

A new prosobranch land snail from eastern Mexico

(Archaeogastropoda: Ceresidae).

By

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With 1 figure.

Abstract: *Linidiella citrina* n. sp. is described from central Veracruz, Mexico. It is most closely related to *L. sulfureous* THOMPSON from Chiapas, Mexico. The two species occur in lowland limestone foothills covered with tropical rainforest. Key words: Mexico, Veracruz, terrestrial, Gastropoda, Prosobranchia, Ceresidae, *Linidiella*

During recent years JAMES REDDELL of the University of Texas organized a number of speleological expeditions to eastern Mexico that yielded many new species of epigean and subterranean species of animals. One expedition to a cave region in Veracruz resulted in a small collection of land snail shells from the Cueva del Tunel, near Comalapa. The collection contained a small assortment of common surface-dwelling species, including a single shell of the new species described below. During January 9-14, 1986 the author and STEVEN P. CHRISTMAN (Visiting Assistant Curator, Florida State Museum) visited the area around Comalapa to collect additional specimens sufficient to describe the species.

The snail described below belongs to the archaeogastropod family Ceresidae. The reader is referred to an earlier paper by the author for a discussion of the classification of the Ceresidae and the related family Proserpinidae (THOMPSON 1980). Both families are unique among terrestrial prosobranchs in that they lack opercula. Ceresids are terrestrial snails, confined to tropical latitudes and altitudes from Mexico south to Bolivia. The species are sparse in their occurrence, and are seldom collected, although they may be numerous where they are found. The region in eastern Mexico from where the new species is described is one of the best known areas of the country (MARTENS 1890-1901). Extensive collections of land snails were made from there by many naturalists during the nineteenth century, culminating with an intensive survey by H.B. BAKER in 1926. It is surprising that the new species remained undiscovered for so long, suggesting its apparent local endemism. Other species found associated with it are well known in the literature.

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Linidiella citrina n. sp.

Fig. 1 A-D

Type locality: Mexico, State of Veracruz, 2 km NE of Comalapa, 450 m altitude (96 52 W, 18 42 N). Holotype UF 84367: collected 13 January, 1986 by FRED G. THOMPSON and STEVEN P. CHRISTMAN. Paratopotypes UF 81885 (24 specimens), UF 81904 (20 specimens), SMF 305488 (5 specimens), Museo de Historia Natural, Mexico (5 specimens).

Other localities and paratypes: Mexico, State of Veracruz: 1 km NE of Comalapa, 470 m alt. (UF 81777, 17 specimens): 4 km NE of Comalapa, 400 m alt. (UF 81908, 16 specimens): 5 km NE of Comalapa, 340 m alt. (UF 81993, 5 specimens): 6 km NE of Comalapa, 220 m alt. (UF 81948, 17 specimens), (UF 81934, 2 specimens), (UF 77527, 1 specimen).

Distribution: This species is known only from the localities cited above. Apparently it is endemic to the immediate vicinity of the type locality.

Habitat: These localities lie within the northeast slope of the Sierra Madre Oriental, along an unpaved road that goes northward from Comalapa to Omeaica. The area lies within a dense evergreen rainforest overlying a deeply karsted limestone substrate that has numerous caves, fissures and subterranean rivers. Only shells were found at the time of our visit, which was well into the dry season. Shells were found only along cool, damp, vertical limestone outcrops that were heavily shaded by the forest canopy.

Description: Medium-sized, about 5.6-6.7 mm wide at maturity. Fresh shells citron yellow in color. Depressed-conical in shape (Fig. 1A); about 0.56-0.61 times as high as wide. Spire concave in outline at maturity due to lateral expansion of last whorl, which is flattened dorsally and shouldered. Whorls 4.8-5.2 in mature shells. First embryonic whorl 0.77 mm in diameter perpendicular to initial suture. Following whorls smooth and glossy with an ultra-microsculpture of minute pits arranged along lines of growth. Suture partially obscured by a thin callus wash that extends about half way onto previous whorl; wash slightly impressed over suture. Base of shell with a wide but thin parietal callus that circumscribes columellar area. Umbilical-columellar wall behind aperture nearly vertical with a dimple-like pit at its base. Aperture semilunar, about as wide as high. Peristome arched forward dorsally (Fig. 1D), strongly receded laterally (Fig. 1B) and again arched forward basally (Fig. 1C). Columellar margin nearly straight and slightly oblique with a moderately stout spiral lamella located near its middle (Fig. 1A).

Measurements for the holotype and twelve paratypes selected to show variation are given in Table 1, along with measurements for the closely related *Linidiella sulfureous* THOMPSON 1967.

Tab. 1. Measurements of two species of *Linidiella*.

species	height	width	aper. h.	aper. w.	h/w
<i>L. citrina</i>					
holotype ¹⁾	3.78	6.32	2.91	2.73	0.60
paratypes ²⁾	3.4-3.8	5.6-6.8	2.5-3.1	2.4-2.9	0.56-0.61
<i>L. sulfureous</i>					
holotype ³⁾	3.29	5.02	2.42	2.23	0.65
paratypes ⁴⁾	3.0-3.9	4.8-6.0	2.4-2.7	2.1-2.6	0.63-0.68

¹⁾ UF 84367; ²⁾ UF 81885 (8), UF 81948 (4); ³⁾ UF 19025; ⁴⁾ UF 19026 (4).

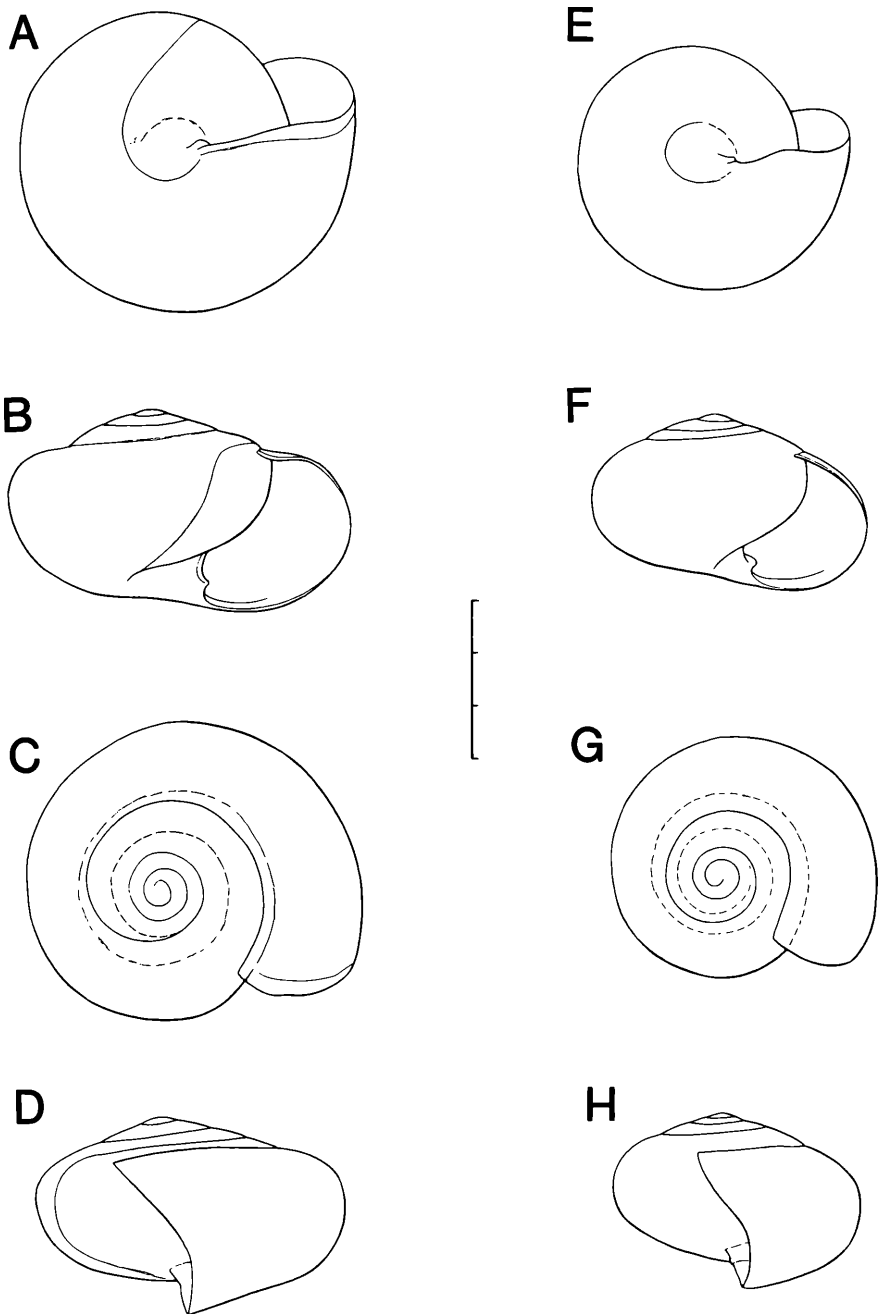


Fig. 1. Shells of two species of *Linidiella*. — A-D: *L. citrina* n. sp. (holotype UF, 84367); E-H: *L. sulfureous* THOMPSON 1967 (holotype, UF 19025). Scale equals 3 mm.

Discussion.

Linidiella contains four species. Two species are known from Venezuela and Ecuador (THOMPSON 1980). *Linidiella sulfureous* THOMPSON 1967 and *L. citrina* are known from Mexico in the states of Chiapas and Veracruz respectively, where they occur at similar altitudes and in similar habitats. *Linidiella citrina* is most similar to *L. sulfureous* in shell features. The two species are of about the same size, the same color and have similar surface texture. *Linidiella citrina* differs from *L. sulfureous* by having a depressed-conical shell 0.56-0.61 times as high as wide, with a low concave spire, and a shouldered last whorl. *Linidiella sulfureous* has a depressed-helicoid shell 0.63-0.68 times as high as wide with a slightly elevated dome-like spire, and the last whorl is nearly uniformly rounded (Fig. 1E-H). In addition, the umbilical-columellar wall behind the aperture of *L. sulfureous* is oblique and does not form the pitted dimple characteristic of *L. citrina*.

The type lot of *L. sulfureous* consists of only the holotype (UF 19025) and eight paratypes (UF 19026), most of which appear to be immature. At the moment that I collected them my digging rake tore open a nest of large terrestrial wasps, who precluded further work at that spot. Moments later, as I sat on a log nursing numerous wasp stings, I noticed that my feet straddled a large, coiled, fer-de-lance (*Bothrops asper*), so I quit work for the day!

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