickness, especially noticeable around the lateral margins of the prodorsum, around the rostrum, the humeral regions of the notogaster, and the proximal portions of the legs. It is absent from the centro-dorsal portion of the notogaster, which is covered by nymphal skins, from the distal portions of the legs, and from the sensillus. It covers the ventral region as a thin sheet. Fungal hyphae and spores are attached to this cerategument in many places.

Integument is brown in colour, a darker brown than that of the specimens of *B. retiarius* examined. Light areas of weak chitinisation are present on the integument particularly near the lateral and posterior margins of the notogaster (Fig. 3).

The general form of the prodorsum is similar to that of *B. retiarius*. Rostral hairs are inserted laterally on the rostrum, smooth, strongly elbowed near the base. Lamellar hairs inserted dorsally just behind the rostrum, with several rows of thick blunt barbs on the basal portion of each hair ; a single row of these barbs continues along the distal half of the hair (Fig. 4). Each lamellar hair in *B. retiarius* carries a single row of thin spines. Interlamellar hairs of *africana* have slightly longer barbs than those in *retiarius*. Sensillus is long and flagelliform, with two rows of fine pointed barbs.

Surface features of the notogaster can be seen after removal of the nymphal scalps (Fig. 3). Anterior margin of notogaster is straight, lateral and posterior margins rounded and strongly convex. There are eight pairs of dorso-lateral

notogastral hairs ; GRANDJEAN'S specimen of *H. sollertius* carries ten pairs of such hairs, whereas the Ghanaian specimens of *retiarius* carry nine pairs. The adult hair c_2, which is present on one side in *H. sollertius*, is absent from both of the Ghanaian species. In addition another pair of hairs is missing from the dorso-lateral region of the notogaster in *B. africana*. It is difficult to know with certainty which of the three pairs of hairs, la, lm, lp, is the missing one, although the

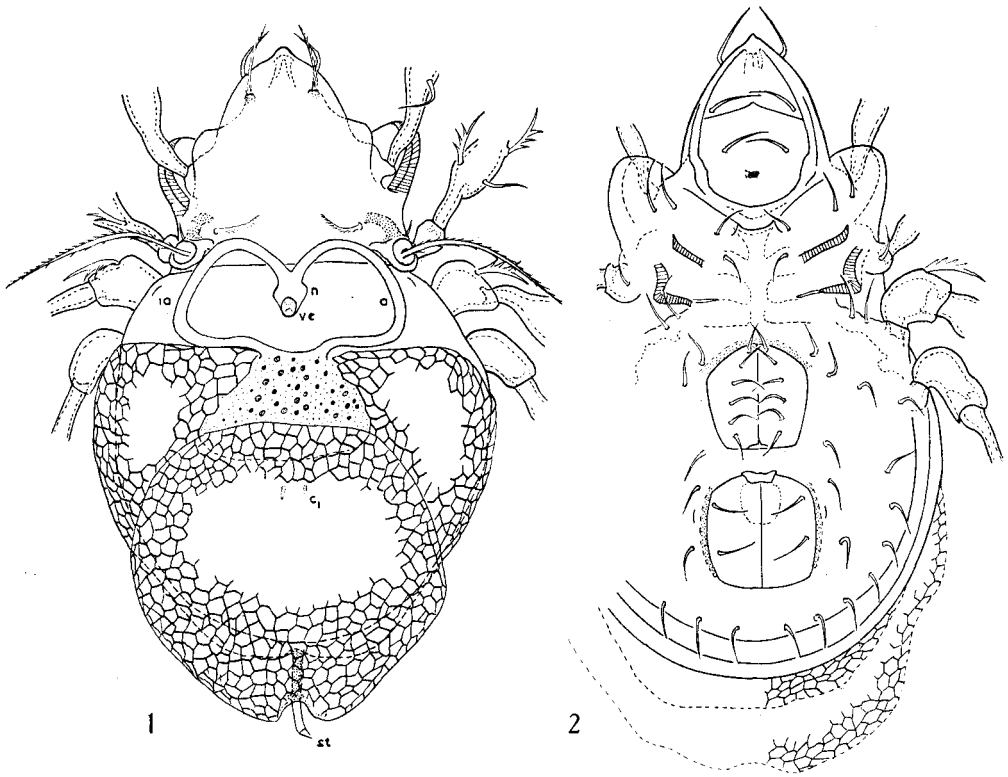

FIG. 1-2. *Basilobelba africana* n. sp. Adult.
(1) Dorsal view. Tritonymphal and deutonymphal scalps in place. ia = fissure ; ve = notogastral tubercle ; n = thong of buckle attachment ; a = arms of buckle attachment ; c_1 = notogastral hair on deutonymphal scalp ; st = stylet ; (2) Ventral view. Tritonymphal and deutonymphal scalps in place.

positions of the remaining hairs indicate that the pair lp is lacking. Hairs la and lm are frequently closer together than in *B. retiarius*, although the distance between them is rather variable. Hairs h_1-h_3 and ps_1-ps_3 occupy similar positions in both species. All notogastral hairs are short and thick, narrowing to a sharp point distally, surface roughened, and with very prominent insertions (Fig. 5). They are very similar to those of *B. retiarius* in appearance. The aperture of the lateral abdominal gland is visible in dorsal view, as are the fissures ia and im. The main features of the ventral surface are shown in Figure 2. Anterior tip

of the rostrum narrows almost to a point, curving ventrad ; the elbowed form of the rostral hairs can be seen clearly from the ventral side. Hairs on the ventral surface of the gnathosoma are longer than in *B. retiarius*, the distal parts of the hairs on each side overlapping. Hairs on the epimeres, genital and anal plates, as in *B. retiarius*. Ten pairs of hairs on the ventral plate, compared with eleven in *retiarius* ; these are shown in Figure 2. Their arrangement differs in some

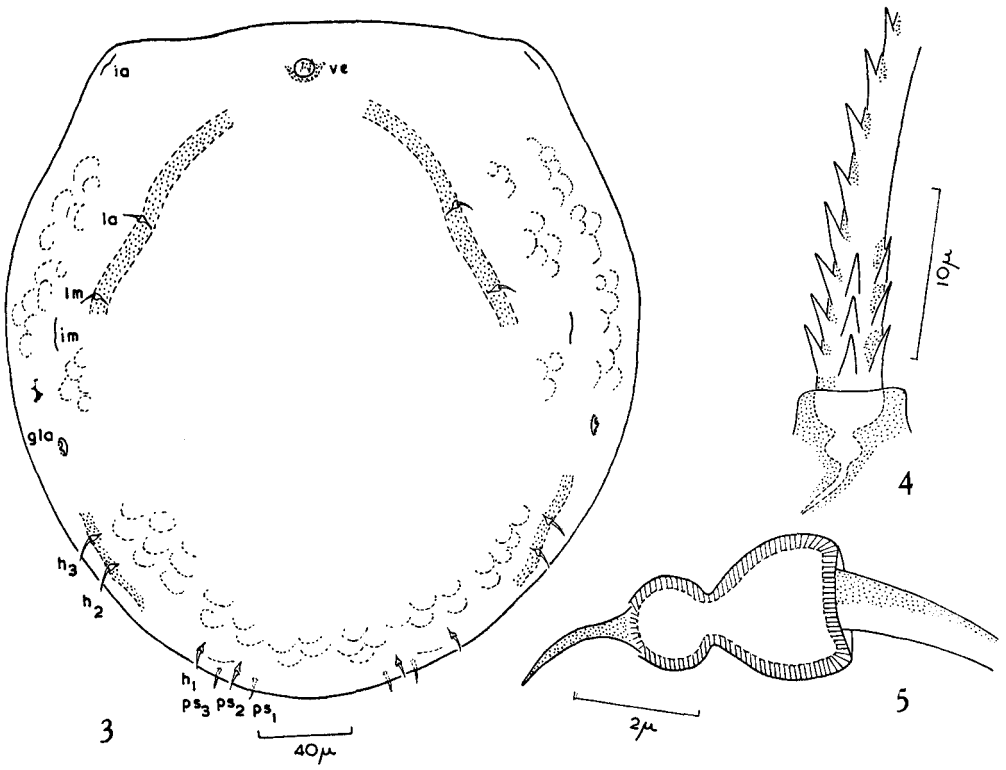

FIG. 3. *Basilobelba africana* n. sp. Adult.
Dorsal view of notogaster. ve = notogastral tubercle ; la, lm, h_1, h_2, h_3, ps_1, ps_2, ps_3 = notogastral hairs ; ia, im = fissures ; gla = aperture of lateral abdominal gland. — FIG. 4, lamellar hair. — FIG. 5, insertion of notogastral hair.

respects from that in *retiarius*. One pair is lacking in the aggenital region (this is the most anterior pair on the ventral plate in *retiarius*, if we assume the epimeral setal formula to be 3-1-3-3) ; another pair, inserted in the region of the ventral plate between the genital and anal apertures in *B. retiarius*, is lacking in *africana*. An additional pair of hairs is present in *B. africana* in the adanal region, inserted postero-laterally to the fissure. A single hair, on the left side only, is present in this region in the Ghanaian specimens of *retiarius* (see earlier). The peripheral hairs on the abdomen are similar to those of *retiarius*, but are inserted nearer the lateral and posterior margins.

The mandible corresponds to GRANDJEAN'S drawing of that of *H. sollertius* in most respects, although the spines on the dorsal contour are slightly larger in *B. africana*.

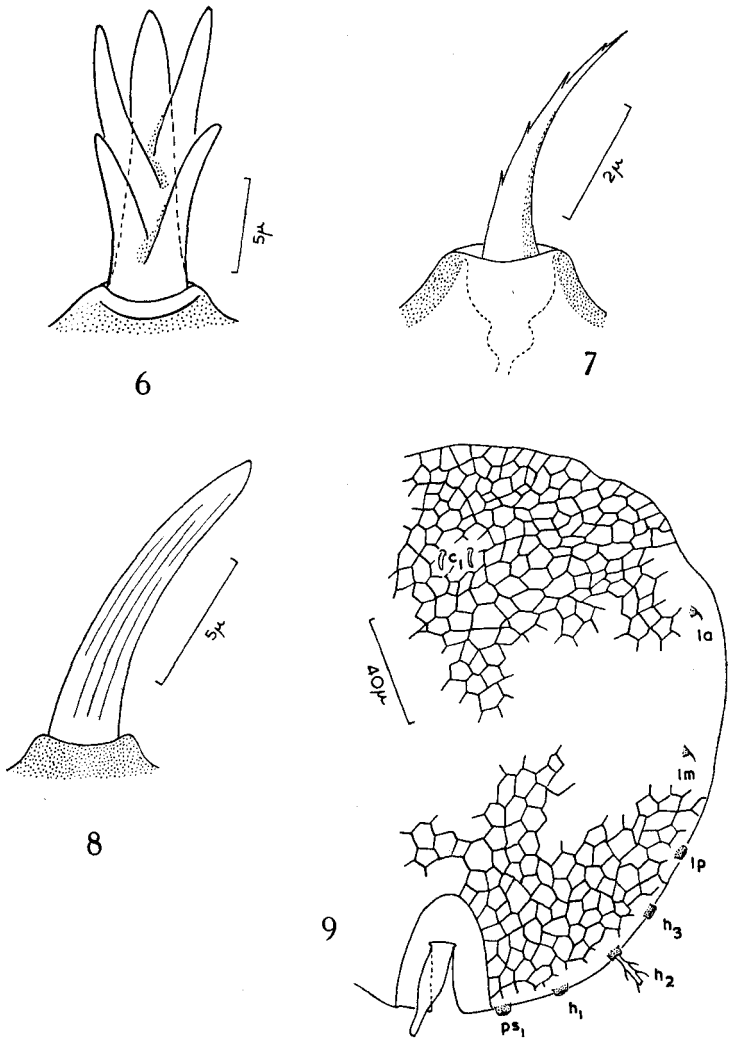

FIG. 6. *Basilobelba retiarius* (Warb.). Deutonymphal hair c_2. — FIG. 7. *Basilobelba africana* n. sp. Tritonymphal hair la. — FIG. 8. *Basilobelba africana* n. sp. Deutonymphal hair c_1. — FIG. 9. *Basilobelba africana* n. sp. Deutonymphal scalp. Dorsal view. c_1, la, lm, lp, h_1, h_2, h_3, ps_1 = notogastral hairs.

The legs were examined in some detail and compared with Grandjean's description ; only minor differences were discovered between the two species. Solenidion ωp on tarsus I is almost as long as the compound hair ft', i. e. relatively longer than in *H. sollertius*, and with the distal portion of the solenidion showing

stronger curvature. The tactile hair φ on tibia IV is relatively longer than in *H. sollertius*, being as long as the compound hair d. The legs of the Ghanaian specimens of *B. retiarius* have not yet been examined.

Deutonymphal and tritonymphal scalps remain attached to each other and are retained on the notogaster by the heart-shaped buckle connection of the tritonymphal scalp with the notogaster (Fig. 1). The form of this buckle differs slightly from that of *retiarius* in that the thong or „ laniere " (denoted by the letter " n " in GRANDJEAN'S description) which forms the common attachment stem of the buckle, is shorter and more compact in *B. africana*. Although this difference is only slight, it is distinct and appears to be constant. The two scalps are connected to each other posteriorally by the short penetration of the stylet of the tritonymphal horn into the open base of the deutonymphal style at the junction of this style and the deutonymphal tongue, as GRANDJEAN has suggested. The five pairs of hairs ps_1, h_1, h_2, h_3, lp, on the posterior margins of deutonymphal and tritonymphal scalps are almost completely lacking in all specimens, although their insertions are clearly seen to occupy similar positions to those in *retiarius* (Fig. 9). Occasionally a fragment of hair remains ; this is barbed as in *retiarius*. The tritonymphal scalp carries fourteen hairs, c_1 and c_2 are never present, la and lm are very short and minutely barbed (Fig. 7), inserted near the lateral margins of the scalp ; they are much shorter than the corresponding hairs in *H. sollertius* which are almost as long as those on the posterior margin. Deutonymphal scalp usually carries sixteen hairs, five pairs posteriorally and two pairs laterally being similar to the corresponding hairs on the tritonymphal scalp. Deutonymphal hairs c_1 are present near the anterior margin mid-dorsally (Fig. 1). The hairs of this pair are situated close together (although the distance between them is rather variable), and differ in form from the other hairs on the scalp (Fig. 8). They are striated, relatively thick throughout their length, narrowing abruptly to a point at the tip, smooth, curving posteriad over the scalp like a pair of very short horns. Very occasionally a second pair of hairs (c_2) is present in this region, similar in appearance to c_1.

Distribution in Ghana : Essuboni (24 adults) ; Dompim (1 adult) ; Aburi (1 adult) ; Numia (2 adults) ; W. shore of Lake Bosumtwi (2 adults).

Several of the specimens were gravid females, each containing 2 or 3 large elongate eggs.

REFERENCES

BALOGH (J.), 1958. — Oribatides nouvelles de l'Afrique tropicale. *Rev. Zool. Bot. Afr.* 58 : 1-34.

GRANDJEAN (F.), 1953. — Essai de classification des Oribates (Acariens). *Bull. Soc. Zool. France*, t. 78 : 421-446.

— 1959. — *Hammation sollertius* n. g., n. sp., (Acarien, Oribate). *Mém. Mus. nat. Hist. natur. Paris*, Série A, Zoologie, t. 16 : 173-198.