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DESCRIPTION OF DEUTONYMPH OF *PACHYSEIUS HUMERALIS* BERLESE, 1910 (ACARI: PACHYLAELAPIDAE) FROM ROMANIA

DARIUSZ J. GWIAZDOWICZ, MINODORA STĂNESCU

Abstract. The specimen collected in the Bucegi Mountains provided the basis for the description of unknown deutonymph of *Pachyseius humeralis* Berlese 1910. The species was found in a litter of spruce forest.

Résumé. L'exemplaire capturé dans les Monts Bucegi est la base de notre description d'une deutonymphe inconnue de *Pachyseius humeralis* Berlese, 1910. L'espèce a été trouvée dans la litière d'une forêt de *Picea abies*.

Key words: mites, Acari, Mesostigmata, *Pachyseius*, deutonymph, Bucegi Mountains, Romania

Only nine mite species of the genus *Pachyseius* have been described in the world so far, including three in Europe. However all descriptions of the European species refer only to females, less information can be found on deutonymphs of this genera. As Koroleva published (1977), deutonymphs of the family Pachylaelapidae have a schizodorsal shield on dorsal side, but most of the authors limit their records only to the grown specimen. Lack of taxonomic studies on developmental stages, including deutonymphs, makes it difficult to determine material and restrains ecological research process. Young forms from collected material are not represented in a great number, which may push aside their ecological meaning to the background, moreover their shortage hinders taxonomic studies and possibility to describe unknown stages.

Pachyseius humeralis Berlese, 1910 is a species often recorded in litter, compost, humus and the nests of rodents. It was found in many European countries, in lowlands as well as in the mountains (Koroleva, 1977; Karg, 1993; Gwiazdowicz, 2000).

During faunistic investigations on the order Mesostigmata, in the spruce forests of Bucegi Mountains, three samples of *Pachyseius humeralis* deutonymphs were recorded and described in this paper. The chaetotaxy, symbols and setal nomenclature follow Evans (1992) and Lindquist (1994).

Pachyseius humeralis Berlese, 1910
(Figs 1 – 3)

Material. Tree deutonymphs; soil, ecosystem with *Picea abies*, Bucegi Massif, (N - 45°23'587''; E - 025°31'959''), Romania, December 1st, 2001, leg. M. Stănescu.

The holotype is present in the collection of Dr. Dariusz Gwiazdowicz, at August Cieszkowski Agricultural University, Department of Forest and Environment Protection.

Description of the deutonymph.

Dorsal. Oval body shaped in milk-white color. Idiosoma 525 μm long and 300 μm wide (Fig. 1). Schizodorsal shield on dorsal side with clear, deep incisions in the central part of shield. Thirty one pairs of simple setae on the shield. Most of them 25 μm long. The shortest setae – z1 (10 μm), the longest - J5 and Z5 (30-35 μm). A punctate sculpture clearly visible at the posterior part of the shield, between setae Z4', J4', J4, Z4 and Z5', J5', J5, Z5. Five pairs of simple setae on a membrane, aside schizodorsal shield.

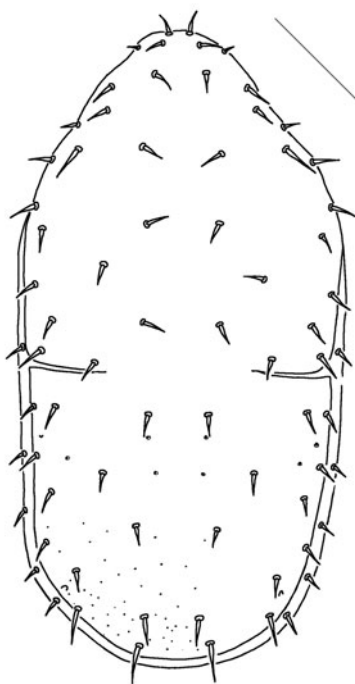


Fig. 1 – Deutonymph of *Pachyseius humeralis* – dorsal view. Scale: 100 μm .

Ventral. Two pairs of presternal shields (Fig. 2) next to tritosternum. Sternal shield 215 μm long and 100 μm wide in the widest place. Four pairs of simple setae (st1-st3) 25 μm long on this shield. Setae st5 beyond sternal shield. Peritremes located on small peritrematic shields reaching from IV coxae to I coxae. Stigmas on the level of coxae IV. Endopodal shields between coxae II and coxae III. Anal shield 130 μm long and 90 μm wide in the lower part of the body. Three pairs of setae and gentle linear sculpture visible on this shield. Cribrum below postanal seta. All setae on ventale are 25 μm long, except JV5 (40 μm). Metapodal shields on body side, between coxae IV and anal shield.

Leg. Chaetotaxy of legs, the same as in females. Length of legs shorter: leg I (425 μm), leg II (350 μm), leg III (300 μm), leg IV (380 μm).

Comparison. Determination of *Pachyseius humeralis* deutonymph was possible through comparative analysis with females of this species. Similarities refer among others to tarsus II (Fig. 3 a, b). The same chaetotaxy is very characteristic, moreover clear, large “thorn”, and five pairs of spiniform setae. Similarities also visible on tectum (Fig. 3 c, d).

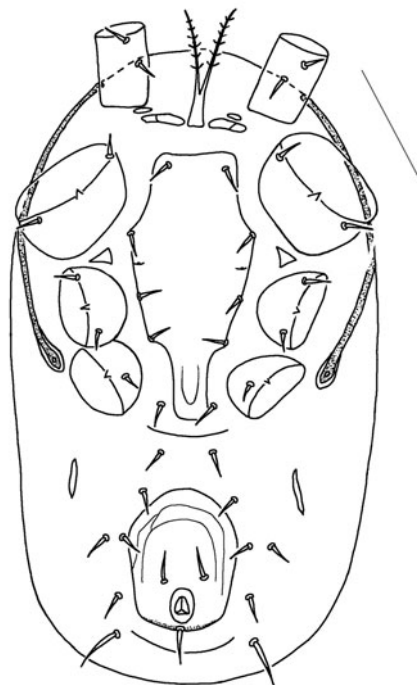


Fig. 2 – Deutonymph of *Pachyseius humeralis* – ventral view. Scale: 100 μm .

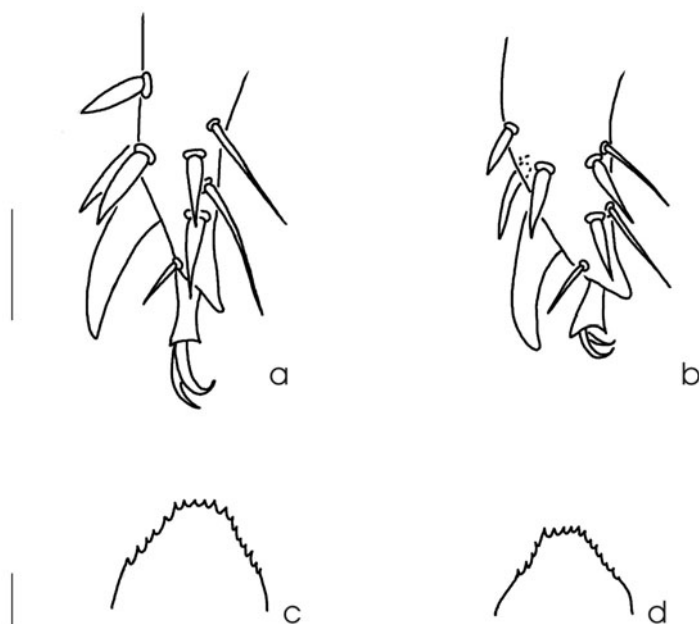


Fig. 3 - *Pachyseius humeralis* – a, tarsus II of female; b, tarsus II of deutonymph; c, tectum of female; d, tectum of deutonymph. Scales: a, b – 50 μm ; c, d – 25 μm .

Remarks. Biology of the species from genus *Pachyseius* is quite unknown and insufficient. No males have been recorded as well as developmental stages of the European species. Therefore any information filling this gap is essential. It may be expected that further development of faunistic and ecological studies on acarofauna of the order Mesostigmata will bring in more material enabling description of new, unknown developmental stages

DESCRIEREA DEUTONIMFEI SPECIEI *PACHYSEIUS HUMERALIS* BERLESE, 1910
(ACARI: PACHYLAELAPIDAE) DIN ROMÂNIA

REZUMAT

Exemplarele de acarieni colectate din munții Bucegi, din litiera unui sistem forestier cu *Picea abies*, au constituit baza pentru descrierea unei deutonimfe necunoscute a speciei *Pachyseius humeralis*, Berlese, 1910.

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Dariusz J. Gwiazdowicz
August Cieszkowski Agricultural University,
Department of Forest and Environment Protection
ul. Wojska Polskiego 71 c, 60625 Poznań, Poland
e-mail: dagwiazd@au.poznan.pl

Minodora Stănescu
Institute of Biology, Department of Ecology and
Natural Protection
Splaiul Independenței 296, 060031 Bucharest,
Romania
e-mail: stanescumina@hotmail.com