

Brazilian Volutidae

by

José Coltro (images by Carlos Hencke)

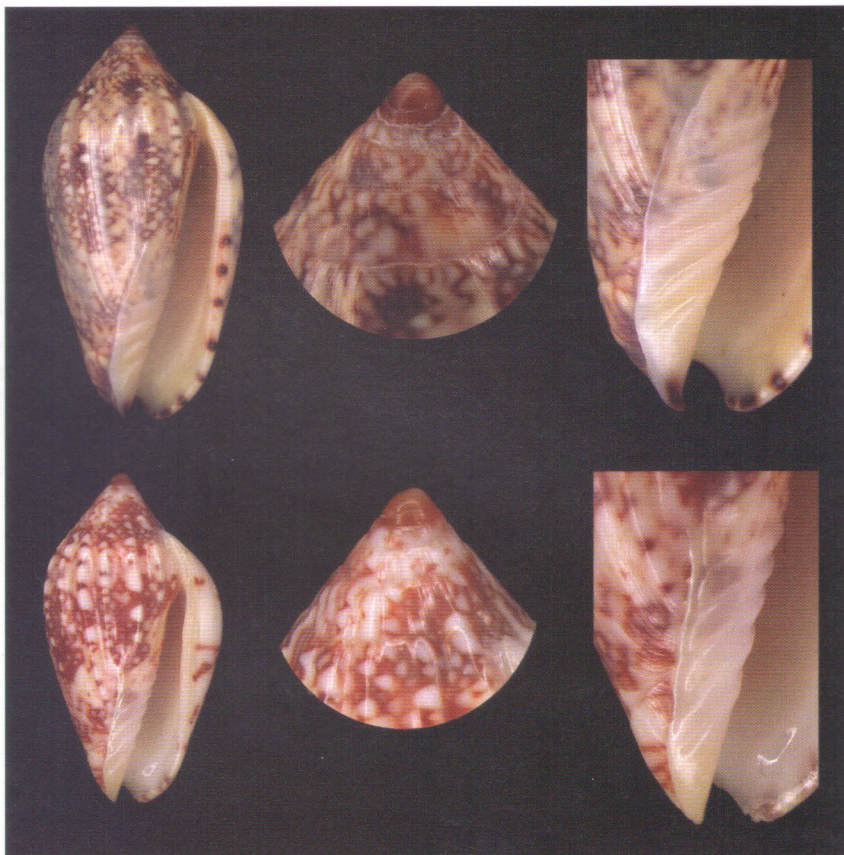
A favorite family with many collectors, Volutidae is well represented along the Brazilian coast by many endemic species. Brazil has an extremely long coast with large variations in weather and differing sea current influences. The volutes found along this area vary from truly tropical to sub-temperate species.

Starting in the extreme south are found Magellanic species, many belonging to the genus *Adelomelon*, such as *A. ancilla*, *A. beckii* and *A. riosi*. These species are also found in Uruguay and Argentina. *Adelomelon ancilla* (Lightfoot, 1786) is an elongate species reaching 200mm that is found off Rio Grande do Sul State and is commercially sold in Argentina. I even saw cans of this species on markets in Chinatown in New York City! The extremely rare form *Adelomelon ancilla martensi* (Strebel, 1906) is also found in southern Brazil. The largest species of volute found in the waters off Brazil is *Adelomelon beckii* (Broderip, 1836). It can reach almost 500mm! There are two subspecies; the nominate one is more elongate and is found in the northern range of the species from offshore São Paulo to Espírito Santo. The other subspecies is *Adelomelon beckii indigestus* von Ihering, 1908, and has a shorter spire and a very heavy structure. It is found in the southern portion of the range from southern Brazil to Argentina. It is a very impressive species. *Adelomelon riosi* Clench, 1964 (named after Prof. E.C. Rios), was for many years considered an endemic species, but recently specimens were discovered in the waters off Argentina. It is an uncommon species that lives only in deep water on a mud bottom. It is difficult to find in good condition. Some specimens may reach 375mm.

Pachycymbiola brasiliiana (Lamarck, 1811) is a heavy species found primarily along the Rio Grande do Sul coast. It occurs from Argentina up to Rio de Janeiro, where is very rare. This species lives at depths between 10 to 50 meters in the southern portion of its range, but in the northern portion it lives at depths of up to 250 meters! Some specimens reach 200mm.

Minicymbiola corderoi (Carcelles, 1953) is a small species (up to 28mm) and was initially considered a marginellid before being placed within the Volutidae. Recently we obtained some live specimens and found it to have a very beautiful shell and animal. The animal is unbelievably bright pink.

Dr. José H. Leal described many new species recently in southern Brazil. He and Philippe Bouchet, from the Paris Museum, described the large and beautiful *Odontocymbiola simulatrix* Leal & Bouchet, 1989, an ornamented species found along Santa Catarina State up to Rio de Janeiro. This species can reach 330mm



Top row: *Plicoliva zelindae* (Petuch, 1979) - 36mm, Abrolhos Archipelago, Bahia State. Also shown are details of the apex and columella structure.

Bottom row: *Plicoliva "oceanica"* - 19.8mm, offshore reef, Abrolhos Archi-

and lives at depths of 400-600 meters. Until 1990 there were just five known specimens. Two other species described by Leal and Bouchet are: *Nanomelon viperinus* Leal & Bouchet, 1989, and *Tractolyra tenebrosa* Leal & Bouchet, 1989. All are from southern Brazil. *N. viperinus* is a deep-water species restricted to Rio Grande do Sul up to São Paulo. The living animal has a beautiful creamy-white granulated shell. It is quite rare. Recently we obtained a 49mm specimen, but it is normally found at 30-35mm. *T. tenebrosus* is probably our rarest volute. Very few were found, and most of these were dead and broken (all type specimens). It is not a large species, only 38 to 51mm. Recently a research boat found one alive offshore São Paulo State at a depth of 3,200 meters!

Dr. Leal and Prof. Rios described a deep-water volute, *Nanomelon vossi* Leal & Rios, 1990, that is similar to *N. viperinus*, but has a larger apex and a different rib structure. The shell is very granulated and reaches 35mm. It is another extremely rare species found only off Rio Grande do Sul.



Left: *Adelomelon beckii indigestus* von Ihering, 1908 - 382mm, off Rio Grande, Rio Grande do Sul State. This is a heavier and more robust subspecies found in the southern portion of the range to Argentina.

Right: *Adelomelon beckii beckii* (Broderip, 1836) - 398mm, off Santos, São Paulo State. It is elongate and more colorful than its southern cousin.



Zidona dufresnei is a very nice and quite variable species that occurs from southern Argentina up to central Brazil. It is the only commercial species of volute found in our local markets. The animals often attach sand to the apex, building up an unusual nacreous structure that can extend in a horn- or knife-like shape up to 35mm! Found at depths of 150-200 meters, this species can be up to 300mm long! The form *Zidona dufresnei distincta* (Lahille, 1895) has a beautiful orange aperture, and it is a very heavy shell.

Off central Brazil, in an area that is now considered a new malacological province called Paulista, we are able to find four *Odontocymbiola*: *O. cleryana*, *O. americana*, *O. macaensis*, and *O. saotomensis*. *Odontocymbiola cleryana* (Petit, 1856) was considered a synonym of *Odontocymbiola americana* (Reeve, 1856) for more than 100 years. Both species were described in the same year, with only a few months between the papers. Along with Dr. Yara Swoboda Calvo, I recently demonstrated they are separate and distinct species. *O. cleryana* is a southerly ranging species and is more globose with small nodules on the columella. The radula and anatomy are also quite distinct. It is a shallow water species and is found from southern Rio de Janeiro and São Paulo. It is a medium sized and quite variable shell, reaching 60mm. *O. americana* is restricted to Espirito Santo State. It is elongated, very colorful and quite variable. It is one of our most beautiful species. Sometimes it is possible to find albino or completely pink specimens. The largest specimen found was 75mm long.

Dr. Calvo and I described *O. macaensis* and *O. saotomensis* in the same paper that demonstrated the validity of *O. cleryana*. Although Dr. Patrice Bail considered them subspecies of *O. americana*, all three are now considered full species based upon differences in anatomy and shell morphology. *Odontocymbiola macaensis* Calvo & Coltro, 1997, is a deep water species typically found off Rio de Janeiro. Recently some deep-water specimens (300-400 meters) were found off Santa Catarina State. It is the most elongate of the group, with a very large apex and strong plicae on the columella. It sometimes reaches 75mm. *Odontocymbiola saotomensis* Calvo & Coltro, 1997, is a beautiful

species that is reminiscent of some Australian species. It is a fat shell and variable in both color and pattern. It is limited to the shallow waters off the Cape of São Tomé, Rio de Janeiro State. Like *O. americana*, it is possible to find both albino and orange specimens. It is the largest of the group with sizes over 80mm.

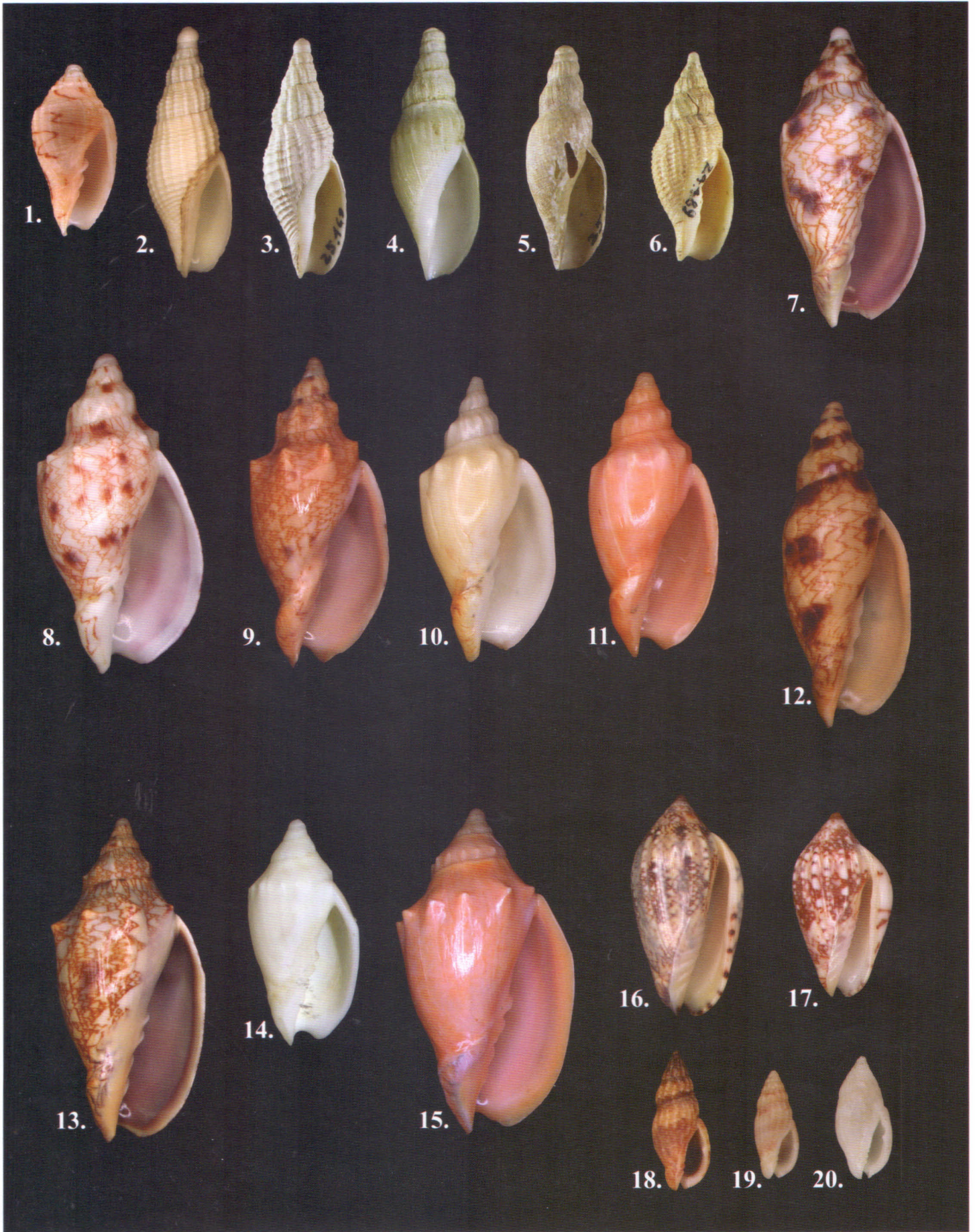
Going north, the volutes start to become rare and only few species are found. The principal volute from middle Brazil north is *Plicoliva zelindae* (Petuch, 1979). Dr. E. Petuch described this species originally as an olivid based on an immature specimen. Later finds of mature specimens confirmed this as a volute and not an olive. It is a variable species and lives on reefs off southern Bahia State. It is a shallow-water species and is sometimes found

Overleaf (page 24):

1. *Minicymbiola corderoi* (Carcelles, 1953) - 25.5mm, off Cabo de Santa Marta, Santa Catarina State.
2. *Nanomelon viperinus* Leal & Bouchet, 1989 - 44mm, off Santos, São Paulo State.
3. *Nanomelon viperinus* Leal & Bouchet, 1989 (HOLOTYPE), MORG 25.469, 44.2mm, off Rio de Janeiro. (Photo: Dr. P.M. Santos Costa).
4. *Tractolyra tenebrosum* Leal & Bouchet, 1989 - 42mm, off Macaé, Rio de Janeiro State. (Photo: Dr. P.M. Santos Costa).
5. *Tractolyra tenebrosum* Leal & Bouchet, 1989 (HOLOTYPE), MORG 25.468, 38.3mm, off Rio de Janeiro. (Photo: Dr. P.M. Santos Costa).
6. *Nanomelon vossi* Leal & Rios, 1990 (HOLOTYPE) 29.489, 35.1mm, off Rio Grande, Rio Grande do Sul State. (Photo: Dr. P.M. Santos Costa).
7. *Odontocymbiola cleryana* (Petit, 1856) - 51mm, off Rio de Janeiro.
8. *Odontocymbiola cleryana* (Petit, 1856) - 52.7mm, off Santos, São Paulo State.
9. *Odontocymbiola americana* (Reeve, 1846) - 52mm, off Vitória, Espirito Santo State.
10. *Odontocymbiola americana* (Reeve, 1846) - Albino, 47.2mm, off Vitória, Espirito Santo State.
11. *Odontocymbiola americana* (Reeve, 1846) - Orange form, 42.8mm, off Vitória, Espirito Santo State.
12. *Odontocymbiola macaensis* Calvo & Coltro, 1997 - 66.4mm, off Macaé, Rio de Janeiro State.
13. *Odontocymbiola saotomensis* Calvo & Coltro, 1997 - 68mm, off Cabo de São Tomé, Rio de Janeiro State.
14. *Odontocymbiola saotomensis* Calvo & Coltro, 1997 - Albino, 39.9mm, off Cabo de São Tomé, Rio de Janeiro State.
15. *Odontocymbiola saotomensis* Calvo & Coltro, 1997 - Orange form, 70.2mm, off Cabo de São Tomé, Rio de Janeiro State.
16. *Plicoliva zelindae* (Petuch, 1979) - 36mm, Abrolhos Archipelago, Bahia State.
17. *Plicoliva "oceanica"* - 19.8mm, offshore reef off Abrolhos Archipelago, Bahia State.
18. *Enaeta leonardhilli* Petuch, 1982 - 14mm, Fernando de Noronha Island.
19. *Enaeta* sp. a. - 10.5mm, offshore reef off Abrolhos Archipelago, Bahia State.
20. *Enaeta* sp. b. - 13.4mm, off Natal, Rio Grande do Norte State.

Left (page 22):

1. *Adelomelon ancilla ancilla* (Lightfoot, 1786) - 147mm, off Cabo de Santa Marta, Santa Catarina State.
2. *Adelomelon ancilla martensi* (Strebel, 1906) - 133mm, off Rio Grande, Rio Grande do Sul State.
3. *Voluta ebraea* Linnaeus, 1758 - 198mm, off Natal, Rio Grande do Norte State.
4. *Voluta ebraea* Linnaeus, 1758 - 176mm, off Fortaleza, Ceará State.
5. *Voluta ebraea* Linnaeus, 1758 - 223mm, off Natal, Rio Grande do Norte State.
6. *Adelomelon riosi* Clench, 1964 - 248mm, off Cabo de Santa Marta, Santa Catarina State.
7. *Odontocymbiola simulatrix* Leal & Bouchet, 1989 - 178mm, off Cabo de Santa Marta, Santa Catarina State.
8. *Pachycymbiola brasiliana* (Lamarck, 1811) - 198mm, off Rio Grande, Rio Grande do Sul State.
9. *Zidona dufresnei dufresnei* (Donovan, 1823) - 230mm, off Rio de Janeiro.
10. *Zidona dufresnei distincta* (Lahille, 1895) - 198mm, off Cabo de Santa Marta, Santa Catarina State.



in tide pools. Large specimens reach 45mm. There is a variation I call *Plicoliva "oceanica"* found in far offshore reefs in deep water. It is closer in appearance to the West African species *Plicoliva ryalli* Bouchet, 1898. The principal differences between *P. zelindae* and *P. "oceanica"* include a shorter spire on *P. "oceanica"* and a columella with five plicae (one obsolete), while *P. zelindae* has four plicae (one obsolete). There are other structural differences as well as differences in pattern and color. *P. zelindae* is a shallow-water species found in reefs near the coast, while *P. oceanica* lives on a very restricted reef (70km east of Abrolhos Archipelago) and in deeper water, about 20-40 meters. The Museum of Zoology of the University of São Paulo is researching the anatomy of this possible new species.

In the same area where *P. "oceanica"* is found, a new and as yet unnamed *Enaeta* has also been discovered (sp. a.). It seems to be related to *Enaeta guildingii* (Sowerby, 1844) from the Caribbean. This is a small shell of only 10mm. It is possible to find *Enaeta leonardhilli* Petuch, 1982, on the island of Fernando de Noronha. This small species (the largest found was only 15mm) is found under rocks in tide pools. It is considered a form of *Enaeta guildingii* by some authors, but is a distinct species, endemic to Fernando de Noronha. It is extremely variable and some completely black specimens have been found. The final *Enaeta* species is found off Rio Grande do Norte. It is another undescribed species (sp. b.), related to *E. cylleniformis* (Sowerby, 1844). It is a globose shell of about 13mm. Dr. Paulo M.S. Costa from our National Museum of Rio de Janeiro is studying this species.

Last but far from least, in northeast Brazil we find what I call the mother of all volutes, *Voluta ebraea* Linnaeus, 1758, the type for the genus *Voluta*. This beautiful species is found from northern Bahia State up to Maranhao State. Perhaps the most beautiful specimens are found offshore of Rio Grande do Norte State. They are very colorful and large, and have perhaps the best developed, "knobby" structure. The largest specimen ever found was 240mm. *V. ebraea* from the waters off Maranhao looks very different. It is more globose and sometimes lacks shoulder knobs. This form is found in areas where the bottom is muddy. At present there are efforts underway to list *Voluta ebraea* on the CITES list. In some areas where it was once abundant it is now almost impossible to find. The reason for the decline of this fabulous Brazilian volute is unknown. Of the many beautiful Brazilian volutes, I believe this is our finest example of this varied family.

Reference:

Calvo, Y.S. & Coltro, J. 1997. Studies on *Odontocymbiola americana* (Reeve, 1856) (Mollusca, Gastropoda: Volutidae), with a rediscovery of *Odontocymbiola cleryana* (Petit de la Saussaye, 1856) and descriptions of two new species, *Vita Marina* 44 (3-4): 21-38.

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