

***Maetra pecchiolii* Lawley, 1869 (Bivalvia Mactridae), a “forgotten pliocenic” taxon**

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ABSTRACT

A fossil bivalve belonging to the Pliocene has been recorded in southern Tuscany. Following bibliographic researches, it has been classified as a previously studied taxon that has never been cited afterwards: *Maetra pecchiolii* Lawley, 1869 (Bivalvia Mactridae). A lagoon environment of salt water has been speculated for this species.

KEY WORDS

Maetra; Mactridae; fossils; Pliocene.

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INTRODUCTION

The examination of material of Lower Pliocene from southern Tuscany has brought to the discovery of a bivalve never reported, at first glance, and figured as *Maetra* sp. (Brunetti, 2014). After extensive studies, it became clear that this taxon belong to a species previously described as *Maetra pecchiolii* Lawley, 1869, and never again cited afterwards.

MATERIAL AND METHODS

The examined material, sampled during subsurface searches, is from a Zanclean deposit. Usually, the original diagnosis of the specific descriptions is not indicated. However, in this occasion, the immediate comparison of the most important characteristics of the species was necessary.

ABBREVIATIONS AND ACRONYMS. L = maximum width of the shell; ex = specimen/s; CMMB = collection M.M. Brunetti (Navas del Selpillar, Spagna) MGGC = collection Della Bella, Museo Geologico “G. Capellini” of Bologna (Italy).

RESULTS

Systematics

Classis BIVALVIA Linnaeus, 1758
Subclassis HETERODONTA Neumayr, 1884
Order CHAMIDA Pacaud et Le Renard, 1995
Superfamilia MACTROIDEA Vaught, 1989
Familia MACTRIDAE Lamarck, 1809
Genus *Maetra* Linnaeus, 1767
Type species: *Cardium stultorum* Linnaeus, 1758

***Maetra pecchiolii* Lawley, 1869 (Figs. 1–7)**

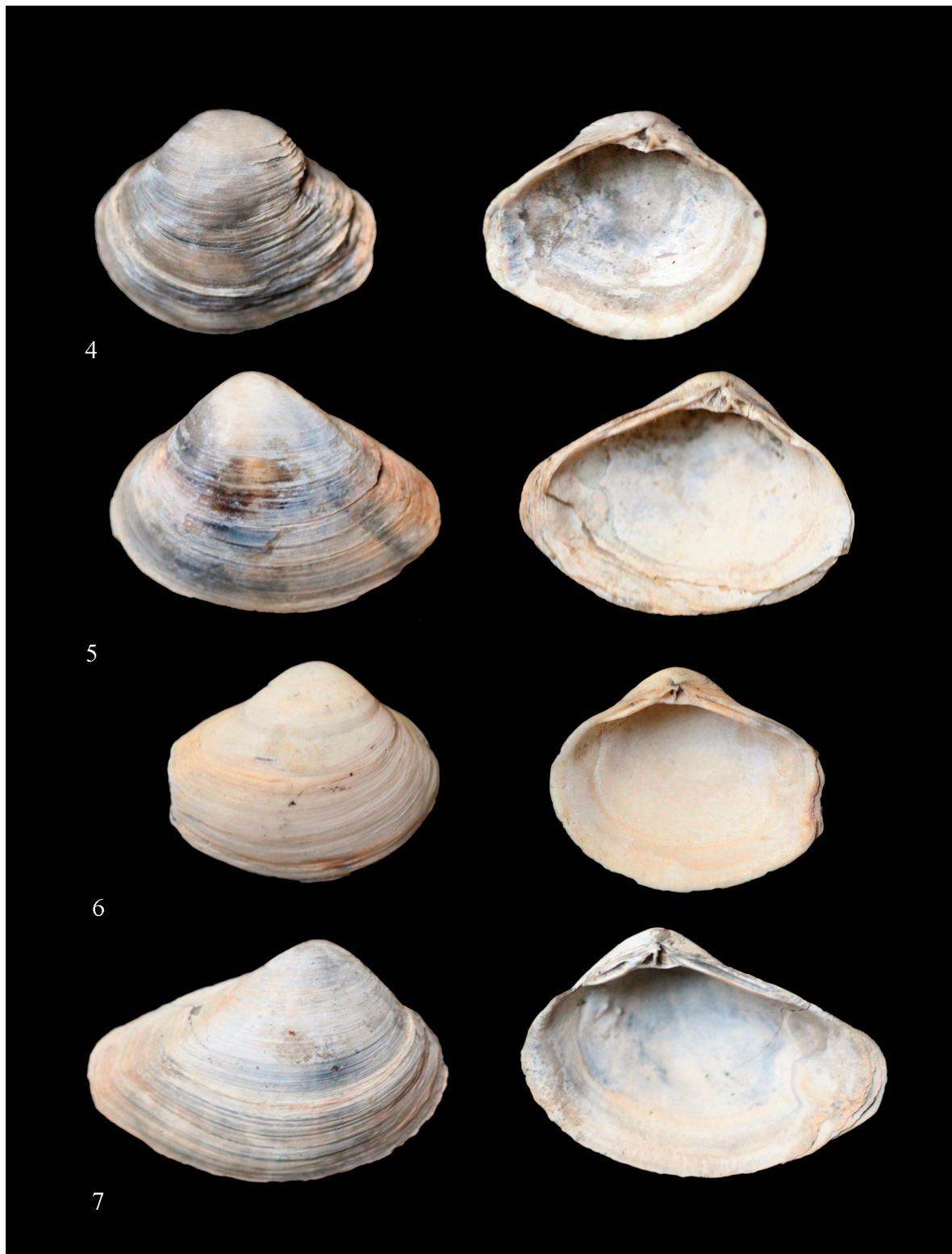
Maetra sp. - Brunetti M., 2014: p. 92.

EXAMINED MATERIAL. Località Monte Antico (Grosseto), Zanclean, 55 ex (MGGC), 35 ex (CMMB).

ORIGINAL DIAGNOSIS (Lawley, 1869). *M. testa trigona, oblonga, turgidula, inaequilatera, solida, laevigata, polita, transversis irregularis rugosa. Latere antico brevio rotundato. Postico flexuoso, producto attenuato, et obtuso angulato. Umbonitus*



Figures 1–3. *Mactra pecchiolii* Lawley, 1869. Fig. 1: right valve, detail of the hinge, Monte Antico (Grosseto), Zanclean (CMMB). Fig. 2: right valve, Monte Antico (Grosseto), Zanclean, L = 12 mm (CMMB). Fig. 3: original illustration after Lawley, (1869), modified, L = 23 mm.



Figures 4–7. *Mactra pecchiolii* Lawley, 1869. Fig. 4: left valve, Monte Antico (Grosseto), Zanclean, L = 13 mm (MGGC). Fig. 5: left valve, Monte Antico (Grosseto), Zanclean, L = 15.8 mm (MGGC). Fig. 6: right valve, Monte Antico (Grosseto), Zanclean, L = 13 mm (MGGC). Fig. 7: right valve, Monte Antico (Grosseto), Zanclean, L = 17 mm (MGGC).

tumidus, relevatis, obliquis. Valvis intus densis, cardine lato. Vulva tantusque excavata angulo obtuso circumscripta, ad periphaeriam relevata area plicata. Dentibus cardinalibus posterioribus, brevibus; et anteriore bifido; dente sub-cardinale prominente. Fossula cardinali cochleariformis profunda. Impressione musculare antica profunda, posteriore minus, et cum laevis excavatio pallii. Sinum palleale lato.

DESCRIPTION. Shell is sturdy, swell, equivalve, inequilateral, medium-small dimension (average L = 16 mm). The shape of the valves is triangular, rounded in the back and pointed in the front, rounded under. The sculpture has growthlines with an irregular width, more marked towards the lower border of the valve. Vague and superficial lunule. Protuberant and swell umbones. The pallial line is hard to see, but continuous with deep muscle marks. Posterior cardinal tooth protruding slightly in both valves, median cardinal tooth bifid and protruding in both valves, cardinal fossula deep and elongated.

DISTRIBUTION. Taken into consideration the examined material, the species lived at small depths, probably in lagoon environments of salt water and exclusively in Zanclean.

REMARKS. The specimen illustrated and described by Lawley (1869), even if slightly bigger, can be compared to the material examined for this work. Lawley (1869) report the species for the yellow sand in Bacciano, near Cecinella (Pisa). This author also specify that the material at the “Reale Museo di Pisa” is wrongly stated to be originary from Orciano Pisano (Pisa). The species has been recently discovered only in Monte Antico (Grosseto) of Lower Pliocene (Zanclean), and exclusively in the black clay at *Potamides granosus* f. *basteroti* (De Serres, 1829). This allows to speculate that the habitat of this taxon is a lagoon environment of salt water. See Brunetti (2014) for other insights concerning the location in which this species has been found. By comparing *Maetra pecchiolii* to other similar species, Lawley (1869) noticed a resemblance with *M. triangula* Brocchi, 1814. This species was mentioned by Renier (1804: p. 6), but it was well described and illustrated by Brocchi (1814: p. 535, tav. 13, fig. 7 a-b). *Maetra triangula* is con-

sidered by many authors as one of the many varieties of *Spisula subtruncata* (Da Costa, 1778) (Liverani & Tabanelli 2013). Brunetti (2014, p. 92), while illustrating *M. pecchiolii* as *Maetra* sp., speculated a resemblance with the specimen illustrated by Fontannes (1883, p. 23, tav. 1, fig. 27) as *M. triangula*. By carefully rereading the description of the French author, it was clear that this species could be connected to *S. subtruncata* or to a similar species. In the description of the cardinal fossula, Fontannes (1883, p. 23) writes: “*dents latérales lamelliformes, couvertetes des stries longitudinales*”. This is one of the morphological character of the genre *Spisula* Gray, 1837, that is missing in *Maetra pecchiolii*. This species has a deep and smooth lateral fossula, while lacking the characteristic lamellae of the *Spisula* genre.

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