

New Additions to Inventory of Marine Mollusc Species from Santa Catarina State/SC, Central Southern Brazil

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Abstract

Based on the analysis of bibliographical technical informations of recent production, a new total of 114 forms of marine molluscs (73 Gastropoda, 35 Bivalvia, 5 Scaphopoda and 1 Polyplacophora) is added and incorporated into the systematic malacological inventory of the State of Santa Catarina/ SC, central Southern Brazil, included in 92 genera and 55 families, bringing to 785 species and subspecies registration of regionally known species (12 Polyplacophora, 473 Gastropoda, 15 Scaphopoda, 261 Bivalvia, and 24 Cephalopoda).

Keywords: Marine molluscs; Santa Catarina State; Southern Brazil; Species inventory

Introduction

The coastal plain of the State of Santa Catarina/ SC [1], 25°57'41"S - 29°23'55"S, having a length of 580 km of meandering and diverse mainland and island coast (Figure 1), is located on a large "transition zone", still subject to technical discussions because of the complexity of its nuances and dynamic oceanographic, result of "convergence" between two major ocean currents: "Brazil", hot to the North, and "Falkland or Malvinas", cold to the South, apparently the section of the coast of Brazil between "Rio de Janeiro/ RJ" and "Santa Catarina/ SC" regions functions as an "ecological filter", preventing the dispersal of species, they are thermophilic - Typical of the marine zoogeographical Caribbean Province - or cryophilic - typical of the Patagonian marine zoogeographical Province [2,3].

Sensibly, this condition determines in the local environment a sensitive, diverse and heterogeneous biotic faunal composition, whose characteristics are to have a high potential on the contemporary practice of marine malaco-culture [4] as well as incentive for the development of accurate research on the marine biotic diversity occurring in it [4,5].

Continuing the work of regional survey, the present contribution incorporates in this opportunity the record of further 114 forms to previous systematic inventory of known marine molluscs of the Santa Catarina's State/ SC, the geographical central portion of southern Brazil region [3], included in 92 genera and 55 families, raise the State record for 785 species and subspecies regionally known (12 Polyplacophora, 473 Gastropoda, 15 Scaphopoda, 261 Bivalvia, and 24 Cephalopoda) [6], based on analysis of biogeographical mappings and other relevant informations for 569 regional species contained in the literature of recent production [7] who working in the specific geographical region known as "Argentine Malacological Province – AMP", which includes coasts up to 300 m depths south of Brazil starting at Santa Catarina State/ SC in Cape/ Lighthouse Santa Marta (28°36'S – 48°48'W) (Figure 1 – Southern sector) to Rio Grande do Sul State/ RS in Chui (33°41'27"S – 53°27'25"W) – a large continuous strip of sands, all of the Oriental Republic of Uruguay and the Argentine Republic up to 42°S parallel in the Valdés Península [7], some of them already mentioned in previous short regional compilation [8].

However, to the biogeography of this species, recently Barroso et al. [9] adds the following (sic): "... Considering the results of cluster and ordination analyses, this study proposes to divide the Brazilian coast into four regions(3) South-eastern Brazil Area (from southern Bahia to

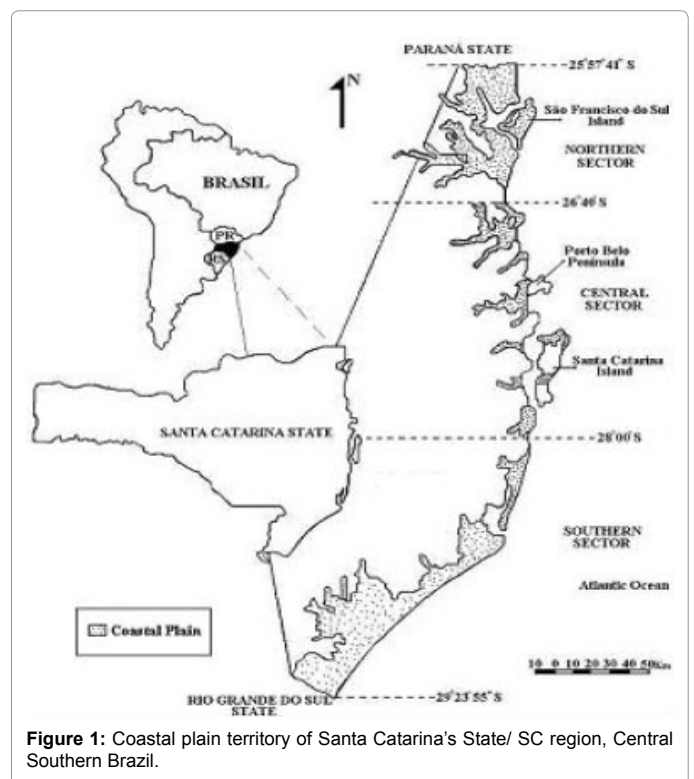


Figure 1: Coastal plain territory of Santa Catarina's State/ SC region, Central Southern Brazil.

Santa Catarina, Brazil, transition zone), and (4) Argentinian Province (Rio Grande do Sul state)..."

Additionally, the recent new species *Pugilina tupiniquim* Abbate and Simone in 2015 has come to represent the family Melongeniidae in

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Brazil [10], replacing in Santa Catarina State/ SC the previous specific status *Pugilina morio* [3].

In general, the taxonomic arrangement presented in this report basically continues accompanying the original proposal contained in Agudo-Padrón [3], based on the monographic contributions of Garcia et al. [11], Rios [12] and Thomé et al. [13] mainly.

Systematic Species Relation/Inventory

Class Polyplacophora Gray, 1821
Order Neoloricata Bergenhayn, 1955
Family Ischnochitonidae Dall, 1889
Chaetopleura spinulosa (Gray, 1828)
Class Gastropoda Cuvier, 1787
Subclass Prosobranchia Milne Edwards, 1848
Order Archaeogastropoda Thiele, 1925
Family Scissurellidae Gray, 1847
Anatoma aedonia (Watson, 1886)
Family Haliotidae Rafinesque, 1815
Haliotis aurantium Simone, 1998
Family Fissurellidae Fleming, 1822
Emarginula tuberculosa Libassi, 1859
Family Trochidae Rafinesque, 1815
Calliostoma nordenskjoldi Strebel, 1907
Calliostoma moscatelli Quinn, 1992
Calliotropis calatha (Dall, 1927)
Mirachelus clinocnemus Quinn, 1979
Solariella lubrica (Dall, 1881)
Falsimargarita terespina Simone, 2008*
*For an inconvenient omission (error) this species, *Falsimargarita terespina* Simone, 2008, ended up not being included or counted in the anterior inventory [3,4], although previously reported in the regional literature for the State [14-17].
Family Turbinidae Rafinesque, 1815
Arene microforis (Dall, 1889)
Arene variabilis (Dall, 1889)
Homalopoma boffi Marini, 1975
Family Seguenziidae Verrill, 1884
Ancistrobasis costulata (Watson, 1879)
Order Mesogastropoda Thiele, 1925
Family Caecidae Gray, 1850
Caecum achironum de Folin, 1867
Meioceras nitidum (Stimpson, 1851)
Family Cerithiidae Fleming, 1822

Bittium varium (Pfeiffer, 1840)
Litiopa melanostoma Rang, 1829
Alaba incerta (d'Orbigny, 1842)
Family Fossaridae Troschel, 1861
Macromphalina (= *Megalomphalus*) *argentina* Castellanos, 1975
Family Ovulidae Fleming, 1822
Pseudosimnia (= *Primovula*) *vanhyningi* (M. Smith, 1940)
Family Atlantidae Wiegmann & Rute, 1832
Atlanta fusca Souleyet, 1852
Atlanta turriculata d'Orbigny, 1836
Oxygyrus keraudrenii (Lesueur, 1817)
Family Carinariidae Blainville, 1818
Cardiopoda richardi Vayssiére, 1903
Family Cerithiopsidae Adams & Adams, 1853
Cerithiopsis fusiformis C.B. Adams, 1845
Family Epitoniidae S.S. Berry, 1910
Epitonium dallianum Verrill & Smith, 1880
Epitonium celesti (Aradas, 1854)
Cylindriscala andrewsii (Verrill, 1882)
Family Janthinidae Leach, 1823
Janthina globosa (Swainson, 1822)
Family Eulimidae Risso, 1826
Eulima auricincta Abbott, 1859
Eulima bifasciata (d'Orbigny, 1842)
Melanella conoidea (Kurtz & Stimpson, 1851)
Order Neogastropoda Wenz, 1938
Family Muricidae Rafinesque, 1815
Murexiella hidalgoi (Crosse, 1869)
Orania (= *Urosalpinx*) *fusulus* (Brocchi, 1814)
Cytharomorula grayi (Dall, 1889)
Trophon iarae Houart, 1998
Family Olividae Latreille, 1825
Olivella (*Olivina*) *riosi* (Klappenbach, 1991)
Family Marginellidae Lamarck, 1799
Eratoidea (= *Dentimargo*) *janeiroensis* (E.A. Smith, 1915)
Prunum fulminatum (Kiener, 1841)
Granulina ovuliformis (d'Orbigny, 1841)
Suborder Toxoglossa Troschel, 1848
Family Turridae Swainson, 1840
Splendrillia (= *Syntomodrillia*) *carolinae* (Bartsch, 1934)

- Spirotropis patagonica* (d'Orbigny, 1841)
Spirotropis stirophora (Watson, 1881)
Leucosyrinx hemimeres (Watson, 1881)
Benthomangelia macra (Watson, 1881)
Daphnella retifera Dall, 1889
Pleurotomella cala (Watson, 1886)
Order Heterostropha Fisher, 1885
Family Pyramidellidae Gray, 1840
Eulimastoma canaliculatum (C.B. Adams, 1850)
Eulimastoma engonium (Bush, 1885)
Eulimastoma surinamense (Altena, 1975)
Turbonilla farinariae Pimenta & Absalão, 2004
Turbonilla zulmae Pimenta & Absalão, 1998
Careliopsis styliformis Mörch, 1875
Subclass Ophisthobranchia Milne Edwards, 1848
Order Cephalaspidea P. Fischer, 1883
Family Cylichnidae H. & A. Adams, 1854
Cylichna discus Watson, 1883
Scaphander watsoni Dall, 1881
Volvulella paupercula (Watson, 1883)
Volvulella minuta (= *recta*) (Bush, 1885)
Order Anaspidea Fischer, 1883
Family Aplysiidae Lamarck, 1809
Stylocheilus longicauda (Quoy & Gaimard, 1832)
Order Thecosomata Blainville, 1824
Suborder Euthecosomata Neisenheimer, 1905
Family Limacinidae Gray, 1847
Limacina inflata (d'Orbigny, 1836)
Limacina lesueuri (d'Orbigny, 1836)
Limacina bulimoides (d'Orbigny, 1836)
Limacina helicina (Phipps, 1774)
Limacina retroversa (Fleming, 1823)
Family Cavoliniidae Fischer, 1883
Diacavolinia (= *Cavolinia*) *longirostris* (Blainville, 1821)
Diacria quadridentata (Lesueur, 1813)
Diacria trispinosa (Blainville, 1821)
Clio antarctica (= *andreae*) Dall, 1908
Hyalocylis striata (Rang, 1828)
Styliola subula (Quoy & Gaimard, 1827)
Cuvierina columnella (Rang, 1827)
Family Clionidae Rafinesque, 1815
Clione limacina antarctica (E.A. Smith, 1902)
Order Nudibranchia Blainville, 1814
Family Polyceridae Alder & Hancock, 1845
Polycera (= *Galacera*) *marplatensis* (Franceschi, 1928)
Family Dotoidae H. & A. Adams, 1854
Doto uva Marcus, 1955
Class Scaphopoda Bonn, 1862
Order Dentaliida da Costa, 1776
Family Dentaliidae Gray, 1834
Paradentalium gouldii (Dall, 1889)
Graptacme calama (Dall, 1889)
Family Gadiliniidae Stoliczka, 1868
Episiphon didymum (Watson, 1879)
Order Gadilida Stoliczka, 1868
Suborder Gadilimorpha Steiner, 1992
Family Gadilidae Stoliczka, 1868
Gadila braziliensis (Henderson, 1920)
Gadila pandionis (Verrill & Smith, 1880)
Class Bivalvia Linnaeus, 1758
Subclass Protobranchia Woodward, 1892
Order Nuculoida Dall, 1889
Superfamily Nuculanoidea Adams & Adams, 1858
Family Nuculanidae Adams & Adams, 1858
Propeleda (= *Nuculana*) *fortiana* (Esteves, 1984)
Family Malletidae Adams & Adams, 1858
Malletia subaequalis Sowerby, 1870
Order Arcoidea Lamarck, 1809
Family Limopsidae Dall, 1895
Limopsis davinae Esteves, 1984
Limopsis minuta (Philippi, 1836)
Family Philobryidae Bernard, 1897
Cosa brasiliensis Klappenbach, 1966
Order Mytiloida Ferussac, 1822
Superfamily Mytiloidea Rafinesque, 1815
Family Mytilidae Rafinesque, 1815
Mytilus edulis platensis d'Orbigny, 1846
Brachidontes darwinianus (= *exustus*) (d'Orbigny, 1846)
Brachidontes rodriguezii (d'Orbigny, 1846)
Amygdalum dendriticum Mühlfeld, 1811

Amygdalum saggittatum (Rehder, 1934)
Suborder Pectinina Waller, 1978
Superfamily Pectinoidea Rafinesque, 1815
Family Propeamusiidae Abbott, 1884
Cyclopecten leptaleus (Verrill, 1884)
Propeamussium pourtalesianum (Dall, 1886)
Subclass Heterodonta Neumayr, 1884
Order Veneroidea Adams & Adams, 1856
Family Thyasiridae Dall, 1901
Subfamily Thyasirinae Dall, 1901
Axinulus (= *Thyasira*) *croulinensis* (Jeffreys, 1874)
Superfamily Galeommatoidea Gray, 1840
Family Lasaeidae Gray, 1847
Subfamily Lasaeinae Gray, 1847
Lasaea adansoni (Gmelin, 1791)
Kellia suborbicularis (Montagu, 1803)
Superfamily Carditoidea Fleming, 1820
Family Carditidae Fleming, 1820
Subfamily Carditamerinae Chavan, 1969
Cyclocardia moniliata (Dall, 1902)
Pleuromeris sanmartini Klappenbach, 1971
Family Condylodiidae Bernard, 1897
Warrana (= *Americuna*) *besnardi* Klappenbach, 1962
Superfamily Tellinoidea Blainville, 1814
Family Tellinidae Blainville, 1814
Subfamily Tellininae Blainville, 1814
Tellina petitiana d'Orbigny, 1846
Tellina iheringi Dall, 1900
Tellina gibber Ihering, 1907
Family Semelidae Stoliczka, 1870
Abra uruguayensis (Pilsbry, 1897)
Family Psammobiidae Fleming, 1828
Subfamily Psammobiinae Fleming, 1828
Heterodonax bimaculatus (Linnaeus, 1758)
Superfamily Veneroidea Rafinesque, 1815
Family Veneridae Rafinesque, 1815
Subfamily Pitarinae Stewart, 1930
Callista eucymata (Dall, 1889)
Family Petricolidae Deshayes, 1831
Cooperella riosi (= *atlantica*) Huber, 2010

Order Myoidea Lamarck, 1809
Superfamily Myoidea Lamarck, 1809
Family Myidae Lamarck, 1809
Sphenia fragilis (= *antillensis*) (H. & A. Adams, 1854)
Family Corbulidae Lamarck, 1818
Subfamily Corbulinae Lamarck, 1818
Corbula patagonica d'Orbigny, 1846
Order Pholadina Adams & Adams, 1858
Family Teredinidae Rafinesque, 1815
Subfamily Bankiinae Turner, 1966
Bankia fimbriatula Moll & Roch, 1931
Order Pholadomyoidea Newell, 1965
Superfamily Pandoroidea Rafinesque, 1815
Family Periplomatidae Dall, 1895
Periploma compressum d'Orbigny, 1846
Family Lyonsiidae Fischer, 1887
Lyonsia (= *Entodesma*) *alvarezii* d'Orbigny, 1846
Superfamily Poromyoidea Dall, 1886
Family Poromyidae Dall, 1844
Poromya cymata Dall, 1889
Family Cuspidariidae Dall, 1886
Plectodon (= *Cuspidaria*) *braziliensis* (E.A. Smith, 1915)
Cuspidaria platensis E.A. Smith, 1915
Cardiomya cleryana (d'Orbigny, 1842)
Family Verticordiidae Stoliczka, 1871
Haliris (= *Verticordia*) *fisheriana* Dall, 1881
Trigonulina (= *Verticordia*) *ornata* d'Orbigny, 1853

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