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ORIBATIDS FROM SWITZERLAND IX (ACARI: ORIBATIDA:
MYCOBATIDAE 2)
(*ACAROLOGICA GENAVENSIA* CI)

BY

Sándor MAHUNKA¹

(Ms reçu le 24.10.2001, accepté le 13.11.2001)

ABSTRACT

Oribatids from Switzerland IX (Acari: Oribatida: Mycobatidae 2) (*Acarologica Genavensia* CI). - A new poronotic oribatid genus *Schweizerzetes* gen. n. is described and its type species: *Punctoribates* (?) *perlongus* Balogh, 1959 is redescribed. Notes are provided on *Feiderzetes latus* (Schweizer, 1956) belonging to the subfamily Minunthozetinae Grandjean, 1954 (family Mycobatidae Grandjean, 1954) collected from Switzerland. Notes are also provided on the relationships of the family and subfamily. A key to separate the genera is given.

Key-words: Acari, Oribatida, Mycobatidae: Minunthozetinae, Taxonomy, New genus, Switzerland.

INTRODUCTION

The results of Swiss oribatid research are published serially. The goals and the results gained so far are referred to elsewhere (e.g. MAHUNKA & MAHUNKA-PAPP, 2000). Among others, I recently described and discussed a new species (*Alpizetes behanae* Mahunka, 2001) and appended notes regarding the systematics of the group. As I have already mentioned, during these studies an extraordinary species belonging to this group was discovered (described by BALOGH from Hungary in 1959). Originally this species was relegated to the genus *Punctoribates* with a query mark, thus: *Punctoribates* (?) *perlongus*. Later, ŠALDYBINA, (in her comprehensive work in GILJAROV & KRIVOLUCKIJ, 1975), accepted this species as a *Punctoribates* with "European" distribution, without making reference to more precise locality data. As far as I know definite and new distributional references may be found only in the work of PÉREZ-ÍÑIGO (1993).

Apparently, he did not examine the species in more detail, since he makes no mention of certain striking characteristics, nor does he deal with a generic relegation of the species, leaving it in the genus *Punctoribates*.

On the occasion of the new appearance of this species, I examined the problem in detail, since in recent years much data have been published on the mycobatid-minun-

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thozetid groups (see the introductory part and also the references of MAHUNKA, 2001). It was revealed that, on the basis of its most important features, (e.g. the divided nature of the posteromedian tectum of the notogaster, three pairs of notogastral areae porosae) the species cannot belong in *Punctoribates* Berlese, 1908. Indeed, since its combination of characteristics differs from all other known genera, the establishment of a new genus (*Schweizerzetes* gen. n.) would seem appropriate. The species was described by BALOGH (1959) from the westernmost parts of Hungary (Felsőmarác, Vas County) recovered from a *Sphagnum* bog. Its Swiss locality lies in a mountainous (1800 m) region, and the specimens were extracted from moss samples taken at the foot of a mountain. The present comparative examination and redescription are based on the holotype and the Swiss specimens.

Recently, I also found a species, *Feiderzetes latus* (Schweizer, 1956), which belongs to this group. It was collected in the Southern Carpathians too, and was redescrbed by FEIDER *et al.* (1971). Unfortunately, this redescription is not complete and, what is more, contains some errors. Consequently, I must add some remarks along with figures.

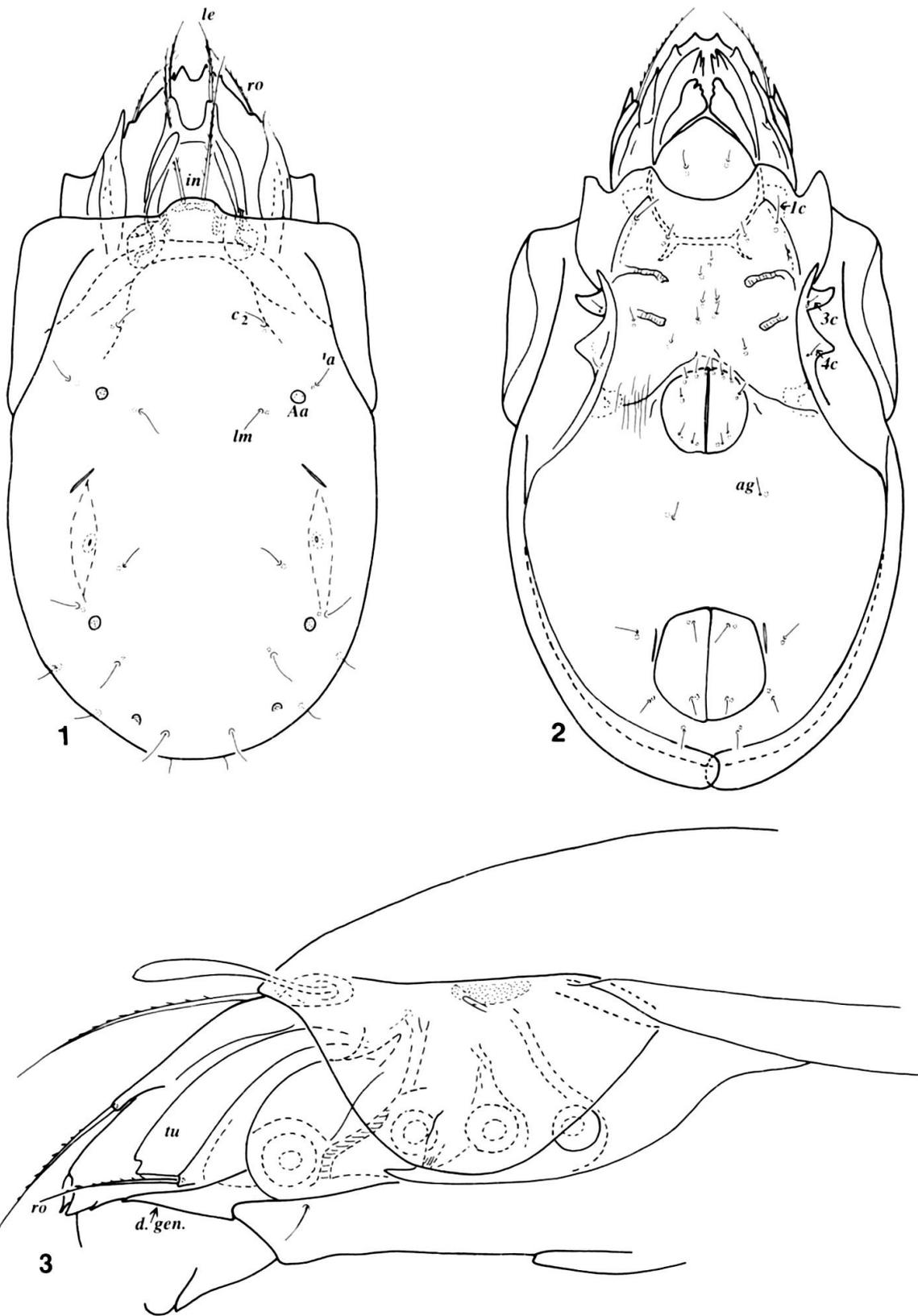
This contribution is complemented by a key amply separating the genera in the subfamily Minunthozetinae of the family Mycobatidae. Further taxa may yet be included here after extensive examinations and the establishment of synonyms. The two subfamilies of Minunthozetinae and Mycobatinae may readily be separated by the shape of their bothridia, and the development of the interbothridial region. In the subfamily Mycobatinae the bothridium projects from under the anterior tectum of the notogaster and bears well-developed marginal scales. The interlamellar setae on the surface of the prodorsum arise from a normal position. In the subfamily Minunthozetinae the bothridium is a simple cup-shape and the interlamellar setae are situated on a pair of interbothridial tubercles connected by a ridge. Other important characteristics as, for example, the divided or undivided nature of the posterior tectum of the notogaster may simultaneously occur in both subfamilies.

In preparing the description I have followed the terminology, except in some rare instances, of BEHAN-PELLETIER (1988, 1998).

DESCRIPTIONS

Schweizerzetes gen. n.

D i a g n o s i s : Family *Mycobatidae*, subfamily *Minunthozetinae*. Rostral apex excised by a deep, median, U-shaped incision, with sharply pointed teeth laterally. One pair of small lateral indentations also visible. Lamellae originating medially, normally developed, with long cusps, bearing the long lamellar setae. Translamella present, wide. Tutorium with dentate cusp. Bothridium simple, cup-shaped, sensillus fusiform. Interlamellar setae very long, arising very near to each other, their insertions connected by a weak lath. A transversal bridge present behind them, with one pair of long, S-shaped processes posteriorly. Between them a pair of weak enantiophyses present. Genal tooth



FIGS 1-3.

Schweizerzetes perlongus (Balogh, 1959) — 1: body in dorsal view, 2: body in ventral view, 3: podosoma in lateral view.

wide. Pedotectum I conspicuously concave basally, wide, convex anteriorly, completely covering acetabulum I. Custodium long and large. Notogaster with a small, convex anterior median tectum. Pteromorphae partly movable, with a comparatively long desclerotization line. Ten pairs of notogastral setae and three pairs of porose areas present. Subcapitulum without mental tectum. Circumpedal carina present. Palp setal formula: 2 - 1 - 3 - 9+1. Epimeral setal formula: 3 - 1 - 2 - 2. Anogenital setal formula: 6 - 1 - 2 - 3. All tarsi monodactylous. Solenidium φ_2 arising in front of φ_1 , on a small tubercle, φ_1 on the surface of the segment. Tibia I with a basiventral, tibia II with a large, anterodorsal apophysis.

Type species: *Punctoribates (?) perlongus* (Balogh, 1959).

Remarks: When describing the closely allied genus *Alpizetes* I surveyed the concept of BEHAN-PELLETIER (1988) regarding the relationships of the subfamily Minunthozetinae, and how that subfamily is related to the family Mycobatidae. This new genus further enlarges the number of variations, and there are other known taxa which complicate the already existing problem.

The new genus is defined by combining the features of the overlapping, unfused posteromedian notogastral tectum, the partly hinged pteromorpha and the shape of the subcapitulum (ceratozetoid type). This combination of features has never occurred simultaneously in one genus.

On the basis of the other features of the diagnosis, *Schweizerzetes* gen. n. stands far apart from other known genera. Closest to it is the genus *Feiderzetes* Subías, 1977, but it may readily be separated by the divided posterior tectum of the notogaster. It differs from the closely allied *Ellipsozetes* Bernini, 1980 by the basal tubercles of the interlamellar setae. The genus is monotypic so far. The type species, *S. perlongus* (Balogh, 1959), was discovered in a marsh of Western Hungary and it was rediscovered in the Biscay province of Spain (ITURRONDOBEITIA & SUBÍAS, 1981; SALOÑA BORDAS & ITURRONDOBEITIA BILBAO, 1988; PÉREZ-ÍÑIGO, 1993). The original description is here complemented in parts, and the publication of some new figures helps a better identification of the species.

Derivatio nominis: I dedicate the new genus to the memory of Dr. J. Schweizer, the first explorer of the Swiss Oribatida.

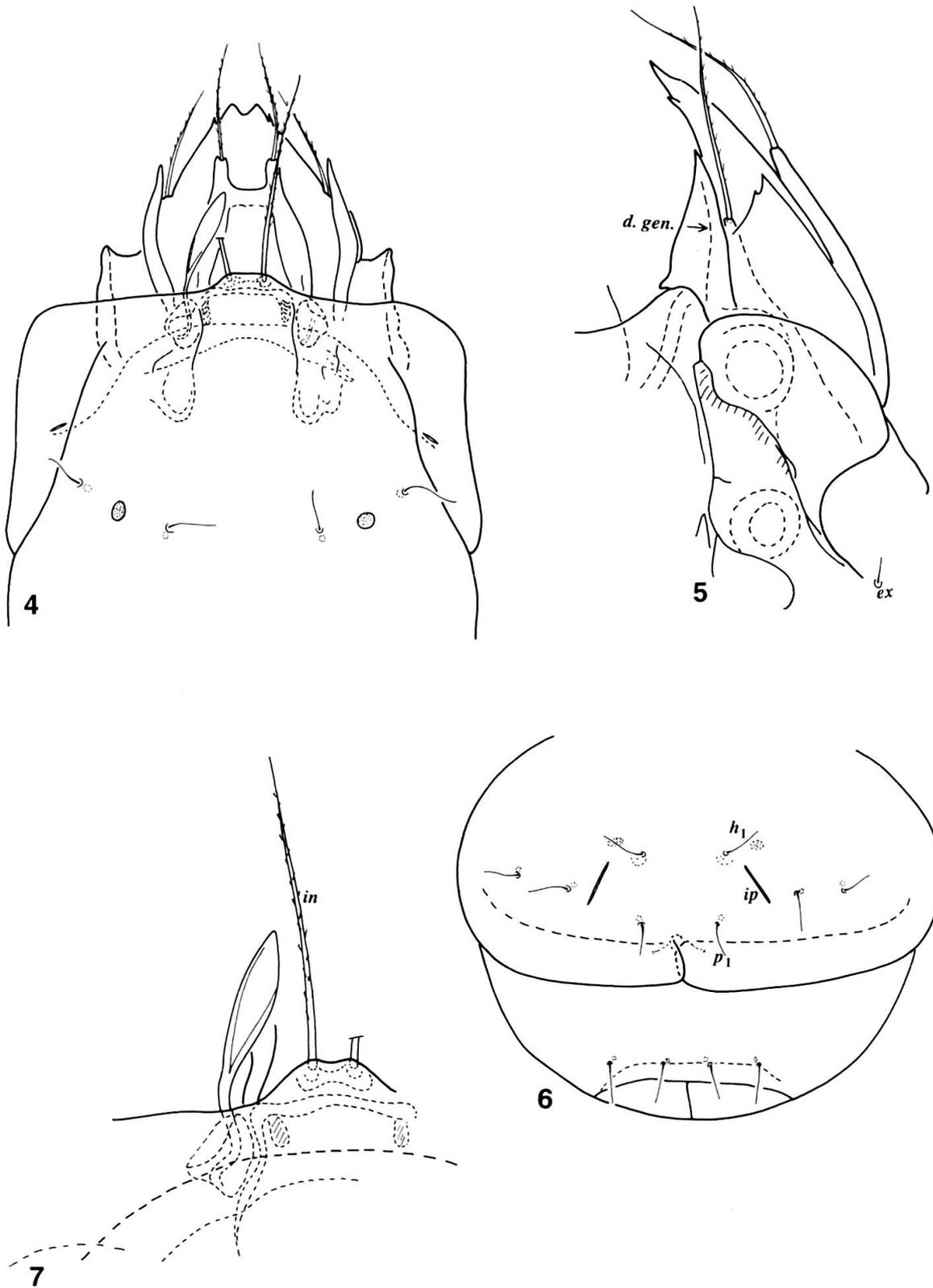
***Schweizerzetes perlongus* (Balogh, 1959)**

(Figs 1-9)

Material examined: Switzerland: VS-30: **Valais:** Torrenthorn, above Leukerbad, 2575-2750 m.; 6.VIII.1968; leg. C. Besuchet — (155).

Measurements (Swiss specimens): Length of body: 305-327 μm , width of body: 173-191 μm .

Prodorsum: Rostral apex with a U-shaped incision. Behind it, on the lateral margin, a pair of small teeth. Lamellae well developed, originating medially, translamella wide. Lamellar cusps long, truncate, bearing long, conspicuously ciliated lamellar



FIGS 4-7.

Schweizerzetes perlongus (Balogh, 1959) — 4: anterior part of body, 5: rostral region in lateral view, 6: posterior end of notogaster from posterior view, 7: sensillus and interlamellar region.

setae reaching far over the rostral apex. Sensillus comparatively short, reaching to translamella. The basal part of the prodorsum with a well sclerotised crest between the bothridia, connecting a pair of (Fig. 5) enantiophyses. Insertions of the interlamellar setae connected by a weak crest located behind them. They are long and reach beyond the level of the lamellar cusps, ciliate, and originating conspicuously near to each other.

Lateral part of podosoma (Fig. 6): Tutorium lamelliform, with a short, incised (dentate) cusp. Rostral setae arising at its base, on short tubercles. Genal tooth strongly narrowing anteriorly, sharply pointed. Reaching far over the insertion of rostral seta. Pedotectum I very large, covering acetabula I, convex anteriorly and deeply concave basally. Porose area in the humeral region conspicuous. Exostigmatal setae short, arising at the bases of pedotecta I. Pedotecta II small, custodium very large, reaching anteriorly to level of pedotectum II. Discidium also large, circumpedal carina long, reaching to the lateral margin of ventral plate.

Notogaster: Anterior tectum of notogaster straight, or slightly convex medially; well covering the bothridia and the interbothridial region. Pteromorpha partly hinged, with a long desclerotization line. Ten pairs of comparatively long but narrow and smooth notogastral setae, three pairs of areae porosae in normal position. Posterior notogastral tectum clearly divided.

Ventral region (Fig. 2): Subcapitulum without mental tectum, normal. Epimeral surface ornamented by weak lines. Epimeral setae short, finely roughened. Epimeral setal formula: 3 - 1 - 3 - 3. Anogenital setae short, simple. Anogenital setae also short, simple, anogenital setal formula: 6 - 1 - 2 - 3. Lyrifissures *iad* in paraanal position.

Legs: All legs monodactylous. Femora of legs with a blade-like formation ventrally, being narrow on legs I-III and broad on femora IV. Tibia of leg II with a great spur in anterodorsal position. Tibia of leg I without apophysis, solenidium φ_1 arising on the surface of the segment, behind φ_2 (Fig. 8). Leg setal formula:

I: 1 - 5 - 3+1 - 4+2 - 19+2 - 1 (Fig. 8)

II: 1 - 4 - 3+1 - 4+1 - 15+2 - 1

IV: 1 - 2 - 2 - 3+1 - 12 - 1 (Fig. 9).

Remarks: See the remarks after the description of the genus.

Feiderzetes latus (Schweizer, 1956)

(Figs 10-11)

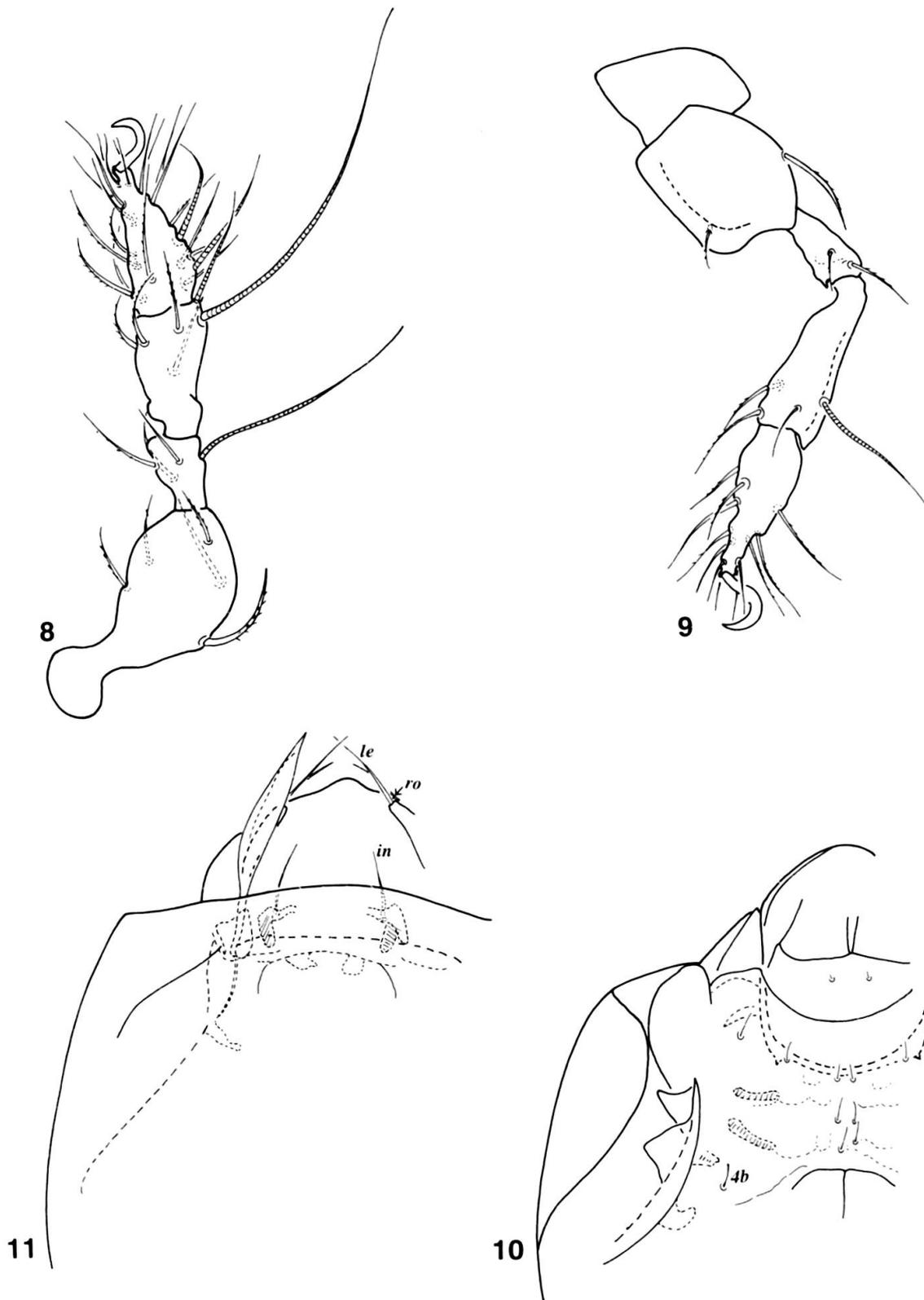
Punctoribates (*Minunthozetes*) *latus* Schweizer, 1956: 321, fig. 276.

Allozetes latus Feider, Vasiliu & Călugăr, 1971: 299, figs 1-3.

Feiderzetes latus Subías, 1977: 261.

Feiderizetes [sic!] *latus* Balogh & Balogh, 1992: 225, figs 292: A-B.

Material examined: Switzerland: GR-12: **the Grisons**: Val Poschiavo (=Puschlav), above Cavajone, mosses at base of rocks, 2050-2100m; 18.VII.1984; leg.



FIGS 8-11.

Schweizerzetes perlongus (Balogh, 1959) — 8: leg I, 9: leg IV.

Feiderzetes latus (Schweizer, 1956) — 10: anterior part of body in ventral view, 11: anterior part of body in dorsal view.

C. Besuchet — (89); TI-9: **Ticino**: Nufenen pass, leaf litter and rotten wood in larch forest; 15.VI.1979; leg. S. Mahunka & L. Mahunka-Papp — (18).

I n t r o d u c t i o n: A rare species, probably favouring biotopes at high altitudes. It was found in samples only once in low numbers. FEIDER *et al.* (1971) prepared a redescription of the species originating from the Carpathian Mountains prior to the present relegation of the species. On the basis of this redescription BALOGH & BALOGH (1992) included this species in their identification book.

R e m a r k s: Unfortunately, the figures in BALOGH & BALOGH (1992) are charged with some errors, thus, e.g. the pteromorpha, whose short desclerotization line on the Swiss specimens is clearly observable. Furthermore, the ventral side also lacks some details, since pedotecta I are not sharp, nor auricular, but rounded; pedotecta II, the custodium and the discidium are well developed, clearly seen. The robust, outward bending custodium reaches the anterior margin of pedotecta II. The tiny setae *3c* and *4c* are present. One genital plate bears 5 setae and the other 6. The posterior median mentum of notogaster is undivided, reaching well over the ventral plate as far as the posterior margin of the anal plate. All legs monodactylous. The tibia of leg I bearing a solenidion on its surface. Solenidion φ_1 far behind φ_2 . The anterodorsal apophysis on the tibia of leg II is extraordinarily large. If further specimens are found a new redescription will be needed.

A KEY TO THE GENERA OF MINUNTHOZETINAE

- 1 (6) Posterior median tectum of notogaster divided in the middle, the two lobes overlapping.
- 2 (3) Lamellae far removed from each other, placed marginally. Translamella missing *Alpizetes* Mahunka, 2001
- 3 (2) Lamellae close to each other, placed medially. Translamella present.
- 4 (5) Notogaster with four pairs of areae porosae. Interlamellar setae removed from each other, placed close to lamellae . . . *Zachvatkinibates* Šaldybina, 1973
- 5 (4) Notogaster with three pairs of areae porosae. Interlamellar setae placed medially, close to each other *Schweizerzetes* gen. n.
- 6 (1) Posterior median tectum intact, undivided in the middle.
- 7 (14) Anterior tectum of mentum elongate, galumnoid type.
- 8 (9) Lamellae far removed from each other, placed marginally. Translamella missing *Feiderzetes* Subías, 1977
- 9 (8) Lamellae close to each other, placed medially. Translamella present.
- 10 (13) Interlamellar setae long, reaching rostral apex.
- 11 (12) Notogaster with normal areae porosae *Punctoribates* Berlese, 1908
- 12 (11) Notogaster with modified areae porosae, or with sacculi *Semipunctoribates* Mahunka, 1987
- 13 (10) Interlamellar setae short, reaching only to level of translamella *Minunthozetes* C. L. Koch, 1835
- 14 (7) Anterior tectum of mentum normal, ceratozetoid type *Ellipsozetes* Bernini, 1980

The following three genera most likely belong to this subfamily, but their placing in the above key, in the absence of knowledge of some fundamentally important characteristics, is as yet impossible.

Eupuncторibates Hammer, 1977
Minguezetes Subías, Kahwash & Ruiz, 1990
Pelopsis Hull, 1911

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RÉSUMÉ

ORIBATES DE SUISSE IX (ACARI: ORIBATIDA: MYCOBATIDAE 2) (ACAROLOGICA GENAVENSIA CI)

Le nouveau genre, *Schweizerzetes* gen. n., est créé pour l'espèce *Puncторibates* (?) *perlongus* Balogh, 1959 grâce à l'étude de matériel provenant du Valais et l'espèce est redécrite. Ce genre appartient à la sous-famille des Minunthozetinae Grandjean, 1954, famille des Mycobatidae Grandjean, 1954. En outre, l'observation de matériel prélevé dans le Valais et les Grisons a permis de faire quelques remarques taxonomiques sur l'espèce *Feiderzetes latus* (Schweizer, 1956) qui appartient également à la sous-famille des Minunthozetinae. Une nouvelle clef de détermination des genres de cette sous-famille est proposée en conclusion.

Mots-clés: Acariens, Oribates, Mycobatidae: Minunthozetinae, taxonomie, nouveau genre, Suisse.

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