On *Melanella stalioi* (Brusina, 1869) (Gastropoda: Eulimidae)

Sobre *Melanella stalioi* (Brusina, 1869) (Gastropoda: Eulimidae)

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ABSTRACT

We revise here the eulimid species *Melanella stalioi* (Brusina, 1869), discussing the past and recent literature by comparing the results with the type material characters. The still existing material consists of only one shell, which matches very well Brusina's original description and his repeated statement that he found only one specimen during his whole life. We have concluded that no shell of *M. stalioi* has yet been known other than the type, and that its recently published images have to be reassigned to *Vitreolina levantina* Oliverio, Buzzurro and Villa, 1994, suggesting also that the latter be moved to *Melanella* Bowdich, 1822. Lack of any further record of *M. stalioi* after the type may suggest its non European origin; although this might be likely, we think it is premature to propose removing this species from the present Mediterranean molluscan fauna.

RESUMEN

Se revisa el eulímido *Melanella stalioi* (Brusina, 1869), discutiendo la literature antigua y reciente y comparando los resultados con las características del material tipo. El material que aún se conserva consiste en una única concha, que se corresponde muy bien con la descripción original de Brusina y con su repetida afirmación de que solo encontró un único ejemplar durante toda su vida. Hemos concluido que aún no se han encontrado conchas de *M. stalioi* además de la del tipo y que las recientes imágenes publicadas deben ser reasignadas a *Vitreolina levantina* Oliverio, Buzzurro y Villa, 1994, sugiriendo además que esta última debería incluirse en el género *Melanella* Bowdich, 1822. La falta de citas adicionales de *M. stalioi* tras su descripción puede sugirir un origen no europeo; aunque podría ser el caso consideramos prematuro eliminar esta especie de la fauna mediterránea actual.

INTRODUCTION

The taxon *Eulima stalioi* Brusina, 1869, presently assigned to *Melanella* Bowdich, 1822, has been debated and interpreted several times in its 140-year existence. With the aim of better understanding the nature of this species we have examined all the bibliography available to us.

The species was described by BRUSINA (1869) on a single shell, found in Split (Dalmatia, Croatia). The author did not figure this shell either in the original paper or in the two that followed (BRUSINA, 1886, 1907) where this taxon was treated. This may have been the reason for some different points of view on *E. stalioi*; the two best known are the ones by Monterosato in CROSSE (1877) and JEFFREYS (1884), both rebutted later by BRUSINA (1886).

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The studied literature indicates that the identification of *M. stalioi* causes some difficulties even now, 140 years after its description. We have concluded that these doubts could only be dispelled by a study of Brusina's type material, provided that it still exists. Fortunately, we found the single shell of this species in the Brusina collection, hosted in HPM-Zagreb (Hrvatski Prirodoslovni Muzej, Zagreb); we were able to study it and give a report in this paper.

MATERIALS

The unique shell of *E. stalioi* present in the Brusina collection, with new inventory number 1627, was measured and photographed (Figs. 1-3). We found also the original labels, with old inventory number 1435 (Figs. 4-6), all handwritten by Brusina himself, which show the locality of origin (Split) consistent with the original description.

DISCUSSION

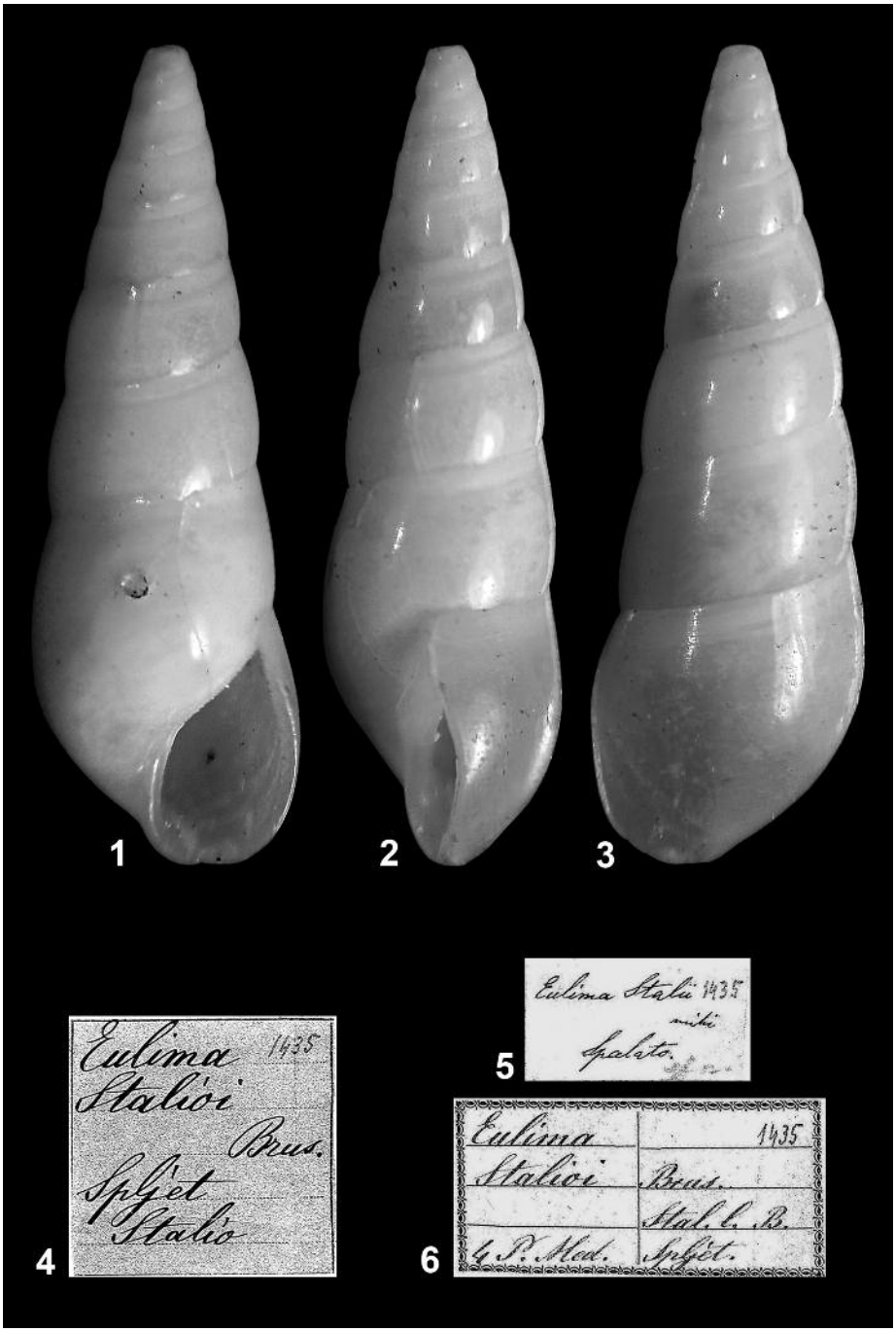
Brusina's original diagnosis (1869: 242-243) reads as follows:

„E. testa turrita, obtusiuscula, solidula, nitidissima, eburnea, semipellucida; anfractibus 8 ½, contiguis, planiusculis, ultimo vix expanso, suturis distinctis; apertura magna, ovali; labro recto, obtusiuscula. – Long. 7 mill., lat. 2 ½ mill. Habitat Spalato. (Coll. Brusina, specim. 1.).

Cette espèce se distingue, à première vue, de l'*E. intermedia*, Cantraine [*E.* (*Rissoa*) *sinuosa*, Scacchi; *E.* (*Melania*) *nitida*, Philippi, non Lamarck] par sa forme plus large, par ses tours légèrement convexes, tandis que, dans l'*E. intermedia*, ils sont tout à fait plans, et aussi bien moins nombreux (8 ½ au lieu de 13, nombre de l'unique exemplaire de l'*E. intermedia* recueilli jusqu'à présent par moi dans l'Adriatique), par la grandeur de son ouverture et par son bord externe droit et nullement dilaté. L'unique exemplaire que je connaisse jusqu'ici a été trouvé par M. le professeur Stalio de Lesina à Spalato: il a bien voulu me le donner à publier, et je ne puis mieux faire que de dédier l'espèce à celui qui l'a découverte et a enrichi ainsi d'une forme spécifique nouvelle la faune de la Dalmatie. M. G. Jeffreys, qui a eu occasion d'examiner cette espèce, a écrit sur l'etiquette: *E.* sp. n. et confirmé ainsi sa nouveauté."

Our measurements on the type were 6.7 x 2.2 mm, in good agreement with the diagnosis, but the shell is damaged, lacking its apical whorls and with a partially splintered external margin of the lip. The number of whorls matches the one in the original diagnosis, 8 ½, thus ruling out damage after the publication date. So its being *"obtusiuscula"* cannot be taken as the shell character, since it is due to the lack of apical whorls. The partial splintering of the external lip is indeed minor damage since the lip profile can be easily seen in the scars present on the whorls: they are almost straight, with only a hint of median bulge and no clear adapical sinus. The shell shape is straight, a character not mentioned by Brusina, and the whorls are distinctly convex. All these characteristics clearly distinguish *M. stalioi* from all other European *Melanella*.

MONTEROSATO (1872) reports for the first time on *E. stalioi*, quoting it "ex typ." and stating „è stata recentemente riferita alla *E. glabella*, S. Wood, del Crag", but without referring to the origin of this opinion; he adds, "l'esemplare ….. non e sufficientemente ben conservato". It is clear that he saw the type material during the visit to Brusina in Zagreb in 1872, and possibly some Crag material during his journey to England shortly before. This dubious synonymy with *Eulima glabella* S. Wood, 1842 was repeated (MONTEROSATO, 1875, 1878), but Monterosato's opinion was never a final one. He, for instance, wrote as well "*Eul. stalioi* (? *polita*) forma estraordinaria" in a handwritten list of notes on Brusina collection (PALAZZI AND RYOLO, 2008) in an envelope which had the writing "Zagreb 17 July 1872. Brusina Coll." (Giannuzzi-Savelli, private comm.).



Figures 1-6. *Melanella stalioi*. 1-3: front, side and dorsal views of the holotype (HPM, Zagreb, new inv. n° 1627), 6.7 x 2.2 mm; 4-6: Brusina's handwritten labels.
Figuras 1-6. Melanella stalioi. *1-3: vista frontal, lateral y dorsal del holotipo (HPM, Zagreb, nuevo inv. n° 1627), 6,7 x 2,2 mm; 4-6: las etiquetas manuscritas de Brusina.*

CROSSE (1877) published the drawing of a shell he received from Monterosato "comprise dans un envoi en communication": we shall refer to this taxon as *E. stalioi* sensu Monterosato in Crosse, 1877, the assignment being from the latter author. That confirms Monterosato's doubts on the nature of *E. stalioi*; as a matter of fact his most important catalogue of Mediterranean molluscs (MONTEROSATO, 1884) does not mention at all this species.

Although Jeffreys also saw Brusina's shell during his visit to Zadar in 1867 shortly before the paper on *E. stalioi*, he had presented in 1884 quite a different shell for Brusina's *stalioi*. His drawings show a shell slightly but evidently curved (*stalioi* is straight) and having flat whorls (distinctly convex in *stalioi*).

BRUSINA (1886) wrote again on *E. stalioi*, having seen the misinterpretations of his species by Monterosato in CROSSE (1877) and JEFFREYS (1884).

He first explains he wrote to Jeffreys on this matter and that Jeffreys asked for his specimen for inspection. Here, for the second time, Brusina states the uniqueness of his shell: "Mi pregò di mandargli il mio esemplare in communicazione e sebbene a malincuore feci fare il viaggio del nostro esemplare unico ed originale fino a Londra, pure l'ho fatto nell'interesse della scienza." After Jeffreys acknowledged his misinterpretation, Brusina suggested a new name for Jeffreys' species, naming it *Eulima doderleini*.

BOUCHET AND WAREN (1986) recently transferred the latter to *Melanella*, choosing Jeffreys' specimen as a lectotype of *Melanella doderleini* (Brusina, 1886). They support its difference from *E. stalioi* since „We have examined material of *E. stalioi* determined by Brusina in ZMR [Zoological Musem Rome] (sent to Monterosato) and we can verify Brusina's statement."

We did not examine this material in Rome and can not even know what it really is since Brusina had only one shell of *E. stalioi* according to all the published data. This doubt about the material in ZMR even increased after we had received the information from Dr. Warén that the specimen he saw in Rome and the type of *stalioi* did not belong to the same species.

In the same paper BRUSINA (1886) also denied that Monterosato's (in Crosse) *E. stalioi* could resemble his species: „ ... perchè la nostra specie è notevolmente più stretta ed i giri sono visibilmente più convessi, mentre nella specie del Crosse si mostrano del tutto piani." Brusina then proposes a new name for this shell also, i.e. *Eulima crossei*. Later on MONTEROSATO (1890) himself quotes *Eulima crosseana* Brusina, 1886 as a new name for the *E. stalioi* published by Crosse; the right name however should be *crossei*, while we regard *crosseana* as an unjustified emendation.

Shortly before his death, in a book on his travels, BRUSINA (1907: 43-228) wrote on *stalioi* for the last time, stating again that he had seen only one specimen in his whole life:

„Prvi i jedini primjerak dobio sam na dar od prof. Stalia, koji je tvrdio, da ga je našao kod Spljeta; čuva se u narod. Muzeju; ali moram reći, da mi je malko sumnjiv ne samo zato, što je još uvijek unikum, nego još više zato, što je neobična oblika."

[The first and only specimen I received as a gift from professor Stalio, who affirmed that he found it near Split; it is kept in the National Museum; however, I must say that it is a bit suspicious to me, not only because it is still unique, but even more so because of its unusual shape.]

TENEKIDES (1989) and GIANNUZZI-SAVELLI, PUSATERI PALMERI AND EBREO (1999) figured three shells assigned to *stalioi*, from Greek (2) or Turkish waters (1). These shells are quite different from the *E. stalioi* type and we think that all specimens have to be assigned to *Vitreolina levantina* Oliverio, Buzzurro and Villa, 1994. We carefully compared the shell shape from these images with those of the holotype of *V. levantina* and found no relevant difference either in the shape or in the opening conformation and apex structure. The same goes for our specimens (Figs. 7-9). We finally

Figures 7-9. Shells of *Melanella levantina.* 7, 8: front and side views, h = 6.2 mm, Bozcaada Island, Turkey, 8 m; 9: side view, h = 4.9 mm, Turkey 15 m.
Figuras 7-9. Conchas de Melanella levantina. *7, 8: vistas frontal y lateral, h = 6,2 mm, Isla de Bozcaada, Turquía, 8 m; 9: vista lateral, h = 4,9 mm, Turquía 15 m.*

examined why the authors put this species in *Vitreolina*, a genus normally hosting quite different looking forms (i.e. vitreous, much more slender, less sturdy set). Their main reasons were the curved shell, the general opening appearance and the dip present at the lip scar – suture crossing. We point out that a curved shell is present in some *Melanella* as well, and moreover the photograph in their paper showing the false suture dip at the scar crossing is unclear. We gained the opinion that *Melanella* should be a more suitable genus for this species, even if provisionally, due to its morphological characters: the shell height is unusual, more than 7 mm, it is not glossy transparent and its "false suture" has a poor or null dip while crossing the lip scar. We therefore suggest naming this species *Melanella levantina* (OLIVERIO, BUZZURRO AND VILLA, 1994).

CONCLUDING REMARKS

The main result of this paper is twofold: we at last know, 140 years since its description, the true aspect of *Eulima stalioi* and this can rule out many incorrect interpretations of this species, while

on the other hand we are left with a new problem, since we have seen no other material of this species. Moreover, we do not know any *Melanella* record in literature which could possibly be related to the *stalioi* type, at least among the European species. The appearance of the *stalioi* photos may make it possible for someone to assign his material to such species, but we doubt it due to lots of material we examined from our personal and other collections.

We carefully examined the shell of *stalioi* searching also for a sign of an abnormal shell growth, but we found none apart from the labial scars.

Dr. A. Warén (*in litteris*) suggested a non-European origin for the *stalioi* type, relating it to a group of non-European *Melanella* species, such as: *Melanella randolphi* (Vanatta, 1899), from Unalaska, Alaska; *Melanella lowei* (Vanatta, 1899) (see VANATTA, 1899), from Long Beach, California; the Caribbean *Melanella nutans* (Mühlfeld, 1824) (REDFERN, 2001); and some unnamed Indo-Pacific species, mostly because of some similarities in the convexity of the whorls. We examined the above mentioned species and some others in BARTSCH (1917), yet we found none resembling the *stalioi* type enough to be regarded as conspecific. Our knowledge of this group of species is however too poor to be conclusive on this point, and we leave to future studies a deeper insight into this matter.

We think that we truly found the original shell of Brusina's *stalioi* and that the specimen was found in Split by Stalio. This conclusion is supported also by the fact that Brusina and Stalio were interested in studies of marine fauna only and exclusively in the Adriatic Sea; both authors wrote many articles on this matter. Here we need to mention that all the eulimid material in Brusina's collection is from the Adriatic Sea.

Finally we think that it is too early to propose removing *Melanella stalioi* from the present Mediterranean molluscan fauna, considering only its suspected non-European origin and the lack of any record after the type.

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BIBLIOGRAPHY

BARTSCH P. 1917. A monograph of West American Melanellid mollusks. *Proceedings of the United States National Museum*, Washington. 53: 296-356.

BOUCHET P. AND WARÉN A. 1986. Revision of the Northeast Atlantic Bathyal and Abyssal Aclididae, Eulimidae, Epitonidae (Mollusca, Gastropoda). *Bollettino Malacologico*, Milano, Supplemento 2: 298-576.

BRUSINA S. 1869. Gastéropodes nouveaux de l'Adriatique. *Journal de Conchyliologie*, 17: 230-249.

BRUSINA S. 1886. Appunti ed osservazioni sull'ultimo lavoro di J. Gwyn Jeffreys. *Glasnik hrvatskoga naravoslovnoga družtva*, Zagreb, god. 1: 182-221.

BRUSINA S. 1907. Naravoslovne crtice sa sjevero-istočne obale Jadranskoga mora. *Rad Jugoslavenske akademije znanosti i umjetnosti. Matematicko-prirodoslovni razred*. Zagreb, Knj. 42: 43-228.

CLEMAM (CHECK LIST OF EUROPEAN MARINE MOLLUSCS). Online Database: http://www.somali.asso.fr/clemam/index.php

CROSSE H. 1877. Note complémentaire sur l'*Eulima Stalioi*, Brusina. *Journal de Conchyliologie*, 25: 70-71, 422 (pl. III, fig. 3).

GIANNUZZI-SAVELLI R., PUSATERI F., PALMERI A. AND EBREO C. 1999. *Atlante delle conchiglie marine del Mediterraneo*. Vol. 3 (Caenogastropoda parte 2: Ptenoglosa). Evolver, 127 pp.

ILIJANIČ V. AND STOŠIČ M. 1972. *Popis zbirke mekušaca (Mollusca) Spiridiona Brusine*. Hrvatski Narodni Zoološki Muzej, Zagreb, 86 pp.

JEFFREYS J.G. 1884. On the Mollusca procured during the "Lightning" and "Porcupine" Expeditions. Part 8. *Proceedings of the Zoological Society of London* 1884 : 341-375.

MONTEROSATO T. 1872. Notizie intorno alle conchiglie mediterranee. *Ufficio Tipografico di Michele Amenta,* Palermo, 1-61.

MONTEROSATO T. 1875. Nuova rivista delle conchiglie mediterranee. *Atti dell'Accademia Palermitana di Scienze Lettere e Arti*, Palermo, Sez. II, 5: 1-50.

MONTEROSATO T. 1878. Enumerazione e sinonimia delle conchiglie mediterranee. *Giornale Scienze Naturali ed Economiche,* Palermo 13: 61-115.

MONTEROSATO T. 1884. *Nomenclatura generica e specifica di alcune conchiglie mediterranee.* Palermo, Virzi. pp 152.

MONTEROSATO T. 1890. Conchiglie della profondità del mare di Palermo. *Naturalista Siciliano*, 9 (7): 157-166.

OLIVERIO M., BUZZURRO G. AND VILLA R. 1994. A new Eulimid Gastropod from the Eastern Mediterranean sea (Caenogastropoda, Ptenoglossa). *Bollettino Malacologico,* Milano, 30 (5-9): 211-215.

PALAZZI S. AND RYOLO L. 2008. Tommaso Di Maria, Marchese di Monterosato. Documenti inediti sulla Sua vita e sulla Sua opera. Online distributed DVD. http://www.sim-online.it/Risorse/download/Monterosato/Monterosato.HTM. Fragment in Corrispondenza/Brusina, S/18720717-pgs132-3.jpg

REDFERN C. 2001. *Bahamian seashells a thousand species from Abaco, Bahamas.* Bahamianseashells.com, Inc., Boca Raton, pp. 1-280 + ix + 120 pls.

TENEKIDES N.S. 1989. *Mia sillogi Conchyliòn apò tis Ellinikès Thalasses*. Protopapa Press, Athens. 188 pp.

VANATTA E.G. 1899. West American Eulimidae. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 51: 254-267.