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A new species of *Cerithiopsis* probably endemic to Florida, USA (Prosobranchia, Cerithiopsidae)

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Keywords: MOLLUSCA, GASTROPODA, CERITHIOPSIDAE, *Cerithiopsis*, new species, Florida.

Abstract: A new species of *Cerithiopsis* from Florida, USA, is described. The new species is compared with other named Western Atlantic *Cerithiopsis* of brown colour and similar paucispiral protoconchs. Shell and protoconch are figured.

Introduction: The family **Cerithiopsidae** in the Caribbean has been shown in many general works (for example, Abbott, 1974; Redfern, 2001; Lee, 2009, among others). Recently, the group has been studied in some works: Rolán & Espinosa (1992a, 1992b & 1996), Rolán, Espinosa & Fernández-Garcés (2007, 2010). Moreover, a new species from Florida (Rolán & Fernández-Garcés, 2007), two new species from South America (Figueira & Pimenta, 2008), and four new species from the Caribbean (Rolán & Fernández-Garcés, 2010) were described in recent years. Rolán et al. (2012, 2013) presented the known brownish and banded Western Atlantic *Cerithiopsis* with a diagnostic key for identification.

The second author has been collecting *Cerithiopsis* in several areas along Florida's shoreline and in recently collected material one species with a paucispiral protoconch was found. It was compared to the eight of the 24 named brownish Western Atlantic *Cerithiopsis* with a similar number of protoconch whorls, namely $1\frac{3}{4}$ to $2\frac{1}{2}$. It was concluded that this newly found material does indeed sufficiently differ so as to justify designation and description as a new species.

Abbreviations:

BMSM:	The Bailey-Matthews Shell Museum, Sanibel, Florida, USA
MNCN:	Museo Nacional de Ciencias Naturales, Madrid, Spain
MHNS:	Museo de Historia Natural, Santiago de Compostela, Spain
MK:	Marlo Krisberg collection
UF:	University of Florida, Gainesville, Florida, USA
spm:	adult specimen alive collected
juv:	juvenile
T1, T2, T3	teleoconch whorls
S1, S2, S3	spiral cords

SYSTEMATICS**FAMILY CERITHIOPSIDAE****Genus *Cerithiopsis*** Forbes & Hanley, 1850*Cerithiopsis susieae* sp. nov.

Type material: **Holotype** (Figs 1-2) spm, UF, 477309; **Paratype 1:** spm, BMSM, 75999; **paratype 2:** spm, MNCN, 15.05/60134; **paratypes 3-4:** 2 juv, MHNS, 100619; **paratypes 5-8:** 1 spm, 3 juv, MK. All from type locality.

Type locality: Port Canaveral jetty, Brevard County, Florida, USA.

Distribution and habitat: Only known from the type locality, where it was collected by brushing sponges on stones.

Description: Shell (Figs 1-3) small, conic, elongate with profile of whorls slightly convex, the middle beaded spiral cord slightly more pronounced (slightly bigger diameter) than the first and third, rather solid, and with 5-6 teleoconch whorls at maturity. Dominant colour of the teleoconch brownish with the sutural groove and first subsutural spiral cord brownish grey. Protoconch (Figs 4-5) with $2\frac{1}{8}$ smooth whorls, a diameter of about 290 μm , its colour white on the first whorl, but transitions to brown on the final protoconch whorl; sometimes all is tan. Teleoconch begins with three spiral cords immediately at the transition from protoconch to the first teleoconch whorl (T1). The upper spiral cord (S1) is significantly smaller (smaller in diameter and with smaller nodules) than the next two cords (S2 and S3), which are approximately equal in size. S1 is closer to S2 and much more so than S2 is to S3 for the first 3-4 teleoconch whorls. By teleoconch whorls 5-6, all the spirals are separated by a similar space and are similar in size. Sutural groove wide and noticeably deeper than the grooves

separating the spiral cords; suture distinct and clearly visible. The exposed base of the body whorl reveals a fourth spiral cord where the nodules are scarcely appreciable and a fifth indistinct cord below. There then follows a somewhat swollen siphonal fasciole. The first whorl has about 15 axial orthocone ribs, which increase to 18-22 in the following whorls. Aperture ovoid, with a pronounced posterior sinus and a short, open siphonal canal a little recurved towards the dorsum. Columella slightly opisthocline and quite concave posteriorly. In mature specimens, there is a narrowish parietal callus extending over the siphonal fasciole creating a distinct inner lip and a small umbilicus.

Dimensions: the holotype is 2.5 mm; a paratype reaches 3.2 mm.

Soft parts were not examined.

Comparison: The separation of the present species is made by comparison to the eight of the 24 named brownish Western Atlantic *Cerithiopsis* with a similar number of protoconch whorls ($1\frac{3}{4}$ to $2\frac{1}{2}$). These eight with comparative comments are as follows:

Cerithiopsis iontha Bartsch, 1911. Bartsch (1911) relied upon three syntypes to describe *C. iontha*. Bartsch's description includes a figure of one of the three. One of the three was deposited in the United States National Museum (USNM) and two were deposited in the Bermuda Museum and later transferred to the USNM. Unfortunately, the first one was lost and the remaining two could not be found among the material transferred to the USNM (Rolán & Espinosa, 1996). The figure presented by Bartsch is not consistent with his description in that he describes the protoconch as "whorls 2, well rounded, smooth," but the figure shows a distinct peripheral cord or angle on the second protoconch whorl. The absence of the type material and the conflict between Bartsch's description and his figure create sufficient ambiguity to consider *C. iontha* as a *nomen dubium*. No other material that matches both Bartsch's description and figure has been located in the course of the authors' studies over the past decades. In most respects Bartsch's description of *C. iontha* closely matches that of *C. susieae* sp. nov. However, *C. iontha* differs in the following aspects: middle beaded cord with a diameter bigger than the upper, but not bigger than the lower, the teleoconch is golden brown, the protoconch is all white and is figured as having a distinct peripheral cord or angle on the second whorl, T1 has about 18 axial ribs, T2-3 20, then 24 and the aperture is "feebly (channeled) posteriorly."

Cerithiopsis movilla Dall & Bartsch, 1911 differs in the following aspects: the three beaded spiral cords are well separated immediately beginning on T1, the teleoconch is light brown, wider nodules which are not axially aligned, but slightly prosocline, the protoconch is dark brown with 2 whorls and on the body whorl, the 4th spiral cord displays faint, but more pronounced nodules.

Cerithiopsis portoi Rolán & Espinosa, 1996 differs in the following aspects: middle beaded cord with a diameter bigger than the upper, but slightly smaller or equal to the lower, nodules on cords slightly less pronounced, teleoconch totally dark brown, the protoconch has 2-2½ whorls, is brown but with first whorl sometimes lighter, S1 on T1 is not very close to S2 and the separation increases rapidly in subsequent whorls, and axial ribs are narrower and more prominent across the spiral grooves, particularly on T1-2, and do not exceed 20.

Cerithiopsis pseudomovilla Rolán & Espinosa, 1996 differs in the following aspects: smaller nodules in the crossing point of ribs and cords, a brown protoconch with 2-2¼ whorls, teleoconch uniformly dark brown, S1 and S2 well separated almost as much as S2 and S3 on T1 and T2, and S1 and S2 become closer on T3, and on body whorl, 4th spiral cord displays small, but distinct nodules.

Cerithiopsis satisnodosa Rolán & Fernández-Garcés, 2010 differs in the following aspects: middle beaded cord with a diameter bigger than the upper, but not bigger than the lower, nodules on cords more pronounced, teleoconch uniformly light brown, the protoconch has only 1¾ whorls and is all white, S1 on T1-2 is only slightly closer to S2 than S2 is to S3, sutural groove only slightly deeper than the grooves separating the spiral cords, about 15-18 axial ribs on all whorls and less pronounced, more open posterior sinus.

Cerithiopsis ceac Rolán & Fernández-Garcés, 2010 differs in the following aspects: middle beaded cord with a diameter bigger than the upper, but not bigger than the lower, nodules on cords more pronounced, teleoconch uniformly light brown, cream or white, the protoconch has only 2 whorls, is slightly wider in diameter and is all cream, S1 on T1 is slightly closer to S2, but by T2 they separate significantly, profile of base more concave, first whorl has about 18, slightly prosocline axial ribs, which increase to 28-30 in the following whorls and less pronounced, more open posterior sinus.

Cerithiopsis gordaensis Rolán & Fernández-Garcés, 2010 differs in the following aspects: a much larger shell to 4.5 mm with up to 8 teleoconch whorls at maturity, nodules on cords smaller making the axial ribs crossing the spiral grooves appear relatively larger and creating a more striking overall reticulated appearance, teleoconch uniformly off-white, cream, tan or light brown, the protoconch has 2½ whorls, is slightly wider in diameter and is whitish, S1 on T1-3 is comparatively quite distant from S2, sutural groove only slightly deeper than the grooves separating the spiral cords, first whorl has about 16-17 axial ribs, which increase to 23-25 in the following whorls and less pronounced, more open posterior sinus.

Cerithiopsis morelosensis Rolán & Fernández-Garcés, 2010 differs in the following aspects: teleoconch uniformly light brown, 20-25 axial ribs on early whorls and 25-32 on adult body whorl, protoconch significantly larger in diameter (340 µm), protoconch entirely light brown in colour, S1 on T1 is close to S2 and very small, with S1 remain-

ing closer to S2 than S2 is to S3 on all subsequent whorls and there is no fifth spiral cord on the base.

Etymology: The species' name is after Susan Krisberg, the wife of the second author for her encouraging support of his work with shells.

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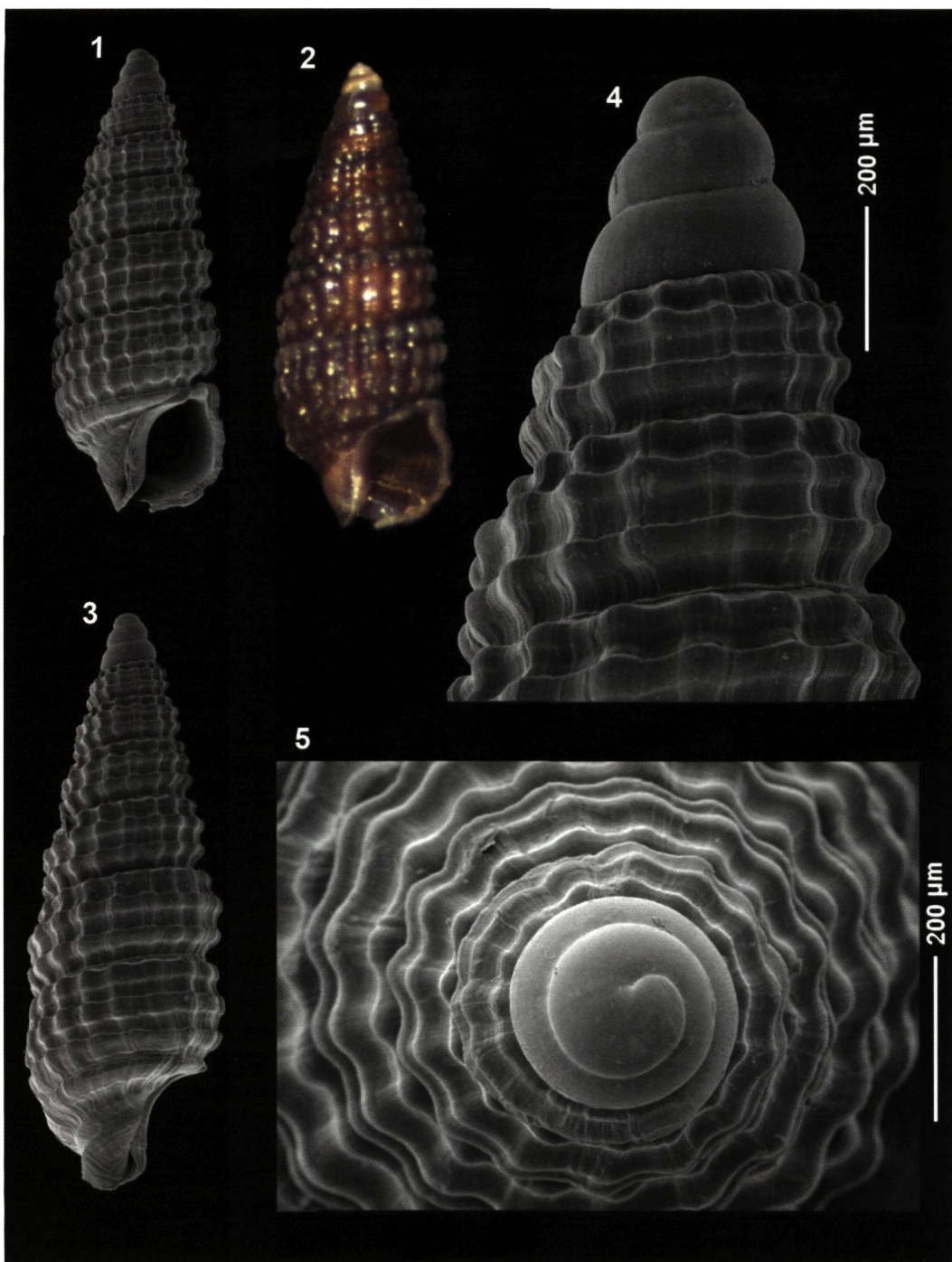


Plate: *Cerithiopsis susieae* sp. nov. 1-2: holotype, 2.5 mm (UF);
3: paratype, 3.2 mm (MNCN); 4-5: apex and protoconch