



## Two new species of *Manunema* (Plectida: Peresianidae) from the Arabian Gulf, with notes on the phylogeny of the genus

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### Abstract

Two new species of *Manunema* are described from the coast of Kuwait, one from the intertidal in Kuwait Bay and one found at shallow subtidal sites in the Arabian Gulf. Like other species of *Manunema*, the two species described here are characterised by coarse striation of the cuticle; a tapered, trunk-like cervical region; a large, elongate oesophageal bulb and corresponding swelling of the body; absence of cervical setae; pedunculate somatic setae; paired outstretched ovaries in females, tubular preloacal supplements in males and a pair of simple, curved spicules in males.

*Manunema kithara* **sp. nov.** differs from other species in the genus by its characteristic, elongate, double oesophageal bulb which resembles a guitar in shape, being broader in the posterior half, and by the shape and form of the two preloacal supplements in the males. *Manunema kuwaitiensis* **sp. nov.** is similar to both *M. proboscidis* and *M. annulata* in having a weakly double oesophageal bulb, but differs in the morphology and position of the single preloacal supplement in males.

**Key words:** Nematoda, Peresianidae, *Manunema*, Kuwait, intertidal, subtidal, sand, mud, benthic, Persian Gulf

### Introduction

*Manunema* Gerlach 1957 is the only genus described from the family Peresianidae (Vitiello & De Coninck 1968). It is morphologically an unusual genus and rarely recorded in ecological surveys, perhaps because of its small size and apparent preference for sandy sediment. Only three species have been described, but the genus has a global distribution: *Manunema proboscidis* Gerlach 1957 in the Atlantic Ocean (Brazil), *Manunema annulata* Vitiello & De Coninck 1968 in the Mediterranean Sea (France) - both these species are also recorded in the North Sea (Germany and Denmark; Riemann *et al.* 1971) - and *Manunema pectenophora* Stewart & Nicholas 1995 in the Tasman Sea (Australia).

*Manunema* is characterised by a narrow elongate tubular buccal cavity; narrow elongate procorpus and cervical region; swollen posterior double oesophageal bulb accompanied by an increase in body diameter; paired outstretched ovaries in females; tubular preloacal supplements in males; and coarse cuticular striation. Only four cephalic sensillae have been observed for this genus, and no labial setae, including from SEM observations (Stewart & Nicholas 1995). This combination of characters, particularly with the presence of paired, outstretched ovaries and single posterior testis, has resulted in difficulties in classification and the genus has been moved several times. This paper presents descriptions of two new species in this unusual genus from the Arabian Gulf. In the light of the characteristics of these new species, the utility of the various diagnostic characters proposed is evaluated, and the controversial evolutionary relationships of the genus are discussed.