

A taxonomic revision of the genus *Trochita* Schumacher, 1817 (Gastropoda: Calyptraeidae) from the southwestern Atlantic

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ABSTRACT

The authors revised the Atlantic species of the genus *Trochita*. Two valid species are recognized. *Trochita pileus* (Lamarck, 1822) and *T. pileolus* (d'Orbigny, 1841) are redescribed and the type material of each species is illustrated. Both species range from the coast of Buenos Aires province to Tierra del Fuego. *Trochita pileus* is a common subtidal Patagonian species and *T. pileolus* is rare and usually lives in deeper waters. *Trochita trochiformis* a Pacific only species is compared with the Atlantic representatives. Protoconch ornamentation and septum margin are the main differences between both Atlantic species. *Trochita georgiana* Powell is a junior synonym of *T. pileolus*.

Additional keywords: Argentina, Patagonia, geographic distribution

INTRODUCTION

The South American species belonging in the genus *Trochita* Schumacher, 1817 were known since early times in historical malacological literature (e.g. Born, 1778; Gmelin 1791; Lamarck, 1822). Many names were proposed from different regions, perhaps, because of the large range of some of the species and its significant conchological variation. Rehder (1943), in a short paper, provided an initial account of the actual type species of the genus *Trochita* and discussed some of the names in use. Nevertheless, he did not illustrate shells, and some older names were not included.

In this revision, we focused on the southwestern Atlantic species of *Trochita*, however, because of proximity and similarity one Pacific form is also included. Type specimens, protoconchs, and radulae of all species are illustrated and redescribed.

MATERIALS AND METHODS

All the material considered is essentially housed at the Invertebrate collection of the Museo Argentino de

Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires (MACN-In). Some other specimens were studied at the National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM) and Museo de La Plata, (MLP). Type material is deposited at Natural History Museum, London, (NHMUK), Museo Nacional de Historia Natural, Santiago, Chile (MNHNS), and Muséum d'Histoire naturelle de Genève, Switzerland (MHNG). Material from the USNM was originally collected by the United States Antarctic Program (USAP) and was collected by three ships: R/V HERO, R/V ELTANIN and R/V PROFESSOR SIEDLECKI. Several lots were also collected during two oceanographic cruises aboard of the Argentine B/I PUERTO DESEADO.

Radulae were prepared according to the method described in Pastorino (2005) and observed using a Philips XL 30 scanning electron microscope (SEM) at the MACN.

Photographs were taken using a digital camera Nikon D100 with a 60 mm Micro lens. All images were digitally processed.

SYSTEMATICS

Family Calyptraeidae Lamarck, 1809

Genus *Trochita* Schumacher, 1817

Type Species: *Trochus spiralis* Schumacher, 1817 (= *Trochus radians* Lamarck, 1816) by SD of Rehder, 1943 (= *Trochita trochiformis* (Born, 1778)).

Trochita trochiformis (Born, 1778)

(Figures 1–3)

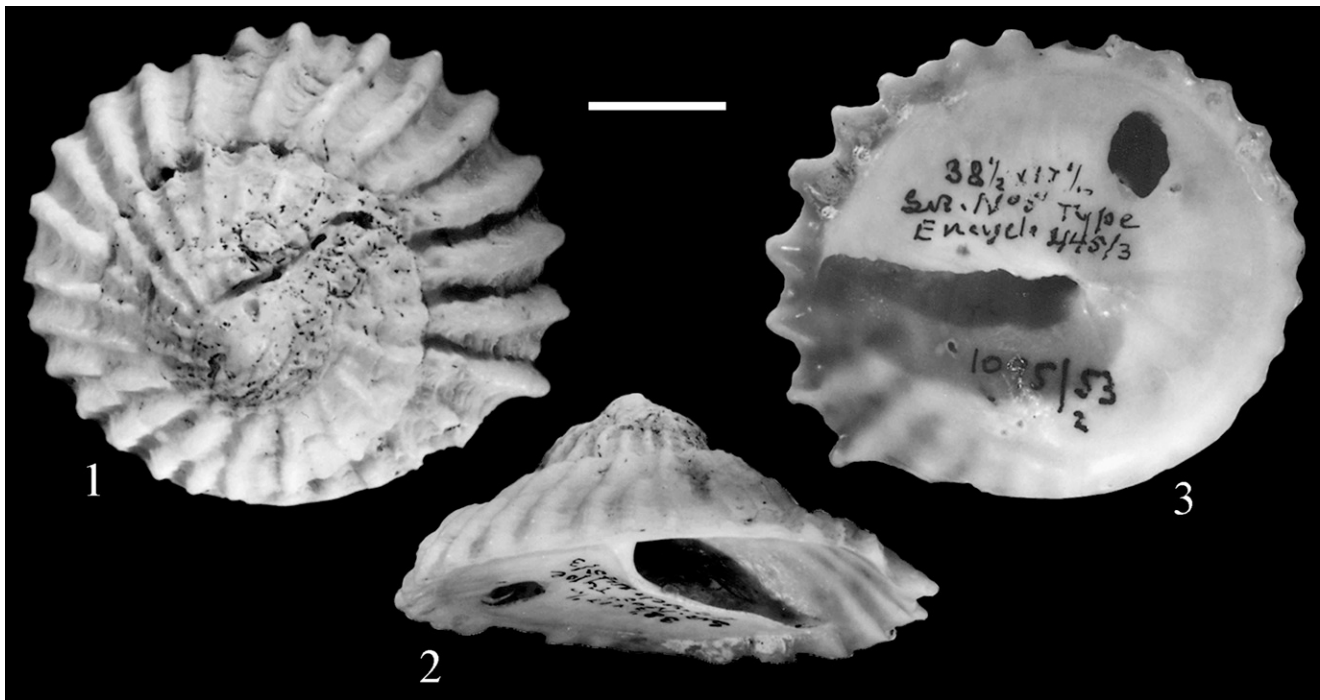
Unnamed Knorr, 1768: pl. 29, fig. 1, 2.

Turbo trochiformis Born, 1778: 355.

Patella trochiformis varietas (β) Gmelin, 1791: 3694.

Trochus radians Lamarck, 1816: 445, figs. 3a, b; 1822: 11.

Infundibulum radians.—Sowerby in Gray, 1839: 148, pl. 39, fig. 10.



Figures 1–3. *Trochita trochiformis* (Born, 1778), holotype of *Trochus radians* Lamarck, 1816, MHNG1095/53. Scale bar = 1 cm.

Infundibulum radians. Var.—Sowerby in Gray, 1839: 148, pl. 39, fig. 11.

Trochita radians Lamarck.—Rehder, 1943: 42–43, fig. 1.

?*Trochita spirata* Forbes, 1852: 271, pl. 11, figs. 1a,b.

?*Trochita spirata* Forbes, 1850.—Reeve, 1859: pl. 2 fig. 8.

Calyptraea (*Trochita*) *trochiformis* (Born, 1778).—Keen, 1971: 456, fig. 804; Marincovich, 1973: 31–32, fig. 65; Cañete & Ambler, 1992 (development).

Trochita trochiformis (Born, 1778).—Reid & Osorio, 2000: 124, figs. 3H,I.

Trochita calyptraeformis (Born, 1778).—Collin, 2003a: 550, fig. 2I, 9C; Collin, 2003b: in table 1 and 2; Collin, 2003c: 618–640; Paredes & Cardoso, 2007: 182, fig. 2g; Cañete et al., 2007: 1–7.

Type Material: [*Turbo trochiformis*] not found; [*Trochus radians*] is housed at MHNG1095/53.

Type Locality: [*Turbo trochiformis*] unknown; [*Trochus radians*] “mer des Antilles, proche la Guadeloupe”.

Other Material Examined: Chile: La Cuchara beach, South of Tocopilla, 4 sp., MLP12091; Coquimbo, 8 sp., MACN-In24810; Antofagasta, 4 sp., MACN-In19580; Antofagasta, 5 sp., MACN-In15090; Antofagasta, several sp. MACN-In24745; Valparaiso, 1 sp., MACN-In29685; Valparaiso, 4 sp., MACN-In25374; Caldera, 3 sp., MACN-In9478; Caldera, 1 sp., MACN-In7321; Caldera, 1 sp. MACN-In 11597-1; Bahía Tangoi, 4 sp., MACN-In24795; Caleta Horcón, 2 sp., MACN-In26030; Talcahuano, 1 sp., MACN-In13815; Puerto San Antonio, Provincia

de Santiago, 6 sp., MACN-In12866; Costas de Chile, 4 sp., MACN-In12164.

Distribution: According to Rehder (1943) after material housed at the USNM, from Manta, Ecuador (1° S) to Valparaiso (33° S), Chile. Later Keen (1971), Taylor and Smythe (1985), and, Cañete and Ambler (1992) copy this distribution. Reid and Osorio (2000) collected material of this species in Estero Elefantes, Chile (~45° S). This is the southernmost locality. Paredes and Cardoso (2007) cited the whole peruvian littoral and put some doubt on northern citations.

Vokes (1975) cited Nicklès (1950) as the source of the presence of *T. trochiformis* in Cape Verde Is. and Angola, Africa. Rehder (1943) reported *Trochita* sp. after one worn specimen that could be identified also as *T. trochiformis*. Finally, Taylor and Smythe (1985) mentioned “specimens very similar and probably conspecific with *T. trochiformis*” from the same African region in the collection of the NHMUK. Vokes (1975) discussed the possibility that the same species could be distributed in these two really far away regions travelling by ocean currents. There is no modern study that assures this hypothesis. So far, there is no record of this species, adults or juveniles, in the Argentine littoral. It is difficult to accept that a non-free larvae species travels all the way through the whole Atlantic Ocean. However, despite the direct development of *T. trochiformis* (see Cañete & Ambler, 1992), according to Cañete et al. (2007) this species performs a very particular way of moving during the juvenile stage through planktonic drifting. Nevertheless,

the African distribution of this Pacific only species should be at least treated with care.

Remarks: *Trochita trochiformis* is probably one of the commonest species of *Trochita* from the Pacific coast of South America. It is commercially exploited in Chile and Peru, however, the exact distribution range is somewhat imprecise because of many names locally still in use by local authors. Collin (2003a, b), Cañete et al. (2007) and, Paredes and Cardoso (2007) changed the name to *T. calyptraeformis* (Born, 1778) without any explanation. Born (1778) never proposed this name. Perhaps the confusion started with the species *Sigapatella calyptraeformis* (Lamarck, 1822) a valid species sometimes known under the genus *Calyptraea* from Australia.

One of the main differences with the Atlantic species is the size of the shell which is larger than both, *T. pileus* and *T. pileolus*. Nevertheless, younger, small specimens of *T. trochiformis* could be confused with *T. pileus*, however the number and appearance of ribs clearly differentiate both species. *T. trochiformis* always has coarse ribs, thick shells and more than 25 ribs per whorl. *T. pileus* when present has thin, closely arranged ribs which continue through the suture of the next whorl. In addition the septum of *T. pileus* is clearly sigmoid, with a characteristic initial (central) portion of septum reflexed. *T. trochiformis* usually has an almost straight septum margin. Furthermore, the umbilicus is visible in *T. pileus* and partially hidden in *T. trochiformis*.

***Trochita pileolus* (d'Orbigny, 1841)**

(Figures 4–12, 22–24, 34–39, 40)

- Calyptraea (Trochatella) pileolus* d'Orbigny, 1841: 463.
Infundibulum pileolus d'Orbigny, 1847: pl. 78, figs. 5, 6, 6'.
Calyptraea decipiens Philippi, 1845: 61.
Calyptraea Sigapatella pileolus d'Orb.—Tryon, 1886: 122, pl. 35, figs. 91, 100.
Calyptraea pileolus d'Orbigny, 1841.—Carcelles, 1950: 57.
Calyptraea (Trochita) georgiana Powell, 1951: 127, Fig. E 3, pl. 7, fig. 22; Zelaya, 2005: 119, fig. 24.

Description: Shell conical, white, short, of 3 convex whorls, of less than 2 cm of maximum diameter and less than 1 cm of maximum height ($H/W=0.53 \pm 0.07$, $n=36$); apex central; protoconch of about 1.5 whorls, slightly excavated; first whorl of protoconch smooth, then 5–6 spiral ribs that vanish towards the teleoconch; teleoconch with irregular concentric growth wrinkles; aperture circular; umbilicus conspicuous, visible, always present; septum straight, slightly sigmoid to the edge; periostracum usually present, pale yellowish, transparent to dark brown.

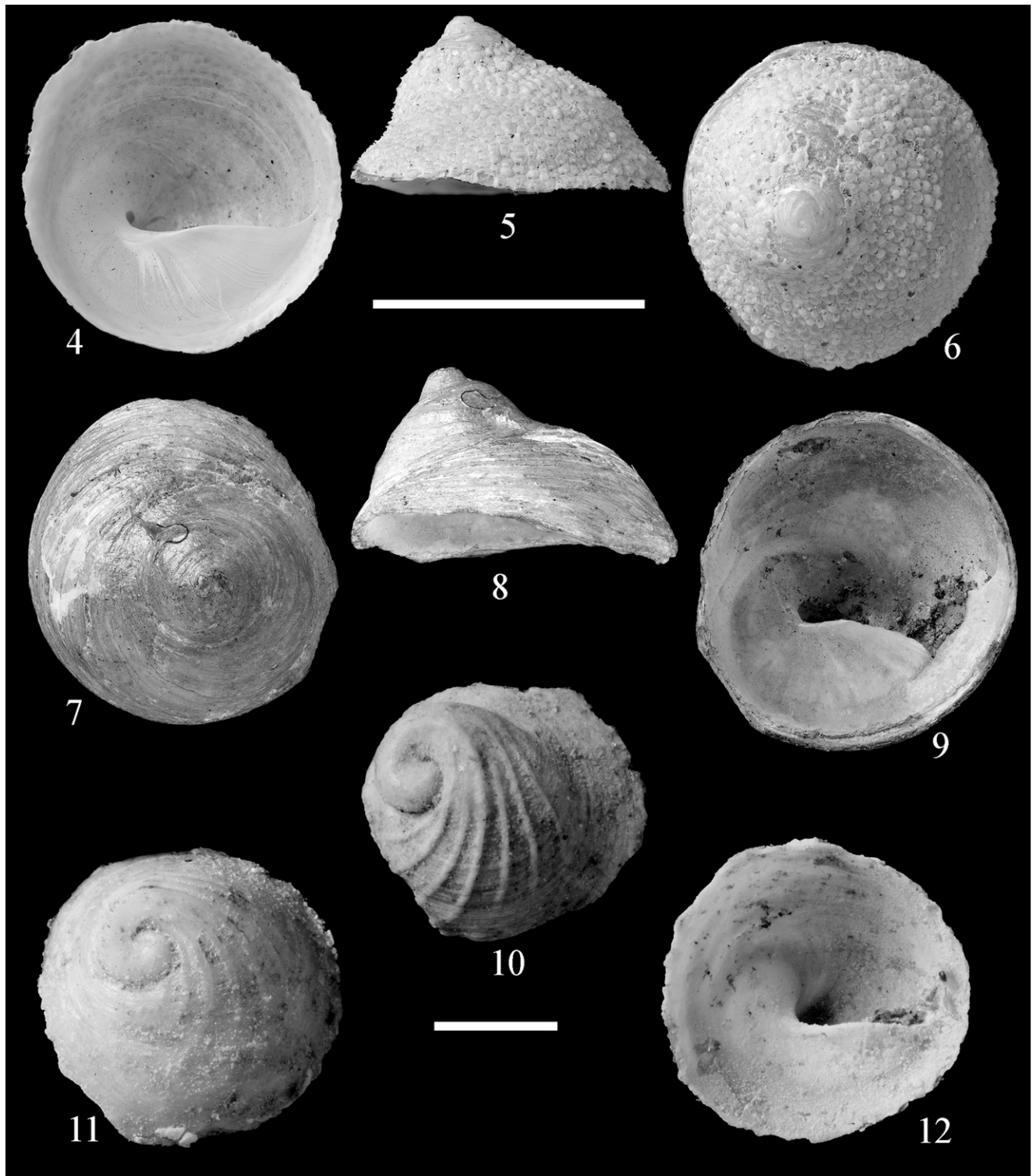
Radula taenioglossate, rachidian tooth rectangular with one central cusp and 3–4 small (obsolete) denticles on each side; lateral tooth broad, with apical cusp toward rachidian line and 7–8 irregular denticles on the external side; two marginal teeth long, curved tall tip sharply pointed without any trace of denticles.

Type Material: [*Calyptraea (Trochatella) pileolus*] 6 syntypes, NHMUK1854.12.4.567; [*Calyptraea (Trochita) georgiana*] holotype, NHMUK 1961469; [*Calyptraea decipiens*] not seen, probably in Museum für Naturkunde, Berlin (according to Ihering, 1907: 150).

Type Locality: [*Calyptraea (Trochatella) pileolus*] “Iles Malouines et le continent americain, sur la cote de la Patagonie meridionale”; [*Calyptraea decipiens*] “fretum Magellanicum”; [*Calyptraea (Trochita) georgiana*] near Shag Rocks, west of South Georgia, 53°43'40"S, 40°57' W in 177 m.

Other Material Examined: Argentina: 38°46'53" S, 55°50'30" W, in 97 m, St. 7 B/I Puerto Deseado, 1 sp., MACN-In39304; 38°50'56" S, 55°39'08" W, in 114 m, St. 8 B/I Puerto Deseado, 4 sp. MACN-In39303; 39°00' S, 57° 10' W, 1 sp. in 177–182 m, MACN-In15225; Ría Santa Cruz, 6 sp., MACN-In5171-1; 39°52'37.9" S, 59°38.6' W, St. 22, B/I Puerto Deseado, in 96 m, 1 sp., MACN-In39305; 54°28'58.5" S, 64°57'24.6" W, St. 1, B/I Puerto Deseado, in 106 m, 4 shells, MACN-In39306; 54°54' S, 66°19' W, 8 sp. in about 27 m, MACN-In24017; Punta Sinaia, Tierra del Fuego, 7 sp., MACN-In12541; 51°46' S, 68°45' W, 23 sp. in 22 m, MACN-In23858; 54°47' S, 63°35' W, 2 sp. in 146 m, MACN-In22293; 54°50' S, 64°01' W, 3 sp. in 154 m, MACN-In22734-1; 55°41' S, 66°34' W, 1 sp. in 115m, MACN-In24980-1; Bahía Buen Suceso, Tierra del Fuego, 3 sp., MACN-In25072-1; Ushuaia, Tierra del Fuego, 2 sp., MLP13485; Tierra del Fuego, 1 sp., MACN-In20496-1; Puerto Parry, Isla de los Estados, 5 sp., MACN-In21918; Puerto San Juan, Isla de los Estados, 1 sp., MACN-In22160-1; Punta Colnett, Isla de los Estados, 1 sp., MACN-In22566-1; Puerto Olla, Isla Observatorio, 1 sp. in 18–36 m, MACN-In22037-1; Bahía Cumberland, South Georgia Is., 1 sp. in 22 m, MACN-In13537; Bahía Cumberland, 1 sp. in 36 m, MACN-In18969; Schlieper Bay, South Georgia Is., 1 sp., in 18 m, MACN-In18972; Annenkov Is., South Georgia, 3 sp. in 36 m, MACN-In18971; Larsen Harbour, South Georgia Is., 3 sp. in 27 m, MACN-In18970; 53°32' S, 41°37' W, Shag Rocks, 1 sp., MLP7252; 54°30' S, 35°50' W, 1 sp. in 94 m, MLP7284; Antarctic Bay, South Georgia Is., 2 sp. in 36 m, MACN-In18973; 53°58' S, 37°09' W, 1 sp. in 138 m, MACN-In36293; 53°08' S, 35°25' W, 1 sp. in 115 m, MACN-In36292. Chile: Isla Nueva, 2 sp., MACN-In24957-1; Puerto Harris, Isla Dawson, 3 sp., MACN-In12432-1; Punta Arenas, 2 sp. MACN-In12390; Punta Arenas, 5 sp., MACN-In13118; Puerto Harris, Isla Dawson, 1 sp., MACN-In14000-1; Puerto Harris, Isla Dawson, 6 sp., MACN-In12482-1.

Distribution: Off Buenos Aires province, in about 100 m depth; subtidal from southern Santa Cruz province (~50°S), Tierra del Fuego, Isla de los Estados, Malvinas (Falkland) Is., South Georgia Is. in Argentina, to Punta Arenas and Isla Dawson in Chile.



Figures 4–12. *Trochita pileolus* (d'Orbigny, 1841). **4–6.** Holotype of *Calyptraea (Trochita) georgiana* Powell, 1951 NHMUK1961469. **7–12.** Three (7–9, 10, 11–12) syntypes of *Calyptraea (Trochatella) pileolus* d'Orbigny, 1841 NHMUK1854.12.4.567. Scale bars: 4–9 = 1 cm, 10–12 = 1 mm.

Remarks: This is a typical example of a magellanic species distributed along the whole malacological province. It is subtidal in the southern region and becomes a deep water (~100 m) species on the northern part of its distribution. It was found usually mixed with specimens of *Trochita pileus* both on museum lots and on several unsorted samples. However, it is easily distinguished by the spirals on the protoconch, the open umbilicus and the straight septum. In addition, it is smaller than *T. pileus* and never presents ribs. Most of the specimens, including the holotype of *T. georgiana*, are covered, sometimes by up to three different species of bryozoans and/or sponges. Despite that both species, *T. pileolus* and *T. pileus*, appear together in the samples the latter is the only one that regardless the smooth surface participates of this association.

Ihering (1907) mentioned *T. decipiens* as a synonym of *T. pileolus* and according to him he has seen the type material of Philippi's species. The size and short description of *T. decipiens* agree with this author idea.

Trochita georgiana Powell, 1951 was described without no mention or comparison with *T. pileolus* (d'Orbigny, 1841). Also, several years later, Powell (1960) in his cata-

logue of Antarctic and Subantarctic Mollusca neglected again d'Orbigny's species despite the type locality (Malvinas Is. and Patagonian coast) is clearly part of the subantarctic region. The holotype is housed at the NHMUK. Its protoconch and the septum as well as the distribution cited in the original description undoubtedly refer to *T. pileolus*. It is interesting to see that Powell's draw of the holotype (1951: 127, pl. 7, fig. 22) is not covered by bryozoans as it is the real shell and most of *T. pileolus* specimens.

***Trochita pileus* (Lamarck, 1822)**

(Figures 13–18, 19–21, 25–33, 41)

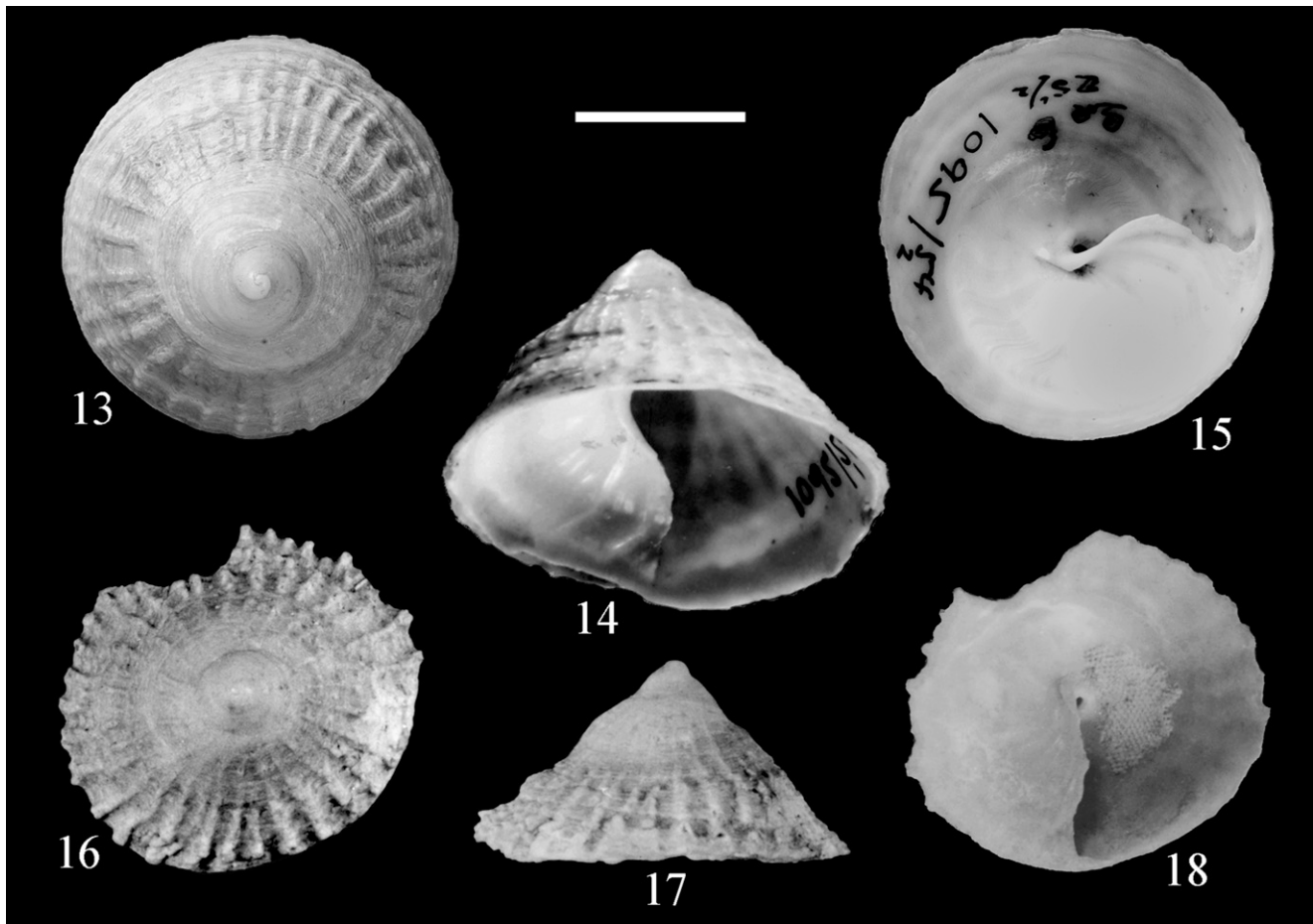
Trochus pileus Lamarck, 1822: 11.

Calyptraea costellata Philippi, 1845: 62; Strebel, 1906: 159, pl. 13, figs. 88–97; Carcelles, 1950: 57; Castellanos, 1970: 41, pl. 3, fig. 9.

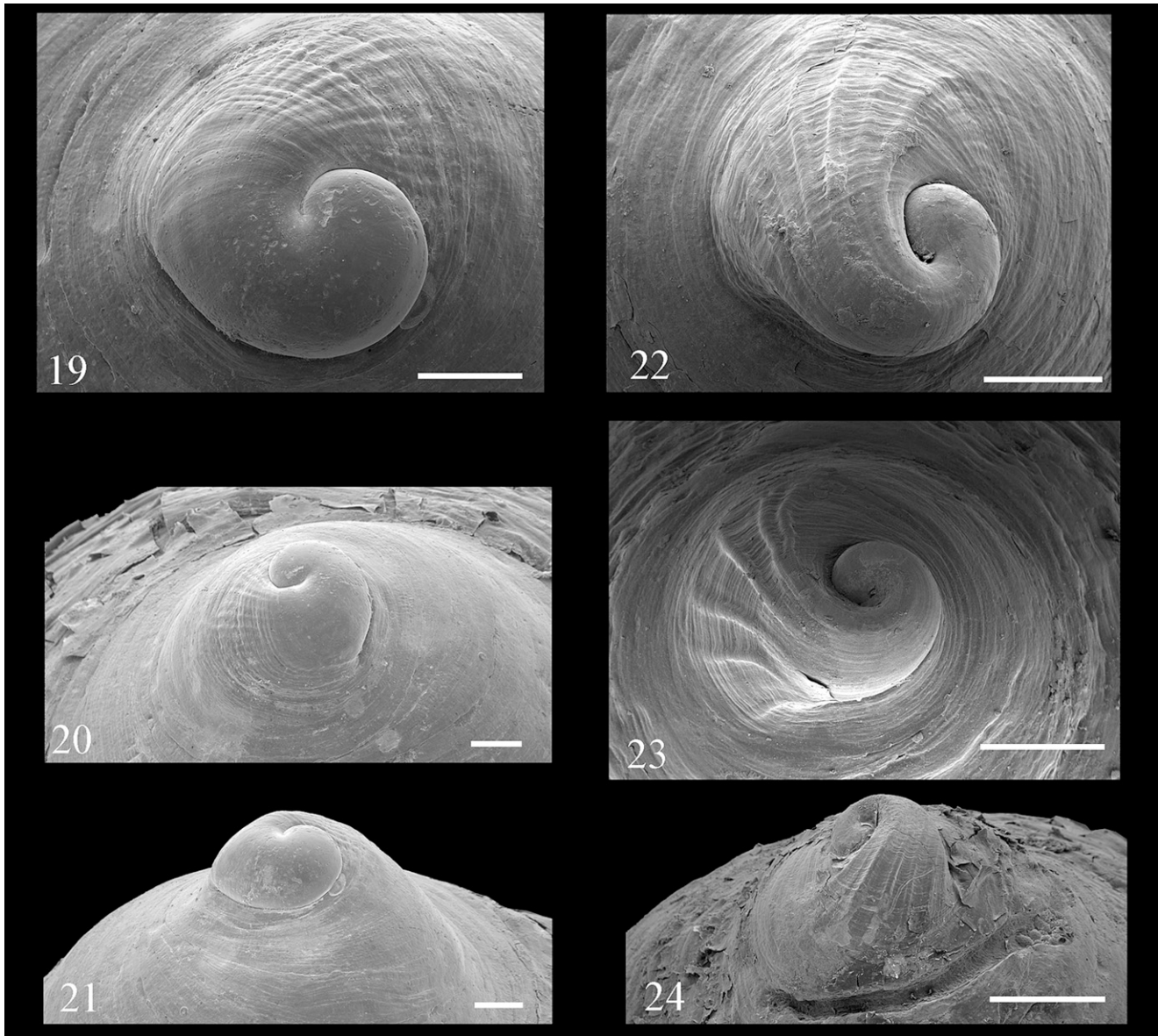
?*Trochita corrugata* Reeve, 1859: pl. 2, sp. 9.

Trochita clypeolum Reeve, 1859: pl. 3, sp. 14; Powell, 1951: 127;

Trochita decipiens Rehder, 1943: 44, fig. 2 (non Philippi, 1845).



Figures 13–18. *Trochita pileus* (Lamarck, 1822). 13–15. Syntype of *Trochus pileus* Lamarck, 1822, MHNG INVE 51452/2 (ex 1095/54-2). 16–18. Probable holotype of *Calyptraea costellata* Philippi, 1845, MNHNS unnumbered. Scale bar = 1 cm.



Figures 19–24. *Trochita* species. **19–21.** *Trochita pileus* (Lamarck, 1822). Three views of the protoconch of MACN-In25072, from Bahía Buen Suceso, Tierra del Fuego, Argentina. **22–24.** *Trochita pileolus* (d’Orbigny, 1841). **22.** Protoconch of MACN-In25072-1, from Bahía Buen Suceso. **23–24.** Two views of MACN-In5171 from Ría Santa Cruz. Scale bars = 500 μ m.

Trochita trochiformis Powell, 1951: 126, fig. E 2 (non Gmelin, 1791);

Calyptraea pileolus Carcelles, 1950: 57, pl. 2, fig. 25 (non d’Orbigny, 1841). Castellanos, 1970: 40, pl. 3, fig. 5;

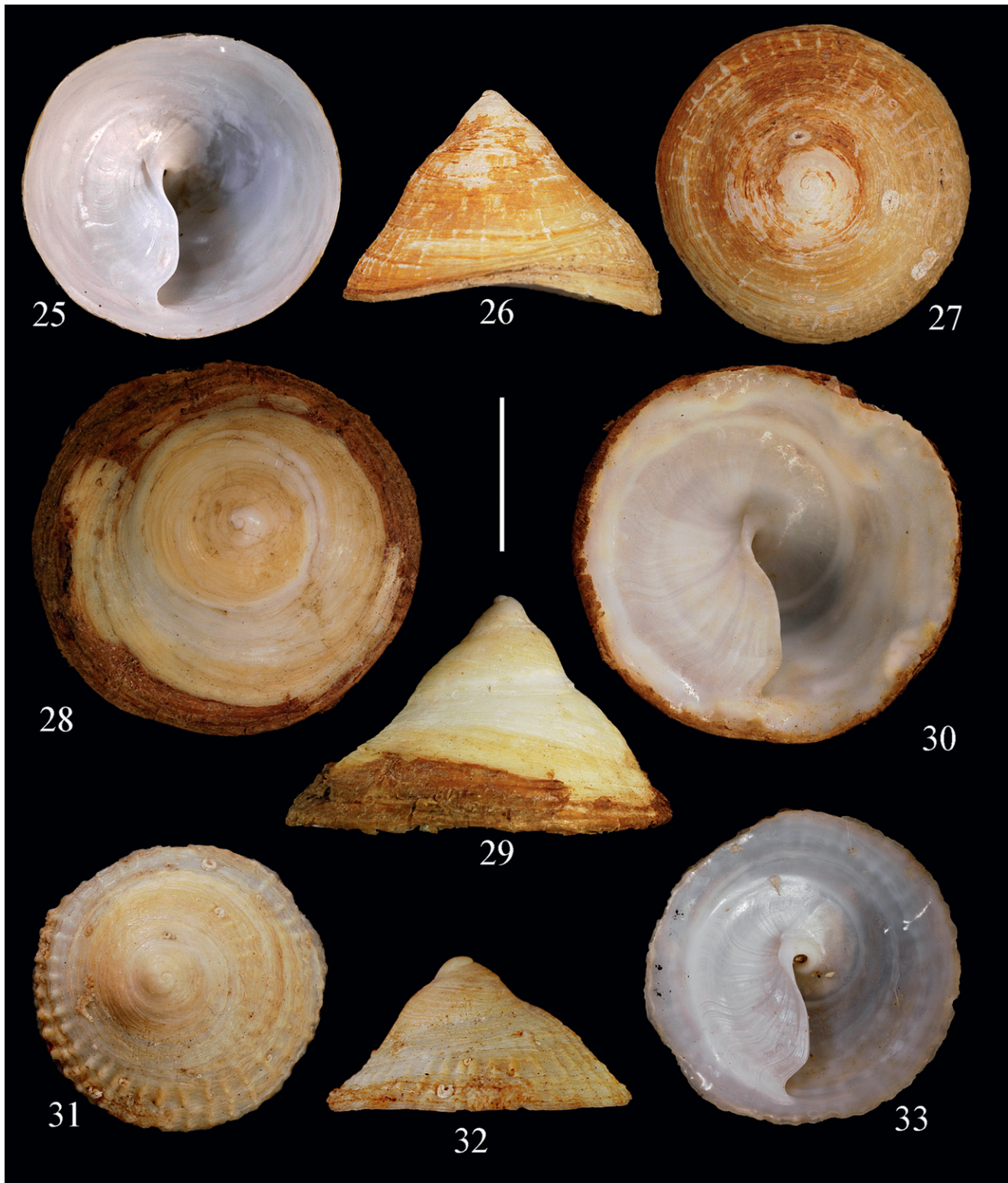
Trochita pileus (Lamarck, 1822).—Powell, 1960: 143;

Description: Shell conical, medium size, ($H/W=0.56 \pm 0.08$, $n=20$) circular base of ~ 3 somewhat flat whorls of about 3 cm of maximum diameter ($x=1.74$, $n=20$) and about 1.7 cm of maximum height ($x=1.05$, $n=20$); apex central, protoconch prominent of 1.5 whorls, first whorl smooth, later multiple weak spiral threads that cross growth lines and vanished on teleoconch; teleoconch with about 25 thin ribs on the two last whorls, first whorl

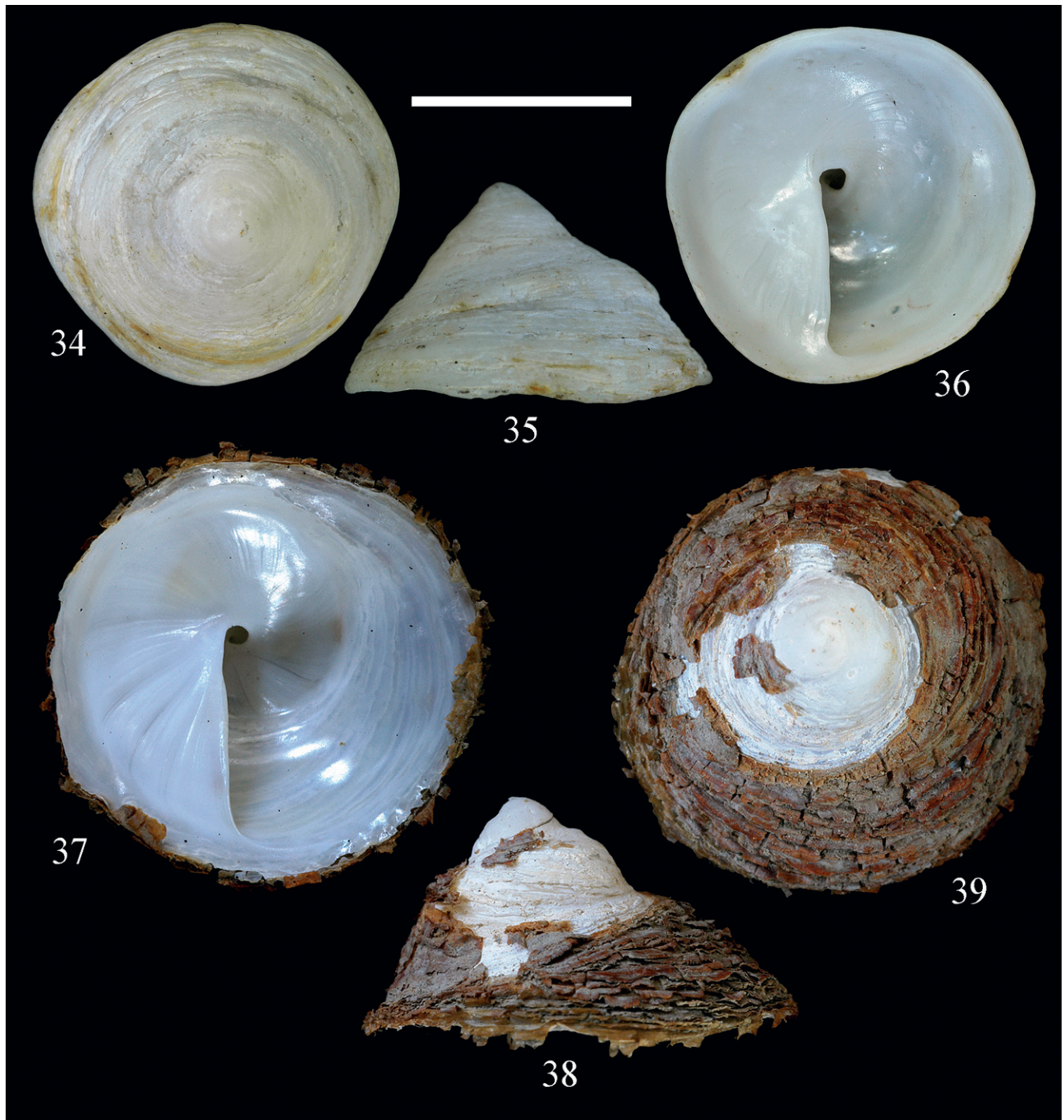
usually smooth, some specimens with irregular spiral wrinkles only; ribs somewhat scaly when crossing growth lines and continues thru suture to the next whorl. Aperture circular, umbilicus present but sometimes covered by septum; septum sigmoid reflexed on the umbilical area and a sinus on the margin. Periostracum thick, yellow pale, thin, transparent to dark brown.

The radula showed no significant differences from *T. pileolus*.

Type Material: [*Trochus pileus*], three syntypes housed at MHNG INVE 51452/1–3 (old registration number MHNG 1095/54/1–3); [*Calyptraea costellata*], one specimen probable syntype present in MNHNS;



Figures 25–33. *Trochita pileus* (Lamarck, 1822). 25–27. MACN-In39309, Puerto San Julián, Santa Cruz, Argentina, on the dock pilots. 28–30. MACN-In 38191, 36°30'S, 54°44' W. 31–33. MACN-In22873, Puerto Parry, Isla de los Estados, Argentina. Scale bar = 1 cm.



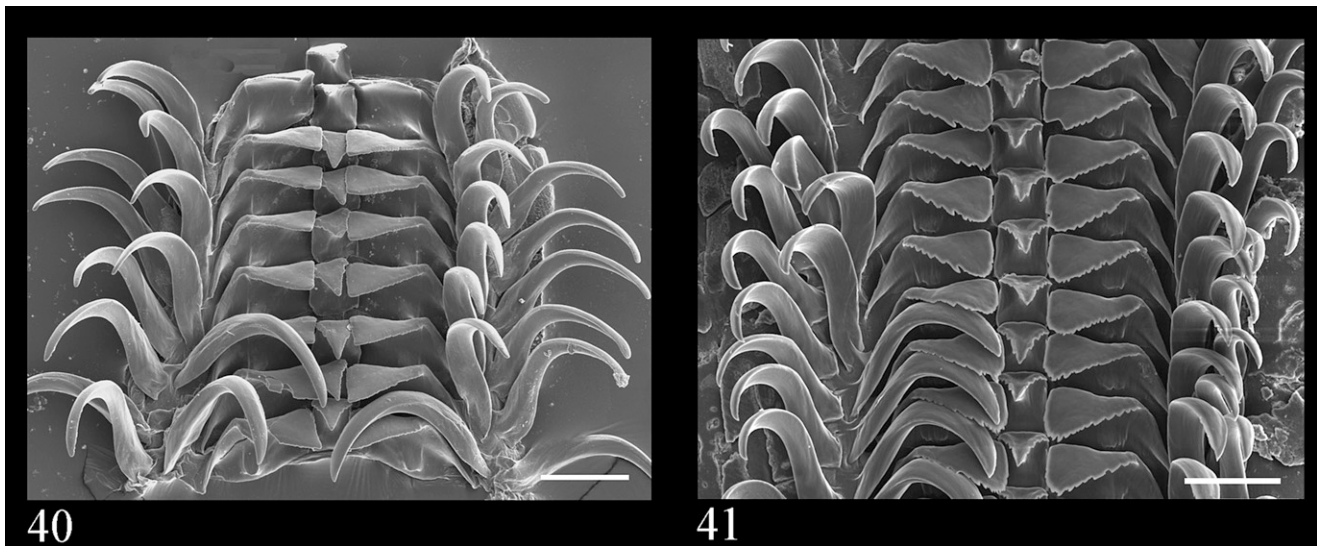
Figures 34–39. *Trochita pileolus* (d’Orbigny, 1841). **34–36.** MACN-In12541 from Punta Sinaia, Tierra del Fuego. **37–39.** MACN-In18969, Bahía Cumberland, South Georgia Is. Argentina. Scale bar = 1 cm.

[*Trochita corrugata*], 3 syntypes housed at NHMUK 1977148 (not seen) [*Trochita clypeolum*] holotype NHMUK 1977149 (not seen).

Type Locality: [*Trochus pileus*] unknown, however, there is a written label, not from Lamarck’s, stating Antilles? (Y. Finet, Com. Pers.); [*Calyptrea costellata*

“*fretum magellanicum*”; [*Trochita corrugata*] “Callao, Peru”; [*Trochita clypeolum*] “Straits of Magalhaens”.

Other Material Examined: Argentina: 36°30’ S, 54°44’ W, 1 sp. in 26 m, MACN-In 38191; 37°40’ S, 56°25’ W, 1 sp., MACN-In15805; Puerto Quequén, 6 sp., MACN-In 22921; 38°31’ S, 55°42’ W, 13 sp. in



Figures 40–41. Radulae of *Trochita* species. **40.** *Trochita pileolus*, MACN-In36293, 53°58' S, 37°09' W. **41.** *Trochita pileus* MACN-In39309. scale bars = 100 μ m.

109 m, MACN-In 23358; 38°18'38" S, 56°58'59.4" W, in 66 m, St. 5, B/I Puerto Deseado, 9 sp, MACN-In39311; 38°25' S, 56°30' W, 1 sp., MACN-In30496; 38°46'53" S, 55°50'30" W, in 97 m, St. 7 B/I Puerto Deseado, 8 sp., MACN-In39310; 38°50'56" S, 55°39'08" W, in 114 m, St. 8 B/I Puerto Deseado, 16 sp. MACN-In39308; 39°01'40" S, 58°10'40" W, in 55 m, St. 11 B/I Puerto Deseado, 1 sp. MACN-In39301; 39°12' S, 56° W, in 110–128 m, MACN-In20846; 39°00' S, 57°10' W, 1 sp. in 177–82 m, MACN-In15225-1; South of Quequén, 2 sp., MACN-In26290; 40°03' S, 57° W, 2 sp. in 91 m, MACN-In15689; 41°12' S, 62°54' W, 2 sp. in 27 m, MACN-In20655; 42°22'02" S, 63°11'52.6" W, St. 11, B/I Puerto Deseado, in 63 m, 1 sp., MACN-In39302; Punta Norte, Península Valdés, several sp., MACN-In11480; North of Puerto Madryn, Chubut, 1 sp., MACN-In29643; Rawson, mouth of Rio Chubut, 1 sp., MACN-In10718; Bahía Cruz, Chubut, 1 sp., MACN-In9014-1; 44°16' S, 65°12' W, Bahía Vera, 6 sp, in 46 m, MACN-In23745; 45°00'25.1" S, 65°16'44.2" W, St. 9, B/I Puerto Deseado, in 85/89 m, 13 sp., MACN-In39312; 45° S, 65°32' W, 1 sp. in 86 m, MACN-In24097; 45°08' S, 66°28' W, 3 sp., MACN-In23842; 45°09'S, 66°27' W, 77 sp. in 15 m, MACN-In23809; 45°15' S, 65°26' W, 1 sp., in 97 m, MACN-In9151; Dos Hermanas, Puerto Deseado, Santa Cruz, 8 sp., MACN-In26188; Punta Cavendish, Puerto Deseado, 1 sp., MACN-In26185; Isla Quiroga, Ría de Puerto Deseado, 7 sp., intertidal, MACN-In35614; Río Deseado, 2 sp., in 16 m, MACN-In14970; Río Deseado, off Baliza Alianza, 2 sp., in 4 m, MACN-In14971; Ría Deseado, 2 sp., 6 m, MACN-In14973; Bahía Uruguay, Puerto Deseado, 21 sp., MLP266; Puerto Deseado, Santa Cruz, 16 sp., MACN-In17746; 2 sp., MLP261; 9 sp., MLP4748; 1 sp., MLP4785-2 and 18 sp., MLP3892; Punta Medanosa, Santa Cruz, 2 sp., MLP259; Cabo Blanco, Santa Cruz, 2 sp., MACN-In23623; 47°47'39.9" S,

65°34'53.9" W, St. 5, B/I Puerto Deseado, in 46 m, 23 shells, 18 sp., MACN-In39313; Cabo Blanco, Santa Cruz, 15 sp., MACN-In17745; San Julián, Santa Cruz, 5 sp., MACN-In 9200; San Julián, 2 sp, MACN-In9237; Puerto San Julián, on the dock pilots, Santa Cruz, 15 sp. in 1–2 m, MACN-In39309; Punta Peña beach, San Julián, Santa Cruz, 64 sp., MLP3024; Ría Santa Cruz, 7 sp., MACN-In5171; Bahía Buen Suceso, Tierra del Fuego, 9 sp., MACN-In25072; 54°28'58.5" S, 64°57'24.6" W, St. 1, B/I Puerto Deseado, in 106 m, 62 shells, 1 sp. MACN-In39314; 54°25' S, 65°49' W, 1 sp., MLP4350; Puerto Parry, Isla de los Estados, 10 sp. MACN-In22873; Puerto Parry, Isla de los Estados, 10 sp., MACN-In22874; Puerto San Juan, Isla de los Estados, 2 sp., MACN-In22160; Puerto Roca, Isla de los Estados, 2 sp. in 18 m, MACN-In21982; Puerto Cook, Isla de los Estados, 14 sp., MACN-In22093; Puerto Cook, 2 sp., MACN-In22094; Puerto Roca, Isla de los Estados, 2 sp., MACN-In21982; Puerto Olla, Isla Observatorio, 2 sp. in 18–36 m, MACN-In22037; Punta Colnett, Isla de los Estados, 2 sp., MACN-In22566; Río del Fuego, Tierra del Fuego, 16 sp., MACN-In12539; Río Grande, Tierra del Fuego, 13 sp., MACN-In12540; Punta Sinaia, Tierra del Fuego, 21 sp. MACN-In12357-1; Cabo Santa Inés, Tierra del Fuego, 3 sp., MACN-In12538; Tierra del Fuego, 1 sp., MACN-In20496; Tierra del Fuego, 3 sp., MACN-In21157-1; Canal Beagle, Tierra del Fuego, 1 sp., MLP260; Islas Malvinas (Falklands Is.) 3 sp., MACN-In10152; 51°46' S, 68°45' W, 68 sp. in 22 m, MACN-In23858-1; 52°22' S, 68°29' W, several sp., in 18 m, MACN-In24061; 53°6' S, 67°4'1.1 W, in 37–46 m 1 sp. USNM896262; 53°6' S, 67°4'1.1W, in 86 m 2 sp. USNM896261; 54°50' S, 64°01' W, 4 sp. in 154 m, MACN-In22734; 54°27' S, 63°35' W, 2 sp., MACN-In22292; 54°26'30" S, 64°53' W, 6 sp. in 112 m, MACN-In25025; 54°41'S, 64°01'17" W, in 55 m,

MACN-In22613; Ushuaia, Tierra del Fuego, 1 sp., MACN-In 21157; Ushuaia, 5 sp., MLP4962; Patagonian coasts, 1 sp., MACN-In9237-1; 54°4'58.7" S, 58°52'1.1" W, Burdwood Bank, 1 sp. in 119 m, USNM881885; 55°41' S, 66°34' W, 15 sp. in 115m, MACN-In24980. Chile: Bahía Lomas, Isla Dawson, 7 sp., MACN-In12461; Bahía Lomas, Isla Dawson, 2 sp., MACN-In12460; Puerto Harris, Isla Dawson, 6 sp., MACN-In12431; Puerto Harris, Isla Dawson, 5 sp., MACN-In12432; Puerto Harris, Isla Dawson, several sp., MACN-In12482; Puerto Harris, Isla Dawson, 5 sp., MACN-In14000; Isla Nueva, 11 sp., MACN-In24957.

Distribution: Off Buenos Aires province (~36° S), Patagonian coast, Isla de los Estados, Islas Malvinas, Straits of Magellan, Tierra del Fuego, Burdwood Bank in the Atlantic, Isla Dawson, Puerto Harris in the Pacific.

Remarks: *Trochita pileus* is a common species living subtidally on hard substrate. The costulate form was confused with *T. trochiformis* but the radial ribs, normally absent, when present are thinner. The septum margin is sigmoid and in the beginning is reflexed while in *T. trochiformis* it is straighter and sharper. In addition, the latter species has a thicker shell and larger apertural diameter and height. The radula of both species is also somewhat different, while *T. pileus* has no denticles on the two marginal teeth, *T. trochiformis* has several.

DISCUSSION

According to the results presented here only two species of the genus *Trochita* are living in the Southwestern Atlantic waters: *T. pileolus* (d'Orbigny, 1841) and *T. pileus* (Lamarck, 1822). Both species have a similar distribution, however while *T. pileus* is quite common and subtidal in the northern part of the distribution, *T. pileolus* is somewhat rare and usually lives deeper. Representatives of the genus could be found from Patagonian deposits of probably Miocene age. Ihering (1907: 148) already mentioned the presence of several species of *Trochita* included what he identified as *T. pileus* from Cenozoic deposits. A complete revision of the Neogene species of *Trochita* could show that the same species are living since that age in Patagonia.

Contrary to other species of *Trochita* (i.e., *T. dhofarensis* and *T. trochiformis* sensu Taylor and Smythe, 1985), the Atlantic species are apparently not related with upwelling areas.

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