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First occurrence of the Indo-Pacific polychaete species *Glycinde bonhourei* Gravier, 1904 in the Hellenic seas (Northern Evvoikos Gulf)

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Abstract

*A specimen of *Glycinde bonhourei* Gravier, 1904, an Indo-Pacific species, was found at a station near the metalliferous waste disposal in the Northern Evvoikos Gulf (Aegean Sea, eastern Mediterranean). This is the second report of this species in the Mediterranean Sea after its first finding in the Levantine basin (Israel and Egypt). This paper provides new information on its distributional range in the Mediterranean Sea.*

Keywords: *Glycinde bonhourei*; Goniadidae; Polychaeta; Lessepsian immigrant; Mediterranean; Aegean Sea.

Introduction

Glycinde bonhourei belongs to the polychaete family Goniadidae and the genus *Glycinde* Müller, 1858, which has 11 valid species world wide (BÖGGEMANN, 2005). This genus is represented by two species: [*Glycinde nordmanni* (Malmgren 1866) (western and eastern Mediterranean) and *Glycinde bonhourei* Gravier, 1904 (eastern Mediterranean)] in the Mediterranean Sea and in European waters in general (BELLAN 2001). BÖGGEMANN (2005) reported that *G. nordmanni* widely occurs in the western Mediterranean Sea and the Adriatic Sea,

and *G. bonhourei*, an indo-pacific species, has only been known up to now from the coasts of Israel and Egypt.

Methods

One individual belonging to the species *Glycinde bonhourei* Gravier, 1904 was found in March 2007 in an area of the northern Evvoikos Gulf (station L12, at 73 m depth) used as a disposal site of the by-products of processing locally mined laterite ore by a ferro-nickel smelting plant located in Larymna Bay. The disposed slag consists of loose and sand-size material.

On the Sinai peninsula coasts the species was found in shallow water (samples collected with dredge and beam trawl and comprised 14% of one sample from 7-12 m) (BEN-ELIAHU, 1972).

Results and Discussion

A large specimen with setigers with reddish-brown coloured strips on the dorsal surface. Proboscis with its surface covered with papillae arranged in longitudinal rows and mouth encircled with a dorsal arc of around 15 micrognaths (Fig. 1A). Proboscoidal papillae are unidentate in areas

II1 to II3 and bidentate in areas II4 to II6 (Fig. 1B-D). The anterior region consists of around 23 uniramous parapodia. The posterior parapodia are biramous and bear compound spinigerous neurosetae like those of the anterior region.

The collected specimen was identified as *G. bonhourei* Gravier, 1904, according to the number of micrognaths (around 15), the number of uniramous parapodia (around 23) and the absence of tridentate papillae in area II1. The colour marking of the species is a feature characterizing also the holotype according to anonymous descriptions.

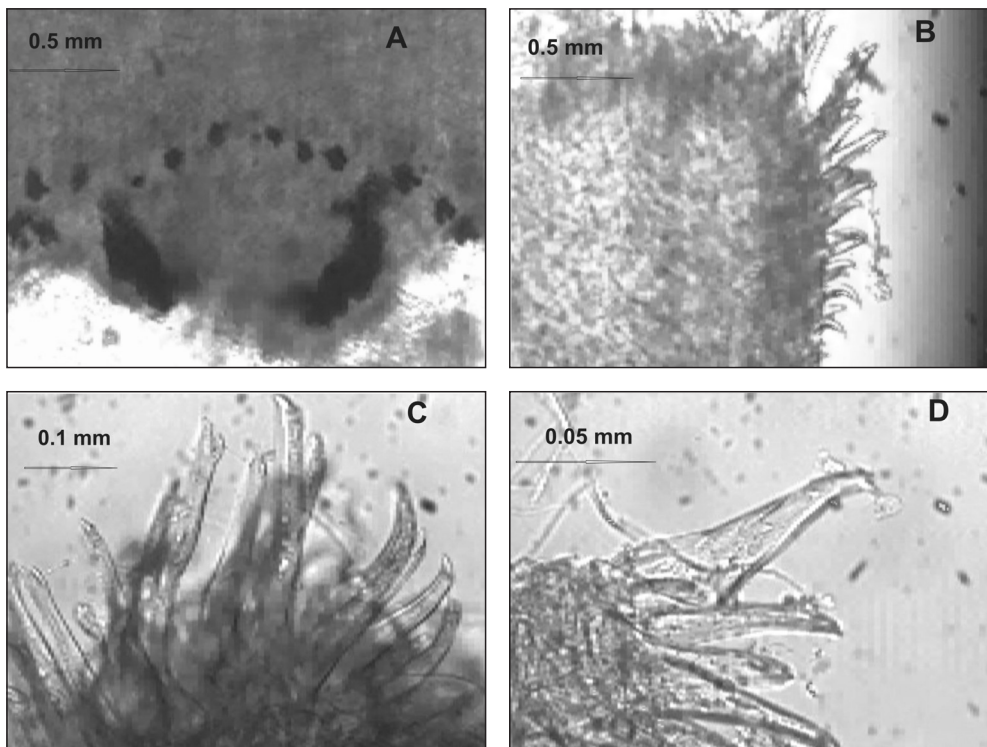


Fig.1: Microscopic proboscis photographs of the *Glycinde bonhourei* specimen found in the Evvoikos Gulf. (A) proboscis base with micrognaths; (B) particular of the proboscis showing papillae; (C,D) unidentate and bidentate, sigmoid papillae magnified (X 100 and X 320).

The diagnostic characters of this genus (BÖGGEMANN, 2005) are the number of uniramous parapodia, the shape of the small proboscoidal papillae in area II-1 and the number and distribution of the micrognaths. Figure 1A shows clearly that the species has about 15 micrognaths, a character shared by such different species as *G. bonhourei*, *G. nordmanni* and *G. capensis*. However, *G. bonhourei* has 19-26 uniramous parapodia and the small proboscoidal papillae of area II-1 are unidentate (Fig. 1C), whereas in *G. nordmanni* and *G. capensis* these papillae are tridentate, moreover the parapodia are uniramous in the first 27-33 segments in *G. capensis* and in the first 33-40 segments in *G. nordmanni*.

Glycinde bonhourei is known to be an immigrant from the Red Sea (BEN-ELIAHU 1972; BEN-ELIAHU & GOLANI 1990) established in the Mediterranean (ZENETOS *et al.*, 2005).

As STREFTARIS *et al.* (2005) pointed out, the introduction of alien species across the major European seas is a dynamic non-stop process and shipping appears to be the major vector of introduction, excluding the Lessepsian migration. As is proved by this last finding of *Glycinde bonhourei* in the Aegean Sea, continuous systematic research and taxonomic effort will update the list of non-indigenous species, which seems to remain an underestimation. The species is missing from a recent update of alien biota in Hellenic seas (PANCUCCHI *et al.*, 2005). The present work is based on a single specimen. However, the presence of an established population of the species in the area may have been overlooked. The previous records of *Glycinde nordmanni* (Malmgren 1866) from the eastern Mediterranean, the other species of this genus in the Mediter-

anean, should be checked to establish whether there was *Glycinde bonhourei* among the material. In this genus, misidentifications easily occur if the shape of the proboscis papillae is not checked.

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