



## ***Thulinus saltursus* comb. nov.: a new systematic position for *Isohypsibius saltursus* Schuster, Toftner & Grigarick, 1978 (Eutardigrada: Hypsibiidae) and a key for the genus *Thulinus***

ŁUKASZ KACZMAREK<sup>1,4</sup>, ROBERTO BERTOLANI<sup>2</sup> & MONIKA NĘDZYŃSKA-STYGAR<sup>3</sup>

<sup>1</sup>Department of Animal Taxonomy and Ecology, A. Mickiewicz University, Umultowska 89, 61-614 Poznań, Poland.

E-mail: [kaczmar@amu.edu.pl](mailto:kaczmar@amu.edu.pl)

<sup>2</sup>Department of Biology, University of Modena and Reggio Emilia, via Campi 213/D, 41100, Modena,

Italy. E-mail: [bertolani@unimore.it](mailto:bertolani@unimore.it)

<sup>3</sup>Dąbrowskiego 5/17, 62-300 Września, Poland. E-mail: [monika@1h.pl](mailto:monika@1h.pl)

<sup>4</sup>Corresponding author

### **Abstract**

Based on the type material *Thulinus saltursus* comb. nov., is redescribed. *T. saltursus* is very similar to other members of the genus *Thulinus*, but it differs from the most similar species mainly by morphometric characters of the buccal tube, claws and the presence of lunules only on the external claws. In this paper we also provide a key for all *Thulinus* species known to date and make some remarks on their distribution.

**Key words:** *Thulinus saltursus*, *Isohypsibius saltursus*, redescription, taxonomy, Tardigrada

### **Introduction**

The genus *Thulinus* (Bertolani 1981) (formally *Thulinia* but changed due to junior synonymy; see: Bertolani 2003) was established based on the presence of 12 peribuccal lamellae. Later, scanning electron microscope observations showed the lamellae are partially fused (Bertolani *et al.* 1999). The genus *Thulinus* is now characterised mainly by the presence of 12 partially fused peribuccal lamellae and 6 peribuccal lobes (which may appear divided into a larger number of sub-lobes), and the buccal-pharyngeal apparatus and claws of the *Isohypsibius* type. To date four species in this genus are known from around the world: *T. augusti* (Murray, 1907), *T. itoi* (Tsurusaki, 1980), *T. ruffoi* Bertolani, 1981, *T. stephaniae* (Pilato, 1974) (Fig. 1). It is also possible that some other species attributed to the genus *Isohypsibius* should be transferred to genus *Thulinus*. One of these species is certainly *Isohypsibius saltursus*, described by Schuster *et al.* in 1978. In this paper we present a redescription of *Thulinus saltursus* **comb. nov.** and a key to the species of the genus *Thulinus*.

### **Material and methods**

We examined the holotype and 27 paratypes of *Thulinus saltursus* **comb. nov.**: 21 preserved at The Bohart Museum, Department of Entomology, University of California, Davis, USA and 7 at the Civic Museum of Natural History of Verona, Italy (Maucci's collection). We also examined the holotype and 20 paratypes of *Thulinus ruffoi* preserved at the Department of Biology, University of Modena and Reggio Emilia, Modena.

All measurements are given in micrometers [ $\mu\text{m}$ ]. Structures were measured only if their orientations were suitable. Body length was measured from the anterior extremity to the caudal end of the body, excluding the hind legs. Buccal tube length and the level of the stylet support insertion point were measured according to Pilato (1981). Buccal tube widths were measured as the external and internal diameters at the level of the