

## On the taxonomy of *Siciliaria grohmanniana* (Rossmässler, 1836) (Gastropoda Clausiliidae)

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### ABSTRACT

In the present paper the taxonomy of *Siciliaria grohmanniana* (Rossmässler, 1836) (Gastropoda Clausiliidae) is revised through the study of literature data and type series. *Clausilia decollata* Potiez et Michaud, 1838, *C. grohmanniana* var. *minor* Schmidt, 1868, *C. grohmanniana* var. *crassilabris* Monterosato, 1894, *C. grohmanniana* var. *densa* Monterosato, 1894, *C. grohmanniana panormitana* Paulucci, 1878 and *C. subdiaphana* Benoit, 1882 are confirmed synonyms of *S. grohmanniana grohmanniana*. A neotype is selected for *C. panormitana*. A lectotype is selected for *Clausilia rubra* Benoit, 1882 and *S. grohmanniana addaurae* De Mattia, Reier et Haring, 2021 is considered its junior synonym.

### KEY WORDS

Door snail; type specimens; taxonomy; Sicily.

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### INTRODUCTION

*Siciliaria grohmanniana* (Rossmässler, 1836) (Gastropoda, Clausiliidae) is a door snail endemic to north-western Sicily (Italy), whose range is restricted to Mount Pellegrino and Mount Gallo (Palermo, Sicily, Italy). It is the type species of the genus *Siciliaria* Vest, 1867 and, currently, includes two subspecies *S. grohmanniana grohmanniana* and *S. grohmanniana addaurae* De Mattia, Reier & Haring, 2021 (De Mattia et al., 2021; Nordsieck, 2022). The morphology and anatomy of this species are well

known mainly thanks to the contributions of Wagner (1925), Nordsieck (2002, 2022), Beckmann (2004), and De Mattia et al. (2021). However, the synonymy of *S. grohmanniana* is rather complex and unclear in some respects, due to some taxa described in the 1800s and considered its synonyms or subspecies without type material revisions.

In the present paper these taxa are revised through the study of the literature data, the type series held in some Natural History museums and the examination of topotype specimens sampled in recent decades.

## MATERIAL AND METHODS

Dry shells have been studied regarding size, colour, morphology, sculpture, aperture, plicae, lamellae, lunella and clausilium. Photographs were taken with a digital camera. Height and maximum diameter of the shells were measured (in millimeters) by a digital calipers. Voucher specimens were stored in the private and museum collections listed below. Toponyms (place-names) are reported following the official IGM 1:25000 cartography of Italy. Each locality and/or collection site is reported in the original language (Italian). The taxonomic order and nomenclatural arrangement follow Nordsieck (2007, 2022) and MolluscaBase (2022).

The materials used for this study were held in the following Museums and private collections: F. Liberto collection, Cefalù, Italy (CL); A. Reitano collection, Tremestieri Etneo, Italy (CR); I. Sparacio collection, Palermo, Italy (CS); R. Viviano collection, Palermo, Italy (CV); Museo Civico di Zoologia di Roma, Italy (MCZR); Musée des Confluences, Centre de conservation et d'étude des collections, Lyon, France (MHNL); Museo di Storia Naturale dell'Università di Firenze, Sezione Zoologica "La Specola", Italy (MZUF); Muséum d'Histoire Naturelle de Genève, Switzerland (MHNG); Senckenberg Museum Frankfurt, Germany (SMF).

***Siciliaria grohmanniana grohmanniana*** (Rossmässler, 1836)

*Clausilia grohmanniana* - Rossmässler, 1836: 7, Pl. 12, Fig. 160; *Sicilien*

*Clausilia grohemanni* - Beck, 1837: 90. I; *Sicilia*

*Clausilia decollata* - Potiez & Michaud, 1838

*Clausilia grohmanniana* - L. Pfeiffer, 1841: 31

*Clausilia grohmanniana* - Philippi, 1844: 116; *In monte Pellegrino prope Panormum*

*Clausilia grohmanniana* - Küster, 1847: 75, Pl. 8, Figs. 8–11; *Sicilien bei Palermo*

*Clausilia grohmanniana* - Pfeiffer, 1848: 464; *Sicilia*

*Clausilia grohmanniana* - Benoit, 1859: Pl. 6, Fig. 1

*Clausilia grohmanniana* var. *minor* - Schmidt, 1868: 40–41; *Sicilien* (not Rossmässler)

*Clausilia grohmanniana* - Benoit, 1875: 151–152; *Monte Pellegrino, Monte Gallo, Perpignano ed a Carini*

*Clausilia grohmanniana* var. *minor* = *C. panormitana* - Benoit, 1875: 152; *Monte Cuccio presso Palermo* (*C. panormitana* n.n.; not *minor* Schmidt, 1868)

*Clausilia grohmanniana* - Pfeiffer, 1877: 523; *Sicilia*

*Clausilia (Siciliaria) grohmanniana* var. *minor* - O. Boettger, 1877: 33; *Sicilien*

*Clausilia grohmanni* var. *panormitana* (n. n.) - Kobelt, 1877: 42

*Clausilia (Siciliaria) grohmanniana* and *Clausilia (Siciliaria) grohmanniana* var. *panormitana* - Paulucci, 1878: 13; *Sicile*

*Clausilia (Siciliaria) grohmanniana* - O. Boettger, 1878: 26; *Palermo auf Sicilien (Monte Pellegrino, Mte. Gallo, Perpignano und Carini)* (= *C. elegantula* Benoit n. n.)

*Clausilia grohmanniana* and var. *minor* - Westerlund, 1878: 18; *Sicilia*

*Clausilia (Siciliaria) grohmanniana* var. *minor* - O. Boettger, 1879: 86, 91, Pl. 171, Fig. 1726; *Mte Cuccio bei Palermo* (= var. *elegantula* Benoit)

*Clausilia (Siciliaria) grohmanniana* var. *panormitana* - O. Boettger, 1879: 86, 91; *Palermo*

*Clausilia grohmanniana* - Benoit, 1882: 108; *monte Pellegrino presso Palermo, Monte Gallo, Perpignano e Carini*

*Clausilia (Siciliaria) grohmanniana* and *grohmanniana minor* - Westerlund, 1884: 4; *Sicilien*

*Clausilia (Siciliaria) grohmanniana minor* - Westerlund, 1890: 111; *Palermo*

*Clausilia grohmanniana* - Westerlund, 1892: 48

*Clausilia (Siciliaria) grohmanniana* var. *crassilabris* and var. *densa* - Monterosato, 1894: 170; *Monte Pellegrino, Palermo*

*Clausilia grohmanniana* var. *panormitana* - De Gregorio, 1895: 188; *Monte Pellegrino e Carini*

*Clausilia grohmanniana* f. *minor*, f. *crassilabris* and f. *densa* - Westerlund, 1901: 39–40; *Sicilia Delima (Siciliaria) grohmanniana* - Wagner, 1925: 67, Pl. 1, Figs. 7–8; Pl. 2 Fig. 20; *Palermo*

*Delima (Siciliaria) grohmanniana minor* and *tridens* (n.n.) - Coen, 1945: 39; *Palermo*

*Delima (Siciliaria) grohmanniana* and ssp. *minor*, ssp. *crassilabris* ssp. *densa* - Alzona, 1971: 91; *Sicilia occidentale*



Figures 1–4. *Clausilia grohmanniana*, Rossmässler collection, lectotype, SMF n° 67520. Figure 5. Drawing from Rossmässler (1836: Pl. 12, Fig. 160). Figures 6–8. *Clausilia decollata* Potiez et Michaud, 1838, Syntype, MHNL, Michaud collection, n° 45004579. Figure 9. Drawing from Potiez & Michaud (1838, Pl. 18, Figs. 13, 14).

*Charpentieria (Siciliaria) grohmanniana*, Nordsieck, 2002: 29, 34

*Charpentieria (Siciliaria) grohmanniana* - Beckmann, 2004: 186-188, Map. 2

*Charpentieria (Siciliaria) grohmanniana* - Nordsieck, 2007: 53

*Clausilia (Siciliaria) grohmanniana* - Cianfanelli et al., 2021: 27, Fig. 35; *Monte Pellegrino*

*Siciliaria grohmanniana* - De Mattia et al., 2021: 33-34, Figs. 1.F, 7.1-7.3, 8.1-8.4, 13.1-13.4

*Charpentieria (Siciliaria) grohmanniana* - Nordsieck, 2022: 1-13, Fig. 2

EXAMINED MUSEUM MATERIAL. *Siciliaria grohmanniana*. Syntype, Rossmässler collection, lectotype of *Clausilia grohmanniana*, SMF n° 67520; 1 shell; label: “Cl. decollata Stz / Sicilien” (Figs. 1-5).

*Clausilia decollata* Potiez & Michaud, 1838. Syntypes, MHNL, Coll. Michaud, n° 45004579 (Figs. 6-9); 1 shell; first label: “Clausilia decollata Stentz / Sicile. / C. Stentz” - The writing of this label is written by Gaspard Michaud, ex coll. Stentz. The ‘C.’ means ‘Collection’; second label: “Clausilia decollata Stentz / Sicile / Coll. Michaud” - The writing of this label is on the hand of Arnould Locard

*Clausilia decollata* Potiez et Michaud, 1838. Possible syntypes, MHNL, Coll. Terver, n° 45004682 (Figs. 10-13); 3 shells; first label, recto: “C. decollata Stentz / Terver [in red] / Palerme”. First label, verso: “C. decollata Stentz / Palerme” - The writing of this label is on the hand of Ange-Paulin Terver; Terver in red means Terver collection; second label: “Clausilia decollata Stentz / Palerme / Coll. Terver” - The writing of this label is on the hand of Arnould Locard.

MCZR, Coll. Monterosato, 179-6373-C-9, 3 shells.

*Clausilia grohmanniana* var. *minor*. MCZR 161-6371-C-9; 3 shells; label: “Cl. Grohmann. / v. minor Monts. / M. pell. Roccie / della favorita / p. Mondello”, label recto: “Marzo 1891 / ipse legit.”

*Clausilia grohmanniana* var. *minor*. MCZR 161-6371-C-9; 1 shell; label: “Cl. Grohman. / minor - (varie- / gata?) / 14 Apr. 94 / favorita / nello stradale per”

*Clausilia grohmanniana* var. *crassilabris* Monterosato, 1894. Syntypes, MCZR, Coll. Monterosato, 226-6382-C-9, 4 shells; label: “Var.

crassila- / labris, Monts. / falde di / M. pell. dalla / parte del / piano ai / cactus” (Figs. 14-16).

*Clausilia grohmanniana* var. *densa* Monterosato, 1894. Syntypes, MCZR, Coll. Monterosato, 161-6371-C-9; 1 shell; label: “Var. densa / Monts. / Favorita / p. Mondello” (Figs. 17, 18).

*Clausilia panormitana* Bourguignat. Sicilia, Monte Grifone, MHNG-MOLL 109313 (Figs. 19, 20).

*Clausilia panormitana*. MCZR-M-380-6386; label: “Cl. Panormitana / ex typo Bourg. / ... / Sicilia !! sine loco!”. H: 17.4 mm, W: 5.3 mm (Figs. 21, 22).

*Clausilia panormitana* Paulucci, 1878. Syntypes (Cianfanelli et al., 2021), MZUF, Coll. Paulucci, 60962 (Fig. 23).

*Clausilia subdiaphana* Benoit, 1882. MCZR 376-6401-C.9; 5 shells, label: “Cl. subdiaphana / Benoit / N. Cat. 1882 p. 118 / Buon Riposo ! / loc Tipica / alias: Roccazzo” (Fig. 25).

*Clausilia subdiaphana* Benoit, 1882. MCZR 304-6416-C.9; 3 shells, label: “Cl. Subdia / phana, Ben. / tipo della / Rocca della Petrazzi” (Fig. 26).

OTHER MATERIAL EXAMINED. Italy, Sicily, Palermo, Monte Pellegrino, falde lato Valdesi, 38°11'34.9"N 13°20'16.8"E, 10.V.1979, 9 exx (CS 5470); idem, Santuario di Santa Rosalia, 13.V.1981, 42 exx (CS 5471); idem, base Vallone del Porco, 13.XI.1990, 38°10'03.5"N 13°20'33.5"E, 6 exx (CS5472) and 18.I.2015, 12.II.2014 exx (CS 5473); idem, Cimitero dei Rotoli, 38°09'38.5"N 13°21'55.6"E, 10.III.2012, 7 exx (CS 5474); idem, Piano Landolina, 38°10'49.3"N 13°20'11.5"E, 2.II.2014, 31 exx (CS 5475); idem, Pizzo Ferro, 500 m, 16.VIII.1999 (CR); idem, Statua di Santa Rosalia, 16.IX.1995, 17.XII.2005, 3.X.2007 (CR); idem, Pizzo Ferro, 400 m, 11.VIII.2007 (CL 1903-1915); Monte Pellegrino, 38°09'46"N 13°21'25"E, 550 m, 9.IX.2012 (CL 12538-12561); idem, Statua di Santa Rosalia, 38°10'31.5"N 13°21'40"E, 458 m, 24.IX.2011 and 18.I.2016, 7 shells (CV); idem, Piano di Gorgo Rosso, 38°10'54"N 13°20'53"E, 390 m, 4.I.2013 and 24.IV.2016, 3 shells (CV); idem, Vetta, versante O, 38°09'59"N 13°21'03"E, 500-550 m, 29.III.2013, 63 shells (CV); idem, Costa dei Rotoli, pendio E, 38°09'29"N 13°21'59"E, 120-150 m, 15.III.2016, 14 shells (CV).



REMARKS. *Siciliaria grohmanniana* is morphologically characterized by a whitish shell; usually decollated; whorls ribbed; dorsal keel indistinct; inferior lamella very high; two anterior upper palatal plicae present and separated; palatal edge of clausilium plate distally receding, plate gutter-like narrowed, palatal edge more or less pointed (Nordsieck, 2002, 2022; De Mattia et al., 2021).

For description of the genitals see Wagner (1925) and De Mattia et al. (2021).

Some taxa have been regarded as variety or synonyms of *S. grohmanniana*, often without examination of the type material. Below we present the results of our research on these taxa.

#### *Clausilia decollata* Potiez et Michaud, 1838

In the nineteenth century the authors who listed the taxon *Clausilia decollata* Potiez & Michaud, 1838 considered it as a junior synonym of *S. grohmanniana* (Rossmässler, 1836; Beck, 1837; Pfeiffer, 1841, 1848, 1877; Küster, 1847; Benoit, 1875; Paulucci, 1878; Westerlund, 1878, 1884).

Recently, also Nordsieck (2022) considered it a probable junior synonym of *S. grohmanniana*, whereas De Mattia et al. (2021) regard the taxon *decollata* Potiez & Michaud, 1838 as an unidentified taxon probably belonging to *Siciliaria/Sicania*.

The type serie of *Cl. decollata* (ex coll. Stetz: Potiez et Michaud, 1838, p. 181, Pl. 18, Figs. 13-14, type locality: “*Hab. la Sicile*”) was part of the Michaud collection held at the Douai Museum. The collections of the Douai museum was destroyed during the bombing of the Second World War. Other sections of the Michaud collection, which formed the subject of other publications, were donated to the Brive Museum and unfortunately these have also been lost. However, some syntypes of the Michaud collection are nowadays held at MHNL. In 2014, thanks to the interest of C. Audibert (MHNL), it was possible to trace some syntypes of *C. decollata*.

The first lot is the most interesting, since the first label highlights that the specimen, ex coll. Stetz, was later part of the Michaud collection (Fig. 6) in accordance with Potiez et Michaud (1838: 181). The second label (Fig. 7) was written by Locard during his reclassification works of the MHNL

collections (Audibert & Boyer, 2007). The shell fits well Potiez and Michaud’s description (1838) and it is sufficiently similar to the type figured (Fig. 9), both in the number of the whorls and morphological characters of the aperture: inferior lamella very high; principal plica and two anterior upper palatal plicae present. Based on these considerations, the specimen of the first lot is considered syntype of *Cl. decollata* Potiez et Michaud, 1838 and the taxon *decollata* Potiez et Michaud, 1838 is considered a junior synonym of *S. grohmanniana*, according to the authors of the 1800s and to the suggestion of Nordsieck (2022).

The second lot is a part of the Terver collection, and since Terver and Michaud exchanged materials between them (Audibert & Boyer, 2007), these can be considered possible syntypes.

#### *Clausilia grohmanniana* var. *minor* Schmidt, 1868

No type material was traced in the Schmidt collection preserved at the Museum für Naturkunde (Berlin) (C. Zorn personal communication, 7.11.2022) and SMF malacological collections (H. Nordsieck personal communication, 1.11.2022). It seems absent also in MHNG (E. Tardy personal communication). In the Monterosato collection there are two lots containing one and three shells respectively, labelled as *C. grohmanniana* var. *minor*. However, there is no reference in the label that can make these shells type material.

*Siciliaria grohmanniana* var. *minor* Schmidt, 1868 has long been regarded a valid subspecies, characterized, *sensu Auctores*, by a smaller and more densely ribbed shell than in *S. grohmanniana*. Recently, Nordsieck (2022) confirmed this name as junior synonym of *S. grohmanniana grohmanniana*, while De Mattia et al. (2021) in their revision of the genus *Siciliaria* do not address this taxon. Specimens of *S. grohmanniana* with a smaller and denser ribbed shell, have occasionally been found by us, mixed with typical form.

#### *Clausilia grohmanniana* var. *crassilabris* Monterosato, 1894

The original description of this taxon is rather scant: “*con la bocca spessa e quadrata* [with thick and squared aperture]”. In the Monterosato collection we have traced a lot with four syntypes

and the label: “*Var. crassila-* / *labris, Monts. / falde di / M. pell. dalla / parte del / piano ai / cactus*” [*Var. crassilabris* Monterosato, slopes of M. Pell(egrino) from side of plain to the cactus]

These syntypes fall into the variability of the typical form of *S. grohmanniana grohmanniana*.

The name “*crassilabris*”, and the subsequent taxon “*densa*”, are described by Monterosato (1894) as “*var.*” and are provided with a brief description in the style of the author for other valid sub/species. For the names of infrasubspecific rank, Monterosato (1894) provided only the rank (*var. ex col.*, *var. ex forma*, *var.*) but followed by the name without any

description. These two taxa referred to *S. grohmanniana* are therefore available under Article 45.6.4 of the International Code Zoological Nomenclature. Furthermore, they have been used as subspecies by Alzona (1971) falling within as valid taxa provided for by article 45.6.4.1 of the I.C.Z.N. (2012).

*Clausilia grohmanniana var. densa* Monterosato, 1894

This taxon was introduced by Monterosato with few words: “*a striae fitte invece di lamelle*” [with dense striae instead of lamellae].

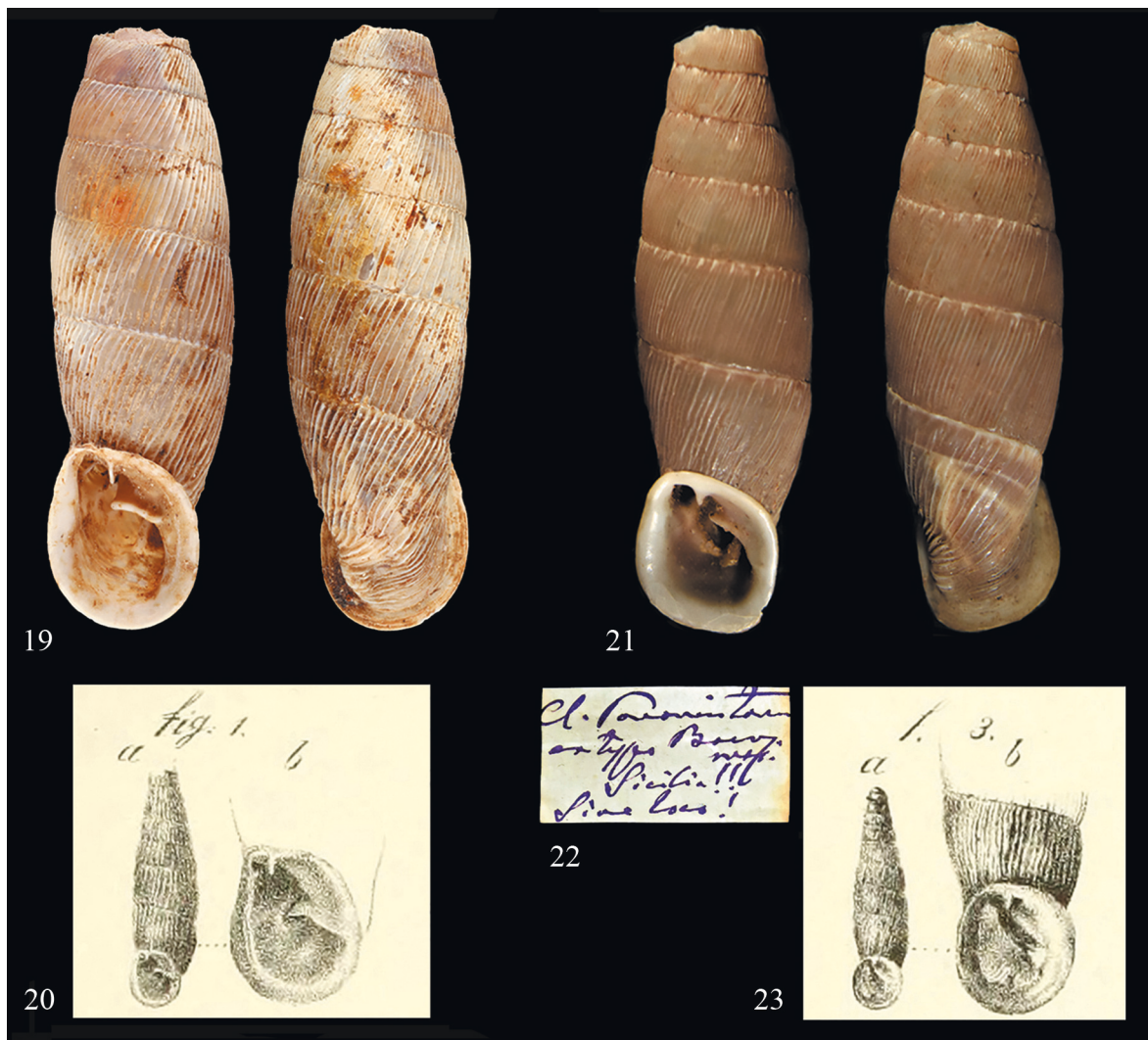


Figure 19. *Clausilia panormitana* Bourguignat, Bourguignat collection, MHNG-MOLL 109313. Figure 20. *Clausilia grohmanniana* from Benoit (1859, Pl. 6, Fig. 1). Figures 21, 22. *Clausilia panormitana*, Monterosato collection MCZR-M-380-6386. Figure 23. Drawing from Benoit (1859, Pl. 6, Fig. 3).

In the Monterosato collection we found a lot containing a single shell and the label: “*Var. densa/Monts./Favorita/p. Mondello*” [Var. densa Monterosato, Favorita n(ear) Mondello]. The holotype fits well the original description due to the teleconch with dense and thin striae. The locality handwritten on the label “*Favorita p. Mondello*” is located on the north-western side of Monte Pellegrino. All the populations sampled at Monte Pellegrino and especially along the slope of Favorita and towards Mondello and Addaura include specimens showing these characters mixed with specimens of typical form.

*Clausilia panormitana* Paulucci, 1878

*Clausilia (Siciliaria) grohmanniana* var. *panormitana* was established by Paulucci (1878: 13), without a formal description, with association to a drawing by Benoit (1859, Pl. 6, Fig. 3) and type locality “Sicilie” (Sicily, Italy) (following I.C.Z.N. 2012 art. 12.2.7, see also Cianfanelli et al., 2021).

The authors who discussed in the nineteenth century *C. panormitana* (Benoit, 1875, 1882; Kobelt, 1877, 1879; Paulucci, 1878; Boettger, 1879; De Gregorio, 1895) list this taxon as a variety



Figure 24. Neotype of *Clausilia (Siciliaria) grohmanniana* var. *panormitana* Paulucci, 1878; Paulucci collection, MZUF GC/67551 (Cianfanelli et al., 2021: Fig. 35).



of *S. grohmanniana grohmanniana* and reported Bourguignat as author of this taxon, although he did not describe it (see Benoit, 1875, 1882). Recently, also Nordsieck (2022) listed *C. panormitana* as synonym of *S. grohmanniana grohmanniana*.

Cianfanelli et al. (2021: 27) selected from the Paulucci collection 13 shells of *S. grohmanniana grohmanniana* from Monte Pellegrino (Palermo) as syntypes of *C. panormitana* (MZUF: GC / 60962 (6 shells), GC/62342 (7 shells)).

However these specimens are not syntypes because the description of this taxon was made on the Benoit's drawing, not on Paulucci's specimens.

We traced in the Bourguignat malacological collection (MHNG) a lot of *S. panormitana* including one specimen. This specimen shows the diagnostic characters of *S. grohmanniana* from Monte Pellegrino (the locality Monte Grifone on the label is arguably wrong) (Figs. 19, 20).

We found in the Monterosato malacological collection (MCZR) a lot of *Clausilia panormitana*, labeled: "Cl. Panormitana / ex typo Benoit / Sicilia !! / Sine loco !" [Cl. panormitana / ex type Benoit / Sicily !! / Sine loco!] (Figs. 21, 22).

We classify this specimen as *S. septemPLICATA* ssp. It corresponds to the Benoit's specimen (1859, Pl. 6, Fig. 3) with regard to the moderately raised columellar lamella, but on the other hand it differs by the decollated spire (complete in the figure), the quadrangular peristome (rounded in the figure), the two upper palatal folds visible in frontal view (which are missing in the figure).

In literature, *C. panormitana* was always regarded as a variety or synonym of *S. grohmanniana grohmanniana*. The specimen to which Bourguignat gave the name of "panormitana", without describing it, is also a *S. grohmanniana grohmanniana*.

Also in a letter sent by Benoit to Paulucci, this figure (Benoit, 1859, Pl. 6, Fig. 3) is classified as *C. grohmanniana* (see Cianfanelli et al., 2021). Paulucci's description refers only to the drawing by Benoit (1859, Pl. 6 Fig. 3) (Fig. 23), which however shows uncertain (unclear) morphological characters and the type locality ("Sicilia") is too generic.

In conclusion, due to no name-bearing type specimen existing as "panormitana", a name-bearing type is necessary to define the nominal taxon objectively (I.C.Z.N. art. 75.1).

Following the indications of the I.C.Z.N. (art. 75.3. Qualifying conditions), with reference to all that summarized above and following the classifications of Benoit and Paulucci documented by Cianfanelli et al. (2021), the specimen from the Paulucci collection (MZUF GC/67551 - Cianfanelli et al., 2021: Fig. 35) classified as *S. grohmanniana grohmanniana* is designated as neotype (Fig. 24).

#### *Clausilia subdiaphana* Benoit, 1882

Monterosato (1894) refers the name *C. subdiaphana* Benoit, 1882 to specimens of *S. grohmanniana* from Monte Pellegrino (Palermo). More recently, Nordsieck (2022) supposed the synonymy of these two taxa, while De Mattia et al. (2021) state that the synonymy between the two names is not conceivable.

In the Monterosato collection we have found two lots of possible syntypes of *Clausilia subdiaphana*.

The first one consists of five decollated shells of *S. grohmanniana*. This lot is more interesting of the other one, since the label specifies the bibliographic reference to the original description and the origin from the type locality: "Buon Riposo! / loc. Tipica / alias: Roccazzo". This locality is on the eastern slopes of Monte Cuccio (Palermo) (Fig. 25).

The second lot consists of two shells with complete spire, the label bears the word "tipo" [type] and the sampling site: "Rocca delle Petrazzi", which probably came back within the Petrazzi district, two kilometers north of the type locality "Buon Riposo" (Fig. 26).

#### ***Siciliaria grohmanniana rubra* Benoit, 1882**

*Clausilia (Siciliaria) septemPLICATA* subsp. *rubra* - O. Boettger, 1878: 26; *St. Fratello auf Sicilien* - nomen nudum

*Clausilia (Siciliaria) septemPLICATA* subsp. *rubra* - O. Boettger, 1879: 91; *S. Fratello auf Sicilien* - nomen nudum

*Clausilia rubra* - Benoit, 1882: 117–118; *nelle campagne di San Fratello, paese posto a settentrione della provincia di Messina.*

*Clausilia (Siciliaria) septemPLICATA* var. *rubra* - Westerlund, 1884: 47; *Sicilien*

*Clausilia septemplicata* var. *rubra* - Westerlund, 1890: 111; *Sicilien*

*Clausilia septemplicata* var. *rubra* - Westerlund, 1892: 48

*Delima (Siciliaria) septemplicata* - Alzona, 1971: 90; *Sicilia occidentale*, synonymus var. *rubra*

*Charpentieria (Siciliaria) septemplicata septemplicata* - Bank & Ramos, 2017; synonymus var. *rubra*

*Siciliaria (Siciliaria) grohmanniana addaurae* - De Mattia et al., 2021: 26–30, Figs. 7.4-7.6, 8.5-8.9, 13.5-13.8, 1.2; Grotte dell'Addaura, Punta Priola

*Siciliaria (Siciliaria) grohmanniana* form *Priola* - Nordsieck, 2022: 6, 10, Fig. 8. Priola and S.

Lorenzo near Palermo - Syn. *S. g. addaurare* De Mattia et al., 2021

TYPE MATERIAL. Syntypes: Monterosato collection, MCZR-M-161-6371-C-9 and MCZR-M-362-6371

OTHER MATERIAL EXAMINED. Italy, Sicily, Palermo, Monte Pellegrino, Grotte dell'Addaura, 30.VIII.1991, 2 exx (CS 5476); idem, 20.I.2013, 12 exx (CS 5477); idem, 7.IV.2013, 9 exx (CS 5478); idem, 2.III.2014, 26 exx (CS 5479); idem, Addaura, Monte Pellegrino slope, 116 m, 16.VIII.1999 (CR); idem, Grotta delle Incisioni, 38°11'12"N 13°21'03.5"E, 75\90 m, 19.X.2015 and 18.I.2016,



Figure 25. *Clausilia subdiaphana* Benoit, 1882, Monterosato collection, MCZR 376-6401-C.9.

Figure 26. *Clausilia subdiaphana* Benoit, 1882, Monterosato collection, MCZR 304-6416-C.9.

9 shells (CV); idem, Grotta Caprara, 38°11'12"N 13°21'07"E, 95 m, 22.II.2016, 3 exx (CV); idem, 29.VII.2017, 4 exx + 3 shells (CV); idem, Valle d'Addaura, ghiaione, 38°11'08"N 13°20'43"E, 125 m, 29.VII.2017, 2 exx (CV); idem, Bosco di San Pantaleo, 38°11'10"N 13°20'29"E, 165 m, 29.VII.2017, 2 shells (CV); idem, 20.IX.2021, 1 ex + 2 shells (CV); idem, Canalone della Vuletta Grande, 38°11'05"N 13°20'28.8"E, 300 m, 20.IX.2021, 5 shells, legit A. Viviano (CV); idem, Addaura Cave, 38°11'15"N, 13°21'15"E, 120–190 m, legit Viviano R., 9.X.2016 (CL 17311–17313).

REMARKS. *Clausilia rubra* was discovered by the Sicilian malacologist Luigi Benoit, who sent

some specimens of this new taxon to O. Boettger to receive his opinion (Benoit, 1882).

Boettger (1878, 1879) listed *Cl. rubra* as a subspecies of *S. septemPLICATA*.

Benoit (1882) published the first valid description of *C. rubra*, from San Fratello (Eastern Sicily), and considered it a distinct species compared to *S. septemPLICATA*.

Westerlund (1890, 1892) and Alzona (1971) followed Boettger's opinion. More recently, Nordsieck (2022) classified *C. rubra* as possible synonym of *S. septemPLICATA*.

De Mattia et al. (2021) hypothesized *C. rubra* as junior synonym of *Stigmatia incerta* (Küster,



Figure 27. *Clausilia rubra* Benoit, 1882, Monterosato collection, lectotypus, MCZR 161-6371-C-9.

1861), highlighting that the type locality San Fratello, “...paese posto a settentrione della provincia di Messina” [San Fratello, a town placed in the north of the province of Messina]” (Benoit, 1882), falls within the range of *Stigmatica* O. Boettger, 1877 and it is out of the distribution range so far known of *Siciliaria/Sicania*.

However, *Stigmatica incerta* from Sicily (Madonie and Nebrodi mountain chains, and northern slopes of Etna), is characterized by a shell not decollated with 10–11 whorls (decollated in *C. rubra*, with 8 whorls), greenish-brown colour (reddish in *C. rubra*), finely striated whorls (striated in *C. rubra*), oval peristome (quadrangular in *C. rubra*). In our opinion, these characters exclude any relationship between *C. rubra* and *Stigmatica incerta*, in agreement with the opinion of all past malacologists. The description by Benoit (1882) of the clausilium apparatus, with two lamellae (superior and columellar) and a single plica, could be due to the study carried out only in frontal aperture view of the shell.

In order to clarify the status of *C. rubra* we searched for syntypes of this taxon.

The Benoit malacological collection was lost due to the disastrous Messina earthquake-tsunami on 1908 (Romano, 2006; Sparacio, 2022). However Benoit achieved frequent exchanges of shells with many other malacologists (Appolloni et al., 2018; Reitano et al., 2019) and thus Benoit’s syntypes can be traced in the collections held in several Italian and European Natural History museums.

We looked for *C. rubra* in the SMF and, unfortunately, no syntypes have been traced in the Boettger collection and Kobelt collection (H. Nordsieck personal communication 01.11.2022).

We traced, instead, in the Monterosato malacological collection (MCZR), along with other specimens ex Benoit collection, a lot of *C. rubra*, containing two shells and the label: “Cl. rubra / Ben. / Tipo di / S. Fratello!” [*Clausilia rubra* / Ben(oit) / Type from / S. Fratello!] (Fig. 27).

The locality on the label corresponds to the locus typicus of *C. rubra* “San Fratello”.

The two shells fit well both to the original description of *C. rubra* and to the specimens from the Addaura Cave (Monte Pellegrino, Palermo), recently described by De Mattia et al. (2021) as *S. grohmanniana addaurae*.

We therefore consider these two shells in the

Monterosato collection, ex Benoit collection as syntypes of *Clausilia rubra*, and the specimen photographed in Fig. 27 is here selected as lectotype.

Lectotypus: shell height (decollated) 19.8 mm; shell maximum diameter 5 mm; aperture height 4.6 mm; aperture maximum diameter 4 mm.

Paralectotypus: shell height (decollated) 20.8 mm; shell maximum diameter 5 mm; aperture height 5 mm; aperture maximum diameter 4 mm.

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