

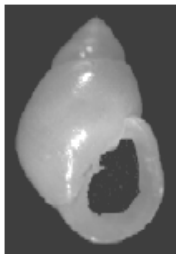
## What is *Odostomia acutidens* Dall, 1884?

by Harry G. Lee

William Healey Dall (1884: 331 <<https://www.biodiversitylibrary.org/page/15715242>>) described (but **didn't figure**) a little pyram, *Odostomia acutidens*, from material collected by Henry Hemphill on the flats of Cedar Key, FL. As with most of Hemphill's FL shells, JSC members have collected topotypes, to wit <<http://jaxshells.org/cedarkey.htm>>. These shells approximate Dall's description, but they consistently differ somewhat: being ~ ½ the 4.12mm size, having four vs. six whorls, and possessing a chink-like umbilicus. On the other hand, they do match the interpretation of the nominal taxon by Lyons (1989: pl. 12, fig. 1 R), who **may** have been the first to illustrate this morph.

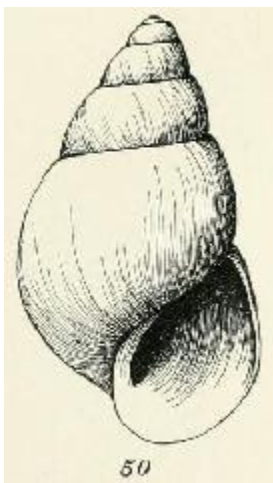


**Below** is an attempt to clarify the taxon by Lee (2009: 142):



**685. *Odostomia acutidens* Dall, 1884 Sharp-tooth Odostome [4] 2.5 mm.** Dredged, 40 ft., mud and shell hash, 1.5 mi. N.E. Mayport. CL! 5/12/92. (HL). Dredged, 60 ft., Southeast Hole, 4.0 mi. S.E. Mayport. CL! 1/91. (HL). *Appears to be specifically distinct from the European O. conoidea (Brocchi, 1814) rather than a form or subspecies as stated by Abbott (1974). Also Collier (MK), Lee, Gulf Cos., and LA (HL). Odostomia acutidens Dall of Perry and Schwengel (1955: pl. 46, fig. 321) is a Sayella species. Excellent color illustration in Gundersen, 1998 [as Brachystoma gibbosa non (Bush, 1909)].*

Abbott also tentatively synonymized a second species, *Odostomia modesta* (Stimpson, 1851),<sup>1</sup> with the European *O. conoidea* (Brocchi, 1814) (*idem*: sp. 3475) and reproduced the iconotype of a similar species, *Odostomia gibbosa* Bush, 1909, citing its range as "Maine to Massachusetts" [quotes added here] (*idem*: sp. 3474). Footnote<sup>1</sup> one deals with the Stimpson species, but *O. gibbosa* requires some scrutiny, especially considering the Lee (2009) and Gunderson (1998) determinations.



Katharine Bush (1909: 482) provided the name *Odostomia gibbosa* to apply to the treatment of a species misidentified by Paul Bartsch which was published earlier that year. The text of the original description, as "*O. modesta* (Stimpson, 1851),"<sup>1</sup> [quotes added here] referred to Bartsch (1909: 108), and its iconotype followed (*idem*: pl. 10, fig. 50 <<https://www.biodiversitylibrary.org/page/55625706>> L). It bears a certain resemblance to Lee and Lyons shells, but the absence of a columellar denticle and the less squat 3.2mm specimen seems to distinguish this shell from the aptly-named Dall species. What is the true relationship between these two little pyrams, and what does *Odostomia acutidens* actually look like? Regrettably no image of any of Dall's five syntypes (USNM 35988) is posted at <<https://collections.nmnh.si.edu/search/iz/>>.

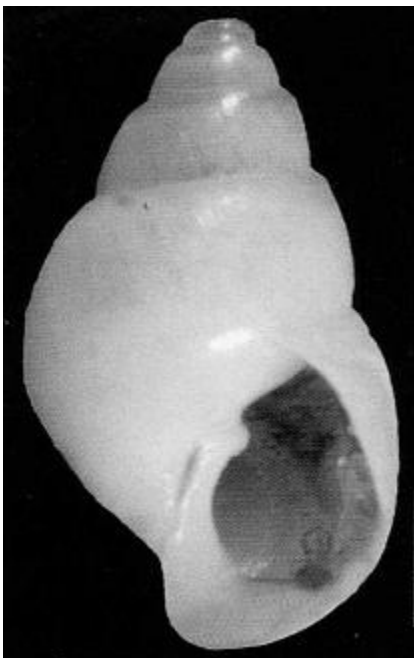
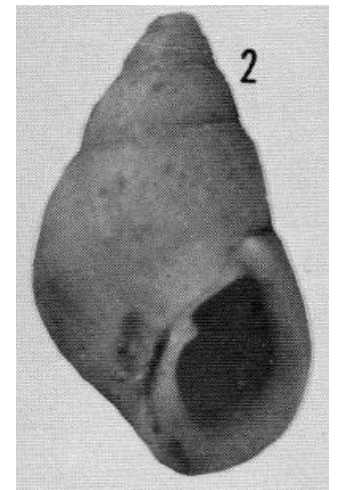
<sup>1</sup> Abbott (*idem*: sp. 347) incorrectly suggested *O. modesta* (Stimpson, 1851) was a synonym of the European *O. conoidea* (Brocchi, 1814). Subsequently Robertson (1978: 376) clarified the status of *Odostomia modesta* Stimpson, 1851 [*non d'Orbigny, 1842* (homonym), *nec Bartsch, 1909* (misidentification)]: Its valid name is *Pyramidella bartschi* Winkley, 1909, which Robertson placed in *Fargoa* Bartsch, 1955, the type species *F. calesi* Bartsch, 1955: 80 by original designation. This fossil bears a striking resemblance to the Recent *Fargoa bushiana* (Bartsch, 1909 [as *Odostomia*]), and is here considered synonymous. Later Robertson (1996) presented an extensive investigation into the biology of this variable and widespread species. To remain on track, for the time being at least, we can close the chapter on *F. bartschi* and *F. bushiana*, after just scratching the surface of their interesting backstories.



Perhaps this chronicle should pick up with Odé and Speers (1972: 17), who in their treatment of *Odostomia gibbosa*, a species they considered common and widespread in TX, included a Frank Van Morkhoven photograph of a 3.00 mm shell with between of four and five whorls which has a somewhat broken, but thickish-looking peristome, a chink-like umbilicus, and in its caption: “**when rotated slightly specimen will show large tooth** [boldface added here]” (*idem*: Fig. 15; L). This shell bears a close resemblance to the iconotype placed on the preceding page and is almost certainly identical with that species. On the other hand, if a robust columellar fold/denticle were added, it would be very difficult to deny it was *O. acutidens* Dall, 1884 as interpreted by Lyons (1989) and Lee (2009) above. Although the latter nominal taxon received short shrift, it was cited as a possible synonym, along with *O. modesta*,<sup>1</sup> of *O. gibbosa* by Odé and Speers (*Idem*: 16).

As for generic placement of these two taxa, Robertson (1978: 379) opined that the *Odostomia gibbosa* he examined, although spermatophores were not observed, met the other nine (of 12) criteria for placement in the genus *Fargoa* Bartsch, 1955.<sup>1</sup> Conchologically at least, it seems reasonable that *O. acutidens* can be placed therein as well.

Although one or both taxa appeared on various checklists over the past five decades, e.g. Rosenberg *et al.* (2009), figures attributable to *Fargoa acutidens* or *F. gibbosa* are scarce. None of the standard references for the malacofauna of the **Caribbean** Province (*sensu stricto*), e.g., Warmke & Abbott (1955), De Jong & Coomans, (1988), Zhang (2011), Redfern (2013), Lamy & Pointier (2017), depicts a shell anything like what we have seen of these. A notable exception is Vokes & Vokes (1984: 1984: pl. 30, fig. 2, “*Odostomia* sp. cf. *gibbosa*” [quotes added here] **R**). However, their only record(s) they recorded was on the SW shores of the Yucatan Peninsula near Playa del Carmen, distinctly in the **Carolinian**



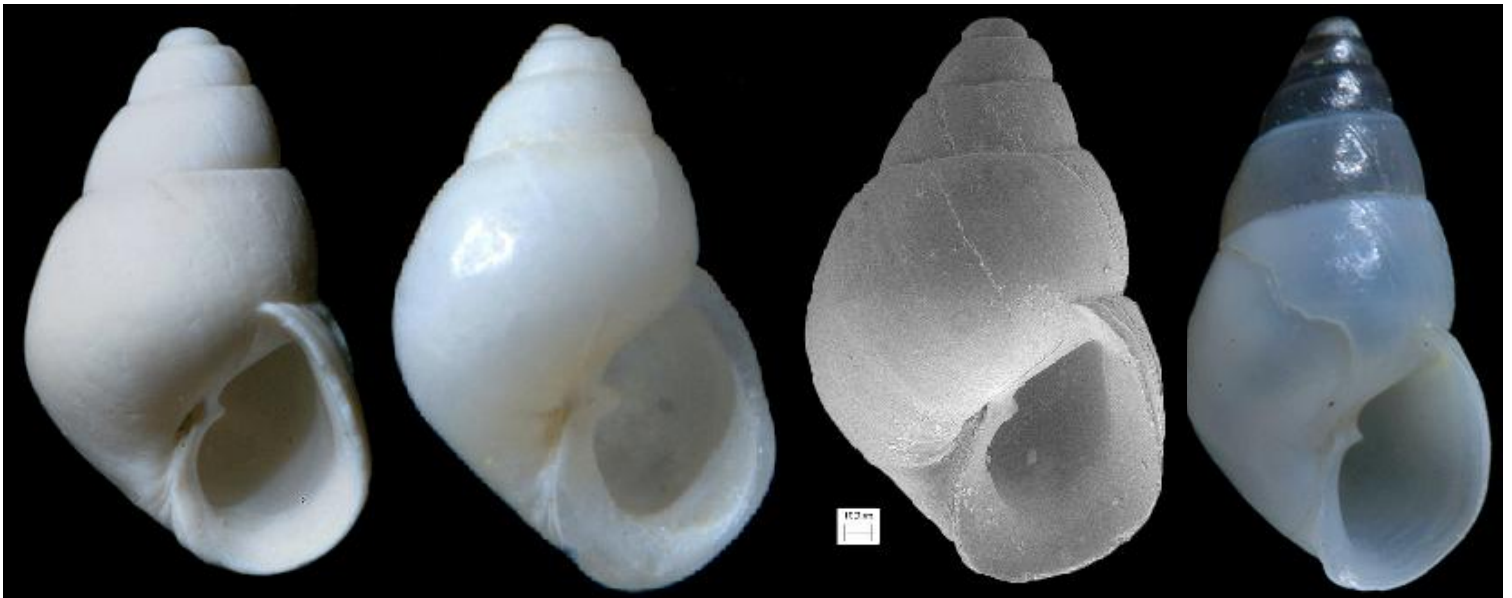
(sub)Province; none was found from Campeche to Belize – a 500km stretch, half of which faces the Caribbean Sea. Except for the robust columellar denticle, this 2.6mm specimen certainly matches the one in the Van Morkhoven photograph **above L**.

The only other relevant figure I could find is a very telling one: Tunnell *et al.* (2009: 265, captioned *Fargoa gibbosa* L). In the companion text, the authors cited the now familiar Odé and Speers (1972), Robertson (1978, 1996), as well as personal communication from the latter. They also indicated a maximum size of five mm, the anteriorly flared aperture, and the columellar fold. Although no mention was made of any variability, the inclusion of the references clearly implied the size and columella were inconsistent!

Thus, from the literature, we have a defensible hypothesis for a variable morphospecies ranging from ME, US to Playa del Carmen, MX. What **unpublished** evidence can be mustered to inform this concept?

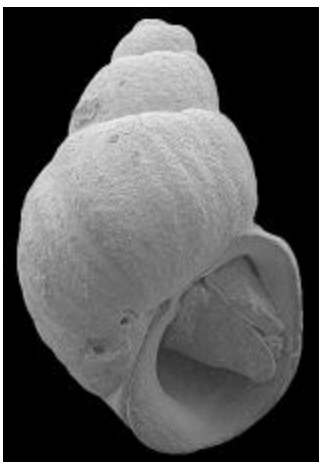
Almost a quarter century ago, the late Bill Frank created the website <<http://jaxshells.org/>> to be a resource for the shell collecting and malacological communities. He left us with 13,339 'documents,' and, with ongoing support from these constituencies, these can remain for posterity. Principal among these 'documents' are zoogeographic checklists and mollusk images. In this instance, examples of both can be leveraged to test the single morphospecies/Maine to Mexico posit as demonstrated in the next paragraph.

Using the jaxshells search engine, one can find *Odostomia acutidens* documented on the site as occurring in NC: two localities; SC; NE FL; SW FL; NW FL (peninsula): two localities, FL; FL Panhandle; and off LA. Of these four, have image(s) to underpin the listings. The composite figure **below** is adapted from <<http://www.jaxshells.org/smooth8.htm>>:



**L to R** (not to scale) all *Fargoa acutidens*. NC: Ft. Fischer, Kure Beach. 2 mm; SC: Hilton Head. 2.2mm; FL: Kice Is., Collier Co. 2.19mm; FL: New Port Richie, Pasco Co. 3.0mm.

Note the variation in columellar callus (affecting prominence of the denticle and concealment of the umbilicus) as well as whorl count and spire angle, and sutural impression. Such a morphological spectrum is no less manifest in the probable congener *F. bartschi*<sup>1</sup> (Robertson, 1996: 13, figs 1-5). In further support of the NC record, at least in latitude, is USNM 92796 [*loc. cit.* above], a specimen collected by the USS *Albatross* off Cape Hatteras in 1885 and almost certainly identified by W.H. Dall himself.



Shells like these have not turned up in our 2000+ hr. search of the Pinecrest beds of The Tamiami Formation in Sarasota Co. (ca. 3 mya), but the somewhat younger Nashua Formation exposed SE of Orlando has yielded these specimens. This morph (2.04mm **L**; > 1.87mm **R**) has blunt axial ribs, which become progressively more conspicuous as the shell advances. That character and the straighter profile of the body whorl are consistent enough to indicate that it is a different species. Nonetheless, it is likely ancestral to the topical taxon and an indication the stock was in FL a million years ago.



Concluding this inquiry, I think it quite likely *Fargoa acutidens* (Dall, 1884) is a senior synonym of *F. gibbosa* (Bush, 1909), a protean pyram occurring along the entire U.S. Atlantic seaboard and essentially throughout the Gulf of Mexico, and it's not exactly a newcomer to our fauna.

**Acknowledgements:**

Thanks are due to Rick Edwards, Dr. Ann Heatherington, David Kirsh, Roger Portell, Amy Tripp, and the late Bill Frank for material and technical support. Without their help, this study wouldn't have been possible

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***Turbonilla (Pyrgiscus) incisa* Bush, 1899; the Incised Turbonille redefined; part 2 (of 2)  
by Harry G. Lee [continued from the Sept.-Oct. issue, which has all the figures cited below]**

There appears to be little doubt that *Turbonilla caroliniana* Holmes, 1859 (p. 86; pl. XIII: figs 9, 9a, 9b) from Cainho, Wando River, probably very late Post-Pleistocene (R. E. Petit, personal communication, 12 Jan., 2006) conspecific with *Turbonilla incisa* Bush, 1899 (pp. 156-157; pl. VIII: fig. 12) described from the Recent of west Florida. An image of the holotype of the former (top, left: American Museum of Natural History [AMNH] originally no. 5676; later 11369), produced and provided by Bushra Hussaini and the fine work of Absalão and Pimenta (1999: 80, 86, 90: figs. 18, 19 [SEM]; see preceding page) elucidating a paratype (Academy of Natural Sciences, Philadelphia [ANSP] 372503; holotype missing) of the latter taxon help confirm the synonymy.

*Turbonilla caroliniana* is seldom mentioned in the literature. The few citations encountered relate to its synonymy. *Chemnitzia reticulata* C. B. Adams, 1850: 75; Clench and Turner, 1950: 337) was considered a possible senior synonym of *Turbonilla caroliniana* Holmes, 1859 by Dall (1892: 260; with a "?"). Later Whitfield and Hovey (1901), Wolfe and Wolfe (1970), Odé & Speers (1972), and Porter (1974) uncritically repeated Dall's observation omitting the question mark. Adams named *C. reticulata* from Jamaica; it was never figured by its author, and its type material was lost according to Clench and Turner (1950). It was described as "... white ... 26 to 30 transverse [axial] ribs, which become obsolete on the anterior surface, with very coarse distant raised spiral lines, decussating the ribs ... whorls about seven excluding the nucleus, with a well-impressed suture: aperture oval, acute above ... Mean divergence 12 degrees; length of spire 0.09 inch; total length .125 inch; breadth .04 inch." The rib-count is much higher, and the decussate sculpture, smaller size, absence of ribs on the anterior surface of the body whorl are not consistent with *T. caroliniana*. It is quite doubtful the two are synonymous. Furthermore, given the vagueness of the description, we must consider *Chemnitzia reticulata* C.B. Adams, 1850 a *nomen dubium* pending location of type material, which isn't very likely.

This research was stimulated by an inquiry made by Kevin Czaja to the Conch-L Internet list-serve on Jan. 12, 2006. He remarked that the name "*Pyrgiscus caroliniana* [sic] (Tuomey and [sic] Holmes) Carolina Turbonille" appeared in a book dealing with the shells of Martha's Vineyard (Heuer, 1970). Through a series of email ex-

changes, including valuable comments from R. E. Petit (North Myrtle Beach, SC), the proper attribution and generic assignment were accomplished. Reference to Lester Stephens' (1988: 38-39) biography of Holmes, which indicated the AMNH was sold some of the Holmes collection, led to the catalogue record of the holotype (Whitfield and Hovey, 1901: 474-475) and its being identified and photographed by Susan Hewitt and Bushra Hussaini at the AMNH. Now the identity of *Turbonilla caroliniana* Holmes, 1859 appears established, and it is a valid species, probably occurring throughout the Carolinian Province. Its presence on Martha's Vineyard, however, requires confirmation!

Absalão, R.S. and A.D. Pimenta, 1999. *Turbonilla* (Gastropoda: Pyramidellidae) species described by Katharine Bush: scanning electron microscope studies of the type material in the Academy of Natural Sciences of Philadelphia. *Proceedings of the Academy of Natural Sciences of Philadelphia* 149: 77-91. Jan. 29.

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<<https://www.biodiversitylibrary.org/page/31456677>>

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Wolfe, D. and N. Wolfe, 1970. *Molluscs of North Carolina*. Carteret County Regional Marine Science Project, Beaufort, NC. 69 pp. [not seen].

PS: The description of "*Turbonilla (viridaria var?) virga* n.s.?" Dall (1884: 332), an available nominal taxon, Sounds suspiciously like our species also - but that's another problem for another day. HGL

### Addendum and Corrigendum

Your editor limited himself to a mere pair of gaffes in the preceding issue of the *Shell-O-Gram* [63(6)]. Author Bob Fales was kind enough to point out my amputation of the last five references in the bibliography of his paper "Mystery Mollusk: *Rapana rapiformis* (Born, 1778) in Florida." Here they are:

Mann, R. and J.M. Harding. 2000. Invasion of the North American Atlantic coast by a large predatory Asian mollusc. *Biological Invasions* 2: 7-22.

<<https://www.researchgate.net/publication/228557260> Invasion of the North American Atlantic Coast by a Large Predatory Asian Mollusc>

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NOBANIS (European Network on Invasive Alien Species). *Rapana venosa* (Valenciennes, 1846) – Veined rapa whelk. <<https://www.nobanis.org/marine-identification-key/gastropods/rapana-venosa/>>, literature at <<https://www.nobanis.org/marine-identification-key/gastropods/literature-on-rapana-venosa/>>.

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