

# THE MOLLUSCAN GENUS *AGARONIA* (OLIVIDAE) IN THE PANAMIC PROVINCE

By Al & Julio López\* and Michel Montoya\*\*

MANAGUA, NICARAGUA — We have been studying the molluscan genus *Agaronia* since 1978, and have published two articles in HSN on this subject, (López, 1978) and (López & Montoya, 1985). Finally it was all put together in the January 1988 *Veliger* in which *Agaronia nica* and *A. jesuitarum* were described and the senior synonym, and *A. murrha* Berry, 1953 was placed in synonymy with *A. griseoalba* (von Martens, 1897).

Up to now, the Panamic agaronias were thought to be three distinct species, *Agaronia testacea* (Lamarck, 1811), *A. propatula* (Conrad, 1849), and *A. murrha* Berry, 1953.

One of the newly described species, *Agaronia nica*, has been known for some time but had been taken to be a color variant or a juvenile of a *A. murrha* (= *A. griseoalba*). In Nicaragua it is the most prevalent of the agaronias but it is scarce elsewhere. The other new species, *Agaronia jesuitarum*, was found over a limited range in Nicaragua and nowhere else; no specimens were seen in the collection at the Los Angeles County Museum of Natural History (LACMNH).

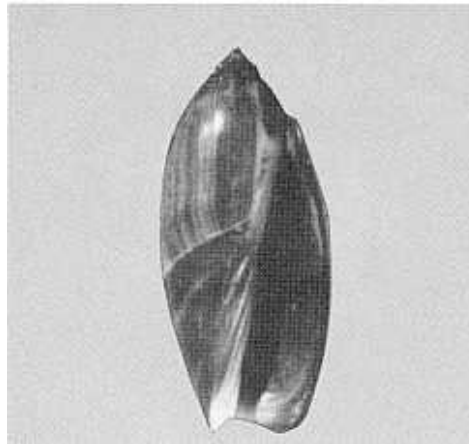
As for *Agaronia murrha*: although name changes are always unpopular with shell collectors, it was felt that its original name should be officially restored. In the article by von Martens (1897) the description, hand-drawn illustration, and the species name *griseoalba* (= gray-white) all indicated the shell to be what Berry called *murrha* (= porcelain). There were serious doubts about this, however, chiefly because von Martens' specimen was from "Mexico" and no *A. murrha* had been reported outside of Nicaragua, where Berry's type locality, Corinto, is situated. These doubts were settled by inspection of von Martens' holotype, sent by Dr. R. Kiliias of the Humboldt University Museum, Berlin, to Dr. James McLean at LACMNH, who verified the synonymy.

The range of *Agaronia griseoalba* was also extended south to Ecuador. We visited some of the Pacific beaches of Costa Rica, from Playas del Coco to Dominical, and everywhere found dark agaronias which we were able to determine as bona fide *A. griseoalba* using statistical analysis. Other specimens lent by different collectors showed the range extension of this species to reach into Ecuador (López & Montoya, 1985).

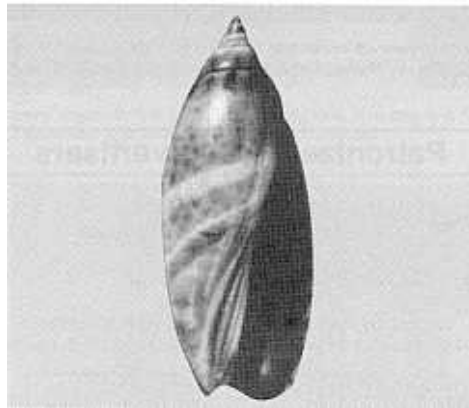
We used Duncan's Multiple Range analysis [see Steel & Torrie, 1960:107] to verify the difference between species over ten different parameters: height of spire, number of lirae on the columella, relative width, length of shell, etc. Another characteristic which clearly separates the Panamic *Agaronia* into two groups is the shape of the protoconch: acuminate (long and sharp) for *Agaronia testacea*, *A. propatula* and *A. jesuitarum*, and mammillate (nipple-like) for *A.*

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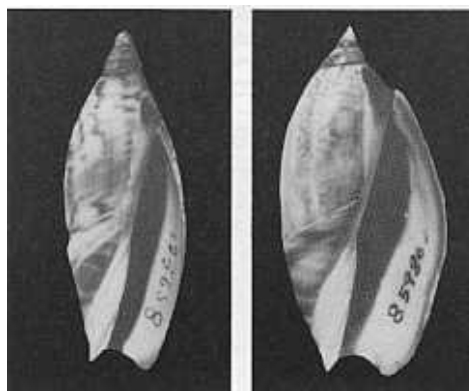
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*Agaronia nica* A. López, Mantoya & J. López 1988. Holotype, 24.7 mm, LACM No. 2269. San Juan del Sur, Rivas, Nicaragua. Photos: LACM



*Agaronia jesuitarum* A. López, Mantoya & J. López, 1988. Holotype, 21.2 mm, LACM No. 2271. León, Nicaragua.



*Agaronia leonardhili* Petuch, 1987. Holotype, 44.1 mm, USNM No. 859861. Caribbean.

*Agaronia hilli* Petuch, 1987. Holotype, 46.0 mm, USNM No. 959860. Caribbean.

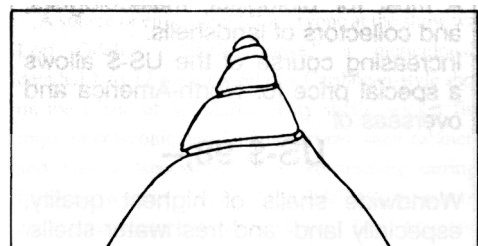
*griseoalba* and *A. nica*. The two new species are also smaller, about 25 mm, compared with the other three recognized *Agaronia*, which are usually 40 to 50 mm long.

Their smaller size is enough to let the collector separate the two newly described species. Determining which of the two is what, is easy. The one with the high spire and acuminate protoconch is *Agaronia jesuitarum*, and the one with the lower spire and mammillate, domelike protoconch is *A. nica*. Color, as usual with any Olividae, is not a sound criterion for species determination; This is especially true for *A. nica* which varies from pure white to black, going through just about all the colors of the rainbow.

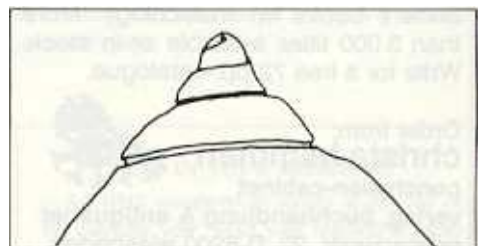
The genus *Agaronia* has not been well studied in the Caribbean where *Agaronia testacea* is the only taxon used (Fluck, 1905, and Houbrick, 1968). To judge from the specimens we found near Puerto Limon, Costa Rica we are certain this is an error. But recently Petuch (1987) described two new species, *Agaronia hilli* and *Agaronia leonardhili*. The holotypes of these were on loan at LACMNH and we were able to examine them.

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Acuminate protoconch of *Agaronia jesuitarum* A. López, Montoya & J. López, 1988.



Mammillate protoconch of *Agaronia nica* A. López, Montoya & J. López, 1988. Scale bar = 1 mm.

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