Short communication

A pinnotheroid pea crab (Decapoda, Brachyura, Pinnotheridae), from the early Pliocene of Cassine (Alessandria, Piemonte, NW Italy)

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Abstract - A pinnotheroid pea crab (Pinnotheridae De Haan, 1833), is here reported from the Zanclean (early Pliocene) clays of a quarry located S-SW of Cassine (Alessandria, Piemonte, NW Italy). Though the studied specimen cannot be assigned to any genus within the Pinnotherinae (Pinnotheridae De Haan, 1833), it is the first record from the Pliocene of Italy and paleo-Adriatic Gulf, increasing the knowledge of the presence and fossil distribution of this family in the Mediterranean area.

Key words: Decapoda, Brachyura, Pinnotheridae, Pliocene, Piemonte, NW Italy.

INTRODUCTION

The studied specimen was collected along a natural landslide in an active quarry located S-SW of Cassine (Alessandria, Piemonte, NW Italy) (44°45’3.24”N, 8°31’44.04”E). Here grey, unbedded silty clay belonging to the Argille Azzurre (ex Argille di Lugagnano) (Boni & Casnedi, 1970) crops out (Pedriali & Robba, 2005). The fossiliferous clay preserves a rich associated marine fauna, including mainly mollusks, echinoids, and rare plant remains (for additional information see Robba, 1990). Based on the scarce available data, the studied specimen is assigned to the Zanclean (early Pliocene). The previous decapod record from Cassine includes one unstudied specimen, figured by Damarco (2009: Fig. 326), and ascribed to Cancer cf. C. sismondae [sic] (= Lobocarcinus cf. L. sismondae) (Cancrinidae Latreille, 1802), housed in the Paleontological Museum “Giulio Maini” of Ovada (Alessandria, Piemonte). Later Pasini & Garassino (2013) reported Bathylpluma pliocenica Garassino, Pasini & Marini, 2012 (Retroplumidae Gill, 1894), Monodaeus bortolottii Delle Cave, 1988 (Xanthidae MacLeay, 1838), and some poorly preserved small carapaces tentatively ascribed to Goneplax rhomboides (Linnaeus, 1758) (Goneplacidae MacLeay, 1838).

MATERIALS AND METHODS

One small carapace in dorsal view, three-dimensionally preserved within a small fragment of grey silty clay. The specimen is housed in the paleontological collections of the Museo di Storia Naturale di Milano (MSNM).

Abbreviations
lcxp: carapace length;
P1-P5: pereiopods 1-5;
wcxp: carapace width.

SYSTEMATIC PALAEONTOLOGY

Section Eubrachyura de Saint Laurent, 1980
Subsection Heterotremata Guinot, 1977
Superfamily Pinnotheroidea De Haan, 1833
Family Pinnotheridae De Haan, 1833
Subfamily Pinnotherinae De Haan, 1833

Genus and sp. indet.

Material and measurements: one poorly preserved carapace, slightly compressed transversally (MSNM i29211 – lcxp: 5 mm; wcxp: 5 mm).
pea crabs, mainly living commensally with shells, tests, on tubes of bivalve mollusks, ascidians, holothurians and polichae e worms (Davie, 2002). Two extant species have been recognized and widely accepted from the Mediterranean Sea, including the Northern Adriatic Sea (Becker & Turkay, 2010: 1556), Nepinotheres pinnothere (Linnaeus, 1758) and Pinnothere pisum (Linnaeus, 1767), mainly infesting selected species of bivalves. Both show generic affinities with the smooth carapace shape of the studied specimen, but differing mainly in the absence of the transverse short groove and the bilobate front in N. pinnothere. Unfortunately, no fossil records of the subfamily have been recorded from the Pliocene Mediterranean area to date.

This record, the first for a representative of the pinnothereid pea crabs from the Pliocene of the Italian paleo Mediterranean area, considerably increases the sparse knowledge about the fossil distribution of the family.

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