

On the taxonomic validity of *Lissochlamys perstriatula* (Sacco, 1897) (Bivalvia Pectinidae)

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ABSTRACT

The discovery in the Spanish lower Pliocene of Moguer (Huelva, Spain), the Guadalquivir basin, of some valves corresponding to *Lissochlamys excisa* var. *perstriatula* Sacco, 1897 is reported. The comparison with the typical material preserved in the Natural History Museum of Turin (Italy) confirmed the correspondence between the Iberian and the Italian specimens. Due to the characteristics of the sculpture and the shape of the valves which clearly differentiate it from *L. excisa* (Bronn, 1831), this var. *perstriatula* is elevated to a valid species.

KEY WORDS

Bivalvia; Pectinidae; Pliocene.

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INTRODUCTION

Malacological research conducted in the lower Pliocene of the Guadalquivir Basin, Sands of Huelva (southern Spain) (Fig. 1) allowed the discovery of some valves of a Pectinidae corresponding to *Lissochlamys excisa* var. *perstriatula* Sacco, 1897. This variety was described for the Pliocene, probably lower, of Astigiana (Asti, Piedmont, Italy) (Sacco, 1897). In the same places where *L. excisa* var. *perstriatula* was found in Spain, specimens of *L. excisa* (Bronn, 1831) have also been found. This species had previously been reported in the Guadalquivir Basin by some authors (see Porta de, 1969, 1979 and Landau et al., 2011 for the geological framework of the area).

MATERIAL AND METHODS

The examined material was collected manually on the ground, on the surface. The following abbreviations are used in the text: L = maximum width of the valve; es. = specimen with both valves; vl. = valve;

MRSN = Regional Museum of Natural Sciences of Turin, Italy; CBM = Brunetti Mauro collection. For the systematics we followed the WoRMS (2019).

RESULTS

Systematics

Classis BIVALVIA Linnaeus, 1758
Subclassis PTERIOMORPHIA Beurlen, 1944
Ordo PECTINIDA Gray, 1854
Superfamilia PECTINOIDEA Rafinesque, 1815
Familia PECTINIDAE Rafinesque, 1815
Subfamilia PALLIOLINAE Korobkov, 1960
Genus *Lissochlamys* Sacco, 1897
Type species *Pecten excisus* Bronn, 1831

Lissochlamys perstriatula (Sacco, 1897) (Figs. 2–5)

Lissochlamys excisa var. *perstriatula* - Sacco, 1897: p. 46, tav. 13, fig. 29.

Palliolium (*Lissochlamys*) *excisum* Bronn - Raffi, 1970: p. 103, tav. 25, figs. 6a–c.

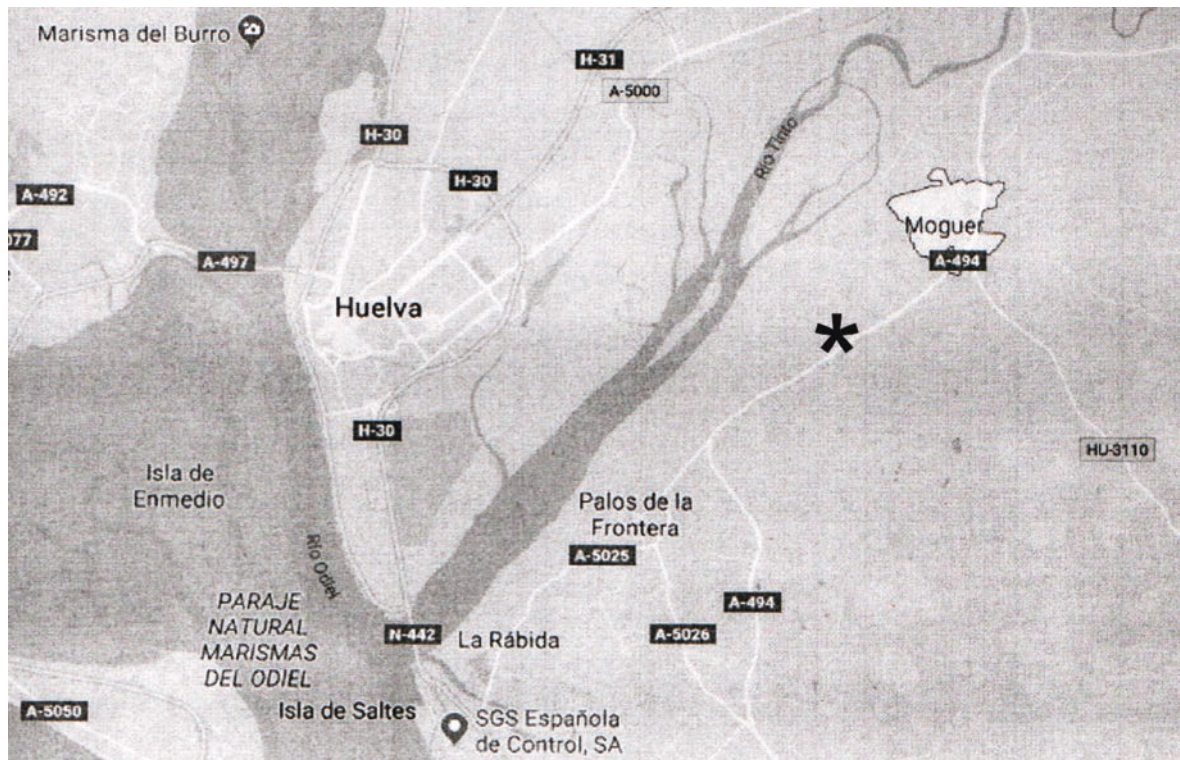


Figure 1. Study area. The asterisk indicates the locality where *Lissochlamys perstriatula* (Sacco, 1897) was found.



Figure 2. *Lissochlamys perstriatula* (Sacco, 1897). Lectotipo, Astigiana, Pliocene, L = 34 mm, with original label.



Figures 3–5. *Lissochlamys perstriatula* (Sacco, 1897). Fig. 3: *Lissochlamys perstriatula*, Moguer (Huelva, Spagna) Zanclean, L = 55 mm (CBM). Fig. 4: Detail of the left valve sculpture. Fig. 5: Detail of the auricle left valve. Figures 6, 7. *Lissochlamys excisa* (Bronn, 1831). Fig. 6: Bonares (Huelva, Spagna), Zanclean, left valve L = 51 mm (CBM). Fig. 7: Bonares (Huelva, Spagna), Zanclean, right valve L = 49 mm (CBM).

ORIGINAL DESCRIPTION. Sacco (1897): “*Valva dextera radiatim striatior, in anteriore parte praecipue. Astiano: Astigiana (rara)*”.

EXAMINED MATERIAL. Lectotype, Astigiana, Pliocene, 1 vl. (MRSN); Moguer (Huelva, Spagna), Zanclean, 1 es. + 3 vl. (CBM).

Lissochlamys exotica (Dyallwyn, 1817). 1 vl. Cassamance (Senegal).

DESCRIPTION. Medium-sized shell (L <80 mm), inaequivalved. Left valve slightly convex and inaequivalved, right valve completely flat and subequilateral. Orthodox umboni. Palleal margin is regularly rounded, subangular at the connection with the lateral margins which are slightly concave. Sub-equal auricles, little expanded. Ornamentation consisting of a dense radial sculpture in both valves and slender shallow growth streaks. Wide muscle footprint.

REMARKS. Due to the unique morphological characteristics of *L. excisa* var. *perstriatula*, it is considered here as a valid species. The lectotype (Fig. 2) of this variety consists of a somewhat worn right valve which shows a slightly coarser radial streak than the material found in the Spanish Pliocene, but which, in my opinion, falls within the variability of this species. Following the description of this taxon (Sacco, 1897), Raffi (1970, p. 103, tav. 25, figs. 6a–c), illustrated a specimen also ascribable to *L. perstriatula*. This sample was found in the Pliocene (lower?) of Prato Otessola (Piacenza, Italy) (Cocconi collection) and it was illustrated and described as *L. excisa* (Bronn, 1831).

However, *L. excisa* has significant differences compared to *L. perstriatula* (see also the figures in Brambilla, 1976; Cavallo & Repetto, 1992; Chirli, 2014). In particular, *L. excisa* (Figs. 6, 7) is devoid of radial sculpture in both valves, except for a few weak radial stria just below the auricles. This species also has the more convex right valve and the different-shaped auricles, in particular those of the right valve (Fig. 7). Among the recent species, *L. perstriatula* has a certain affinity with *L. exotica* (Dyallwyn, 1817), a species present in the Senegalese province (see the figures proposed by Dijkstra & Goud, 2002 and Ardovini & Cossignani, 2004), from which it differs in the right less convex valve and the radial sculpture clearly visible and present in both valves. In *L. exotica*, this type of ornamentation is composed of much thinner radial streaks, barely visible only in the lateral parts of both valves.

In conclusion, the variety *perstriatula* of Sacco (1897) must therefore be considered a valid species.

The lectotype is the right valve of the Bellardi-Sacco collection with inventory number: BS-110-09-004.

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