FIRST RECORD OF *ORCHESELLA PANNONICA* Stach, 1960 (HEXAPODA: COLLEMBOLA) IN ROMANIA

IONUȚ POPA

Abstract. The author presents the first record of the springtail *Orchesella pannonica* (Hexapoda: Collembola) in the Romanian fauna. Notes on the taxonomic status, distribution and ecology of the species are given.

Key words: Collembola, *Orchesella pannonica,* first record, Runcu-Grosi Natural Reserve, Romania.

1. INTRODUCTION

Collembolans represent a major component of terrestrial ecosystems (and particularly significant members of the soil communities), constituting a significant proportion of the animal biomass and are thus frequently and easily found (BELLINGER *et al*., 1996–2009). They may be found in moss, under stones, in caves, in ant nests and termite nests but also on the surfaces of lakes and ponds or under snow fields. In forest soils they can reach densities of 200 to 1800 individuals per dm^3, densities only surpassed by the acarian soil population (HANDSCHIN, 1955). Up to the present in the Romanian fauna are recorded 388 species (FIERA, 2007) but we appreciate that there are still unrecorded species if we compare in example our fauna to neighbour countries – *i.e*., 414 species in Hungary (DANYI AND TRASER, 2008) or 527 known species in Ukraine (KAPRUS *et al*., 2004).

2. MATERIAL AND METHODS

Our study was carried out in August 2008, in a *Quercus petraea* and *Fagus sylvatica* mixed forest, located in the Runcu-Grosi Natural Reserve (Zarandului Mountains). The specimens were captured by Dr. E. NITZU using pitfall traps (with olfactory attractant and ethyl alcohol) and Winkler extractor. The traps were emptied after 4 days and the specimens transferred in 70% ethyl alcohol.

3. RESULTS AND DISCUSSION

Three specimens of *Orchesella pannonica* Stach, 1960 were identified in two studied sites, as follows: 1 male individual, 1 female individual, 22.08.2008, mixed forest,

pitfall trap, leg E. NITZU, along with 2 individuals of *Pogonognathellus longicornis* (MULLER, 1776) and 1 male individual, 20.08.2008, sylvo-riparian, Winkler extractor, leg. E. NITZU, along with 4 individuals of *Tetrodontophora bielanensis* (WAGA, 1842) and 8 individuals of *Pogonognathellus longicornis* (MULLER, 1776).

The genus *Orchesella* Templeton, 1835 belongs to the Entomobryidae family and is represented in Romania by 21 species (FIERA, 2007).

According to STACH (1960), *Orchesella pannonica* belongs to the species group of *Orchesella spectabilis* Tullb., including also *O. pontica*, *O. bulgarica* and *O. croatica*. At present 2 species of the *O. spectabilis* – group occur in Romania (FIERA, 2007), namely as: *Orchesella pontica* Ionescu, 1915 and *Orchesella spectabilis* Tullberg, 1871. Members of this group are characterised by long antennae (distinctly longer than half length of the body), inner teeth of the claw weakly developed, secondary dimorphisms present, appearing in the different colouring of both sexes. The females of *O. pannonica* are coloured similarly as the females of the other species of the *Orchesella spectabilis* – group (pale head, distinct dark dorso-lateral lines and a pair of black circular patches on abdominal segment V laterally) (STACH, 1960). In both sexes there is, laterally on abdominal segment V, a pair of large circular patches. The antennae are generally uncoloured and the ground colour of the body is white (Fig. 1).

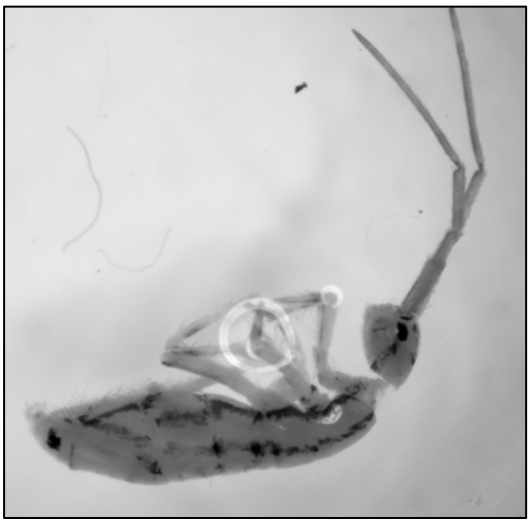

Fig. 1 – *Orchesella pannonica* Stach, 1960, female individual, habitus lateral.

O. pannonica can be distinguished from the other species belonging to *O. spectabilis* -group by different pigmentation pattern of the body of males. Thus, abdominal segment I presents black broad transversal stripes (unlike *O. spectabilis* and *O. croatica*). By the pattern formed by black pigment in the male, *O. pannonica* comes nearer to *O. pontica*, than to other elements of the *Orchesella spectabilis* group. The main character that differentiates this species from the similar *O. pontica* and *O.*

bulgarica is the presence of the traces of the dorso-lateral lines and the trapezium-like black patch on the thoracic segment II – abdominal segment I (Figs. 2–3).

Fig. 2. – *Orchesella pannonica* Stach, 1960, male individual, habitus dorso-lateral.

Fig. 3. – *Orchesella pannonica* Stach, 1960, male individual, habitus lateral.

Distribution and ecology. *O. pannonica* is known from Austria, Hungary, and F.R. of Yugoslavia (Incl. Serbia, Kosovo, Voivodina, Montenegro) (FAUNA EUROPAEA WEB SERVICE). According to DANYI and TRASER (2008), this is a xerothermophilic species.

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"Emil Racoviță" Institute of Speleology
Calea 13 Septembrie No. 13
Sect 5, Bucharest, RO 050711