



Two new marine flatworms (Platyhelminthes: Rhabditophora: Proseriata) of the genus *Otoplana* Du Plessis, 1889 from the upper Tuscany sandy shores (Italy)

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Abstract

Two new otoplanid species, from the interstitial habitats of the North-Western Mediterranean sea coast, are described. The specimens show the typical morphological peculiarities of the subfamily Otoplaninae (“Turbellaria”, Otoplanidae), but clearly differ from other species described in this group. *Otoplana labronica* **sp. nov.** is characterized by a body length of 1.2–1.5 mm, different features of the testes and vitellaries, the male sclerotic apparatus composed of a median aculeus (52–53 µm long) and 16 peculiar spines (19–44 µm long). This new species has the smallest number of spines (17) and the smaller body length, in comparison to all the species of the genus. *Otoplana falcataspina* **sp. nov.** is characterized by a body length of 2.3–2.4 mm, distinctive dimensions and arrangement of the vitellaries, the male sclerotic apparatus composed of a median aculeus (50–51 µm long) and 20–21 spines (22–44 µm long). This new species has a limited body length, and only the sexually mature specimens of the new species *O. labronica* exhibit a smaller size. They were collected below the low water mark on the sandy beaches at Calambrone and Marina di Vecchiano (Pisa, Ligurian Sea, Italy), respectively.

Key words: Mediterranean Sea, marine biodiversity, taxonomy, meiofauna, Otoplanidae, new species

Introduction

Despite recent work, especially by Ax (1956, 1959), Lanfranchi (1969, 1978) and Lanfranchi & Melai (2007, 2010), the free-living platyhelminth family Otoplanidae is still little known. The family, which now contains 40 genera with about 125 species worldwide (Tyler et al. 2006–2012), is the dominant mesopsammic taxon found interstitially in the surf zone of sandy beaches, where they move rapidly among the sand grains. This investigation presents two new species of “Turbellaria” from western Italian sea coasts, attributed to the subfamily Otoplaninae on the basis of a partially ciliate body, a ciliate creeping ventral body surface and above all a cylindrical pharynx lying ventrally in the posterior trunk region. *Otoplana labronica* **sp. nov.** and *Otoplana falcataspina* **sp. nov.** belong to the family Otoplanidae (Platyhelminthes, Rhabditophora, Proseriata), which represents a globally distributed, marine group characteristic of the ‘Otoplanen-Zone’ defined by Remane (1933). They are assigned to the genus *Otoplana* (Du Plessis 1889; Ax 1956) on the basis of the general arrangement of pharynx, testes, germo-vitellaria, sclerotic apparatus and, above all, the presence of the clearly distinguishable accessory male pore.

From the taxonomic literature (Lanfranchi & Melai 2007), eighteen species have been historically classified in the genus *Otoplana*, but most have now been assigned to other genera or are incompletely described. As already reported (Lanfranchi & Melai 2010), there are at present five accepted species in the genus *Otoplana*: *O. intermedia* Du Plessis (1889) (Ax 1956) collected in the Ligurian and Tyrrhenian Seas, *O. bosporana* Ax (1959) sampled in the Bosphorus (Black Sea), *O. truncaspina* Lanfranchi (1969) discovered at Monte Rosso al Mare (Ligurian Sea), *O. oxyspina* Lanfranchi and Melai (2007) collected at Caletta Beach (Ligurian Sea), and *O. proxima* Lanfranchi and Melai (2010) from Marina di Bibbona (Ligurian Sea). With the description of two new species presented in this article, the currently known number of confirmed species of the genus *Otoplana* is now seven (Table 1). All described species of *Otoplana* have been collected within the basin of the Mediterranean Sea.