

On the presence of *Peronaea planata afroccidentalis* (Cosel, 1995) (Bivalvia Tellinidae) from Iberian Lower Pliocene Atlantic deposit

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ABSTRACT The study of numerous malacological material coming from the Iberian Lower Pliocene Atlantic deposit has made it possible to confirm the fossil presence of *Peronaea planata afroccidentalis* (Cosel, 1995) (Bivalvia Tellinidae) previously considered only a form of *Peronaea planata* (Linnaeus, 1758).

KEY WORDS Bivalvia; Tellinidae; fossils; Pliocene, Spain.

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INTRODUCTION

The construction of some wells for agricultural use in the Santa Catalina locality (Lucena del Puerto, Huelva Spain) and in other nearby localities (Lucena del Puerto and Villarasa) has brought to light gray clayey sand sediments, pertaining to the Atlantic lower Pliocene (Landau et al., 2011). In these sediments, rich in malacofauna attributable to a circalittoral depth, numerous valves of a large Bivalvia Tellinidae attributable to *Peronaea planata afroccidentalis* (Cosel, 1995) were found. Almost all specimens found manually were found with closed valves. Part of the material found has been deposited in the Paleontological Museum of Estepona (Spain) and in the Paleontological Museum of Florence (Italy). The abbreviation L was used to indicate the maximum width of the valve.

RESULTS

Systematics

Ordo BIVALVIA Linnaeus, 1758

Superfamilia TELLINOIDEA Blainville, 1814

Familia TELLINIDAE Blainville, 1814

Genus *Peronaea* Poli, 1791

TYPE SPECIES: *Tellina planata* Linnaeus, 1758

Peronaea planata afroccidentalis (Cosel, 1995)
(Figs. 1, 2)

1995. *Tellina* (*Peronaea*) *planata afroccidentalis*
Cosel, p. 54, fig. 80.

2019. *Tellina* (*Peronaea*) *planata afroccidentalis*
Cosel - Cosel & Gofas, p. 566, fig. 13.11.

2022. *Peronaea planata afroccidentalis* Cosel -
Brunetti M., p. 114. fig. 272.

2022. *Peronaea planata planata* Linnaeus - Bru-
netti M. & Della Bella, p. 109.

DESCRIPTION. Original description by Cosel (1995): “Shell 50–82 mm long, oval, rather thick and solid, compressed. Anterior margin broadly rounded, posterior margin rounded and slightly angulated at the end which is slightly twisted to the right Ventral margin with very slight or without posterior sinuosity. Beaks slightly in front of the vertical midline. Escutcheon restricted to the length of



Figures 1, 2. *Peronaea planata afroccidentalis* (Cosel, 1995). Fig. 1: Santa Catalina (Huelva, Spagna), Lower Pliocene, right valve, L = 82 mm. Fig. 2: Santa Catalina (Huelva, Spagna), Lower Pliocene, left valve, L = 86 mm. Figure 3. *Peronaea planata planata* (Linnaeus, 1758) Marina di Latina (Latina, Italy), L = 52 mm .

the deep sunken ligament. Surface smooth, with irregular growth lines and very faint irregular radial striae, fully visible under a lens (x 10) only. There are also faint regular, not too close-set, concentric threads on the first 12–15 millimetres of the umbonal area. Postero-dorsal area delimited by a very weak angle. Periostracum light yellowish brown thin and translucent present only on the marginal area. Hinge in the right valve with a small and very short anterior lateral, close to the beaks and set off in a more less marked angle from the antero-dorsal margin. Anterior cardinal small, posterior cardinal broader and bifid, posterior lateral very short, situated immediately behind the deep-sunken nymph. Left valve with a narrow, bifid anterior cardinal and a thin posterior cardinal, there are very slight knobs opposite to the laterals of the right valve. Pallial sinus very long but not reaching the anterior adductor scar, with the broadest part under the beaks, confluent with the ventral pallial line over nearly its whole length. Exterior cream or dirty white, often with light greyish growth zones. Interior white, with exterior colouration showing through”.

DISCUSSION

Peronaea planata afroccidentalis (Cosel, 1995) (Figs. 1, 2) was described on live specimens from Casamance (Senegal). In a previous work, studying the figures reported by Cosel (1995) and also by Cosel & Gofas (2019), I attribute the fossil populations of the Atlantic lower Pliocene of the Guadalquivir valley to this species (Brunetti (2022)). Subsequently (Brunetti & Della Bella, 2022), this fossil population was placed in the morphological variability of *Peronaea planata planata* (Linnaeus, 1758), a species that currently lives in the Mediterranean Sea.

Further examination of a greater number of fossil specimens from Guadalquivir valley led me to consider the first hypothesis as valid.

Peronaea planata afroccidentalis, to which the fossil population would therefore correspond, always has larger valve dimensions and strength than the Mediterranean populations of *P. planata planata* (which do not exceed 62 mm in width), easily exceeding 80 mm in adult specimens. Even the more elongated and rostrated shape of the valves and the remains of the original ornamentation correspond more closely to the characters of *P. planata afroccidentalis* and not to those of *P. planata planata* (Fig. 3).

In conclusion, *P. planata afroccidentalis* (Cosel, 1995) would belong to that group of Atlantic species which, following the cooling of the climate which occurred in the upper Pliocene, emigrated along the coasts of West Africa.

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