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VITRINELLIDAE (MARINE MOLLUSCA GASTROPODA) FROM HOLOCENE DEPOSITS IN SURINAM (DUTCH GUIANA)

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ABSTRACT

Five species of Vitrinellidae have been found in the Holocene shell ridges of Surinam. Of these, *Vitrinella* (*Striovitrinella*) *cupidinensis*, *Cochliolepis surinamensis*, and *Solariorbis guianensis* are new species, while *Cyclostremiscus caraboboensis* Weisbord is known from Pliocene beds in Venezuela and *Teinostoma* (*Pseudorotella*) *schumoi* Vanatta belongs to the Recent fauna of Guatemala. A paratype of *Vitrinella cupidinensis* spec. nov. was found on Olinda beach near Recife, Brazil, and clearly is a Recent shell. It seems possible, and even likely, that eventually all five species will appear to be still living in the same general region.

The molluscan fauna of the so-called shell ridges in the coastal region of Surinam was studied by Schepman (1887). His study was based on material collected by Voltz in 1853-1855 and preserved in the Rijksmuseum van Geologie en Mineralogie, Leiden. Although some of Schepman's identifications were tentative, he was very positive about one point, viz., that almost without exception the shells collected by Voltz belong to species which are still living in the same general region. Hence Schepman concluded that the shell ridges must be very young deposits.

Seemingly the result of the present paper does not agree with this conclusion. Of the five species dealt with here one has already a long time been known to belong to the Recent fauna of Guatemala, another has recently been described from beds assigned to the Pliocene in Venezuela, while three are new to science. One of these certainly belongs to the Recent fauna, as one of the paratypes is a Recent shell from Olinda beach near Recife, Brazil. Thus three of the five species are unknown in a living state and may be extinct. The Recent marine molluscan fauna of the Guianas is, however, very imperfectly known, while from this region shells of the small

size of vitrinellids have hardly been studied. It seems, therefore, very well possible that eventually these three species will also appear to belong to the Recent fauna. This seems the more probable as further, still unpublished, studies on the molluscs of the shell ridges, which contain many more species than are represented in the Voltz collection, tend to corroborate Schepman's main conclusion.

All the Surinam specimens dealt with here belong to samples collected by Dr. D. C. Geijskes, formerly Director of the Surinaams Museum, Parama-

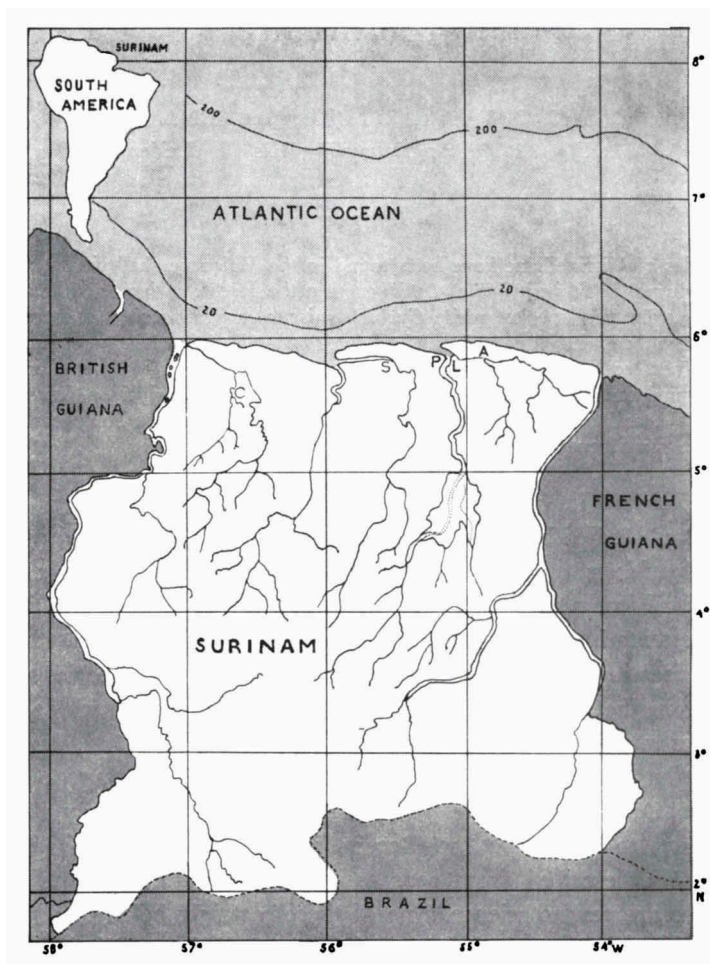


Fig. 1. Sketch map of Surinam showing the situation of the localities mentioned in this paper. A: plantation "Alliance"; C: village of Cupido; L: plantation "Rust en Lust"; P: Paramaribo; S: km 50 on the road in Saramacca District.

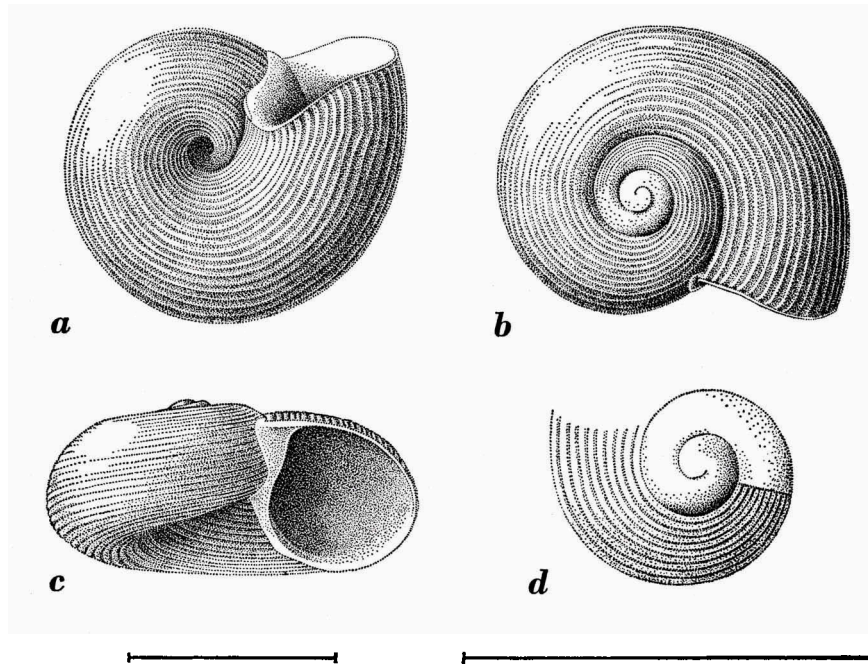


Fig. 2. *Vitrinella (Striovitrinella) cupidinensis* spec. nov. a, b, c, holotype; d, detail of a paratype showing protoconch and oldest part of teleoconch. Scales 1 mm; left for a-c, right for d.

The first set of measurements are of the holotype, the second of the largest paratype, and the fourth of the Recent specimen.

Name. — The species is named after the village of Cupido, near which the holotype was collected.

Discussion. — *V. cupidinensis* is closely related to *V. (Striovitrinella) elegans* Olsson & McGinty (1958: 31, pl. 3 fig. 1, 1a-d) from Bocas Island, Caribbean coast of NW Panama, of which I could examine type material (ANSP). Shells of the Panama species are slightly larger than those from Surinam with the same number of whorls, their spiral sculpture is less and their radial sculpture more pronounced and on the underside the whorls are subcarinate around the umbilicus, the rounded keel becoming obsolete in the last whorl of the largest specimen (holotype).

2. *Cochliolepis surinamensis* spec. nov. (fig. 3a-d)

Material examined. — Holotype and one paratype from the shell ridge at the "Kerkplein" (Church square) in Paramaribo, Surinam, at 1 m depth, D. C. Geijskes leg., October 26, 1950.

3. *Solariorbis guianensis* spec. nov. (fig. 4a-c)

Material examined. — Holotype from the shell ridge near Cupido, a village on the river Maratakka, Nickerie District, Surinam, D. C. Geijskes leg., July 25, 1962.

Description. — Shell very small, lenticular, with the spire hardly protruding, flattened above, with a narrow umbilicus, rather solid, light horn coloured, glossy and semitransparent, but somewhat more opaque round the umbilicus. Whorls 3, rapidly increasing, those of the spire convex and separated by a distinct deep suture, last whorl flattened above and below, rounded at the periphery, with the greatest width slightly under the middle, very convex and obsolete keeled round the umbilicus. Spire practically smooth, sculpture of the last whorl consisting of little pronounced and irregular fine radiating striae starting from the suture and the umbilicus, but not reaching the periphery, and a few indistinct spirals, near the suture on the upper side and near the periphery on the under side. Aperture very oblique, subcircular, parietal part of the penultimate whorl covered by enamel, outer lip simple.

Measurements (in mm). — Diameter 0.9, height 0.4.

Name. — The name is derived from Guiana, the general region in which the type locality is situated.

Discussion. — This species is closely related to *S. shimeri* (Clapp) (*Vitrinella shimeri* Clapp, 1914: 39, pl. 2 fig. 6-8; Shimer, 1915: 438; Shimer, 1918: 449) from Postglacial beds in Boston, Mass., of which I

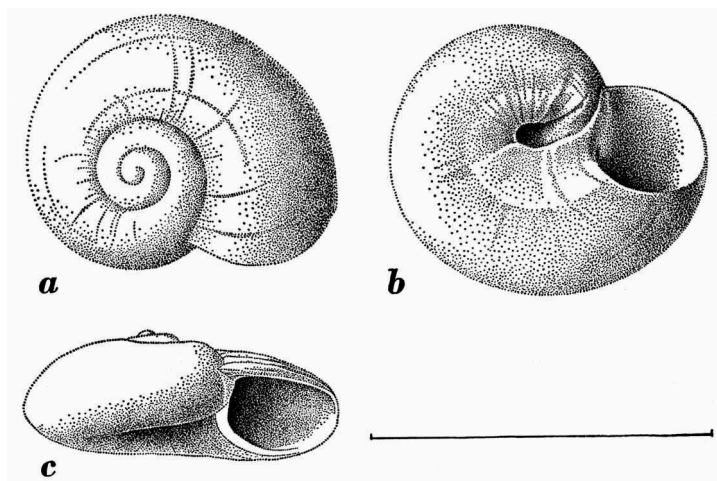


Fig. 4a-c. *Solariorbis guianensis* spec. nov., holotype. Scale: 1 mm.

could examine the holotype and several paratypes (MCZ). *S. shimeri* is somewhat larger with the same number of whorls and has a relatively higher shell. *S. blakei* (Rehder) (*Vitrinella blakei* Rehder, 1944: 97, pl. 9 fig. 1, 2) from the Pleistocene of Maryland is another related species which I could examine (USNM). It is also somewhat larger than *C. guianensis*, has a more pronounced sculpture, and the last whorl has a flat wall around the umbilicus instead of being convex in that part. As far as I know Moore (1965: 78) was the first to class Rehder's species with *Solariorbis*, and there can be no doubt that Clapp's species belongs to the same genus. These two species are nearer to each other than to the Surinam species; it seems even possible that *S. blakei* is a synonym of *S. shimeri*.

4. ***Cyclostremiscus caraboboensis*** Weisbord (fig. 5a-c)

Weisbord, 1962: 23, 140, pl. 13 fig. 7-9 (Pliocene, La Salina de Guaigaza, Carabobo, Venezuela).

Material examined. — More than thirty specimens from the shell ridge near Cupido, a village on the river Maratakka, Nickerie District, Surinam, D. C. Geijskes leg., July 1962; seven specimens from the shell ridge near km 50

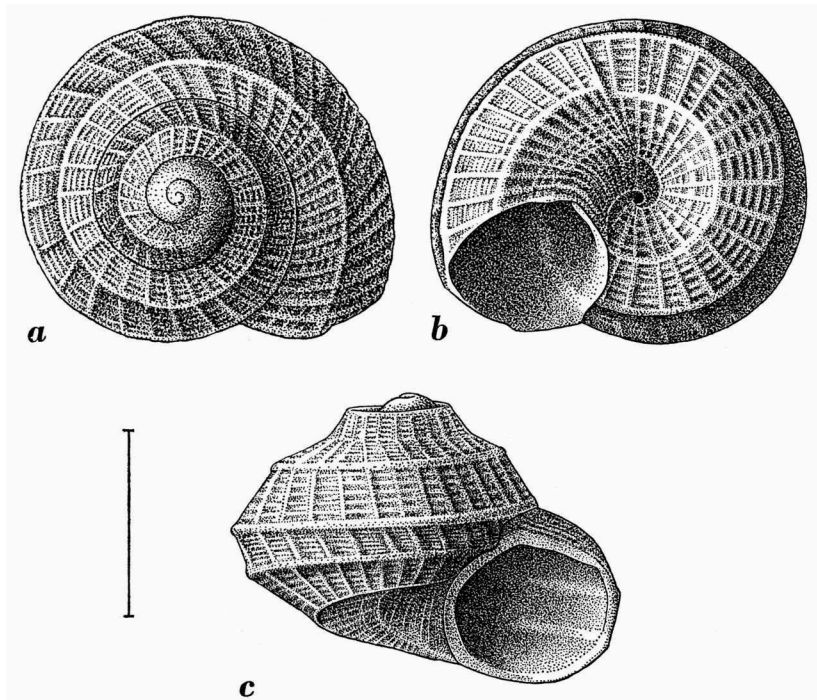


Fig. 5a-c. *Cyclostremiscus caraboboensis* Weisbord, from the shell ridge at km 50 along the road in Saramacca District. Scale: 1 mm.

along the road in Saramacca District, Surinam, D. C. Geijskes leg. during the Surinam Expedition 1948-1949, December 1948; seven specimens from the shell ridge in the plantation "Rust en Lust" on the Surinam River, Commewijne District, Surinam, D. C. Geijskes leg., August 22, 1955; several specimens from the shell ridge in the plantation "Alliance" on the Commewijne River, Commewijne District, D. C. Geijskes leg., s. d.

Discussion. — The identification of my material was confirmed by Mr. Weisbord himself, who was kind enough to compare some of my specimens with the holotype. It appears that in the largest shells available, which presumably are adult, the radial sculpture becomes finer and more crowded in the last whorl towards the aperture. I could compare my material with the holotype (ANSP) of *C. balboa* Pilsbry & Olsson (1945: 267, pl. 30 fig. 5), a Recent species from the Pacific coast of Panama, which closely resembles *C. caraboboensis*, but has a smaller and much more depressed shell.

5. ***Teinostoma (Pseudorotella) schumoi*** Vanatta (fig. 6a-c)

Vanatta, 1913: 25, pl. 2 fig. 5, 10 (Recent, Porto Barrios and Livingston, Guatemala).
Material examined. — Twenty-six specimens from the shell ridge near

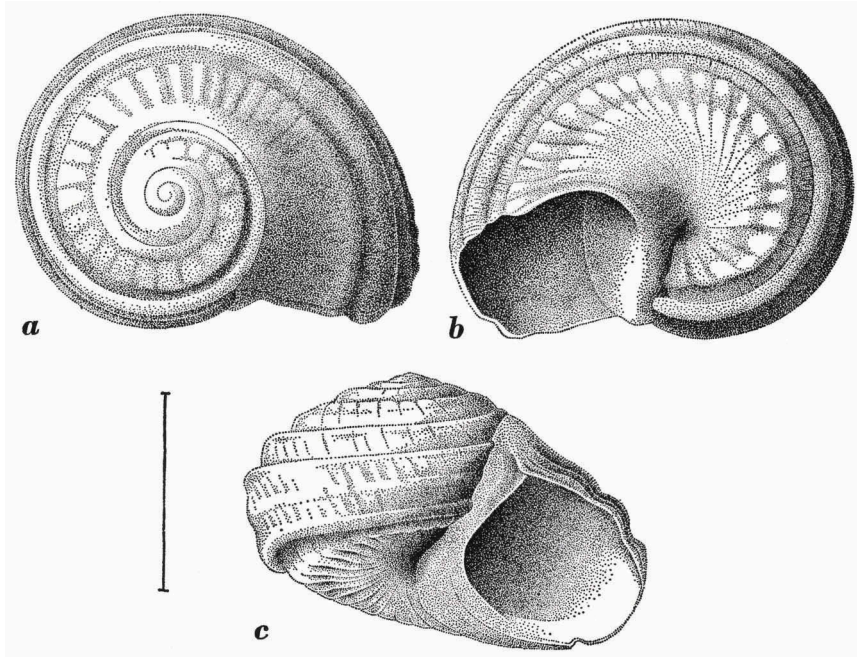


Fig. 6a-c. *Teinostoma (Pseudorotella) schumoi* Vanatta, from the shell ridge near the village of Cupido, Nickerie District. Scale: 1 mm.

Cupido, a village on the river Maratakka, Nickerie District, Surinam, D. C. Geijskes leg., July 1962.

Discussion. — Comparison of my material with the five syntypes of this species (ANSP) revealed their specific identity. "*Cyclostremiscus*" *salinensis* Weisbord (1962: 139, pl. 13 fig. 4-6) from the Pliocene of Venezuela appears to belong to the same group and to be closely related to the present species. It differs from *T. schumoi* by the presence of more spiral ridges on the last whorl.

REFERENCES

- CLAPP, W. F., 1914. A new fossil *Vitrinella*, from Boston, Massachusetts. — *Nautilus* **28**: 38-40, pl. 2 fig. 6-8.
- MOORE, D. R., 1965. New species of *Vitrinellidae* from Gulf of Mexico and adjacent waters. — *Nautilus* **78**: 73-79, pl. 7, pl. 8 upper fig. 1-3.
- OLSSON, A. A. & Th. L. MCGINTY, 1958. Recent marine mollusks from the Caribbean coast of Panama with the description of some new genera and species. — *Bull. Amer. Paleont.* **39** (177): 1-58, fig. 1-5, pl. 1-5.
- PILSBRY, H. A., 1953. Part III-A, *Vitrinellidae*. In: A. A. OLSSON & A. HARBISON, *Pliocene Mollusca of southern Florida with special reference to those of North Saint Petersburg*. — *Ac. Nat. Sci. Philadelphia Monogr.* **8**: 411-438, pl. 39 fig. 13, pl. 49-56.
- PILSBRY, H. A., & A. A. OLSSON, 1945. *Vitrinellidae* and similar gastropods of the Panamic Province. Part I. — *Proc. Ac. Nat. Sci. Philadelphia* **97**: 249-278, pl. 22-30.
- REHDER, H. A., 1944. A new *Vitrinella* from Maryland. — *Nautilus* **57**: 97, pl. 9 fig. 1, 2.
- SCHEPMAN, M. M., 1887. Bijdrage tot de kennis der Mollusken-fauna van de schelpritsen van Suriname, naar de door den heer Voltz gemaakte verzameling bewerkt. — *Samml. Geol. Reichsmus. Leiden* (2) **1**: 150-168.
- SHIMER, H. W., 1915. Post-glacial history of Boston. — *Amer. J. Sci.* (4) **40**: 437-442.
- , 1918. Post-glacial history of Boston. — *Proc. Amer. Ac. Arts Sci.* **53**: 439-463, 1 fig.
- VANATTA, E. G., 1913. Descriptions of new species of marine shells. — *Proc. Ac. Nat. Sci. Philadelphia* **65**: 22-27, pl. 2.
- WEISBORD, N. E., 1962. Late Cenozoic gastropods from northern Venezuela. — *Bull. Amer. Paleont.* **42** (193): 1-672, pl. 1-48.