



## A new *Tetranchyroderma* species (Gastrotricha, Macrotrichida) from Tunisia, with its phylogenetic position based on molecular markers

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### Abstract

Data on marine gastrotrichs fauna from the southern coast of the Mediterranean Sea is scanty. To address the gap, a series of faunistic surveys along the northern Tunisian coastline is ongoing. In a shallow sublittoral sample collected at Chat Zwerâa, Béja, a new species of the genus *Tetranchyroderma* was found. Detailed morphological descriptions, along with molecular phylogenetic analysis based on ribosomal genes (18S and 28S) of the new species are provided. The new *Tetranchyroderma* has a pentancrous covering and prominent cephalic pestle organs; the caudal pedicles have three tubes each. The new species is also defined by a number and arrangement of adhesive tubes different from its congeners. Phylogenetic analyses using maximum likelihood (ML) and Bayesian inference (BI) methods, based on concatenated ribosomal gene sequences from 43 taxa, which included 31 thaumastodermatids, confirmed that the genus *Tetranchyroderma* is non-monophyletic. The analysis positioned the new species alongside other species that possess pestle organs, including *Tetranchyroderma antenniphorum*, *T. esarabdophorum*, *T. papii* and *Ptychostomella tyrrhenica*.

**Key words:** biodiversity, integrative taxonomy, Mediterranean Sea, meiofauna

### Introduction

Marine gastrotrichs (Phylum Gastrotricha Mečnikow, 1865) recorded from the Mediterranean and the Black Sea represent approximately 38% of the global marine species. In this context, the fauna along the northern Mediterranean coastlines, particularly in Italy and France, are better studied compared to those in the southern regions (Todaro *et al.*, 2003). Aside from Egypt, there have been no studies conducted in Morocco and Libya, and data from Algeria is limited (Todaro *et al.*, 2003; Leasi & Todaro, 2004; Hummon, 2010). Research is currently ongoing along the