

A new species of *Strombus* (Linnaeus, 1758) from Guyane, South America

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ABSTRACT A new species of *Strombus* Linnaeus, 1758 has been discovered from the Trans-Amazonian area of Guyane (French Guiana) in the Surinamian Subprovince of the Caribbean Molluscan Province. This unusual new strombid, here named *Strombus guyanensis*, is presently known only from 30-50 meters off Cayenne, but most likely is also present in the neritic zone of the adjacent Cayenne Plateau and Amapá coast. *Strombus guyanensis* is the fourth-known living species of the genus *Strombus* known from the western Atlantic.

KEY WORDS *Strombus*, *Strombus guyanensis*, Strombidae, Guyane, French Guiana, Cayenne, Surinamian Subprovince, Caribbean Molluscan Province

INTRODUCTION

During recent field research, conducted by the senior author (as a research associate of the Muséum national d'Histoire naturelle de Paris) along the coast of Guyane (French Guiana), large numbers of new and unusual mollusks were collected. Primary among these new taxa was a remarkable small strombid, unlike any other known species found elsewhere in the western Atlantic Ocean or Caribbean Sea (Maxwell *et al.* 2020). The new species, here named *Strombus guyanensis*, represents the fourth-known member of the genus *Strombus* s.s. found in the Tropical Western Atlantic Region, which includes *Strombus*-bearing biogeographical units such as the northern Carolinian Molluscan Province, the central Caribbean Molluscan Province, and the southern Brazilian Molluscan Province (the

molluscan provinces and subprovinces of the western Atlantic are described by Petuch & Berschauer, 2021). The systematics of the family Strombidae in the entire western Atlantic is outlined in Clench and Abbott, 1941, where several forms and variants are described, and more recently Maxwell *et al.* 2020. The authors specifically disagree with the recent phylogenetic synonymization of *Strombus pugilis* and *Strombus alatus* by Irwin *et al.* 2024. A discussion of the overlapping ranges of *Strombus pugilis* and *Strombus alatus* in the Florida Keys is given in Petuch & Myers (2014: 112-113). The fossil record also supports that these taxa belong to two separate evolutionary lineages (Petuch, 2004).

The new strombid species is a component of the rich and highly endemic molluscan fauna of the Surinamian Subprovince, the farthest

eastern subdivision of the Caribbean Molluscan Province (map shown on Figure 1). Here it lives along with other characteristic Surinamian taxa such as the muricids *Siratus springeri* (Bullis, 1964), *Phyllonotus guyanensis* Garrigues & Lamy, 2016, and *Phyllonotus salutensis* Garrigues and Lamy, 2016, the fascioliid *Fasciolaria guyanensis* Lyons and Snyder, 2016, the turbinellid *Turbinella rianae* Delsaerdt, 1987, and the conids *Conasprelloides guyanensis* (Van Mol, 1973), *Dauciconus massemuni* (Monnier and

Limpalaër, 2016), and *Kellyconus rachelae* (Petuch, 1988). See Petuch & Berschauer (2021: 42) for an overview of the Surinamian Subprovince and its endemic molluscan fauna. This new Caribbean strombid is described in the following sections. The holotype, along with the listed paratypes, are from the senior author's collection, and have been donated to and deposited in the collections of the Museum national d'Histoire naturelle de Paris (Paris Museum of Natural History, Paris, France) and bear MNHN-IM catalog numbers.

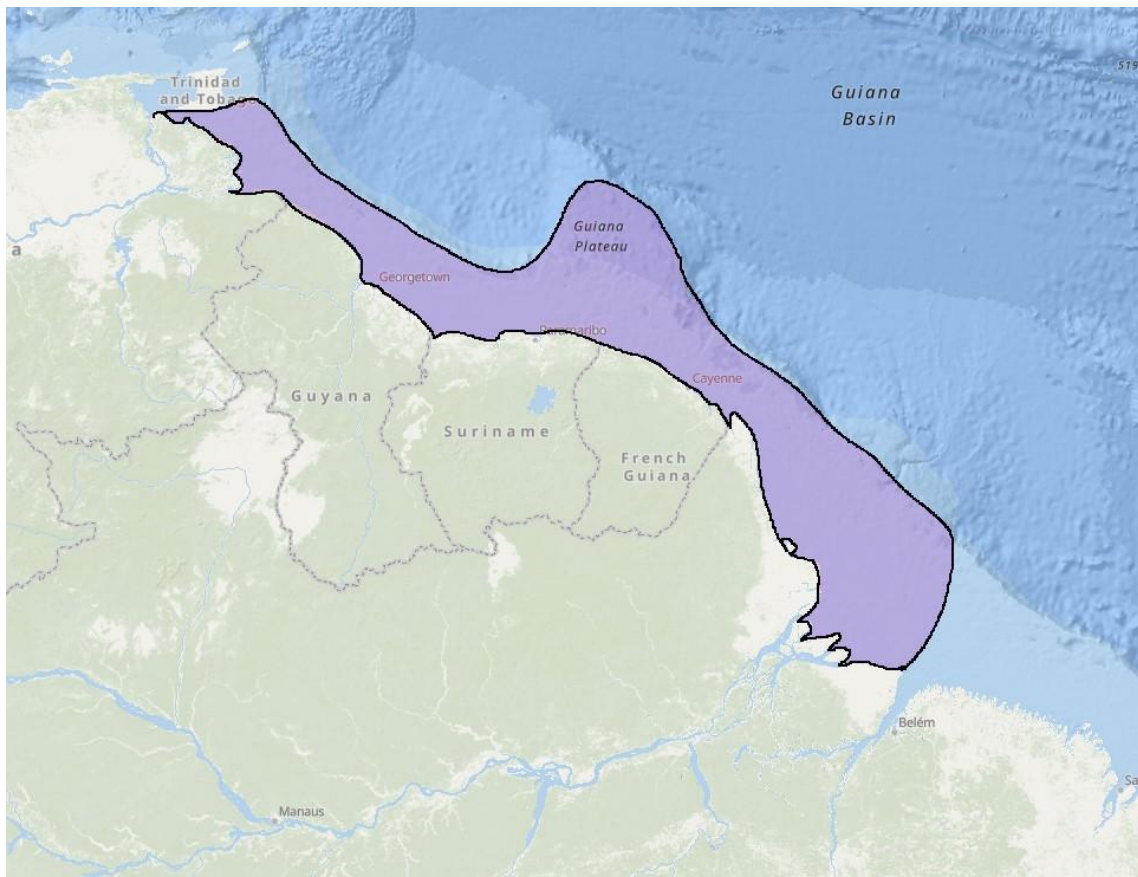


Figure 1. Map of the Surinamian Subprovince of the Caribbean Molluscan Province.

As seen here, this biogeographical unit extends from the mouth of the Orinoco River in Venezuela southeastward to Amapá State, Brazil and the mouths of the Amazon River. Unlike other faunal subdivisions of the Caribbean Molluscan Province, the Surinamian Subprovince (named for Suriname, which is the geographical center of the subprovince) is dominated by organic-rich mud seafloors and coastlines composed of dense mangrove forests; the results of the immense mud and freshwater effluent of the two great river systems. This Caribbean Subprovince is now known to house a rich and unusual molluscan fauna comprising large numbers of undescribed endemic species.

SYSTEMATICS

Class	Gastropoda Cuvier, 1795
Subclass	Prosobranchia Milne Edwards, 1848
Order	Mesogastropoda Thiele, 1925
Superfamily	Stromboidea Rafinesque, 1815
Family	Strombidae Rafinesque, 1815
Genus	<i>Strombus</i> Linnaeus, 1758

Strombus guyanensis Massemin, Petuch, &
Berschauer, new species
(Plate 1, Figures A-F)

Description. Shell small for genus, averaging 70 mm in length; shell elongated, fusiform, with high, elevated, and protracted spire, almost biconic; spire whorls distinctly scalariform; shoulder sharply-angled, ornamented with 4-10 proportionally-small rounded knobs; spire whorls ornamented with 7-15 small rounded knobs and 10-12 large raised spiral cords; body whorl smooth, ornamented with 15-21 large, prominent, evenly-spaced spiral cords; small secondary cords present between pairs of primary cords on some specimens; strength of spiral cords variable, most prominent and best-developed on dorsum of outer lip; some individuals with strong, prominent cords that cover most of body whorl dorsum while others have cording concentrated only on outer lip and columellar area; all specimens examined, regardless of strength of corded sculpture, have proportionally-large smooth patch on mid-dorsum of body whorl; subsutural area of shoulder narrow, slightly sloping, with suture bounded by one or two large, flattened cords; flattened sutural cords colored more darkly than rest of shoulder and spire whorls; aperture uniformly narrow; lip well-developed on adult

specimens, with posterior end formed into sharply-pointed angled extension; interior of lip ornamented with 24-30 small, strong ribs, which are best developed along anterior end; stromboid notch very well developed, strongly recurved dorsally; body whorl color pale yellow-orange with thin, faint lighter color band circling shell at mid-body; some individuals with closely-packed thin brown and white zebra flammule pattern on dorsum of body whorl; anterior tip edged with thin, almost-obsolete, patch of purple-brown color; interior of aperture darker orange with edge of lip being pale yellow-orange; spire whorls pale orange with numerous large amorphous brown patches; large patches of pure white scattered over spire whorls, often aligning with the dorsum of penultimate whorl; protoconch and early whorls uniformly pale orange-tan; periostracum thin, adherent, translucent, with faintly rough texture.

Type Material. The type material was collected by the senior author and specimens MNHN-IM-2000-39949 to 39957 were donated to and deposited in the MNHN. The donated type specimens are identified as follows: HOLOTYPE - length 65.2 mm, width 37.9 mm, from off Cayenne, Guyane, MNHN-IM 39955. PARATYPES - 8 specimens in the NMHN, with their accession numbers and respective lengths are: (1) MNHN-IM 39949, 67.5 mm; (2) MNHN-IM 39950, 77.7 mm; (3) MNHN-IM 39952, 65.0 mm; (4) MNHN-IM 39953 71.2 mm; (5) MNHN-IM 39954, 69.3 mm, broken apex; (6) MNHN-IM 39951 62.4 mm; (7) MNHN-IM39956 42.7 mm, juvenile and (8) MNHN-IM 39957 51.6 mm, juvenile.

Type Locality. The holotype and the entire type lot were dredged by commercial shrimp boats from a mud seafloor area at 30 m depth off Cayenne, Guyane (French Guiana).

Range and Ecology. As of the date of this publication, *Strombus guyanensis* is known only from the coast of Guyane off the capital, Cayenne, where it inhabits muddy, organic-rich seafloors at 30-50 m depths. The new strombid may also range out onto the shallow Cayenne Plateau off Suriname and southward into the trans-Amazonian area of Amapá State, Brazil.

Etymology. The new species is named after the French "Collectivité territoriale unique de Guyane".

Discussion. Of the three other western Atlantic *Strombus* species shown here on Plate 2, *Strombus guyanensis* is similar only to the widespread Caribbean and southern Gulf of Mexico species, *Strombus pugilis* Linnaeus, 1758 (Plate 2, Figure C, D), especially the dwarf form that was named as the variety *nicaraguensis* by the Rev. Fluck in 1905 (see Clench and Abbott, 1941: 8-9). *Strombus guyanensis* differs from *S. pugilis* and its dwarf variant in being a consistently much more slender shell with a far more elevated and protracted spire, giving the shell an almost biconic appearance; *pugilis* is also a much more inflated shell that is broader across the shoulder area. Typically, *S. pugilis* has the largest spines confined to the penultimate whorl, like the Aruban specimen (Plate 2, Figures C, D). In *S. guyanensis*, the largest spines are found (if present at all) on the body whorl and the spine sizes gradate from tiny or obsolete on the spire whorls to the largest being on the shoulder of the body whorl. The strong cords seen on the body whorl of the new Guyanean species are never as developed or extensively distributed on *S. pugilis*, which is always a much smoother shell.

This distinctive gradational spine arrangement seen on *S. guyanensis* is also a consistent

growth pattern that is found on the Carolinian Province *S. alatus* Gmelin, 1791 (shown here on Plate 2 A, B), and some specimens of the new Guyanean species are reminiscent of the dwarf *alatus* that are found along the western coast of Florida and the Yucatan Peninsula. Although similar in size to *S. guyanensis*, these dwarf Carolinian species always have large and prominent spike-like spines on the spire whorls. These contrast greatly with the numerous low, small knobs on the spire of the Surinamian species. A similar spine development pattern is seen on the Brazilian Province endemic *S. worki* Petuch, 1993, where the spines of the spire whorls are small or obsolete and the largest spines are present on the body whorl (Plate 2, Figures E, F). Like the Caribbean *S. pugilis*, the Brazilian *S. worki* has a much broader and more inflated shell with a distinctly lower spire.

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<http://dpi:10.54173/F57278>



Taxonomic Note: *Cymbiola nusatenggara* Crabos 2025. New volute species from Indonesia. Mojo Island, West Nusa Tenggara, South East Indonesia, in 20 meters.

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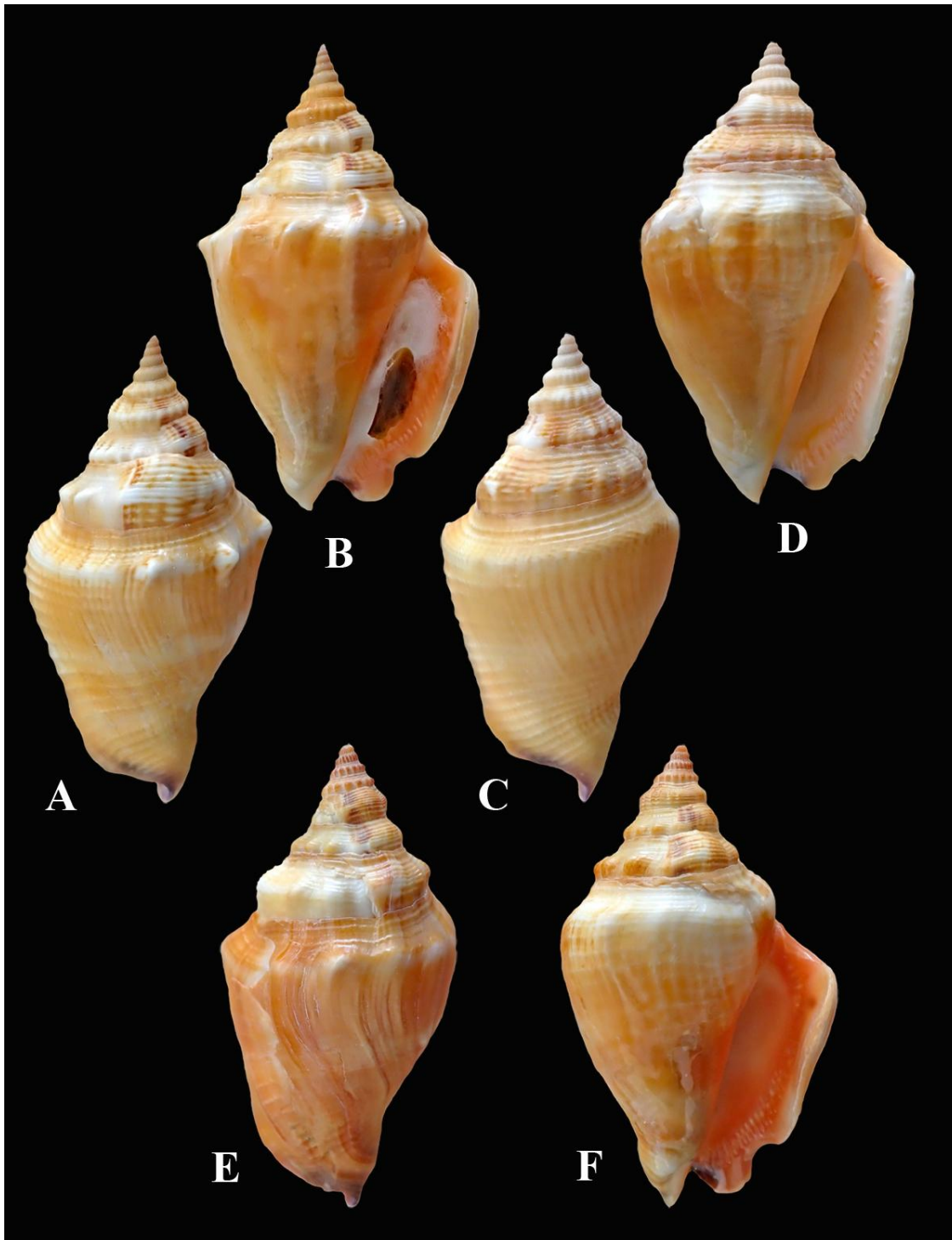


Plate 1. *Strombus guyanensis* Massemin, Petuch, and Berschauer, new species.

A, B= holotype, length 65.2 mm, MNHN-IM 39955; **C, D=** paratype 1, length 67.5 mm; **E, F=** paratype 2, length 77.7 mm. All specimens were trawled from 30 m depth off Cayenne, Guyane (French Guiana) and are housed in the National Museum of Natural History, Paris, France, and bear MNHN-IM catalog numbers as designated in Type Material. Photos courtesy of Philippe Maestrati, MNHN.

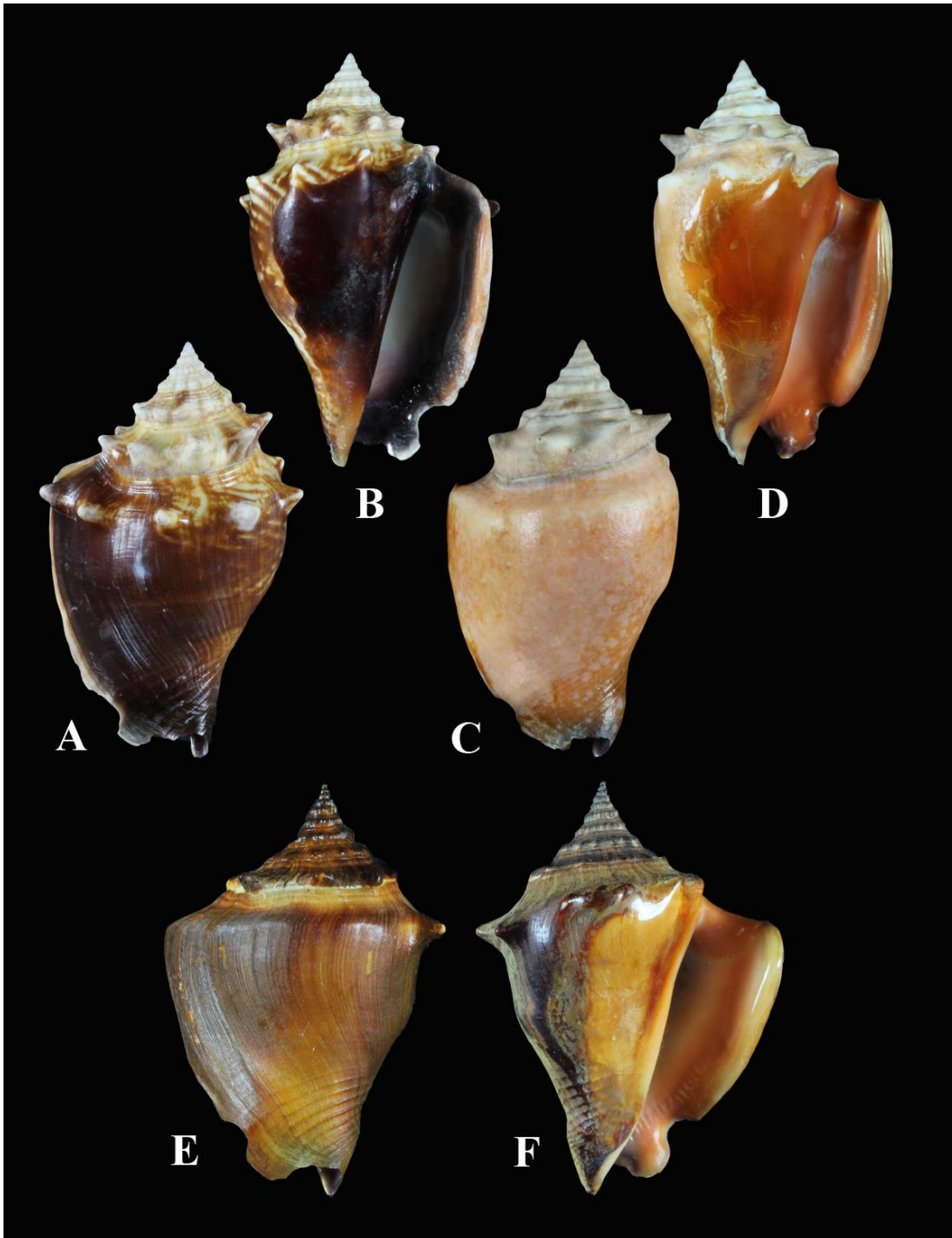


Plate 2. Western Atlantic Species of the Genus *Strombus*.

A, B= *Strombus alatus* Gmelin, 1791, length 89.7 mm, from Pavilion Key, Ten Thousand Islands, Monroe County, Florida (endemic to the Carolinian Molluscan Province); **C, D=** *Strombus pugilis* Linnaeus, 1758, length 90.6 mm, from Malmok, Aruba, Netherlands Antilles (endemic to the Caribbean Molluscan Province); **E, F=** *Strombus worki* Petuch, 1993, length 72.5 mm, 20 m depth off Vittoria, Espirito Santo State, Brazil (endemic to the Brazilian Molluscan Province). The Caribbean Province *Strombus pugilis* and the Carolinian Province *Strombus alatus* occur together in southeastern Florida (Palm Beach), the Florida Keys, and along the Yucatan Peninsula. All three species are shown here for comparison with *Strombus guyanensis*.