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► **To cite this version:**

A Somaschini, M F Gravina. FIRST REPORT OF QUESTIDAE (ANNELIDA, POLYCHAETA) IN THE MEDITERRANEAN SEA : QUESTA CAUDICIRRA HARTMAN. *Vie et Milieu / Life & Environment*, 1993, pp.59-61. hal-03045703

HAL Id: hal-03045703

<https://hal.sorbonne-universite.fr/hal-03045703v1>

Submitted on 8 Dec 2020

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FIRST REPORT OF QUESTIDAE (ANNELIDA, POLYCHAETA) IN THE MEDITERRANEAN SEA : *QUESTA CAUDICIRRA* HARTMAN

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QUESTIDAE
POLYCHAETA
MER MÉDITERRANÉE

RÉSUMÉ – Première signalisation de la famille des Questidae pour la Mer Méditerranée. Dix-sept exemplaires de l'espèce *Questa caudicirra* Hartman, 1966 ont été recueillis dans les sables grossiers et dans la matte de *Posidonia oceanica* (L.) Delile dans une prairie située sur les côtes de l'Italie centrale (Mer Tyrrhénienne).

QUESTIDAE
POLYCHAETA
MEDITERRANEAN SEA

ABSTRACT – The first record of the family Questidae (Annelida Polychaeta) from the Mediterranean Sea is reported. Seventeen specimens belonging to the species *Questa caudicirra* Hartman, 1966 were found along the Italian coast in the sediment trapped among the rhizomes of *Posidonia oceanica* and in the coarse sand.

INTRODUCTION

The family Questidae was erected by Hartman (1966) to contain the new species *Questa caudicirra* from Eastern Pacific coast (Southern California). These worms are characterized by some oligochaetoid features especially in the mode of reproduction: the cocoon containing eggs and embryos is typical for most oligochaetes; the clitellar girdle is characteristic of oligochaetes (but in Questidae is in a different position); the spermathecae are commonly known from oligochaetes. Giere and Riser (1981) extensively discussed the morphology and the systematic position of Questidae, and concluded that they represent aberrant polychaetes adapted to interstitial life. In fact, they are small and slender bodied worms resembling the Orbiniidae and Paraonidae, and for this reason they are included in the order Orbiniida (Fauchald, 1977). Their diagnostic features consist in their small size and in their bifid or trifid crochets.

Up to now four species of Questidae are described. Three of them belong to the genus *Questa*: *Q. caudicirra* Hartman, 1966, *Q. media* Westheide, 1981, *Q. ersei* Jamieson and Webb, 1984, and one species to the genus *Novaquesta*: *N. trifurcata* Hobson, 1970. The presence of caudal branchiae and anal cirri distinguishes the genus *Questa*. The furcate setae of *Q. media* West-

heide, 1981 are different in morphology from the trifurcate setae present in *Novaquesta*. Such trifurcate setae are also found in the intermediate "Genus A", described by Taylor and Gathof (1984) from the Gulf of Mexico, which also bears caudal branchiae and anal cirri.

From the available data, Questidae are distributed as follows: *Q. caudicirra* along the Eastern Pacific and Western Atlantic coasts (California, British Columbia, Mexico); *Q. media* from Galapagos; *Q. ersei* from Great Barrier Reef of Australia; *N. trifurcata* along the Western Atlantic coasts (New Brunswick, Maine, Massachusetts, Mexico) (Jamieson and Webb, 1984; Taylor and Gathof, 1984; Westheide, 1981).

The aim of the present paper is to report the first record of the family Questidae and of the species *Questa caudicirra* from the Mediterranean Sea.

MATERIAL AND METHODS

14 specimens of *Questa caudicirra* were collected in a sea-grass bed – *Posidonia oceanica*, (L.) Delile – along the coast of Ponza island and three specimens were found in coarse sand at the coast of Zannone island (Italy, Latium).

Sampling stations were located at 5-10 and 20 m of depth. Samples of sediment trapped among rhizomes were collected in June 1989, cutting out a piece of turf of a volume of 6,000 cm³ (20x20x15 cm). Samples of soft bottom were taken by means of a grab of 50 l of volume. Sampled material was washed through of 1 mm and 0.45 mm mesh screens, the examined specimens were found in the 1-0.45 mm fraction and fixed in 10 % buffered formalin. The studied specimens are maintained, in the personal collections of the authors.

Habitat

Q. caudicirra inhabits soft bottoms. The species was found in calcareous ooze and in coarse sand along the Pacific coast, 7-124 m (Hartman, 1966) and in medium sand off Florida, 36 m (Taylor and Gathof, 1984). The Mediterranean specimens were collected in the coarse sand and in the sediment trapped among the rhizomes of *Posidonia oceanica*.

DISCUSSION

Our individuals correspond to the description of *Q. caudicirra* Hartman, 1966, but the occurrence of bifid crochets on the first setiger agrees with Taylor and Gathof (1984), who rectified the Hartman's description.

Mediterranean specimens are distinguished from the description of *Q. media* Westheide, 1981 by lacking trifid setae. Fewer differences exist in the external morphology between *Q. caudicirra* and *Q. ersei* Jamieson and Webbs, 1984, except in the setation (males of *Q. ersei* have 13-14 segments and a prepygidial asetigerous segment). The absence of the trifid setae and the presence of the caudal branchiae and the anal cirri on the pygidium distinguish our specimens from *Novaquesta*.

The few records of this species could be due to its small size. Notwithstanding, at present *Q. caudicirra* appears widely dispersed (Pacific,

DESCRIPTION OF EXAMINED MATERIAL

Entire worms are 5.5-7 mm long and possess 37-55 setigers, to the exclusion of prostomium and pygidium (Fig. 1a).

Prostomium subtriangular, devoid of eyes and appendages. Peristomium biannulate and asetigerous. The following segments (except for the pygidium) bearing 1-5 capillary setae and 1 bifid crochet in the notopodia and neuropodia (Fig. 1c). Capillary setae are ornamented by a series of transverse wrinkles (Fig. 1d). Bifid crochets are present from the first setiger, as reported by Taylor and Gathof (1984). Two dorsal cirriform branchiae are present on the posterior segments. The pygidium bears two dorsal and two ventral anal cirri (Fig. 1b).

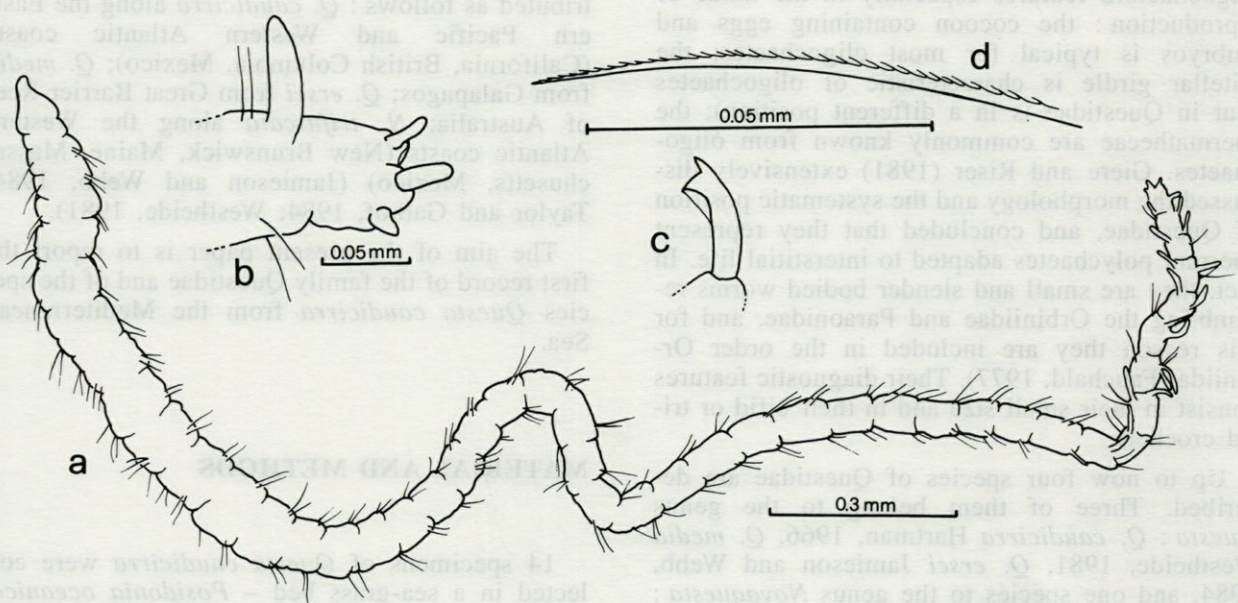


Fig. 1. - *Questa caudicirra*. a, entire worm; b, posterior end, dorsal view; c, bidentate crochet; d, capillary saeta.

Atlantic Oceans, and Mediterranean Sea) and would be a cosmopolitan species. Such a worldwide distribution is not uncommon among many polychaete taxa, which may go back to a relic of a single fauna already differentiated and distributed at Pangeal times (Fauchald, 1984).

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*Reçu le 6 Août 1991; received August 6, 1991
Accepté le 3 février 1992; accepted February 3, 1992*