

## Two new Species of Crosseolidae Hickman, 2013 from the West Atlantic Coasts

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**Keywords:** GASTROPODA, CROSSEOLIDAE, *Crosseola*, West Atlantic, new species;

**Abstract:** Two new species belonging to the genus *Crosseola* from the coasts of Guadeloupe and Brasil are described and compared with others previously known.

**Introduction:** Hickman (2013) defined and described this family, which is placed in an unassigned Vetigastropoda superfamily, and included the following genera: *Crossea* A. Adams, 1865; *Crosseola* Iredale, 1924; *Conradia* A. Adams, 1860 and *Conjectura* Finlay, 1926, previously placed in **Skeneidae** W. Clark (1851).

Their geographical distribution is predominantly Australasian (*Crosseola*, *Conjectura*); Indo-Pacific and Japan (*Crossea*, *Conradia*).

More recently, Rubio & Rolán (2014, 2016) described a new species of **Crosseolidae** from West Africa, where the family was not known. More species collected by the MNHN and IRD were described by Rubio & Rolán (2017), who made a revision on the taxonomy of this family.

In literature, there are no records of species of this family for the Caribbean. Yet, in the material collected during some MNHN expeditions in the western Atlantic, two species of this family were collected and they are described in the present work.

### Abbreviations:

**MNHN :** Museum nationale d'Histoire naturelle,  
Paris

### SYSTEMATIC PART

Family **Crosseolidae** Hickman, 2013

Genus *Crosseola* Iredale, 1924

Type species: *Crosseola concinna* (Angas, 1868) (by original designation)

*Crosseola caribbeae* sp. nov.

Fig. 1A-F

**Type material:** Holotype (Fig.1) in MNHN IM-2000-33689.

**Type locality:** Guadeloupe Island, W Marie Galante, 15°53'N-61°25'W, 262-266 m [KARUBENTOS 2015: DW 4599].

**Description:** Shell of very small size (<2.0 mm), turbini-form, spire with about 4 whorls. Protoconch smooth with one half whorl after the nucleus and a diameter of about 220 µm. The sculpture at the beginning is formed by axial ribs, 14 on the first whorl and 22 on the second one. Near the periphery of each whorl an undulating spiral cord appears, and below numerous ovoid spaces are formed by the crossing of two new spiral cords and more numerous axial ribs. On the last whorl the sculpture changes, showing two well-separated main spiral keels and finer cordlets in the subsutural area and between the keels. Below there are 6 fine spiral cords which are crossed by numerous rather close-set axial riblets. There is a fissural pseudoumbilicus which is externally rounded by a prominent and strongly sculptured wide cord, formed by very close lamellae ending in the base near the anterior canal. The microsculpture is formed by microgranules. Umbilicus limited by a deep fissure formed between the periumbilical cord and the columellar lip. Aperture rounded, prosocline; columella thick, arched, reflected

towards the umbilicus, with a canal at the base. Outer lip angled, modified by the spiral keels; external margin not thickened or variciform.

Dimensions: the holotype is 1.82 mm in height x 1.87 mm in diameter.

Soft parts unknown.

**Habitat and distribution:** The habitat is unknown. Only collected at the type locality.

**Etymology:** The species is named after the sea where it was found.

**Remarks:** This is the first species collected off the Atlantic coast of America, from where no other similar species are known, except for the following one that is geographically the closest one.

*C. caribbeae* sp. nov. may be differentiated from *Crosseola brasiliensis* sp. nov. by its smaller number of angulations in the external lip; the umbilical fissure is a little more closed, and has a smaller number of spiral cordlets, the lack of labial prominences in the lower part which are very pronounced in *C. brasiliensis*.

Its general appearance resembles *Crosseola cuvierana* (Mestaller, 1919), *Crosseola intertexta* Powell, 1937 and *Crosseola gorii* Rolán & Rubio, 2014, but it differs from these by the different number and thickness of the spiral cords.

*Crosseola brasiliensis* sp. nov.

Fig. 2A-E

**Type material:** Holotype (Fig. 2) in MNHN IM-2000-33690.

**Type locality:** SE Brasil, 18°59'S 37°48'W, 607-620 m [MD55: DC73].

**Description:** Shell of small size (<3.5 mm), turbiniform, spire with about 4 whorls. Protoconch smooth with a little more than half a whorl after the nucleus and a diameter of about 300 µm. The sculpture is formed by axial ribs at the beginning of the first whorl, 19 in this first one, and 33 on the second one. Near the periphery of each whorl an undulating spiral cord appears and below numerous ovoid spaces are formed by the crossing of two new spiral

cords and more numerous axial ribs. On the second whorl the sculpture changes, showing two main spiral keels in the upper part and well-separated and finer cordlets in the subsutural area and between the keels. Below these there are 4 fine spiral cords which are crossed by numerous, very close-set axial riblets. In apertural view, 2 prominent keels can be seen on the last whorl, one subsutural and the other peripheral; 5 wide spiral cords can also be observed, one between the keels and the other 4 below the lowest peripheral keel and the periumbilical cord. There is a fissural pseudoumbilicus, externally rounded by a prominent, periumbilical wide cord, very sculptured with close lamellae ending in the base near the anterior canal. Umbilicus limited to a deep fissure formed between the periumbilical cord and the columellar lip. Aperture rounded, prosocline; columella thick, slightly curved, reflected towards the umbilicus, with a wide anterior canal at the base. Outer lip scalloped, angled by the keels and cords; external margin thickened.

Dimensions: the holotype is 3.44 mm in height x 3.44 mm in diameter.

Soft parts unknown.

**Habitat and distribution:** The habitat is unknown. Only collected at the type locality.

**Etymology:** The species is named after the country where the species was found.

**Remarks:** The only similar species in the West Atlantic is the previously described *C. caribbeae* sp. nov.

The present species was included in the genus *Crosseola* in spite of the presence of several persistent lip thickenings in the last ¼ of whorls but not present on the entire teleoconch, as in the species belonging to *Crossea*. The differences are: *Crosseola brasiliensis* sp. nov. is larger and the presence of apertural prominences in the external lip is characteristic. The axial sculpture is denser, with more numerous riblets; the spiral cords are more prominent; the second whorl has a sculpture not similar to the first one, instead being more similar to the following one.

In its general appearance and especially in the scalloped form of its outer lip, it resembles *C. cuvierana* (Mestaller, 1919), *C. intertexta* Powell, 1937 and *C. gorii* Rolán & Rubio, 2014, but differs from these by the different number and thickness of the spiral cords and also by the different angulation of the outer lip.

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**Figures**

**1A-F: *Crosseola caribbeae* sp. nov.**

- A-B:** holotype, 1.87 mm in diameter, MNHN, Guadeloupe, 15°53'N-61°25'W, 262-266 m  
**C:** protoconch  
**D:** detail of columella and the base  
**E-F:** detail of the microsculpture

**2A-E: *Crosseola brasiliensis* sp. nov.**

- A-B:** holotype, 3.44 mm in height, SE Brasil, 18°59'S 37°48'W, 607-620 m (MNHN)  
**C:** protoconch  
**D-E:** detail of the sculpture



