

Two new species of the genus *Chicoreus* (*Siratus*) (Gastropoda: Muricidae) from the western Atlantic.

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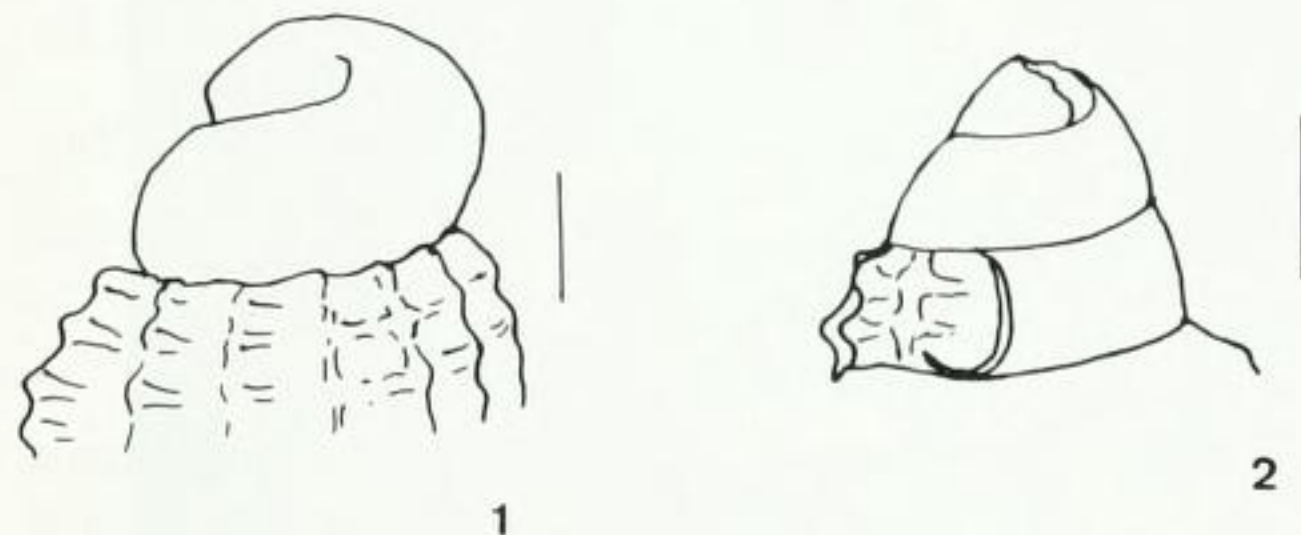
ABSTRACT

Two new species of the family Muricidae are described. *Chicoreus* (*Siratus*) *colellai*, from off Veracruz, eastern Mexico, is compared with *C. (S.) articulatus* (Reeve, 1845), and differs from this latter species in many aspects. *C. (S.) caudacurta*, from off Puerto Rico, is somewhat similar to *C. (S.) beauii* (Fischer & Bernardi, 1857), but differs in having a broad, paucispiral protoconch, a higher spire, and a shorter siphonal canal.

Key words: Gastropoda, Muricidae, *Chicoreus* (*Siratus*), western Atlantic, Mexico, Puerto Rico, new species.

INTRODUCTION

At least 19 Recent species of *Chicoreus* (*Siratus*) are known, of which only 2, *C. (S.) alabaster* (Reeve, 1845), and *C. (S.) pliciferoides* Kuroda, 1942, occur in the Indo-West Pacific region (Houart, 1992), and 17 in the western Atlantic. The western Atlantic species have been reviewed and illustrated in several works (Fair, 1976; Radwin & D'Attilio, 1976; Rios, 1985; Vokes, 1963, 1980, 1990, 1991). Additional names have been proposed, but are synonymized under the 17 taxa herein recognized. The Recent western Atlantic species of *Siratus* are listed in Table 1.



Figures 1, 2. Protoconchs. **1.** *Chicoreus* (*Siratus*) *caudacurta* new species, off Veracruz, dredged in 400–500 m, paratype R. Houart Collection. **2.** *C. (S.) beauii* (Fischer & Bernardi, 1857), Florida, off Egmont Key, 73 m, R. Houart Collection. Scale bar = 0.5 mm.

Recently, José Coltro (São Paulo, Brazil) sent me several lots of *Chicoreus* (*Siratus*) dredged from deep water in different regions of the Caribbean Sea. Within these lots, I immediately noticed the presence of unusual forms. Some of these were identified as representing extremes of variation of known species, but two remained unidentified. One, *C. (S.) colellai* new species, differs from all Recent or fossil species. The other, *C. (S.) caudacurta* new species resembles a small, spineless *C. beauii*, but the protoconch whorls are distinct in the two taxa. Abbreviations and text conventions are: dd, empty shell; MORG, Museu Oceanográfico “Prof. Eliézer de C. Rios”, Fundação Universidade do Rio Grande, Rio Grande do Sul, Brazil.

SYSTEMATICS

Family Muricidae Rafinesque, 1815
Subfamily Muricinae Rafinesque, 1815
Genus *Chicoreus* Montfort, 1810

Type species: *Murex ramosus* Linnaeus, 1758; Recent, Indo-West Pacific, by original designation.

Subgenus *Siratus* Jousseume, 1880

Type species: *Purpura Sirat* “Adanson” Jousseume, 1880 (= *Murex senegalensis* Gmelin, 1791), Recent, Brazil, by original designation.

Chicoreus (*Siratus*) *colellai* new species
(Figures 3–5)

Description: Shell medium sized for the subgenus, up to 47 mm in length at maturity (holotype), weakly spinose, nodose, lightly built. Spire high, up to 6 broad, convex, weakly spinose teleoconch whorls. Suture impressed. Protoconch unknown (broken).

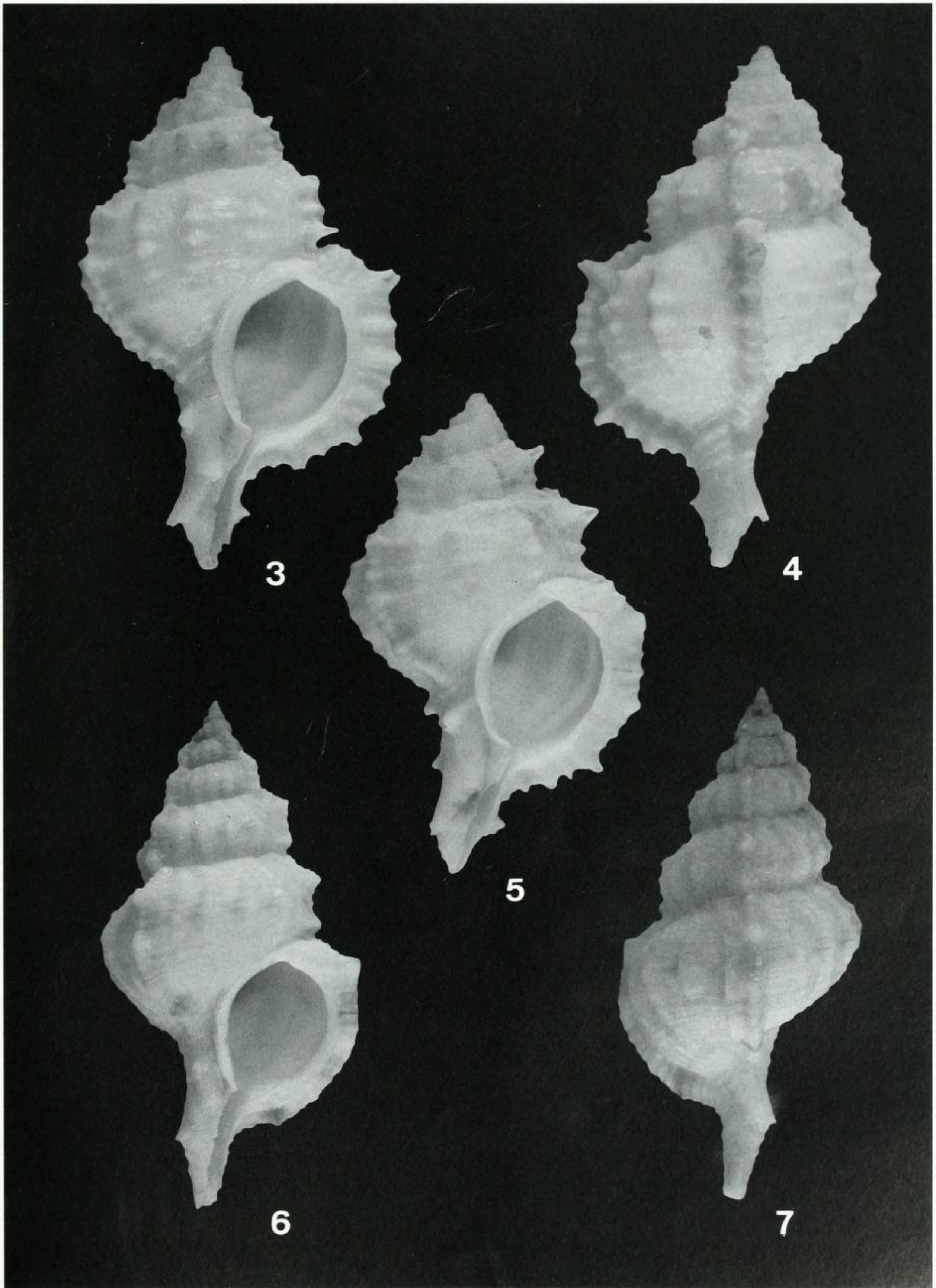
Axial sculpture of teleoconch consisting of 3 low, narrow, rounded, weakly spinose varices from first to last whorl. Other axial sculpture of low, narrow, rounded,

Table 1. Geographic and bathymetric range of western Atlantic species of *Siratus* species (species names printed in boldface are considered as valid):

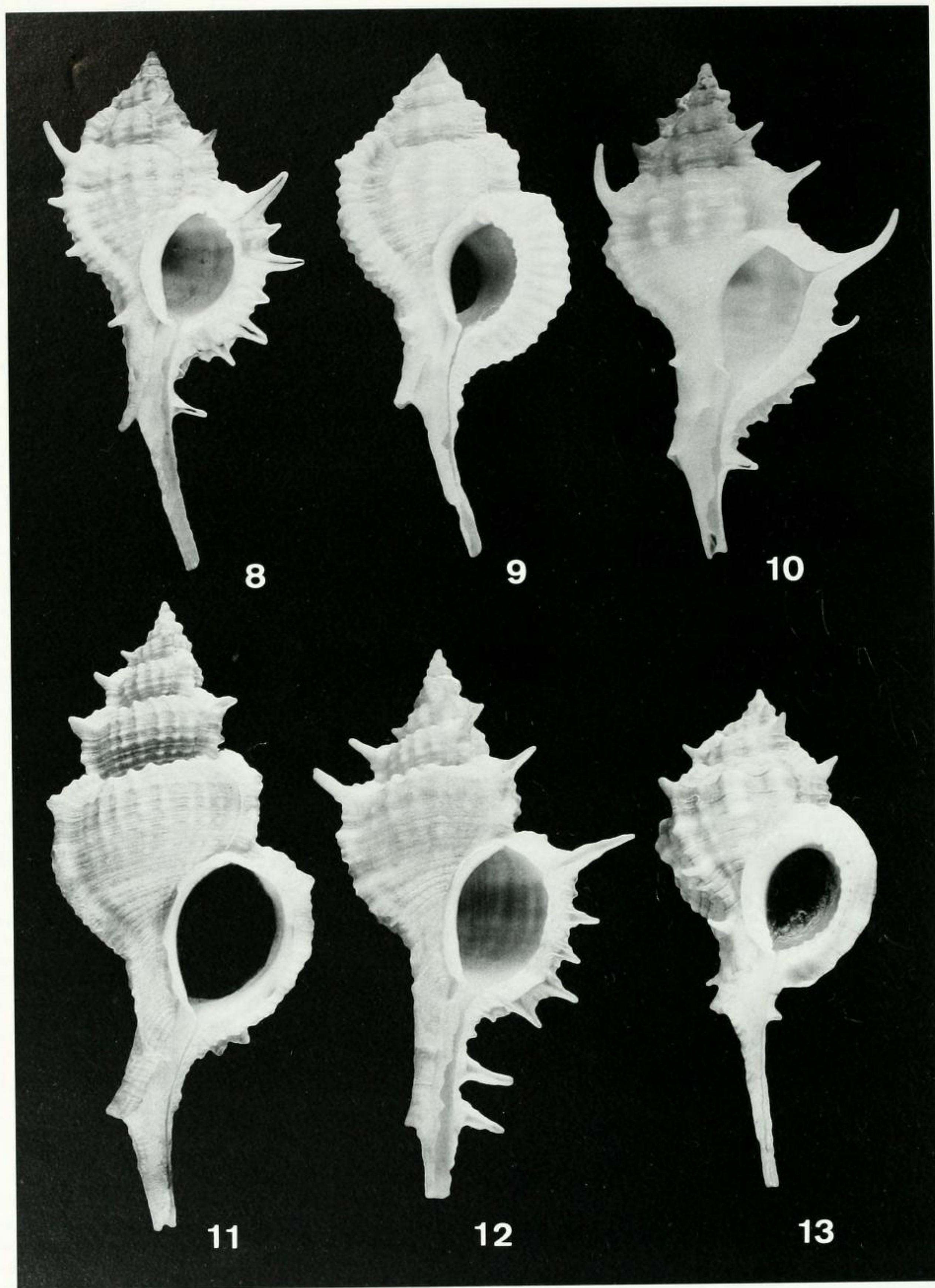
Name of species	Geographical distribution	Bathymetric range (live specimens)
<i>Chicoreus (Siratus) aguayoi</i> (Clench & Pérez Farfante, 1945)	Bahamas to Cuba	338–521 m
<i>C. (S.) articulatus</i> (Reeve, 1845)	E Florida to Ceará, Brazil	16–400 m
<i>Murex nodatus</i> Reeve, 1845 (not Gmelin, 1791)		
<i>Murex gundlachi</i> Dunker, 1883		
<i>Murex finlayi</i> Clench, 1955		
<i>C. (S.) beauii</i> (Fischer & Bernardi, 1857)	Florida to Uruguay	73–463 m
<i>Murex percoides</i> Löbbecke, 1879		
<i>Murex branchi</i> Clench, 1953		
<i>C. (S.) cailletti</i> (Petit, 1856)	Florida to Honduras, Colombia, and Barbados	46–400 m
<i>Murex similis</i> Sowerby, 1841 (not Schröter, 1805)		
<i>Murex kugleri</i> Clench & Pérez Farfante, 1945 (new name for <i>M. similis</i> Sowerby, 1841, not Schröter)		
<i>C. (S.) carolynae</i> Vokes, 1990	Bahia, Brazil	Unknown (probably 10–40 m, R. Houart collection)
<i>C. (S.) ciboney</i> (Clench & Pérez Farfante, 1945)	Cuba to Lesser Antilles	110–455 m
<i>Murex trilineatus</i> Reeve, 1845 (not Sowerby, 1813)		
<i>Chicoreus reevei</i> Vokes, 1965 (new name for <i>M. trilineatus</i> Reeve, 1845, not Sowerby)		
<i>Murex yumurinus</i> Sarasúa & Espinosa, 1978		
<i>C. (S.) coltrorum</i> Vokes, 1990	Northern Brazil	2–100 m
<i>C. (S.) consuela</i> (Verrill, 1950)	Gulf of Mexico to Lesser Antilles	14–110 m
<i>Murex pulcher</i> A. Adams, 1853 (not Sowerby, 1813)		
<i>Murex pulcher</i> var. <i>consuela</i> Verrill, 1950		
<i>C. (S.) formosus</i> (Sowerby, 1841)	Jamaica and Cuba	20–100 m
<i>C. (S.) motacilla</i> (Gmelin, 1791)	Lesser Antilles	170 m
<i>Murex briskasii</i> Verrill, 1953		
<i>C. (S.) perelegans</i> Vokes, 1965	Haiti to Barbados	100–120 m
<i>Murex elegans</i> Beck in Sowerby, 1841 (not Donovan, 1804)		
<i>Chicoreus perelegans</i> Vokes, 1965 (new name for <i>M. elegans</i> Beck in Sowerby, 1841, not Wood, 1828)		
<i>C. (S.) senegalensis</i> (Gmelin, 1791)	Surinam and Brazil (Espírito Santo to Santa Catarina)	2–15 m
<i>Murex costatus</i> Gmelin, 1791		
<i>Murex brasiliensis</i> Sowerby, 1834		
<i>Purpura sirat</i> d'Orbigny, 1841		
<i>C. (S.) springeri</i> (Bullis, 1964)	Northern South America	20
<i>C. (S.) tenuivaricosus</i> (Dautzenberg, 1927)	Brazil (Espírito Santo to Santa Catarina)	2–40 m
<i>Murex calcar</i> Kiener, 1843 (not Scacchi, 1835)		
<i>Murex tenuivaricosus</i> Dautzenberg, 1927 (new name for <i>M. calcar</i> Kiener, not Sowerby)		
<i>Chicoreus carioca</i> Vokes, 1968 (new name for <i>calcar</i> Kiener, 1842)		
<i>C. (S.) thompsoni</i> (Bullis, 1964)	Surinam, Venezuela, Brazil (Amapa to Bahia)	18–40 m
<i>C. (S.) colellai</i> new species	Off Puerto Rico	Unknown (914–1097 m for empty shells)
<i>C. (S.) caudacurta</i> new species	Mexico, off Veracruz	Unknown (400–500 m for empty shells)

intervarical ribs: 2 from first to third whorl; 2 or 3 on fourth; 3 on fifth; 3, occasionally with low fourth one, on last whorl. Spiral sculpture of low, narrow, smooth, primary, secondary, and tertiary cords. Spire whorls with 2 or 3 primary cords, and one secondary cord in each interspace; penultimate with 4 primary cords, and one secondary cord in each interspace; last whorl with 5 pri-

mary cords that interconnect strongest varical spines, with secondary and tertiary cords in each interspace. Cords more obvious on axial varices. Shoulder of last whorl with 4 or 5 spiral cords. Aperture large, broad, rounded. Columellar lip narrow, with 3 weak knobs abapically. Rim partially erect, adherent at adapical extremity. Anal notch broad, deep. Outer lip weakly erect,



Figures 3–7. New species of *Chicoreus*. **3–5.** *C. (Siratus) colellai*, type locality (off Puerto Rico, 914–1097 m). **3, 4.** Holotype, MORG 39519, 47 mm. **5.** Paratype, R. Houart Collection, 42.9 mm. **6, 7.** *C. (S.) caudacurta* Holotype MORG 39520, type locality (off Veracruz, 400–500 m), 45.8 mm.



smooth within. Siphonal canal short, but partially broken in all specimens, weakly angulate, open, with 1 or 2 short spines adaperturally, and 2 or 3 spiral cords. Shell white, with presence of brown blotches on 2 or 3 primary cords. Operculum and radula unknown.

Type material: Holotype, MORG 39519, dredged (dd); paratypes (from type locality), R. Houart collection (Ezemaal, Belgium), 1 paratype; J. & M. Coltro collection (São Paulo, Brazil), 1 paratype.

Type locality: Off Puerto Rico, 914–1097 m.

Etymology: Named in honor of Mr. Julio Colella, one of the founding members of the two Brazilian shell-related organizations, "Sociedade Brasileira de Malacologia" and "Conquiliologistas do Brasil".

Discussion: *C. colellai* new species differs from all other species of *Chicoreus* (*Siratus*) in having rounded, broad, last teleoconch whorl, rounded aperture, narrow varices, and short siphonal canal. *C. colellai* is most closely related to *C. (S.) articulatus* (Figs 8–10), a species with very variable shell, however, *C. colellai* differs in having more widely spaced, narrower, axial ribs, narrower varices, broader, more rounded aperture, and narrower (relative to the shell width) siphonal canal.

Chicoreus (Siratus) caudacurta new species
(Figures 1, 6, 7)

Description: Shell medium sized for subgenus, up to 50 mm in length at maturity, lanceolate, weakly spinose, lightly built. Spire very high with 1.45 protoconch whorls, and up to 7 convex, low, weakly spinose teleoconch whorls. Suture impressed. Protoconch large, broad, irregularly shaped, smooth. Terminal varix unknown (eroded). Axial sculpture of teleoconch consisting of low, narrow, weakly spinose varices. Other axial sculpture of weakly nodose, intervarical ribs. Shoulder spine longest. First whorl with 15 ribs, second with 14, third to last whorl with 3 varices and 3 or 4 intervarical ribs. Spiral sculpture of primary, and secondary, low cords and threads. First to third whorl with 4 primary cords and 1 or 2 secondary cords; fourth and fifth with 6–8 cords and threads; last whorl with 13–15 cords and threads; shoulder with 3 or 4 cords. Aperture large, rounded. Columellar lip narrow, with 2 or 3 weak, low knobs abapically. Rim partially erect, adherent at adapical extremity. Anal notch narrow, deep. Outer lip weakly erect, smooth within. Siphonal canal short in examined specimens, narrow, open, weakly angulate, with 3 or 4 low, spiral cords, and one short spine adaperturally. Shell

ivory-white or creamy-white, with brown tinge on some spiral cords, more apparent on two cords abapically of shoulder, two on periphery, and two above siphonal canal. Aperture white. Operculum and radula unknown.

Type material: Holotype MORG 39520, dredged (dd); R. Houart collection, 1 paratype, from type locality.

Type locality: off Veracruz, eastern Mexico, 400–500 m.

Etymology: Latin for "short tail", alluding to its short siphonal canal.

Discussion: *Chicoreus (Siratus) caudacurta* somewhat resembles *C. (S.) beauii* (Figures 2, 11, 12) from which it differs in having apparently different larval development. *Chicoreus (S.) caudacurta* has large, irregularly shaped, broad protoconch of 1.45 whorls (Figure 1), which suggest non-planktotrophic and possibly intracapsular development, while *C. (S.) beauii* has conical protoconch of 3+ whorls and small embryonic whorl (Figure 2), which suggests planktotrophic larval development. *Chicoreus (S.) caudacurta* also has a higher spire relative to the height of the aperture, and the length of the siphonal canal. *Chicoreus (S.) caudacurta* differs from *C. (S.) cailleti* (Petit de la Saussaye, 1856) (Figure 13) by higher spire, shorter siphonal canal, broader aperture, and protoconch twice as large. The new species differs from the "form" *C. kugleri* (Clench and Pérez-Farfante, 1945) in having shallower, more numerous, narrower spiral threads and cords, higher spire relative to the height of the aperture and the length of the siphonal canal, and a protoconch twice as large.

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Figures 8–13. Other species of *Chicoreus*. **8–10.** *C. (Siratus) articulatus* (Reeve, 1845). **8.** Off Haiti, R. Houart Collection, 52.1 mm. **9.** Off Honduras, 200–300 m, R. Houart Collection, 50.4 mm. **10.** Off Paramaribo, Surinam, 300–400 m, R. Houart Collection, 32.2 mm. **11, 12.** *C. (S.) beauii* (Fischer & Bernardi, 1857). **11.** Bahia de Campeche, off Veracruz, eastern Mexico, 200–300 m, R. Houart Collection, 108.2 mm. **12.** Off Egmont Key, Florida, 73 m, R. Houart Collection, 56.5 mm. **13.** *Chicoreus (Siratus) cailleti* (Petit de la Saussaye, 1856). St. James, Barbados, 94 m, R. Houart Collection, 52.7 mm.

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