



## Mollusks on Brazilian postage stamps

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### ABSTRACT

Philately started in the UK, in 1840, with the issue of the first postage stamp, the Penny Black. From the simple portrait of Queen Victoria on this stamp, the illustrations developed and diversified, accompanying the trend of stamp collecting. Almost from the start, mollusks began to appear on stamps; the first one dating to 1859. Brazil was the third country to adopt this revolutionary postal system and thus has a long philatelic history. Nevertheless, mollusks are not so well represented on the country's stamps. Here we comment (both from philatelic and biological viewpoints) all Brazilian postage stamps bearing scientifically-inclined illustrations of mollusks. These stamps date from the years 1969, 1977, 1989 and 2007 and include the following species: *Agaronia travassosi* (1989), *Charonia variegata* (1969 and 2007), *Cochlespira elongata* (2007), *Lobatus goliath* (1977), *Morum matthewsi* (1989), *Siratus beauui* (2007), *Siratus tenuivaricosus* (1977), *Vasum cassiforme* (1977), *Voluta ebraea* (1989).

**Key words:** biodiversity, conservation, flagship species, Gastropoda, philately.

### INTRODUCTION

Philately is dedicated to the study and collection of pieces related to post; this includes mainly stamps, but there are many other types of pieces, such as circulated mail, postmarks, postal meters, postal stationery, souvenir sheets etc.

The history of stamps starts on 1 May 1840, when the first stamp was issued in the United Kingdom (HILL & HILL 1880; HILL 1940). This stamp is called “One Penny Black” (or simply “Penny Black”, featuring a profile of Queen Victoria) and reflected the idea of Sir Rowland Hill (1795–1879) to

simplify the complex and expensive postal rating system of the time (HILL & HILL 1880; SMYTH 1907; HILL 1940; MUIR 1990). The stamp would indicate pre-payment of postage and Hill's idea started to rapidly spread throughout countries, colonies and territories in the world. The first ones to adopt it, in 1843, were the Cantons of Zürich and Geneva (Switzerland) and Brazil (with the famous "Bull's Eye" stamps or "*Olho de Boi*", in Portuguese), while the USA followed only in 1847. Then, little by little, all countries joined the world of stamps.

Stamps are issued basically to prove the franking of the mail, but in the course of time, the postal administrations noted that a fraction of the public was interested in collecting stamps. Thus, they started to provide more attractive stamps to sell to collectors, a strategy which led to more diversity on stamps in terms of themes, formats, size etc.

## MOLLUSKS ON STAMPS: A HISTORICAL OVERVIEW

Stamps containing depictions of mollusks can be classified in three main categories: (1) stamps showing a mollusk in a secondary manner; (2) stamps that show a mollusk mainly as a pictorial or symbolic illustration; (3) stamps representing a mollusk in a biological way, as in the illustrations of scientific works.

The first time that a mollusk appeared on a stamp was in the first issue of Bahamas, from 1859 (KLOETZEL 2008a: 707). In this first appearance, the mollusk (a gastropod shell) and a pineapple plant are quietly shown on the lower corners of the stamp, which mainly depicted Queen Victoria (Fig. 1A). As such, the mollusk appears only in a secondary manner on this stamp (*i.e.*, category "1" from the list above).

The first stamp that represented a mollusk in a symbolic or pictorial way (category "2" from the list above) was in the first issue of the Indian Kingdom of Travancore in 1888 (KLOETZEL 2008b: 944). This stamp showed the "*shankha*" (Fig. 1B), a conch shell (*Turbinella pyrum* Linnaeus, 1758; Turbinellidae) sacred in Hinduism (as emblem of the god Vishnu) and Buddhism as one of the so-called "Eight Auspicious Signs" (HORNELL 1914; ROSE 1974). More importantly for postal reasons, the *shankha* appeared at the center of the official flag of the state, in front of a red background.

Finally, the first stamp that showed a mollusk in a biological manner (category "3" from the list above) was an *Argonauta argo* Linnaeus, 1758 (Cephalopoda: Argonautidae) stamp issued by Yugoslavia, in 1956, as a part of a marine life series (KLOETZEL *et al.* 2008: 1101). This stamp differs from the previous because it is clearly focused on biological issues: the series is about marine life, showing the animals in their natural environments, and all species have their scientific name accompanying the illustration (Fig. 1C).

Mollusks, and the fauna in general, soon became a recurrent theme on stamps from all the world and are now usually depicted in this more scientific manner. Despite this prominence on worldwide stamps, the fauna is often overlooked as a theme in Brazilian philately (*e.g.*, ALMEIDA & VASQUEZ 2003), which is a curious fact for a megadiverse country. The Brazilian avian and even mammal diversity seems to be reasonably covered in the country's postage stamps. However, the invertebrate fauna, where the real biodiversity lies, is barely represented.



**Figure 1.** First stamps to depict mollusks in a: (A) secondary manner (Bahamas, 1859); (B) pictorial or symbolic manner (Travancore, 1888); (C) biological manner (Yugoslavia, 1956).

Here we present all Brazilian postage stamps that feature mollusks, the second most diverse animal phylum (after the arthropods). The last efforts in such a list are now long outdated and difficult to obtain (ARAKAWA 1980; MOSCATELLI 1992).

**Table 1.** List of all mollusks appearing on Brazilian stamps, accompanied by relevant postal information, current classification and further remarks. Abbreviation of Brazilian currencies: Cr\$ = Cruzeiro (BRB), NCz\$ = Cruzado Novo (BRN), R\$ = Real (BRL).

Identification on stamp	Issue date	Value	Series name	Revised identification	Remarks
---	21-jul-69	---	Divulgação da Piscicultura e da Aquariofilia	<i>Charonia variegata</i>	on top right of sheet; inverted image
<i>Vasum cassiforme</i>	14-jul-77	Cr\$ 1.30	Moluscos do Brasil	<i>Lobatus goliath</i>	inverted image
<i>Strombus goliath</i>	14-jul-77	Cr\$ 1.30			
<i>Murex tenuivaricosus</i>	14-jul-77	Cr\$ 1.30			
<i>Voluta ebraea</i>	08-Sep-1989	NCz\$ 0.50	Preservação da Fauna Brasileira – Moluscos	<i>Siratus tenuivaricosus</i>	inverted image
<i>Morun mathewsi</i>	08-Sep-1989	NCz\$ 1.00			
<i>Agaronia travassosi</i>	08-Sep-1989	NCz\$ 1.50			
<i>Cochlespira elongata</i>	5-jun-07	R\$ 2.00	Conchas Marítimas	<i>Siratus beaulti</i>	
<i>Charonia variegata</i>	5-jun-07	R\$ 2.00			
<i>Chicoreus beaulti</i>	5-jun-07	R\$ 2.00			

## MOLLUSKS ON BRAZILIAN STAMPS

All Brazilian postage stamps were searched for mollusks. We considered here only stamps with more scientifically inclined representations of mollusks (the category “3” from above). The few stamps with cartoonish and stylized mollusks were not taken into account.

There are three series of Brazilian stamps containing mollusks, dating from 1977, 1989 and 2007. All of them depict marine gastropods. An additional gastropod is illustrated on a souvenir sheet dating from 1969. They are all listed and discussed below in chronological order, by year of issue. A summary, alongside additional postal information, can be found on Table 1.

### 1969

This series, called “Promulgation of Fish Farming and Fishkeeping” (“*Divulgação da Piscicultura e da Aquariofilia*”, in Portuguese), contains four stamps of fishes popular in the aquarium trade (three tetras and a piranha). The periphery of the souvenir sheet of this series shows varied members of the marine fauna, such as a crab, seahorses, anemones, a starfish and a snail’s shell (Fig. 2). This is the first appearance of a mollusk on a Brazilian postage stamp.

The gastropod in question is *Charonia variegata* (Lamarck, 1816), commonly called the Atlantic triton, and belongs to the caenogastropod family Ranellidae. This species



**Figure 2.** “Promulgation of Fish Farming and Fishkeeping” souvenir sheet, of 1969. The shell of *Charonia variegata* appears on the upper right corner (note that the shell is inverted on the original).

inhabits shallow waters (up to 110 m deep; ROSENBERG 2009) of the Mediterranean, Eastern Atlantic (from Europe, through the Azores, Madeira, Canary Islands and Cape Verde, to northwest Africa), Western Atlantic (from North Carolina, in the USA, through the Caribbean, to Brazil) and possibly the Indic Ocean (Tanzania) (GOFAS 2015). More, specifically, *C. variegata* is known in Brazil from the states of Ceará to Rio de Janeiro (RIOS 2009). It is a large, carnivorous species that feeds on starfish (such as *Oreaster reticulatus*; SCHEIBLING 1980). Its shell can exceed 35 cm, with a maximum recorded size of 37.4 cm (ROSENBERG 2009).

On the Brazilian souvenir sheet of 1969, the species illustration is inverted. This means that the image shows a sinistral shell, *i.e.*, with an anticlockwise coiling pattern (Fig. 2, notice that the shell's aperture is on the left side). The actual snails have dextral shells (with a clockwise coiling; Fig. 3H). *Charonia variegata* seems to be a popular shell in philately, since it is featured in stamps from numerous (mainly Caribbean) countries, such as, for instance: Jamaica, Bahamas, Cuba and the Dominican Republic (MOSCATELLI 1992).

## 1977

This series, called “Mollusks of Brazil” (“*Moluscos do Brasil*”, in Portuguese), is composed of three stamps, representing three marine gastropod species (Fig. 4). Their names, as they appear on the stamps, are: *Vasum cassiforme*, *Strombus goliath* and *Murex tenuivaricosus*.

*Vasum cassiforme* (Kiener, 1840) is a small to medium-sized (maximum reported size is 9 cm; ROSENBERG 2009) Brazilian-endemic species, with a richly sculptured shell. It is commonly known as the helmet vase and its shell is frequently sold as a souvenir and used in handicraft (ALVES *et al.* 2006).

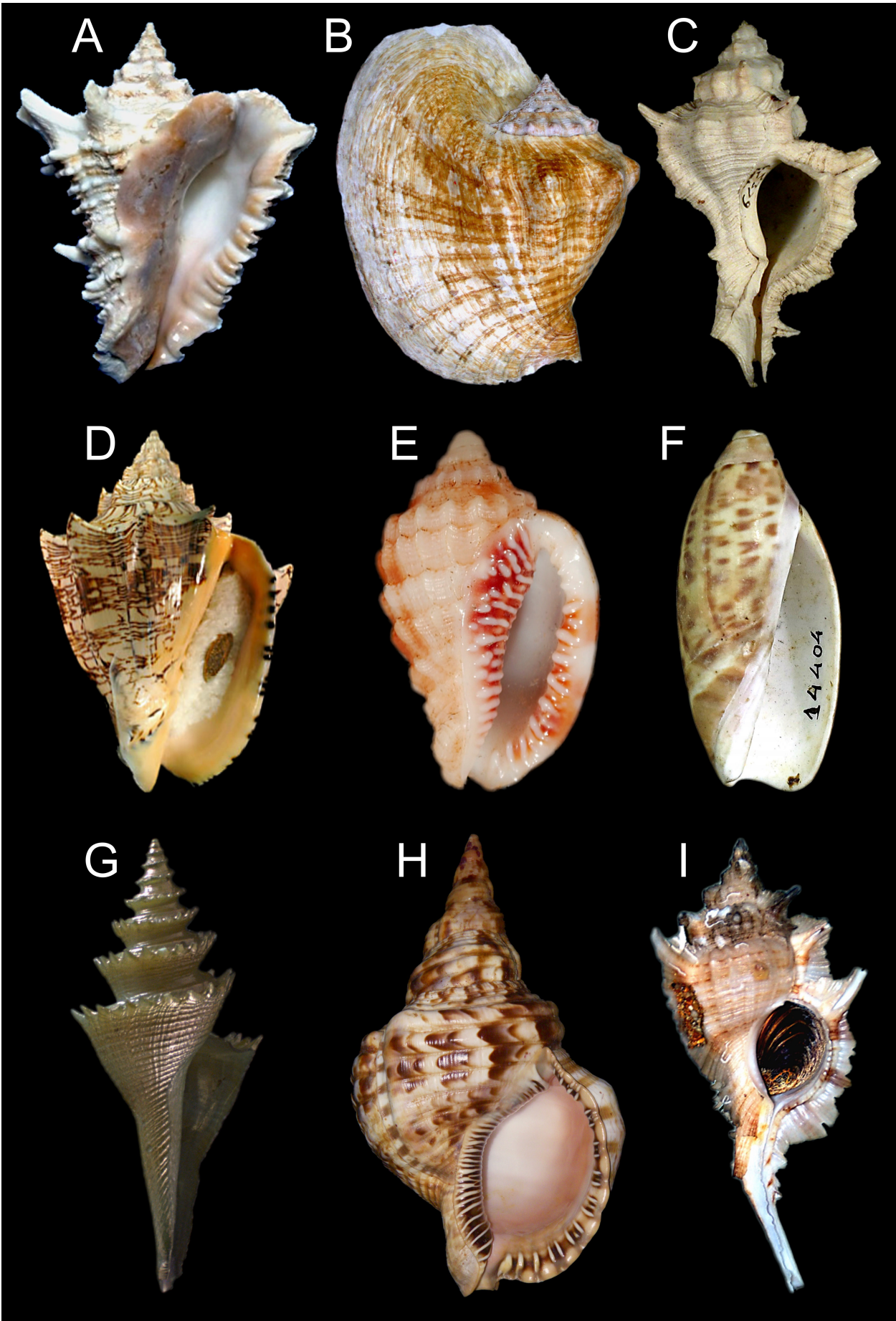
It is distributed in NE–SE Brazilian waters, from the states of Rio Grande do Norte to Espírito Santo (ROSENBERG 2009). This species belongs in the caenogastropod family Vasidae, a group of carnivorous snails that prey on bivalves, polychaete worms and other marine invertebrates (ABBOTT 1959). As is the case in *Charonia variegata* reported above, the image is inverted on the stamp, resulting in a sinistral shell (this has already been observed by ARAKAWA 1980). Needless to say, the actual shells are dextral (Fig. 3A).

*Strombus goliath* Schröter, 1805, the goliath conch, is one of the largest gastropod species in the Western Atlantic – its shell may reach up to 38 cm in length (ROSENBERG 2009). It is endemic to Brazil, ranging from Ceará to Espírito Santo (RIOS 2009), with some old records from the Caribbean



**Figure 4.** “Mollusks of Brazil” series, of 1977. From left to right: *Vasum cassiforme* (inverted shell on the original), *Strombus goliath* (now *Lobatus goliath*), *Murex tenuivaricosus* (inverted shell on the original; now *Siratus senegalensis*).

**Figure 3.** Shell of: (A) *Vasum cassiforme*; (B) *Lobatus goliath*, dorsal view; (C) *Siratus senegalensis* (syntype, MNHN-IM-2000-21867, from West Africa; shell height = 59 mm); (D) *Voluta ebraea* (NMR 57653, from Recife, Pernambuco state, Brazil; shell height = 190 mm); (E) *Morum matthewsi* (holotype, AMNH-IZ-129201, from Brazil); (F) *Agaronia travassosi* (holotype, MZSP 14104, from São Sebastião Island, São Paulo state, Brazil; shell height = 42 mm); (G) *Cochlespira elongata* (holotype, MZSP 28110, from Ubatuba, São Paulo state, Brazil; shell height = 17 mm); (H) *Charonia variegata* (photo by MerlinCharon, extracted and modified from Wikimedia Commons); (I) *Siratus beuui* (from Barbados; photo by BathyMetrix, extracted and modified from Wikimedia Commons).



being a probable misidentification of a similar and closely related species, *Lobatus costatus* (MOSCATELLI 1987; SIMONE 2005). It is herbivorous, which is characteristic of Strombidae, the family it belongs to (ROBERTSON 1961). Though it is locally used as food source, the large, exotic shell of this species made it a popular souvenir and is the main reason for its fishery and commerce (ALVES *et al.* 2006). The goliath conch has since been considered overexploited, however, and has been included in governmental protection lists (AMARAL & LEITE 2008). This species is now classified as *Lobatus goliath* (Fig. 3B), after the revision of LANDAU *et al.* (2008).

*Murex tenuivaricosus* Dautzenberg, 1927 is a small to medium-sized Brazilian-endemic murex snail (maximum shell length 10 cm; ROSENBERG 2009). It has a wide distribution ranging from the states of Pernambuco to Santa Catarina (RIOS 2009; ROSENBERG 2009). Snails in the family Muricidae are predators, feeding primarily on bivalves, such as cockles and clams (POUTIERS 1998). It is currently classified as *Siratus tenuivaricosus*, but might be a synonym of *S. senegalensis* (Gmelin, 1791) (LUIZ R. L. SIMONE, personal communication). It also had its image inverted on the stamp (this has already been observed by ARAKAWA 1980), resulting in a sinistral shell (the actual shells are dextral; Fig. 3C).

## 1989

This series, called “Preservation of Brazilian Fauna – Mollusks” (“*Preservação da Fauna Brasileira – Moluscos*”, in Portuguese), is composed of three stamps (Fig. 5). Like the preceding series, it counts only with marine gastropods; the represented species are (names as they appear on the stamps): *Voluta ebraea*, *Morum matthewsi* and *Agaronia travassosi*.



**Figure 5.** “Preservation of Brazilian Fauna – Mollusks” series, of 1989. From left to right: *Voluta ebraea*, *Morum matthewsi* and *Agaronia travassosi*.

The caenogastropod *Voluta ebraea* Linnaeus, 1758 (Fig. 3D), commonly called Hebrew volute, is endemic to Brazil, occurring along the northeastern Brazilian coast from the states of Pará to Bahia, at depths of 25–40 m (RIOS 2009; MATTHEWS-CASCON 2011; BALI 2015). It has a medium to large-sized shell, reaching up to 20 cm in length (MATTHEWS-CASCON *et al.* 2011). The Hebrew volute is a predatory species, feeding on bivalves such as the yellow cockle, *Trachycardium muricatum* (Linnaeus, 1758), and other sea snails (MOTTA *et al.* 2004; DIAS 2009). It is collected for food and for its ornamental shell, and is suffering a decline in numbers due to overfishing and overexploitation (FARIAS & BARREIRA 2007; DIAS 2009).

*Morum matthewsi* Emerson, 1967 (Fig. 3E) is a rare, small (up to 2.8 cm in shell length) endemic species of harp snail that occurs in northeastern Brazil, from the states of Pará to Alagoas (MATTHEWS & COELHO 1972; ROSENBERG 2009). Not much is known of its biology and feeding habits.

*Agaronia travassosi* Morretes, 1938 (Fig. 3F) is a species of small to medium-sized olive snail (maximum recorded shell length is 6.8 cm; ROSENBERG 2009), with a colorful shell. It is distributed from Espírito Santo to Santa Catarina states at depths of 15–75 m (RIOS 2009; ROSENBERG 2009) and not much is known on its biology. It is known, however, that olive snails (family Olividae) are carnivorous and detritivorous animals, and spend much of their time totally or partially buried in the sand (SMITH 1998).

2007

This series is called “Marine Shells” (“*Conchas Marítimas*”, in Portuguese) and it is also composed of three stamps, each with a marine gastropod (Fig. 6). The species represented are (names as they appear on the stamps): *Cochlespira elongata*, *Charonia variegata* and *Chicoreus beauii*. *Charonia variegata* (Fig. 3H) was already treated above, in the 1969 series.

*Cochlespira elongata* Simone, 1999 is a small deep-water species described from southeastern Brazil, living at depths of 250–350 m. It has a spindle-like, richly-sculptured shell (Fig. 3G), reaching up to 3.7 cm (SIMONE 1999). Despite detailed anatomical studies, not much is known on its biology and life habits.

*Chicoreus beauii* (Fischer & Bernardi, 1857) is a medium-sized (reaching up to 12 cm in shell length) species of murex snail (Fig. 3I), with a rather disjunctive distribution. It ranges from North and Central America, reaching Venezuela and Pará state in Brazil. After a relatively large distributional gap, it can be found again in southern Brazil, from Santa Catarina to Rio Grande do Sul, having Uruguay as its southernmost occurrence (ROSENBERG 2009). This species is now classified as *Siratus beauii* (PONDER & VOKES 1988; HOUART 2014) and is also featured in stamps from the Caribbean countries of Grenada/Grenadines and Montserrat (MOSCATELLI 1992).



**Figure 6.** “Marine Shells” series, of 2007; souvenir sheet. From left to right: *Cochlespira elongata*, *Charonia variegata* and *Chicoreus beauii* (now *Siratus beauii*).

### CONCLUDING REMARKS

The mistakes made on the first representations of mollusks on Brazilian stamps, in 1969 and 1977 (see also Table 1), might point to little care when defining the stamps and the absence of expert advice during the process. Nevertheless, these same crass mistakes were not made on the two later series, of 1989 and 2007. Such errors seem to be very common in worldwide philately; Arakawa (1980) presents a whole list of errors in molluscan stamps of 30 countries, going from sinistral figures to misspelling of scientific names and even misidentification of the species.

Considering all the nine mollusk species featuring on Brazilian stamps, we can surmise that they are a poor representation of the country’s biodiversity and also of the diversity within the phylum Mollusca. All nine species are marine gastropods, while land and freshwater gastropods are not represented. Moreover, the other usual molluscan classes, bivalves and cephalopods, are not present; the same is, of course, true for the more unusual classes, such as chitons and tusk shells. Marine gastropods are indeed the most diverse group of mollusks, with nearly 45,000 recent species (ROSENBERG 2014). However, the other groups are also very diverse: land and freshwater snails account to circa 30,000 species, bivalves to circa 8,000 and cephalopods to circa 1,000 (ROSENBERG 2014). This is a considerable amount of diversity, especially when compared to the circa 5,500 species of mammals (REEDER *et al.* 2007).

Typically, invertebrates are not priority as symbols of biodiversity, as they often face a lot of antipathy. For instance, only two species of beetles are featured on Brazilian stamps, while more than 250,000 species are known worldwide (THOMAS 2008). However, the beauty of shells, especially those of marine snails, seems to give the group an edge over other invertebrates in this regard, much like the

case for butterflies, which are largely considered attractive animals (SCHLEGEL & RUPF 2010). Moreover, groups such as cephalopods also have charismatic species such as octopuses and the semi-mythic giant squid *Architeuthis*, while some species of land snails and bivalves have colorful and/or richly sculptured shells such as species of the genera *Leiostracus*, *Spondylus* and *Chlamys*. As such, mollusks might be used as good flagship species (a role often reserved for mammals and birds) for raising people's awareness about biodiversity loss and the pressing necessity of conservation efforts (e.g., GUERRA *et al.* 2011; SANTOS 2011). A good starting point for raising awareness can be featuring these flagship mollusk species on everyday objects, such as stamps, especially the common usage postage ones.

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