

## On some Pliocene Cancellariidae (Mollusca Gastropoda) from the Mediterranean Basin with description of a new species

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### ABSTRACT

During the study on Pliocene Mediterranean malacofauna the author found the presence of a new species of the genus *Sveltia* Jousseume, 1887 called *S. confusa* n. sp. The new species is present both in Zanclean sediments of Southern Spain (Guadalquivir basin and Estepona), and in Pliocenic sediments of Southern Tuscany. This species had been previously discussed and figured by various authors as *Sveltia varicosa* (Brocchi, 1814). During the research were also found some specimens similar to *Ventrilia imbricata* (Hörnes, 1856), a taxon which was already described for the Austrian Miocene. In this study the taxonomic position of *V. imbricata*, along with its presence in Pliocenic sediments and its relationships with *Scalptia etrusca* Brunetti, Della Bella, Forli et Vecchi, 2008, are clarified.

### KEY WORDS

Pliocene; Cancellariidae; new species.

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### INTRODUCTION

During some research on Pliocene Mediterranean malacofauna it was found the presence of a new species of the genus *Sveltia* Jousseume, 1887 type species *Voluta varicosa* Brocchi, 1814. This species was cited by various authors as *Sveltia varicosa* (Brocchi, 1814), a taxon frequently found in Italian Pliocene sediments. During the same research, were also found some specimens similar to *Ventrilia imbricata* (Hörnes, 1856) a species already described for the Austrian Miocene and, as confirmed in the present study, also present in the Iberian Zanclean.

its from Guadalquivir basin (see Gonzales Delgado, 1985, 1988, 1989, 1993; Landau et al., 2011), and Zanclean of Southern Tuscany (Brunetti, 2014). For the generic attributions used see Brunetti et al. (2008, 2011).

ABBREVIATIONS AND ACRONYMS: H = maximum height of the shell, as measured from the apex to the ends of the siphonal channel; coll. = collection; exx. = specimens; MGGC = Della Bella collection, Geological Museum "G. Capellini" in Bologna; NHMW = Naturhistorischen Museum Geologisch Paläontologische-Abteilung, Wien; CDB = Della Bella private collection; CMB = Mauro Brunetti collection.

### MATERIAL AND METHODS

The examined material, collected during surface investigations, comes from various Pliocene depos-

### SYSTEMATICS

Classis GASTROPODA Cuvier, 1797

Subclassis PROSOBRANCHIA Milne Edwards, 1848

Ordo STENOGLOSSA Bouvier, 1887  
 Superfamilia CANCELLARIOIDEA Forbes et  
 Hanley, 1851  
 Familia CANCELLARIIDAE Forbes et Hanley, 1851  
 Subfamilia CANCELLARIINAE Forbes et Hanley, 1851  
 Genus *Sveltia* Jousseau, 1887  
 Type species: *Voluta varicosa* Brocchi, 1814

***Sveltia confusa* n. sp.** (Figs. 1–4, 7, 9)

*Narona (Sveltia) varicosa* (Brocchi, 1814) - Gonzales  
 Delgado, 1993, tav. 1, figs. 13-14  
*Narona (Sveltia) varicosa* (Brocchi, 1814) - Vera-  
 Peláez et al., 1995, p. 148, fig. 3: A-B; fig. 5 C-  
 D  
*Sveltia varicosa* (Brocchi, 1814) - Landau et al.,  
 2011, p. 32, tav. 16, fig. 6  
*Sveltia varicosa* (Brocchi, 1814) - Brunetti, 2014,  
 p. 62

EXAMINED MATERIAL. Holotype MGCC 24539,  
 Lucena del Puerto (Huelva, Spagna), Lower Pliocene  
 37° 17'54.0"N, 6°43'49.7"W (see also  
 Landau et al., 2011). Paratypes (MGGC 24540  
 and MGGC 24541): same data of holotype.

OTHER EXAMINED MATERIAL. *Sveltia confusa* n.  
 sp.: Lucena del Puerto (Huelva, Spagna), Lower  
 Pliocene, 22 exx. (CMB); Santa Catalina (Huelva,  
 Spagna), Lower Pliocene, 20 exx. (CMB); Vil-  
 larasa (Huelva, Spagna), Lower Pliocene, 2 exx.  
 (CMB); Monte Antico (Grosseto, Italia), Lower  
 Pliocene, 14 exx. (MGGC); Monte Antico (Gros-  
 seto, Italia), Lower Pliocene, 8 exx. (CMB).

*Sveltia varicosa*: Cedda (Siena), Zanclean-Pi-  
 acenzian, 78 exx. (CMB-MGGC); Rio Carbonaro  
 (Piacenza), Piacenzian, 53 exx. (CMB); Poggio alla  
 Staffa (Siena), Zanclean, 34 exx. (CMB-MGGC);  
 Spicchio (Firenze), Zanclean-Piacenzian, 12 exx.  
 MGGC. Linari (Siena), Piacenzian, 12 exx. (CMB-  
 MGGC); Monte Padova (Piacenza), Piacenzian,  
 10 exx. (CMB-MGGC); Ponte a Elsa (Pisa), Pi-  
 acenzian, 14 exx. (CMB-MGGC); Lagune (Bo-  
 logna), Zanclean, 13 exx. (MGGC); Torrente  
 Stirone (Parma), Gelasian, 5 exx. (MGGC).

DESCRIPTION OF HOLOTYPE. Shell elongated,  
 robust, medium sized (H = 30.1 mm). Protoconch  
 multispiral, composed of three straight rounds,

globular with shallow sutures. The transition to  
 teleoconch is little evident and it is marked by the  
 presence of three well-spaced ribs. Teleoconch of 6  
 laps scale-like with slightly convex profile. The  
 sculpture consists of numerous spiral cords, the  
 same thickness, ribbon-like; fifteen of them are on  
 the penultimate whorl, forming small knots on  
 11 axial ribs which are slightly opisthoclinal, angu-  
 lar, and forming, apically, several spines. The  
 first whorl has 4 spirals cords, ribbon-like and  
 equidistant, and ten slightly varicose coasts, apic-  
 ally angular. Subsequent whorls have similar orna-  
 mentation, with increasing number of spiral cords  
 and axial coasts, more and more varicose and scale-  
 like, giving rise to a very sutural ramp inclined and  
 flat, apically. The last whorl is 2/3 of the total  
 height, slightly convex, with spiral sculpture com-  
 posed of fifty spirals cords of identical size; the  
 tenth of which forms, intersecting with the axial  
 ribs, small spines, delimiting the sutural ramp.

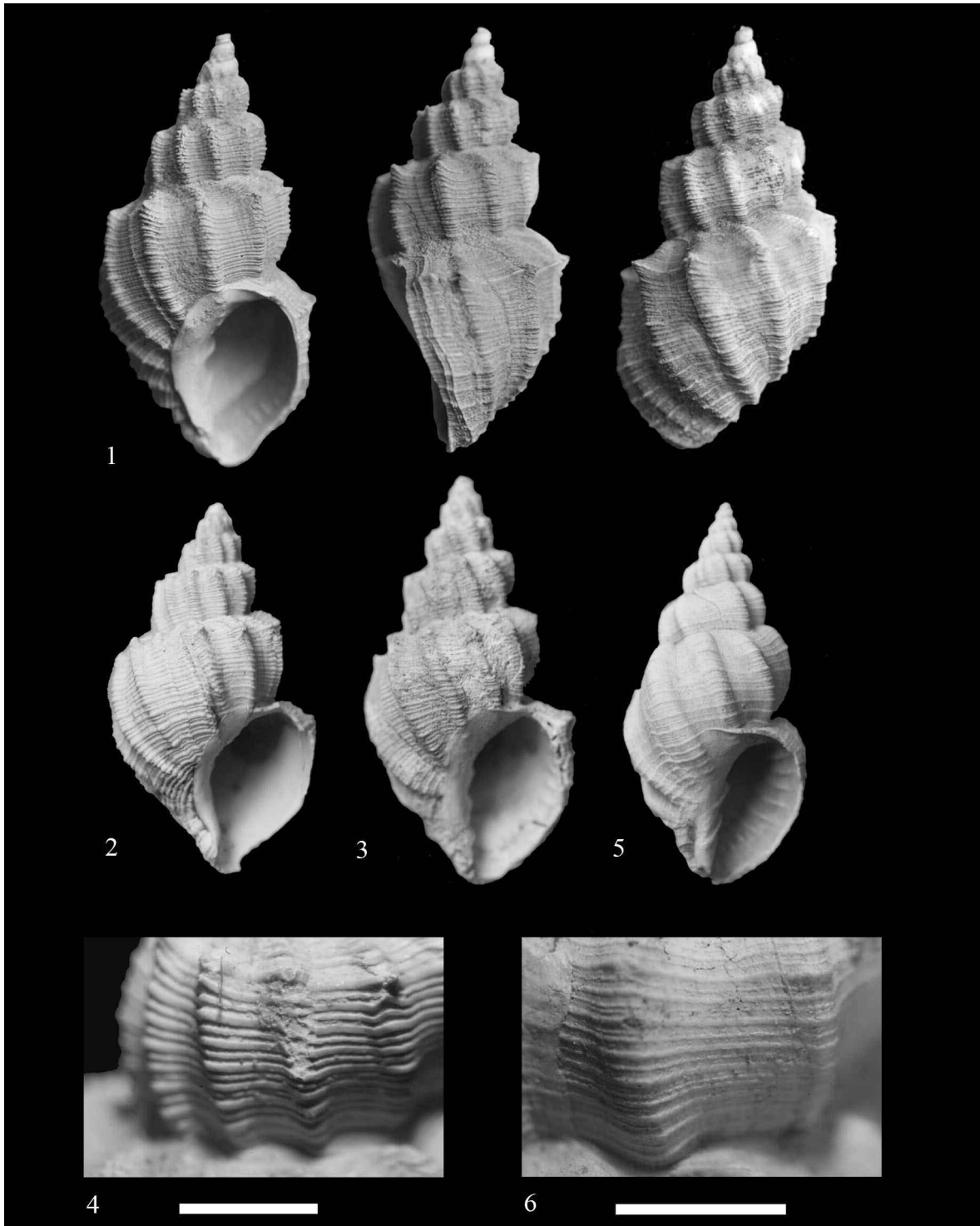
Aperture oval, elongated; outer lip internally  
 provided with very thin lirature. Columellar board  
 with little evident callus and two folds subparallel,  
 almost equal in size; navel absent.

VARIABILITY. The paratypes do not show sub-  
 stantial morphological differences from the de-  
 scribed holotype. Paratype MGCC 24540 with H =  
 21 mm; paratype MGGC 24541 with H = 25.2 mm.

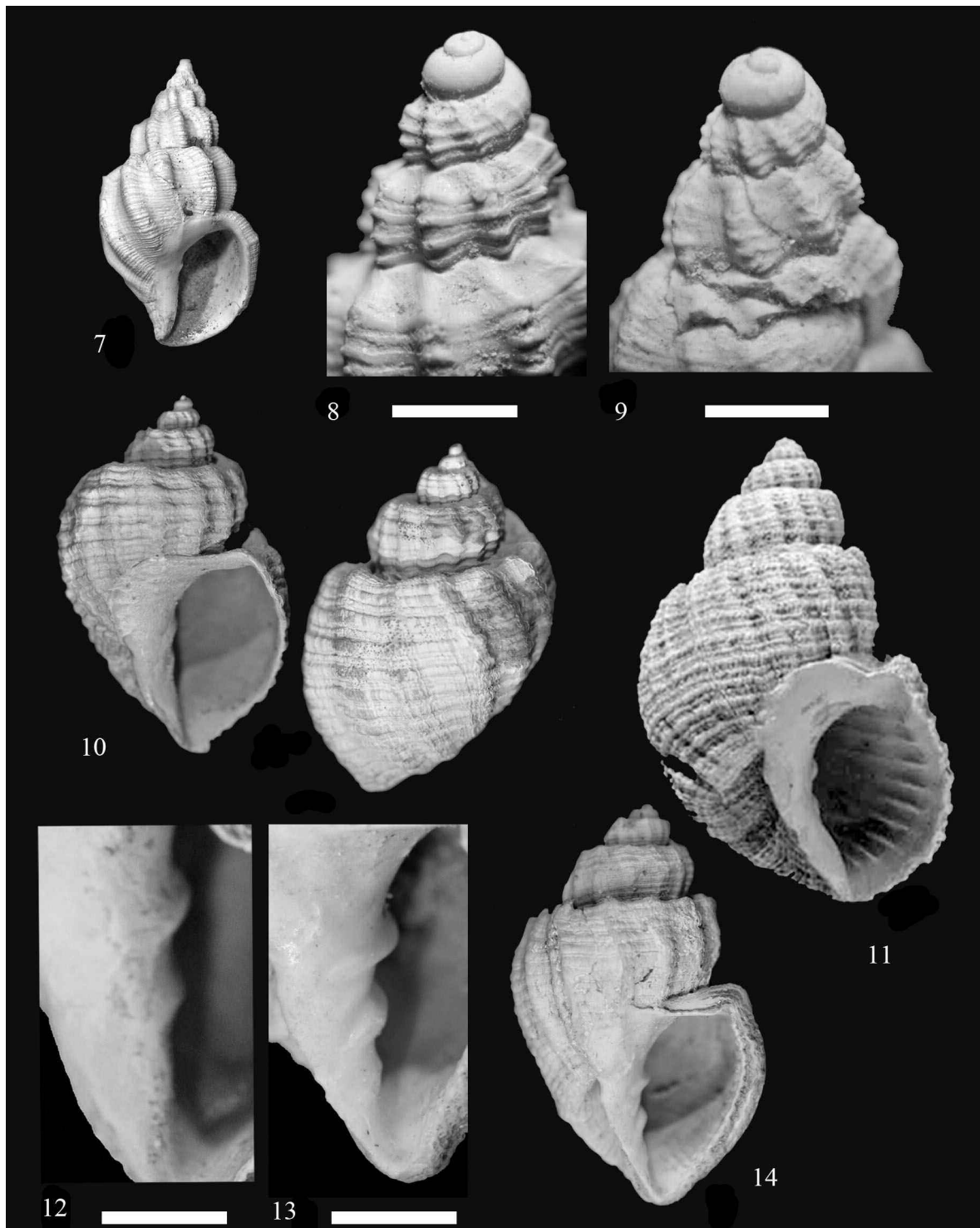
ETYMOLOGY. The specific epithet derives from  
 the Latin *confusus -a -um* since the new species was  
 confused with the similar *Sveltia varicosa*.

DISTRIBUTION. The new species at present is  
 known from both Zanclean sediments of Southern  
 Spain (Guadalquivir basin and Estepona), and from  
 those related to the Pliocene of Southern Tuscany.

REMARKS. Compared to the very similar taxon,  
*S. varicosa*, the new species has spiral sculpture  
 composed of ribbon-like strings of identical thick-  
 ness (Fig. 4) while *S. varicosa* shows larger cords  
 alternating with several others much thinner (Fig.  
 6), moreover, in *S. confusa* n. sp. the axial ribs are  
 narrower and acute. Even the appearance of the  
 loop is different: regularly convex in *S. varicosa*,  
 with sutural ramp little evident, definitely ramp-like  
 in *S. confusa* n. sp. with a suture ramp always in-  
 clined, well evident and spiny.



Figures 1–4. *Sveltia confusa* n. sp. Fig. 1: holotype, Lucena del Puerto (Huelva, Spagna), Zanclean, H = 30.1 mm MGGC 24539. Fig. 2: paratype 1, Lucena del Puerto (Huelva, Spagna), Zanclean, H = 21 mm MGGC 24540. Fig. 3: paratype 2, Lucena del Puerto (Huelva, Spagna), Zanclean, H = 25.2 mm MGGC 24541. Fig. 4: Santa Catalina (Huelva, Spagna), Zanclean, penultimate whorl sculpture, CMB (scale bar = 5 mm). Figures 5, 6. *Sveltia varicosa*. Fig. 5: Lagune (Bologna), Zanclean H = 23.2 mm CDB. Fig. 6: Rio Carbonari (Piacenza), Piacenzian, penultimate whorl sculpture, CMB (scale bar = 5 mm).



Figures 7, 8. *Sveltia confusa* n. sp. Fig. 7: Monte Antico (Grosseto), Zanclean, H = 16.5 mm CMB. Fig. 8: Santa Catalina, (Huelva, Spagna), Zanclean, apical whorls, CMB (scale bar = 1 mm). Figure 9. *Sveltia varicosa*, Poggio alla Staffa (Siena), Zanclean, apical whorls, CMB (scale bar = 1 mm). Figure 10. *Ventriolia* cf. *imbricata*, Santa Catalina, (Huelva, Spagna), Zanclean, H = 24.2 mm CMB. Figure 11. *Ventriolia imbricata*, syntype, Enzesfeld (Austria), Miocene, NHMW 1846/0037/0287, H = 44.5 (from Harzhauser & Landau, 2012, p. 53, modified). Figure 12. *Ventriolia* cf. *imbricata*, Santa Catalina, (Huelva, Spagna), Zanclean, columellar plicae, CMB (scale bar = 5 mm). Figures 13, 14. *Scalptia etrusca*. G. Poggio alla Staffa (Siena), Zanclean, columellar plicae, CDB (scale bar = 5 mm). H. Poggio alla Staffa (Siena), Zanclean, H = 30.5 mm CDB.

Diagnostic character is certainly the peculiar spiral sculpture. *S. confusa* n. sp. was figured as *S. varicosa* by various authors (Delgado Gonzales, 1993; Vera-Pelaez et al., 1995; Landau et al., 2011; Brunetti, 2014). It was examined a great amount of pliocenic material attributable to *S. varicosa*, and among these specimens no transition forms have been observed. Based on the locations, *S. confusa* n. sp. would seem to have a chronostratigraphic distribution exclusive to the basal Zanclean and a wide dissemination both in the Mediterranean (Estepona, Monte Antico) and Guadalquivir (Lucena del Puerto, Santa Catalina, Villarasa) Basins, while *S. varicosa* would be particularly abundant in the Piacenziano turning out to be present up to the Gelasian (Brunetti et al., 2011).

Along with the discovery of *S. confusa* n. sp. it is reported the discovery of some specimens related to *Ventriolia imbricata* (Hornes, 1856) (Figs. 10, 12). This species was described for the Austrian Miocene, noteworthy, few specimens found in the Pliocene of the Guadalquivir Basin deviate from the Austrian specimens illustrated by Harzhauser & Landau (2012) (Fig. 11). Herein are reported (agreed by the Author) the observations on these populations by Gonzales Delgado (1993): "*Las citas anteriores revisadas de esta especie (ver Davoli, 1982) la consideran miocénica, y presenta además un tamaño algo menor (en relación al número de vueltas), la ornamentación axial cercana al labro más obsoleta, y pliegues lábrale internos. Probablemente, el ejemplar onubense constituiría la variedad pliocénica de la especie hornesiana*".

*Ventriolia* cf. *imbricata* was found in the gray sands of Santa Catalina (Huelva, Spain). The report of *V. imbricata* from the Pliocene of Estepona (Landau et al., 2006) consists of an incomplete specimen, but recognizable, by the loop shape, corresponding, beyond any doubt, to *Scalptia etrusca* Brunetti, Della Bella, Forli et Vecchi, 2008 (Brunetti et al., 2008) (Figs. 13, 14) as later confirmed by Landau et al. (2011) and Harzhauser & Landau (2012). In conclusion, not only *S. etrusca* is very different from *V. imbricata* by shell sculpture and the shape of the loop, but also it is rather a different Genus. In fact, *V. imbricata* shows only two columellar folds (Fig. 12), typical of the genus *Ventriolia* Jousseume 1887, whereas *S. etrusca* has three folds, which is a diagnostic character of the genus *Scalptia* Jousseume, 1887 (Fig. 13).

It is thus confirmed the presence of specimens similar to *V. imbricata* in the Spanish Pliocene as also figured in Landau et al. (2011, p. 30, pl. 15, fig. 13) that could perhaps belong to a different taxon but, because of the small number of specimens examined, are, at present (at least), considered as related to the populations observed in the Austrian Miocene.

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