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Paragnomoxyala gen. nov. (Xyalidae, Monhysterida, Nematoda) from the East China Sea

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Abstract

A new genus, *Paragnomoxyala* **gen. nov.**, and a new species, *Paragnomoxyala breviseta* **sp. nov.** are described from the East China Sea. *Paragnomoxyala* **gen. nov.** is characterized by having large funnel-shaped buccal cavity with cuticularized walls and extended anteriorly; lips very high; striated cuticle; four cephalic setae, absence of outer labial setae; circular amphidial fovea; straight spicules and absence of gubernaculum; tail conico-cylindrical with three terminal setae; female monodelphic with an anterior outstretched ovary. It differs from similar genera by having a large buccal cavity unique in Xyalidae, straight spicules, lacking gubernaculum, and conico-cylindrical tail with terminal setae. *Paragnomoxyala breviseta* **sp. nov.** is characterized by having a large funnel-shaped buccal cavity, with cuticularized walls and extended anteriorly, 1.6-1.8 hd long and 63–79% cbd wide; four cephalic setae 3–4 μm long; circular amphids 6–9 μm in diameter; spicules straight but slightly bent at both ends; absence of gubernaculum and precloacal supplement.

Key words: Nematode taxonomy, *Paragnomoxyala* **gen. nov.**, *Paragnomoxyala breviseta* **sp. nov.**, East China Sea

Introduction

In order to study the biodiversity of free-living marine nematodes in the East China Sea, in the past few years sediment samples were collected from many sites in the intertidal to the sublittoral region. More than 300 (including seven new) species have been recorded from these habitats up to now (Chen & Guo 2014; Yu *et al*. 2014; Yu & Xu 2015; Jiang & Huang 2015; Wang *et al*. 2015). The present paper describes a new genus and a new species of Family Xyalidae Chitwood, 1951 from the East China Sea.

Xyalidae is one of the most common and widespread nematode families in marine environments. So far, 48 valid genera of Xyalidae, including two endemic genera occurring in China Sea, have been listed from around the world (Huang & Zhang 2006; Yu & Xu 2015; Venekey *et al.* 2014; Leduc 2015). In early classifications genera and species of Xyalidae were positioned in Monhysteridae de Man, 1876, but later Lorenzen (1978) split this family into Monhysteridae and Xyalidae. Lorenzen (1994) established the holophyly of Xyalidae within the Order Monhysterida based on the placement of the gonads relative to the intestine; with very few exceptions, the anterior gonad is always situated to the left, and posterior gonad to the right of the intestine. In addition to the above characteristics, Xyalidae has striated cuticle; six outer labial setae and four cephalic setae in one circle; buccal cavity usually funnel-shaped; amphidial fovea usually circular; and females with one anterior ovary to the left side of intestine (Warwick *et al.,* 1998). Lorenzen (1978; 1994) recognized 34 valid genera within the family. A revision of Xyalidae was published in 2014 by Fonseca and Bezerra which recognized 44 valid genera, and included a diagnostic key for the genera. The characters used in the dichotomous key included buccal cavity shape, cuticle feature, having or not of amphids, presence or absence of subcephalic setae, spicules shape and length, having or not of gubernaculum, tail with terminal setae or not and so on. In 2014, Venekey *et al.* provided an updated reviewed list of valid genera and species of Xyalidae and recognized 46 valid genera, and 450 valid species. Lately, the descriptions of *Pseudelzalia* Yu and Xu, 2015 and *Lamyronema* Leduc, 2015 increased the number of genera to 48.

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