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ORIBATIDS FROM SWITZERLAND VII (ACARI: ORIBATIDA: MYCOBATIDAE 1) (*ACAROLOGICA GENAVENSIA* XCIX)

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ABSTRACT

Oribatids from Switzerland VII (Acari: Oribatida: Mycobatidae 1) (*Acarologica Genavensia* XCIX). - A new poronotic oribatid (*Alpizetes behanae* gen. n., sp. n.) belonging to subfamily Minunthozetinae Grandjean, 1954 of the family Mycobatidae Grandjean, 1954 is described from Switzerland. The extent of its relationships at the subfamily and family levels are discussed.

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

INTRODUCTION

Several papers have been published on the Oribatida of Switzerland (e.g. MAHUNKA & MAHUNKA-PAPP, 2001). During these studies two species have been discovered of the family Mycobatidae Grandjean, 1954 which, on the basis of their morphology, belong to the subfamily Minunthozetinae Grandjean, 1954. These species are so distinct that our understanding of relationships, within the whole family may need to be reconsidered. In this paper only one of the new species (also representing a new genus) is described (*Alpizetes behanae* gen. et sp. n.). The other species, which has already been described from Hungary under the name of *Punctoribates* (?) *perlongus* Balogh, 1959, was subsequently also found in Spain (PÉREZ-ÍÑIGO, 1993). A detailed study of this species indicates that it also represents a new genus which will be described and published at a later date (MAHUNKA, in prep.).

GRANDJEAN (1954) established the family and subfamily. ŠALDYBINA (1975) published new data regarding this family and subfamily, whilst FEIDER *et al.* (1971a) recognised differences among the species of *Minunthozetes* and also established a new genus (FEIDER *et al.*, 1971b). This work was subsequently supported by SUBÍAS (1977). BERNINI (1980), when describing the genus *Ellipsozetes*, researched associations within the family and partly modified the subfamily relationships. The most comprehensive picture on the family was given by BEHAN-PELLETIER (1988) when redescribing the

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genus *Zachavatkinibates* Šaldybina, 1973 and this was updated later in a study of the American, Mexican and Costa Rican Ceratozetoidea (BEHAN-PELLETIER, 1994, 1998). PAVLIČENKO (1994), while studying the Ukrainian Ceratozetoidea, surveyed most of the "mycobatid" species known from the Palearctic region and erected supraspecific and suprageneric taxa.

The taxonomic relationships of the subfamily and the family and even of the superfamily Ceratozetoidea are somewhat unclear. Recent detailed studies of the most important characteristics suggest quite novel supraspecific associations.

There are few data available concerning Swiss Mycobatidae. The litterature (BORCARD, 1995; SCHWEIZER, 1922, 1948, 1956) records four species of *Mycobates* (*M. carli* (Schweizer), *M. cribelliger* (Berlese), *M. parmeliae* (Michael), *M. tridactylus* Willmann), two of *Minunthozetes* (*M. pseudofusiger* (Schweizer), *M. semirufus* (C.L. Koch) and two of *Punctoribates* (*P. punctum* (C.L. Koch), *P. sellnicki* Willmann) all of which are commonly reported in Europe. Only *Feiderzetes latus* (Schweizer, 1956) (originally *Punctoribates* (*Minunthozetes*) *latus* Schweizer, 1956) is taxonomically unusual, although montane and boreoalpine biotopes are generally characteristic "mycobatid" habitats. It should further be added that *Alpizetes behanae* gen. et sp. n. was found on a peak, which during the glacial period was ice free, unlike its surroundings. Such a biotope is called a nunatak.

In the description which follows the terminology used is that employed by BEHAN-PELLETIER (1998), with a few exceptions.

DESCRIPTION

Alpizetes gen. n.

D i a g n o s i s : Family *Mycobatidae*, minunthozetoid habitus. Rostral apex divided by a pair of deep incisions. Lamellae well developed, located conspicuously laterally, far from each other. Translamella absent. Lamellar cusp short, bearing lamellar setae. Rostral, lamellar and interlamellar setae nearly equal in length. Bothridium simple, cup-shaped, without scales, sensillus large, fusiform. Interbothridial region with a pair of enantiophyses and a pair of tubercles, the latter connected by a transverse bridge and bearing the interlamellar setae. Tutorium with a dentate cusp. Genal tooth simple, narrow. Humerosejugal porose organs indefinite in shape, sublamellar porose area absent. Pedotectum I concave basally, wide, convex anteriorly, covering acetabulum I. Custodium long and large, pointed distally. Circumpedal carina present. Notogaster with broad anterior tectum, pteromorphae immovable, without desclerotization line. Posterior median tectum present divided by overlapping lobes. Ten pairs of notogastral setae and 9 (an unpaired posteromedian one) porose areas present. Subcapitulum without mental tectum. Epimeral setal formula: 3 - 1 - 2 - 1. Anogenital setal formula: 6 - 1 - 2 - 2. Postanal porose area absent. Palp setal formula: 2 - 1 - 2 - 9+1. All tarsi monodactylous. Solenidion φ_2 arising in front of φ_1 on small enantiophyses, φ_1 on the surface of the segment. Tibia II with large, anterodorsal apophysis. Description based on male and female adult specimens.

T y p e s p e c i e s : *Alpizetes behanae* sp. n.

R e m a r k s : Te new genus certainly belongs in the family Mycobatidae. It was BEHAN-PELLETIER (1988) who compiled a table sowing the most important features for separating the genera (Table I: 1-19). In the new genus the mental tectum of the subcapitulum is missing (1), lamellae are removed from each other, placed rather marginally (2), translamella absent (3), setae *in* arising on ridges (4), enantiophyses present (5), lenticulus absent (6), notogaster with a small medial process (7), medial process convex (8), thickened bands bordering medial process (9), notogastral setae fine, but conspicuous (10), pteromorpha without hinge (11, 12), posterior notogastral tectum divided (13), pedotectum I concave basally (14), thickened band posteriorly of genital plates absent (15), notogastral porose areas present (16), tibia I without anterodorsal small apophysis, solenidion φ_1 arising on the surface of the segment (17, 18), sexual dimorphism absent (19). The immovable pteromorpha, the lack of a subcapitular mental tectum and the divided nature of the posterior notogastral tectum are the features which class the taxon closest to *Zachvatkinibates* Šaldybina, 1973. However, the shape of the lamellae and their distance apart, together with the lack of a translamella and the presence of an unpaired posteromedian porose area clearly differentiate the taxon. It may, furthermore, be separated from all other mycobatid taxa by its tripartite rostral apex and by the rostral seta being far removed from the apex of the tutorium. My opinion about suprageneric associations in the family Mycobatidae and a key to the supraspecific taxa will be given in the next paper discussing Swiss Mycobatidae (Mahunka, in prep.).

D e r i v a t i o n o m i n i s : *alpi* in Hungarian means living in the Alps, derived from the Alps, *-zetes* is a common generic ending for the poronotic oribatids.

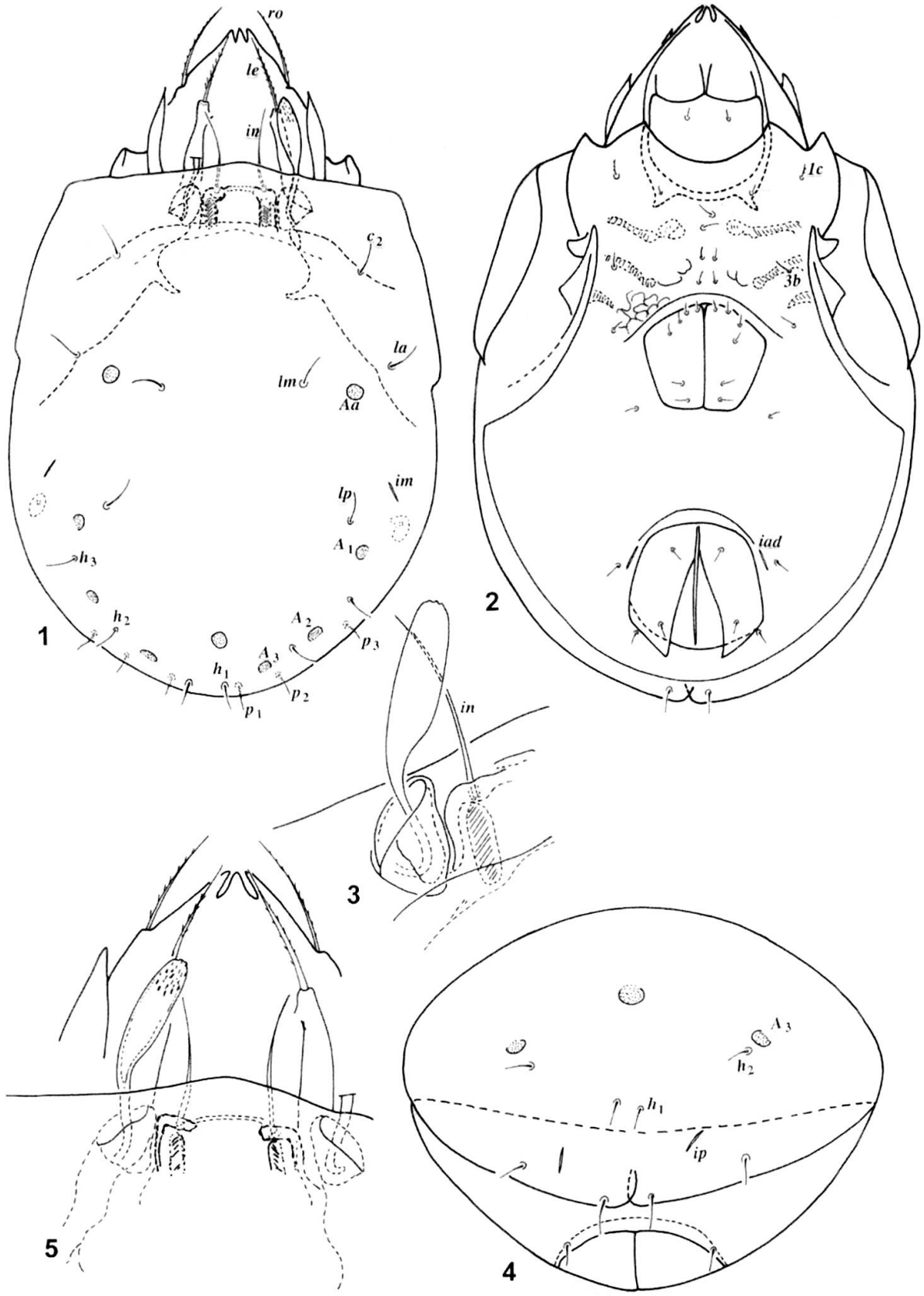
Alpizetes behanae sp. n.

(Figs 1-8)

M a t e r i a l e x a m i n e d : Holotype: Valais: Torrenthorn, s/Leukerbad, 2575-2750 m.; 6.VIII.1968; leg. C. Besuchet. 26 paratypes from the same sample. (VS-30). Holotype and 16 paratypes deposited in the Muséum d'Histoire naturelle, Geneva; 10 paratypes (1649-PO-00) (with identification numbers of the specimens in the Collection of Arachnida) deposited in the Hungarian Natural History Museum, Budapest.

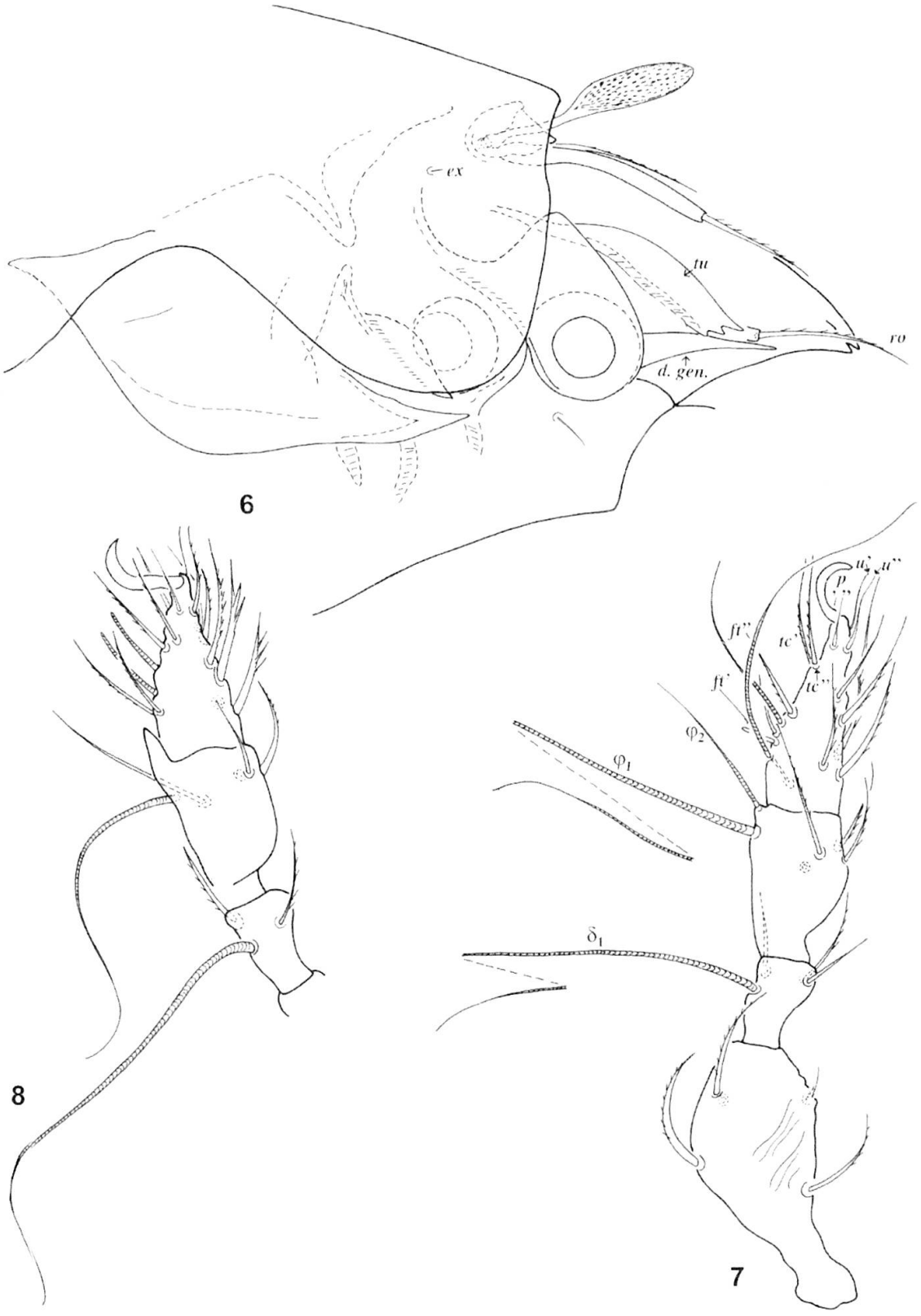
M e a s u r e m e n t s : Length of body: 262-278 µm, width of body: 163-179 µm.

P r o d o r s u m : Rostrum tripartite, divided by two deep, narrow incisions. Lamellae well developed, originating far from each other, placed conspicuously laterally. Lamellar cusps short, truncate, bearing long, ciliated lamellar setae, which reach to the rostral apex. Translamella absent (Fig. 3). Bothridia simple cup-shaped. Sensillus large, wide, reaching over the lamellar cusp. Its surface covered by small acicula, at the distal end slightly split, or undulate. On the basal part of the prodorsum a pair of well sclerotised tubercles continuing in a narrowing crest along the bothridium, connected by a transversal bridge (Fig. 5). Interlamellar seta arising on them, it is comparatively long,



FIGS 1-5.

Alpizetes behanae gen. n., sp. n. – 1: body in dorsal view, 2: body in ventral view, 3: trichobothrium and interlamellar seta, 4: Posterior end of notogaster in posterior view, 5: prodorsum.



FIGS 6-8.
Alpizetes behanae gen. n., sp. n. – 6: podosoma in lateral view, 7: Leg I, 8: leg II.

but not reaching over the level of lamellar cusp, hardly ciliate. A pair of enantiophyses behind or between them also observable.

L a t e r a l p a r t o f p o d o s o m a (Fig. 6): Tutorium lamelliform, with short, sharp cusp, behind it 1-2 lateral teeth present. Rostral seta arising separately, before it, on a short tubercle. Genal tooth strongly narrowing anteriorly, sharply pointed, reaching over the insertion point of rostral seta. Pedotectum I very large, covering acetabula I, convex anteriorly and deeply concave basally. Porose area in the humeral region indistinct, of indefinite shape. Exostigmatal seta minute, arising at the basis of pedotectum I. Pedotectum 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.

N o t o g a s t e r : Anterior tectum of notogaster slightly convex medially, completely covering the bothridia and the interbothridial region. Pteromorpha without desclerotization line. Ten pairs of comparatively short, fine, and smooth, but conspicous notogastral setae; four pairs of porose areas in the normal position, and an unpaired median one posteriorly, anterior of setae h_1 (Fig. 4) (sexual dimorphism absent). Posterior notogastral tectum divided by lobes, this feature sometimes indistinct.

V e n t r a l r e g i o n (Fig. 2): Subcapitulum normal, without mental tectum, Epimeral surface smooth, and only some sigilla visible. Epimeral setae short, finely ciliate or roughened. Epimeral setal formula: 3 - 1 - 2 - 1 (I was not able to find setae *3c* and *4c*). Anogenital setae very short, simple, anogenital setal formula: 6 - 1 - 2 - 2, setae ad_3 absent. Lyrifissures *iad* in paraanal position.

L e g s : All legs monodactylous. Femora of legs with crests ventrally, which are narrow on legs I-III and broad on femora IV. Most of these segments are rugose. Tibia of leg II (Fig. 8) with a large spur in the anterodorsal position. Tibia of leg I without apophysis, solenidion φ_1 arising on the surface of the segment, behind φ_2. Solenidion φ_1 of leg I (Fig. 7) exceptionally long, flagellate. Setae (*it*) apparently absent on tarsus I and II. Leg setal formulae:

I: 1 - 5 - 3+1 - 4+2 - 16+2 - 1 (Fig. 7)
II: 1 - 4 - 2+1 - 4+1 - 14+2 - 1 (Fig. 8)
IV: 1 - 2 - 2 - 3+1 - 12 - 1.

R e m a r k s : See the remarks after the generic description.

D e r i v a t i o n o m i n i s : I dedicate the new species to Dr. Valerie Behan-Pelletier (Canada), the renowned oribatidologist, and a world authority in ceratozetoid oribatids.

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RÉSUMÉ

ORIBATES DE SUISSE VII (ACARI: ORIBATIDA: MYCOBATIDAE 1) (*ACAROLOGICA GENAVENSIA* XCIX)

Le travail contient la description d'un genre nouveau et d'une espèce nouvelle en provenance du Valais (*Alpizetes behanae* gen. n., sp. n.) appartenant à la sous-famille Minunthozetinae Grandjean, 1954 de la famille Mycobatidae Grandjean, 1954 et des remarques sur les relations de parenté à l'intérieur de cette famille et sous-famille.

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

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