NOTES ON THE HYPOPI OF *FIBULANOETUS* MAHUNKA, 1973, AN ANOETID GENUS WITH A PILICOLOUS CLASPING ORGAN

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----- ABSTRACT—Two new species of genus *Fibulanoetus* Mahunka, 1973, (Astigmata: Anoetidae) are described (*F. mahunkai* and *F. longitarsis*). They were attached to the hairs of Afrotropical scarabeid beetles by means of a clasping organ recalling that of glycyphagid hypopi. A new subfamily Fibulanoetinae is created to receive the genus *Fibulanoetus*. -----

The genus *Fibulanoetus* was created by Mahunka (1973) for a species *F. labiatus* Mahunka, 1973 represented by hypopi found in soil, in Meru Mountain, Tanzania. This genus was characterized by the modification of the suctorial plate formed by two folds covering a part of the opisthogaster as in the genus *Labidophorus* Kramer.

During investigations in Botswana A. M. C. collected several specimens of hypopi attached to the hairs of scarabeid beetles. The purpose of this paper is to describe the two new species discovered in the genus *Fibulanoetus* and to complete the description of the curious clasping organ.

Owing to the very unusual structure of the clasping organ we erect for this genus a new subfamily.

Family Anoetidae Oudemans, 1904
Subfamily Fibulanoetinae subf. nov.

DEFINITION (based on hypopi)—Legs as in Anoetidae. Clasping organ as in hypo i of Glycyphagidae (genera *Labidophorus, Dermacarus* etc.) except that a hair of adanal suckers is present (absent in Glycyphagidae). Two pairs of thick ridged claspers present beneath two superficial muscular folds.

Type genus—*Fibulanoetus* Mahunka, 1973.

Genus *Fibulanoetus* Mahunka, 1973

DEFINITION—Dorsum: With very short setae. Venter: Epimerae I poorly sclerotized or absent; sternum either well developed or completely absent. Epimerae III and IV fused, poorly sclerotized in midline; epimerae II-III fused. Pregenital sclerite either fused with epimeral arches III and IV or incomplete. Clasping organ complex, consisting of 2 superficial muscular folds and 2 pairs of more deeply situated ridged claspers. A pair of small adanal suckers present in front of muscular folds. Between these suckers and anterior claspers there is a pair of very deeply situated rounded structures presenting 2 small orifices, they represent probably rest of posterior suckers. Setae *cx I* and *g p* modified into conoids (see Fain, 1973). Legs as in Anoetidae, legs I to III bearing apically a claw and 2 foliate setae, leg IV with a thick and long seta , without claw or foliate setae.

Type species—*Fibulanoetus labiatus* Mahunka, 1973.

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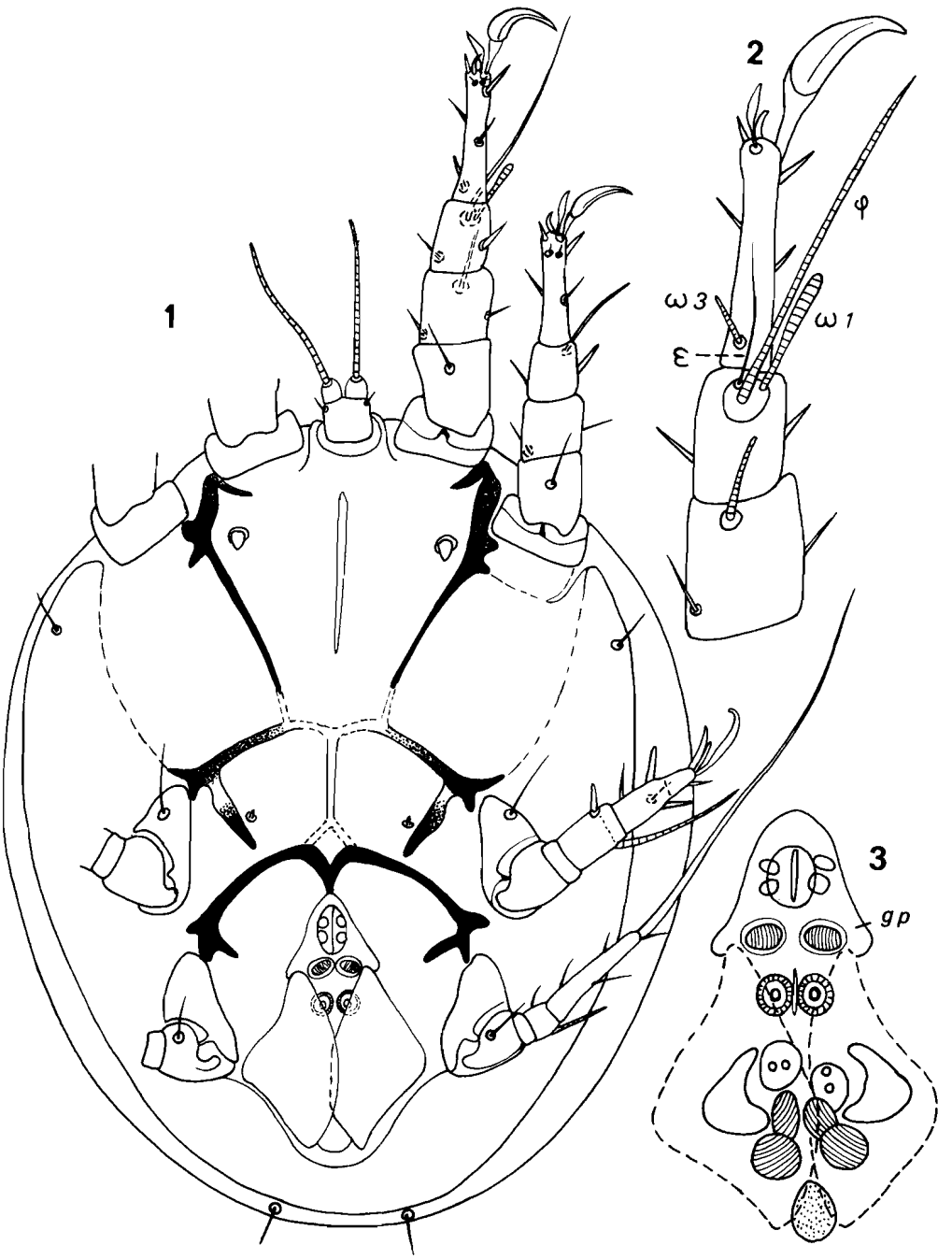
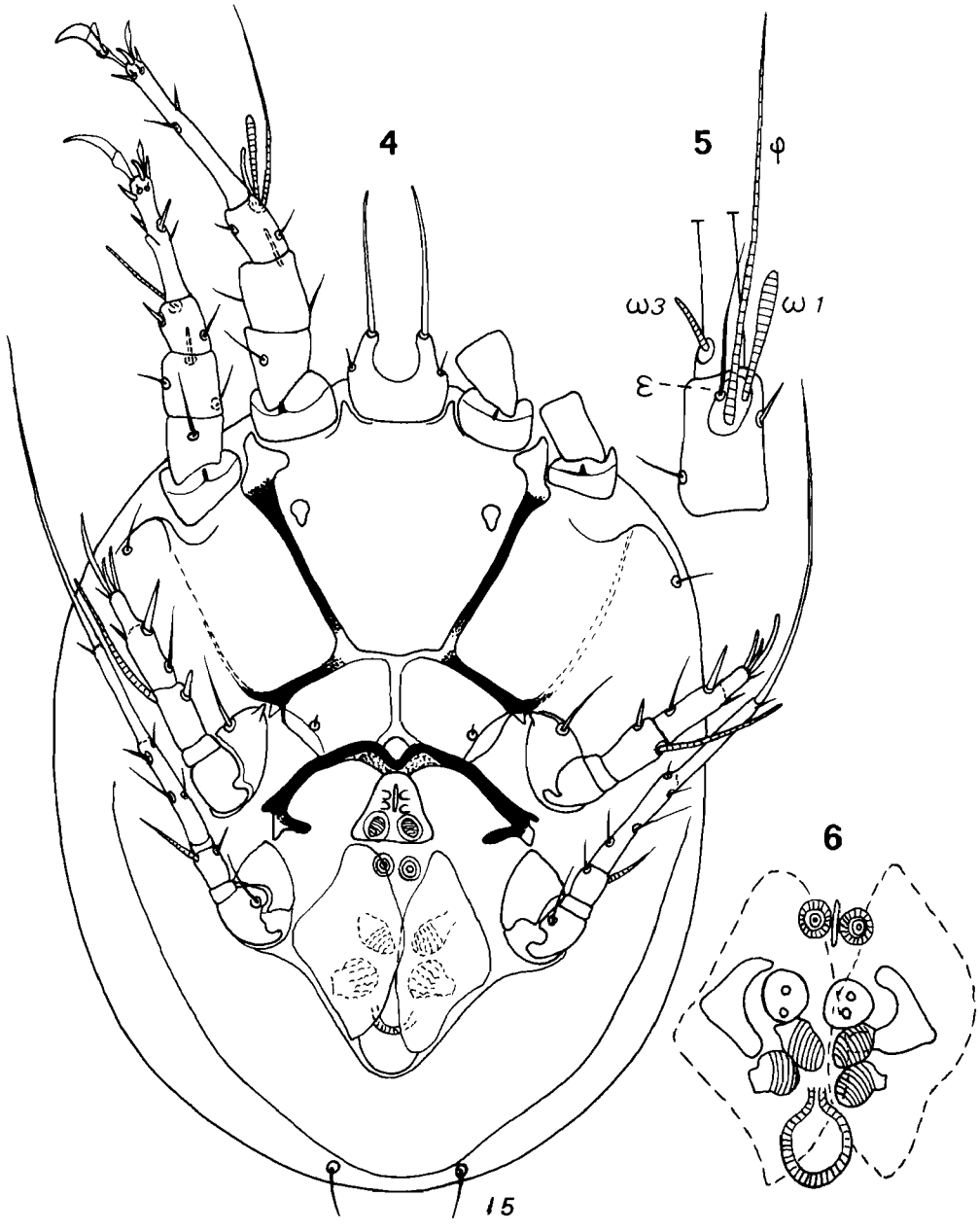


Figs. 1-3: *Fibulanoetus mahunkai* sp. n. (holotype hypopus)–1, ventral view; 2, leg I (dorsal view); 3, clasping organ and genital area.

1. *Fibulanoetus mahunkai* spec. nov.

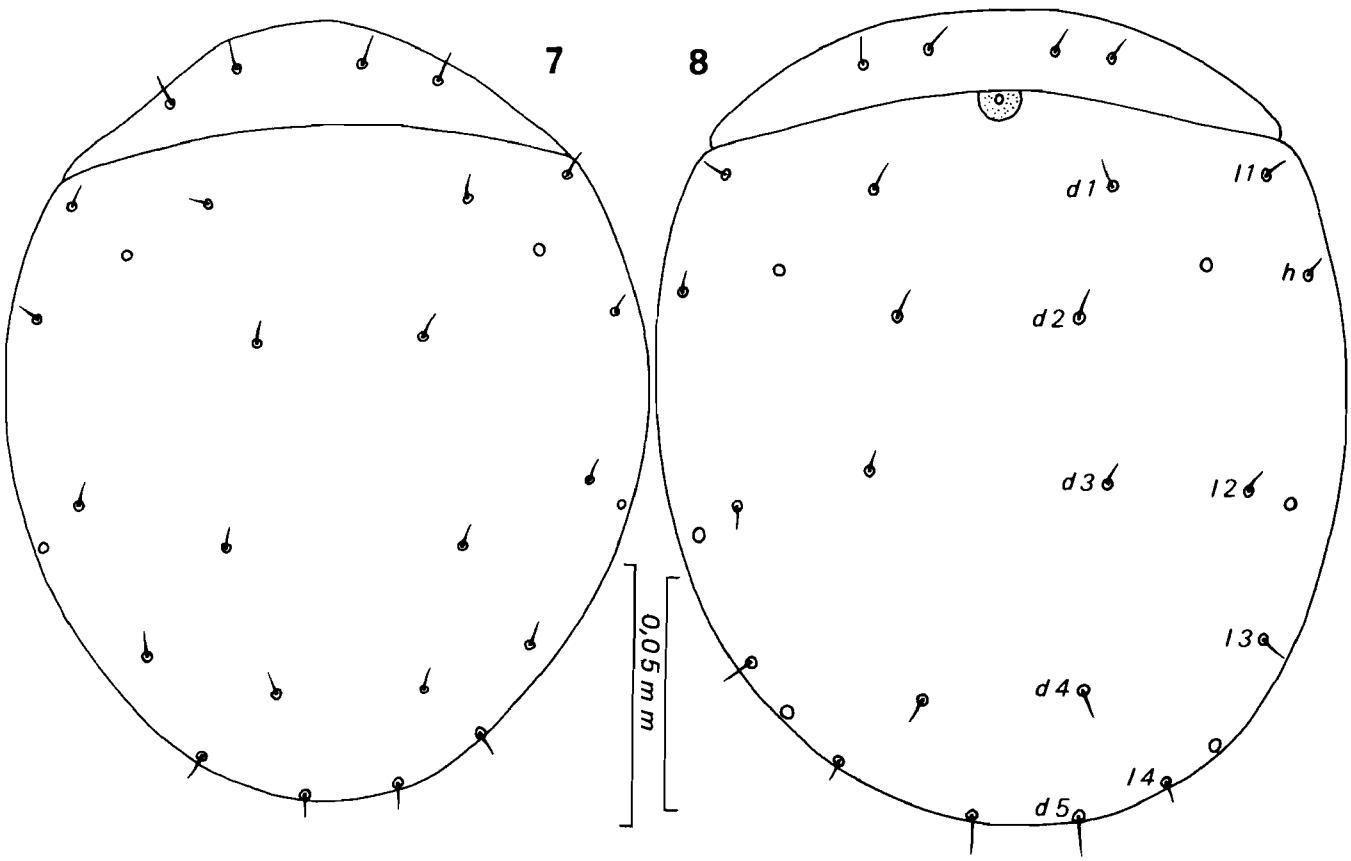
This species is distinguished from type species by a number of characteristics as: smaller size of body; shorter sternum; shape of palposoma which is shorter and thicker; smaller length of tarsus IV compared to other segments of leg IV (tibia + genu + femur), ratio being 1: 0. 9 (while in *F. labiatus* this ratio is 1: 0. 43) and much greater length of terminal seta of tarsis IV.



Figs. 4-6: *Fibulanoetus longitarsis* sp. n. (holotype hypopus)–4, ventral view; 5, tibia and base of tarsus I (dorsal view); 6, clasping organ.

This new species is named for Dr. S. Mahunka, Hungary, in recognition for his work on mites of the family Anoetidae.

HYPOPUS (Fig. 1-3, 7, 9-12)—Length 152μm, width 125μm (palposoma not included). In 2 paratypes 165μm x 135μm and 170μm x 132μm. Dorsum: Propodonotum short. All setae very short. Venter: Sternum very poorly sclerotized. Tarsi I-IV 26μm, 21μm, 15μm and 19μm long respectively. Tarsus IV slightly longer than tarsus III (tarsus IV in *F. labiatus* is more than twice as long as tarsus III. Tarsus I-II with 8 setae among which 2 apical or subapical are foliate. Tibia I with solenidion *phi* long and attenuated apically and solenidion ω 1 shorter and club shaped. Close to base of these solenidia is a long and very thin seta (? famulus). The ω 3 short and situated near base of tarsus I.



Figs. 7-8: Dorsal view of hypopi of 7, *Fibulanoetus mahunkai* sp. n. ; 8, *F. longitarsis* sp. nov.

HOST AND LOCALITY—All hypopi were attached to the hairs of a beetle, *Scarabeus galenus* (n° 203) from Mahalapye, Botswana, 12. I. 1977 (holotype and 48 paratypes, hypopi) (Coll. A. M. C.). Type in Institut royal des Sciences naturelles de Belgique. Paratypes in collection of the authors.

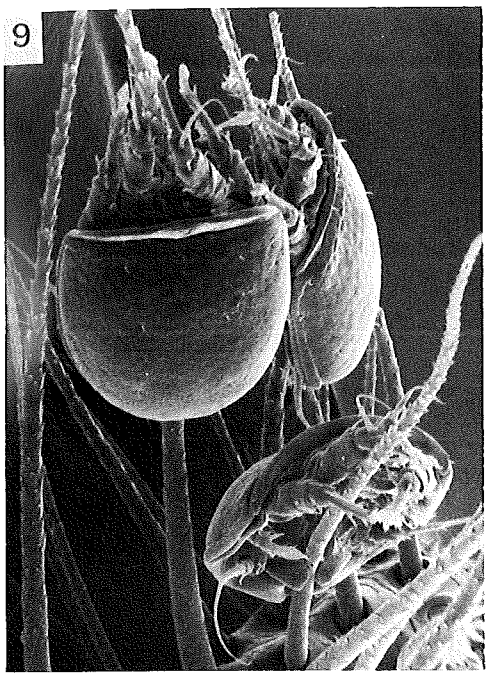
2. *Fibulanoetus longitarsis* spec. nov.

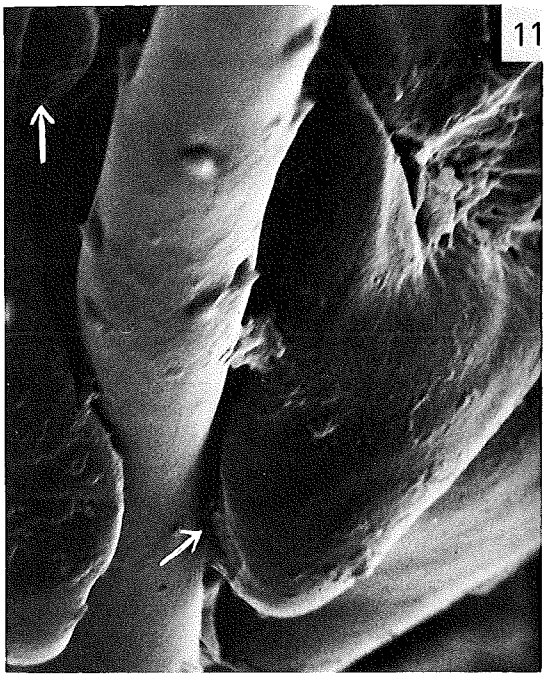
This species is distinguished from *F. labiatus* and *F. mahunkai* mainly by different shape of palposoma which is very wide and with longer arms widely apart, absence of sternum, greater length of tarsi IV, and shape of body which is relatively wider.

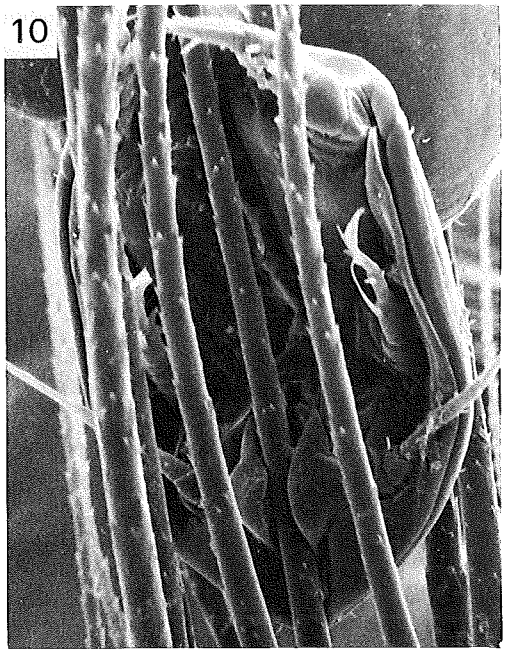
HYPOPUS (Figs. 4-6, 8)—Length 168μm, width 141μm (palposoma not included). In 2 paratypes: 183μm x 150μm and 173μm x 138μm. Dorsum: Propodonotum very short, dorsal setae very short. Venter: Without sternum. Tarsi I-IV 37μm, 30μm, 21μm and 50μm long respectly. Palposoma wide and with long apical processes wide apart. A striated incomplete ring present in posterior corner of clasping apparatus.

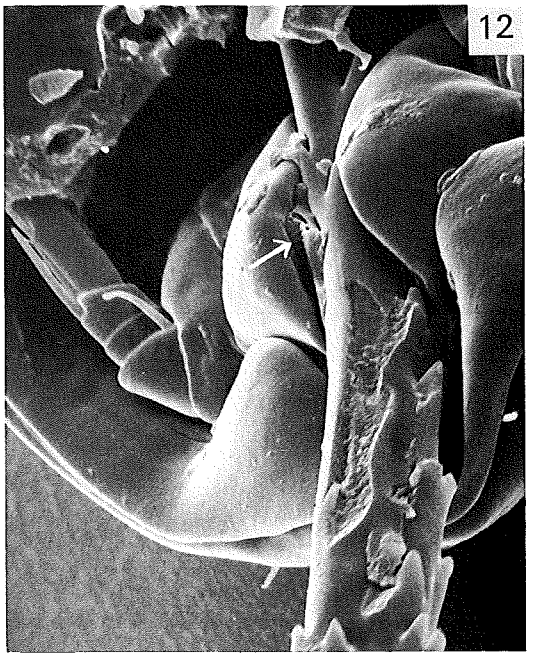
HOST AND LOCALITY—All hypopi were attached on ventral hairs of *Scarabeus galenus* (n° 222), from Thamaga, Botswana, 23. IV. 1977 (holotype and 50 paratypes, hypopi) (Coll. A. M. C.). Type as for *S. mahunkai*.

REMARKS—Until now, only the "entomophilic" type of hypopi had been found attached on arthropods. These hypopi attach themselves by means of a suctorial plate bearing one or two pairs of suckers. Most of them belong to the families Acaridae, Saproglyphidae and Anoetidae.









Figs. 9-12: Scanning electron microphotographs of *Fibulanoetus mahunkai* sp. n.– 9-10, hypopi attached to the hairs of *Scarabeus galenus*; 11-12, clasping organ enlarged (N. B. : the ridged claspers are indicated by a white arrow).

The hypopi of the genus *Fibulanoetus* differ from the latter by the presence of a clasping organ similar to that of the glycyphagid hypopi which attach to the hairs of mammals. These hypopi were found attached to the hairs of scarabeid beetles. Except for shape of the clasping organ, they belong by all the characters to the family Anoetidae. The persistence of anterior

or adanal pair of suckers in the clasping organ of *Fibulanoetus* indicates a more primitive condition than in the clasping organ of the glycyphagid hypopi. *Fibulanoetus* can, therefore, be considered as a link between the "entomophilic" and the glycyphagid type of attaching organ.

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