



Annotated list of Tardigrada records from Ukraine with the description of three new species

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Abstract

A list of tardigrade species recorded from the Ukraine is provided; 18 are new records for this geographic area and three, *Tenuibiotus bozhkae* **sp. nov.**, *Xerobiotus euxinus* **sp. nov.** and *Hypsibius pallidoides* **sp. nov.** are new to science. Characters for *Tenuibiotus bozhkae* **sp. nov.** include two small gibbosities on each hind leg; pharyngeal bulb with three macroplacoids and microplacoid; eggs with long conical processes. For *Xerobiotus euxinus* **sp. nov.** there is a narrow buccal tube, dorsal transverse ridges of the buccal armature appear joined together forming a continuous arc; pharyngeal bulb with two macroplacoids and microplacoid, lunules absent on the first three pairs of legs but present on the hind legs; no cuticular bar on the legs. *Hypsibius pallidoides* **sp. nov.** has a very narrow buccal tube; pharyngeal bulb with two macroplacoids and a very small, dot-shaped, septulum; claws similar to those of *Hypsibius pallidus* (i.e. the main branches of the external claws are inserted onto the secondary branch at a distance from the base); lunules and cuticular bar absent from the legs.

Key words: Ukrainian tardigrades, *Tenuibiotus bozhkae* **sp. nov.**, *Xerobiotus euxinus* **sp. nov.**, *Hypsibius pallidoides* **sp. nov.**

Introduction

Very little is known about the tardigrades of the Ukraine and only a small part of this large country has ever been sampled (Fig. 1 and Table 1). Furthermore, most studies are now considerably out of date.

The Western Ukraine, especially Transcarpathia (modern Zakarpattya oblast) and the Ukrainian part of the Eastern Carpathian Mountains were the most extensively studied. Just prior to the Second World War this region, situated between former USSR, former Czechoslovakia, Hungary, and Romania, was thoroughly investigated by researchers from a number of countries, i.e. Bartoš (1941, 1967), Iharos (1937, 1940), Rodewald (1936, 1939), and Rudescu (1969). In a similar time period a tardigrade research project was started in Eastern Ukraine. Bozhko (1936, 1937) studied limno-terrestrial tardigrades from Kharkiv Oblast (river basin of Seversky Donets) and Crimean Peninsula.

Post Second World War research on tardigrade biodiversity was drastically reduced, with only two freshwater tardigrade studies by Polishchuk (1974), who explored the tardigrade fauna of the Ukrainian region of the Danube delta, and Kovalchuk (1987), who studied tardigrades from the Dniester river basin. In addition, Pilato (1977a) studied a small collection of ‘terrestrial’ tardigrades from the Crimea.

More recently, Sergeeva *et al.* (2006) started an investigation on marine Tardigrada in the Black Sea coastal zone of the Crimea, and Kiosya (2009) studied ‘terrestrial’ tardigrades of Crimea.

In the 1980’s Vladimir Biserov began a study of Ukraine tardigrades. He sampled a large number of sites in Western Ukraine and Crimea (1990b, 1991), as well as studying several samples from Kyiv Oblast; mainly from the Chernobyl nuclear power plant exclusion zone. As a result of this work Biserov created a large collection of