A case of stolen identity: *Calliostoma lithocolletum*, and the description of a new species from the Canary Islands

a study by
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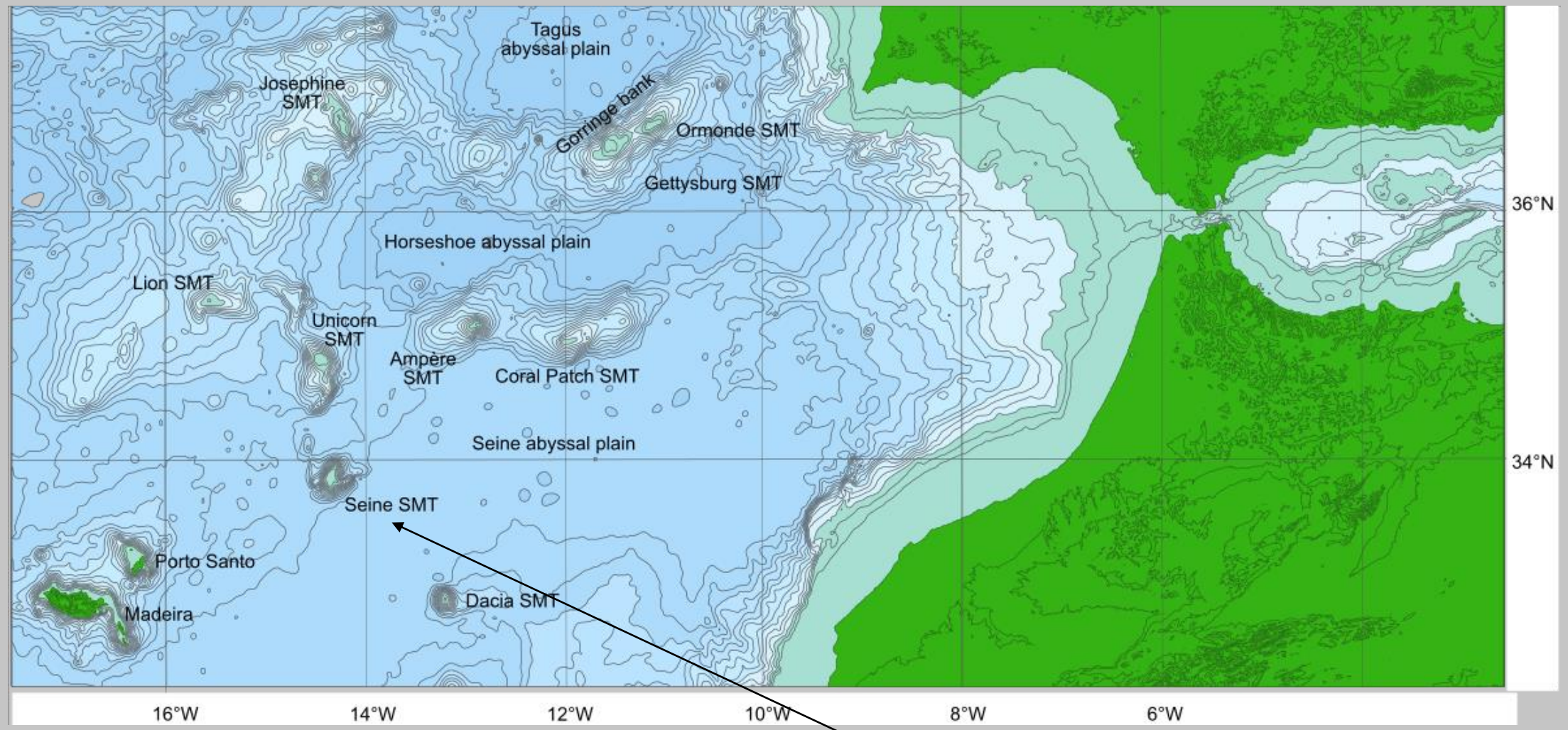
The specific diversity of trochoideans and particularly Calliostomatidae species, from infralittoral and circalittoral levels of the eastern Atlantic from Mauritania to southern Angola, appears to be rather poor, compared to other marine provinces as well as to the neighbouring Lusitanian Province which shelters a higher number of trochoidean species.

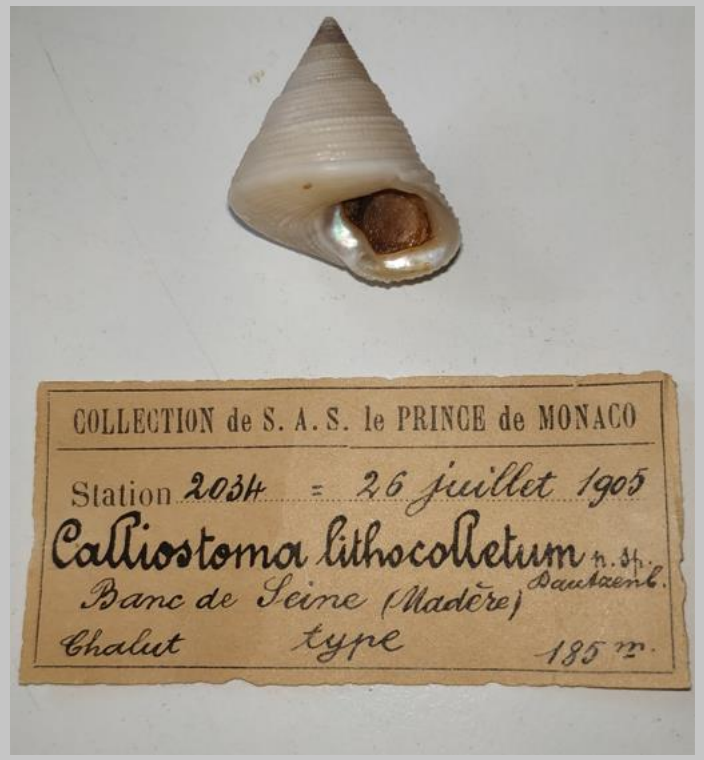
There has always been little information about deep-water species of *Calliostoma* from the eastern Atlantic. The only important works are those from Dautzenberg (1889, 1925, 1927), Dautzenberg & H. Fischer (1896, 1897) and Locard (1897-1898). In the last decade, new information about E Atlantic Calliostomatidae was restricted to sporadic papers in magazines, in which a dozen new species were described.

This presentation focuses on the wrong interpretation of the original description of *C. lithocolletum* by different authors which caused a kind of domino effect of mistakes, neglecting the true status of a species from the Canary Islands.

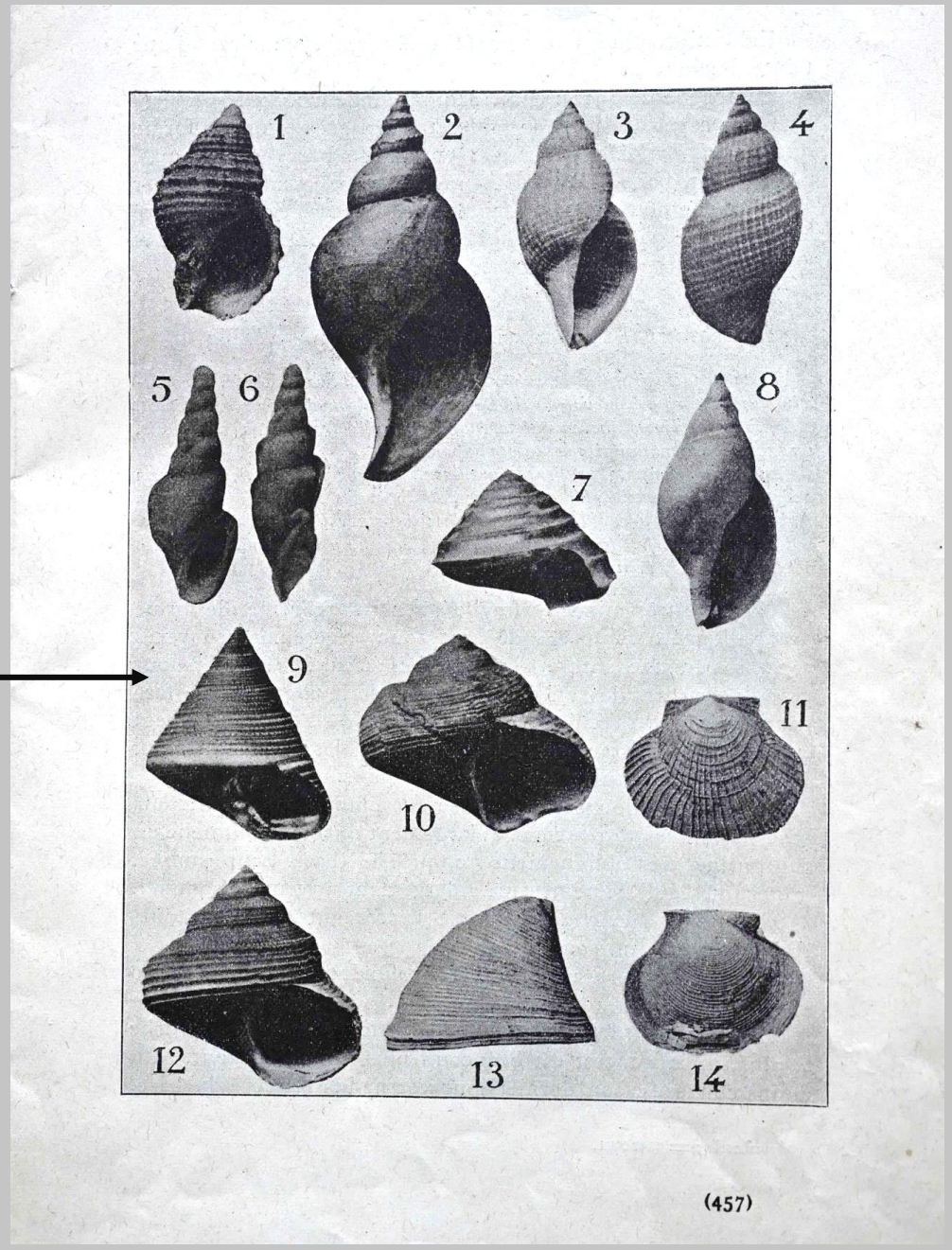


Geographic location of *Calliostoma lithocolletum* Dautzenberg, 1925

Calliostoma lithocolletum Dautzenberg, 1925

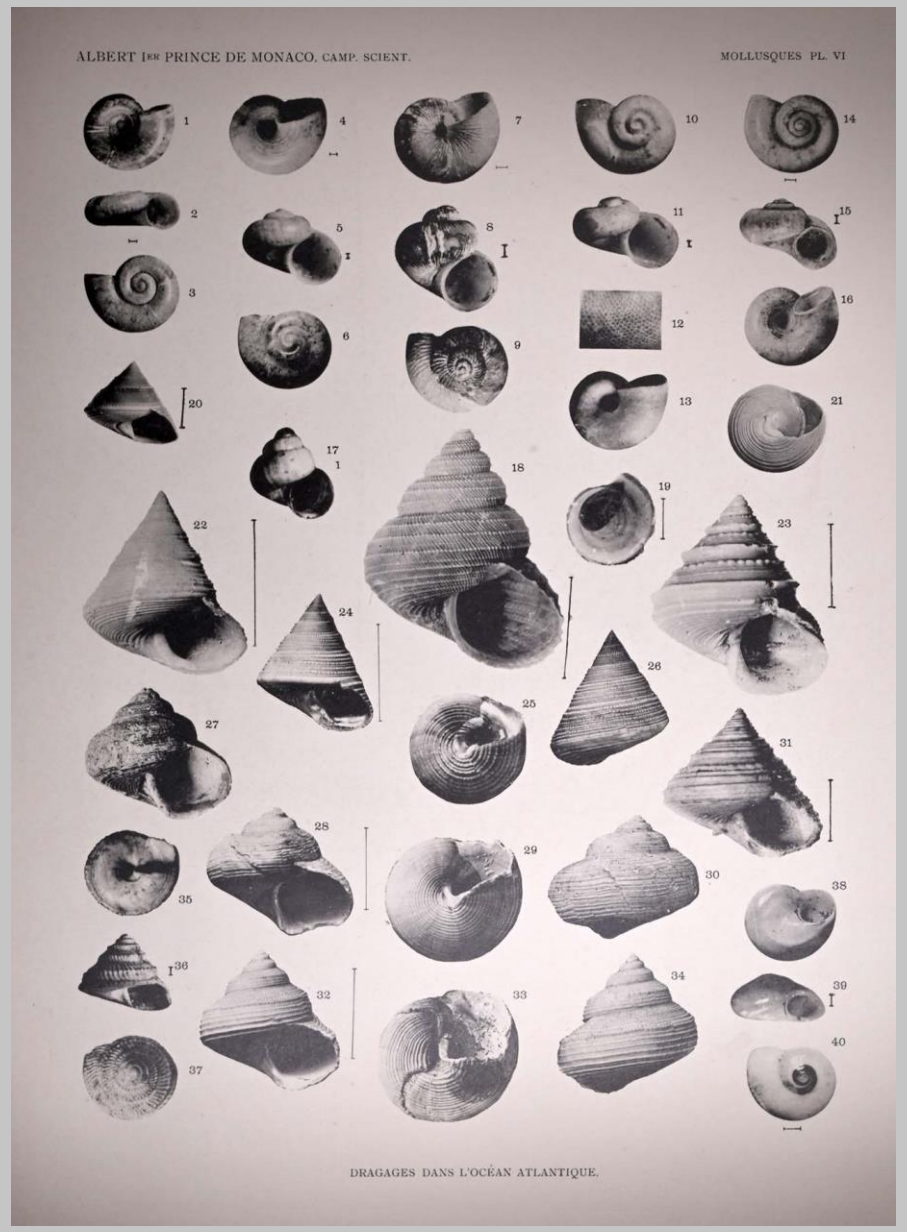


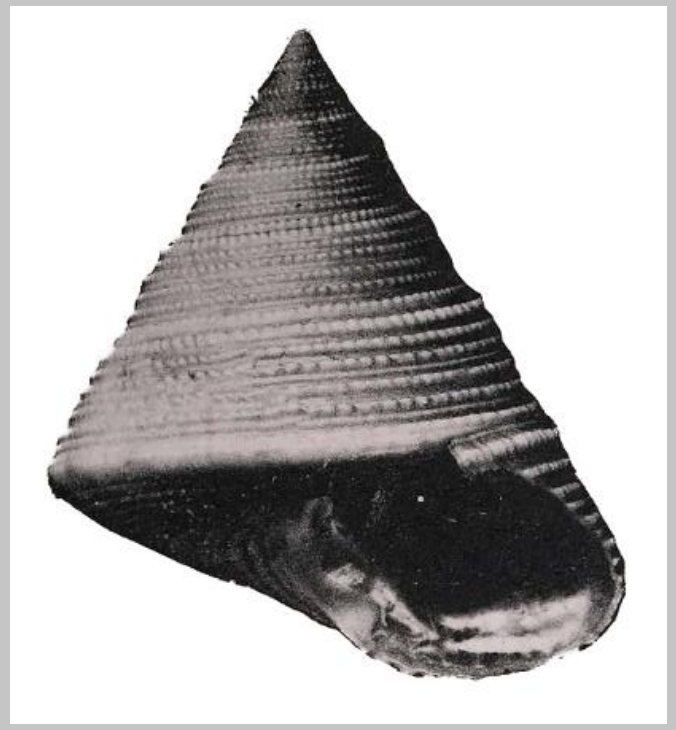
***Calliostoma lithocolletum* Dautzenberg, 1925**
Holotype. Musée Océanographique de Monaco.

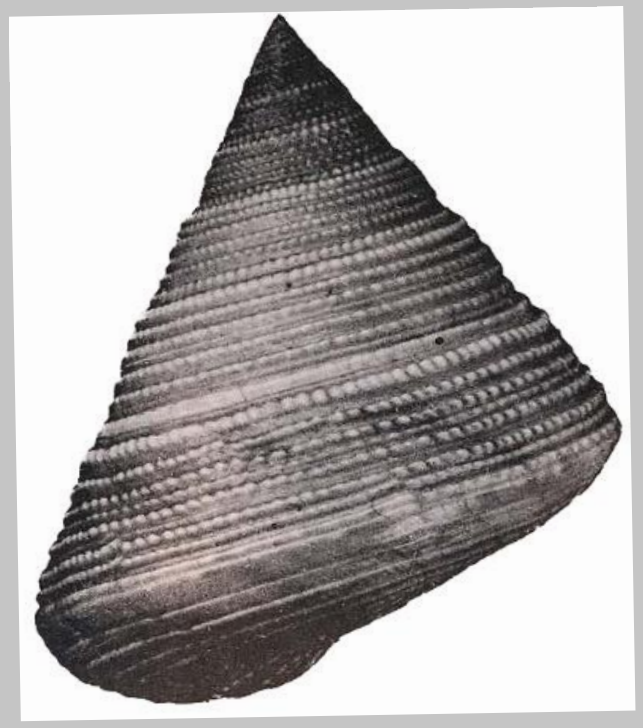


Dautzenberg, Ph., 1925. Mollusques nouveaux provenant des croisières du prince Albert Ier de Monaco. *Bulletin de l'Institut Océanographique*, 457: fig.9: *Calliostoma lithocolletum*.

Dautzenberg, Ph., 1927. Mollusques provenant des campagnes scientifiques du prince Albert Ier de Monaco dans l'Océan Atlantique et le Golfe de Gascogne. *Résultats des campagnes scientifiques accomplies sur son yacht par Albert Ier prince souverain de Monaco*. LXXII: 1-400, Pl. VI.







Dautzenberg, Ph., 1927. Mollusques provenant des campagnes scientifiques du prince Albert Ier de Monaco dans l'Océan Atlantique et le Golfe de Gascogne. ***Résultats des campagnes scientifiques accomplies sur son yacht par Albert Ier prince souverain de Monaco*****.**
LXXII: Pl. 6, figs 24-26.

Type locality: Seine Seamount, off Madeira. 33°47' N/ 14°21' W.
Trawled at a depth of 185 m. 26 July 1905.
Station 2034 of Campagne Alice 2. 1 live caught specimen.
H. 24 mm, D. 22 mm.

Shell characteristics of *C. lithocolletum*:

- shell shiny, solid, imperforate, trochiform;
- composed of ten flat whorls crossed by decurrent cords composed of regular, fine and numerous granulations;
- five spiral cords on the penultimate whorl and seven on the last whorl;
- the granulations of the two upper rows are a little stronger than those of the others, which gives the whorls a slightly stepped appearance;

- last whorl angular at the periphery;
- base slightly convex and provided with a dozen flattened concentric cords;
- aperture subquadrangular and provided at the interior and on the columellar area by a thick brilliant mother-of-pearl layer;
- operculum horny, thin, circular, multispiral with a central nucleus.
- colour sandy, pale rose **(‘coloration fauve rosé clair’).**

Family CALLIOSTOMATIDAE Thiele, 1924 (1847)

Genus ***Calliostoma*** **Swainson, 1840**

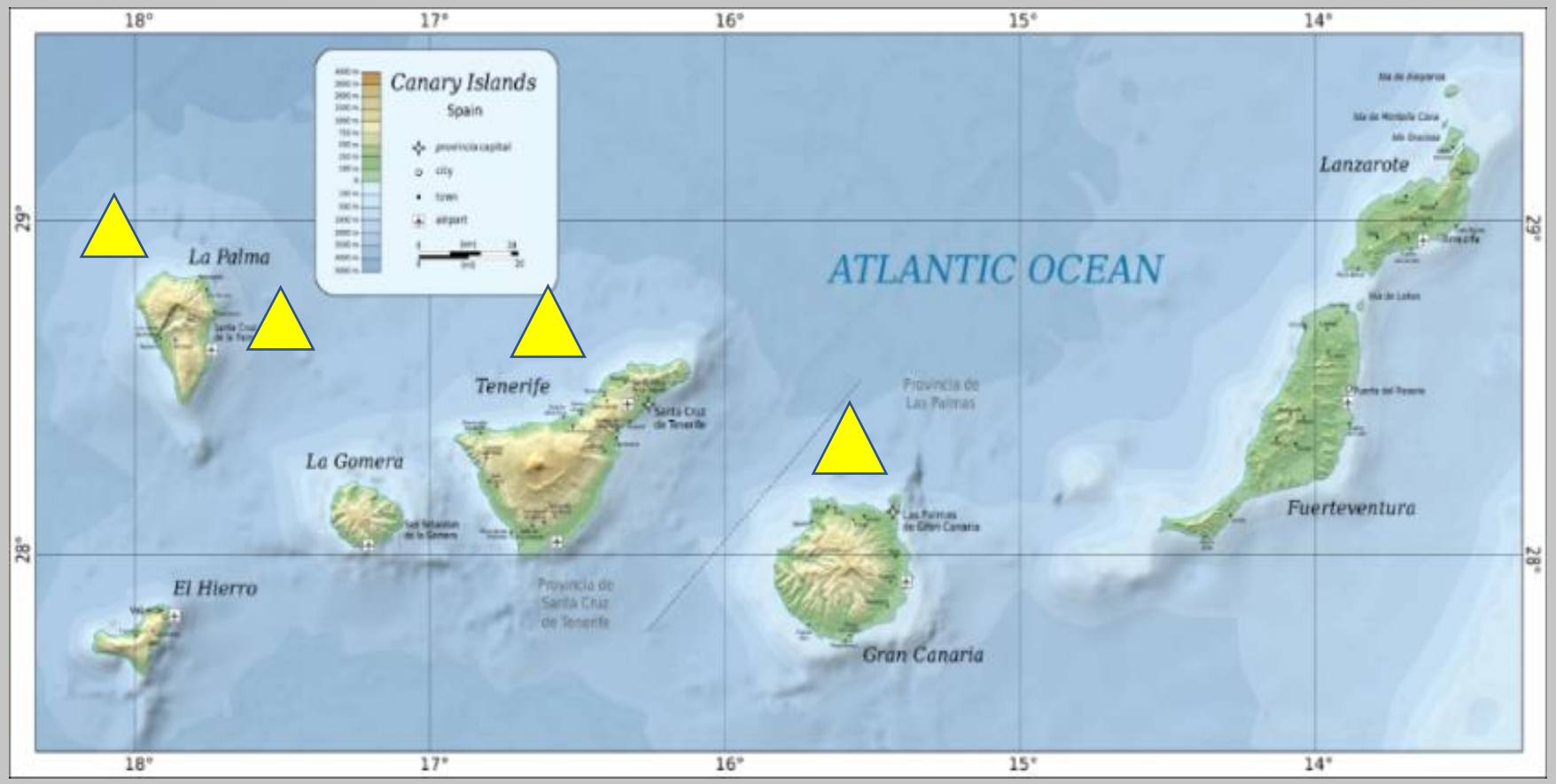
Typetaxon: *Calliostoma conulus* (Linnaeus, 1758)

Calliostoma simulatum
Nolf & Hubrecht, 2022

Description:

- shell trochiform, moderately small and thick (20-30 mm), slightly higher than wide;
- protoconch dark, first whorls distinctly granulated;
- teleoconch with 9 straight whorls, last whorl slightly convex in larger specimens;
- periphery rounded, sutures incised, sculpture almost with 7 strong (eventually 5) granulated main ridges with very few weaker secondary ridges;
- whorls 3-6 often have the tendency to be eroded and are mostly devoid of dense, whitish and delicate granulations;
- base almost flat, sculptured with 9-10 (occasionally 7 or 11) distant standing, flat spiral cords;

- no umbilicus, umbilical area slightly hollowed and surrounded by a thick white callus;
- columella oblique with an obscure dentition below, broadly nacreous;
- aperture inside smooth, nacreous;
- edge sharp, with a brownish pearly interior;
- basic colour dirty brown or greyish purple, sometimes reddish with an indistinct flame pattern of brown blotches, especially in the lower part of each whorl;
- spiral cords and ridges on the base creamy white in contrast with the dark background colour;
- operculum corneous, circular, multispiral and light brown.



Geographic distribution of *Calliostoma simulatum* sp. nov.

Size: from 20 to 32 mm.

Type locality: Off Santa Cruz de la Palma, La Palma, Canary Islands. Trawled by fishermen at a depth of 100 m. 1976.

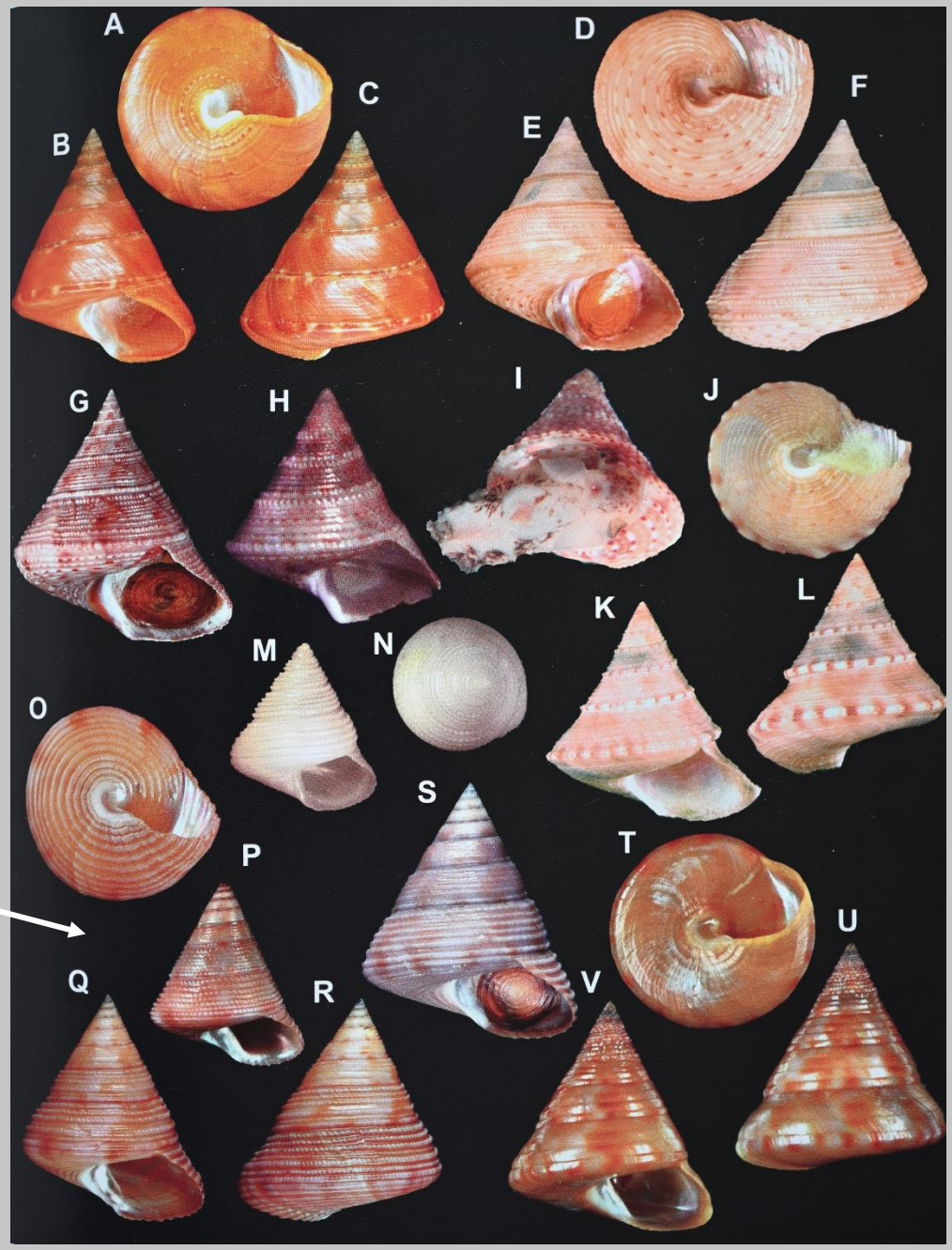
Distribution: restricted to La Palma, Gran Canaria and Tenerife (Canary Islands).

Etymology: The name **‘*simulatum*’** refers to the **counterfeiting character of this species** which has been **confused with *C. lithocolletum*** after the **misinterpretation** of figures and texts by subsequent authors in the literature of the past fifty years, who pretended to deal with the real Dautzenberg species.

The name ‘*C. lithocolletum*’ was designated to the new species from the Canary Islands by Nordsieck & García-Talavera, 1979. Subsequently several authors (Nordsieck, 1982; Vilvens & Swinnen, 2003; Hernandez et al., 2011; Alf et al., 2020) used the wrong name without checking the original text and holotype from Dautzenberg (1925). These authors used images of the new species, except Beck et al. (2006) who figured a juvenile specimen of *Calliostoma gubbiolii* Nofroni, 1984 instead of the real *C. lithocolletum*. Only van Aartsen et al. (1984) referred to the holotype in the MOM and figured the correct image.

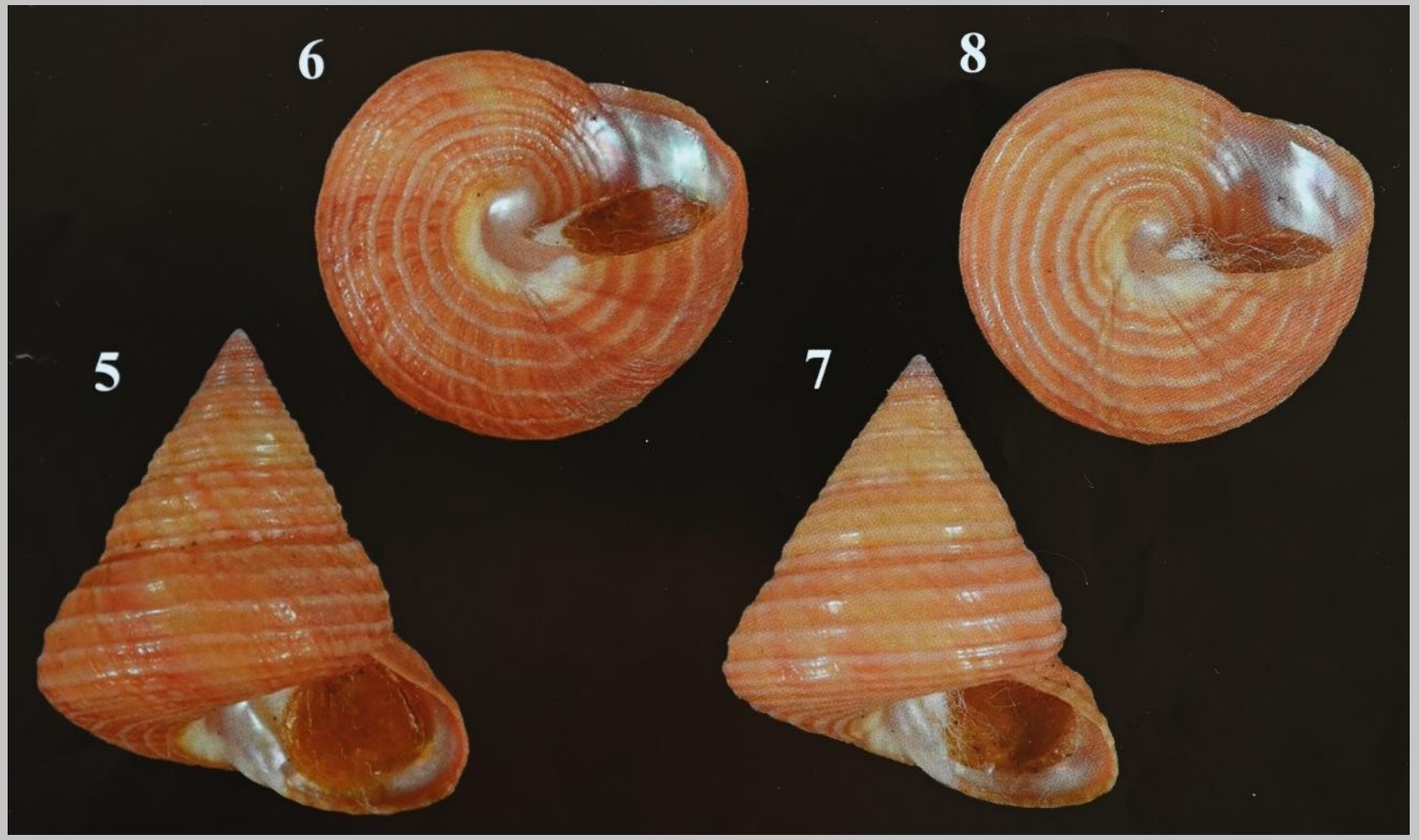
Nordsieck, F. & García-Talavera, F., 1979. *Moluscos Marinos de Canarias y Madera (Gastropoda).* Aula de Cultura de Tenerife. Pl. VII, fig. 4. '*Calliostoma lithocolletum*' (= *C. simulatum* sp. nov.)

Hernandez, J.M., Rolán, E., Swinnen, F., Gómez, R. & Pérez, J.M., 2011. *Moluscos y conchas marinas de Canarias.* Coord. E. Rolán. ConchBooks, Hackenheim. Pl. 20, figs O-S: '*Calliostoma lithocolletum*' (= *C. simulatum* sp. nov.)



Alf, A., Brenzinger, B., Haszprunar, G., Schrödl, M. & Schwabe, E., 2020. *A Guide to Marine Molluscs of Europe.* ConchBooks, Harxheim. Pl. 69: *'Calliostoma lithocolletum* Dautzenberg, 1925' (= *C. simulatum* sp. nov.).

Juvenile specimen of *C. gubbiolii* Nofroni, 1984) in: Beck, T., Metzger, T., Prof. A. Freiwald, 2006. *Biodiversity Inventorial Atlas of microbenthic seamount animals*. OASIS – BIAS. Compiled by Partner 9, FAU (Friedrich-Alexander-University of Erlangen-Nuremberg Fig. 26



***Calliostoma delonguevilleae* Vilvens & Swinnen, 2017**
in: *Gloria Maris*, 56(1): figs 5-8.

This species closely resembles *C. simulatum* regarding outline and colour, but the cords are smooth and devoid of beads. A number of 5 spiral cords on each whorl and 6 on the base. The distance between the cords is larger than the cords themselves.
Colour yellowish orange with obscure darker flames.

Calliostoma lithocolletum
Dautzenberg, 1925

Calliostoma simulatum
Nolf & Hubrecht, 2022

The holotype of *C. lithocolletum* appears to be nearly completely white, except for the first whorls, and subsequent authors were misled by Dautzenberg's expression '*coloration fauve rosé clair*', terms he often used in the description of variations.

The new species superficially looks like *C. lithocolletum* regarding outline and general ornamentation of the cords, but this is actually a rust-coloured shell and no white specimens are known.

Dautzenberg’s species clearly differs from the new species by the following characteristics:

- **10** flat collapsed whorls instead of **9**;
- the decurrent cords are all composed of regular, fine and numerous beads;
- the rather **stepped outline** of whorls;
- the less conical outline, caused by the **more depressed whorls**;
- the last whorl being angular at the periphery;
- base with **12** flattened concentric cords, instead of **9-10**;
- the **tiny knob** at the columellar area;
- the creamy **white** colour of the shell.

Calliostoma simulatum **Nolf & Hubrecht, 2022**
Off Santa Cruz de la Palma, La Palma, Canary Islands.
Trawled by fishermen at a depth of 100 m. 1976.
H. 26.33 mm D. 23.90 mm.
Holotype. RBINS.

Calliostoma simulatum **Nolf & Hubrecht, 2022**
N of Tenerife, Canary Islands. Trawled by fishermen at a depth of 250 m.
July 1993. H. 16.8 mm.
Coll. Steve Hubrecht. Paratype 13.

Calliostoma simulatum **Nolf & Hubrecht, 2022**
Off Santa Cruz de la Palma, La Palma, Canary Islands. Trawled by fishermen at a depth of 100 m. 1976.
H. 27.25 mm D. 24.64 mm.
Coll. F. Nolf. Paratype 1.

Calliostoma simulatum
Nolf & Hubrecht, 2022
Garafía, La Palma, Canary Islands.
Trawled by fishermen at 80-120 m.
H. 32.02 mm D. 27.39 mm.
Coll. F. Nolf. Paratype 4.

Calliostoma simulatum **Nolf & Hubrecht, 2022**
Garafía, La Palma, Canary Islands.
Trawled by fishermen at 80-120 m.
H. 28.64 mm D. 26.79 mm. Coll. F. Nolf. Paratype 5.

Calliostoma simulatum **Nolf & Hubrecht, 2022**
Garafía, La Palma, Canary Islands.
Trawled by fishermen at 80-120 m.
H. 30.75 mm D. 27.86 mm. Coll. F. Nolf. Paratype 6.



Calliostoma simulatum **Nolf & Hubrecht, 2022**
Off Santa Cruz de la Palma, La Palma, Canary Islands.
Trawled by fishermen at a depth of 100 m. 1976.
H. 29.17 mm D. 25.19 mm.
Coll. F. Nolf. Paratype 2.