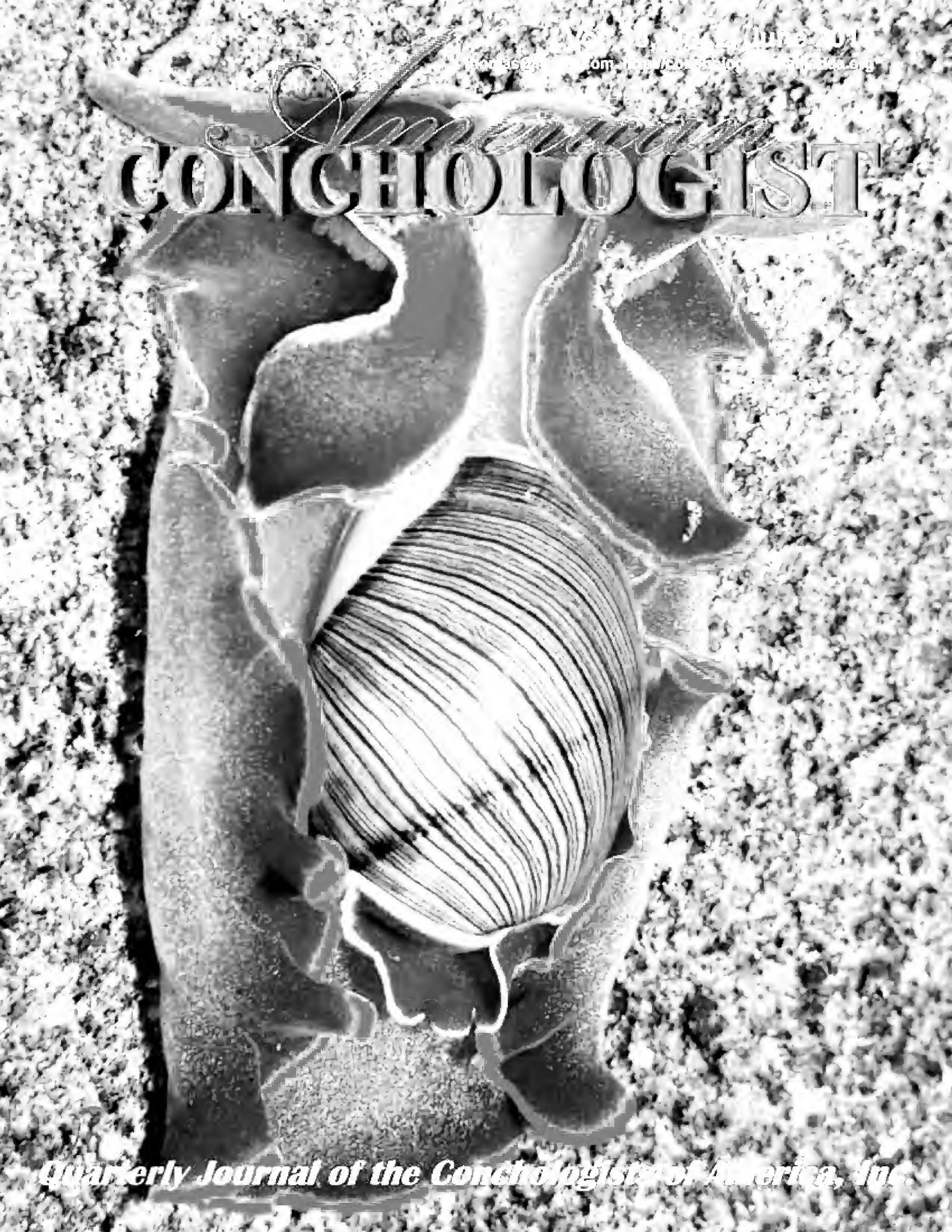
American CONCHOLOGIST



Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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In This Issue

Front cover: *Hydatina physis* (Linnaeus, 1758), photographed in shallow water off Leyte Island, Philippines. The shell is about 45mm in length. The striped paper bubble lives in tropical waters with a circumglobal distribution and feeds on polychaete worms and mollusks. It lacks an operculum and is unable to retract its entire body into the shell. This photograph is courtesy of Guido & Philippe Poppe. © Guido & Philippe Poppe - www.poppe-images.com

Back Cover: *Opisthostoma mirabile* E.A. Smith, 1893, 4.5mm, from a limestone outcrop in the Kinabatangan Valley, Sabah, Malaysia. This tropical rainforest dweller has an extremely limited range and entire populations, maybe species, can be limited to just a few rocks. Quarrying, fire, and logging have destroyed much of this unique land snail's habitat. Photograph courtesy of Simon's Specimen Shells, Ltd., www.simon's-specimen-shells.com

Editor's comments:

We have another eclectic gathering of articles for this issue, with hopefully something for everyone.

Emilio García reports on a trip to Bocas del Toro, a group of islands in the Atlantic Ocean, off the northwest coast of Panama, where few people have visited much less scientifically sampled for mollusks. As usual, he provides an interesting article and great images.

Next we have a short piece by Bobbi Cordy on a new shell display (Johnson/Cordy Hall of Mollusks) she and husband Jim have established at the Brevard Museum of History and Natural Science. Bobbi also mentions the upcoming Space Coast Seashell Festival in Melbourne, Florida, 15-16 January 2011 and the 2011 COA convention that will be held in Port Canaveral, Florida, 13-17 July 2011.

Sadly we have more members listed in the "In Memoriam" box.

The "Dealers Directory" does not have anyone new this issue, but I think it should be pointed out that these dealers support COA by their participation in shell shows and by purchasing ads in *American Conchologist*. They certainly deserve your consideration for business before a dealer who does not support our organization. We also have a reminder here of the Philadelphia Shell Show, 9-10 October 2010.

Next we have an entry by Robert Robertson. With his Curator Emeritus status from the Academy of Natural Sciences in Philadelphia, he seems to have more time to write for our publication, certainly our gain. This time he provides interesting insight into the intricately patterned and sometimes brightly colored pheasant shells. The color plates will go a long way toward explaining why this group can be so difficult to properly identify.

Our next entry is a most welcome report by Harry Lee, who tells us a bit of history of the Jacksonville Shell Club and then, after talking about club goals and activities, throws in an O'Henry ending by announcing that the club has established a $10,000 research grant for COA. Thank you Jacksonville Shell Club!

We then have the Donald Dan report on upcoming shell shows around the world, followed by a short article on the smallest and ugliest shell collector. Then we have the recent winners at various shell shows and the last promotional piece for the 2010 COA convention. It looks like it will be a great event, see you there.

Finally we have an article from Zvi Orlin on "living fossils." We all think we know what this means, but maybe there will be something in this piece to surprise most readers. One of the "living fossils" mentioned by Zvi is *Spirula spirula*. I am sure this shell is known to most of us, but just in case, here is an image of a 20mm *S. spirula* that just didn't fit into the space for the article.

Tom Eichhorst

Bocas del Toro revisited. A follow-up of Olsson & McGinty's report on the Panamanian Archipelago

Emilio Fabián García

Bocas del Toro is an archipelago located off the northwestern coast of Panama, approximately 9º20'N, 82º15'W. It is composed of five larger islands, with the main town of Bocas located on Isla Colón. In 1917 the well-known malacologist Axel A. Olsson went to the archipelago on a collecting trip because he thought the malacological fauna of the area was being ignored. He returned to the archipelago in 1920 to augment the previous collection, and a third and final time in 1953. On this last trip he was accompanied by Tom McGinty and Jay Weber. In 1958 Olsson and McGinty published the results of their collection efforts, which included the description of more than 30 new species of mollusks.

As the authors pointed out in their publication, their best collecting was on the east side of Isla Colón. Much of the material collected in this zone consisting of "…beach drift, carefully selected in the field, and which on sorting and picking proved extremely rich, especially in the smaller species…" adding, "… it is evident from the large number of species obtained by us in a relatively small time that the Bocas fauna is unusually rich and would repay more extensive work be done." (p.9). I decided to follow their advice more than 50 years after their last expedition.

I had traveled to Panama on several collecting trips in the 1990s, and tried to visit Bocas del Toro on two occasions, but never succeeded. My opportunity arrived in August 2004 when a group of colleagues from the Biology Department at the University of Louisiana at Lafayette and I were invited for a Marine Invertebrate Taxonomy Workshop by Dr. Rachel Collin, director of the Bocas del Toro Research Station of the Smithsonian Tropical Research Institute (STRI). We stayed for a week at the station in Isla Colón, where the Smithsonian maintains splendid research facilities. I had studied Olsson & McGinty's paper carefully every time I thought I was going to make it to Bocas, so thanks to the authors' thoroughness I knew exactly where to go. They stated, "…at this time our best collecting grounds were found to be along the east side of the island [Colón], between Puss Head Point and Long Bay Point or about five to six kilometers north of the city of Bocas del Toro." (p.9) As it turned out, this location was approximately three kilometers (a short bike ride) from the STRI station.

Olsson & McGinty also warned the reader about the poorer areas: "In contrast to the excellent collecting found on the east side of the island, that of the lee shore, which is fringed by mangrove, proved poor." (p.9) They were correct, but I did some snorkeling in the area and discovered some unreported species. Nevertheless, every morning after breakfast my first chore was to get on the bicycle provided by STRI and pedal the three muddy kilometers to the area where little beaches with great drift were to be found. I would use the remainder of my available time (if I was not going on other collecting jaunts with the group) looking under the microscope, "sorting and picking" as Olsson and McGinty had done, probably only two kms south of where I was, thinking, as they had, how "extremely rich" the drift was.

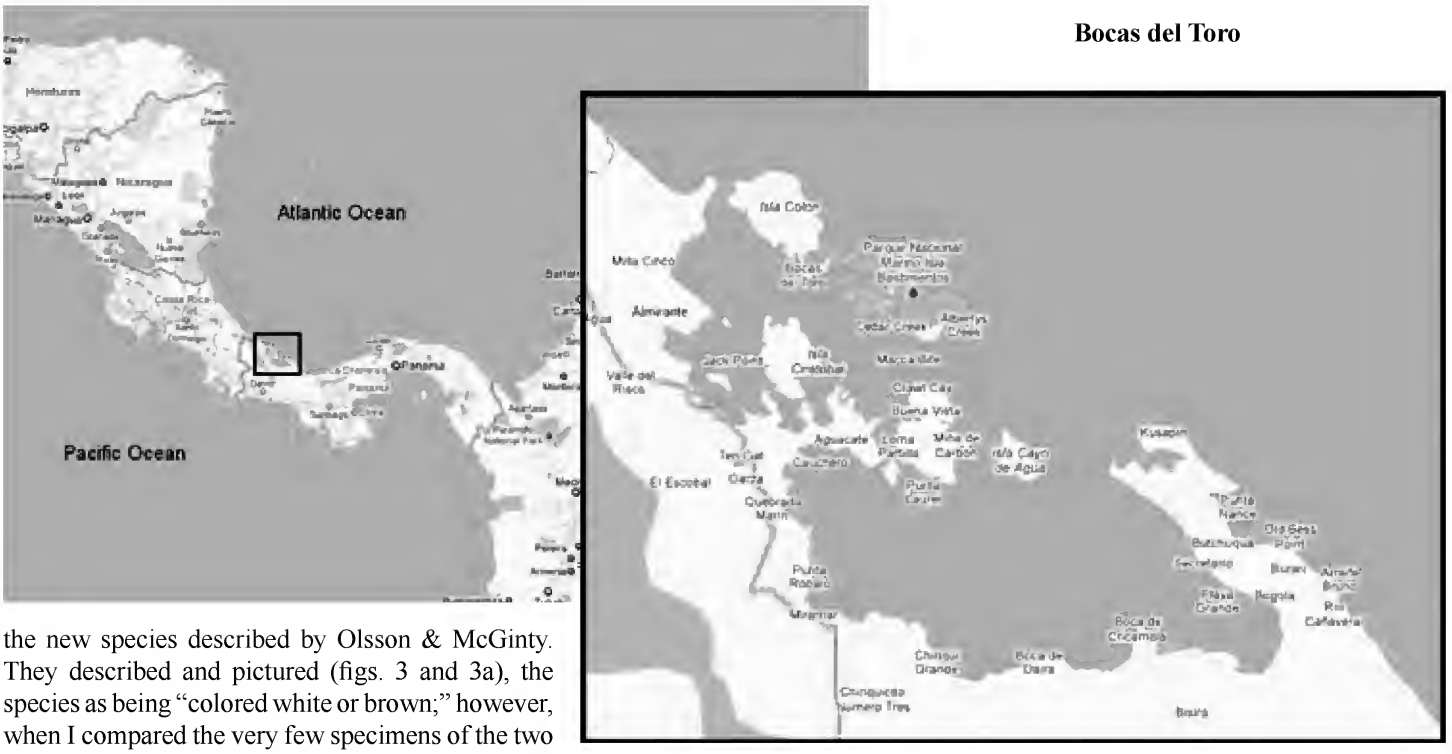
My main desire for going to Bocas del Toro was to find some of the species described by the authors in their *locus typicus*, and to see if the area was still as rich as they had experienced it to be. Both of these goals were attained, but also a welcome *lagniappe* resulted from this collection. A *lagniappe*, by the way, is an unexpected "extra' given to a person by a merchant at the time of a purchase. It is a commonly used word in Cajun country (AKA "who dat" country), in southwestern Louisiana, where I live.

The material I gathered in the in Bocas during my week-long stay (actually only about five full days) in 2004 was augmented in 2008 when Will Schmidt, a colleague who works in the same lab where I do my photography, went to Bocas and brought me a pound of "grunge" from the exact area where I had collected in 2004. he added to this in 2009, when he and Natalia Arakaki, another colleague, brought me two more pounds.

Approximately 207 species belonging to 65 families have been catalogued. The best represented were Columbellidae (18) and Fissurellidae (16), and 42 families were represented by only 1 or 2 species. Because I dedicated a large portion of time in gathering and sorting shells collected at the drift line, the paucity of larger species, when compared with Olsson & McGinty's finds, should not surprise anyone. For example, while the authors list 9 species for Ranellidae and 20 for Muricidae, I list 1 and 5 respectively. On the other hand, I list six species for Triphoridae *vs.* four by them. The *lagniappe* that resulted from my few days of collecting and two separate single trips to the beach by my two colleagues was very much of a surprise, as 37 of the fully identified species had not been reported by Olsson and McGinty. These, as well as other rather arbitrarily selected species that I was not able to identify are marked in the list that follows by one asterisk. The latter were obviously not found in the authors' list, either because of generic placement or unusual conchological features. Other unidentified species were left unmarked; however, some of them, when identified, may eventually turn out to be new for the area. The 33 species that had not been reported from Panama before are marked with two asterisks. All boldfaced taxa are pictured in this article

Of particular interest is *Parvanachis* sp. aff. *nisitella* (Duclos, 1840) (figs. 28-29), which seems to be an unidentified species. Olsson & McGinty must have collected it, as it is common in the drift, but they may have identified it as "*Anachis obesa* (C. B. Adams)." *Parvanachis obesa* does inhabit Bocas del Toro, but it has a different profile from its congener. Compare figs. 26-27 and 28-29).

Another interesting species is *Decipifus sixaolus*, one of



the new species described by Olsson & McGinty. They described and pictured (figs. 3 and 3a), the species as being "colored white or brown;" however, when I compared the very few specimens of the two color forms I noticed some differences. To have a better sense of what was happening I borrowed the *Decipifus* specimens in the collection of Dr Harry G. Lee, which included specimens from the Virgin Islands, Florida, and Yucatan. The "white" specimens run from pure white (Florida, H.G. Lee col.) to different degrees of brown markings, but they all seemed to have a larger protoconch, more pronounced shoulders, and stronger ornamentation than the "brown" specimens. Compare figs. 23 and 24-25). This is a very preliminary assessment because all of the specimens were collected empty and had different degrees of erosion, but the two "forms" deserve closer scrutiny.

The third species I should like to emphasize is *Arene tamsiana* (Philippi, 1852:16) (figs. 2-3). When I first tried to compare this puzzling species with other western Atlantic *Arene* I came up empty-handed, so I sent the specimen to Dr. James McLean (LACM), who has identified it as such. The species was originally described from Puerto Cabello, Venezuela, and has remained a little-known taxon since its description. Other Venezuelan mollusks not reported from Panama before, have shown up in Bocas del Toro: *Barleeia creutzbergi* (Jong & Coomans, 1988), *Caelatura gerhardtae* (Jong & Coomans, 1988), *Decipifus kristenseni* Jong & Coomans, 1988, and *Conus archetypus* Crosse, 1865. This latter taxon will be discussed in a separate article in the August issue of *American Conchologist*.

From the material collected by us in such a relatively short time, I would not be off the mark if I finish this article by giving the same advice Olsson & McGinty gave: it "would repay more extensive work be done."

The identification of so many relatively obscure species required the help of friends and colleagues. My deepest thanks go to Harry G. Lee, of Jacksonville, Florida, who provided requested literature and specimens of *Decipifus* from his collection. Dr. Lee also helped with the identification of some troublesome species. I am also indebted to Henk H. Dijkstra (ZMA), William G. Lyons, James McLean (LACM), Kevin Monsecour, Robert Robertson (ANSP) and Paul Valentich-Scott (SBMNH), who corroborated or provided identification of some species.

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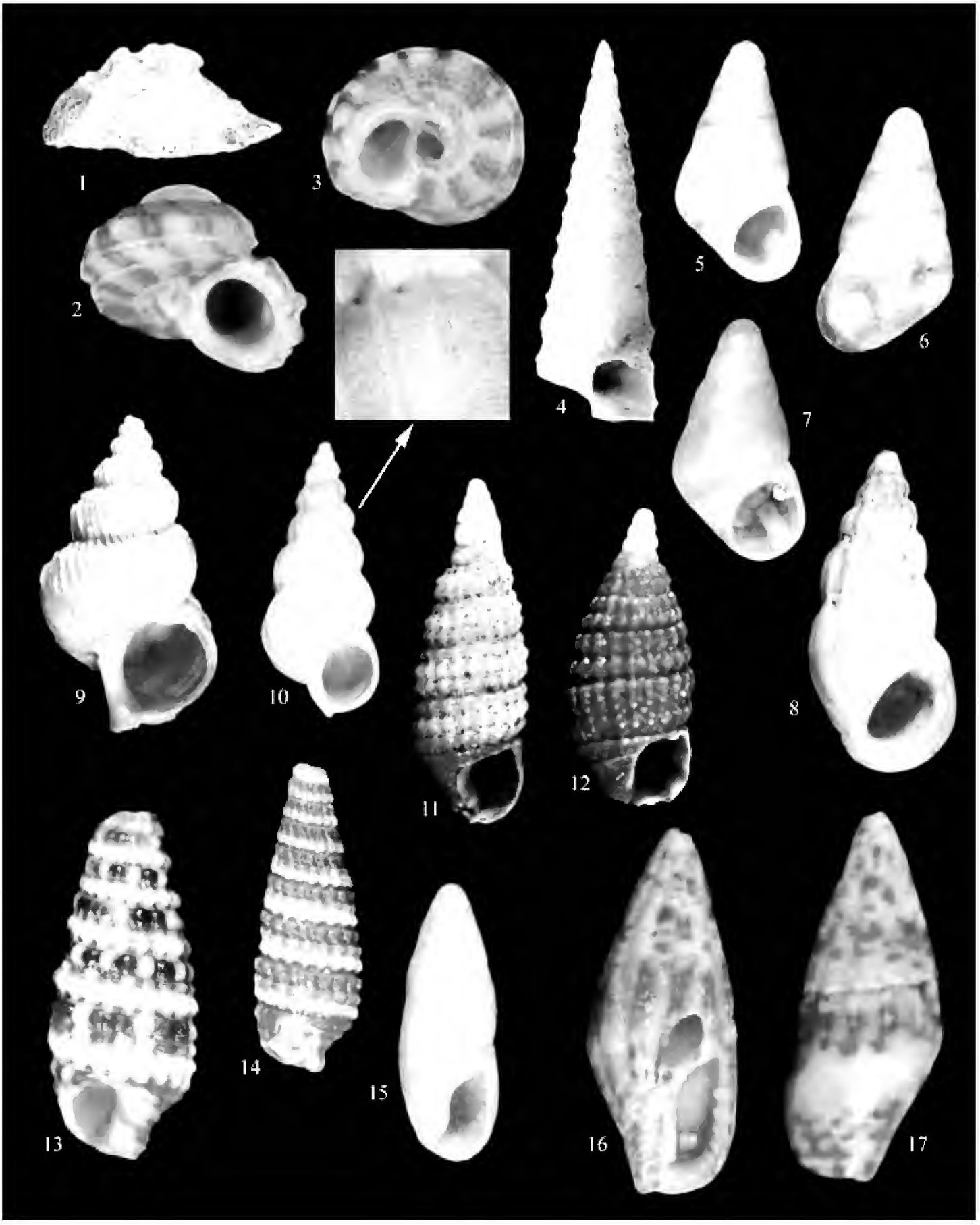
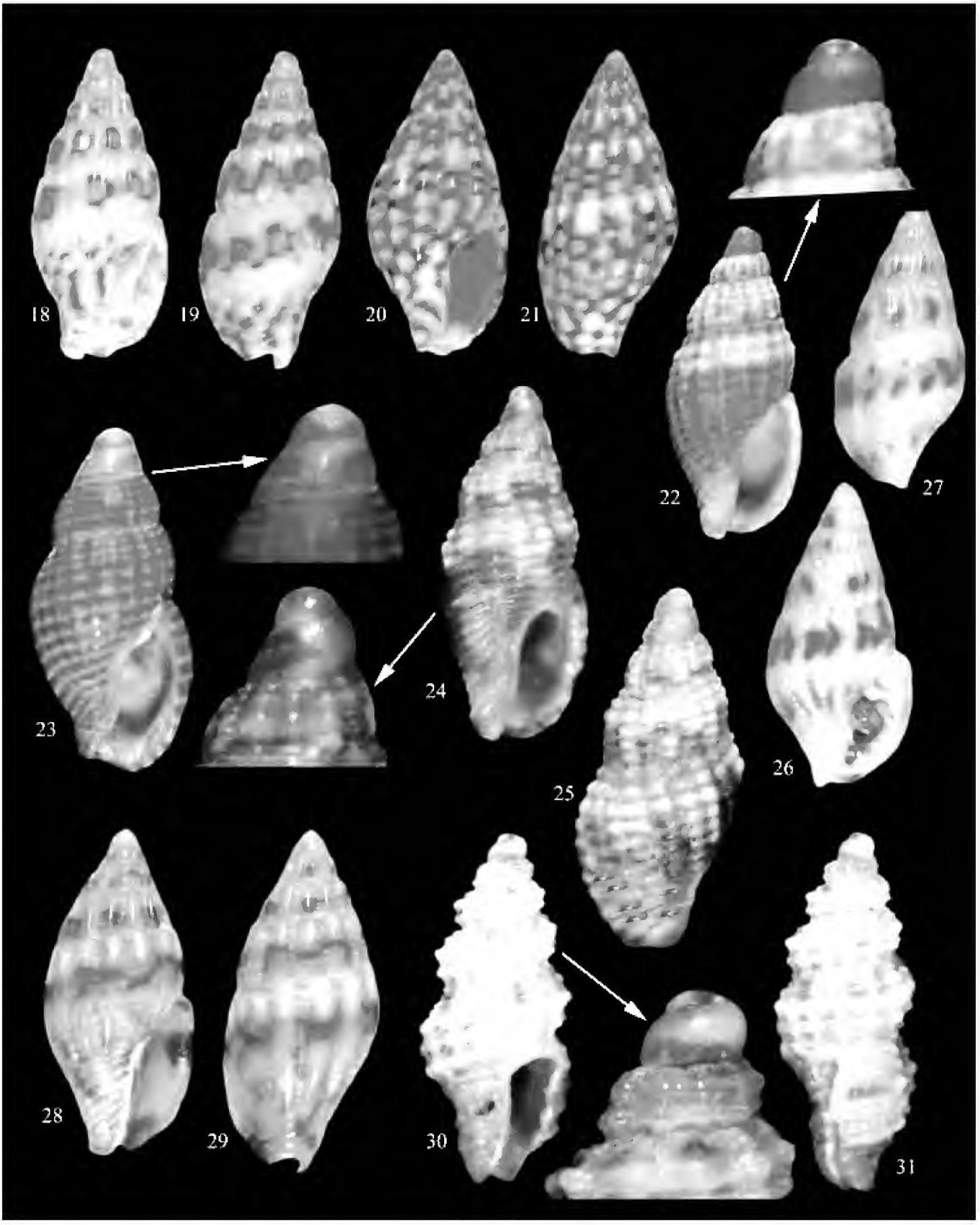
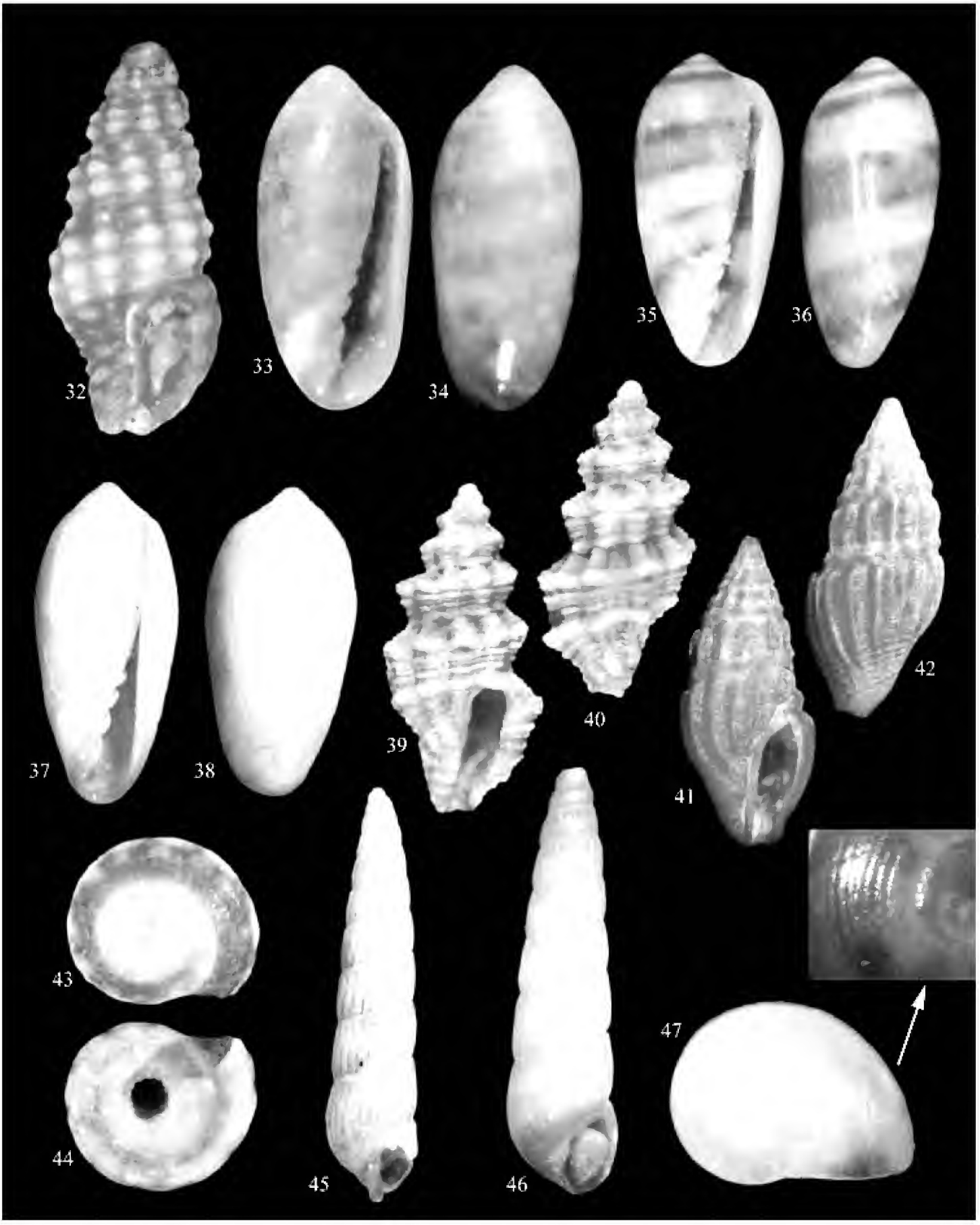
Bocas del Toro Plate 1



Bocas del Toro Plate 2



Bocas del Toro Plate 3



Bocas del Toro Plate 4

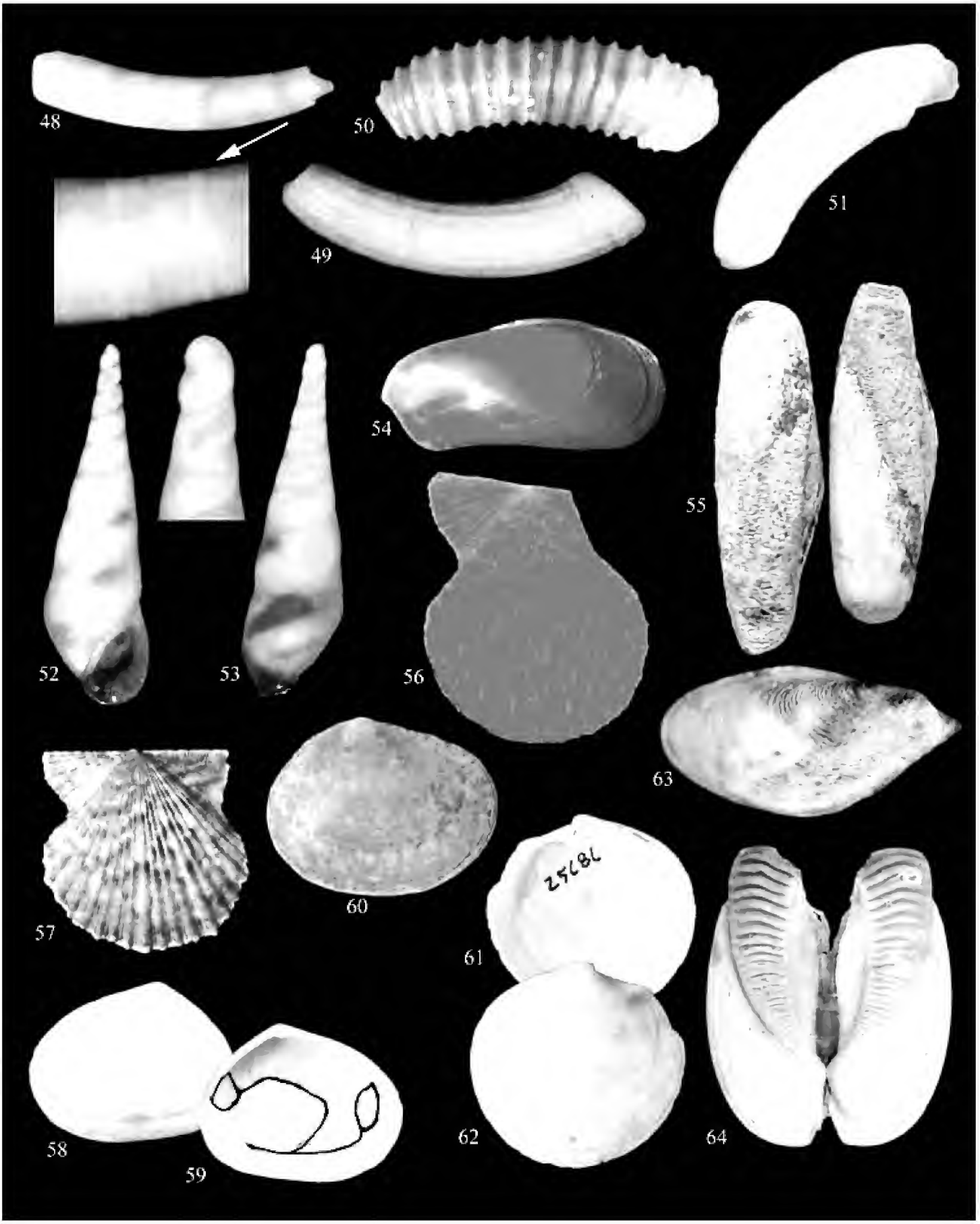


Plate 1, Figures 1-17

1. *Hemitoma emarginata* (Blainville, 1825), 9º19'52. 6"N, 82º15'17.7"W, 1-1.5m, 15.3mm (EFG 26842). **2-3.** *Arene tamsiana* (Philippi, 1852), 9º22.027'N, 82º14.336'W, Colón Is., drift, 5.9mm (EFG 25599). **4.** *Turritella marianopsis* Petuch, 1990, 9º22.027'N, 82º14.336'W, Colón, drift, 26.1mm (EFG 25565). **5-6.** *Barleeia creutzbergi* (Jong & Coomans, 1988), 9º21'47.62"N, 82º14'22. 8"W, Colón, drift, 2.3mm (EFG 29346). **7.** *Caelatura gerhardtae* (Jong & Coomans, 1988), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 2.4mm (EFG 29345). **8.** *Schwartziella bryerea* of Redfern? not Montagu, 9º21'47.62"N,82º14'22.8"W, Colón, drift, 4.3mm (EFG 29494). **9.** *Epitonium phymanthi* Robertson, 1994, 9º22.027'N, 82º14.336'W, Colón, drift, 10mm (EFG 25629). **10.** *Epitonium tiburonense* Clench & Turner, 1952, 9º22.027'N, 82º14.336'W, Colón, drift, 5mm (EFG 25603). **11**. *Cerithiopsis albovittata* (C.B. Adams, 1850), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 2mm (EFG 29317). **12.** *Cerithiopsis prieguei* Rolán & Espinosa, 1996, 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 1.75mm (EFG 29316). **13.** *Monophorus olivaceus* (C.B. Adams, 1850), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 4.9mm (EFG 29470). **14.** *Similiphora intermedia* (C.B. Adams, 1850), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 3.6mm (EFG 29471). **15.** *Aesopus stearnsii* (Tryon, 1833), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 3.8mm (EFG 29509). **16-17.** *Costoanachis sertularium* (d'Orbigny, 1841), 9º21'47.62"N, 82º14'22.8"W, Colón, drift, 9.3mm (EFG 25575).

Plate 2, Figures 18-31

18-19. *Costoanachis catenata* (Sowerby I, 1844), 9º22.027'N, 82º14.336'W, Colón, drift, 7.9mm (EFG 25549). **20-21.** *Costoanachis sparsa* (Reeve, 1859), 9º22.027'N, 82º14.336'W, Colón, drift, 7.8 mm (EFG 25574). **22.** *Decipifus kristenseni* Jong & Coomans, 1988, 9º22.027'N, 82º14.336'W, Colón, drift, 3.9mm (EFG 29461). **23.** *Decipifus sixaolus* Olsson & McGinty, 1958, 9º22.027'N, 82º14.336'W, Colón, drift, 3.6mm (EFG 29459). **24-25.** *Decipifus sixaolus* Olsson & McGinty, 1958, 9º22.027'N, 82º14.336'W, Colón, drift, 4.3mm (EFG 29459). **26-27.** *Parvanachis obesa* (C.B. Adams, 1845), 9º22.027'N, 82º14.336'W, Colón, drift, 4.8mm (EFG 25547). **28-29.** *Parvanachis* sp. aff. *nisitella* (Duclos, 1840), 9º22.027'N, 82º14.336'W, Colón, drift, 4.2mm, (EFG 25550). **30-31.** *Steironepion maculatum* (C.B. Adams, 1850), 9º22.027'N, 82º14.336'W, Colón, drift, 4.5mm, (EFG 29463).

Plate 3, Figures 32-47

32. *Steironepion minus* (C.B. Adams, 1845), 9º22.027'N, 82º14.336'W, Colón, drift, 4.7mm (EFG 29458). **33-34**.*Volvarina heterozona* (Jousseaume, 1857), 9º22.027'N, 82º14.336'W, Colón, drift, 5.3mm (EFG 29500). **35-36.** *Volvarina rubella* (C.B. Adams, 1845), 9º22.027'N, 82º14.336'W, Colón, drift, 3.9mm (29499). **37-38**.*Volvarina sp.*, Pondsuck Reef, Almirante Is., 7mm (EFG 25711). **39-40.** *Glyphoturris rugirima* (Dall, 1889), 9º22.027'N, 82º14.336'W, Colón, drift, 4.5mm (EFG 29452). **41-42.** *Strictispira solida* (C.B. Adams, 1850), 9º22.027'N, 82º14.336'W, Colón, drift, 10.2mm, (EFG 25573). **43-44**. *Psilaxis krebsii* (Mörch, 1875), 9º22.027'N, 82º14.336'W, Colón, drift, 3mm (EFG 25627). **45.** *Turbonilla levis* (C.B. Adams, 1850), 9º22.027'N, 82º14.336'W, Colón, drift, 4.1mm (EFG 29328). **46.** *Turbonilla (Strioturbonilla)* sp. B of Lee (2009), 9º22.027'N, 82º14.336'W, Colón, drift 4.6mm (EFG 29478). **47.** *Teinostoma sp. A.,* 9º22.027'N, 82º14.336'W, Colón, drift, 2.2mm (EFG 29326).

Plate 4, Figures 48-63

48. *Caecum insularum* Moore , 1970, 9º22.027'N, 82º14.336'W, Colón, drift, 4mm (EFG 29511). **49.** *Caecum cycloferum* Folin, 1867, 9º22.027'N, 82º14.336'W, Colón, drift, 3mm (EFG 29510). **50.** *Caecum jucundum* Folin, 1867, 9º22.027'N, 82º14.336'W, Colón, drift, 2mm (EFG 29312). **51.** *Meioceras ryssotitum* Folin, 1867, 9º22.027'N, 82º14.336'W, Colón, drift, 1.7mm (EFG 29349). **52-53.** *Eulimostraca* sp., 9º22.027'N, 82º14.336'W, Colón, drift, 2.3mm (EFG 29335). **54** *Botula fusca* (Gmelin, 1791), Hospital Pt., Colón, 9º20'01.9"N, 82º13'07.7"W, 24.7mm (EFG 25682). **55.** *Lithophaga bisulcata* (d'Orbigny, 1853), Hospital Pt., Colón, 9º20'01.9"N, 82º13'07.7"W, 31mm (EFG 25684). **56.** *Caribachlamys ornata* (Lamarck, 1819), off resort area, Bocas del Drago, NW Colón, in 3-10m, 17.5mm (EFG 25721). **57.** *Leptopecten bavayi* (Dautzenberg 1900**),** Almirante pilings, Almirante, 12.7mm (EFG 25731). **58-59.** *Macoma pseudomera* Dall & Simpson, 1901, Almirante pilings, off Almirante, 23.6mm (EFG 25685). **60.** *Semele purpurascens* (Gmelin, 1791), Cayo Adriana, 9º14.456'N, 82º10.413'W, in 3-10m, 25.7mm (EFG 25640). **61-62.** *Cyclinella tenuis* (Récluz, 1852), Almirante pilings, Almirante, 27.4mm (EFG 25686). **63.** *Gastrochaena ovata* Sowerby I, 1834, off resort area, Bocas del Drago, NW Colón, in 3-10m, 12.6mm (EFG25724). **64.** *Spengleria rostrata (Spengler, 1783)*, off resort area, Bocas del Drago, NW Colón, in 3-10m, 33.7mm (EFG 25729).

LIST OF SPECIES COLLECTED IN BOCAS DEL TORO ARCHIPELAGO, PANAMA

Boldface taxa are pictured in this article.
Taxa with one asterisk (*) were not reported by Olsson & McGinty.
Taxa with two asterisks (**) have not been previously reported from Panama.

Lottia jamaicensis (Gmelin, 1791)
Patelloida pustulata (Helbling, 1779)
Diodora arcuata Sowerby II, 1862
Diodora cayenensis (Lamarck, 1822)
Diodora dysoni (Reeve, 1850)
Diodora fargoi (Olsson & McGinty, 1958)
Diodora listeri (d'Orbigny, 1847)
Diodora minuta (Lamarck, 1822)
Diodora sayi Dall, 1899
Diodora variegata (Sowerby II, 1862)
Emarginula phrixodes Dall, 1927
Emarginula pumila (A. Adams, 1851)
Fissurella fascicularis Lamarck, 1822
Fissurella angusta (Gmelin, 1791)
Fissurella rosea (Gmelin, 1791)
****Hemitoma emarginata* (Blainville, 1825) (fig. 1)**
Hemitoma octoradiata (Gmelin, 1791)
Lucapina suffusa (Reeve, 1850)
Calliostoma javanicum (Gmelin, 1791)
Arene riisei Rehder, 1843
****Arene tamsiana* (Philippi, 1852) (figs. 2-3)**
Eulithidium affine (C.B. Adams, 1850)
Eulithidium tessellatum (Potiez & Michaud, 1838)
Lithopoma caelata (Gmelin, 1791)
Parviturbo rehderi Pilsbry & McGinty, 1945
Nerita versicolor Gmelin, 1791
Smaragdia viridis (Linnaeus, 1758)
Bittiolum varium (Pfeiffer, 1840)
Cerithium eburneum Bruguière, 1792
Cerithium lutosum Menke, 1828
Alaba incerta (d'Orbigny, 1841)
Angiola lineata (da Costa, 1778)
***Turritella marianopsis* Petuch, 1990 (fig. 4)**
Echinolittorina meleagris (Potiez & Michaud, 1838)
Echinolittorina ziczac (Gmelin, 1791)
Littoraria nebulosa (Lamarck, 1822)
Littoraria tessellata (Philippi, 1847)
****Barleeia creutzbergi* (Jong & Coomans, 1988) (figs. 5-6)**
****Caelatura gerhardtae* (Jong & Coomans, 1988) (fig. 7)**
Lirobarleeia chiriquiensis (Olsson & McGinty, 1958)
***Caecum cycloferum* Folin, 1867 (fig. 49)**
****Caecum insularum* Moore , 1970 (fig. 48)**
***Caecum jucundum* Folin, 1867 (fig. 50)**
Caecum pulchellum Stimpson, 1851
***Meioceras ryssotitum* Folin, 1867 (fig. 51)**
Meioceras nitidum (Stimpson, 1851)
Rissoina cancellata Philippi, 1847
Rissoina decussata (Montagu, 1903)
Schwartziella bryerea (Montagu, 1893)
Schwartziella cf.*bryerea* (Montagu, 1893)
Schwartziella fischeri (Desjardin, 1949)
****Schwartziella bryerea* of Redfern (2001)?, not Montagu(fig.8)**
Stosicia aberrans (C.B. Adams, 1850)
Zebina browniana (d'Orbigny, 1842)
Alvania auberiana (d'Orbigny, 1847)
Parviturboides interruptus (C. B. Adams, 1850)
Hydrobiid sp.
***Teinostoma* species A (fig. 47)**
Teinostoma species B
Vitrinella elegans Olsson & McGinty, 1958
Vitrinella helicoidea C.B. Adams, 1850
Hipponix antiquatum (Linnaeus, 1767)
Hipponix subrufus (Lamarck, 1819)
Niveria quadripunctata (Gray, 1827)
Pusula pediculus (Linnaeus, 1758)
Natica canrena (Linnaeus, 1758)
Polinices lacteus (Guilding, 1834)
Bursa granularis (Röding, 1798)
Cymatium martinianum (d'Orbigny, 1847)
Epitonium albidum (d'Orbigny, 1842)
Epitonium foliaceicosta (d'Orbigny, 1842)
Epitonium lamellosum (Lamarck, 1822)
****Epitonium phymanthi* Robertson, 1994 (fig. 9)**
****Epitonium tiburonense* Clench & Turner, 1952 (fig. 10)**
Epitonium unifasciatum (Sowerby II, 1844)
Opalia hotessieriana (d'Orbigny, 1842)
Eulima bifasciata d'Orbigny, 1841
Eulima cf.fuscostrigata (Carpenter, 1864)
Eulima species A
Eulima species C
****Eulimostraca* sp. (figs. 52-53)**
Melanella eulimoides (C.B. Adams, 1850)
Melanella hypsela (Verrill & Bush, 1900)
Melanella cf.jamaicensis (C.B. Adams, 1845)
Melanella jamaicensis (C.B. Adams, 1845)
Melanella species 5 Jong & Coomans, 1988
Vitreolina arcuata (C.B. Adams, 1850)
****Cerithiopsis albovittata* (C.B. Adams, 1850) (fig. 11)**
Cerithiopsis greenii (C.B. Adams, 1839)
Cerithiopsis vicola Dall & Bartsch, 1911
****Cerithiopsis prieguei* Rolán & Espinosa, 1996 (fig. 12)**
Retilaskeya bicolor (C.B. Adams, 1845)
Seila adamsi (H.C. Lea, 1845)
Metaxia abrupta (Watson, 1880)
****Monophorus olivaceus* (C.B. Adams, 1850) (fig. 13)**
Marshallora nigrocincta (C.B. Adams, 1839)
Nototriphora decorata (C.B. Adams, 1850)
****Similiphora intermedia* (C.B. Adams, 1850) (Fig. 14)**
"*Triphora*" species A
Dermomurex pauperculus (C.B. Adams, 1850)
Favartia alveata (Kiener, 1842)
Plicopurpura patula (Linnaeus, 1758)
Risomurex caribbaeus (Bartsch & Rehder, 1939)
Risomurex deformis (Reeve, 1846)
Coralliophila caribbaea Abbott, 1958
****Aesopus stearnsii* (Tryon, 1833) (fig. 15)**
Astyris lunata (Say, 1826)
Conella ovulata (Lamarck, 1822)
***Costoanachis catenata* (Sowerby I, 1844) (figs. 18-19)**
****Costoanachis sertularium* (d'Orbigny, 1841) (figs. 16-17)**
****Costoanachis sparsa* (Reeve, 1859) (figs. 20-21)**
****Decipifus kristenseni* Jong & Coomans, 1988 (fig. 22)**
***Decipifus sixaolus* Olsson & McGinty, 1958 (figs 23-25)**
Mazatlania cosentini (Philippi, 1836)
Mitrella dichroa (Sowerby I, 1844)
Mitrella ocellata (Gmelin, 1791)
***Parvanachis obesa* (C.B. Adams, 1845)(figs. 26-27)**
****Parvanachis* sp. aff. *nisitella* (Duclos, 1840) (figs. 28-29)**
Rhombinella laevigata (Linnaeus, 1758)
***Steironepion maculatum* (C.B. Adams, 1850) (fig.s 30-31)**
****Steironepion minus* (C.B. Adams, 1845) (fig. 32)**
Steironepion moniliferum (Sowerby I, 1844)
Bailya parva (C.B. Adams, 1850)
Engina turbinella (Kiener, 1835)
Polygona brevicaudata (Reeve, 1847)
Leucozonia nassa (Gmelin, 1791)
Mitra barbadensis (Gmelin, 1791)
Mitra nodulosa (Gmelin, 1791)
Vexillum gemmatum (Sowerby II,.1874)
Vexillum puella (Reeve, 1845)
Jaspidella blainesi (Ford, 1898)
Oliva reticularis Lamarck, 1810
Olivella marmosa (Olsson & McGinty, 1958)
Vasum muricatum (Born, 1778)
Persicula catenata (Montagu, 1803)
Persicula weberi Olsson & McGinty, 1958
Plesiocysticus larva (Bavay, 1922)
Prunum guttatum (Dillwyn, 1817)
Prunum leonardhilli Petuch, 1990
Volvarina avena (Kiener, 1834)
****Volvarina heterozona* (Jousseaume, 1857) (figs. 33-34)**
****Volvarina rubella* (C.B. Adams, 1845)(figs. 35-36)**
***Volvarina* species (figs. 37-38)**
Hastula hastata (Gmelin, 1791)
Hastula salleana (Deshayes, 1859)
****Conus archetypus* Crosse, 1865**
Conus cardinalis Hwass, 1792
Conus jaspideus Gmelin, 1791
Conus mus Hwass, 1792
***Strictispira solida* (C.B. Adams, 1850) (figs. 41-42)**

Crassispira elatior (C. B. Adams, l845)
Cymakra dubia (Olsson & McGinty, l958)
Nannodiella vespuciana (d'Orbigny, l842)
Pilsbryspira leucocyma Dall, l883
Cryoturris quadrilineata (C.B. Adams, l850)
****Glyphoturris rugirima* (Dall, l889) (figs. 39-40)**
Pyrgocythara albovittata (C.B. Adams, l945)
Pyrgocythara plicosa (C.B. Adams, l850)
Heliacus bisulcatus (d'Orbigny, l842)
Heliacus cylindricus (Gmelin, l791)
Heliacus perrieri (Rochebrunne, l881)
****Psilaxis krebsii* (Mörch, l875) (figs. 43-44)**
Boonea jadisi (Olsson & McGinty, l958)
Chrysallida gemmulosa (C.B. Adams, l850)
Odostomia? species
Triptychus niveus (Mørch, l875)
****Turbonilla levis* (C.B. Adams, l850) (fig. 45)**
Turbonilla pupoides (d'Orbigny, l842)
****Turbonilla (Strioturbonilla)* sp. B** of Lee (2009)(fig. 46)
Haminoea glabra (A. Adams, l850
Atys sandersoni Dall, l881
Pedipes mirabilis (Mühlfeld, l816)
Williamia krebsii (Mørch, l877)

BIVALVES
****Botula fusca* (Gmelin, l791) (fig. 54)**
****Lithophaga bisulcata* (d'Orbigny, l853) (fig. 55)**
Barbatia cancellaria (Lamarck, l819)
Cucullearca candida (Helbling, l779)
Scapharca chemnitzii (Philippi, l851)
Lima caribaea (d'Orbigny, l853)
Bractechlamys antillarum (Récluz, l853)
Caribachlamys imbricata (Gmelin, l791)
****Caribachlamys ornata* (Lamarck, l819) (fig. 56)**
Euvola ziczac (Linnaeus, l758)
***Leptopecten bavayi* (Dautzenberg l900)(fig. 57)**
Codakia orbicularis (Linnaeus, l758)
Divalinga quadrisulcata (d'Orbigny, l842)
Lucina pensylvanica (Linnaeus, l758)
Ctena orbiculata (Montagu, l808)
Phlyctiderma semiasperaum (Philippi, l836)
Chama florida Lamarck, l819
Crassinella lunulata (Conrad, l834)
Laevicardium laevigatum (Linnaeus, l758)
Papyridea soleniformis (Bruguiere, l789)
Trachycardium muricatum (Linnaeus, l758)
Trigoniocardia media (Linnaeus, l758)
****Cyclinella tenuis* (Récluz, l852) (fig. 61)**
****Macoma pseudomera* Dall & Simpson, l901 (figs. 58-59)**
Tellinella listeri Röding, l798
Donax striatus Linnaeus, l767
Semele proficua Pulteney, l799
***Semele purpurascens* (Gmelin, l791)(fig.60)**
Petricola lapicida (Gmelin, l791)
Juliacorbula aequivalvis (Philippi, l836)
****Gastrochaena ovata* Sowerby I, l834 (fig. 62)**
****Spengleria rostrata* (Spengler, l783) (fig. 63)**
Thracia species

FRESH WATER
Thiara species

A New Shell Display

Bobbi Cordy

BREVARD MUSEUM of History & Natural Science

The new "Johnson/Cordy Hall of Mollusks" will open at the Brevard Museum of Natural History, 2201 Michigan Avenue, Cocoa, Florida, within the next 6-9 months. Johnnie Johnson (a former member of the Astronaut Trail Shell Club and now deceased), retired US Navy, has most of his collection located at the museum. The collection is housed in shell cabinets, disorganized, and very dimly lit. The shells are numbered and binders on top of each cabinet list the corresponding names for the shells. These binders are seldom used. Most visitors just casually go through the drawers.

In October 2009, Jim's 97 year old Mom passed away and left us a goodly sum of money and we had to decide just what we wanted to do with it. Jim's first response was, "I want a shell museum." My mouth was agape! I figured he would say new house, new car, etc. Well we sat down with paper and pencil and looked at the associated costs: property, a building (owned or rented), maintenance, utilities, security, salary for curator and assistant, insurance, etc. etc. etc. The sum was not trivial.

We had recently been invited by the Administrator at the Brevard Museum to view Johnnie Johnson's collection. We were quite disappointed at the way this collection looked and found it was mostly a funding (or lack thereof) issue. So the "wheels

The front entrance to the Brevard Museum of History and Natural Science. Hopefully within this next year the sell display will be completely redone and upgraded into "The Johnson/Cordy Hall of Mollusks."

started turning." We offered to completely remodel the room, add some really nice glass cases, add many of our own shells, and name it "The Johnson/Cordy Hall of Mollusks".

The name had a double meaning for us as Jim's mom enjoyed shells and traveled with us to Mexico several times when we lived in California. Her maiden name was Johnson, so we know this will be a great memorial to her.

There happens to be a large case in the center of the room full of sand. I am going to add sea grass and rocks and display my models of living mollusks to make it look like "under the sea."

Another dream we have always had is to share some of the great shell show exhibits with more of the public than is able to view them with a short weekend presentation. We hope to do that by rotating exhibits by some of the winners from our Space Coast Seashell Festival. We already have several shellers who agree this is a good idea and are willing to help in any way. For Jim and I this is also a way of regaining some space in our shell room at home.

Jim and I plan to give monthly shell talks or craft demonstrations and we will try to generate more publicity for the museum. Hopefully, this will benefit both the museum and our shell club. The "Hall of Mollusks" will be open in time to be offered as one of the field trips for the 2011 COA convention.

James and Bobbi Cordy
Merritt Island, Florida

Shelling Trips to the Bahamas

Space Coast Seashell Festival, Melbourne Florida January 15-16, 2011

In memoriam:

June Huie (page 23)
Betty Muirhead
Dorothy Schneider
Olese Walton
Israel (Issy) Yeroslavsky

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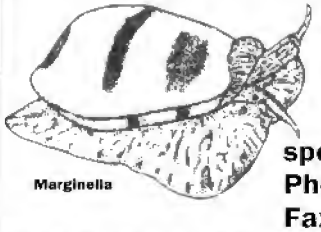

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PHEASANT SNAILS (*PHASIANELLA*)

Robert Robertson

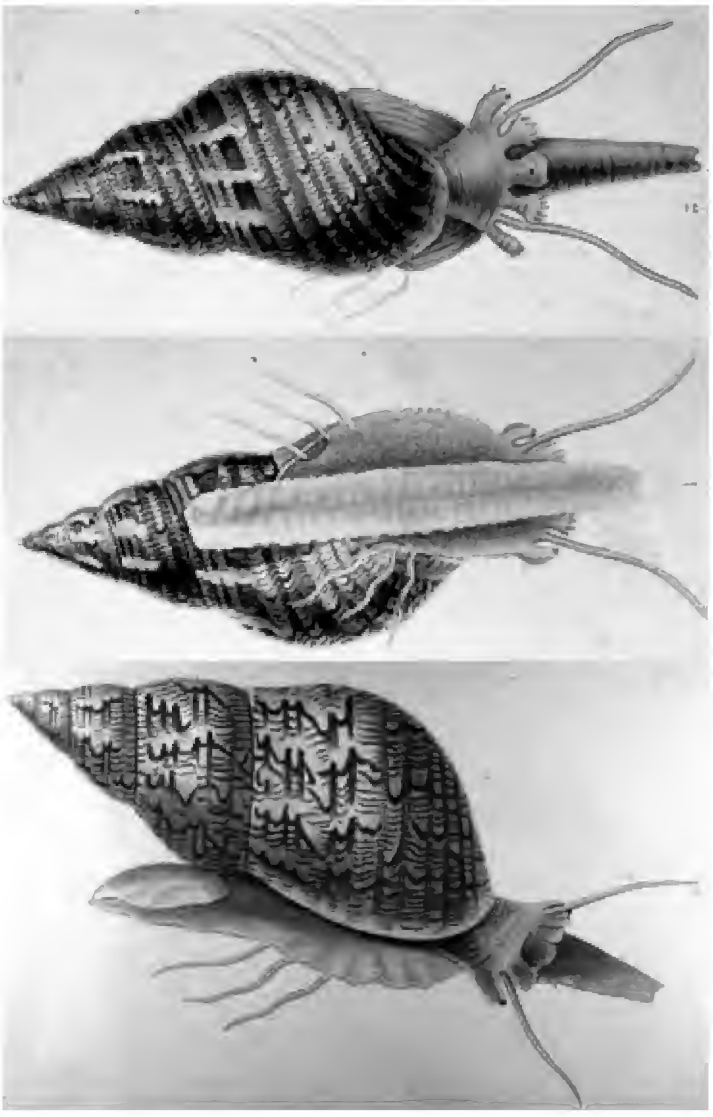

Plate A. Living *Phasianella australis*: dorsal, ventral, and right lateral views. Top and middle images from Quoy & Gaimard (1833), bottom image from Kiener (1847).

Plate B. *P. australis*: extremes in observed adult shell shapes, mm scale.

I have not published much on *Phasianella* before now because I thought my results too inconclusive. The purpose of this paper is to summarize what I learned, particularly as regards nomenclature, and to suggest future avenues of research.

Pheasant snails (Phasianellidae) have been placed in three subfamilies (Phasianellinae, Tricoliinae, and Gabrieloninae), based on the genera *Phasianella* Lamarck, 1804, *Tricolia* Risso, 1826, and *Gabrielona* Iredale, 1917. Most of their shells and external body surfaces are extremely variable as to colors and patterns. They are spotted, striped or lined spirally or diagonally, often with subsutural "flames." Only on small or young *Phasianella* are there "spiral capillary lines." These are features of the color pattern and not sculptural. *Phasianella* shells do not fluoresce in short- and mixed-wave length ultraviolet; *Tricolia* does so from both, with red coloration fluorescing red (personal observations). *Phasianella* attains the largest sizes, and *Gabrielona* species are smaller than most *Tricolia* species. Length - width variation is greatest in *Tricolia. Gabrielona* is invariably low-spired. Shell whorls are mostly smoothly rounded, but in two probably independently evolved *Tricolia* species, spiral cording and whorl shouldering are variably developed. Mature males are probably always smaller than females, but pronounced sexual shell dimorphism has evolved at least once, possibly twice, in Indo-West Pacific *Tricolia. Phasianella* differs from *Tricolia* in lacking an umbilical chink. Unlike their supposed relatives *Turbo* and *Trochus,* phasianellid shells all lack mother-of-pearl (nacre) internally. Only *Gabrielona* has a faint, incised spiral line ("palatal sulcus") in the middle or high in the aperture, and two or three apertural denticles. Like *Turbo*, though, phasianellids have calcareous opercula; *Trochus* have corneous opercula. The opercula are few-whorled: those of both *Phasianella* and *Tricolia* have convex and mostly smooth

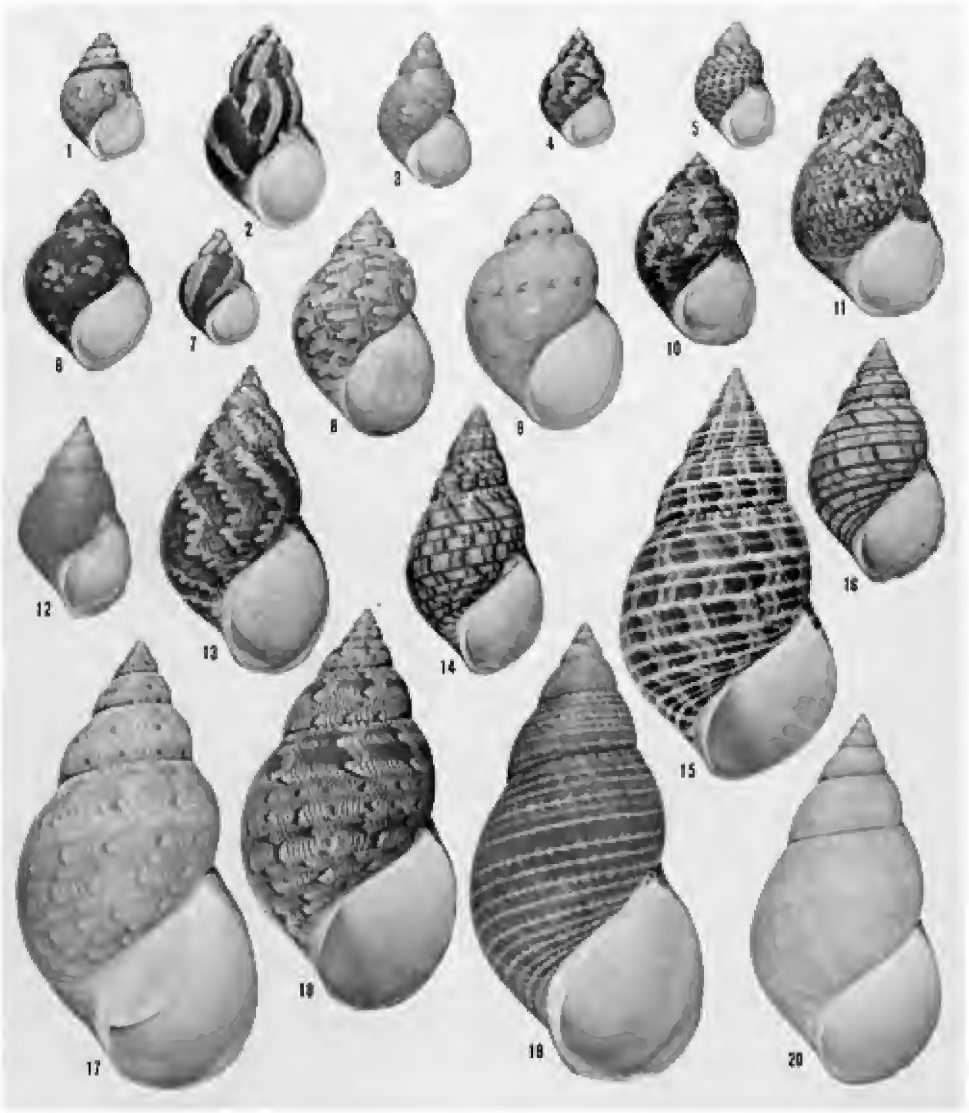

Plate C. Adult shells of *P. ventricosa* (figs. 1-11) and *P. australis* (figs. 12-20). All temperate southern Australia. All to same scale.

outer surfaces (pl. E); those of *Gabrielona* are spirally ribbed externally and are thickest marginally. Cladograms in a recent molecular study (Williams *et al.*, 2008) show that *Phasianella, Tricolia,* and *Gabrielona* cluster near the Colloniidae (a surprise) and separate from all the remaining Trochoidea (Turbinidae and Trochidae, etc.). The superfamily Phasianelloidea was newly so-ranked.

Long ago, I published on the systematics of *Tricolia* in the tropical western Atlantic and the tropical and temperate Indo-West Pacific, on *Gabrielona* in the Indo-West Pacific, and on *Eugabrielona* Hickman & McLean, 1990 fossil and living in the West Indies. The last differs from *Gabrielona* primarily by radular characters; the shells are closely similar but are spirally sulcate. Radula morphology varies little in *Phasianella,* but is diverse particularly in Indo-West Pacific *Tricolia,* calling in question the generic distinctness of *Eugabrielona. T. "variabilis* (Pease, 1861)" has sexually dimorphic radulae that also vary geographically in correlation with shell size. This and some other species of *Tricolia* undergo striking radular ontogeny. Warén (1990) wisely opposed recognizing genera based solely on radular characters. Middle American *Tricolia* species belong in *Eulithidium* Pilsbry, 1898, which deserves no higher rank than subgenus if it is to be coordinate with taxa in the Indo-West Pacific. Adults are distinct mainly in having four pairs of radular lateral teeth; elsewhere, adult *Tricolia* have either five or three pairs. I based some western Atlantic subspecies mainly on shell color patterns. They greatly need restudy, using other shell and animal characters.

With the possible exception of *Tricolia indica* Winckworth, 1940, which lives in an anomalous habitat and has a tiny aberrant radula showing some juvenile traits (Robertson, 1985), all phasianellids are probably unselective herbivores or detritivores restricted to shallow waters. Their shell pigments are largely retained or derived from algal pigments. *Phasianella australis* reproduction was studied by Murray (1967). Spermatozoa and 0.14mm eggs were shed freely in an aquarium. The eggs, fertilized in small dishes, became brilliant-green, free-swimming trochophore larvae. The length of the planktonic stage remains unknown.

Although it occurred in the Middle Miocene of eastern Europe (Romania), true *Phasianella* is now restricted to the tropical Indo-West Pacific and temperate southern Australia. It is present at the northern ends of the Red Sea and Persian Gulf, south to Mozambique, east to southeastern Honshu (Chiba Prefecture), Japan, south to northern and southern Australia (not New Zealand), and east to southern Polynesia (at least to Samoa); it is absent from Hawaii.

Far the largest two species of *Phasianella* occur in non-tropical southern Australia (pl. C): *P. australis* (Gmelin, 1791), the type species, and *P. ventricosa* Swainson, 1822. The former attains a length of about 10cm, and the latter is smaller and has a lower spire. Both have been named excessively. A synonymy of *P. australis* was given in Robertson (1958: 255-256) and is repeated here in table 1 with the addition of *P. marchei* Mabille, 1888 (wrongly "Philippines"). A list of synonyms of *P. ventricosa* is presented in Table 2. These two have brittle shells, unlike the still smaller species, and repaired breaks change shell shapes (pl. B) and disrupt color patterns (pl. C, fig. 2). *P. australis* and *P. ventricosa* live from southern Western Australia east to Victoria and Tasmania. Subfossils from New South Wales are smaller and appear intermediate.

P. angasi Crosse, 1864, type locality: Port Elliot, South Australia, co-occurs with *P. australis* and *P. ventricosa,* and is much smaller than either of these (pl. D, figs. 3-6, pl. F). It closely resembles some forms of *P. "solida* (Born, 1778)" but has less inflated spire whorls. Curiously, I have yet to see a live-collected specimen, but it has been recorded to a depth of 22 fathoms.

P. solida is here called a "complex" because, as will be shown later, it comprises perhaps as many as 20 or 30 closely similar subspecies or species occurring singly at each of its localities throughout most of the tropical Indo-West Pacific (pl. D, figs. 7-42). Both sexes show extreme geographic variation in maximum attained shell size throughout the area (pl. I). This is like *Tricolia variabilis* in the broad sense (Robertson, 1985: pl. 86), another complex; but the largest and smallest shells in each of these complexes occur in different places, and there is no pronounced sexual shell dimorphism in *Phasianella* as there is in the *Tricolia*. The largest *P. "solida"* shells occur at Mozambique and the smallest adult sizes are attained at Samoa (pl. H). The difference in shell volume is 20- to 30-fold.

Shell and operculum colors, shell shape, shell microsculpture, and a radular character all show geographic variation in the *P. solida* complex. Examples: in Japan and the Bonins, shells tend to be more red or pink than elsewhere, often with orange around the aperture. In Queensland and nearby New Caledonia, operculum exteriors are usually tinged with yellow; elsewhere, they are always white. Spire height varies, as does also the degree to which whorls are swollen. Shells are spirally corded in the entire Indian Ocean east to northern Australia and New Caledonia. The cords are finest and faintest in Sri Lanka and Western Australia; elsewhere in the western Pacific cords are rare or absent. Then in the southwestern Indian Ocean the unworn tips of the inner marginal radular teeth are asymmetrically truncated; elsewhere, they are asymmetrically pointed. Using this mosaic of characters, the geographic provenance of shells without locality data can sometimes be ascertained.

These cases of geographic variation in the *P. solida* complex are probably indicative of "archipelagic differentiation." This was first reported in the eastern Indian Ocean and western- and mid-Pacific Ocean turbinid *Astralium "rhodostomum* (Lamarck, 1822)" by Meyer *et al.* (2005). What had been considered a somewhat variable, widespread species was shown by molecular genetics, external body color patterns, and cladistics to be developing localized populations, subspecies, or even

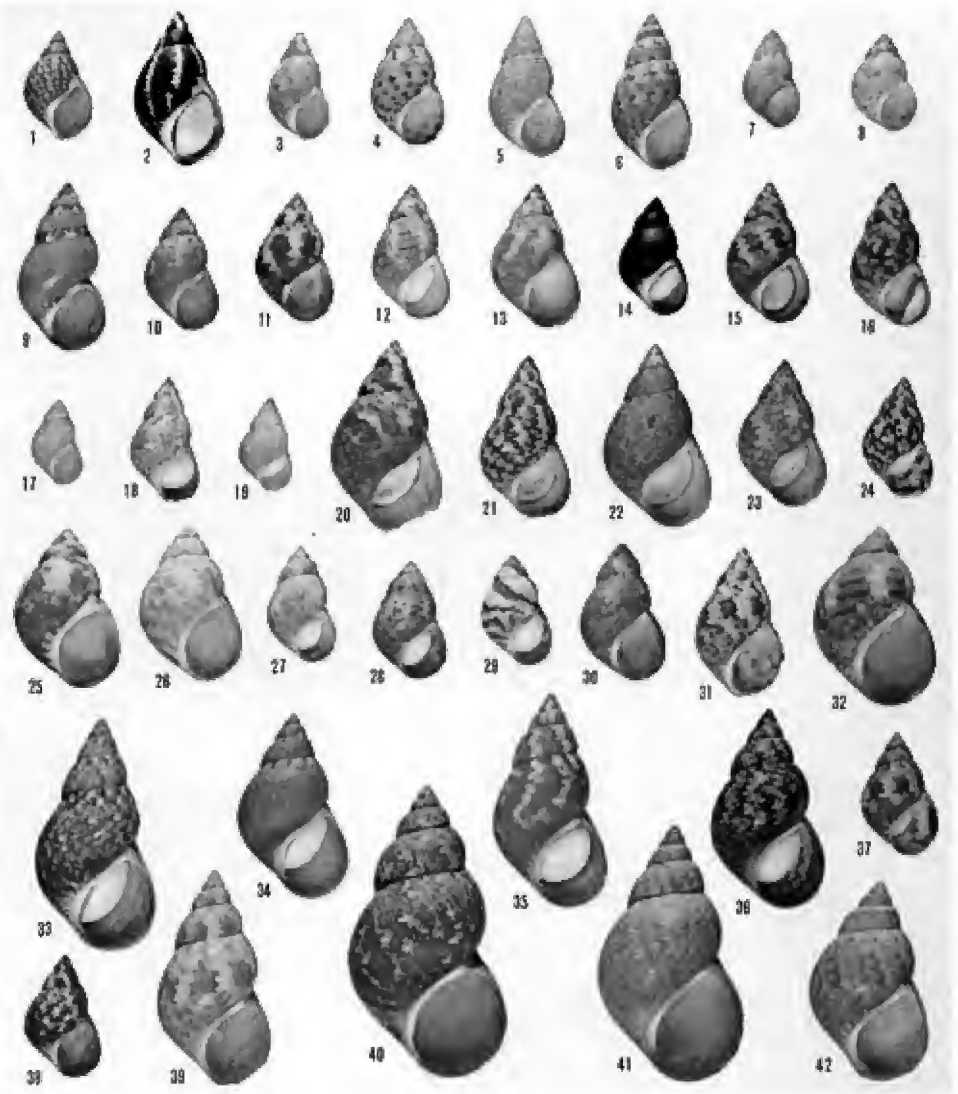

Plate D. Juvenile *P. australis* (figs. 1-2) and adult *P. angasi* (figs. 3-6); all temperate southern Australia. *P. solida* complex (figs. 7-42): adults from numerous tropical Indo-West Pacific localities. All to same scale.

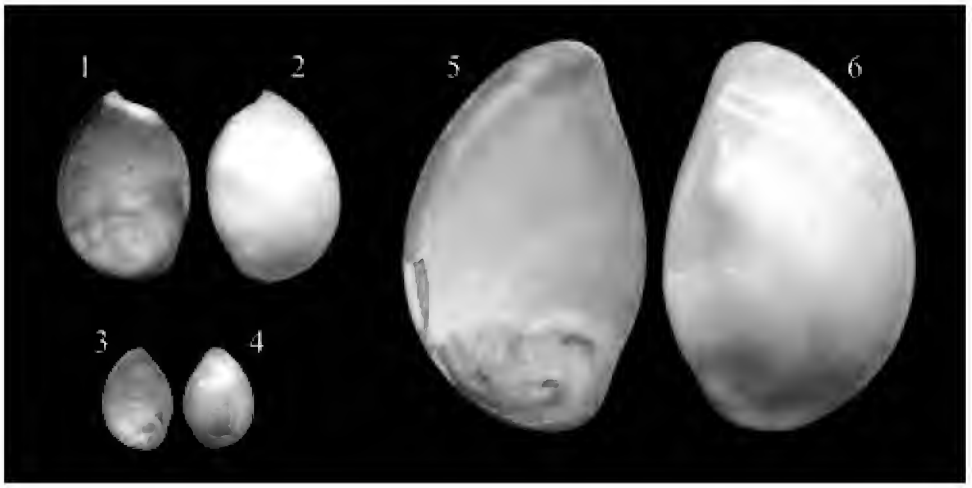

Plate E. Calcareous opercula (yellow concave interiors with an organic periostracum-like covering on the left and white convex exteriors on the right) of *P. ventricosa* (figs. 1-2), *P. solida* (figs. 3-4), and *P. australis* (figs. 5-6).

Plate F. *P. angasi*. Holotype from South Australia. Length: 22.5mm.

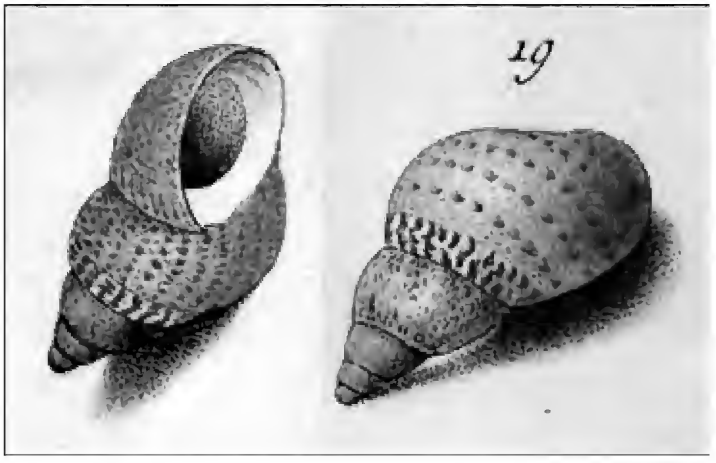

Plate G. *P. solida*. Original illustrations of "*Helix*" *solida* Born, 1778. From Born (1780, pl. 13, figs. 18-19). Locality unknown. Length about 20-25mm.

Plate H. Largest observed *P. solida* shells are from Mozambique (lower right) and the smallest from Samoa, mm scale.

species - numerous isolated endemic clades, some separated by as little as 180km.

Names considered here to belong in the *P. solida* complex in chronological order (with localities) are given in Table 3. Many of these names and perhaps others will probably be needed ultimately for each localized form, subspecies, or species.

Phasianella and *Tricolia* nomenclature have frequently been intertwined. For example, Poppe (2008: 264, pl. 77) illustrated in color six *"Tricolia"* shells and two living animals from the Philippines. All but one show spiral capillary lines and hence belong in *Phasianella*. His *Tricolia fordiana* (Pilsbry, 1888) (fig. 2, not 3) is correctly identified and is a first record in the Philippines. *"T." modesta* belongs in the *P. solida* complex. He stated that "the Pacific *Tricolia* are in need of revision," evidently being unaware of Robertson (1985). The *T. variabilis* complex also occurs in the Philippines.

The genus *Phasianella* has been a dumping ground for quite different fossil and some living species. Research already begun on *Tricolia* and trochoideans could and should be extended to *Phasianella*: 1. scanning electron microscope (SEM) studies of protoconchs and adult shell microsculptures, 2. life histories: eggs, larval development, settlement and metamorphosis, 3. sperm ultrastructure (transmission electron microscopy), 4. adult animals (living and preserved): external morphology (cirri, etc.) [pl. A], comparative internal microanatomy and functional morphology, 5. radulae: ontogeny and functional morphology studied and illustrated using various techniques, 6. adult ecology, foods and feeding, 7. effects of different foods on shell colors and sculptures, and 8. molecular and cladistic studies of species and populations.

Ideally, a molecular geneticist cum microanatomist should be supported with millions of dollars to stay in one idyllic place after another throughout the Indian Ocean and South Seas to seek The Truth about *Phasianella* and *Tricolia*.

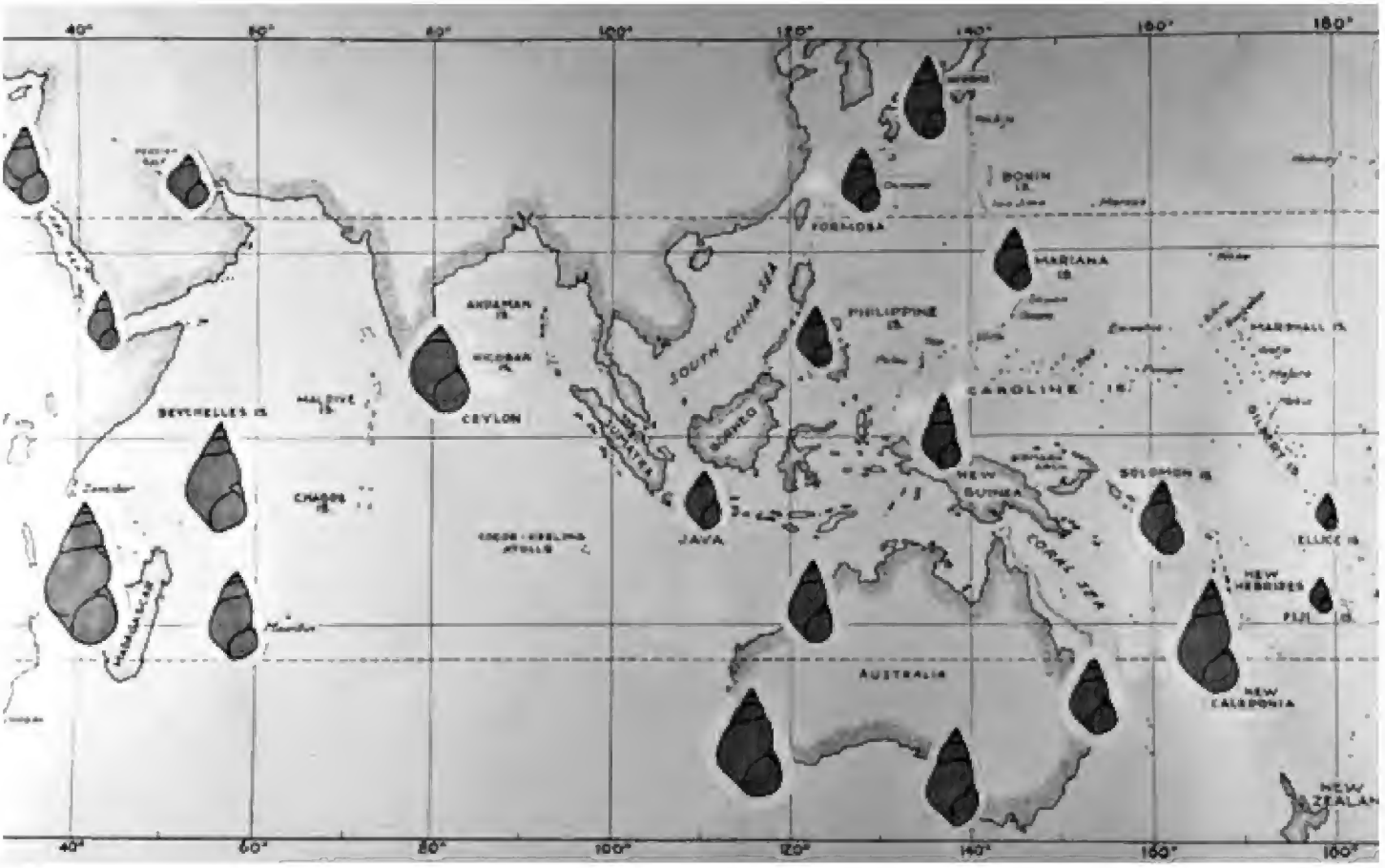

Plate I. Map of Indo-West Pacific showing geographic variation in maximum observed shell sizes in the *P. solida* complex (including *P. angasi* in South Australia). They are all outlined at the same scale and are definitely adults (thousands of shells were studied).

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Table 1. Synonyms of *Phasianella australis* (Gmelin, 1791). From Western Australia east along the southern coast to Victoria and Tasmania. Gmelin's type locality of New Zealand rivers is in error.

1. *Helix phasianus* Röding, 1798
2. *P. variegata* de Roissy, 1810
3. *Bulimus phasianus* Perry, 1810
4. *Trochus phasianella* ? Brookes, 1815
5. *P. varia* Lamarck, 1816
6. *P. bulimoides* Lamarck, 1822
7. *P. picta* de Blainville, 1825
8. *P. tritonis* Anton, 1838 ["1839"]
9. *P. lehmanni* Menke, 1843
10. *P. preissii* Menke, 1843
11. *P. venusta* Reeve, 1848
12. *P. decorata* Chenu, 1859
13. *P. pulchella* Tenison-Woods, 1878 (not Récluz, 1843)
14. *P. delicatula* Tenison-Woods, 1878
15. *P. australis* Gmelin var. *subsanguinea* Pilsbry, 1888
16. *P. marchei* Mabille, 1888 (wrongly Philippines)

Table 2. Synonyms of *Phasianella ventricosa* Swainson, 1822. All southern Australia.

1. *P. inflata* Swainson, 1822
2. *Turbo (Phasianella) perdix* Wood, 1828
3. *P. articulata* Anton, 1838 ["1839"] (type wrongly labeled "Oceania")
4. *P. brevis* Menke, 1843 (not d'Orbigny, 1842)
5. *P. turgida* Philippi, 1853
6. *P. delessertii* Chenu, 1859
7. *P. sanguinea* Reeve, 1862
8. *P. zebra* Reeve, 1862
9. *P. venosa* Reeve, 1862
10. *P. reticulata* Reeve, 1862
11. *P. peroni* Mabille, 1888

Table 3. Names for forms, subspecies or species in the *Phasianella solida* complex from numerous tropical Indo-West Pacific localities.

1. *Helix solida* Born, 1778 (locality?) [Pl. G]
2. *P. variegata* Lamarck, 1822 (not de Roissy, 1805 [not in Sherborn]) (Australia [tropical])
3. *P. rubens* Lamarck, 1822 (Australia [tropical])
4. *Tricolia brongniartii ["brongnartii"]* Audouin, 1826 (Egypt)
5. *Turbo varius* Wood, 1828 (not *P. varia* Lamarck, 1816) (Sri Lanka?)
6. *Turbo (Phasianella) lineolatus* Wood, 1828 (Mauritius)
7. *P. viridis* Anton, 1838 ["1839"] (locality?)
8. *P. unifascialis* Kiener, 1847 (Australia [tropical])
9. *P. flammulata* Philippi, 1848 (Pacific Ocean or Red Sea?)
10. *P. splendida* Philippi, 1849 (Red Sea)
11. *P. grata* Philippi, 1853 (Madagascar)
12. *P. aethiopica* Philippi, 1853 (East Africa, Zanzibar, etc.)
13. *Eutropia modesta* Gould, 1861 (Ryukyu Is.)
14. *P. nivosa* Reeve, 1862 (Sri Lanka and Philippines)
15. *P. fulgurata* Reeve, 1862 (Australia [tropical])
16. *P. jaspidea* Reeve, 1862 (Zanzibar)
17. *P. histrio* Reeve, 1862 (Philippines)
18. *P. lentiginosa* Reeve, 1862 (W. Australia)
19. *P. graeffei* Dunker, 1871 (Samoa Is.)
20. *P. wisemanni* Baird, 1873 (Vanuatu)
21. *P. (Orthomesus) modesta* (Gould) var. *gouldii* Pilsbry, 1895 (Japan)
22. *P. montebelloensis* Preston, 1914 (N.W. Australia)
23. *P. zigzag* Odhner, 1919 (Madagascar)
24. *P. caloundra* Iredale, 1927 (Queensland, Australia)

June Huie, a member of the North Texas Conchological Society for 35 years, and a charter member, died March 25, 2010 after a short illness. She was 86 and serving as newsletter editor and program chairman for the club. June began collecting shells in the 1940's. She knew each shell she had by scientific name and shared her knowledge with others by always holding a club office, giving programs, and helping us with species identification. June was a long time member of the Conchologists of America and loved going to conventions, jamborees, and shelling trips. She will be missed as a friend and fellow shell collector.

Ardeth Hardin

What goes around comes around; Jacksonville Shell Club to fund annual COA Academic Grant

Harry G. Lee

On June 22, 1959, the first meeting of what was to become the Jacksonville Shell Club was held in the home of Mr. and Mrs. Larry Hedgecoth. The event resulted from an article by staff writer Nancy Campbell appearing in the Florida *Times Union* on April 26 of that year. Nancy reported on the shelling exploits of Jacksonville resident Gertrude Moller while she and her family lived on Eleuthera, in the Bahamas. As a result of the publicity, nine individuals contacted Gertrude inquiring about shells. One of the callers was Harriet Hedgecoth, who volunteered to host a get-together of all the interested parties, and who also provided refreshments and a slide show on that sentinel occasion. The rest is history, repeated on fourth Thursdays and extending beyond a golden anniversary last year. The meetings were held in member's homes initially but were soon moved to various locations in the Jacksonville area as membership grew from the original 10 to 20. In January 1960, the group officially became the Jacksonville Shell Club with 20 Charter Members, and Larry Hedgecoth was elected its first President. In October 1959, volume 1 no. 1 of the club's official organ, the *Shell-O-Gram*, came off the (mimeographic) press, and this journal has continued, moving from a monthly to a bimonthly publication in 1983 to the present day essentially without interruption.

The club presented its first shell show at the Lion's Club building at 20th and Main Street in downtown Jacksonville in July, 1962. With the effort of the membership and Dr. William Clench, Curator of Mollusks at the Museum of Comparative Zoology, Harvard University, the show was deemed a success. The Jacksonville Shell Club was incorporated under Florida statute in 1964 and in May 2009 was recognized as tax-exempt educational organization under the provisions of Section 501(c)(3) of the Internal Revenue Code.

From its inception the club has held education as principal in its mission. Aside from the nearly annual shell shows, the 44th being held on May 28-30, 2010, members have participated in various other public exhibitions, spoken to civic organizations and schools, operated booths at various festivals and local events, sponsored field trips, participated in curatorial and field work with scientists, and donated material and volunteer services with scientific and educational institutions including the Florida Museum of Natural History and the Bailey-Matthews Shell Museum. In the 1980's the club began to provide grant support for students showing an aptitude for and an interest in malacology. Past scholarship winners include Dr. Paula Mikkelsen of the Paleontological Research Institution (then at Florida Institute of Technology) and, while at Jacksonville University, Debi Ingrao, recently retired from Mote Marine Lab, Sarasota, Florida. Most years, however, we were unable to grant an award because the coffers just weren't ample enough.

An abiding goal for the club was the creation of a thorough inventory of the marine mollusks of the Jacksonville region based on our own primary research. This special collaboration involving several dozen club members and a few others began in 1975 and culminated last year with the publication of *Marine shells of northeast Florida* (Lee, 2009a, b). To forward this campaign, we received an Academic Grant from the COA in 1990. In large part due to the proceeds from the sale of this book, the Jacksonville Shell Club is now in a financial position to embellish and formalize its commitment to the support of education and research in malacology. Considering COA's past assistance to our club and the current arrangement for joint philanthropy as expressed by Chairman Donald Dan, the club has decided to endow a COA annual Academic Grant ($10,000). This stipend is expected to be a perennial award in support of graduate or postgraduate studies in malacology, particularly work focusing on taxonomy and organismic studies of the fauna of our region. Our only charter member, Gertrude Moller, was among those casting votes in the unanimous support of this initiative. She can tell you better than anyone that we've come a long way in this half century.

Lee, H.G. 2009a. *Marine shells of northeast Florida.* Jacksonville Shell Club, Jacksonville, FL. Pp. (1)-204 incl. numerous text figs. + 19 color pls.
Lee, H.G. 2009b. *Marine shells of northeast Florida*: a chronicle of the campaign. *American Conchologist 37*(3): 18-20 Sept.

2010 SHELL SHOWS & RELATED EVENTS (August – December)

Following information is subject to change. Please verify with individual organization

Aug. 20-22 2010 — **JERSEY CAPE SHELL SHOW**, Stone Harbor, New Jersey
The Wetlands Institute, Stone Harbor
Karen Lelli e-mail: kjlelli@comcast.net
(856) 691-5831

Aug. 27-31 2010 — **CONCHOLOGISTS OF AMERICA ANNUAL CONVENTION,** Boston, MA
The Boston Park Plaza Hotel, 50 Park Plaza & Arlington Street
Don Robak (617) 889-1841 E-mail: shellsnail@comcast.net
Warren Graff (978) 749-3351 E-mail: wgraff@vicr.com
Web site: www.conchologistsofamerica.org

Sept. 18-19 2010 — **31st INTERNATIONAL SHELLS & FOSSIL BOURSE,** Ottmarsheim, France
Salle Polyvalente, Rue de la Priscine
Michel Rioual, 2 Rue des Vergers
68490 Ottmarsheim, France (3) 89-26-16-43

Sept. 24-26 2010 — **NORTH CAROLINA SHELL SHOW,** Wilmington, NC
Cape Fear Museum of History & Science
814 market Street
Ann Buddenhagen, 618 Crabbery Lane
Raleigh, NC 27609 (919) 787-7103
E-mail: abuddenhagen@nc.rr.com

Sept. 25-26 2010 — **ANNUAL GERMAN SHELL FAIR**, Oehringen, Germany
KULTURA Hall, Herrenwiesenstr. 12
Kurt Kreipl, Hoehenweg
D-74613 Oehringen-Cappel, Germany
E-mail: meeresmuseum@t-online.de
Tel. (7941) 62-826

Oct. 9 -10 2010 — **PHILADELPHIA SHELL SHOW,** Philadelphia, PA
Academy of Natural Sciences, Parkway & 19th St.
Paul Callomon, Academy of Natural Sciences
Parkway & 19th St., Philadelphia, PA 19103
(215) 299-1159
E-mail: callomon@ansp.org

Date to be confirmed — **SEA SHELL SEARCHERS SHELL SHOW**, Lake Jackson, TX
Brazosport Museum of Natural Science
400 College Blvd., Clute, Texas 77531
Patty Humbird, Tel. (979) 265-1320
Wanda Coker, Tel. (979) 297-0852
Email: shellclub@earthlink.net

Oct. 30 2010 — **BRITISH SHELL COLLECTOR'S CLUB CONVENTION,** Essex, England
Theydon Boys Community Centre, Theydon Boys, Epping, Essex
Tom Walker, 38 Redlands Road
Reading, Berkshire RG1 5HD, England 44 (118) 987-4294
E-mail: tom@tmwalker.co.uk

Oct. 30 2010 — **SYDNEY SHELL SHOW,** Sydney, Australia
Show contact:
Steve Dean, 166 Narabeen Pk Pde
Mona Vale, NSW 2103 61 (2) 9979-9536
E-mail: steve@easy.com.au

Nov. 13-14 2010 — **XV PRAGUE INTERNATIONAL SHELL SHOW,** Prague, Czech Rep.
KULTURNIDUM LADVI Buresova 1661, Prague 8
Jaroslav Derka, Holeckova 51/370
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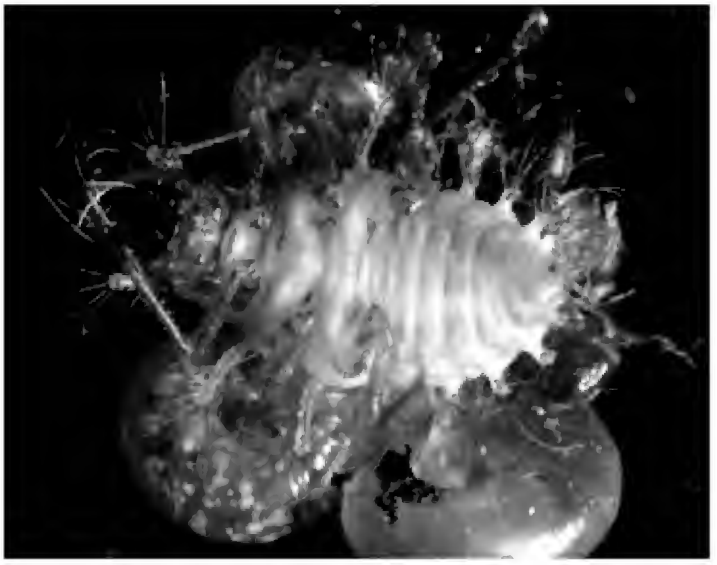
The World's Smallest (and Probably Ugliest) Shell Collector

Tom Eichhorst

Dorsal view of the 7mm green lacewing larva found by David Kirsh in Mayo River State Park. In this view you can barely see the insect for the shells. All of which appeared empty.



Ventral view of the green lacewing larva. In this view you can see the business-like jaws that make this insect such an effective predator. Both images by David Kirsh.

In April 2010, COA member David Kirsh collected a small insect larva that had a number of even smaller land snails attached to its body. The 7mm larva was found under dead leaves and ground debris near a stream in Mayo River State Park, Mayodan, Rockingham County, North Carolina. The attached snail shells were approximately 3mm or smaller. This was certainly something David had not previously seen and he was quick to get photographic evidence of this 7mm shell collector.

The larva was subsequently identified by Dr. Raymond J. Pupedis of the Peabody Museum of Natural History at Yale University, New Haven, Connecticut, as a green lacewing larva - family Chrysopidae (order Neuroptera). This is a large insect family with up to 2,000 species in 85 or more genera (a number that varies with author, as does the assignment of genera). They are especially prevalent in Europe and North America. Most specimens encountered in the temperate region are relatively small with a wing span of about 10-20mm, but tropical green lacewings can have a wing span of 65mm. In the larval form they are voracious predators and are sold commercially in the US for aphid (and other small garden pests) control. A quick check online showed a price of $15 for 1,000 green lacewing eggs.

So what was it doing with land snails attached to its back? Apparently the family Chrysopidae is known for the larval stage attaching small items, such as pieces of leaves and ground debris, lichens, and insect parts to their body. This habit has earned it the nickname, "junkyard bug." Whether this is done for camouflage, protection, or some other reason is unknown.

David's encounter was not the first recorded instance of a snail-collecting green lacewing. In the first issue of the *Appalachian Highlands Science Journal* is a article describing a similar finding in the Great Smokey Mountains National Park, North Carolina. While studying land snail diversity, Dan Dourson found green lacewing larva with six different land snail species attached, including: *Punctum vitreum* H.B. Baker, 1930 (a new record for the area); *P. minutissimum* (Lea, 1841); *P. blandianum* Pilsbry, 1900; *Gastropocta pentadon* (Say, 1821), *G. contracta* (Say, 1822), and *Carychium clappi* Hubricht, 1959. The *G. pentadon* was still alive, maybe answering a question about snail predation by the green lacewing larva.

Now back to the specimen found and photographed by David Kirsh. He showed his images to our own Dr. Harry G. Lee, who promptly identified the shells as juvenile *Glyphyalinia wheatleyi* (Bland, 1883). Much of this story can be found on line at the Jacksonville Web Site at: http://www.jaxshells.org/mare20.htm. There are also a number of references provided by Dr. Harry Lee about predation of various mollusk species by insects (including one that lists a predatory butterfly caterpillar!).

To have an interest in conchology is to appreciate the shiny perfection of a golden cowrie (*Cypraea aurantium* Gmelin, 1791), or even the ever-changing taxonomy that lists the same species as *Lyncina aurantium* (Gmelin, 1791). Similarly, the spiny perfection of a Venus comb murex (*Murex pecten* Lightfoot, 1786) or the bright colors and intricate sculpture of a specious scallop (*Gloriopallium speciosum* (Reeve, 1853)) are indeed wonders to behold. David Kirsh found the wonder of conchology (as well as natural history in general) on a small insect under a leaf in North Carolina.

"It is perhaps a more fortunate destiny to have a taste for collecting shells than to be born a millionaire."

Robert Louis Stevenson (1850-1894)

Jim & Bobbi Cordy Take the COA Award at the Marco Island Shell Club Shell Show (Plus a Few Others)

Jim and Bobbi Cordy have collected shells at least twice a year on Eleuthera Island for the past 16 years. With other members of the Astronaut Trail Shell Club, they travel hidden beaches and seldom visited areas. The result of this is a truly superb Caribbean shell collection seen recently in their 40-foot exhibit of "Self Collected Shells of Eleuthera," which took the COA and other awards at 2010 shell shows.

At the **Space Coast Seashell Festival** they won the R. Tucker Abbott Award for Best Florida/Caribbean Exhibit. At the **Broward Shell Show** they won the DuPont Trophy and the Van Kunnon Memorial Award for best Caribbean exhibit. At the **St. Petersburg Shell Show** they won the Florida Museum of Natural History Platinum Award and the Dorthy Hansler Award for best Caribbean exhibit and they took Shell of the Show with a very large and seemingly perfect chank shell (*Turbinella angulata* (Lightfoot, 1876) - see the image at right). At the **Marco Island Shell Show** they won the COA Trophy and the Dr. William Reid Trophy for best Florida/Caribbean exhibit.

It looks like they are on a roll. Contact for the Marco Island Shell Club is Margaret Cook at 394-7022. The club meets the 1st Tuesday of the month at 8:00 p.m. (November thru May) at First Methodist Church, 350 S.Barfield Avenue, Marco Island, FL.

Above: Jim (looking very happy) and Bobbi Cordy with two of many awards they won in 2010.

Below: The football-sized West Indian chank shell (*Turbinella angulata*) that took best of show.

St. Petersburg Shell Club 63rd Annual Shell Show 27-28 Feb 2010

After 74 years of existence and 63 annual shell shows, it appears the folks in St. Petersburg, Florida, really know how to put on a shell show (the club was founded in 1936 and incorporated in 1968). They had lots of exhibitors and crowds of interested spectators at "one of the best shows ever." This year's show had four judges. Scientific judges were: Dr. Gary Schmelz and Marcus Coltro. Artistic judges were: Debbie Freeman and Lynn Gaulin. After careful scrutiny of the numerous displays, they decided on the following awards:

MAJOR:

CONCHOLOGISTS OF AMERICA AWARD -- Martin Tremor, Jr (The Helmets and the Bonnets of It All)

DUPONT AWARD -- Dale Stream (Fossil Shell of the Okeechobean Sea)

NATIONAL MUSEUM OF NATURAL HISTORY AWARD -- Martin Tremor, Jr. (The Helmets and the Bonnets of It All)

FLORIDA MUSEUM OF NATURAL HISTORY PLATINUM -- James & Bobbi Cordy (Self Collected Eleuthera Island)

MINOR:

FLORIDA/CARIBBEAN DOROTHY HANSSLER AWARD -- James & Bobbi Cordy (Self Collected Eleuthera Island)

SELMA LAWSON MOST BEAUTIFUL AWARD -- Martin Tremor, Jr. (The Helmets and the Bonnets of It All)

BEST SMALL SCIENTIFIC -- Wayne & Patti Humbird (Dye Murex)

EARL CLARK BEST ARTISTIC AWARD -- Cheryl Whitten (Victorian Pearl)
SHELL OF THE SHOW SELF COLLECTED -- James & Bobbi Cordy (*Turbinella angulata*)
SHELL OF THE SHOW COLLECTED ANY MANNER -- Dale Stream (*Cymatium floridana*)

Judges Special Awards:
Scientific:
Carolyn Petrikin -- World Record *Mercenaria mercenaria*
Martin Tremor, Jr. -- Hawaiian *Cassis cornuta*

Artistic:
Brandy Llewellyn -- Yesteryears
Wendy Marshall -- Song of the Sea

Shell show president Martin E. Tremor Jr. wishes to thank all judges, participants, and exhibitors. Meetings are held on the second Friday of the month (except in March when it is on the third Friday) from September to May at the Seminole Recreation Center located at 9100 113th Street North Seminole, Fl 3772. The meeting starts at 7:00 P.M. and the public is invited.

Right: Martin E. Tremor Jr., winner of the COA Award for "The Helmets and the Bonnets of It All."

Oregon Society of Conchologists Shell Show 23-25 April 2010

The Oregon Society of Conchologists held their shell show at the Oregon Museum of Science & Industry. A superb facility and a perfect venue for the shell show, which could hardly have gone better, lots of great shells on display and lots of people interested in them. This year's COA Award went to Valerie K. Moore from Vancouver, Washington. Her exhibit was titled "What is a Bivalve," and proved both educational and artistic.

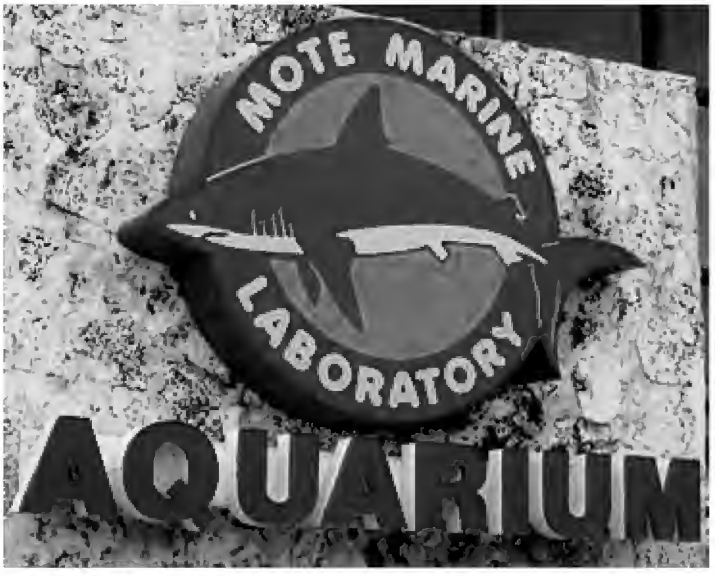
The Oregon Society of Conchologists, a non-profit organization, has about 70 members and was founded in 1965. Monthly meetings are held at various locations in northwestern Oregon and are open to anyone interested in studying and collecting seashells. Contacts for the club are: Donna Saffir, President, dragonzs@comcast.net (503) 297-3009 or Joyce Matthys, joycematthys@aol.com

Sarasota Shell Club Shell Show
12-14 February 2010

The Sarasota Shell Club was started to bring together people interested in shells from Sarasota, Manatee, and Charlotte Counties. This year's shell show was the club's 47 annual show. As usual there was great participation, lots of really beautiful shells and friendly folks, and shell displays that were both educational and nice to look at. This year's event was held at the Sarasota Municipal Auditorium, located at 801 N. Tamiami Trail, Sarasota, FL. The shell show chairperson was Peggy Williams and the scientific judges were Dr. Ed Petuch and Robert Lipe.

The COA Award was won by Martin E. Tremer Jr. of St. Petersburg, Florida. His 14 case, 32 foot display was titled, "A Display of Trumpets and Tritons of the World." Martin also took the DuPont Trophy for his display titled "Helmets & Bonnets." Jeanette Tysor won the Mote Gold Award for her display, "Staying Alive." The "Shell of the Show" was a perfect specimen of *Chicoreus hilli* Petuch, 1990, displayed by Lynn Gaulin. The fossil "Shell of the Show" was *Strombus mayacensis* Tucker & Wilson, 1933. There were almost 1,300 paid attendees at this year's show.

The Sarasota Shell Club meets on the second Thursday of each month from **September** through **April**. The agenda includes a program of interest to shell collectors and a short business meeting. Meetings start at 7:00 p.m. and are held at the Mote Marine Laboratory, 1600 Ken Thompson Parkway, 3rd floor - Buchanan Room, Sarasota, Florida. Contact is info@sarasotashellclub.com



Right: Because Martin is pictured for his win at the St. Petersburg Shell Show (and because I only received the single image), images of the Mote Marine Laboratory will have to suffice.

Sanibel-Captiva Shell Club Shell Show
4-6 March 2010

The 73rd annual Sanibel-Captiva Shell Club Shell Show was held at the Sanibel Community Center in Sanibel, Florida. This is one of the nation's larger shell shows and exhibits and the admission fees are used to fund research scholarships. This is the only shell club to fully fund a student through graduate school into a PhD program at the University of South Florida, St. Petersburg. Founded in 1963, the club presently has 100 members. Contact for the Sanibel-Captiva Club is sanibelchiton@aol.com

This year's show met the high standards of this club, with superb exhibits and lots of attendees. Winner of the COA Award was Patricia Linn with her three case exhibit titled "Shells of Caladesi and Honeymoon Islands, FL." Her purpose was to educate the public about shelling on the island beaches in this state park. It obviously garnered some attention as judges Dr. Henry Chaney and Paul Callomon presented Patricia the COA Award.

Broward Shell Club Shell Show
23-24 January 2010

Left: Alan Gettleman with his richly deserved COA Award. Maybe only Alan could design a display of U.S. freshwater mussels that would take not only the COA Award, based on the judges evaluation, but also garner the People's Choice Award. Congratulations Alan.

The Broward Shell Club, Broward County, Florida, was established in 1962 and has pretty much been a mainstay of US shell clubs ever since. Meetings are held the 2nd Wednesday of every month at the Emma Lou Olson Civic Center, 1801 N.E. 6th Street, Pompano Beach, Florida (call 954-786-4111).

The 45th annual Broward Shell Club Shell Show was a tremendous success with some truly spectacular exhibits. The COA Award went to Alan Gettleman for his display titled "Freshwater U.S. Pearly Mussels." He also won the People's Choice Award (as voted by attendees). That ought to quiet the crowd who think our native mussels are just "brown and boring" shells. There were any number of worthy exhibits and those that received awards are listed here. Of special note were two exhibits. One was by Linda Sunderland, titled "Earthenware Molasses Can." Linda's exhibit won the first ever Fay Mucha Memorial - Best Collectibles Trophy. As covered in the December 2009 issue, Fay (who contributed uncounted photos to this publication) passed away in October 2009. The other exhibit of note was of "Cuban *Polymita*" by Archie Jones. He won the Len Hill Memorial Trophy with his colorful display, but sadly passed away not a month later (reported in the March 2010 issue). Below are listed the various awards and award winners.

Major Trophies

AMERICAN MUSEUM OF NATURAL HISTORY AWARD - Lillian Shin "Historical Review of the South Florida Tree Snail *Liguus fasciatus*"

CONCHOLOGISTS OF AMERICA TROPHY - Alan Gettleman "Freshwater U.S. Pearly Mussels"

The DuPONT AWARD - James and Bobbi Cordy "Shells of Eleuthra. Self Collected"

The "BEST OF THE BEST" Trophy - Gene Everson "Shells of Masirah Island, Oman"

Other Trophies & Sponsors

LEN HILL MEMORIAL TROPHY – Archie Jones "Cuban *Polymita*"

JIM VUNKANNON MEMORIAL BEST FLORIDA / CARIBBEAN TROPHY - James and Bobbi Cordy "Shells of Eleuthra. Self Collected"

NEIL HEPLER MEMORIAL TROPHY FOR EDUCATIONAL EXCELLENCE – Lillian Shin "Historical Review of the South Florida Tree Snail *Liguus fasciatus*"

SHELL OF SHOW - Self Collected – Bobbi Cordy "Left Handed Morum oniscus"

SHELL OF SHOW - Any Manner – Alan Gettleman "Extinct Mussel"

BEST SEA LIFE EXHIBIT TROPHY – Jonathan Galka – Panamanian Seabeans"

BEST STUDENT EXHIBITOR TROPHY – SCIENTIFIC – Valentino Leidi "Self Collected South Florida Shells"

BEST BEGINNING EXHIBITOR – SCIENTIFIC – Tom Ball "Buying Shells On Ebay"

PEOPLE'S CHOICE AWARD – SCIENTIFIC - (As voted by the attendees) Alan Gettleman

Artistic Division

BEST IN SHOW TROPHY – PROFESSIONAL - Luis Miguel Rodriguez – Painting

BEST IN SHOW TROPHY – SAILOR'S VALENTINE (any manner) - Brandy Llewellyn "Yesteryears"

FAY MUCHA MEMORIAL - BEST COLLECTIBLES TROPHY – (any manner) - Linda Sunderland "Earthenware Molasses Can"

BEST BEGINNING EXHIBITOR ARTISTIC – Bob Pace – Caricatures "Animals of the Everglades"

PEOPLE'S CHOICE AWARD - ARTISTIC DIVISION - (As voted by the attendance) Heather Strawbridge

Last Call for Shell-ebration Boston!

Join in the celebration of the Conchologists of America 2010 Convention in Historic Boston, Massachusetts, and help observe the 100th year of the Boston Malacological Club. Convention dates are August 27th through August 31st, with pre-convention tours August 26th and 27th.

The host hotel is the Boston Park Plaza, located in the heart of downtown Boston. Minutes from Logan International Airport, the hotel is also close to many of Boston's finest attractions. The Boston Park Plaza has 941 recently renovated rooms, five in-house restaurants and many other amenities, and is the most affordable venue for downtown Boston. Reservations can be made by calling (617) 426-2000 or (800) 225-2008 and you must mention 'COA' to receive the convention rate (which will be honored 3 days prior and 3 days after the convention dates), or use the website http://www.starwoodmeeting.com/Bookcac0826. The special website address is to reserve the regular state rooms. If a suite or some other type room is desired, use the hotel's regular website address, http://www.bostonparkplaza.com.

NOTE: The Boston Park Plaza has reduced the convention rate of the hotel staterooms to $169 plus 14% tax, a savings of $30 from the original rate of $199 per night. In addition, the entire room block has been upgraded to deluxe guestrooms with complimentary internet access. Also, COA officers and your Boston-based club request that you make reservations by using the Boston Park Plaza hotel contact information (phone number or special link) and NOT travel sites such as Expedia or Travelocity. In order to be financially feasible, as in all COA conventions, COA must meet certain contract-related goals with the hotel, and booking through outside sources does not give credit to COA toward meeting these goals.

Logan Airport is about six miles from the hotel and costs approximately $25-$35 by taxi. There is no hotel shuttle, but independent shuttles cost $14 per person and are available by calling the Park Plaza concierge service. Note: as in other cities in the northeast corridor, **parking is expensive in Boston and is typically at least $20 or more for 24 hours.** The Park Plaza does not have its own lot, but there are several private lots nearby; see the registration insert for details on parking options. **Special temporary parking arrangements will be made for bourse dealers for loading/unloading at the setup and take down times.** For those of you planning to drive, directions to Boston and the hotel will be provided in the registration insert.

The convention schedule will start with pre-convention tours on Thursday, August 26th and continue with a.m. tours Friday, August 27th; see details on these tours below. Registration will begin Friday morning, and the convention opening will be at 1 p.m., with the welcoming party Friday evening. Registration will continue Saturday, August 28th and the COA annual meeting will be held in the afternoon with the oral auction that evening. Sunday, August 29th and Monday, August 30th will consist primarily of programs; dealers' bourse setup will be Monday in the morning, with the bourse opening at 1 p.m. that afternoon. The bourse will conclude Tuesday morning August 31st and the farewell banquet will be held that evening. Silent auctions, raffles, and door prizes will be conducted daily as in the past and the detailed schedules for these will be available in your registration packets.

Come early and you will be able to enjoy three field trips on Thursday and two on Friday morning before the official convention opening ceremony. Here are the field trips planned for Thursday August 26th; see the insert for details on departure times, duration, and cost.

Historic Concord, Mass. Tour the location of the start of the American Revolution. Located 16 miles west of Boston, Concord was home to Ralph Waldo Emerson, Henry David Thoreau, and Louisa May Alcott. The tour will comprise visits to the Old North Bridge, the Alcott House, the Concord Museum, and the Concord Library, which houses an exhibit of the Shells of Concord, collected by Boston Malacological Club member Kristina Joyce. Through careful planning and preservation efforts, much of Concord still looks as it did in revolutionary times.

Harvard Museum of Natural History, Cambridge, Mass. Tour the fabulous collections, including the Mollusk Department, Mineral Exhibit (deemed one of the best in America), the Great Hall of Mammals, and the famous Exhibit of Glass Flowers.

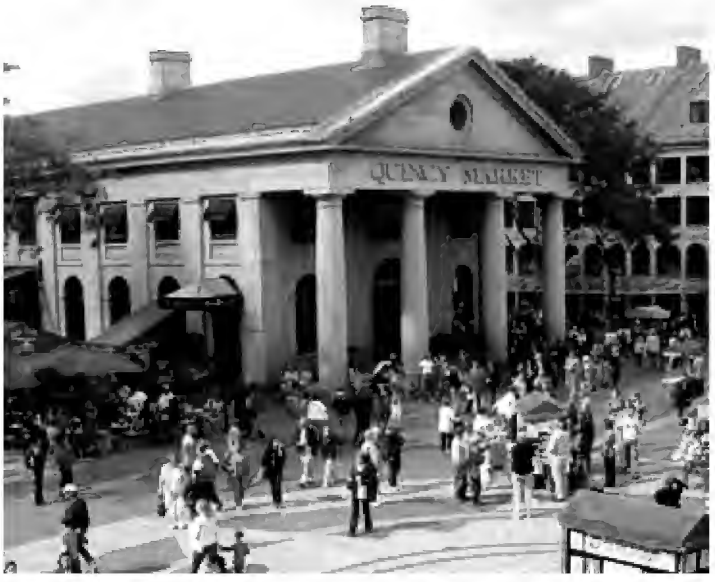
Shelling Trip. Although not as bountiful as a Florida mud flat, shelling can be productive on the beautiful east coast beaches of the Massachusetts, particularly north of Boston. The trip is planned for either or both of two such locations, Nahant Beach in Lynn, and Revere Beach. Several of our New England shell experts from the Boston club will host this trip. A stop at the famous Kelly's Restaurant, a Revere Beach staple since 1951, is planned for lunch.

Field Trips scheduled for Friday morning August 27th include the Boston Duck Tour and the U.S.S. Constitution and museum. See the convention insert for details on departure times, duration, and cost. Both tours will return in time to get lunch and make the convention opening ceremony.

Boston Duck Tour. A great way to see many of Boston's famous sites and places, the Boston Duck Tour is in W.W.II style amphibious landing vehicles. The tour takes about 90 minutes and includes a tour guide and a short water excursion providing a wonderful skyline view of the city. You will see the Boston Public Garden, Massachusetts State House and Beacon Hill, the Old State House, Faneuil Hall and Quincy Market, Bunker Hill Memorial, and the USS Constitution, to name a few. Take a virtual tour from this link below and crank up the volume! http://www.bostonducktours.com/tour_video.html

U.S.S. Constitution and Museum. You will go aboard the oldest commissioned warship in the world. A veteran of the War of 1812, this maritime treasure has been restored to its original splendor. The 2-hour tour also includes a visit to the USS Constitution Museum; the ship and the museum are located in the Charlestown Naval Yard.

Other things to take in. There are many other worthwhile places and things to see in Boston. There was not enough time to schedule all of these as field trips, so for those coming early or staying late, here is a list we recommend for you to do on your own.



Faneuil Hall/Quincy Market complex. A short taxi ride from the hotel and close to the waterfront, this is the most visited tourist site in Boston. Originally a marketplace, these historic buildings were beautifully restored in the 1970's and house a myriad of restaurants, stores, and tourist item vendors. The Fanueuil Hall auditorium was used in the first protests against taxation and is still in use today.

JFK Library and Museum. Located in Dorchester, a Boston neighborhood, the JFK Library houses the papers and memorabilia of our 35th president.

Boston Public Garden. Only two blocks from the hotel, this beautiful and serene area is an oasis within the city. Don't forget to take a ride on the famous Swan Boats.

Top of the Pru and the Hancock Towers. Spectacular views of Boston and Cambridge can be seen from the top of both of these famous landmarks located just a few blocks from the hotel in Back Bay. The Prudential has an excellent restaurant, 'Top of the Hub.'

Other interesting places include a tour of **Fenway Park**, home of the Boston Red Sox, the **Paul Revere House** in Boston's North End, and the **New England Aquarium** on Boston's waterfront. The Park Plaza concierge can help arrange transportation to these venues.

Donations

Please donate shells and shell-related items that can be used for raffle items, silent auctions, or door prizes, as well as specimen-grade shells for the oral auction. Shell donations should include pertinent data (name and locality). Donations are tax deductible and help support COA grants and research. Financial donations are accepted as well and help offset the expense of awards and other convention necessities. Categories for Financial donations are:

Argentum	$10-$99
Aurantium	$100-$199
Diamantine	$200+

In order to be listed in the 2010 COA program booklet, donations must be postmarked no later than July 10th, 2010. All shell-related donations should be sent to Don Robak, 6 John St., Chelsea, MA 02150. Financial donations should be sent to Warren Graff, 18 Noyes Lane, Merrimac, MA 01860. **COA APPRECIATES YOUR SUPPORT!**

Living Fossils

Zvi Orlin

Above: A preserved coelacanth, *Latimeria chalumnae* Smith, 1939, caught off Grand Comoro in the Comoros Islands in 1974. In life this 'living fossil' (first discovered live by science in 1938) is blue with irregular light blue blotches. This specimen weighed 60kg and is 170cm long. It is on display in the Natural History Museum of Vienna, Austria. A second species, *L. menadoensis* Pouyaud, Wirjoatmodjo, Rachmatika, Tjakrawidjaja, Hadiaty, & Hadie, 1999 was discovered a decade ago in Indonesia. It is brown in color.

Right: The tuatara, on the right, is in the class Reptilia, but despite its appearance, it is not a lizard (order Squamata), but rather the sole surviving genus in the order Sphenodontia (two living species: *Sphenodon guntheri* (Buller, 1877) and *S. punctatus* (Gray, 1842)). The tuatara has been considered as endangered since 1895. This intriguing reptile is endemic to New Zealand where it is confined to 32 offshore islands that were free of introduced predators like the Polynesian rat and habitat loss caused by human development. It has recently been reintroduced to the mainland in a specially prepared sanctuary. Tuataras can live to be well over 100 years of age. Photo by Flicker user, Philippi C., on Wikipedia.com

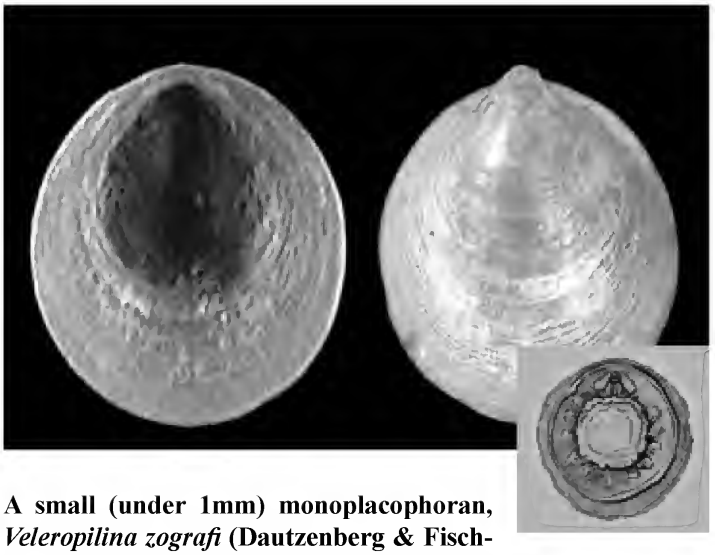
When one sees the phrase 'living fossils' the first images that come to mind are probably the lizard-like tuatara (Sphenodontidae) of New Zealand or the fish *Latimeria* or coelacanth (Latimeriidae) of East African waters. Both can trace an evolutionary lineage to ancestors living some 200 million years ago (mya). As our dealings here are with mollusks, I would like to mention three families that are perhaps among the more interesting of the phylum, have an ancient lineage, and fit the 'living fossil' description. First it is important to clarify what we mean by the term 'living fossil.' Darwin was probably first to coin this phrase and it has been used and abused ever since. One of the more interesting definitions I have run across is, "the recent members of an extinct group of organisms." Despite the internal contradiction in that definition, it does portray the meaning. You can find dozens of definitions on line and in print. Wikipedia has maybe a half dozen definitions, of which it highlights:

> **Living fossil** is an informal term for any living species (or clade) of organism which appears to be the same as a species otherwise only known from fossils and which has no close living relatives. These species have all survived major extinction events, and generally retain low taxonomic diversities. A species which successfully radiates (forming many new species after a possible genetic bottleneck) has become too successful to be considered a "living fossil."

Some authors (Stanley, 1978) believe this term should be dropped altogether. Despite the difficulties of definition, I have chosen here to use the phrase 'living fossil,' as it is popularly accepted.

The first 'living fossil' molluscan family I think worthy of mention is the bivalve family Trigoniidae, whose ancestors evolved during the Ordovician (about 450mya). Only two genera of this family survived the Cretaceous Mass Extinction (65mya). In the following Cenozoic Era the genus *Eotrigonia* became extinct, leaving *Neotrigonia* as the sole genus in this family to survive to modern times. *Neotrigonia* is found in the waters off Australia and there are only 5 (or 6, or 11, depending upon the author) Recent species. The species most generally agreed upon are: (*N. margaritacea* (Lamarck, 1804), *N. bednalli* (Verco, 1907), *N. lamarcki* (Gray, 1838), *N. gemma* Iredale, 1924, *N. uniophora* (Gray, 1847) and *N. kaiyomarumae* Habe and Nomoto, 1976 - this last is known only from a single specimen from off Western Australia. Each occupies a segment of the ring of shallow seas that encircle the continent. They have highly sculpted shells with prominent ridges or rows of knobs on the outer surface and unusual profiles of large (in relation to shell size) interlocking hinge teeth. They also have a highly muscular foot that enables them to burrow in sand more rapidly than other clams that inhabit the same sandy areas. In addition, these bivalves have a distinctive heel that facilitates leaping (like some cockles). These characteristics of fast burrowing and the ability to leap have probably kept them one step ahead of their predators. These species are popular with collectors because of their distinctive outer sculpturing and bright

One of the more commonly available broach shells, *Neotrigonia bednalli* Verco, 1907, 27mm, from 50 feet deep in sand in the Gulf of St. Vincent, South Australia. Broach shells have an ancient lineage and should not be dismissed as "just another small brown bivalve." In fact, a *N. bednalli* displayed by Sophie Ward at the 2009 British Shell Club Annual Shell Show won the Walter Karo Award for "Shell of the Show."



A small (under 1mm) monoplacophoran, *Veleropilina zografi* (Dautzenberg & Fischer, 1896) trawled at 500 meters, Fiumicino, Italy. It is easy to see why this shell, without the living animal, would be mistaken for a gastropod. Image courtesy of © Guido & Philippe Poppe - www.poppe-images.com The inset shows the living animal, including the pairs of ctenidia (gills), a structure more similar to chitons than to gastropods. Original image source unknown.

nacre interior. I am proud to mention that I had two specimens of *Neotrigonia bednali* in my shell collection, both from friends in Australia.

Next is a 'living fossil' that is also called a 'Lazarus taxon,' a clade that disappears in the fossil record for a period of time and then reappears as either a fossil or a Recent taxon (the coelacanth mentioned in the first paragraph also fits this definition). The fossil record of the order Monoplacophora showed they existed from the early Cambrian to approximately the mid-Devonian (550 - 380 mya), when they were thought to become extinct. Then in 1952, a Danish Biologist, Henning M. Lemche (1904 - 1977) discovered 10 living specimens of what he would eventually name *Neopilina galathea* Lemche, 1957, trawled while he was a member of the Galathea Expedition off the coast of Costa Rica at a depth of 3,590 meters. He described the specimens in the order Tryblidiacea - a monoplacophoran, thought extinct for 380 million years. Later more specimens were found at depths of up to 6000 meters, which certainly would account for them remaining undetected for so long. Once scientists knew what to look for they for they were able to identify other monoplacophorans that had been collected earlier but misidentified, usually as limpets. The earliest of these was perhaps *Veleropilina zografi* (Dautzenberg & Fischer, 1896), finally properly identified nearly 100 years later in 1983.

Monoplacophorans are found worldwide in the major oceans (including off Antarctica and in the Red Sea) and resemble limpets in outer appearance and chitons in several soft-body part characteristics, but are different from both, having a nacreous shell structure, a cap shaped protoconch, and serial multiplications of several organ systems. Extant species (of which over 20 have been named) feed on detritus in the cold waters in which they are found and some have been discovered to have symbiotic bacteria in the epidermis of their mantle. They have been termed a missing link between annelids and mollusks, but their anatomy suggests a strong relationship to modern chitons, despite the difference in shell morphology. Authorities differ on the exact placement and status of this group, but whatever the final outcome, they have certainly provided decades of excitement for some researchers.

Now we come to the third and what I believe are the most fascinating of our 'living fossils:' the family Nautilidae. The earliest nautiloids (class Cephalopoda) evolved in the Cambrian, the first period of the Paleozoic Era. They have thick shells for protection and the interior is sectioned off with calcareous partitioned chambers of liquid- and gas-filled space. In the partition between the chambers is a perforation permitting the passage of a porous tube called the siphuncle that includes blood vessels, nerves and other tissues. It joins the liquid filled chambers with the anterior living chamber. The amount of liquid is regulated by osmosis. If the salt content of the liquid is lower than that of the animal's blood, the osmotic gradient causes the liquid to flow through the blood into the body, leaving behind a gas-filled space. The role of the siphuncle is to control the gas and liquid content of the chambers. This creates a buoyancy organ, enabling them to hover weightlessly above the sea bottom and swoop down on their prey, or ascend from the ocean depths at night to feed near the surface. They are jet propelled predators, catching prey with their tentacles and biting off chunks of flesh with a parrot-like beak. The gas contained in the inner chambers is at a very low pressure and thus has an implosion depth limit at which the pressure of the sea could crush the shell. This means nautiloids could only submerge down to about 600 meters, but most probably lived up to about 300 meters in comparatively shallower depths. The shell system has a very slow growth rate and it can take up to 20 years for the animal to reach full adult size.

Fishes evolved in the Early Paleozoic, but were mainly found in freshwater lakes, ponds, and streams. By the Devonian, they had invaded the sea and evolved true jaws. They attacked

***Nautilus belauensis* Saunders, 1981, photographed off Palau by Lee R. Berger, courtesy of Wikipedia.**

young nautiloids and the characteristic slow nautiloid growth became a major liability. The nautiloids dwindled as fish proliferated. Closely related cephalopods, the ammonites, seemed to partially solve the predation problem by producing vast numbers of tiny eggs (nautiloids produced only few eggs at a time with slow rates of development). Thus ammonites, with numerous young floating in the plankton, could be carried by currents to widely separated parts of the globe. By the end of the Devonian they radiated explosively into many hundreds of new species. Over 80 genera existed at that time, but they were later annihilated by successive mass extinctions. They became common in the Mesozoic Era (the Age of Dinosaurs) with over 400 genera in the Triassic circ. 220 mya. Despite a mass extinction at the end of the Triassic, when only two genera survived, they radiated again in the Jurassic. By the early Cretaceous they were amongst the most common creatures of the sea. The subsequent mass extinction at the end of the Cretaceous (referred to as the KT extinction circ. 65 mya) annihilated them, after a 300 million year reign.

The cardinal question is why did the nautiloids survive the KT extinction? According to P.T. Ward (1991), one of the reasons is that *Nautilus* eggs seem to be laid and kept at great depths (100-300 meters) during the year it takes them to develop. The KT catastrophe may have killed off all juvenile and adult ammonites as well as nautiloids, but it is possible that the slow developing nautiloid eggs were preserved in the depths. In any case, only two nautiloid genera survived to the present, *Nautilus* and *Allonautilus* (though there is still some dispute about the status of this second genus). They are represented by only five species (or six, or seven, again depending upon author). Generally accepted species of Nautilidae are: *Allonautilus perforatus* (Conrad, 1849) (Indonesia); *Allonautilus scrobiculatus* (Lightfoot, 1786) (Papua new Guinea and the Solomon Islands); *Nautilus belauensis* Saunders, 1981 (Palau); *Nautilus macromphalus* Sowerby, 1848 (New Caledonia to NE Australia); *Nautilus pompilius* Linnaeus, 1758 (type) (southern Japan to Australia and Indonesia to Fiji); *Nautilus stenomphalus* Sowerby, 1848 (Queensland, Australia).

There are, of course, other cephalopods that demonstrate an ancient lineage. Perhaps of most interest here would be *Spirula spirula* (Linnaeus, 1758). This deep-sea dweller looks like a squid, but is actually the last surviving member of the fossil family Belemnoidea (belemnites), a group of squid-like creatures that are related to ammonites and may have giving rise to modern squids and cuttlefish. Today, *Spirula spirula* is mostly known from the small white spiral shell that is completely enclosed inside the animal in life, but often washes ashore on tropical and temperate beaches after the animal dies.

Are these the only living fossils of mollusks? Certainly not, but how many mollusks can be traced back in the fossil record for at least 150 mya? I have searched my available literature and would like to present a list of the extant common families whose ancestors I was able to trace back further than 150 mya. I have not added the Cretaceous Period as it borders on the Cenozoic Era, when most of the present extant species of mollusks evolved and can be traced by more recent fossils. My list is limited to families well known to most shell collectors.

Mesozoic Era:

Jurassic - Aporrhaidae, Epitoniidae, Ringiculidae, Cylichnidae, Physidae, Retusidae, Ellobiidae, Siphonariidae. Arcidae, Anomiidae, Tellinidae, Arcticidae, Thraciidae, Teuthidae, Sepiidae

Triassic - Scissurellidae, Fissurellidae, Neritidae, Strombidae, Naticidae, Architectonicidae, Mytilidae, Pteriidae, Limidae, Ostreidae, Gryphaeidae, Spondylidae

Paleozoic Era:

Carboniferous - Acteonidae, Pinnidae

Devonian - Solemyidae, Nuculanidae, Pectinidae, Cardiidae

Ordivician - Trochidae, Buccinidae, Scaphapoda

Cambrian - Pleurotomariidae, Chitons

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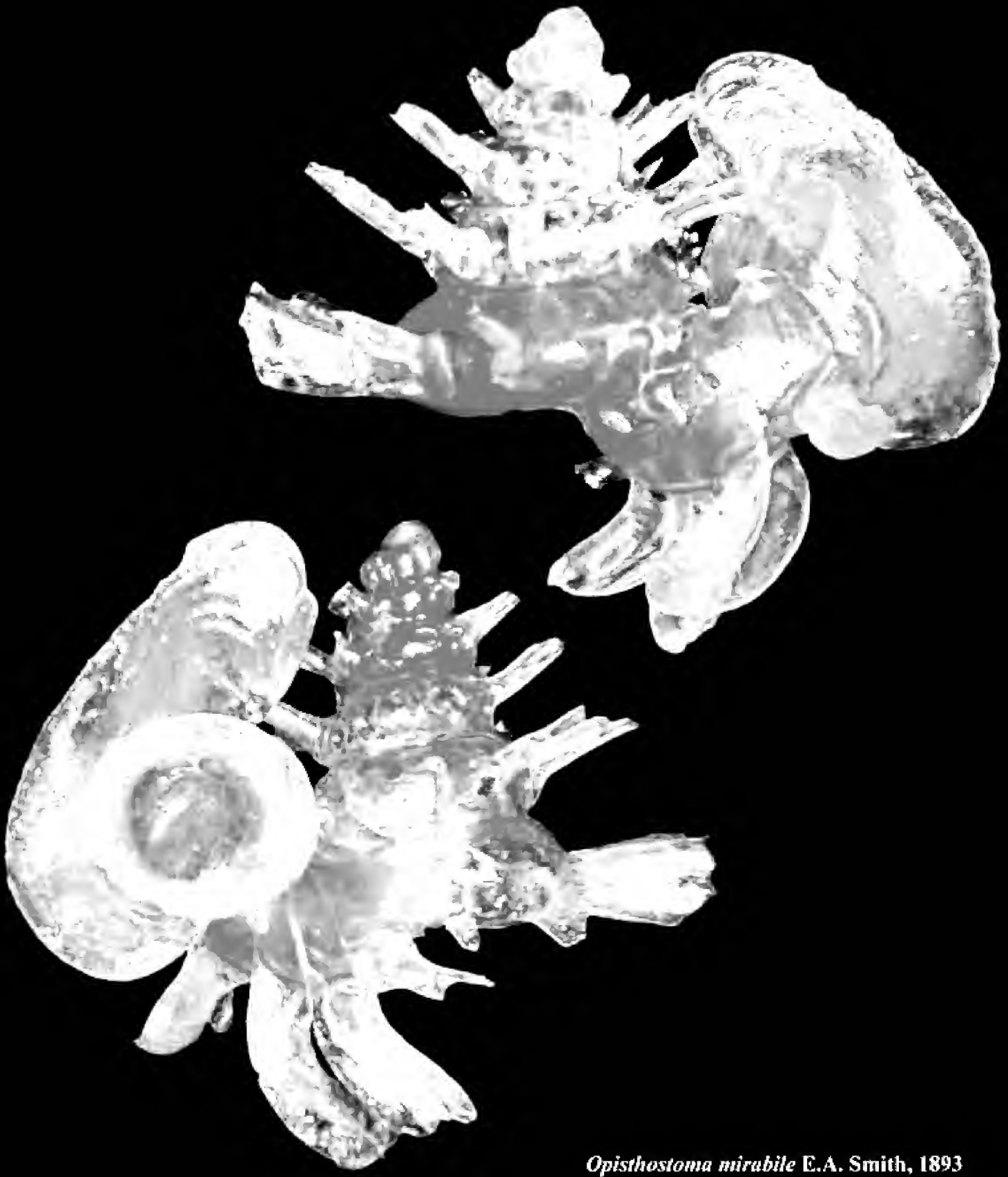

Opisthostoma mirabile **E.A. Smith, 1893**
4.5mm, on limestone rock, Borneo

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CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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In This Issue

Front cover: *Anguispira picta* (Clapp, 1920), a seldom seen land snail limited to one small valley in Tennessee. One of three common names for this snail is painted snake coiled forest snail. This is a protected species and these shells were dead collected by Doug Shelton with a permit from and working for the state of Tennessee (see article on page 30). Photo by Doug Shelton.

Back cover: *Tridacna gigas* (Linnaeus, 1758), the giant clam, can grow to four feet. This specimen was photographed in the Solomon Islands, image courtesy of Simon's Specimen Shells Ltd. at: www.simons-specimen-shells.com/ Hopefully Simon Aiken will have a full report with photos for the next issue.

Editor's comments: I am just about ready to put this issue to bed and I thought I ought to thank my contributors. I cannot always use everything I get from potential contributors, but please believe me when I say I value every article. The success of *American Conchologist* is due to the many people who continue to support this magazine; authors, photographers, proof readers, and staff (the folks who print inserts and mailing labels, stuff envelopes, and haul boxes of magazines to be posted). Now, an apology for not including an article on the COA convention in Boston. It was a great convention, I repeat, a great convention. I have not heard anyone who attended say anything but nice things about the fantastic efforts by the Boston folks that ensured everything went as programmed. I forgot my camera (bit of a hassle with a changing flight schedule) and have not yet received any pictures of the event. When I do get them I will have more to say about the convention. And speaking of pictures, if you win the COA Award, please send me a picture or two along with the announcement. I need the image in order to post the winners in the magazine.

I believe this issue should have something to interest most of our readers. We have articles on Conidae, Cypraeidae (left-handed no less), Epitoniidae, land snails, Caribbean shells, Red Sea shells, Muricidae, Strombidae, and images from Mexico. I think that is a pretty fair cross section of conchological subjects. Sadly we also have two deaths to report: Andrew Grebneff and Bob Dayle. Both are individuals I knew and liked, while never having met either one in person. Yet because of the Internet I knew both as well as many friends I see in town. We often lament the "graying of our hobby," but both Andrew and Bob were quite a ways from that label. Losing young shellers is doubly painful.

Finally some business. Carlos Henkes sets up and runs our COA web site. He knows his business and can pretty much do anything asked as far as the web site goes. What we need is someone interested in providing material for Carlos to post. This person does not have to be a computer expert (although computer skills would certainly help), just have an interest in making the COA website current, up-to-date, and useful for both members and nonmembers. If you have thought, "Why doesn't the COA website have "such and such?" then maybe you are what we need. Give me a call or email me.

Tom Eichhorst

Conus archetypus Crosse, 1865, in northwestern Panama

Emilio Fabián García

During my visit to Bocas del Toro Archipelago, northwestern Panama (see *American Conchologist* vol. 38, no. 2, June 2010), I collected some puzzling "little red cones" that did not look like any of their congeners from the western Caribbean. I had consulted Olsson & McGinty (1958), who had done extensive collecting in the archipelago; among the cones listed, however, only the taxon "*Conus regius cardinalis* Hwass" seemed to be similar enough to qualify as a misidentification for this cone. I had collected only one specimen of *C. cardinalis*, but had on hand five specimens of the cone in question, so I presume that Olsson and McGinty did collect this species, as four of my specimens were collected in the drift line and exposed reef, not SCUBA diving. Moreover, they were collected at three different stations: NE Isla Colón (Figs. 1-3), Bastimento Norte (Figs. 4-5), and Zapatillas Key No. 1 (Figs. 6-8). The specimens were put away until recently, when I needed to get back to them because I was preparing a report on mollusks from the archipelago (García, 2010).

As luck would have it I was also working on a paper on turrids and I asked Mr. John Tucker for help in obtaining a copy of an old turrid description. He complied and then we started "talking cones," so I took the opportunity to send him images of the Bocas specimens. John suggested some possibilities and sent some images, and we finally narrowed it down to a cone complex that comprises *Conus ziczac* Mühlfeld, 1816 (Fig. 14), *C. archetypus* Crosse, 1865, *C. beddomei* Sowerby, 1901, and *C. brasiliensis* Clench, 1942.

The taxonomy of this group is somewhat nebulous and cone specialists differ in their opinions, considering some of these taxa as either synonyms, subspecies, or perhaps a single, very variable species, as John does. This would be *Conus ziczac.*

The Bocas cones match very well the holotype of *Conus brasiliensis* (Figs. 10-11), but since this taxon is considered to be a junior synonym of *C. archetypus* (Figs. 12-13) by cone specialists, I am calling it by the latter name. I have in my collection, however, a specimen of *Conus "beddomei"* from Brazil that is also very similar to the Bocas cones (Fig. 9), one from the Granadines that seems to be an intermediate form (Fig.16), and still another from the same island group (Fig. 17) that resembles the holotype of *C. ziczac*. Moreover, the holotypes of *Conus ziczac* (Fig. 14) and *C. beddomei* (Fig. 15) are rather similar, considering that the holotype of *C. ziczac* is probably a juvenile, measuring only 8.2 mm and probably has a proportionately higher spire than it would as an adult (compare Figs. 14 and 15, as well as Fig. 17). So, perhaps after the dust is settled, John's suggestion may be the answer and the name of the Bocas cone may turn out to be *Conus ziczac.* That is for the specialists to decide.

Although typical *Conus archetypus* has until recently been restricted to Brazil, Macsotay & Campos (2001: 109) reported collecting 16 specimens of *Conus brasiliensis* in Venezuela by SCUBA diving. On the other hand, Díaz & Puyana (1994) do not report it from Colombia. When Clench described *Conus brasiliensis*, his remarks concerning the Brazilian molluscan fauna were that "though mainly West Indian in the character of its fauna, there are many species known from this region that appear only in the northern Caribbean or to the south of it." (Clench, 1942: 25) The new record places *Conus archetypus* in Central America, that is, "to the west of it."

My special thanks go to Mr. John Tucker, Illinois Natural History Survey, for sending images and literature concerning this project that allowed me to gain a clearer picture of this cone complex, and to Dr. Alan Kohn, Professor Emeritus, University of Washington, who graciously gave his permission to use his images of the holotypes of *Conus ziczac, C. archetypus, C. beddomei,* and *C. brasiliensis*.

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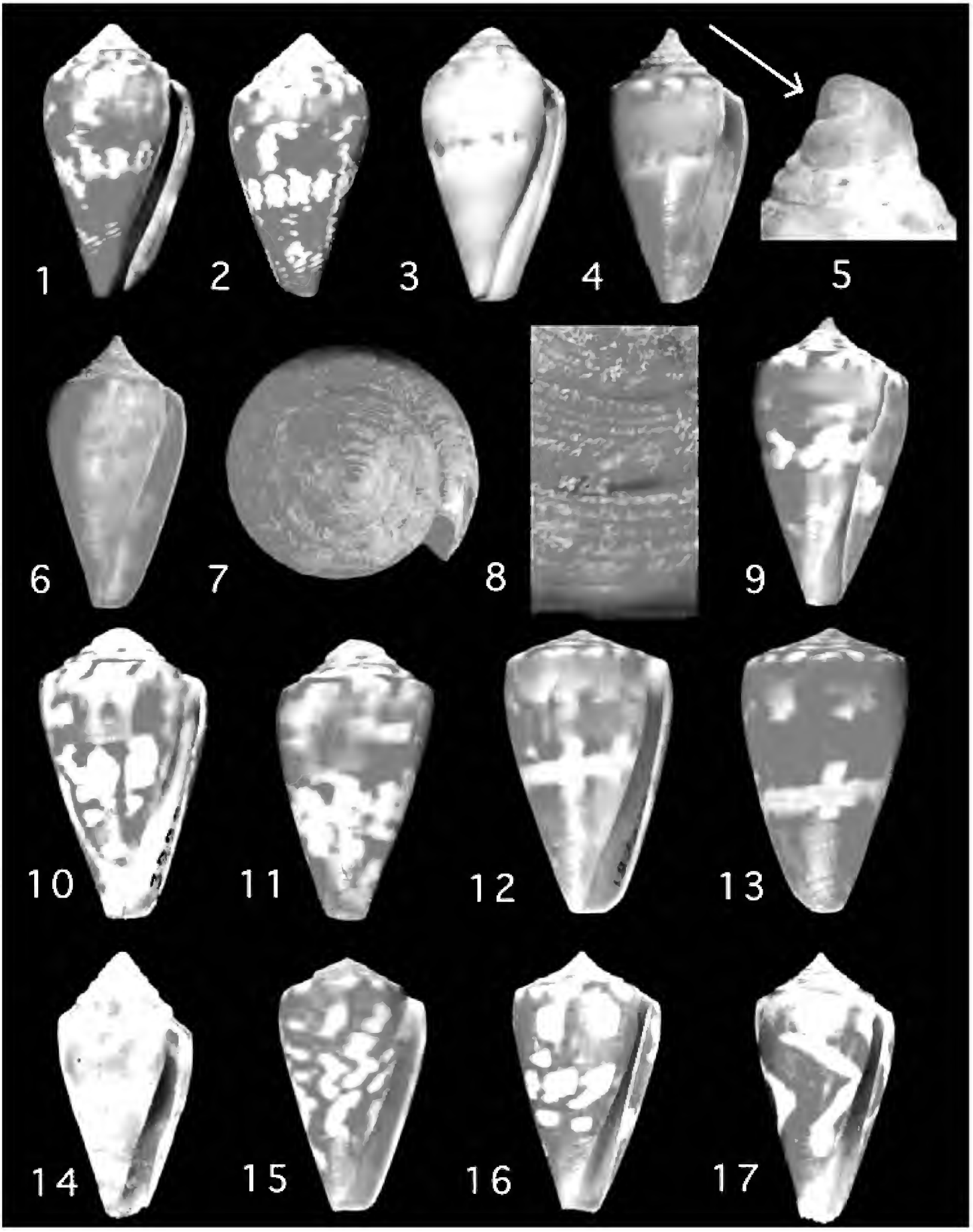
1-8. *Conus archetypus* Crosse, 1865, Bocas del Toro Archipelago, Panama. **1-3**. 9º22.027'N, 82º14.336'W, Isla Colón, 24.9mm (EFG 25559). **4-5.** 9º21.052'N, 82º15.34'W, Bastimento Norte, 16.9mm (EFG 25656). **6-8.** 9º15.564'N, 82º02.750'W, Zapatilla Key No. 1, 4-12 m, 21.9mm (EFG 25670). **9. *Conus beddomei* Sowerby III, 1901**, Natal, Brazil, in 20 m, 18.7mm (EFG 27024). **10-11. *Conus brasiliensis* Clench, 1942**, holotype, Museum of Comparative Zoology, Harvard; Brazil, Victória, Espirito Santo state, 22mm (image courtesy Dr. Alan Kohn). **12-13. *Conus archetypus* Crosse, 1865,** holotype, (The Natural History Museum, London), Brazil, Baia de Todos os Santos, Salvador, State of Bahia, 24.9mm (image courtesy Dr. Alan Kohn). **14. *Conus ziczac* Mühlfeld, 1816**, holotype, (Naturhistorisches Museum, Wien, Vienna) Mediterranean Sea (erroneous), 8.2mm (image courtesy Dr. Alan Kohn). **15. *Conus beddomei* Sowerby III, 1901**, holotype, (The Natural History Museum, London), West Indies, restricted to Grenadines, Lesser Antilles by Coomans, Moolenbeek & Wils (1982), 27mm (image courtesy Dr. Alan Kohn). **16. *Conus beddomei* Sowerby III**, Carriacou, Grenadines, 15 ft., in rubble, 25.8mm (EFG 24282). **17. *Conus beddomei* Sowerby III, 1901**. Mustique I., Grenadines, SCUBA in l0-l5', 21.1mm (EFG 6544).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Absence of evidence is not evidence of absence, or never say "never"

by Harry G. Lee

Recently, a note from Dr. Pete Simpson of Loudon, Tennessee, called to mind one of the odder auguries in the culture of conchology.

Late in his distinguished career, Franz Alfred Schilder, the most prolific Twentieth Century authority on the Cypraeidae, made the pronouncement that "nobody will find a sinistral cowry" (Schilder, 1964). Prof. Schilder's confidence was born of his examination of "more than 150,000 cowries" and a probable familiarity with the several inclusive surveys of mutant gastropod sinistrality (Fischer and Bouvier, 1892; Sykes, 1905; Ancey, 1906; Dautzenberg, 1914; and Pelseneer, 1920) by fellow Europeans, none of which provided any indication of such an anomaly. Dr. Schilder went on to impugn the veracity a report of a sinistral *Notocypraea declivis* (G.B. Sowerby II, 1870) in the South Australian [SA] Museum (Griffiths, 1962) with faintly-veiled skepticism.

Apparently, the gauntlet was never retrieved by Griffiths, but it didn't take long for Schilder's pervasive prediction to be repudiated by a fellow Aussie. Early in 1967, Jack Aitken took a sinistral *Bistolida brevidentata brevidentata* (G.B. Sowerby II, 1870) off Tryon Island, Capricorn Group, Queensland, Australia. It was reported in the 9/67 *Keppel Bay Tidings* and illustrated in the 12/67 number of that periodical accompanied by a Don Byrne photo. Mrs. Val Harris of Caloundra, Qld., the second owner, sold it to Luigi Raybaudi Massilia of Rome, Italy, in 1976 (Harris, personal communication, 23 May, 1980; Raybaudi, 1987: 2 color figs.), and it has changed hands at least twice since then. Despite its present obscurity, the shell, or at least the two sets of its photographic images, has left its imprint in the annals of conchology.

Not long afterward, Peter Dance published a set of photographs depicting a sinistral 30mm *Cypraeovula capensis capensis* (Gray, 1828) found by Mrs. Viva Armstrong of East London, South Africa, at nearby Sunrise on Sea in November, 1970. Although the Aitken shell escaped Peter's notice, the Griffiths (1962) record was apparently taken on faith and incorporated in his report (Dance, 1972). Things were already beginning to warm up.

As the situation continued to evolve, "snowballing" turned out to be a more apt metaphor. Over the final quarter of the Twentieth Century and into the present one, the Republic of South Africa (RSA), especially the beaches of Jeffreys and Algoa Bays, continued to produce sinistral cypraeids at an unprecedented rate (as in two dozen; count them below) and unparalleled diversity (six species):

Cypraeovula c. capensis:
To the Dance record, which shell later reached the collection of Enrico Caponetto of Naples, Italy (Dance, 1972, Burgess, 1985), we can add:
[2] Gwen Pini's (Innisfail, Australia) shell, apparently collected not long afterwards at Jeffreys Bay, RSA. A notice with photo appeared in *Keppel Bay Tidings* sometime around 1973 (my cropped photocopy lacks any evidence for a more precise citation) and a little over a year later in Tom Rice's journal (Anon., 1975).
[3] A specimen illustrated by Burgess (1985: 269). It is distinct from the Armstrong and Pini specimens.
[3] An unattributed ("private treaty") 29mm shell collected on the beach at East London and figured by Raybaudi (1986: 33; fig. 43 [35]) appears to be the Armstrong-Caponetto specimen.
[4, 5] Subsequently, two shells were collected (1986, 1991), at least the first one on the shore of Algoa Bay, by Mariette Jearey (Jearey, 2000).
[6] A shell found on the beach at Algoa Bay in 2008, Lee Collection, 31.1mm, **Fig. 1.**

Cypraeovula alfredensis alfredensis (M. Schilder and F.A. Schilder, 1929):
[7] A shell found on the beach at Jeffreys Bay in 2005, Lee Collection, 26.0mm, **Fig. 2.**

Cypraeovula mikeharti Lorenz, 1985:
[8] A shell collected alive in False Bay, RSA, and declared to be, along with the Aitken shell discussed above, "by far the rarest cowrie in the world" (Raybaudi, 1992). The locality of the discovery was refined to "off Cape Agulhas" (de Bruin, 1994: 39).

Cypraeovula edentula edentula (Gray, 1825):
[9] Pat Burgess (1985: 269) reported a specimen.
[10] Raybaudi (1987] reported a second specimen, also beach-collected.
[10 or 11] Bruno de Bruin (1994) reported a specimen, possibly one of the above two, not unlikely the next on the list, but possibly neither.
[11 or 12] A shell collected on the beach at Jeffreys Bay and received from Bruno (Don Pisor, personal communication, 30 June, 2010; (collected in 1990, 25.5mm).
[12 or 13] A shell collected at Jeffreys Bay in 1996, Lee Collection, 23.7mm, **Fig. 3 left.** That makes at least three … hold the presses:
[16 to 20] Guido Poppe (pers. comm., 29 June, 2000) reported seven specimens in private European collections - five of which belong to a single individual. Of the specimens listed above, anywhere from none to three could be among these seven. Then there's the Internet account at <http://cowryforum.bboard.de/board/ftopic-41123903nx25725-170.html> of a Belgian collector who picked a "2/3 piece" of a sinistral *C. e. edentula* from a shell bin in an Oostende shell shop and later "simply threw it away." Given revelations like Guido's and the shell-chucker's, one quickly realizes that achieving a complete inventory is a more elusive goal than the "mere" discovery of a leftie cowrie.

Cypraeovula fuscodentata fuscodentata (Gray, 1825):
[17 to 21] From a beach in the RSA (Burgess, 1985: 269).
[20 to 24] Litved (1989: 96) listed three specimens.
[21 to 25] A shell found on the beach at Jeffreys Bay in 1995, Lee Collection, 29.3mm, **Fig. 3 middle.**

Cypraeovula fuscorubra fuscorubra (Shaw, 1909):
[22 to 26] De Bruin (1994) reported collecting a living specimen in 46 meters off Cape Pt., RSA and produced fine photographs of

Fig. 1 Sinistral (L) and dextral (R) *Cypraeovula capensis capensis,* 31.1mm (sinistral specimen), Algoa Bay, Republic of South Africa.

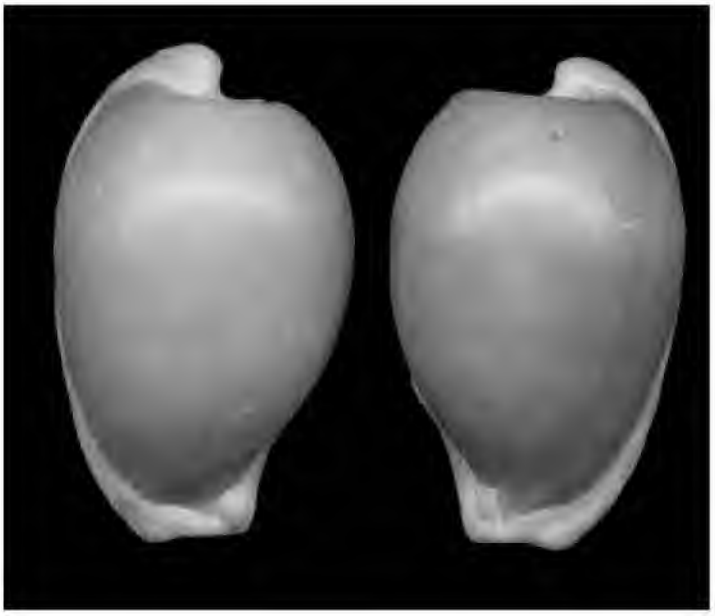

Fig. 2 Dextral (L) and sinistral (R) *Cypraeovula alfredensis*, 26mm (sinistral specimen), beach at Jeffreys Bay, Republic of South Africa.

it in juxtaposition with a living dextral critter. This report is the most fully-documented account of a live-taken sinistral cowrie. A fine image of this shell is posted at <http://cowryforum.bboard.de/board/ftopic-41123903nx25725-170.html>.

Although no match for the RSA, Australia did manage to re-emerge on the scene with an interesting record, *Notocypraea angustata* (Gmelin, 1791). Mrs. Peg Altorfer of Port Mac Donnell, SA, found a living example "in daylight, under rocks during an average low tide" at Racecourse Bay (in her home town) during the second week of February, 1977. She reported it to be "only the second sinistral form of *Cypraea angustata* found in the area over the last twenty five years" (Keppel Bay Tidings ca. 1978: my cropped photocopy lacks remainder of citation). The whereabouts of the earlier find were not provided, but there's a reasonable chance it is the *Notocypraea* "*declivis*" cited by Griffiths (1962) in the SA Museum, of which Raybaudi (1987) wrote "according to my informers … the sinistral declivis … does not exist," supporting earlier skepticism (Schilder, 1964). It is a near certainty that this Altorfer specimen is the one identified (later in the same disjointed polemic) as *N. comptonii mayi* (Beddome, 1898) from Port Mac Donnel [sic], SA (Raybaudi, 1987). This shell, which to this day still bears the binomen applied by Mrs. Altorfer, came to the Lee Collection in May, 1980; it measures 26.6mm, **Fig. 3 right.** Dr. Felix Lorenz (personal communication, 11 July, 2010) confirmed the identification. In that same correspondence he re-

Fig. 3 Sinistral (L) and dextral (R) *Cypraeovula edentula edentula* (L), 23.7 (sinistral specimen), collected in Jeffreys Bay, RSA, in 1996; *Cypraeovula fuscodentata fuscodentata* (Middle), 29.3mm (sinistral specimen), collected on the beach at Jeffreys Bay, RSA, 1995; and *Notocypraea angustata* (R), 26.6mm, (sinistral specimen), collected by Peg Altorfer under rocks at low tide at night in Port Mac Donnell, South Australia, 1977.

ported having recently examined another sinistral *Notocypraea*, *N. comptonii comptonii* (Gray, 1840) [form *trenberthae* Trenberth, 1961].

The exclusivity of the Southern Hemisphere as the breeding grounds of sinistral cypraeids was finally terminated with the report of a sinistral *Muracypraea mus mus* (Linnaeus, 1758) apparently collected alive by Royce Hubert in Venezuela (Anon., 1985). At that time the shell, measuring "approximately 50mm," was in the possession of Alex Kerstitch of Tucson, AZ. Shortly, two 34mm juveniles were reported from the vicinity (Hoeblich, 1986), and Raybaudi (1987) recorded these three specimens while illustrating the Hubert specimen (without attribution) in color. Very recently, Felix Lorenz (personal communication, 22 March, 2009; see Internet link below) posted an image of a fourth specimen, a beautiful live-taken adult shell.

For an inventory of this sort, the necessary reliance on the "gray" literature invites a certain exposure to apochrypha. One striking instance is the report by Raybaudi (1987) of a sinistral Brazilian *Macrocypraea zebra* (Linnaeus, 1758) [as *M. z. dissimilis* (F. Schilder, 1924), now considered a synonym]. This spectacular "find" was repeated in Litved (1989: 96), but, after a few more years, Raybaudi (1994) issued a retraction, stating simply: "*zebra* a mistake." More than one forensic scenario comes to mind to explain this prodigious gaffe.

Getting back to the subject of Dr. Simpson's tidings... Pete told me that a contact of his was sending him an unusual *Mauritia mauritiana* (Linnaeus, 1758) which, like the specimens discussed above and judging from a photograph sent in advance (**Figure 4**; topical shell on R), appeared to be of reversed coil. It measured 70mm and was collected at 5-10 meters on an open reef just off Laminusa Island, a satellite of Siasi Island, near Jolo in the Sulu Archipelago, southernmost Philippines.

As we awaited the shell's arrival, clouds of skepticism began to mass. First Emilio Power (personal communication 9 July, 2010) opined: "The *mauritiana* looks odd, the posterior is sinistral, however, the aperture and dentition ARE NOT reversed. Needs an x-ray for determination, no???" and Felix Lorenz (personal communication 10 July, 2010): "If you look sharp you will see that Pete's shell (assuming it is the one on the right of the photo) is not sinistral. The columella is on the left side where it belongs. The labrum is exceptionally wide and the aperture peculiarly curved as a result of malformation, giving the impression that 'something is wrong.'"

The shell arrived a few days later, and, since Pete is a practicing physician, it was not a great inconvenience to obtain Xrays of the two shells in Figure 4. They confirm the Power-Lorenz hypothesis: the odd *M. mauritiana* [**Figure 5: middle image**] grew like the normal specimen [**Figure 5: L**] for most of its existence; the significant morphologic anomaly was limited to the final stages of growth, involving the callus formation of the posterior half of the aperture. **Figure 5: R** is a hypothetical sinistral shell created by mirroring the normal image. Regrettably, the sinistral *M. mauritiana* must remain imaginary; although of great interest, Pete's Siasi shell is dextral.

During the suspenseful week or so that this specimen was in transit, I realized that it had the potential to be (1) the first known sinistral of its species, (2) only the second left-handed cowrie species collected N of the equator, (3) the largest sinistral

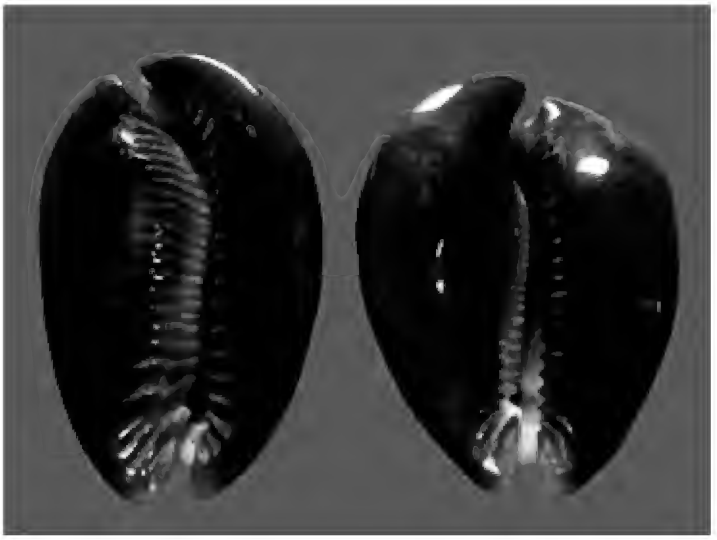

Fig. 4 The oddly-shaped specimen of *Mauritia mauritiana* (R), 70mm, collected on an open reef off Laminusa Island, Sulu Archipelago, Philippines. When compared to a normal specimn (L), it is understandable why it was initially thought to be sinistral.

cypraeid on record, and (4) only the second instance of cypraeid coiling reversal in a species with a free-swimming larva – a trait shared only by the iconic *Bistolida brevidentata brevidentata*, and a fact confirmed by Dr, Lorenz in the communication cited above. Although none of these marks was realized, the last consideration led to a potentially valuable insight on cowrie sinistrality and chiral reversal in general.

Litved (1989: 96) remarked that in all but one of the known instances, the mutant sinistral cypraeid species known to him shared a trait: lecithotrophy. Instead of swimming to join the ranks of the plankton, their young simply crawl away from their egg capsules. For cowrie species, this life-style is the exception rather than the rule, and it is characteristic of the temperate waters of the Southern Hemisphere, where it has evolved independently in genera like *Austrocypraea*, *Umbilia*, *Zoila*, as well as the now familiar *Cypraeovula* and *Notocypraea* (Wilson, 1985, 1998). The lecithotropic *Muracypraea* is a rare exception as nearly all the other myriad tropical species produce free-swimming (planktotrophic) larvae. The most familiar, widely-distributed, and abundant cowries, e.g., *Cypraea tigris* (Linnaeus, 1758), *Mauritia arabica* (Linnaeus, 1758), *Monetaria annulus* (Linnaeus, 1758), *M. caputserpentis* (Linnaeus, 1758), *M. moneta* (Linnaeus, 1758), are but a few of this legion. It has been remarked many times that the complete lack of a sinistral example of any of these five ubiquitous planktotrophic species alone, many millions of specimens of which have come into human hands, is an amazement. Compound this with the 200-odd other species-level members of the legion, and the crawl-away/swim-away disparity is even more stark with respect to mutant sinsitrality.

Hendricks (2009) found a similar bias in mutant sinistral conesnails and he remarked that it may be more than mere coincidence that *Contraconus* Olsson and Harbison, 1953, the only normally sinistral lineage in the family, was lecithotrophic. The vast majority of the over 100 marine gastropod species reported at <http://www.jaxshells.org/reverse.htm> as reverse-coiled mu-

tants likewise have crawl-away, not swim-away, larvae (Lee, unpublished). Finally, with the exception of the Triphoridae, all of the **normally** sinistral Tertiary and Quarternary marine gastropods for which larval history is known or can be inferred, e.g., Laeocochlidinae Golikov and Starobogatov, 1987; the buccinids *Antistreptus* Dall, 1902, *Neptunea contraria* (Linnaeus, 1771), *Neptunea laeva* Golikov, Goryachev, and Kantor, 1987, *Prosipho contrarius* Thiele, 1912, *Prosipho perversus* Powell, 1951, *Prosipho reversus* Powell, 1958, and *Pyrolofusus* Morch, 1869; the busyconines *Busycon perversum* (Linnaeus, 1758) and *Tropochasca* Olsson, 1967, *Sinistralia* H. and A. Adams, 1853, *Contraconus*, *Terebra inversa* Nyst, 1835; and six lineages of "classic" turrids are lecithotrophic (Lee, unpublished).

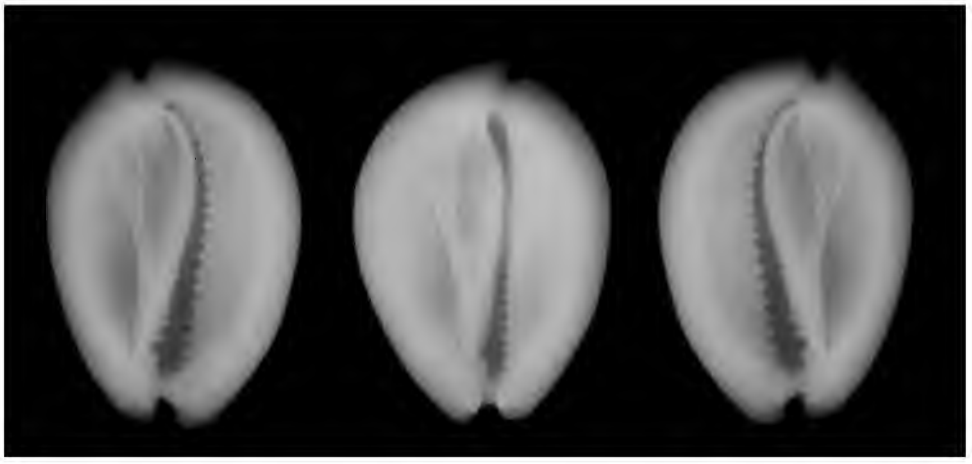

Fig. 5 Xray images of a normally coiled *Mauritia mauritiana* (L), the specimen originally thought to be sinistral (M), and "mirror image" of a normal dextral specimen (R) showing what a sinistral specimen would look like.

What is the basis for the link between sinistrality and lecithotrophy in marine snails? One reasonable hypothesis is that the planktonic milieu may exert stronger selective pressure against randomly-mutated reverse-coiled larvae relative to their normal counterparts than that imposed on hatchlings directly adopting the benthic lifestyle. Perhaps a parallel may be drawn with the terrestrial pulmonates, which group comfortably passes all its larval stages in ovo, and proceeds to have a much higher frequency of normal and mutant reversal of coil than their marine cousins (Pelseneer, 1920; Lee, unpublished), but I digress....

Even without the *Mauritia mauritiana* coup-de-grace I anticipated when I began this essay, we can still be secure that well over two dozen sinistral Recent cypraeid specimens [22 to 26 known from the RSA + 7 from other localities] of no less than ten species repose in collections somewhere today - a rather stirring statistic, a testimony to lecithotrophy, and a poignant riposte to Herr Dr. Schilder's pessimistic prophecy of just two generations ago.

Acknowledgements: I thank Emilio Power for help locating some of the references in the popular literature, Dr. Pete Stimpson for information on, and images of, his specimen, Felix Lorenz and Emilio Power for sharing helpful insights, and Bill Frank for image-editing.

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A geographic extension for two species of *Favartia* (Muricidae: Muricopsinae) from the western Atlantic

Emilio Fabián García

While reviewing western Atlantic species of the genus *Favartia* in my collection, I realized I had failed to report two records of *Favartia nucea* (Mørch, 1850) from the Gulf of Mexico in earlier publications (García, 2007; García & Lee, 2002, 2003, 2004; Rosenberg et al., 2009). In the Gulf of Mexico, *F. nucea* has only been reported from west Florida; however, I have a specimen that we dredged off Louisiana at 28° 06.975'N, 90° 58.150'W, in 92-89 meters (Figure 1) (EFG 23206). A second specimen was dredged in Campeche Bay, southern Gulf of Mexico, at 21°51.32'N, 92°03.68'W, in 66-68 meters (Figure 2) (EFG 26149). These specimens differ from the typical *F. nucea* of the Caribbean in having more angular, less rounded shoulders and more elevated varices. I have not seen examples of *F. nucea* from west Florida. Ironically, although *F. nucea* has now been reported from three quadrants in the Gulf of Mexico, it has not yet been reported from the southeastern quadrant, the most obvious because of its geographic location and habitats typical of those in which the species is normally found. Mr. Frank Frumar, of Kirkwood, Missouri, who has done extensive dredging around the Florida Keys, has not collected the species there (pers. com.).

Also, while researching two unidentified *Favartia* specimens I have had in my collection for a couple of decades, another discovery occured. One of the specimens had been collected off Pidgeon Point, Falmouth Harbour, Antigua, Lesser Antilles, in 30 feet of water (Figure 3) (EFG11683). I collected the second specimen while snorkeling in 4 feet of water SW of Baní, southern Dominican Republic (Figure 4) (EFG 7853). This second specimen was collected alive on top of a living *Lucina pensylvanica* (Linnaeus, 1758) (EFG 7854), presumably getting ready to feed on it. I catalogued the two lots back then as *Favartia* sp. for the former and *F.* sp. *aff. nucea* for the latter.

Trying to figure out what they were, I first went to Malacolog, that indispensable research website created by Dr. Gary Rosenberg (2009) at the Academy of Natural Sciences of Philadelphia. I was looking for publications describing new *Favartia* spp. from the western Atlantic. There I found a paper by Roland Houart published in *Novapex*, another important publication at the cutting edge of malacological taxonomy, describing a new species of *Favartia* from Brazil. Since I do subscribe to the magazine and have a database for everything in my library (I use FileMaker Pro), it was easy for me to retrieve the paper in question. The new Brazilian species described in *Novapex* had been named *Favartia coltrorum*, for José and Marcus Coltro, the well-known and respected owners of the shell dealership *Femorale*. Its description and photos matched my specimens from Antigua and the Dominican Republic. The species is similar to *Favartia nucea*, *F. cellulosa* (Conrad, 1846), *F. lindae* Petuch, 1987, and *F. pacei* Petuch, 1988; however, it differs from them, among other characters, by having broader, higher, smoother, and fewer varices in the last teleoconch whorl (four, instead of five or six, as in the case of the other species) (Houart, 2005:44).

Although all of the type material comes from Brazil, the author has in his collection two specimens from Guadeloupe. They were the only reported records outside of Brazil. The new findings extend the geographic distribution for the species from roughly 16°21'N to 18°16'N, and from 61°37'W to 71°19'W. Since this taxon is not widely known, one can speculate that, with a second report of the species from the Lesser Antilles and its appearance in the Greater Antilles, there should be other specimens of *F. coltrorum* Houart, 2005, from those areas in collectors' cabinets, perhaps half-forgotten like mine were, hidden behind spurious names.

Before starting this article I sent images of all four specimens to Mr. Roland Houart, the well-known muricid researcher. Mr. Houart , whom I thank herewith, confirmed my findings, with the *caveat* (that I share) of the differences between the Louisiana and Campeche *F. nucea* and those found elsewhere.

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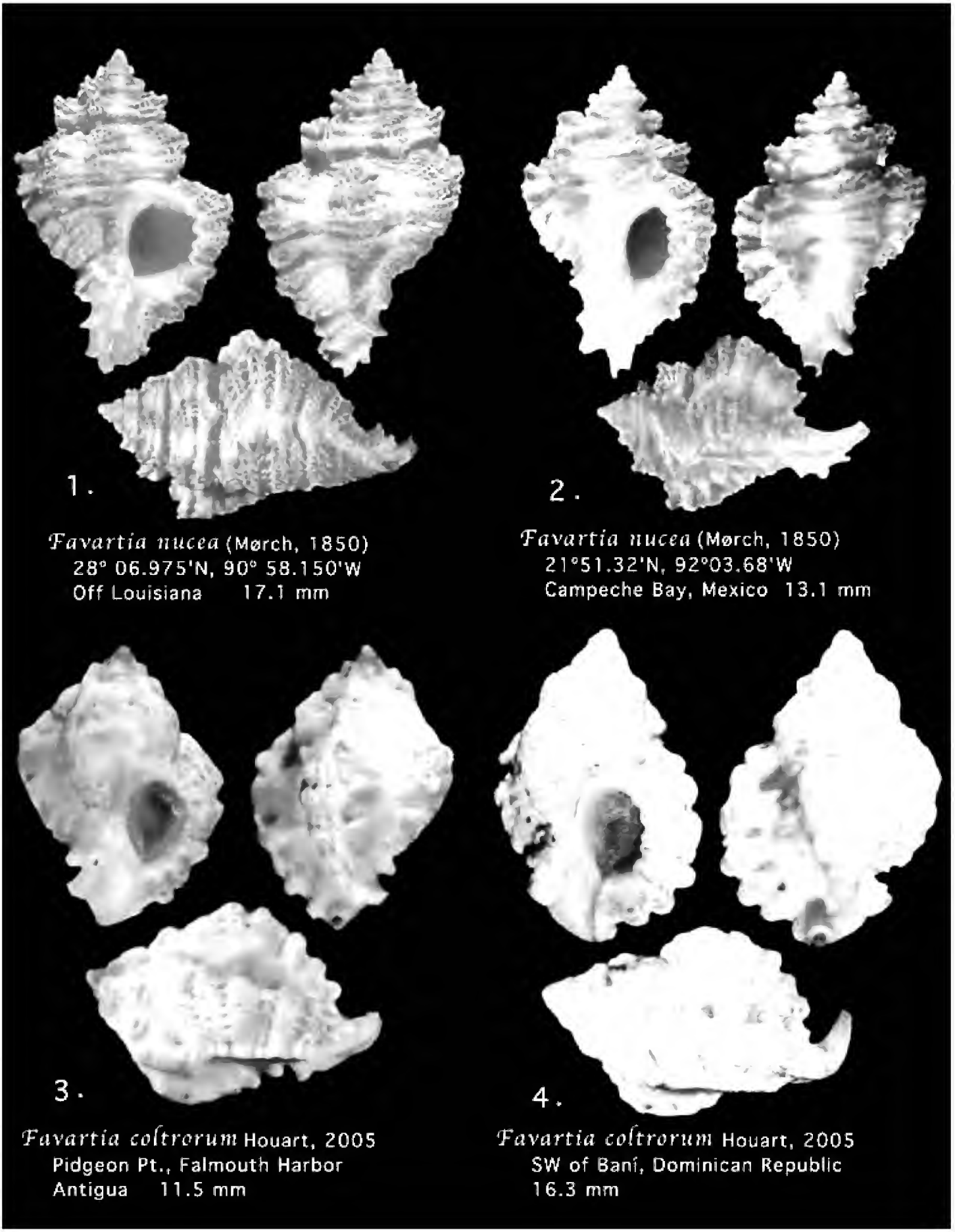


Favartia nucea (Mørch, 1850)
28° 06.975'N, 90° 58.150'W
Off Louisiana 17.1 mm

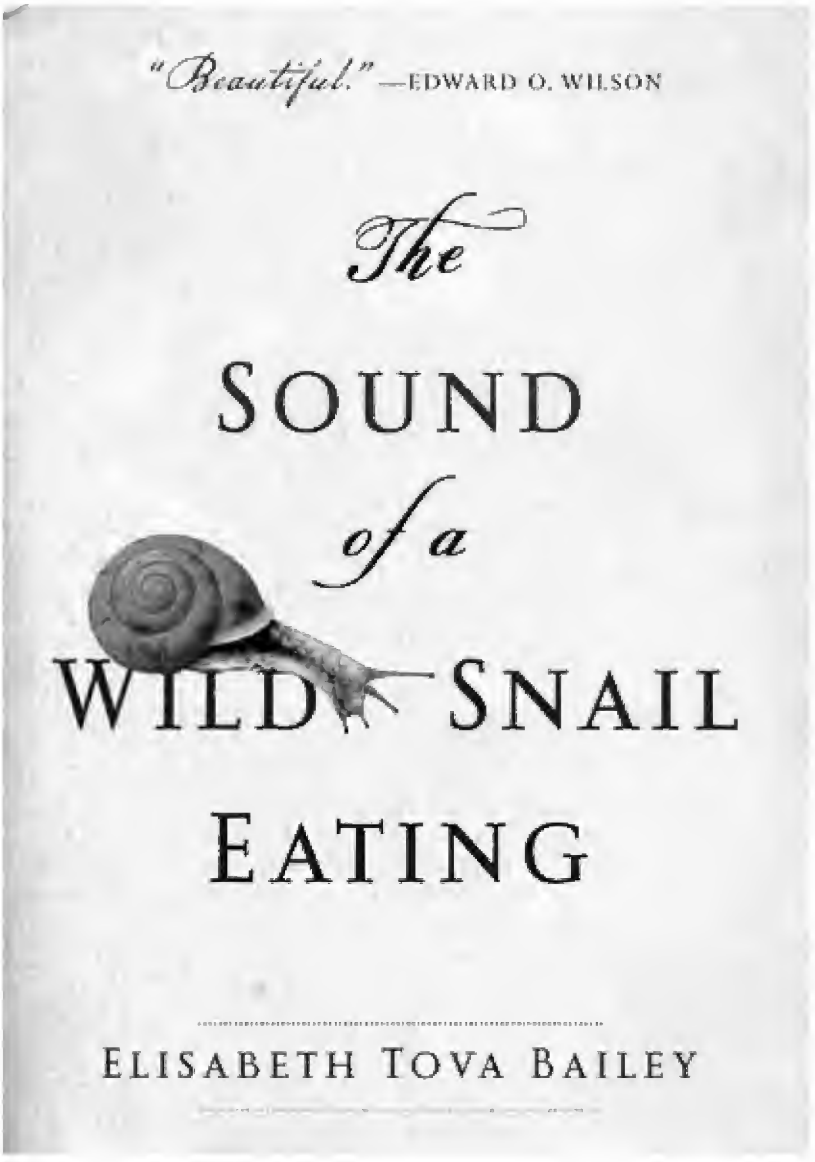
Favartia nucea (Mørch, 1850)
21°51.32'N, 92°03.68'W
Campeche Bay, Mexico 13.1 mm

Favartia coltrorum Houart, 2005
Pidgeon Pt., Falmouth Harbor
Antigua 11.5 mm

Favartia coltrorum Houart, 2005
SW of Baní, Dominican Republic
16.3 mm

The Sound of a Wild Snail Eating

by Elizabeth Tova Bailey, illustrations by Kathy Bray, 2010, Algonquin Books of Chapel Hill, NC, 191 pages, price approx. $18.95, ISBN: 978-156512-606-0



This small book (less than 200 pages double-spaced and only 5.5 x 7.5 inches) is truly a gem. It has an inner sparkle and brilliance that make it worthy of giving to a close friend, even if that friend is not interested in sea shells, land snails, or conchology. I would have thought that most readers of this magazine would not find themselves learning new secrets about land snails by reading this book, but a collector friend to whom I lent the book remarked that she had not realized land snails could have such complex living habits. There is some interesting natural history of land snails presented here, but this is not why you should read this book. The reason to read this book is stated in a quote on the front cover of the book from a review by the renowned Edward O. Wilson, who states, "Beautiful!" When a renowned biologist, researcher, lecturer, theorist, and author (two Pulitzer Prizes), like E.O. Wilson makes such a statement, anything I add would seem to be rather superfluous, but for those who might want a bit more detail, please read on.

"The Sound of a Wild Snail Eating" is a true story about the author's experiences dealing with a debilitating chronic illness that struck rapidly and unexpectedly and in a short period of time confined her to bed, hardly able to move. A friend brought her a small potted plant with a brown land snail (you don't learn the species until the end of the book) that had taken up residence in the pot. Instead of detailing her battle with, what was for the most part an unknown and undoubtedly terrifying disease, Elizabeth Bailey provides the reader with in-depth observations of the life of this snail over the course of a year. A professional malacologist friend noted that her science is "spot on." We are allowed to follow the author on a journey of discovery, made intimate because of her condition. A condition that is only a blurred background in the book, gradually brought into focus by the narrative about the snail's life and activities, and the author's rather detailed study into the biology and natural history of land snails.

Elizabeth Bailey fought her illness for two decades before finally beating it. The exact cause of the illness was never established, though various pathogens were suggested by various medical authorities. Her snail observations occupied one year of this time period, but her continued research involved several years. Because of this, she is able to provide quotes and paraphrasing from authors as varied as Edgar Allen Poe and T. H. Huxley, or Charles Darwin and Emily Dickenson, or Robert Cowie and Richard Dawkins. These authors (with the exception of Robert Cowie, a malacologist at the University of Hawaii) are certainly not where most of us would turn for information on land snails, but you may be surprised. Understandably, the selected bibliography included is eclectic. Perhaps my favorite quote is, "Every single species of the animal kingdom challenges us with all…the mysteries of life." (Karl Von Frisch, 1962, "A Biologist Remembers," translated from the original German by L. Gombrich, Oxford, 1967) This certainly fits this book where the reader is gracefully brought to an intimate examination of the mystery of life as evidenced by a small land snail as well as the larger personage of the author.

This book is a warm and rich celebration of life - all available in an afternoon's reading. Of the many ways to spend a couple of hours in the afternoon or evening, I cannot think of many more pleasant and rewarding than Elizabeth Bailey's book. You will find yourself smiling often and finish with a feeling of satisfaction. Oh, and as for the identity of the snail, I am afraid you will have to read the book.

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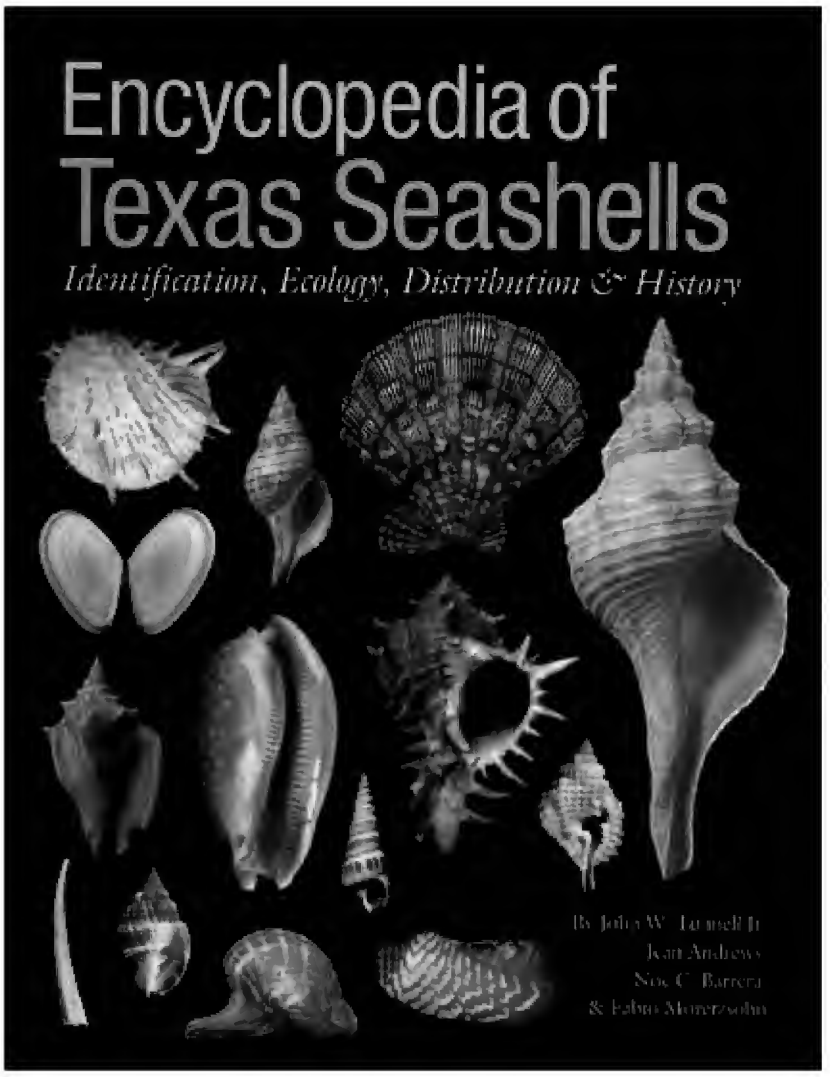
Encyclopedia of Texas Seashells

by John W. Tunnell, Jr., Jean Andrews, Noe C. Barrera, & Fabio Moretzsohn, 2010, Texas A&M University Press, College Station, Texas, 512 pages, price approx. $50.00, ISBN-13: 978-1-60344-141-4, ISBN-10: 1-60344-141-7



At a reception in Texas in 1971 to honor the publication of "Sea Shells of the Texas Coast" by the late Jean Andrews (see p. 29 of *American Conchologist* vol. 38, no. 1, March 2010), she commented on a statement about a probable "Son of Sea Shells of the Texas Coast" (later written by Jean in 1977 as an update of her original book, titled *Shells and Shores of Texas*) that there would someday be need for a "Grandson of Sea Shells of the Texas Coast." The "Encyclopedia of Texas Seashells" is that book. It is, in fact, quite a bit more than "grandson" of those volumes from decades ago. It is larger in content (512 pages), number of species (900 with micro and deep water now covered), biotypes covered (various coastal habitats to deep ocean depths), and it combines the coverage of these areas in some particularly useful ways. There are two additional authors not listed on the title page that were brought in for their expertise. Kim Withers penned chapter one, titled "Shells in Texas Coastal History" and David W. Hicks wrote chapter three, titled "Molluscan Ecology and Habitats." Many other experts, both amateur and professional, were consulted in preparation of this tome, and most readers will recognize a number of the names included in the "Acknowledgements" section (lots of COA members, shell clubs, and various professional organizations). One such contributor was Roe Davenport (1939 - 2005) who provided the initial inspiration and push to accomplish this rather daunting project. The "Encyclopedia of Texas Seashels" is dedicated to Roe Davenport.

The "Encyclopedia of Texas Seashells" will likely be used most often as an identification guide, and for this it is aptly suited. Only a truly dedicated researcher of the Gulf regions (Emilio García comes to mind) is likely to turn up a seashell not covered by this book. For most of us this book can well serve as the Gulf Coast seashell Bible. As an identification aide, there are several well thought out and well displayed features. Each species is displayed in clear color photographs that most often include both dorsal and ventral displays and, where needed for clarity, there are magnified views of important shell structures. Species are listed systematically by class and family (with these entries containing descriptive text of the order or family as a whole), then alphabetically by genus and species. Each listing has the scientific name and where applicable the common name. The text for each species includes: "distribution" (including areas outside of Texas), "size" (typical adult size), "description" (color, structure, and any key identification aids), "habitat" (type of habitat and typical depth of occurrence), "remarks" (areas of occurrence, bibliographical references, occasionally notes on junior synonymy), and the final entry (not always present) is "synonym" (known synonyms provided). A few images are pencil drawings when no shell was available. The images are about 2 inches or more in height and are of a sufficient quality that they can be magnified by the reader for a closer look at shell details. The quality of the images is truly superb. A 1mm *Turbonilla fonteini* Jong & Coomans, 1988 is displayed with remarkable clarity and detail, including a magnified view of the protoconch. Finally, if the species in question is from deep water, this is noted in bold just below the common name.

Species accounts are approximately 3/5 of the content of the book. The other 2/5 is made up of some nice-to-have features, some interesting history and biology, an unusual appendix, and the standard index, glossary, and references.

Chapter one by Kim Withers is "Shells in Texas Coastal History." The chapter begins with the geologic history of Texas coasts beginning in the Pleistocene about 18,000 years ago and discusses coastal formation, the shells involved in coastal formation, and early archaic use of shells in what was to become Texas. This is followed by explanations of more recent use of Texas shells as decoration, food, and construction material. The chapter is heavily illustrated with some very interesting photographs.

The second chapter, "Chronology of Marine Malacology

in Texas," by the primary authors, is a "Who's Who" of Texas malacologists as well as entries about the formation of different Texas shell clubs. Some biographical detail is provided for selected authors and institutions. Graph representations are included for species described per author, per year, and cumulatively over time.

The third chapter is a hidden gem in this book. Titled "Molluscan Ecology and Habitats," it is written by David W. Hicks and provides fascinating coverage of the various biotypes or habitats found along and off the Texas coast. He details the characteristics of different bays and estuaries and how they were formed. After a short discussion of why different mollusks are found where they are found, he details the different molluscan habitats found in Texas and what can be found in each one as well as why the habitat has the fauna it has. Nine different habitats are discussed in depth and color plates are provided of both the habitat and the typical fauna found in each one. These vary from "mangrove habitats" with three habitat photos and a color plate with an assemblage of five mollusk species common to this habitat, to "sandy beach habitats" with eight habitat images and a color plate with a 21 species assemblage, to the Stetson Bank habit with eight habitat images and two color plates with an assemblage of 53 species illustrated. Of course, all of these species are illustrated in the "species accounts" section, but here are grouped the most commonly encountered species in each of nine biotypes.

Chapter four is a short guide to collecting, trading, buying, cleaning, and curating seashells. Chapter five is "General Features of Mollusks" and is one of the better attempts I have encountered at describing the physical characters of each class. The color images labeling the various parts of a shell (whether chiton, bivalve, gastropod, or scaphopod) are the clearest and easiest to understand I have seen.

Chapter six is the "species accounts," already discussed. Following this is the appendix. This is a classification and checklist of the species covered in the book. It is systematically arranged and presents scientific name, common name, shell size, habitat, and depth of occurrence. This listing does not really provide any information not available in the species accounts, but it is a nice quick reference listing of genera and species within each family. After the appendix is a rather thorough glossary, a list of references, and the index.

And that is Jean Andrews's "Grandson of Sea Shells of the Texas Coast." A valuable reference tool that needs to be in anyone's library if they collect or research Texas and Gulf of Mexico seashells. Like any book of this size, there are bound to be errors (see the sidebar), but overall it is a monumental work that was well done. Finally a word or two about reading this book. Some readers will undoubtedly leaf through the book once or twice and then sit it on a shelf with other seldom referenced volumes. Others will use it occasionally to confirm species identifications or to find the correct spelling of certain shell names, but again it will sit mostly unread. I ask that when you buy this book, and many of you will, you actually sit down and read through the early chapters. There is a lot of well presented information that I believe many readers will enjoy. Certainly some sections will bog down a bit in detail, but just skim ahead a bit and you are certain to find more interesting and maybe intriguing facets of Texas seashells.

Thomas E.Eichhorst
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As I stated in the review, I believe the "Encyclopedia of Texas Seashells" is a valuable "need-to-have" reference that belongs in any sheller's (professional or amateur) library. That being said, a work of this magnitude always has a few errors. While the authors did what they could to eliminate errors, a few always creep in. There are a couple that should be noted. On page 228 there is a color plate showing three *Vexillum* specimens. All three are identified as variations of *V. pulchellum* (Reeve, 1844), but according to Emilio García, shell number three, a shell he loaned to the authors for illustration purposes, is actually *V. arestum* (Rehder, 1943). It was so identified at the time by Emilio, but somehow things got crossed up. The authors list the *aresterum* name as a synonym under the originally assigned genus *Pusiolina*. Emilio also points out that the size of 106mm given for *Mitra antillensis* Dall, 1889, a deep water species, is not correct for this species in the Gulf. In the Gulf the shells are seldom more than 35mm in length; the larger size is for this species when taken elsewhere, such as off the east coast of Florida or North Carolina. Emilio believes there are probably two distinct species involved here. On page 175, *Cleotrivia candidula* (Gaskoin, 1836) is probably *Dolichupis leei* Fehse & Grego, 2010 (newly described in *Visaya* vol. 11, no. 6). Other corrections will hopefully (according to one of the authors) be printed online as needed.

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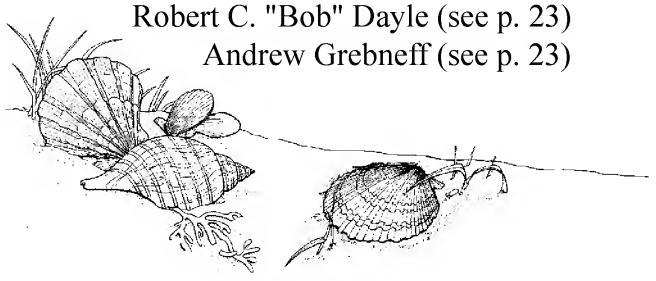
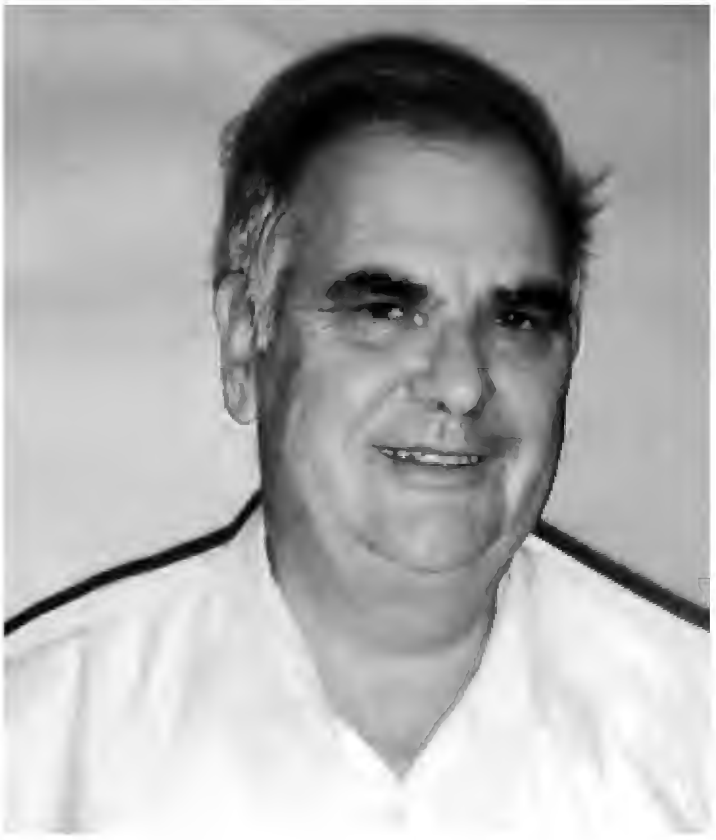
In memoriam:

Robert C. "Bob" Dayle (see p. 23)
Andrew Grebneff (see p. 23)



Sydney Shell Club Shell Show 24 October 2009



The annual Sydney Shell Club Shell Show was held on 24 October 2009. As in previous years it was a popular and well-attended event. This year's winner of the COA Award was Trevor Appleton for his display of five cases of seashells titled "Variation Within a Species - Volutidae." His display showcased the rich variety, especially of color and pattern, found in this fascinating family. Trevor's cases took up about three linear meters, out of a total of 30 meters for the shell show displays.

The "Sydney Shell Club" (The Malacological Society of Australasia - NSW Branch) meets on the 4th Saturday of each month at the Ryde Eastwood Leagues Club, Ryedale Road, West Ryde (a suburburd of Sydney), New South Wales, Australia. Meetings commence at 2.00 p.m. Annual membership fee is $40 for adults, $25 for students or pensioners (looks like a break for many COA members!), $15 for juniors, and $5 for additional family members. Membership includes the *Sydney Sheller News Letter* and Australian postage (overseas is extra). Research support is provided to students of Malacology of all ages via the Mollusc Research Awards. Contact for the club is the president, Steve Dean, at: president@sydneyshellclub.net

The Keppel Shell Club Show 10-11 July 2010

The 2010 Keppel Bay Shell Show was held in Yeppoon, Australia. This year's show was well attended despite a late change of locality and a bit of wet weather. The originally planned venue at the Yeppoon Town Hall was unavailable, so the show was moved to the somewhat smaller, but readily available "cafeteria" at the Yeppoon Show Grounds (thanks to the Yeppoon Show Society). As it turned out, this facility had more accessible parking and was quite workable. At the end of two days we had lots of smiles from attendees, exhibitors, shell club members, and shell dealers. Lots of hard work by many people assured another successful show.

This year's COA Award went to Heather Smith who traveled from New Zealand to present her display, "Conchology and Philately," a very colorful display of stamps with shell images and the matching shells. Heather's other displays also did quite well. She won the Nancy Plumb Memorial Trophy (Pectens <50mm), the Ozzie Rippingale Memorial Trophy (Muricidae, <60mm), the Stella Mackay Memorial Trophy ((land snails, <50mm), the Kev Phelps Memorial Trophy (colorful shells), and the Lorna & Ivan Marrow Trophy (conchology & philately).

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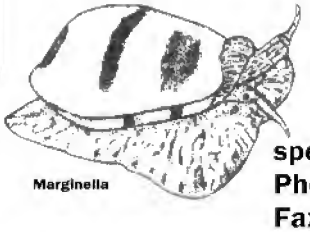

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Our 31st Year

New generic assignments for Strombidae: A summary of recent changes

by Winston A. Barney

Collectors have been drawn to the family Strombidae for many years by its many beautiful and showy species and their relative abundance and ease of acquisition. One factor in their popularity, especially for snorkelers and waders, is the availability of many species in shallow water. In addition, by monitoring the many dealers' websites and lists, a person may expect to locate and acquire a nearly complete collection of species in a matter of years – even if he or she never sets foot into the water. A few species remain rare and are seldom available on dealers' lists, but most of them are collectable with patience and diligent inquiries.

Since Abbott's 1960 and 1961 monographs regarding the Indo-Pacific genera *Strombus* and *Lambis,* respectively, many changes have come about in the taxonomy of the entire family. During those almost fifty years, eight new genera have been described and the remaining subgenera into which Abbott grouped the species are now being treated as full genera. Furthermore, a handful of species and subspecies have been newly described or elevated, as well as a few new forms. This intense taxonomic activity has created a multigeneric arrangement that more accurately classifies the species.

In spite of all of this activity, many collectors and most sea shell dealers still adhere to Abbott's concept of the genus *Strombus*. The reasons are simple. Casual collectors have to remember only one genus, and dealers, who understandably bow to the collectors, don't have to split hairs or raise hackles by listing the multi-genera nomenclature. The same situation exists in the families *Cypraeidae, Conidae,* and *Muricidae*.

Malacologists and specialists in the family Strombidae have been busily reporting the growing body of taxonomic changes, but much of the work is published in European periodicals which reach few American collectors. In 2002, Kronenberg & Vermeij reported, "challenges to Abbott's taxa," and held that, "Abbott…was typically vague about the characters that distinguish higher taxa, with the result that the lines among his subgenera of *Strombus* are blurred and arbitrary."

Klaus Bandel (2007) stated, "The genus *Strombus* has been differentiated into a number of subgenera which have been regarded to represent genera by different authors." And in 2009, Kronenberg, Liverani, and Dekker stated, "...it has been advocated to consider the strombid taxa employed as subgenera by Abbott (1960) as full genera..." Likewise, the subgenera of *Lambis*, as described by Abbott in 1961, are now recognized as full genera. The genus *Tibia* is now placed in the family Rostellariidae and the genus *Terebellum* is now in the family Seraphidae.

Finally, the phylogenetic studies of Latiolais (2003), Simone (2005) and Latiolais, Taylor, Roy, and Hellberg (2006) have pointed out previously unrecognized morphological relationships that give credence to new groupings within the entire family. Others are now suggesting that the genus *Lambis* originated within the genus *Strombus*, constituting a sister clade to *Sinustrombus taurus* and *S. sinuatus*.

A great deal of credit must be given to those workers who have poured over early manuscripts and hunted down type specimens in order to verify facts and update the nomenclature. They do the work. We enjoy the fruits of their labors. Their names can be found in the list of recent literature at the end of

this article. We thank them for their taxonomic expertise and quest for accuracy. We should also give credit to those who invest their time and riches into phylogenetic analyses that search back through ages before the birth of conchology to uncover the true relationships of our treasures.

In using this multi-genera version of the family, the reader should note the changes in spelling of the species which are necessary to agree with the gender of the genus. Attention should also be given to the correct usage of parentheses in the author citation, showing that a change of genus has occurred since the original description.

Checklist of genera in the family STROMBIDAE

Conventions:
1. The genera are listed chronologically by description dates.
2. The species are listed chronologically by description dates, except that the first species listed in each genus is the type of that genus.
3. Subspecies are indented.
4. Although various forms of species are undeniable, most forms have been omitted from this list. Hybrids, although a number have been identified, are also omitted.

Genus *STROMBUS* Linnaeus, 1758
- ***Strombus pugilis pugilis* Linnaeus, 1758**
  - ***Strombus pugilis worki* Petuch, 1994**
- ***Strombus alatus* Gmelin, 1791**
- ***Strombus gracilior* Sowerby, 1825**

Genus *LAMBIS* Röding, 1798
- ***Lambis lambis* (Linnaeus, 1758)**
- ***Lambis truncata truncata* (Lightfoot, 1786)**
  - ***Lambis truncata sebae* (Kiener, 1843)**
- ***Lambis crocata crocata* (Link, 1807)**
  - ***Lambis crocata pilsbryi* Abbott, 1961**

Genus *CANARIUM* Schumacher, 1817
- ***Canarium urceum urceum* (Linnaeus, 1758)**
  - ***Canarium urceum incisum* (Wood, 1828)**
  - ***Canarium urceum orrae* (Abbott, 1960)**
- ***Canarium labiatum labiatum* (Röding, 1798)**
  - ***Canarium labiatum olydium* (Duclos, 1844)**
- ***Canarium erythrinum* (Dillwyn, 1817)**
- ***Canarium mutabile* (Swainson, 1821)**
- ***Canarium rugosum* (Sowerby, 1825)**
- ***Canarium scalariforme* (Duclos, 1833) [According to Kronenberg, this name should have priority over the name *Canarium haemastoma* (Sowerby, 1842)]**
- ***Canarium maculatum* (Sowerby, 1842)**
- ***Canarium fusiforme* (Sowerby, 1842)**
- ***Canarium helli* (Kiener, 1843)**
- ***Canarium microurceum* Kira, 1959**
- ***Canarium ochroglottis* (Abbott, 1960)**
- ***Canarium klineorum* (Abbott, 1960)**
- ***Canarium wilsonorum* (Abbott, 1967)**
- ***Canarium betuleti* (Kronenberg, 1991)**

Genus *HARPAGO* Mörch, 1852
- ***Harpago chiragra chiragra* (Linnaeus, 1758) [*Harpago chiragra rugosa* (Sowerby, 1851) is actually the male form of this species]**
  - ***Harpago chiragra arthritica* (Röding, 1798)**

Genus *MILLEPES* Mörch, 1852
- ***Millepes millepeda* (Linnaeus, 1758)**
- ***Millepes digitata* (Perry, 1811)**
- ***Millepes scorpius scorpius* (Linnaeus, 1758)**
  - ***Millepes scorpius indomaris* (Abbott, 1961)**
- ***Millepes robusta* (Swainson, 1821)**
- ***Millepes violacea* (Swainson, 1821)**
- ***Millepes arachnoides* (Shikama, 1971)**

Genus EUPROTOMUS Gill, 1870
- ***Euprotomus aurisdianae* (Linnaeus, 1758)**
- ***Euprotomus aratrum* (Röding, 1798)**
- ***Euprotomus bulla* (Röding, 1798)**
- ***Euprotomus vomer* (Röding, 1798)**
- ***Euprotomus hawaiensis* (Pilsbry, 1917)**
- ***Euprotomus chrysostomus* (Kuroda, 1942)**
- ***Euprotomus iredalei* (Abbott, 1960)**
- ***Euprotomus aurora* Kronenberg, 2002**

Genus *CONOMUREX* Fischer, 1884
- ***Conomurex luhuanus* (Linnaeus, 1758)**
- ***Conomurex fasciatus* (Born, 1778)**
- ***Conomurex coniformis* (Sowerby, 1842)**
- ***Conomurex decorus* (Röding, 1798)**
- ***Conomurex persicus* (Swainson, 1821)**

Genus *GIBBERULUS* Jousseaume, 1886
- ***Gibberulus gibberulus gibberulus* (Linnaeus, 1758)**
  - ***Gibberulus gibberulus gibbosus* (Röding, 1798)**
  - ***Gibberulus gibberulus albus* (Mörch, 1850)**

Genus *LENTIGO* Jousseaume, 1886
- ***Lentigo lentiginosus* (Linnaeus, 1758)**
- ***Lentigo pipus* (Röding, 1798)**

Genus *TRICORNIS* Jousseaume, 1886
- ***Tricornis tricornis* (Lightfoot, 1786)**
- ***Tricornis oldi* (Emerson, 1965)**

Genus *LOBATUS* Iredale, 1921
- ***Lobatus raninus* (Gmelin, 1791)**
- ***Lobatus gigas* (Linnaeus, 1758)**
- ***Lobatus gallus* (Linnaeus, 1758)**
- ***Lobatus costatus* (Gmelin, 1791)**
- ***Lobatus goliath* (Schröter, 1805)**
- ***Lobatus peruvianus* (Swainson, 1823)**
- ***Lobatus galeatus* (Swainson, 1823)**

Genus *LABIOSTROMBUS* Oostingh, 1925
- ***Labiostrombus epidromis* (Linnaeus, 1758)**

Genus *DOLOMENA* Iredale, 1931
- ***Dolomena puchella* (Reeve, 1851)**
- ***Dolomena plicata* (Röding, 1798)**
- ***Dolomena variabilis* (Swainson, 1821)**
- ***Dolomena dilatata* (Swainson, 1821)**
- ***Dolomena columba* (Lamarck, 1822)**
- ***Dolomena labiosa* (Wood, 1828)**
- ***Dolomena sibbaldi* (Sowerby, 1842)**
- ***Dolomena athenia* (Duclos, 1844)**
- ***Dolomena swainsoni* (Reeve, 1850)**
- ***Dolomena hickeyi* (Willan, 2000)**

Genus *DOXANDER* Iredale, 1931
- ***Doxander vittatus vittatus* (Linnaeus, 1758)**
  - ***Doxander vittatus apicatus* (Man in't Veld & Visser, 1993)**
  - ***Doxander vittatus entropi* (Man in't Veld & Visser, 1993)**
- ***Doxander campbelli* (Griffith & Pidgeon, 1834)**
- ***Doxander japonicus* (Reeve, 1851)**

Genus *VARICOSPIRA* Eames, 1952
- ***Varicospira cancellata* (Lamarck, 1816)**
- ***Varicospira crispata* (Sowerby, 1842)**
- ***Varicospira tyleri* (H & A Adams, 1864)**
- ***Varicospira kooli* Moolenbeek & Dekker, 2007**

Genus *LAEVISTROMBUS* Abbott, 1960
- ***Laevistrombus canarium* (Linnaeus, 1758)**
- ***Laevistrombus turturella* (Röding, 1798)**
- ***Laevistrombus guidoi* Man in't Veld & De Turck, 1998**

Genus *MIRABILISTROMBUS* Kronenberg, 1999
- ***Mirabilistrombus listeri* (Gray, 1852)**

Genus *TERESTROMBUS* Kronenberg & Vermeij, 2002
- ***Terestrombus fragilis* (Röding, 1798)**
- ***Terestrombus terebellatus* (Linnaeus, 1758)**
- ***Terestrombus afrobellatus* (Abbott, 1960)**

Genus *TRIDENTARIUS* Kronenberg & Vermeij, 2002
- ***Tridentarius dentatus* (Linnaeus, 1758)**

Genus *MARGISTROMBUS* Bandel, 2007
- ***Margistrombus marginata* (Linnaeus, 1758)**
- ***Margistrombus succincta* (Linnaeus, 1767)**
- ***Margistrombus septima* (Duclos, 1834)**
- ***Margistrombus sowerbyorum* (Visser & Man In't Veld, 2005)**

Genus *MINISTROMBUS* Bandel, 2007
- ***Ministrombus minimus* (Linnaeus, 1771)**

Genus *PERSISTISTROMBUS* Kronenberg & Lee 2007
- ***Persististrombus granulatus* (Swainson, 1821)**
- ***Persististrombus latus* (Gmelin, 1791)**

Genus *SINUSTROMBUS* Bandel, 2007
- ***Sinustrombus taurus* (Röding, 1798)**
- ***Sinustrombus sinuatus* (Lightfoot, 1786)**
- ***Sinustrombus latissimus* (Linnaeus, 1758)**

Genus *THERSISTROMBUS* Bandel, 2007
- ***Thersistrombus thersites* (Swainson, 1823)**

Genus *BARNEYSTROMBUS* Blackwood, 2009
- ***Barneystrombus kleckhamae* (Cernohorsky, 1971)**
- ***Barneystrombus boholensis* (Mühlhäusser, 1981)**

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I commend the gracious help provided by Tim Blackwood of Cohasset, Minnesota, in preparing and proofreading this article. His passion for the family Strombidae is tireless and his efforts are selfless.

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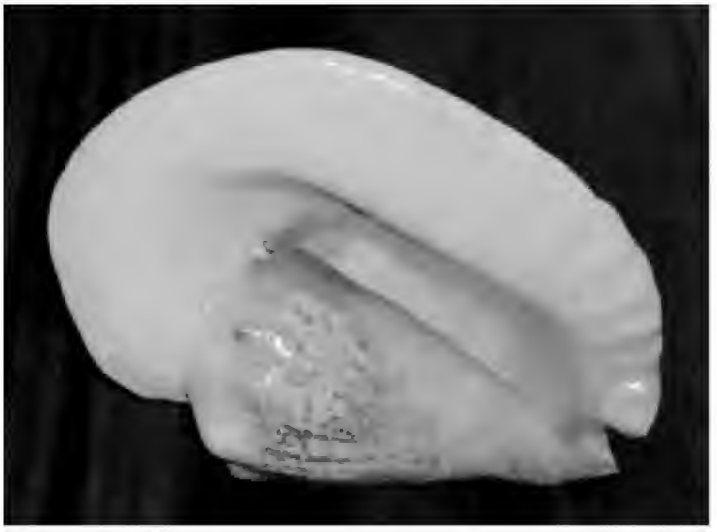


The large and the small in the Strombidae: *Lobatus goliath* at 13in and *Canarium scalariforme* at 13mm.

Andrew Grebneff (1959 - 2010), shown above with a squalodont fossil, worked at the University of Otago, Dept of Geology, Dunedin, New Zealand, as a fossil preparator and was an avid shell collector. He was especially interested in *Busycon*, but in fact collected and showed an interest in most molluscan families. Most of us knew him through Conch-L and email contacts. Surprisingly, many of us formed a close relationship with Andrew, even though never meeting face-to-face. Someone who did meet Andrew face-to-face is Marcus Coltro of Femorale. Marcus writes:

> Andrew had an eclectic way to collect shells and fossils – not from a specific group, but from all families and classes. Although he wrote me for the first time in 1996, our contacts were more frequent after…we started exchanging innumerous e-mails about shells. In 2005 I asked about the possibility of visiting him in Dunedin to collect shells. At first he said there were not many shells to collect but he could arrange a dredging trip on a research boat. Not necessary to say that our trip was very successful with his help and after that our friendship got stronger. His wife Kala and two children Karishma and Aden were very nice on my first trip and even nicer on my following trip in 2009 when I stayed at their home. They did not complain a bit even after I cleaned lots of stinking shells on their bathroom! I spent several days collecting with him on both trips when he took me to his secret collecting spots. He was very sharp and intelligent, and was probably the best professional on fossil preparation in New Zealand. I am very proud to have met such nice guy and will certainly miss his acid comments on Conch-L!

Andrew was always willing to offer his expertise on Recent or fossil shells and there are quite a few collections that benefitted from his largesse with shells he collected over the years. If he knew someone was working on a specific molluscan family, he often willingly offered to loan, trade, or give specimens he thought might help that individual in his or her research. Another passion of Andrew's was VW busses - something he took a bit of kidding about from some of us.

Robert C. "Bob" Dayle (1946 - 2010), shown above in his favorite habitat, was "Mr. Hawaiian Cowrie," publishing numerous papers on evolution, species status, and variation within and between cowrie species. Bob is perhaps best known in the shell community for his development of one of the best literature resources for Cypraeidae, the archive site *The Captured Cowry*, available on the web at: http://www.cowrys.org/capcowry/index.html This site is first of all compilations and indices (by author, date, and species) of every cowrie article published during the 50-year run of *Hawaiian Shell News*. This comprehensive resource has the added value that Bob corrected known errors in early articles by providing the corrections in brackets. The site also contains movies of living cowries, an index of Strombidae articles in *Hawaiian Shell News*, and an index of E. A Kay's "Hawaiian Marine Shells." Bob served several years in the United States Navy (stationed in Spain, Alaska, Hawaii, and Guam) and took up SCUBA while stationed in Hawaii. He finished his US Naval service in Hawaii and took up professional diving for a time. He then moved to Texas, spent some time in Germany, and finally moved back to Hawaii in 1984 when he began diving and shell collecting in earnest. By 1988 he began analyzing the specimens collected to try to arrive at some understanding of evolution, relationships, and ecology. He continued this activity after moving back to the continental US, first to Cambridge City, Indiana, and then Knightstown, Indiana. According to his wife, Alice Hartman, he worked on his shells up to his last night. On *The Captured Cowrie* web site, Bob described himself as, "…just some guy who likes the ocean and collecting shells, for the most part." On the same page he stated that he, "came to understand that stuff happens and luck happens. But there are always some who seem to miss the real points of shelling, which are (to this writer's mind) camaraderie in sharing your finds with other like-minded persons and adding to our understanding of the splendid animals which produce such stunning works of beauty." His email "handle" was *makuabob* and under that handle he provided knowledge and insight, as well as a lasting heritage in *The Captured Cowrie*.

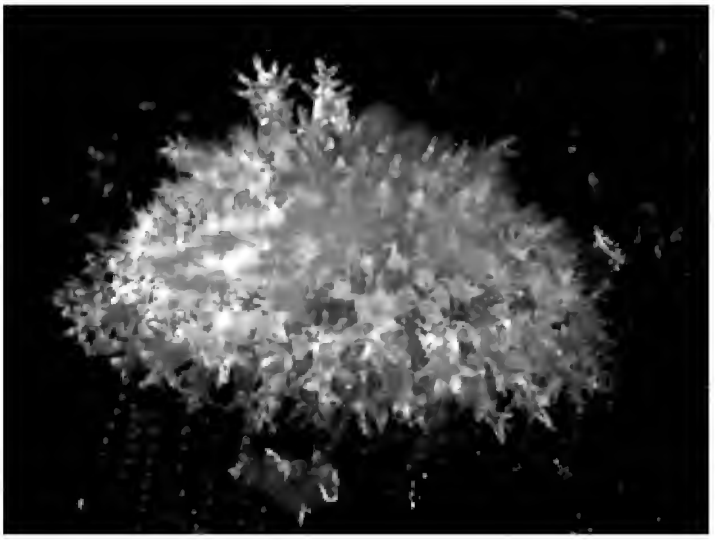
Cozumel (Mayan for Island of the Sparrows, Kùutsmil in modern Mayan), Mexico, is a small (16km by 48km) island located 20km off the eastern coast of the Yucatan Peninsula and 60km south of Cancún. The largest town on the island is San Miguel de Cozumel with a population of about 71,000. The island is a well-known tourist destination, famous for its SCUBA and snorkeling. Cozumel is fairly flat and is mostly limestone, containing numerous caves as well as several cenotes, sink holes filled with ground water. Many of the cenotes are suitable for SCUBA or snorkeling, but be forewarned, you must be a qualified cave diver and be registered with the government. The surrounding ocean provides the majority of income for island residents, either directly through fishing and charter operations or indirectly through the many hotels and restaurants that support the tourist trade. Cozumel is a regular stop for Caribbean cruise ships.

There are a number of Mayan ruins on the island, although none as spectacular as found on the mainland. The Maya are thought to have settled on the island a thousand years ago, but even earlier artifacts (Olmec) have been discovered. The Spanish arrived in 1518 and many of the Mayan temples were subsequently destroyed.

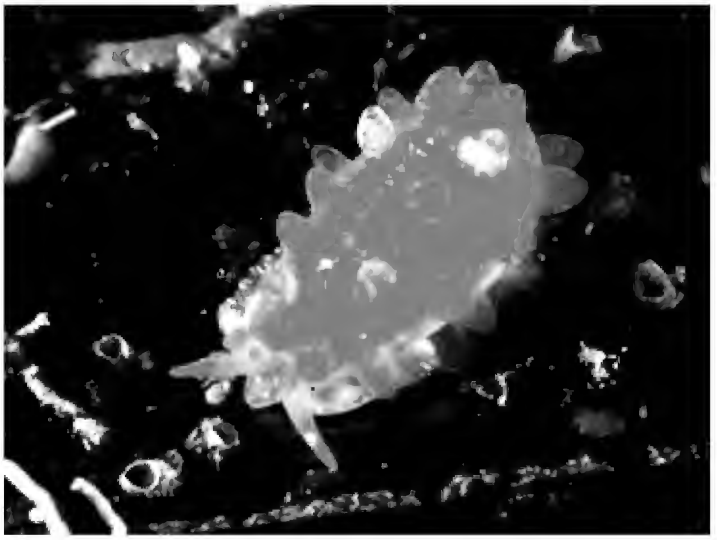
Diving off Cozumel is truly spectacular with clear waters highlighting the numerous Caribbean species. Spectacular coral reefs are protected by the island geography and the Mexican government established the Cozumel Reefs National Marine Park in 1996 to help maintain the pristine nature of the area. These images are a few of the many mollusks I encountered on my last trip to this area.

Jim Lyle -- jameslyle@roadrunner.com

Left: *Charonia variegata* (Lamarck, 1816), the Atlantic Triton, on the prowl for tasy ecinoderms.
Below: *Volvarina albolineata* d'Orbigny, 1842, a small but nicely patterned marginellid.



Erosaria acicularis (Gmelin, 1791), the Atlantic yellow cowrie.

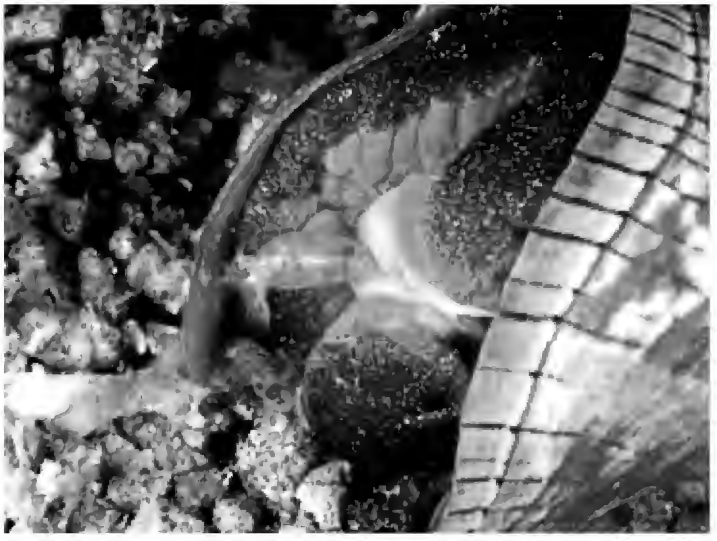


A small unidentified marginellid with fully extended mantle.

Turbinella angulata (Lightfoot, 1786), the West Indian chank.

Turbinella angulata egg case.

Fasciolaria tulipa (Linnaeus, 1758), the true tulip.



Fasciolaria tulipa egg case being laid. Jim Lyle: JamesLyle@roadrunner.com

Are those Mexican slippers?

J.M. Inchaustegui

At a recent shell auction of the Houston Conchology Society, sponsored by the Houston Museum of Natural Science, I saw two *Conus recurvus* Broderip, 1833,* in one Zip-Lock bag on a silent auction table. Because the last bid was quite low, I placed a bid on them and periodically returned to raise my bid if someone had out-bid me. I heard this lady sheller complain to her companion "I am having trouble with #12 (my number). Every time I bid on those cones, he comes right behind me and raises the bid!" When the bidding was finished I had gotten these two cones at a very nice price. Little did I know that I had done better than I realized, since rather than two shells there were three. I will explain below.

At home as I was examining the shells I noticed a strange "hump" on one of them and a peculiar "flaring" of the outer lip near the shoulder, opposite the "hump." This cone had an intact periostracum, which I wanted to preserve, so I gently pushed on the "hump" with my thumb, but it would not move or come off. I put the shell in cool water to soak a minute or and when I pushed again, the "hump" came off. It turned out to be a little 21mm *Crepidula* that had attached itself (probably while very young) to the live cone and did not come off after the shell was collected and cleaned. So I had three shells in the Zip-Lock bag, not two as I had originally thought. As I examined the peculiar flared lip, which at first I thought was due to a "freak" growth, I began to surmise that the "flaring" was caused by the slipper shell crowding the cone's aperture. As the cone grew its last whorl it flared the lip out to accommodate the *Crepidula*.

I have tentatively identified the "hump" as *Crepidula excavata* (Broderip, 1834) of which A. Myra Keen says in her book "Sea Shells of Tropical West America," "Lower California throughout the Gulf and south to Panama, on other shells, especially *Polinices."* This little shell probably never read the book because here it was on a living *Conus.*

*Ed note: *Conus recurvus* Broderip, 1833, is apparently no longer valid as the type does not match shells of that name, the correct name is probably *Conus* (*Kohniconus*) *emarginatus* Reeve, 1844.

Fig. 1 On the left is the 53mm *Conus recurvus* Broderip, 1833 Manzanillo, Mexico, collected by Theresa Stelzig on 1 Jan 1975, with the "hump," flared lip, and intact periostracum. On the right for comparison is a typical *C. recurvus* from Guaymas, Mexico, collected by Ruth Anne Sparlin in 1988.

Fig. 2 A dorsal view of the cones with the 21mm *Crepidula excavata* between them. Notice that the color of the slipper shell mimics the color of the host *Conus* on the left, surely no coincidence.

Fig. 3 (left) An apertural view of the hitch-hiking *Crepidula.*

Photos by the author. I have extra *C. recurvus* as well as other cones that I would like to trade.

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Report on the Epitoniidae of the East China Sea- Part 2

Lenny Brown

This is my second Report on the Epitoniidae of the East China Sea. It covers species not discussed in my previous report, *American Conchologist* 37(2), 2009. As I noted in the prior article, that first report was only preliminary and further collecting would undoubtedly document additional epitoniid species not discussed in that article. As expected, that indeed proved to be the case and the additional epitoniid species identified subsequent to the publication of the first report are listed below. Readers interested in additional information on the epitoniid species in this section of the Pacific Ocean are urged to read my prior article on the subject.

Species List

Amaea cf. gratissima (Thiele, 1925) (Fig. 1) Thiele (1925:134 [100], pl. 11, fig. 2) described *Scala gratissima* based on a specimen collected off Dar-es-Salaam [Tanzania] at a depth of 404m. The holotype of *Scala gratissima* is 5.7mm in length and is illustrated in Fig. 2. The correct generic placement of this species is a question. In Weil, *et. al.* (1999: 88), this species was provisionally placed in the genus *Eccliseogyra*. Species in *Eccliseogyra* have ribbed protoconchs. Because of the smooth protoconch evident in Fig. 2, however, together with the cancellate sculpture on the teleoconch whorls and the strong basal disk, it is my opinion that this species actually belongs in the genus *Amaea*. While the specimen from the East China Sea illustrated in Figure 1 is 19mm in length, making it more than three times as large as Thiele's holotype of *S. gratissima*, it is otherwise quite similar to the species described by Thiele. To date, I have seen only a few examples of this species from the East China Sea. None of the specimens had any information regarding the depth at which they were collected, however, the fact that I have seen so few specimens leads me to suspect that this species is found in deep water.

Amaea inexperta (Brown & Weil in Weil, *et al.,* 1999) (Fig. 3) This species was described based on material from Singapore. The illustrated specimen extends the known range of this species north to the East China Sea.

Amaea (?) *rubigosola* Lee, 2001 (Fig. 4) This species was discussed but not figured in the first report.

Cirsotrema edgari (de Boury, 1912)

Epitonium cf. eximiellum (Masahito, Kuroda & Habe, in Kuroda, *et. al*., 1971) (Fig. 5)

Epitonium extenuicostum (de Boury, 1913) (Fig. 6) De Boury (1913: 82) proposed his replacement name for this species because *Scalaria tenuicostata* G. B. Sowerby, II, 1844, is preoccupied by *Scalaria tenuicostata* Michaud, 1830.

Epitonium fucatum (Pease, 1861) (Fig. 7)
Epitonium koshimagani (Nakayama, 1991) (Fig. 8)

Epitonium sakuraii (Kuroda & Habe in Habe, 1961) (Fig. 9)

Epitonium tokyoense Kuroda, 1930 (Fig. 10)

Epitonium umbilicatum (Pease, 1869) (Fig. 11)

Epitonium yangi Brown, 2010 (Fig. 12) This species was described in the June 2010 issue of *Novapex*. While similar to *Epitonium spyridion* Kilburn, 1985, a species illustrated in the previous report on the Epitoniidae of the East China, it can be distinguished from *E. spyridion* by the combination of more numerous costae with peaks set closer to the sutures and the more numerous spiral lines between the costae. In addition, *E. yangi* lacks the fenestrate sutures present in *E. spyridion*.

Fragilopalia nebulodermata Azuma, 1972 (Fig. 13)

Gyroscala iwaotakii (Azuma, 1961) While Azuma placed this species in the genus *Amaea in the* original description, because of the combination of numerous costae and the weak basal keel, I follow Nakayama (2003: 79) who transferred this species to the genus *Gyroscala*.

Opalia mormulaeformis (Masahito, Kuroda & Habe, in Kuroda, *et. al.*, 1971) (Fig. 14)

Surrepifungium costulatum (Kiener, 1838) (Fig. 15)

Acknowledgements: I want to thank Dr. Tomas Rintelen at the Zoological Museum, Berlin for providing the photographs of the holotype of *Scala gratissima* and Tom Eichhorst who photographed the illustrated specimens and prepared the plates for this article.

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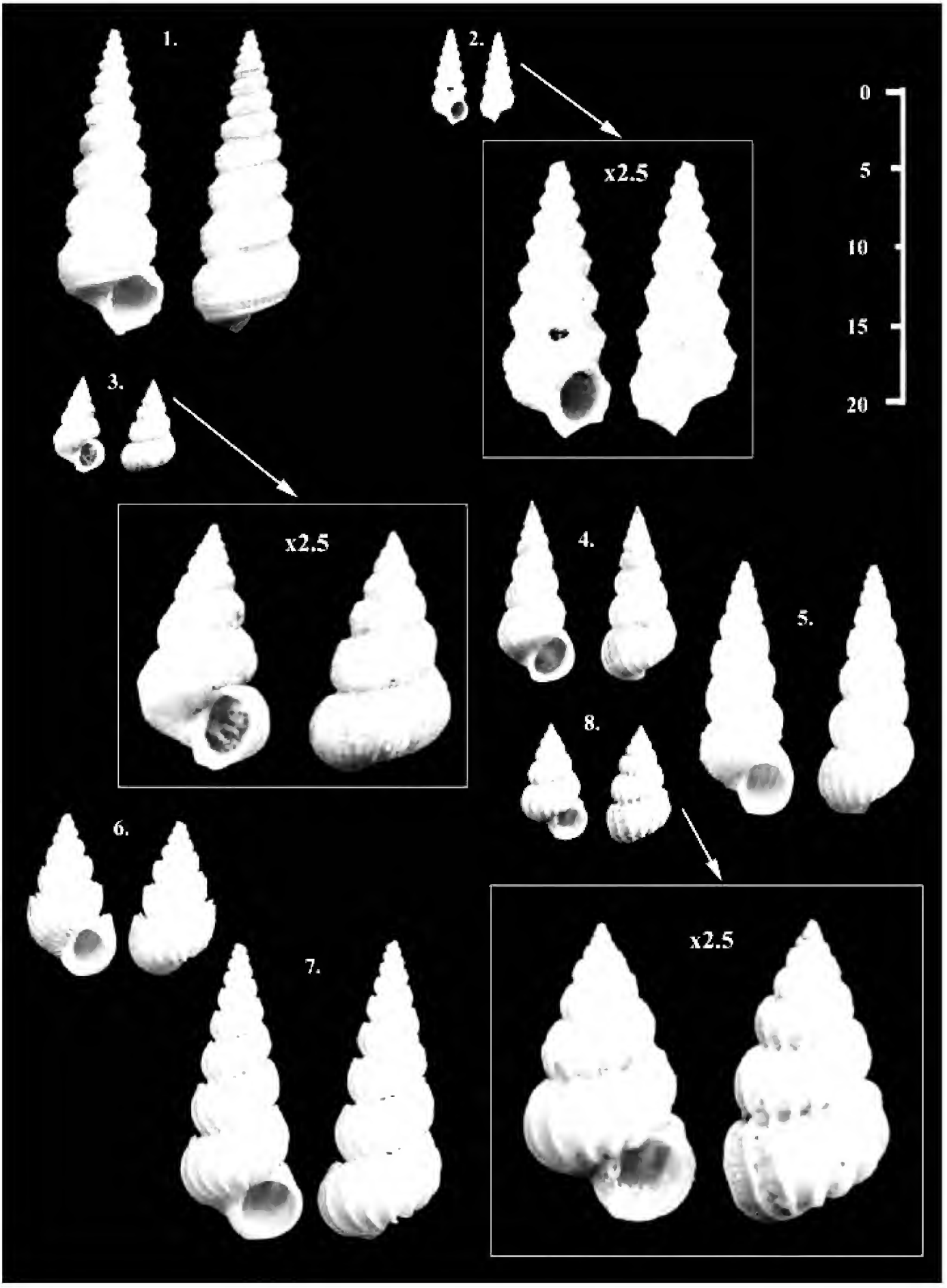
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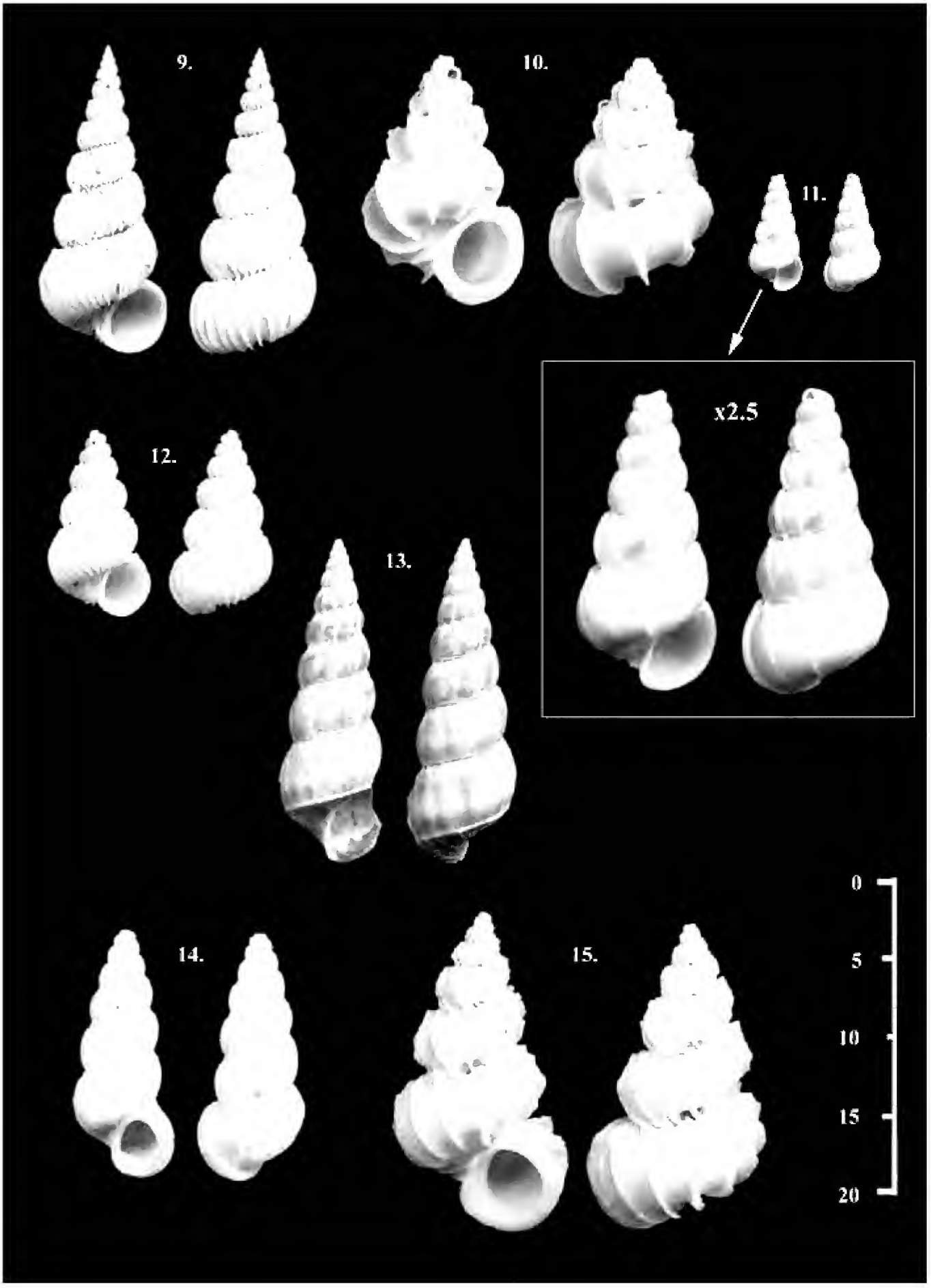
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A reclusive Tennessee native snail: *Anguispira picta* (Clapp, 1920) (Discidae)

by Tom Eichhorst (images from Doug Shelton and the Alabama Malacological Research Center (AMRC) & the author)

The land snail genus *Anguispira* Morse, 1864, is widespread across most of the eastern to midwestern United States and from Florida in the South to Canada in the North. It is part of the family Discidae, and most people in both the United States and Europe have seen other common genera in this family, *Discus* and *Punctum*, small disk-shaped shells, often seen after turning over a stone or cleaning up dead leaf debris. There are also a couple of dozen genera of Discidae throughout islands in the Pacific. In the U.S., most species of *Anguispira* seem to have been grouped under the catch-all genus *Helix* when first described. This was quickly resolved as various authors separated out the genus *Anguispira*. The type species is *Anguispira alternata* (Say, 1816) from the northeastern U.S. and Canada. *Anguispira* are typically not diminutive like other genera within the family, but rather of an average size of around 15-20mm or more. This means they are rather easily collected and probably reside in most U.S. land snail collections - except, maybe, for one species from Tennessee.

Anguispira picta (Clapp, 1920), the painted snake coiled forest snail or Buck Creek snail or painted tigersnail, was first discovered on a limestone outcropping in a small valley called Buck Creek Cove, southwest of Sherwood, Franklin County, Tennessee, in 1906. G.H. Clapp published the description of the snail in 1920 using the name *Pyramidula picta*. In 1948 Pilsbry assigned it to the genus *Anguispira* and relegated it to subspecies status as *Anguispira cumberlandiana picta*. This was probably based on the fact that *Anguispira cumberlandiana* is found in almost all of the territory surrounding Buck Creek Cove. In 1976, Alan Solem determined that *A. picta* was indeed a distinct species based upon a study of penial, radular, habitat, and shell structural characteristics. Interestingly, this species, a member of an otherwise widespread genus, had still not been discovered anywhere but the type locality in Franklin County, Tennessee, where Solem found it only between 750-800 feet elevation. The snail's habitat in Buck Creek Cove was estimated by Solem to be an area about 0.4 miles wide and 1.2 miles long (approximately 325 acres). Later studies found it was not quite as restricted in area and elevation as listed by Solem, but extended from 750 to 1,500 feet in elevation (USF&WS, 1982) and an area of approximately 1,950 acres along 9.8 miles of the Cumberland Plateau escarpment in Crow Creek Valley (USF&WS, 2006). Solem estimated the snail's population at 2,000 individuals, but later studies indicate it may be 10 times that amount (USF&WS, 1982). The U.S. Fish and Wildlife Service listed the species as endangered in 1978. Numerous searches, as late as 2004, confirmed that this small (17-21mm wide, 10mm high), intricately-patterned snail with the long name was endemic to Franklin County (Withers, 2003 & 2004).

A. picta has a fairly flat (slightly dome shaped) shell that is beige with dark spots on the ventrum and narrow dark flame-like markings on the dorsum. Juveniles are more brightly colored with an almost orange background color. The snails are found on limestone ledges or within crevices, in areas of mature tall-growth forest. Their primary food source seems to be lichens for which the snails forage both day and night (Freedman, 2002 & USF&WS, 1982). This snail is not rare within the type locality, but because it is limited to this one small area and thus extremely vulnerable to habitat disruption or destruction (e.g. lumbering, forest fire, quarrying), it was accorded protected status. The U.S. Fish and Wildlife Service published an approved recovery plan in 1982 (USF&WS, 1982) that was reviewed in 1991 and 2006, both reviews finding the original recovery plan inadequate and the snail population stable but endangered by pressure to quarry the area for limestone, timber harvest, and residential development (USF&WS, 2006). The state of Tennessee boasts over 225 land snail taxa, 100 aquatic snail taxa, and 120 freshwater mussel taxa, and is well aware of the need to monitor and protect this small snail (Withers, 2009).

Anguispira picta is found in museum collections, but probably few private ones. The shells illustrated here were collected legally by Doug Shelton during a project funded by the State of Tennessee and the U.S. Fish & Wildlife Service (Shelton, pers. comm, 2010). Doug served as an agent of the State of Tennessee during the project. The shells were all dead taken and serve as voucher specimens for distribution to museums. Slowly encroaching development or one raging forest fire could spell extinction for this small snail.

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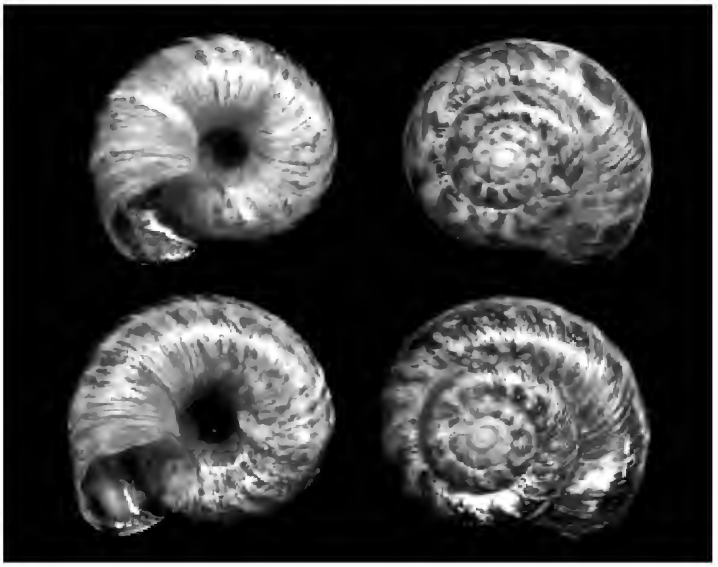
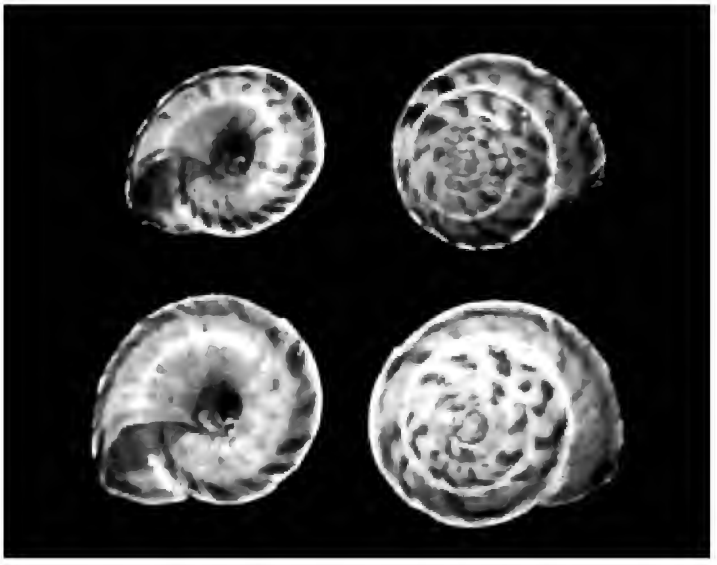
A. alternata (Say, 1816), 16-17mm, New York.

A. cumberlandiana (Lea, 1840), 15-16mm, Tennessee.



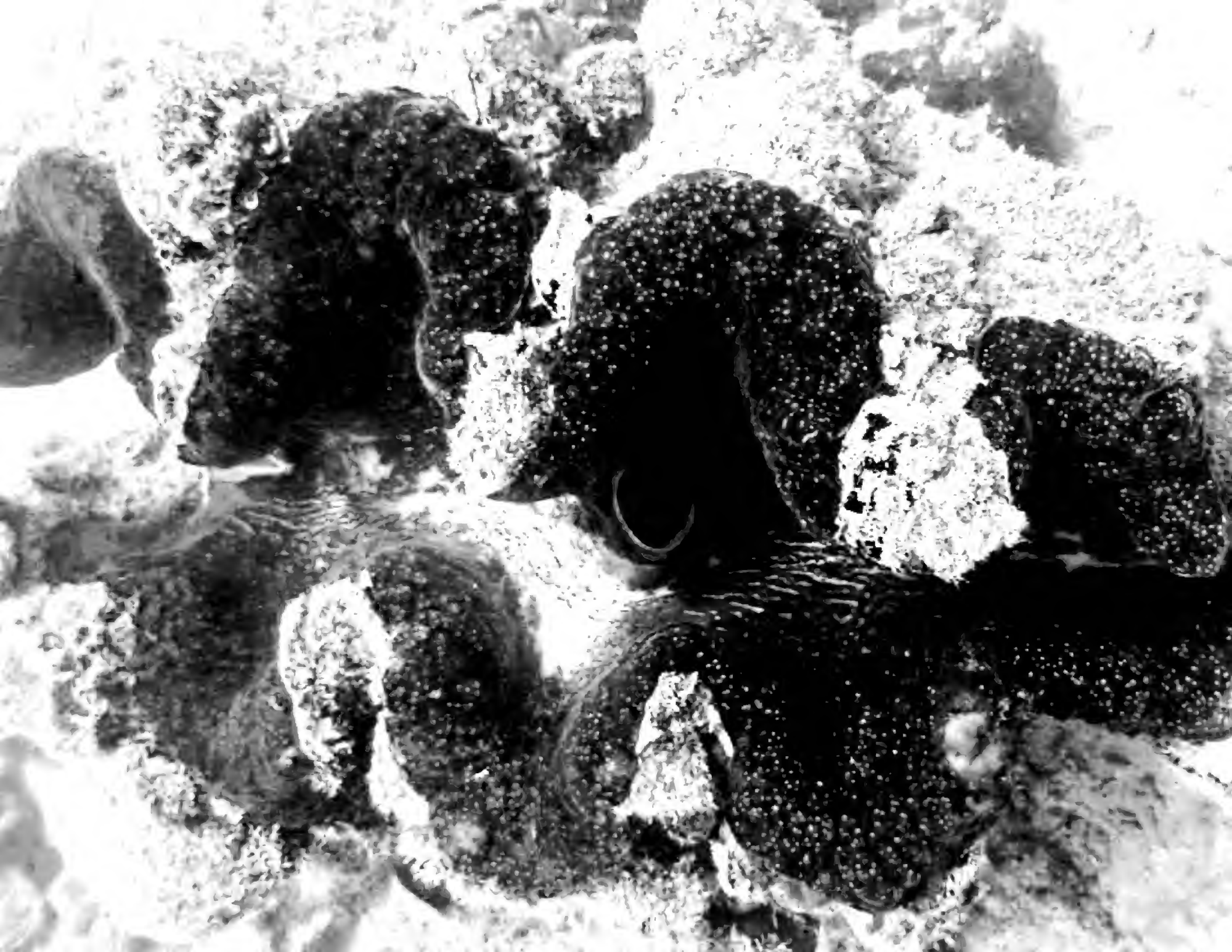
A. fergusoni (Bland, 1861), 15mm, Maryland.



A. picta (Clapp, 1920), 15-16mm, Tennessee (AMRC photo).

A. alabama (Clapp, 1920), 17mm, aestivating on limestone (AMRC photo).

Discus patula (Deshayes, 1830), 8-9mm, Indiana (note the small size).



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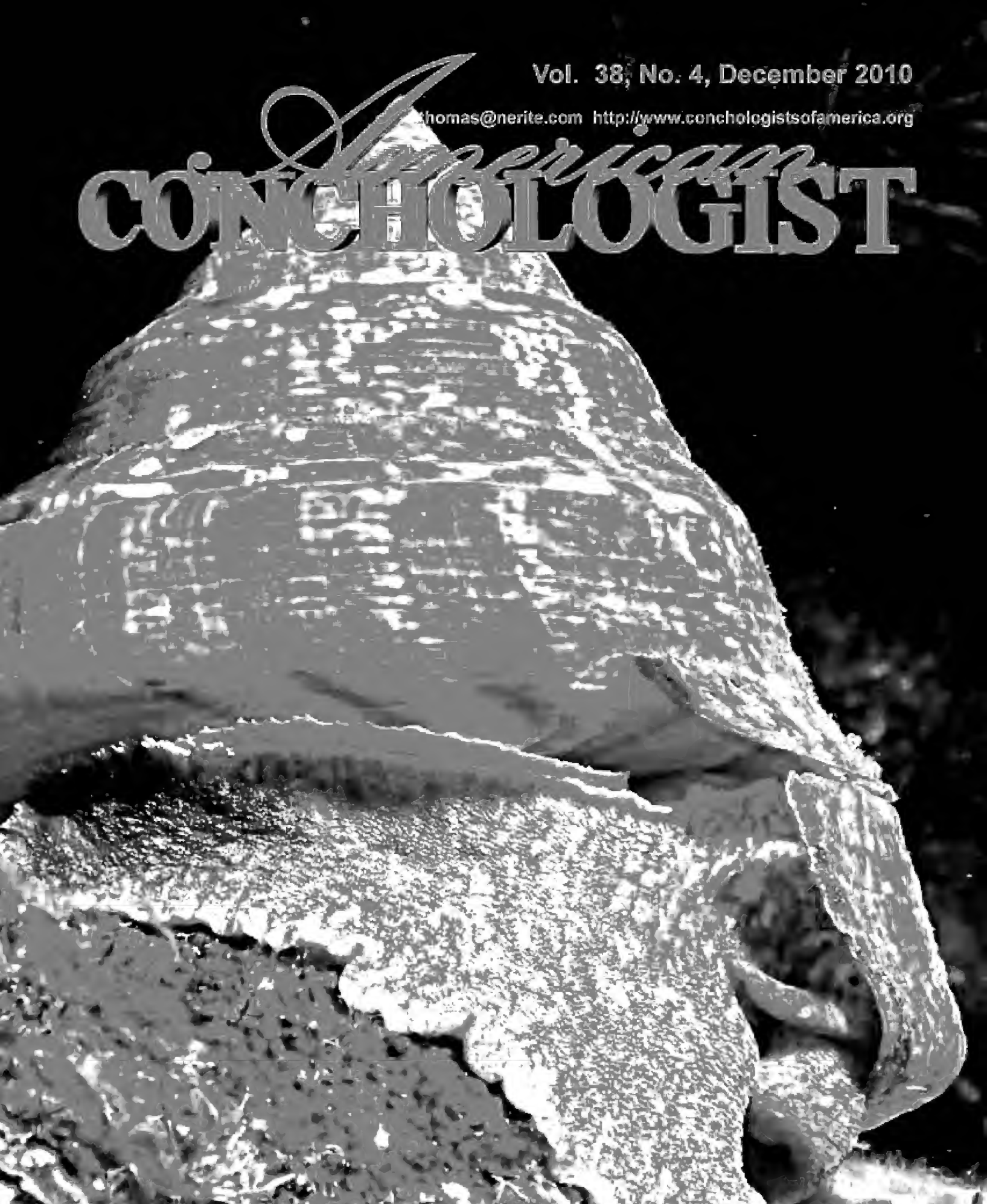

Quarterly Journal of the Conchologists of America, Inc.

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In This Issue

Editor's comments: First, I have to correct a couple of errors.

In the last issue of *American Conchologist*, vol. 38, no. 3, Sep 2010, I both misspelled and misspoke in the review of "The Sound of a Wild Snail Eating." The author, Elizabeth Tova Bailey spells her first name with a "z" rather than the "s" I used. She is also not actually recovered from her mystery illness, but rather still coping with chronic illness and its many complications to life. *Mea culpa.*

This next error is thankfully someone else's. Winston Barney wrote to inform me that the assignment of the stromb genera *Dolomena* and *Doxander* to Iredale was in error (*American Conchologist*, vol. 38, no. 3, Sep 2010). Winston states that according to Kronenberg & Dharma (2005, see ref. for article), "Iredale only gave names and no descriptions for *Dolomena* and *Doxander*, leaving both *nomen nudum*. The authors could find no earlier reference to these genera prior to Wenz (1940), thus making him the author of record: *Dolomena* Wenz, 1840 and *Doxander* Wenz, 1840."

I was pleased to note the First International Cone Meeting in Stuttgart, Germany, in October. According to my sources there were several interesting papers presented and lots of discussion centered on the family Conidae. This first meeting falls on the heels of the online publication of *The Cone Collector*, now in its fourth year. This cone-centered Internet publication has been sponsored by the Poppes and can be downloaded for free from their web site at: http://www.conchology.be

This issue is rather eclectic as usual, with hopefully at least one article for everybody.

Tom Eichhorst

Front cover: A superb and richly patterned specimen of *Entemnotrochus adansoniana* (Crosse & Fischer, 1861). Photograph by Charles Rawlings, off Roatan, Honduras, in 55 feet of water, after bringing the specimen up from 428 feet. The change in depth did not seem to affect the slit shell as its behavior continued as it had been at the deeper depth.

Back cover: A 14 inch *Triplofusus gigantea* (Kiener, 1840) (horse conch), attacking a much smaller *Busycon sinistrum* Hollister, 1958 (lightning whelk). This tableau took place in 10 inches of water and was spotted and photographed by David and Sandra Herman off Sanibel Island, FL, 5 November 2010.

Ifremeria nautilei Bouchet & Warén, 1991

by Tom Eichhorst

I recently received an image of a deep water shell from Simon Aiken of Simon's Specimen Shells Ltd., in the United Kingdom (http://www.simons-specimen-shells.com). Simon has long supported *American Conchologist* with images and articles, and this time he had a shell he thought was special enough to be of interest to our readers. Well, he was certainly correct. The shell is *Ifremeria nautilei* Bouchet & Warén, 1991. The specimen was brought up from 6,600 feet in the Mariana Trough by the *DSV Nautile*. A couple of interesting side notes are that the *Nautile* is owned and operated by Ifremer (Institut français de recherche pour l'exploitation de la mer [the French Research Institute for Exploration of the Sea]), thus the genus name. This submersible was commissioned in 1984 and is capable of diving to depths (and more importantly, returning from depths) as deep as 6km or 3.7 miles. The *Nautile* has a rich history of scientific dives, but there are two missions for which it is perhaps best known: the examination and photography of the wreck of the *RMS Titanic* and the search in the Atlantic for the flight data recorder and cockpit voice recorder after the crash of Air France Flight 447 on 1 June 2009. Of concern here is the exploration the *Nautile* made of the Mariana Trough that provided this interesting specimen.

The Mariana Trough lies south of Japan in the western Pacific Ocean, just west of the larger and deeper Marianas Trench, a gash in the sea floor over 1,500 miles long but with an average width of only 43 miles and depths of over 10,800 meters or 6.75 miles. To the west of this is the Marina Trough, an active volcanic area resulting from the collision of two tectonic plates that form the deeper Marianas Trench. The older and heavier Pacific Plate is subducted or forced under the Mariana Plate creating the deep Marianas Trench with two resultant ridges to the west: the Mariana Arc containing the Marianas Islands (including the island of Guam) and the ridge further west called the West Mariana Arc. In between these two ridges is an area about the size of California called the Mariana Trough. The trough varies between 2800 and 5400 meters depth (9,186 to 17,700 feet). The volcanic activity in this area provides the suitable habitat for *Ifremeria nautilei.*

Ifremeria nautilei (first identified from the Lau and North Fiji Basins) is a hydrothermal vent dweller with endosymbiotic bacteria that allow it to exist and even thrive in the cold, dark, oxygen-starved depths. These gastropods inhabit the sea floor in areas of hydrothermal emissions that raise temperatures to a range of from 3°C to 20°C (37°F to 68°F). With temperature taken care of, two types of endosymbiotic bacteria provide their host with oxygen from the surrounding water and food from the sulfur emissions.

Ifremeria nautilei is the only species in the genus *Ifremeria* and has been placed in the family Provannidae with four other genera, all inhabitants of hydrothermal vents, cold seeps, whale falls, or sunken driftwood. *Ifremeria nautilei* has a unique larval form only recently discovered. For the first 15 days or so after hatching (they are brooded in a special camber in the female's pallial cavity, a part of the mantle) the larva are not the typical veligers we associate with most gastropods. Instead they are covered with cilia, longer on the posterior end, and develop

Above: *DSV Nautile*, owned and operated by Ifremer, the French Research Institute for Exploration of the Sea. Photo by Bjørn Som Tegner on Wikipedia, used IAW site instructions. Below: Living specimens of Ifremeria nautilei clustered on the sea floor with associated limpets (Olgasolaris sp.). Photo by P. Briand, from Wikipedia, used IAW site instructions.

two anterior globular structures. This larval form is called Warén's larva. After about 15 days the larva undergoes a metamorphosis into a typical gastropod veliger.

Thanks to Simon we can present this image of a shell that few collectors would otherwise see, much less possess. *Olgaconcha tufari* L.A. Beck, 1991 is a junior synonym.

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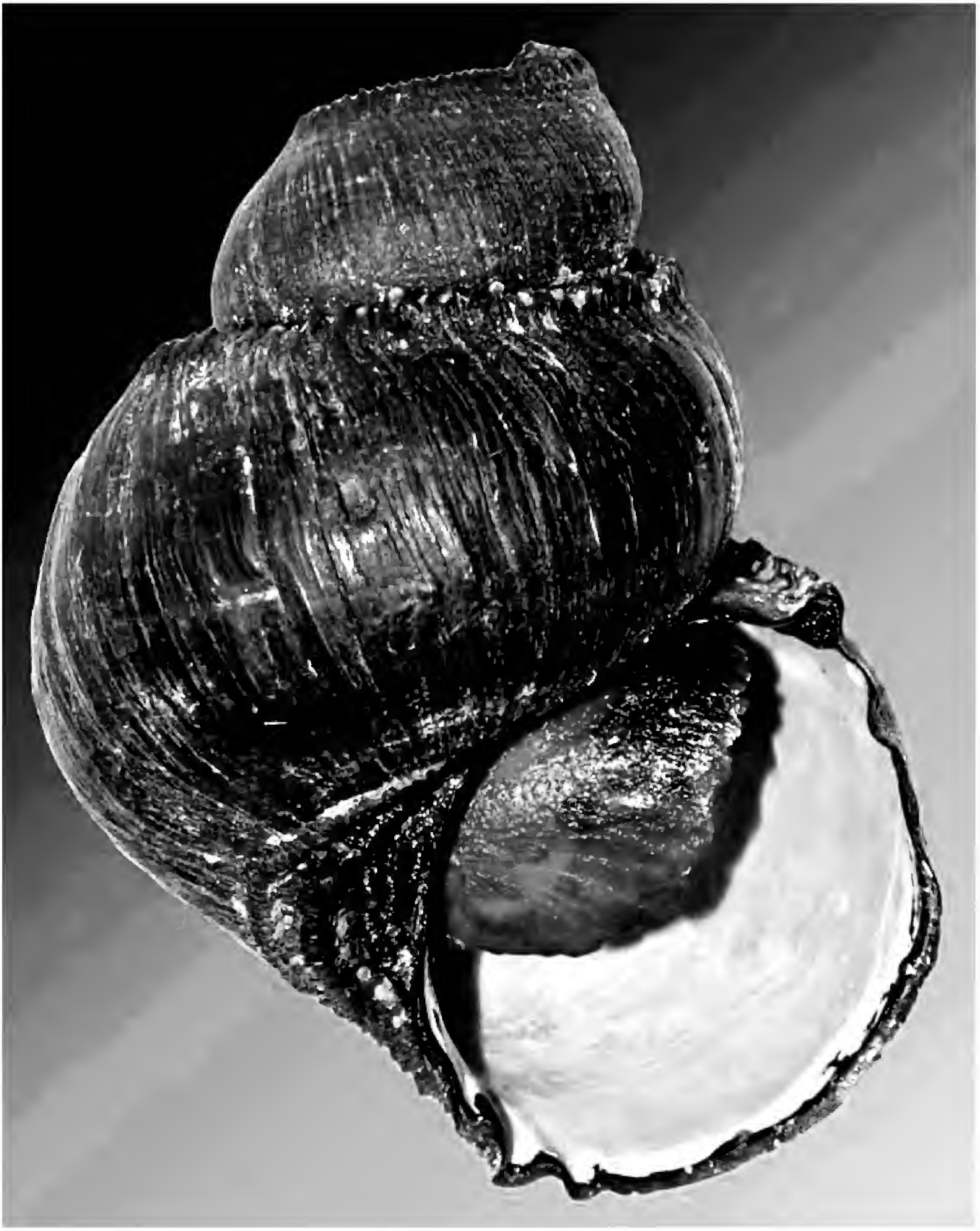

Ifremeria nautilei Bouchet & Warén, 1991 (54.5mm), taken at 6600 feet, Mariana Back-Arc Basin, by *DSV Nautile* (Schaake collection). Image by Simon's Specimen Shells Ltd., http://www.simons-specimen-shells.com

Gettleman key to probe of major reversals

by Harry G. Lee

1. The strange case of *Cerion fraternum* Pilsbry, 1902 (Eupulmonata: Urocoptoidea) on Cat Island, Bahamas

By his own admission, former COA President Alan Gettleman of Merritt Island, FL, is relatively new to saturation landsnailing. A self-admitted "musselhead" for years, he was greatly influenced by the late Hessie Kemper during his St. Louis days. On the other hand, Hessie's sister, the late Frieda Schilling, was a landsnailer, and Alan was thus exposed to that side of conchology early on (Gettleman, 2010). Yet only in the last few years, particularly since his retirement from NASA two years ago, has he reprised his interest in terrestrial snails. Despite the relative novelty of the enterprise, he has embraced this aspect of shelling with a passion reminiscent of Frieda's. Several field trips, each lasting a week or more, have taken him to Jamaica, Alabama, the Smokies and Blue Ridge, back to St. Louis, and recently to Mayaguana, Chub Cay, and Cat Island in the Bahamas. On those latter three trips he was exposed to the great panoply of peanut snails, genus *Cerion*, which find their metropolis in this island group, where they are both speciose and exhibit high rates of endemnicity. He pled guilty to a new addiction as he began to look closely at taxonomy and other aspects of *Cerion* biology.

While on Cat Island with the Bailey Matthews Shell Museum field contingent this April, Alan spent the better part of a week gathering *Cerion* from a variety of accessible (some barely) habitats. One lesson learned by most *Cerion* collectors is that large series of specimens are essential to the appreciation of shell variation within and among the generally small and isolated colonies of these snails. With that in mind, Alan retrieved a couple of hundred empty specimens of what appeared to be a populous but recently-extirpated colony of *Cerion fraternum* Pilsbry, 1902 near the SE end of the island. This is one of the smallest species in the hundreds named in the genus, being about 1/2 inch at maturity. The other Cat Island species, numbering a half-dozen or more, average about twice that in height.

Several days after his return home, Alan was curating his many Cat Island shells and *mirabile dictu*, came across a reverse-coiled (sinistral) specimen in this large lot of empty shells. The specimen was subadult - the lip not thickened and reflected, but it sure was left-handed (**Fig. 1,** Bill Frank digital image). One of his early responses was to report this bit of news to me. Alan no doubt recalled that at this very station I had made it clear that I was selectively searching for sinistral specimens in this colony for about a half hour, estimating well over a thousand dextral-only specimens caught my eye. Meanwhile, neither Alan nor Anne Joffe (who took the photo of Alan in full field regalia (**Fig. 2**), the remainder of our collecting triad, were so disposed. Bitter irony aside, I am compelled to offer an insight into the singularity of this Gettleman *coup-de-grace*. First, a little history is in order:

Perhaps by sheer coincidence, the first sinistral *Cerion* specimen ever brought to light was also found on Cat Island, Bahamas (Plate, 1907) and reported as *C. fordi* [= *C. agassizii* (Dall, 1894) *fide* Gould, Young, and Kasson, 1985]. The collector, German biologist Ludwig Hermann Plate (1862-1937),

Fig. 1 Rare sinistral (R) and normal dextral (L) specimens of *Cerion fraternum* Pilsbry, 1902, collected by Alan Gettleman on Cat Island. The adult shell is less than 1/2 inch in length.

is memorialized by *Cerion platei* Clench, 1933 (**Fig. 3,** from Harasewych, 2006, with the author's permission), recognized as a Cat Island endemic. Alan and others collected both these species earlier on this trip.

Charles Johnson Maynard (1845-1929) (**Fig 4**), the most prodigious student of *Cerion* in the history of conchology (Harasewych *et al*., 2007), found three sinistral specimens (Maynard, 1920: 81). Two were from a single sample including about 1,962 dextral deme-mates and later named *C. santesoni* (Maynard and Clapp, 1929) [= *C. glans* (Küster, 1844) *fide* Gould, Young, and Kasson, 1985] from the northern shore of New Providence Island, Bahamas. Perhaps surprisingly, one of the sinistral shells was designated the lectotype (MCZ358073: Harasewych *et al*., 2007). The fourth left-handed Peanut Snail was collected along with 583 dextral deme-mates on Bird Cay, Exuma Islands, Bahamas. It became the lectotype (MCZ356677:

Fig. 2 Alan Gettleman decked out in the latest sheller's fashion.

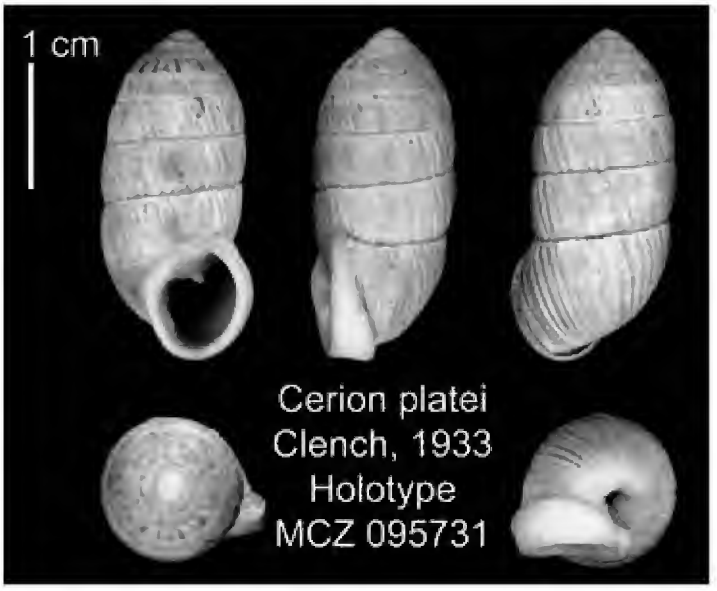

Fig. 3 *Cerion platei* Clench, 1933, endemic to Cat Island.

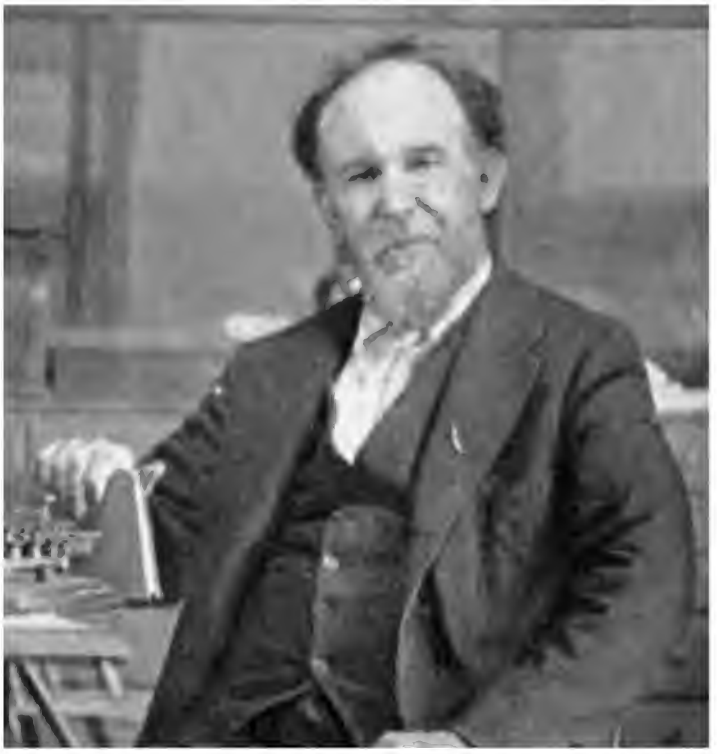

Fig. 4 Charles Johnson Maynard (1845-1929), an ornithologist and a dedicated student of *Cerion*.

Harasewych *et al*., 2007) of *C. inconstans* (Maynard, 1920) [also = *C. glans* (Küster, 1844) *fide* Gould, Young, and Kasson, 1985]. Over a half-century elapsed before Bill Kasson located a fifth specimen, previously unrecognized, in a lot of *C. incanum* (A. Binney, 1851) collected on Big Pine Key, Monroe Co., Florida, at the OSUM (abbreviations of institutional repositories listed on page 10). Not much later Stephen Jay Gould found a second sinistral *C. incanum*, also from Big Pine Key and likewise unrecognized, in the MCZ. These latter five specimens and some of their dextral deme-mates formed the basis of an extensive morphometric analysis by Gould, Young, and Kasson (1985).

Operating far from the metropolis of the family, and quite unaware that he was dethroning Grand Master Maynard, Phil Poland of Tampa, FL, found five more sinistral *C. incanum* in the Lower Florida Keys, four of them from a single population on Boca Chica Key over a few visits spanning about a year (Poland, 2000). (**Fig. 5**) is an example from Phil's camera.

After over a century of field and museum work on *Cerion* by many scientists and other enthusiasts with probably a million or more shells examined, Alan can bask in the glory of knowing he's only the sixth collector to bag a sinistral *Cerion* - and apparently only the fourth to know that he had actually done so! His left-handed *C. fraternum*, while being the twelfth sinistral cerionid shell ever reported, is the sole representative of only the fourth species of this family to be known in the sinistral condition. In summary:

Cerion agassizii (Dall, 1894) L. Plate! **1**
Cerion fraternum Pilsbry, 1902 A. Gettleman! **1**
Cerion glans (Küster, 1844) C.J. Maynard! **3**
Cerion incanum (A. Binney, 1851) Anon! 2; P. Poland! 5 = **7**

Total: 4 species, **12 specimens.** Four collectors accounting for 10 specimens.

Fig. 5 ***Cerion incanum*** **(A. Binney, 1851), 25mm. Collected by Phil Poland in the Florida Keys, dextral (L) and sinistral (R).**

Fig. 6 ***Mesodon clausus*** **(Say, 1821), 16mm. The shell on the left is the only known sinistral adult specimen of this species.**

2. One thing leads to another. A new twist in the Polygyridae (Eupulmonata: Polygyroidea)

The Gettleman Collection isn't small, unidimensional, or limited to self-collected material. There are plenty of pre-owned (recycled) specimens. Among these are a number of land snails obtained from dealers and other collectors. It was from the latter resource, although an as yet untraced chain of ownership, that Alan acquired a number of specimens originating in the Aron L. Mehring collection. Mehring, a resident of Adelphi and of Hyattsville, MD, and a fertilizer scientist by profession, produced a typescript manuscript monograph on the land snails of Jamaica, based in part on his collections there (R. Goldberg, pers. comm.. 27 June, 2010). He also collected freshwater and marine shells, as well as echinoderms, in Cuba, Pacific Panama, Hawaii, the Philippines, Japan, and Florida, from (at least) 1947- 1964 (NMNH, 2010). For Fiscal Year 1963-1964, a portion, about 3,500 lots and 23,800 specimens, of his collection was the largest given to the NMNH Division of Mollusks (Rehder ms: 150 *teste* M.G. Harasewych, 29 June, 2010).

As is often the case with us collectors, Alan took only momentary notice of most of these Mehring specimens initially. He was, however, given momentary pause by a left-handed shell in the material, a single specimen lot from Houston collected by Mehring himself. Now, this was several years before Alan's terrestrial epiphany, and he relates that he was quite content to regard this as a "normal" sinistral specimen. No doubt energized by his *Cerion* discovery, Alan recently dug this specimen of "*Mesodon bucculentus* Gould" out, reported it to me, and ultimately lent it for close examination and photography. The shell actually belongs to the closely-related *M. clausus* (Say, 1821), and is the only known

Fig. 7 Leslie Hubricht (1908-2005), a friend and probably the preeminent collector of eastern US landsnails.

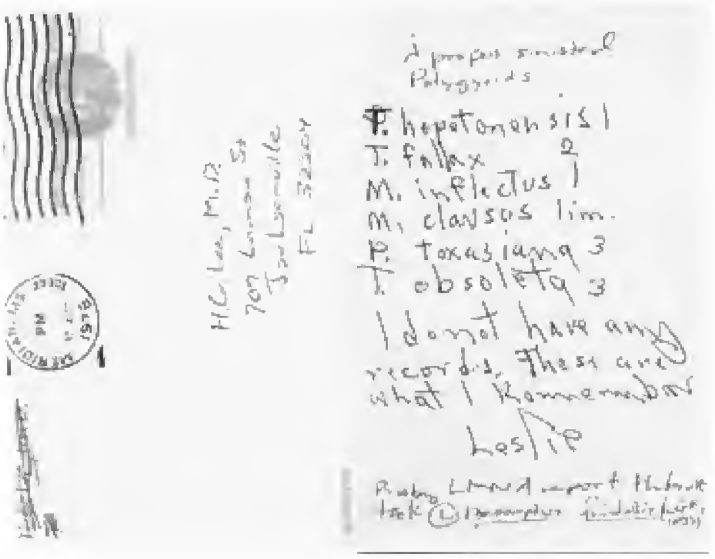

Fig. 8 The August 1978 postcard from Leslie Hubricht listing sinistral Polygyridae.

sinistral adult specimen of this species in existence! (**Fig. 6,** Bill Frank digital image)

As with the *Cerion*, there is one undisputed champion collector of eastern US landsnails, Leslie Hubricht (1908-2005) (**Fig. 7**, with the permission of Jochen Gerber). I had the privilege of working with Leslie in the field on a few occasions and maintaining a correspondence for more than two decades. As it suited both of our styles, our messages were usually short, and in those pre-Internet days (1970's to 1990's) postcards were quite suitable for streamlined communication. As I have been interested in gastropod coiling reversal for a very long time, on one occasion I mailed him a self-addressed stamped postcard requesting him to summarize his experience with sinistral Polygyridae, the family including Alan's *Mesodon*. **Fig. 8** is the August 13, 1978 response. Although Leslie probably handled something on the order of a few hundred thousand polygyrids, he had found only eleven specimens of five species! Interestingly an immature *Mesodon clausus* was one of the eleven! Over the years I have gathered notes on other sinistral polygyrids, and on the occasion of Alan's second sinistral score, I thought it might provide context for this kind of rare discovery. Here follows an account, in roughly the same format as the above *Cerion* tabulation, of all the known instances of sinistral specimens of polygyrids in the USA and northern Mexico (brackets [] include reference and collection details, ! indicates collector:

***Allogona profunda* (Say, 1821)** [Pilsbry, 1940: 879: "Shimek and Billups have recorded 4" (no reference)] **(4)**

***Daedalochila avara* (Say, 1818)** [4132 Ortega Forest Dr., Jacksonville, FL, H.G. Lee! 27 July, 1977; Lee Collection] (**Fig. 9**) **(1)**

***Euchemotrema leai* (A. Binney, 1841)** [Archer, 1934: 148: Ann Arbor, MI, Alan F. Archer! 1932-1933] **(1)**

***Inflectarius inflectus* (Say, 1821)** [Bland, 1861: 448: John Gould Anthony Collection, ?MCZ; Pilsbry, 1940: 773: Hubricht! St. Louis, MO; FMNH; Feinberg, 1970: 12-13: Carter Co., TN, Harold S. Feinberg! 4 June, 1969, AMNH 157293] **(3)**

***Linisca texasiana* (Moricand, 1833)** [Hubricht, 1978: three, FMNH] **(3)**

***Mesodon clausus* (Say, 1821)** [Hubricht, 1978: immature; FMNH; Houston, TX, A.L. Mehring! 13 December, 1960. Gettleman Collection] **(2)**

***Mesodon elevatus* (Say, 1821)** [Tryon 1867: 104: Frank Daulte Collection, Cincinnatti] **(1)**

***Mesodon mitchellianus* (I. Lea, 1839)** [Bland, 1861: 448: Thomas Bland Collection, ?AMNH but not in Gratacap (1901); Wetherby, 1895: 94: near Cincinnati, OH, F.W. Bryant!] **(2?)**

***Mesodon thyroidus* (Say, 1817)** [Bland, 1861: 448: Bland Collection, ?AMNH but not in Gratacap (1901); Wetherby, 1895: 94: three shells: one Cincinnati, OH, Stannage! two Wetherby! one deposited at MCZ; Archer, 1934: 148-149: two specimens, Ann Arbor, MI, A.F. Archer! April, May, 1933; Petit, R.E., March 2007, personal communication, G. R. Webb letter to P. H. Reed late Sept. or early Oct., 1946, prob. FMNH] **(8?)**

***Mesodon zaletus* (A. Binney, 1837)** [Pilsbry, 1940: 725: two specimens: one Herkimer Co, NY, one ANSP; Fluck, 1943: 105: two of several hundred individuals, Ilion, Herkimer Co., NY, W.H. Fluck!] N.B. Ilion colony introduced by J. Lewis (*fide* A. Bailey, Pilsbry, 1940: 724-725), therefore derived from dextral stock. **(3-4?)**

***Millerelix mooreana* (W. G. Binney, 1857)** [Pilsbry, 1940: 624: J.A. Singley!] **(1)**

***Neohelix albolabris* (Say, 1817)** [Lewis, 1872: 99: near Mohawk, NY, James Lewis! June, 1871; Pilsbry, 1940: 838: several known; Reigle, 1962: 37; Washtenaw Co., MI, Phil Marsh(?)!; UMMZ 210163] **(prob. >6)**

***Patera roemeri* (L. Pfeiffer, 1848)** [Pratt, 1965: Possum Kingdom SP., Palo Pinto Co., TX, W(illiam) Lloyd Pratt! (?)1965, Pratt Collection no. 992] **(1)**

***Polygyra cereolus* (Mühlfeld, 1818)** [Baily, 1942: 102: Hillsboro, FL, R.I. Baily! Spring 1940; Sullivan, 1986: Desoto Park, Manatee Co., FL, Wayne Sullivan! 1986] **(Fig. 10) (2)**

***Polygyra septemvolva* Say, 1818** [W.G. Binney, 1878: 282 MCZ; Waccasassa River, SR 24 bridge, Levy Co., Florida, John Slapcinsky! 19 March, 2005, Lee Collection] **(Fig. 11) (2)**

***Praticolella* species** [23 km NNW El Limon, Tamaulipas, Mexico, Fred G. Thompson! 27 December, 1989, Lee Collection] **(Fig. 12) (1)**

***Stenotrema hirsuta* (Say, 1817)** [Bland, 1961: 448: Isaac Lea Collection, ?USNM] **(1)**

***Triodopsis fallax* (Say, 1825)** [Bland, 1861: 448: William Greene Binney Collection, ?AMNH but not in Gratacap (1901); Hubricht, 1978: two, FMNH] **(3)**

***Triodopsis hopetonensis* (Shuttleworth, 1852)** [Pilsbry, 1940: 812: ANSP; Hubricht, 1978, FMNH] **(2)**

***Triodopsis obsoleta* (Pilsbry, 1894)** [Hubricht, 1978: three, FMNH] **(3)**

***Triodopsis vulgata* Pilsbry, 1940** [Reigle, 1962: 36-37: Washtenaw Co., MI, Phil Marsh(?)!, UMMZ 210162] **(1)**

***Webbhelix multilineatus* (Say, 1821)** [Wetherby, 1895: 94: A.G. Wetherby! MCZ] **(1)**

***Xolotrema fosteri* (F. C. Baker, 1932)** [Pilsbry, 1940: 831: W.G. Binney! 202 Union St., Burlington, NJ (his own garden), ?AMNH, but not in Gratacap (1901); St. Louis, MO, Frieda Schilling! 2 May, 1969, Lee Collection] N.B. NJ specimen definitely derived from (naturalized) dextral stock. (**Fig. 13**) **(2)**

Total: 15 genera, 23 species, about **(53) specimens.** Twenty collectors; **36 specimens**:
Archer, A.F **3**
Baily, R.I. **1**
Binney, W.G. **1**
Bryant, F.W. **1**
Feinberg, H.S. **1**
Fluck, W.H. **2**
Hubricht, L. **11**
Lee, H.G. **1**
Lewis, J. **1**
Marsh, P. (?) **2**
Mehring, A.L. **1**
Pratt, W.L. **1**
Schilling, F. **1**
Singley, J.A. **1**
Slapcinsky, J. **1**
Stannage **1**
Sullivan, W. **1**
Thompson, F.G. **1**
Webb, G.R. **1**
Wetherby, A.G. **3**

Abbreviations for institutional repositories mentioned above:
AMNH: American Museum of Natural History, New York.
ANSP: Academy of Natural Sciences, Philadelphia.
FMNH: Field Museum of Natural History, Chicago.
MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, MA.
OSUM: Ohio State University Museum, Columbus, OH.
UMMZ: University of Michigan Museum of Zoology, Ann Arbor.
NMNH: National Museum of Natural History, Smithsonian Institution, Washington DC.

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N.B. All the above citations in *The Nautilus* can be accessed on-line at <http://www.archive.org/search.php?query=Nautilus>.

Acknowledgements: Aside from various contributors given mention in the text above, I must offer my gratitude to Bill Frank of Jacksonville, FL, who is responsible for the majority of the images used in this report.

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shells@hglee.com

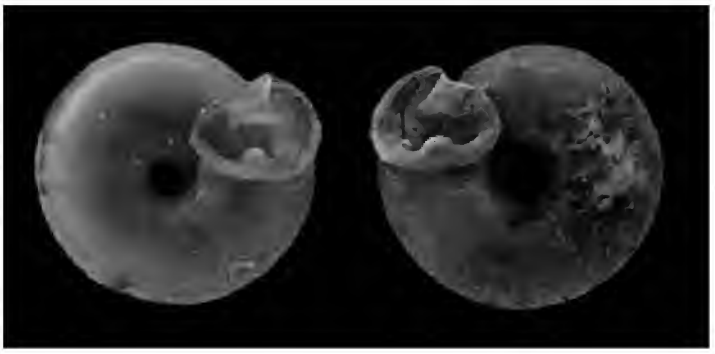


Fig. 9 Dextral (L) and sinistral (R) *Daedalochila avara* (Say, 1818), 6mm. Collected in Jacksonville, Florida, by Harry G. Lee, 27 July 1977, Lee collection.

Fig. 11 Dextral (L) and sinistral (R) *Polygyra septemvolva* Say, 1818, 9mm. Collected along the Waccasassa River, Levy Co., Florida, by John Slapcinsky, 19 March 2005, Lee collection.

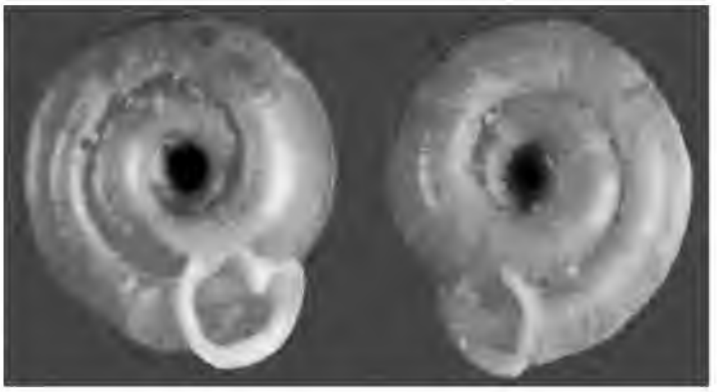


Fig. 10 Dextral (L) and sinistral (R) *Polygyra cereolus* (Mühlfeld, 1818), 8mm. Collected in Desoto Park, Manatee Co., Florida, by Wayne Sullivan in 1986, Sullivan collection.

Fig. 12 Dextral (L) and sinistral (R) *Praticolella* species, 10mm. Collected north of El Limon, Tamaulipas, Mexico, by Fred G. Thompson, 27 December 1989, Lee collection.

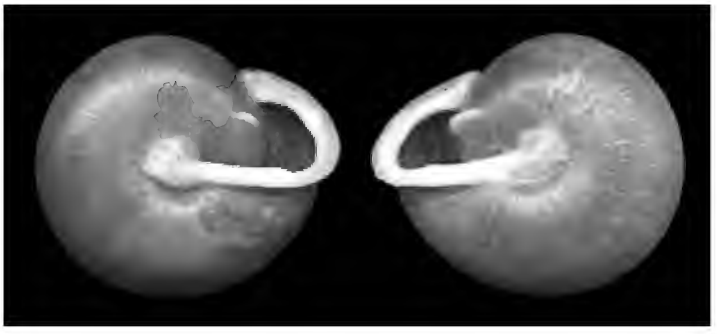
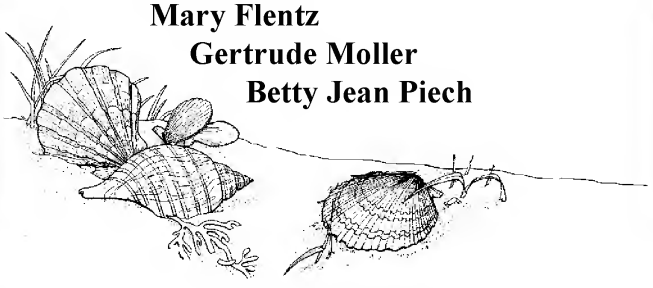


Fig. 13 Fig. 12 Dextral (L) and sinistral (R) *Xolotrema fosteri* (F.C. Baker, 1932), 17mm. Collected in St. Louis, Missouri, by Frieda Schilling, 2 May 1969. Lee collection.

In Memoriam (see p. 20):

Cecelia White Abbott
Mary Flentz
Gertrude Moller
Betty Jean Piech



Four Abnormal Land Shells from Israel

by Moshe Erlendur Okon

to Lilach

Shell collections rarely exhibit abnormal specimens and only a handful of collectors focus on them. Although there is much to learn from these aberrant forms, they are usually considered to be less attractive or aesthetic and thus discarded in the initial stages of the long process which brings specimens to dealers and then to our cabinets and display cases. In reality, less than perfect land and marine molluscs are much more common than is reflected in our collections.

The situation in the conchological literature is no different. In the past ten years, for example, only five articles relating to this subject appeared in *American Conchologist*. One dealt with a white color form, three with sinistral specimens, and only one with an actual freak (co-authored by me, incidentally).

Abnormal shells can be divided into two major groups: one of shells with repetitive patterns of abnormality, such as albino, melanistic, or rostrated appearances, and the other of shells with totally erratic growth patterns and deformities. The former group seems to attract more attention and interest and certain exemplars can also command high prices, such as the rare small pale *Harpa major* from Australia or the dark rostrated cowries of New Caledonia.

One can often find the general statement that most freaks are probably caused by early trauma to the shell or the animal, especially an injury to the mantle. Other reasons given are water pollution, parasites, renewed growth after maturity has been reached, and habitat changes. Nonetheless, I have not been successful in obtaining literature pertaining to the general phenomenon of abnormal growth (as opposed to descriptions of miscellaneous aberrant shells).

This short article depicts four landshell species from Israel, each displaying aberrant growth. Collecting for these is especially productive during the beginning of the rainy season, which is usually around October, and throughout the winter. The area of the State of Israel is not a simple geographical unit and its borders with Lebanon, Syria, Palestine, Jordan, and Egypt (some still to be decided) are somewhat arbitrary and not necessarily reflective of natural landscape boundaries. There are, however, land shells endemic to the wider area of Israel and some that live in much smaller habitats within Israel.

Those readers with an interest in land shells from the Holy Land are welcome to contact me for more information and exchanges.

Buliminus labrosus (Olivier, 1804)

This light brown shell, averaging 30mm, belongs to the family Buliminidae and is quite common throughout south Lebanon, north and central Israel and Palestine, and west Jordan. There are several subspecies or forms, varying mostly in size and shape. It lives in limestone crevices and can often be found in the middens of small rodents with the shell punctured in the last whorl. A means to a feast for the rodent.

The shell pictured here began its growth in a normal manner and at a certain point another juvenile *B. labrosus* attached itself to, what was at that time, the body whorl. This probably occurred during a rest stage between growing cycles. The attached shell can be seen on the top, its apex pointing down and with the last whorl punctured. The host continued growing, but as it could not remove its guest (which died but remained attached), it coiled around the attached shell until it reached maturity and formed its thickened outer lip. The guest juvenile is still attached to the host, although partly enclosed by the adult shell.

Buliminus labrosus **(Olivier, 1804) (normal specimen (L) and abnormal specimen (R) 27mm), found on limestone rocks near Kesalon, Israel (col. MEO).**

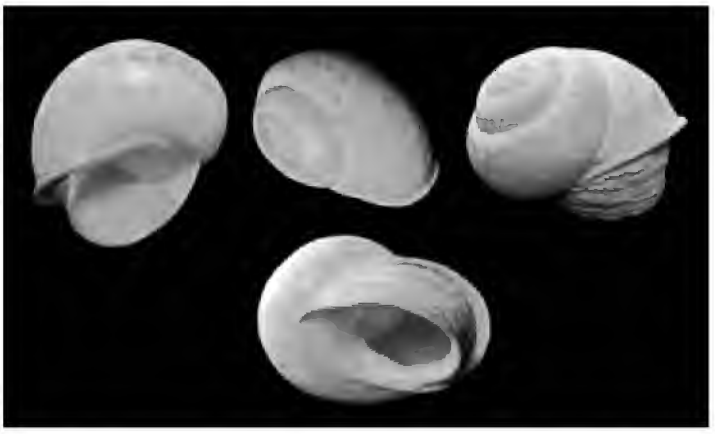
Sphincterochila fimbriata **(Bourguignat, 1852) (normal specimen (L) and abnormal specimen (R) 15mm), found on limestone rocks in the Judean Desert, Israel (col. MEO).**

Sphincterochila fimbriata (Bourguignat, 1852)

This white shell, in the family Sphincterochilidae, is common in the central Israel-Palestine-Jordan area. The shell reaches 20mm and can be more or less flattened compared to the imaged (normal) shell. In an article by Bar, scalarid or open-coiled forms of this species are described. Sinistral specimens are also known.

The smaller abnormal shell pictured here (15mm) is a scalarid loosely coiled shell and even though the whorls are not disjunct, it is certainly far from the typical form for this species. It seems to have died before it reached maturity, lacking the last whorl. To me, this is aesthetically the most attractive of the shells illustrated here.

A land shell with a similar scalarid form in the genus *Josephinella* is found in Greece and is pictured in an article by Cédric Audibert. Another example many of us are familiar with is the scalarid form *Cornu aspersa* (Müller, 1774) (syn. *Helix aspersa*) illustrated on page 193 of Abbott's "Compendium of Landsnails."

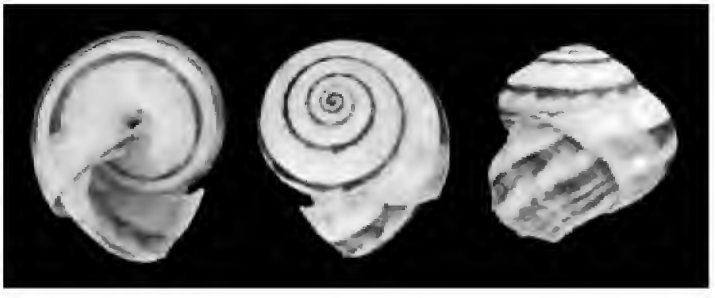


***Levantina spirplana werneri* (Kobelt, 1889) 40mm, found dead on limestone rocks near Bareqet, Israel (col. MEO).**

Levantina spirplana werneri (Kobelt, 1889)

This globose cream coloured shell, in the family Helicidae, may be a subspecies or form (authors disagree). It can reach up to 40mm, lives in a very restricted habitat, and is carinate or keeled as a juvenile. The umbilicus of this species is totally covered. The color pattern of the adult shell consists of five poorly defined and interrupted brown spiral bands. The outer lip is thickened and the aperture faces downward towards the ventrum of the shell.

The specimen pictured here reached adulthood in a normal manner (outer lip thickened and last whorl rounded, not carinated), but then, for some reason, resumed growth for another eighth of a whorl. While the inner part of the shell shows continuity in smoothness and texture, the outer part of the additional whorl is rougher and not confluent with the original outer lip The transitional angle is a bit sharper as well. The new outer lip is not completely thickened.



***Theba pisana* (Müller, 1774) 21mm, found on bushes in Sede Moshe, Israel (col. MEO).**

Theba pisana (Müller, 1774)

This rather handsome shell is another specimen in the Helicidae exhibiting a "double aperture." This species, originally from the Mediterranean area, has become widespread throughout many areas of the world. The shell is small to medium in size (15-22mm) and varies considerably in colour and in the pattern of the spiral lines. The tip of the apex, however, is dark brown or black, even on pure white specimens.

As I close this quick look at a few abnormal shells found in Israel, I should note that the "double aperture" phenomenon is a bit more regularly encountered and can occasionally also be seen in marine gastropods.

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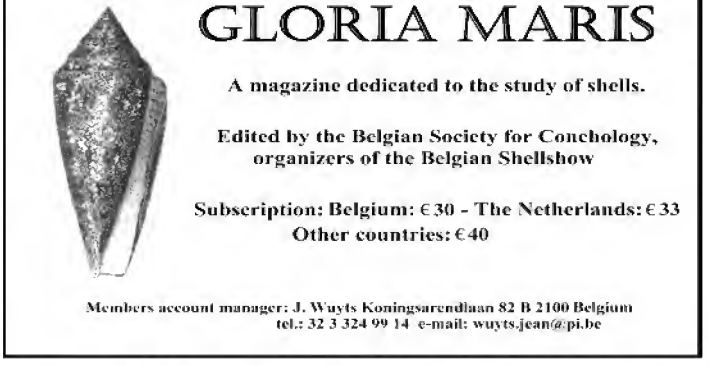

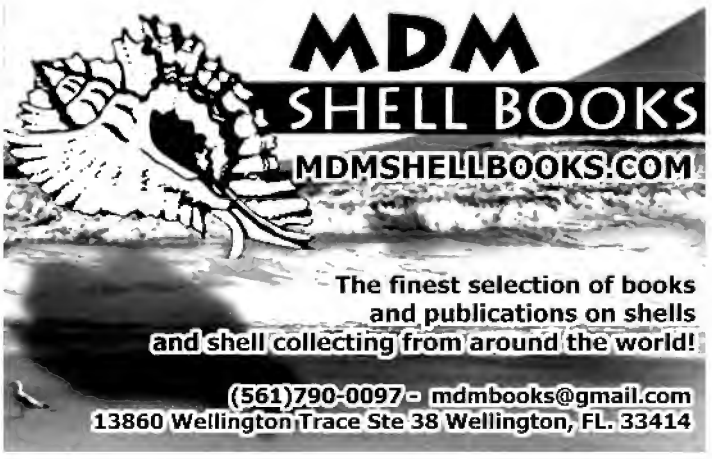

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Our 31st Year

COA 2010 Convention

Tres Amigos - (left to right) Scott Robichaud, Warren Graff, & Don Robak. Like ducks, they were calm on top but paddled furiouly under water.

Part of the Texas Contingent - (left to right) Jean Dickman, Sybil Burger, Rozelle Wilson, & Cynthia Beck.

Half a table at the welcoming party - (left to right) José Leal, Harry Lee, Richard Ott, Marcus Huber & Anne Joffe.

The other half - (left to right) Anne Joffe (twice? COA Convention Coordinator, why not?), David Joffe, Jeanne Pisor, Don Pisor, & Chuck Owen.

Panel discussion on "What to do with your Collection" - (left to right) Rich Goldberg, Gary Rosenberg, Adam Baldinger, Jay Cordeiro, Elizabeth Shea, & José Leal.

Jim Brunner prepares to explain why at least two audience members need to bid against each other for these conchs.

Shellebration Boston

The bourse was held in the very elegant ballroom of the hotel. Here things have slowed during the dinner hour.

Shelling at low tide on Revere Beach. Practitioners of the "Sanibel Stoop" were in their element.

The intrepid folks who braved the beautiful sunny weather to walk Revere Beach looking for small washed up treasures.

Enjoying the final banquet are (left to right) Jack Lightbourn, Jeanne & Don Pisor, & Cheryl & Rick Negus.

From the opening rendition of "Charlie on the MTA" sung by Roger Pierce, to the interesting and varied daily programs, to the closing banquet, Shellebration Boston was a successful convention enjoyed by everyone who attended. The COA 2010 convention had 164 registrants, 24 dealers, and 78 banquet attendees. The verbal auction made $6,547, thanks to many generous donations and some really active bidding. The silent auctions were noted by many for the superb quality of material offered. The bourse venue was spectacular, with lots of room and an elegant setting. Apparently there were some Boston area attendees who had not attended previous COA conventions. The buying was "lively," ensuring a successful bourse for both dealers and attendees. With a lot of hard work by club members, the Boston Malacological Club was able to celebrate its 100th anniversary. The Boston Malacological Club wishes to thank their members and participants as well as Anne Joffe, Alice Monroe, Carolyn Petrikin, and Bob & Betty Lipe for making this event a success.

2011 SHELL SHOWS & RELATED EVENTS (Jan. – Jul.)

The following information is subject to change. Please verify with individual organization

Jan. 15-16 2011 **SPACE COAST SEASHELL FESTIVAL**, Melbourne, FL
The Melbourne Auditorium, 625 E. Hibiscus Blvd.
Jim & Bobbi Cordy, 385 Needle Blvd.
Merritt Is., FL 32953 (321) 452-5736
E-mail: corshell@earthlink.net

Jan. 22-23 2011 **BROWARD SHELL SHOW**, Pompano Beach, FL
Pompano Beach Recreation Center, NE 18th Av. & NE 6th St.
Nancy Galdo/Richard Sedlak, 4266 Chase Ave.
Miami Beach, FL 33140-3008 (305) 531-0036
E-mail: nancygaldo@gmail.com

Feb. 11-13 2011 **SARASOTA SHELL SHOW**, Palmetto, FL
Palmetto Convention & Civic Center, 1 Haben Blvd.
Sandy Pillow, 11017 Jasmine Circle
Bradenton, FL 34209 (941) 567-5982
E-mail: spillow6@comcast.net Cell: (810) 516-6120

Feb. 26-27 2011 **ST. PETERSBURG SEA SHELL SHOW**, Seminole, FL
Seminole Recreation Center, 9100 113th St. N., Seminole, FL
Bob & Betty Lipe, 348 Corey Avenue
St. Pete Beach, FL 33706 (727) 391-2197
E-mail: blipe@tampabay.rr.com FAX: 360-3668
Exhibit form at: http://www.stpeteshellclub.org

Mar. 3-5 2011 **SANIBEL SHELL SHOW**, Sanibel, FL
Sanibel Community Center, Periwinkle Way
Irene Longley, 2823 8th Ave.
St. James City , FL 33956-2133 (239) 283-7417
E-mail: milsfrills@cs.com

Mar. 5-6 2011 **XXIIéme RECONTRES INTERNATIONALES DU COQUILLAGE,** Paris, France
Bourse de Commerce, 2 rue des Viarmes, 75004 Paris, France
M. & D. Wantiez, 88, Rue du General Leclerc
95210 Saint Gratien, France 33 (1) 34-17-00-39
E-mail: wantiez.mada@wanadoo.fr

Mar. 10-12 2011 **MARCO ISLAND SHELL CLUB SHOW XXXI**, Marco Is., FL
Marco Presbyterian Church, Elkcam Circle
Linda Shockley, 348 Colonial Avenue
Marco Island, FL 34145 (239) 394-5416
E-mail: marco-sheller@earthlink.net

Apr. 30 2011 **BRITISH SHELL COLLECTOR'S CLUB CONVENTION,** Essex, England
Theydon Bois Community Centre, Essex
John Whicher, 44 196 336 3715
email: john@whicher.plus.com

May 14-15 2011 **XXI BELGIUM INTERNATIONAL SHELL SHOW**, Antwerp, Belgium
"Extra Time" Sports Hall, Louisalei 24, Hoboken
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NL-5037 NC Tilburg, Nederland 31 (13) 463 0607
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Web site: www.bvc-gloriamaris.be/beurs_e.htm

Jul. 13-17 2011 **CONCHOLOGISTS OF AMERICA ANNUAL CONVENTION,** Cape Canaveral, FL
Radisson Resort at the Port, 870 Astronaut Boulevard
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Web site: www.conchologistsofamerica.org

Jul. 2-3 2011 **TOWNSVILLE SHELL SHOW**, Townsville, Queensland, Australia
Orchid Society Hall, Charles Street, Kirwan
Glenda Rowse, 19 Farrell Street
Kirwan 4814, Queensland, Australia (7) 4773-2817

Jul. 9-10 2011 **KEPPEL BAY SHELL SHOW,** Yeppoon, Queensland, Australia
Gus Moore Pavilion at the Yeppoon Show Ground
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Details pending **AMERICAN MALACOLOGICAL SOCIETY ANNUAL MEETING**, Pittsburgh, PA
www.malacological.org/meetings/next.html

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Conchologists of America
Neptunea Award

The ***Neptunea*** **Award** (Brunner, 2000; Lipe, 2000) was established at the midyear (1999-2000) meeting of the COA Board in order to recognize outstanding and distinguished service to conchologists and malacologists in recognition of:

1. Service to the Conchologists of America.
AND/OR
2. Service to the scientific interests of Conchologists of America.
AND/OR
3. Service to the science of Malacology as it applies to conchologists anywhere.

Although exceptions have been made, the COA Board, which serves as the jury for the ***Neptunea*** **Award**, has traditionally weighed their consideration for award recipients toward (1) **amateurs**: those not currently pursuing a principal career involving collection, study, or commerce involving mollusks, and (2) **active members** of the COA. The nomination process will close on June 1, 2011 to give the Board time for discussion and balloting. Up to three awards have been made at annual conventions, beginning with the Houston event in 2000 (see below). Nomination(s) for the ***Neptunea*** **Award** may be made by **any COA member** and the format is simple:

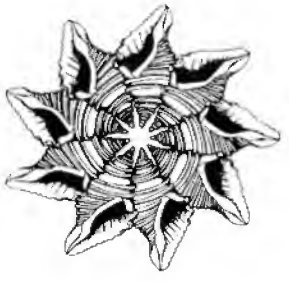
Name of nominee:
This person deserves this award because (here a somewhat detailed paragraph will suffice) .....
Signed .....

And either snailmail or email that nomination to

Harry G. Lee
COA *Neptunea* Award Coordinator
4132 Ortega Forest Drive
Jacksonville, FL 32210
<shells@hglee.com>

A ballot form will be included in the March, 2011 *American Conchologist*, but one need not mull it over all winter: the balloting is now open!

Previous ***Neptunea*** **Award** winners:
2000 (Houston, TX): Ross Gunderson, Ben and Josy Wiener, Debbie Wills
2001 (Port Canaveral, FL): Emilio Garcia, Harry Lee, Lynn Scheu
2002 (Sarasota, FL): Richard Petit, Bernard and Phyllis Pipher
2003 (Tacoma, WA) Jim and Linda Brunner, Kevin Lamprell, Doris Underwood
2004 (Tampa, FL): Bobbi Houchin
2005 (Punta Rassa, FL): Richard Forbush, Anne Joffe, William Lyons
2006 (Mobile, AL): Jack Lightbourn, Betty Lipe
2007 (Portland, OR): none given
2008 (San Antonio, TX): Bill Frank, Archie Jones
2009 (Clearwater, FL) none given
2010 (Boston, MA): none given



Brunner, L., 2000. The *Neptunea* Award. *American Conchologist* 28(3): 3. Sept.
Lipe, B[etty], 2000. Presidents Message. *American Conchologist* 28(4): 2. Dec.

Respectfully submitted,
Harry G. Lee
COA Director-at-Large

A rough few months for COA members; we lost four

Cecelia Abbott (1936-2010) was born in San Diego, California. She graduated from Woodbury College in California, and became a model and fashion coordinator for the Hecht Company in Washington, D.C. She had a love of nature and joined the New York Shell Club, where she met the already noted malacologist Dr. R. Tucker Abbott. The following account of his marriage proposal was provided by longtime COA member and *American Conchologist* editor, Lynn Scheu.

> My favorite Cecelia memory is a Tucker memory too. We were staying with them for a while, that same spring of their trip to Australia, when Walter Sage acted as their caretaker in Melbourne and mailed out the newly printed copies of the long awaited Standard Catalog of Seashells while they were away. We went beach walking, the day before they left. Cecelia and I wandered off together hunting angel wings in the muck. She began telling me little stories about Tucker. She noted that the angel wings always reminded her of bridal finery, all the lace and tucks and pleatings. Then she asked if she'd ever told me about Tucker's proposal. (I bet there are others of you out there that have heard this! She did love a good story as much as he did.) She said he left a note on her desk one day, asking her to marry him, and then added another note pleading, "Please type!" Then she did that uproarious laugh of hers and said, "Don't you think that's a scream? Ever the author, he wanted a secretary-typist too." And she took the "job."

Cecelia sent the "scrunched and worn-looking" "Please type" note to Lynn, who still has it. Cecelia supported Tucker's efforts in malacology and was an avid collector as well. She traveled around the world with Tucker and after his death she continued her collecting and added an interest in sea beans, becoming a member of the Sea Bean Society. All who knew her will remember her grace and ever present humor.

Mary Cecilia Flentz (1916 - 2010) lived in Carlsbad, California. She was married to John Flentz and had a long-time interest in shells and conchology. John and Mary lived in a number of California towns over the years and saw the state drastically change as it grew. Living in Carlsbad and walking the southern California beaches was a natural for somene interested in shells.

Gertrude Hildebrandt Moller (1920 - 2010) was born in Germany and immigrated to Chicago with her family when she was nine. She studied voice and was an accomplished coloratura soprano, singing with the Chicago Fine Arts Company. She moved to New York when she was 22 and sang with the USO throughout the war years. She had a minor part on Broadway, but her budding Broadway career was cut short when she met and Married Knud Moller, a marine engineer from Denmark. They moved to Jacksonville, Florida, in 1948 where Knud had an engineering job with a ship building company. In 1955 Knud's job required them to move to the Bahamas, specifically Eleuthera. Readers of this magazine know this locale is somewhat of a sheller's paradise, as it certainly was in 1955. Gertrude often said she was hooked, "When I picked up that very first shell…" She became an serious collector. They moved back to Jacksonville in 1957 and when a local paper ran a story of her rather extensive shell collection in 1959, she got calls from other shell collectors in the Jacksonville area. This led to an initial gathering at her house and the establishment of the Jacksonville Shell Club. Harry Lee, also a long-time member of the Jacksonville Shell Club said, "…the shelling world lost an abiding spirit. Among many other contributions to popular conchology, Gertie was the founder of the Jacksonville Shell Club and part of the mortar that held it together for decades." Gertrude was active with Pine Castle, a center for children with development disabilities.

Betty Jean Piech (1919 - 2010) was born and grew up in New Jersey. She graduated from Douglass Women's College (Rutgers University) and married Frank Piech in 1947. They moved to Wilmington, Delaware, were she worked as a home-maker and then went back to school to obtain a Library Science Degree. Betty worked as a librarian for many years before she retired. In the early 1960s the family started a tradition of vacationing on

Sanibel Island, Florida. Another rather well-known sheller's paradise. Of course, in those days it was a true island with access by ferry. Betty's interest in shells grew and in the 1970s she became quite involved with the newly established Delaware Museum of Natural History, especially its malacology department. Her interest in shells took her around the world with shelling stops at such places as: Africa, Australia, Indonesia, Malaysia, Fiji, French Polynesia, the Philippines, Samoa, and South America. Members of COA benefitted from these trips as Betty gave quite a few talks on her experiences around the world. Alan Gettleman provided the following.

> Betty Jean was always a bright spirit and fun to know. At one COA convention, I entered the lecture hall after the program had started and in the darkened room I saw pictures on the screen, heard a person speaking, but there was no one at the podium. Later I saw there was a person, Betty Jean, who was completely blocked by the height of the podium. Her programs for her far-flung trips were always wonderful, emphasizing the politeness of the need to learn and use the word for "Thank You" in every native culture she visited. I served with her on a COA committee and told her that I could always recognize her in a group photograph as she would always be 'the tall one' in the picture. She delighted in that title and in a written note to Tim Pearce, introducing me, said I was the one who gave her that epithet and that she even had a shirt made with 'the tall one' on it.

Betty Jean was active in COA and one of the early members of Conch-L, the COA list serve. In the mid to late 1990s Conch-L membership was much lower than today and Betty Jean was a major contributor. Her presence on Conch-L was a delight. While interested and knowledgeable about many aspects of conchology, Betty Jean was especially interested in the Ranellidae. She is the author of "Ranellidae and Personidae: A Classification of Recent Species," published in 1998.

THOUGHTS FROM A SHELL COLLECTOR TO HER FAMILY AND FRIENDS

I love a beach where seabirds cry,
Where the shining water meets the sky.
Where one can look for shells and things,
And gather the gifts that each tide brings.

I like to walk upon the sand,
Between the ocean and the land.
To breathe the wonderful salty air,
And feel the breeze blow through my hair.

I enjoy the pleasure these things bring,
They calm my mind and make my heart sing.
And even when I can't be there,
I always remember what the beach had to share.

And if you happen to see a shell,
I hope this thought you'll remember well.
As I have prized each beautiful treasure,
So I value my family and friends in even greater measure.

And when the times comes I'm no longer here,
Do not think I have left you, never fear.
Just picture me happy on some distant shore
Picking up lovely things just as before.

For I will not have died, nor will I sleep;
I will see you again, so please do not weep,
I'll just continue happy in His peace and care
Until the time comes when you join me there.

I love each and every one of you.

Betty Jean Piech
September 3, 1995

Distorsio jenniernestae **Emerson & Piech, 1992**

Back to the Gulf of Aqaba: The search for rare shells of the Red Sea

By Moti Kovalis

The end of the winter is a good time to continue exploration dives in the Red Sea [Ed: see the previous article about the Gulf of Aqaba in vol. 37, no. 4, p. 4-6]. The weather is good (not hot) and the water is crystal clear. There are usually a number of mollusk species that seem to emerge after winter and there is definitely more activity underwater. It is always hard to explain why certain species suddenly appear after many years of absence, or disappear after years of presence, or appear in new localities. Common cowries such as *Cypraea staphylaea* Linneaus, 1758 or *Cypraea punctata* Linneaus, 1771, have been absent from this area for many years. There are not even records of dead specimens. Despite the temptation to blame weather, pollution, climate change, etc., there is no current scientifically based explanation for this phenomenon. Many mollusk species seem to come and go in a wave effect, for reasons still unclear. Only Mother Nature knows, and she is not talking.

Our plan for this exploration is to dive at three different locations. The first location is the northern point in the Gulf, near the border with Jordan. This location is interesting because it was for many years a battlefield: a long struggle between a private fish farm that placed fish cages in the sea and various "green" organizations that opposed this operation. After many years the Israeli court decided to remove the fish farm. The "green" organizations claim that the operation had a devastating effect on the original habitat as well as harming marine life throughout the Gulf. The fish farm claims the opposite. Both parties have stacks of supporting research, but in the end the cages are gone. From previous dives in the area some years ago, I remember many metal barrels and other metal structures, ropes, and tiers. It will be interesting to see what is left. The cages were placed at a depth of 25 meters; it will be a long swim. The spot will be hard to find since orientation under the water will be by compass only. The area is a no swimming zone (surface swimming). We have decided to dive during the day because we need better visibility to search for the correct spot and because this area is close to the Jordanian border and we really would not want to alarm the navy - of either country.

The swim to the area is without event, at a straight southeast direction from our entry point. In this northern area of the Gulf the bottom slopes downward more gradually than it does off the southern beaches. After 15 minutes we got to the spot. To my surprise the surrounding sea was cleaner than I remembered from two years ago. All that was left of the fish farm operation was an artificial reef probably planted to investigate the influence of the cages on the local marine life. The artificial reef is built from five- or six-meter long plastic pipes connected together to form a pyramid-shaped structure. The entire structure is surrounded by all kinds of fish (Fig. 1). What I am looking for is, of course, at the bottom of the structure where my target creatures are more likely to be found. Immediately I see a dead *Laevichlamys superficialis* (Forsskal, 1775) with both valves still attached. There are other

Fig. 1 (above) Remnants of the fish farm operation, now a home for many brightly colored fish that swim around and in the lattice-work pipes.
Fig. 2 (below) Interior view of one of the pipes with our lobster resident.

scattered dead bivalves, so it seems there is an octopus or other predator in this area. The various valves are not cracked or broken, so this may be a clue as to the identity of the predator. It is probably not an octopus. A look at the upper level pipes solves the mystery. Here we find a large lobster eating a pecten and guarding other bivalves (Fig. 2). In the picture it is difficult to see his unfriendly visage as he guards his a soon-to-be eaten *Glycymeris livida* (Reeve, 1843). I searched in vain for a living pecten hidden in the algae on this structure. I wanted to photograph a specimen *in situ*, but the lobster is certainly the better sheller, as I was unable to find a single live specimen. A further look in other pipes turned up lots

Fig. 3 (above) Looking deeper into the pipe we found more fish and a large *Cypraea* (*Mauritia*) *arabica grayana*.
Fig. 4 (below) The *Homalocantha anatomica elatensis* I spotted, despite its rather effective camouflage.

Fig. 5 A small brightly colored and nicely patterned *Conus* (*Cylinder*) *textile*, usually a shallow-water dweller.

Fig. 6 This *Cypraea* (*Luria*) *pulchra sinaiensis* certainly is not well camouflaged. With its mantle retracted it really stands out in the dive light.

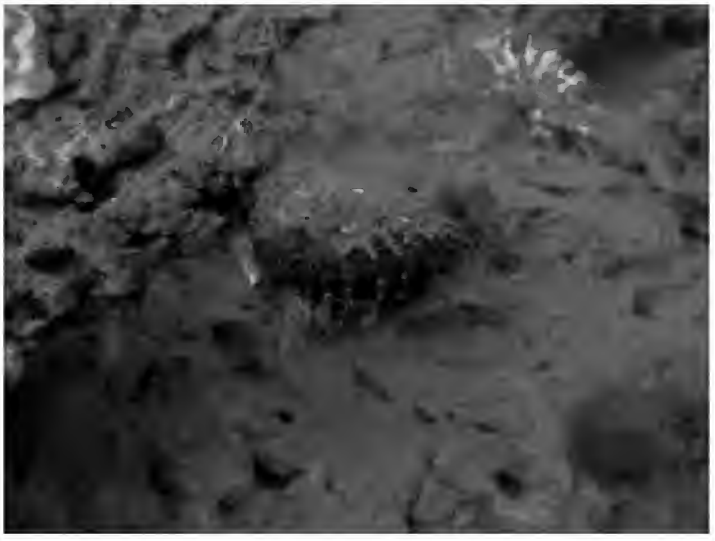
of colorful fish and a large *Cypraea* (*Mauritia*) *arabica grayana* Schilder, 1930, attached to a side panel (Fig. 3). It had completely withdrawn its mantle and was very easy to spot. Not far away I found another one, but in general it seems there are far more bivalves than gastropods in this area. The pipe structure is covered with large numbers of *Chama pacifica* Broderip, 1834. It is hard to identify them with the thick layer of algae covering everything. It was time to leave this area and rest up in preparation for our first night dive.

The night dive site is south of an oil terminal. The site is named the "the missile ship" because of a wrecked missile ship lying at 30 meters. The ship was one of five bought in Cherbourg, France, for the Israeli Navy. During the French military embargo after the 1967 Six-Day War, they were smuggled out at Christmas Eve. Today the ship is a diving attraction. Our dive is planned for a depth of 25 meters. In this particular location the descent begins immediately. At the bottom the corals are very dense and beautiful. Despite this, most of the dive is without any standout mollusk finds. Even digging in the sand fails to turn up the expected Mitridae and Terebridae. I do, however, spot a well-hidden *Homalocantha anatomica elatensis* Heiman & Mienis, 2009 (Fig. 4). It is amazing how well it is camouflaged. It is very hard to differentiate from the rock substrate. I only spot it because it sports a new white whorl, not yet algae covered. After a few minutes I see among the rocks a small *Conus* (*Cylinder*) *textile* Linnaeus, 1758 (Fig. 5). What is it doing at this depth? It is usually a shallow water dweller in the Gulf of Aqaba.

As always the dive computer spoils all the fun and reminds us it is time to leave. On the way back to shore we find the surprise of the dive. At around 18 meters is a beautiful and rare *Cypraea* (*Luria*) *pulchra sinaiensis* Heiman & Mienis, 2000 (Fig. 6). Strangely, like the *C. arabica grayana*, it also has the mantle retracted. Unfortunately I don't have time to get a really good photo.

On our last morning we rush to exchange our diving tanks. Our dive will be in a restricted area near a shopping mall. This means we need to get in the water early, before the tourists

Fig. 7 (above) *Cypraea* (*Bistolida*) *erythraeensis*, a rare species in this part of the Gulf of Aqaba and the first cowrie we have seen on this dive with an extended mantle.
Fig. 8 (below) A well camouflaged *Spondylus smytheae*, still an exciting find this far north in the Gulf of Aqaba.



line the beach and hit the water with their jet skis. The depth will be 30-35 meters, so it will be a short dive. Two minutes into the dive, before the real descent phase, I spot *Cypraea* (*Bistolida*) *erythraeensis* Sowerby, 1837, a rare species in this part of the Gulf of Aqaba (Fig. 7). Finally we have found a cowrie with full mantle extension. A light touch of my finger exposes the distinguishing red blotches on its dorsum. In the south, along the beaches of Sinai, it is not a rare sight, but it is seldom seen this far north. Nice start. The swim to 35 meters is fast. At the end of the dense reef on one of the rocks I can see *Spondylus smytheae* Lamprell, 1998 (Fig. 8). This was a rare species in the Gulf, but has become more common recently. There was not much to find at this depth, so we head back to shallower waters. At night in the shallow water there are many specimens of both *Cerithium adansoni* (Bruguière, 1792) and *Fusinus polygonoides* (Lamarck, 1822). During the day, however, all that is evident are tracks in the sand. As we finish off our third and final dive I attempt to guess which species made which track in the sand.

Our winter dive is now over and we pack up to depart this interesting area. We will return in May to some new dive sites to see what treasures await us in the Gulf of Aqaba. In the meantime we have specimens to clean and photographs to go through looking for the few that best represent our explorations of this relatively unknown part of the world.

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First Modern Shell Show in China

as reported by Robert Janowsky

On the 16th and 17th of October 2010, a group of shell collectors gathered in Beijing, China, for the first, of what is hoped to be an annual, shell show in China. These pictures were taken by Fan Zhang and forwarded by Wu Jingyu, a friend of Bob Janowsky. From the images you can see they made a good start with a nice selection of both marine and land shells. Attendance figures are unknown, but it appears that those who did attend were quite interested. Due primarily to the Internet and online auctions, there are several shell dealers in China who now regularly supply worldwide collectors. Hopefully this interest will continue.

Above: The participants in the first shell show in China, from left to right, bottom to top: Wei Hu, Yang Wang, unknown, Xiaoguang Li, Jin Chen, Liqian Zhou, Fan Zhang, Fan Zhang [yes, two], Xin Deng, Youning Wang, Qicong Li, unknown, Qing Feng, Yifeng Lu, Peng Wei, Xin Qian, Huabing Liang, unknown, Yang Wu, Hanchen Wang unknown, Junyi Du. Photos are offered by Fan Zhang.

Below: The room begins to get a bit crowded as the day goes on. Hopefully there are some young future shellers there.

Above: Overhead view showing the tables with a few early visitors.

Below: One of the tables with a nice selection of shells.

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Conus recurvus Broderip, 1833: One Mo' Time

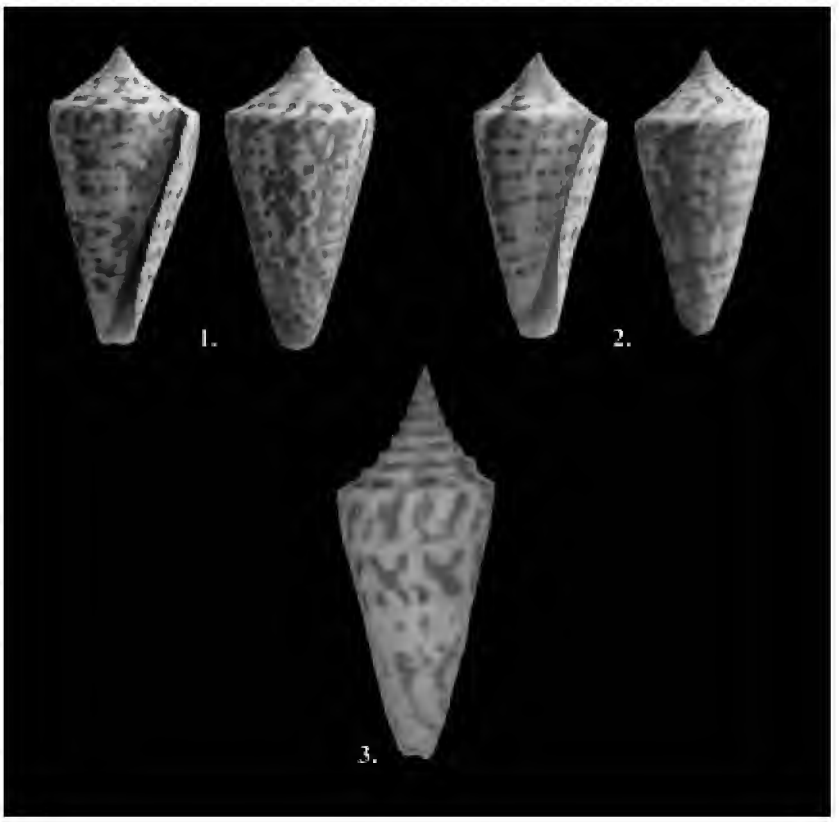
By J. M. Inchaustegui

In a recent article that appeared in the *Triton*, the *Epitonium*, and the *American Conchologist*, I discussed some shells I obtained from the Houston Conchology Society that had been donated to the Club by the Houston Museum of Natural Science. In the article that appeared in the *American Conchologist* Vol. 38, No.3, September, 2010, Mr. Tom Eichhorst added a footnote that read, "*Conus recurvus* Broderip, 1833, is apparently no longer valid as the type does not match shells of that name, the correct name is probably *Conus (Kohniconus) emarginatus* Reeve, 1844."

This made me ponder so I checked my literature to see what I could find. In Abbott's "American Seashells" he shows *Conus recurvus* Broderip, 1833, as valid with synonyms *Conus scriptus* Dall, 1910, and *Conus magdanelensis* Bartsch and Rehder, 1939. These synonyms only showed that this cone was probably very variable.

So next I checked Keen's "Sea Shells of Tropical West America" Second Edition, which showed *C. recurvus* Broderip, 1833, to be valid with synonyms: *Conus incurvus* Sowerby, 1833; *Conus emarginatus* Reeve, 1844; *Conus scariphus* Dall, 1910; and then it showed that *Conus regularis* Sowerby, 1833, was valid with several synonyms: *Conus syriacus* Sowerby, 1833; *Conus angulatus* A. Adams, 1854; *Conus magdalenensis* Bartsch & Rehder, 1939; *Conus monilifer* Broderip, 1833; *Conus gradatus gradatus* Wood, 1828; *Conus gradatus thaanumi* Schwengel, 1955; and *Conus recurvus helenae* Schwengel, 1955.

This did not leave me with any positive thoughts about any of the above so I then contacted one of my shell collecting friends that has an extensive collection and a vast library of literature to ask his opinion of this footnote and he was kind enough to e-mail me two scanned paragraphs of "A Chronological Taxonomy of *Conus,*1758-1840," which was published in 1992 by Dr. Alan J. Kohn and reads as follows (pg. 246): "Although Nybakken (1970) reported the radulas of *C. recurvus* and *C. regularis* to differ strikingly, it is not clear from his illustrations of shells (Nybakken, 1970: figs. 35-39 that his concept of *C. recurvus* is consistent with the specimen (Fig. 36). Hanna (1963:30) suggested that "*C. regularis* is not very distinct and intergrades with *gradatus, scalaris,* and *recurvus.* Pending further study of this difficult complex, I tentatively conclude that *C. recurvus* Broderip 24 May, 1833, is a junior synonym of *C. regularis* Sowerby, 17 May, 1833." Later on Kohn continues (Pg. 274): "The result of this is that *C. arcuatus* Gray, 1839, is a junior primary homonym but not a synonym of *C. arcuatus* Broderip and Sowerby, 1829. Because the former species is valid, it takes the next available name applied to the taxon. Reeve (1844: pl.43, sp. 232) renamed *C. arcuatus* Gray as *C. emarginatus.* I thus conclude that *C. arcuatus* Gray, 1839, a junior primary homonym but not a synonym of *C. arcuatus* Broderip and Sowerby, 1829, is *C. emarginatus* Reeve, 1844."



1. *Conus recurvus* Broderip, 1833, (left) Manzanillo, Mexico, 48mm, August 1975, col. Theresa Stelzig; (right) Guaymas, Mexico, 49mm, November 1968, col. Lucia Leing.
2. *Conus regularis* Sowerby, 1833, (left) San Carlos, Mexico, 46mm, January 1971, col. Leola Glass; (right) Agua Verde, Mexico, 47mm, November 1975, col. unk.
3. *Conus scalaris* Valenciennes, 1932, Baja California, Mexico, 60mm, March 2009, col. unk.

In view of all of the above, I will change my *C. recurvus* labels to "*Conus regularis* Sowerby, 1833" but don't take my word for this since all of this is in flux and may change any day. Do your own research and proceed accordingly. The accompanying photograph may or may not shed light on this. Photo by the author.

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The rise and fall of "*Conus recurvus* Broderip 1833"

By Bruce Neville

In an article in the September 2010 issue of *American Conchologist*, J.M. Inchaustegui identified two figured cone specimens from western Mexico as "*Conus recurvus* Broderip 1833." Taking a second look at the shells in Mr. Inchaustegui's illustrations, I tentatively identify them as *Conus regularis* (Sowerby I 1833). The two species, "*C. recurvus"* and *C. regularis*, are not as easily separated as one might think, at least on conchological characters.

Our long-suffering Editor's "innocent" note attached to Mr. Inchaustegui's article regarding the taxonomic status of "*C. recurvus"* has led to some interesting discussions. When I (Neville 2010) reviewed Tucker and Tenorio's "*Systematic classification of Recent and fossil conoidean gastropods"* (2009), I was puzzled that the shell that has long been called "*Conus recurvus* Broderip 1833" was not included, and finally found it under the name *Kohniconus emarginatus* (Reeve 1844), type species of the genus *Kohniconus* Tucker and Tenorio 2009. I was surprised that such a longstanding name for such a well-known shell as *Conus recurvus* could have been replaced, but they did not discuss the reason(s) for the change (that not being the function of their work), so I did some research into the matter. I did not have space in that review to go into the nomenclatural legalities, but, since it has come up again, I've decided to go into more detail on the story. Here goes.

G.B. Sowerby I described and figured *Conus regularis* in the *Conchological Illustrations*; that portion of the *Illustrations* was issued 17 May 1833. W.J. Broderip described *Conus recurvus* in *Proceedings of the Zoological Society of London* without illustration; that part of the *Proceedings* was issued 24 May 1833, or one week after Sowerby's name. [The article is attributed to "Broderip and Sowerby," but individual names are credited to one or the other with initials.] The primary types of *Conus regularis* Sowerby "II" [sic] 17 May 1833 and *Conus recurvus* "Broderip and Sowerby" [sic] 24 May 1833 are illustrated in the Type Gallery of the *Conus* Biodiversity Website (Kohn & Anderson, n.d.) and obviously belong to the same, highly variable species (Figs. 1 & 2, respectively).

In his review of the Eastern Pacific *Conus*, Hanna (1963) figured a "hypotype" (a term without definition or standing in the International Code of Zoological Nomenclature) of *Conus recurvus* Broderip 1833. Unfortunately, this specimen was not conspecific with Broderip's type. Apparently Keen (1971), Abbott (1974), and many others took the specimen illustrated to represent "*Conus recurvus* Broderip 1833," and the name was widely applied to the species illustrated by Hanna. Walls ([1979]) was perhaps the first to recognize that the holotype of *Conus recurvus* Broderip 1833 did not represent the species to which the name was then applied, but chose not to open that particular can of worms.

In 1839, J.E. Gray illustrated a shell as "*Conus arcuatus* Broderip and Sowerby 1829." Reeve recognized that Gray's illustration was not the *C. arcuatus* of Broderip and Sowerby (Fig. 3) and so gave it the replacement name *Conus emarginatus* in his *Conchologia Iconica* in 1844. Coomans, Moolenbeek, and Wils (1981), in reviewing the status of the name *Conus arcuatus* Gray 1839, realized that the types of *C. recurvus* and *C. regularis*

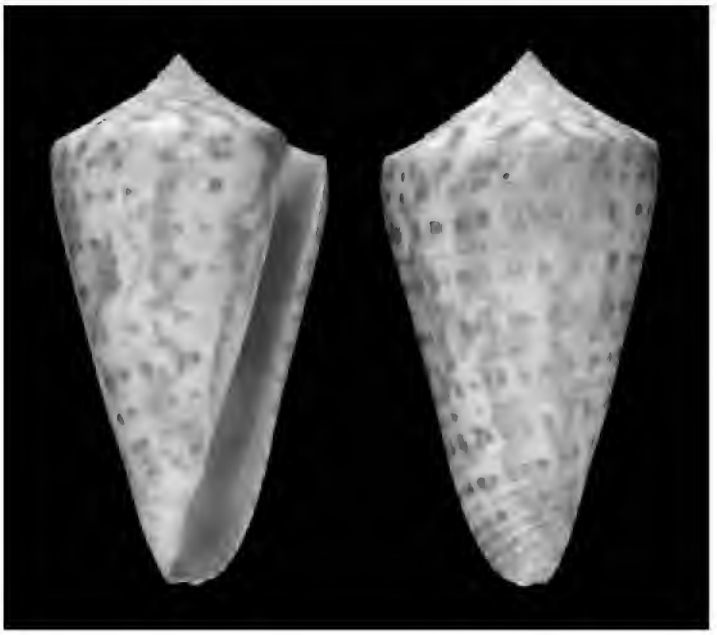
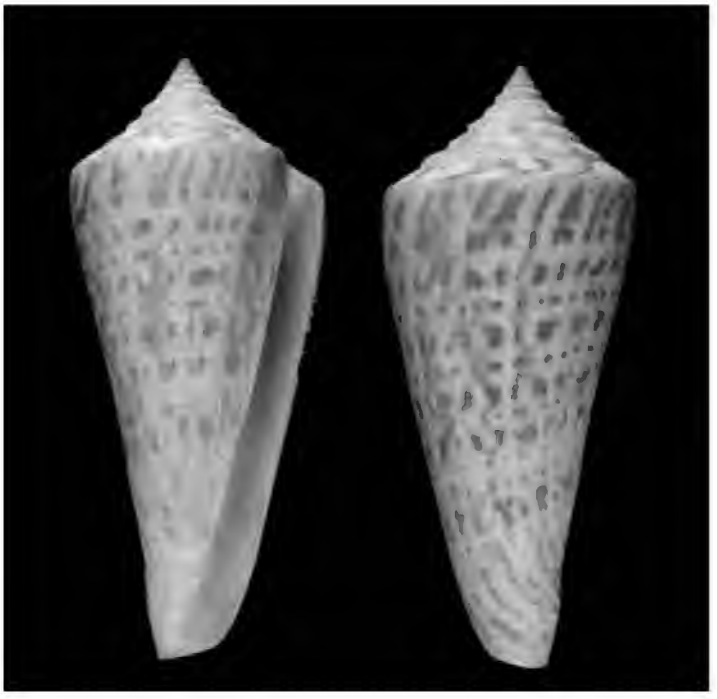


Fig. 1 (above) *Conus regularis* G.B. Sowerby II [sic], 1833, representation of lectotype, Sowerby (1833: pt. 29, fig. 29), no type locality or size provided, photo by Alan J. Kohn, Conus Biodiversity Website, with permission, http://biology.burke.washington.edu/conus

Fig. 2 (below) *Conus recurvus* Broderip & Sowerby [sic], 1833, lectotype, British Museum of Natural History, 52mm, type locality: Monte Christi, Colombia, photo by Alan J. Kohn, Conus Biodiversity Website, with permission, http://biology.burke.washington.edu/conus



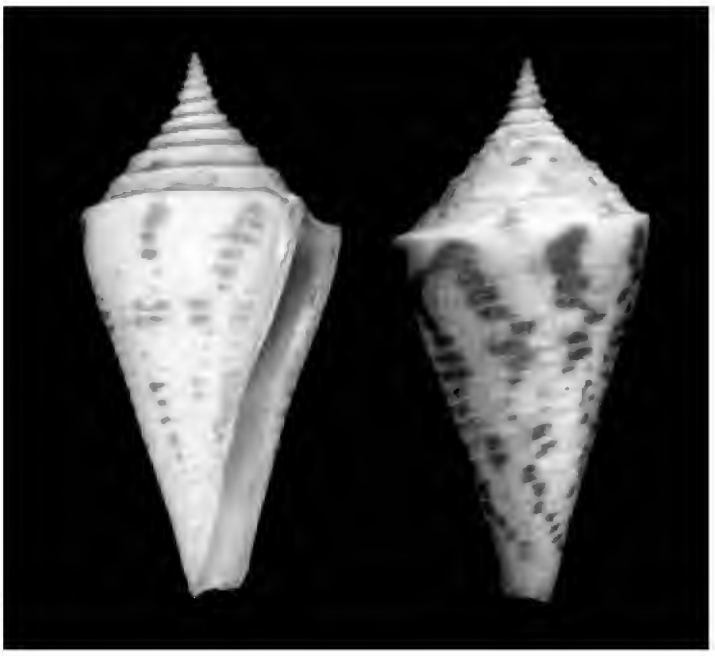


Fig. 3 *Conus arcuatus* Broderip & Sowerby, 1829, neotype, British Museum of Natural History, 42.5mm, type locality: near Mazátlan, Mexico, photo by Alan J. Kohn, Conus Biodiversity Website, with permission, http://biology.burke.washington.edu/conus

represented the same species and that the next available name for the "shell formerly known as *recurvus*" was thus *C. emarginatus* Reeve 1844, but this change was not picked up in the broader literature. Tucker and Tenorio, with their encyclopedic knowledge of cone taxonomy, were aware of the change and used it correctly in their recent systematic work. This is the "shell formerly known as *recurvus*" and is the first available name for that species.

There are two "take home" lessons from this story:

1. Always refer to (trusted) types wherever possible, when making identifications, and

2. None of this should detract from the interesting observation reported by Mr. Inchaustegui!

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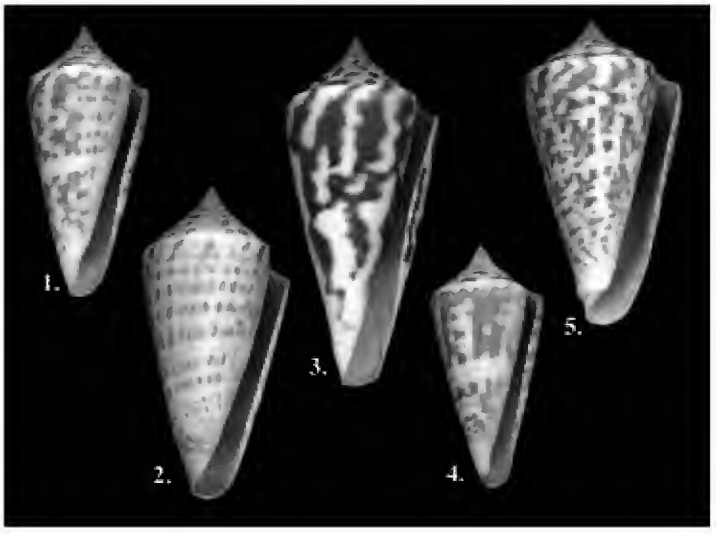

Fig. 4 (added) These are shells from the editor's collection that have labels stating they are *Conus recurvus* (no. 3), *Conus regularis* (no. 1 & 5), and *Conus gradatus* (no. 2 & 4). Applying what we now know(?), they are: 1. *Conus regularis* 45mm, Gulf of California; 2. *Conus regularis* 52mm, Algodones, Mexico. 3. *Conus emarginatus* (the former *C. recurvus* of authors) 58mm, Pacific Panama; 4. *Conus regularis* 40mm, San Carlos, Mexico; and 5. *Conus regularis* 51mm, Gulf of California. The "actual" *Conus recurvus* (based on the type specimen as opposed to authors accounts) is a synonym of *Conus regularis*, while the name *Conus recurvus* was incorrectly applied to *Conus emarginatus*. All clear?

An Eleutheran Adventure:

My First Live Shell Collecting Trip

Amelia Ann Dick (Amy)

Sunday, May 23, 2010

A small and diligent group of shell enthusiasts, George and Amy Dick, Jim and Bobbi Cordy, Ellen Bulger, Judy Herman, and Beverly Snyder were eager for our journey to begin. We all converged at Twin Air Calypso, a small charter and cargo airlines in Fort Lauderdale, Florida, for a short afternoon flight to Rock Sound, Eleuthera, Bahamas. While in the air I observed the beautiful clear, calm, turquoise blue water of the Caribbean Sea and my heart filled with a sense of adventure and the excitement of discovery. Upon arrival, we quickly loaded the rental cars and were off to our cottages in the small picturesque town of Tarpum Bay (Fig. 1). We were greeted by a kaleidoscope of cheerful brightly painted houses and shutters in every color imaginable. We were finally there and on "Island Time." After filling the fridge/freezer with a week's worth of meals, we hastily donned our skins to take advantage of late afternoon, bright sun, and snorkeling at a place located four miles north referred to as Xeno Beach.

Fig. 1 Street scene from our cottage on Tarpum Bay. It is just as tranquil gorgeous as it looks here.

Xeno Beach is a dream come true for beach collectors. A variety of species were available for the picking. All that was required was a sharp eye, a good back, and a container to place all that "loot." A very small list of beach finds included limpets, bubbles, nerites, mussels, clams, cones, tellins, ceriths, tegulas, and those beautiful, although fragile, green and white sea urchin tests.

Immediately upon entering the water for my first Eleutheran snorkeling adventure, I found a dead Atlantic partridge tun (*Tonna maculosa* (Dillwyn, 1817)) in less than a foot of water on rocks. Ellen found a dead typhis triangularis (*Tripterotyphis triangularis* (A. Adams, 1855)). Jim fared even better with a live *T. triangularis* and Tom McGinty's murex (*Murexiella mcgintyi* (M. Smith, 1938)). This was an exciting beginning.

Monday, May 24, 2010

The start of our first full day began with Bobbi serving her delicious almond coffee cake for breakfast, an Eleuthran tradition with the Cordys. After packing lunches we were off on our morning excursion to Half Sound on the east side of the island. We observed a multitude of empty queen conch shells that had been strewn about like litter. This beach was definitely popular with Bahamians as a collecting and cleaning spot for what is a major staple of their diet. The place was so very quiet and still and a small sparkling crystal-clear stream emptied into the Sound. The water temperature was approximately 77-78°F. The snorkelers encountered grassy bottoms with intermittent sand patches. We spotted many juvenile queen conchs, called pink rollers. They were photographed, but none were taken. Jim and Ellen snorkeled further out and down the shore. Jim took an adult West Indian chank (*Turbinella angulata* (Lightfoot, 1786)) (Fig. 2) and a king helmet (*Cassis tuberosa* (Linnaeus, 1758)). Ellen turned over a sponge on turtle grass in 2½ feet of water and found a beautiful live Atlantic yellow cowrie (*Erosaria acicularis* Gmelin, 1791) (Fig. 3). I found two amber pen shells in sand (*Pinna carnea* Gmelin,

Fig. 2 "Traveling incognito," *Turbinella angulata*. Photo by Ellen Bulger

Fig. 3 *Erosaria acicularis* in situ. Photo by Ellen Bulger.

Fig. 4 *Volvarina jimcordyi* in situ, along with an unidentified chiton and a couple of mystery gastropods. Photo by Ellen Bulger.

1791). After several hours of snorkeling, beach combing, and lunch, we were off again for another totally different destination.

We filled our afternoon with the delights of Islandica Beach, a.k.a. Larry's Beach, on the Atlantic Ocean. It was quite windy and the water was very choppy. Large coral heads make up the reef with a myriad of brightly colored fish and marine life. Jim found two adult queen conchs (*Strombus gigas* Linnaeus, 1758). No pearls. Ellen found a rams horn shell (*Spirula spirula* (Linnaeus, 1758)) on the beach at the high tide mark. It is the interior structural support of a deep water squid-like cephalopod and functions as a buoyancy device. The group found many lovely sunrise tellins (*Tellina radiata* Linnaeus, 1758), turkey wing arks (*Arca zebra* (Swainson, 1833)), red brown arks (*Barbatia cancellaris* (Lamarck, 1819)), speckled tellins (*Tellina listeri* Roding, 1798), and common Atlantic marginellas (*Prunum apicinum* (Menke, 1828)). Four-toothed nerites (*Nerita versicolor* Gmelin, 1791) were observed moving about intertidal rocks.

As soon as we got back to the cottage, Ellen crossed the street, went down some steps leading to a small beach, and stepped into Tarpum Bay. She hit "pay dirt" and came back with a beautiful live deep-colored orange lace murex (*Chicoreus florifer* (Reeve, 1846)). She also brought back apple murex (*Chicoreus pomum* (Gmelin, 1791)). Time well spent!

Tuesday, May 25, 2010

Today our group split up and went to two locations. Jim, George, and Ellen headed for Winding Bay. The rest of us visited Palmetto Point Salt Pond. Both of these sites offered specific shell takes. Winding Bay did not disappoint. Jim found what he went looking for taking four *Conus abbotti* Clench, 1942. The largest was approximately 33mm. He also found a live measle cowrie (*Macrocypraea zebra* (Linnaeus, 1758)) and the Atlantic Triton's trumpet (*Charonia variegata* (Lamarck, 1816)). Ellen found a helmet that may possibly be a hybrid between a flame helmet (*Cassis flammea* (Linnaeus, 1758)) and a king helmet (*Cassis tuberosa*). George found one *S. spirula* at the high tide mark on the beach.

My group started off with a little sightseeing and shopping at Governor's Harbor. We then headed for a special place called Palmetto Point Salt Pond. On the "hit list" for this excursion was the little black murex *Chicoreus dunni* Petuch, 1979. This murex is endemic to this location only and I took most of mine in less than three feet of water on rocks and silty bottom. There was certainly no trouble finding them. Another lovely day in paradise!

Wednesday, May 26, 2010

Today we visit a saltwater lake named Sweetings Pond. The main objective is to collect *Volvarina jimcordyi* Cossignani, 2007 (Fig. 4). This tiny margin is endemic to this pond only and Jim and George took many from under rocks. True tulips (*Fasciolaria tulipa* (Linnaeus, 1758)) were everywhere! The ones found here are mostly dark shades of brown and light tan. They were taken in less than three to four feet of water on sand and in grassy spots. George and Ellen observed an octopus hiding amongst rocks (Fig. 5). Ellen's description is as follows "chromatophore color change from cupcake pink frosting, shifting to deep salmon, to pale lime green, almost fluorescent with differing patterns." George and I were thrilled to see two seahorses. Ellen found two pregnant males. Mahogany-and-yellow colored egg cockles (*Laevicardium laevigatum* (Linnaeus, 1758)) were found by everyone.

After our picnic lunch, we drove north on Queen's Highway to see the Glass Window Bridge. This is a unique place where one can observe the Caribbean Sea on one side of the bridge and the Atlantic Ocean on the other with one glance. My first observation was the extreme differences between the two bodies of water. The Caribbean quite peaceful and pale blue, the Atlantic dark blue and extremely rough, with powerful waves crashing high onto rocks. We found time for a little shopping on our way back home and I was already thinking about tomorrow.

Thursday, May 27, 2010

Millar's Beach! Goodies in and out of the water. A shell collector's paradise. As soon as I walked on the beach, I spied a beautiful dead and clean flame helmet in excellent condition. It had washed up in weed drift at the wrack line. Also, there were many juvenile queen conchs, mostly dead and crabbed amongst

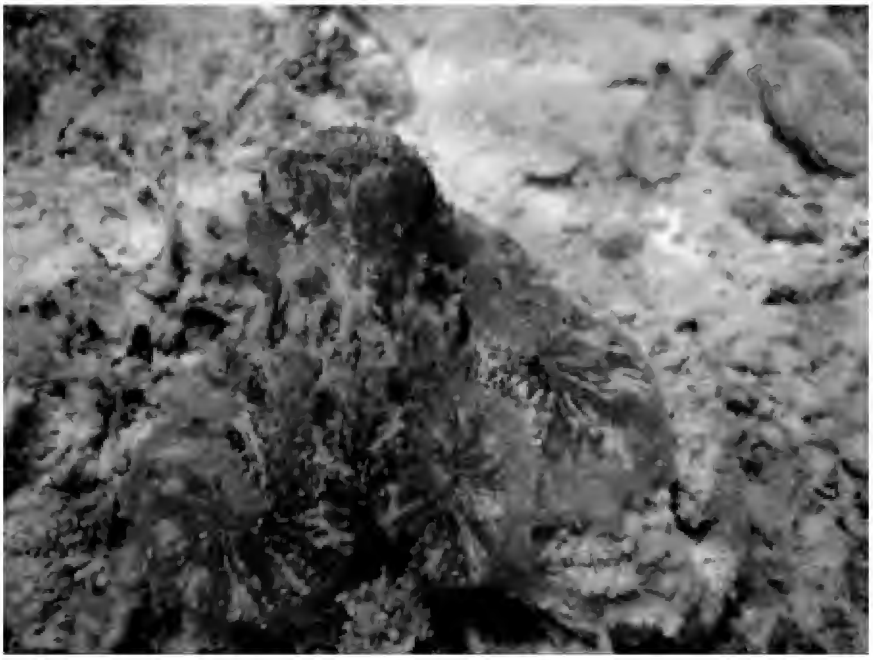

Fig. 5 Octopus species. Photo by Ellen Bulger.

the weed. After walking much of the beach, I discovered a perfect dead and clean lamellose wentletrap (*Epitonium lamellosum* (Lamarck, 1822)) and a gorgeous dead and clean costate horn shell (*Cerithidea costata* (da Costa, 1778)), along with a Barbados miter (*Mitra barbadensis* (Gmelin, 1791)). All of us observed large chitons on intertidal rocks. I had the good fortune to find a live mouse cone (*Conus mus* Hwass, 1792) moving around a rocky intertidal pool at mid-day. On the beach, Ellen found a dead hawk-wing conch (*Strombus raninus* Gmelin, 1791) and a long-spined star-shell (*Astraea phoebia* Roding, 1798). In the water she took the little white-spotted miter (*Mitra puella* Reeve, 1845), a crown cone (*Conus regius* Gmelin, 1791) and a dead and clean juvenile Atlantic yellow cowrie. Jim collected two flame helmets and a large West Indian top shell (*Cittarium pica* (Linnaeus, 1758)). He also found two fresh dead and clean true tulips in excellent condition, one an exceptional orange color and the other light brown/tan.

Everyone prospered on the beach, picking up a variety of shells that included tusks, coffee bean trivias, the gaudy asaphis, Atlantic morums, Jasper cones, common dove shells, ivory ceriths, common West Indian bubbles, black-ribbed limpets, Barbados keyhole limpets, the tinted catharus and chestnut latirus, gold-mouthed Tritons, and colorful Atlantic moons. There were many washed up sea biscuits and sand dollars. This beach is truly a natural wonder and fit the bill for all of us.

Friday, May 28, 2010

Upon waking this morning, the realization that my time in Eleuthera was swiftly drawing to a close is first and foremost on my mind. Little did I know that snorkeling north of Governor's Harbor Airport was destined to become a very exciting day. Jim and Ellen chose to snorkel and swim some of the shoreline and were dropped off nearly two miles away from our destination. After almost three hours we spotted them making their way down the beach towards us. Jim took some lace murex. Ellen found seven carrier shells (*Xenophora conchyliophora* (Born, 1780)), with five being live takes and two dead. Xenos are her favorite shells. George and I took West Indian chanks, which were collected on sand in approximately eight to ten feet of water (Fig. 6). It was so much fun bringing them up as they are a big and heavy shell with the most interesting black animal inside. We kept the three largest adults and put the others back in to live and reproduce. The very strange chank egg cases somewhat resembled long chains of those no-spill plastic lids used to cover drinking cups. They were attached to what I believe was soft coral known as the black sea rod. We also collected milk conchs (*Strombus costatus* Gmelin, 1791). I got a kick out of seeing the attractive animal responsible for making such an exquisite work of art. Wow, great shell booty!

Fig. 6 West Indian chank shells, *Turbinella angulata.*

Saturday, May 29, 2010

This morning we are heading south past the town of Rock Sound. We cross a small bridge and park our cars. This habitat is very rocky. We carefully make our way out. Once again, Ellen discovers another small octopus. We carefully play with it for a few minutes then went on our way. I saw many beautiful yellow and black colored mussels in extensive beds and delicate file clams on rocks with valves open and tentacles gracefully swaying with the current. I was fortunate to find deltoid rock shells (*Thais deltoidea* (Lamarck, 1822)) and West Indian stars (*Lithopoma tectum* (Lightfoot, 1786)), both species attached to rocks. I also

find lace murex and apple murex. Jim finds McGinty's murex and glossy dove shells (*Nitidella nitida* (Lamarck, 1822)). Ellen finds a dead and clean immature purple milk conch along with lace murex. A great haul!

This afternoon we explore a beach that no one in our group has ever seen. In my opinion, this was THE most beautiful beach and reef we had been to all week. The deserted beach is named Whiteside and is on the Atlantic Ocean. White and pink sand, softly swirled together like a parfait that has only been lightly stirred. A palette of dreamy water colors with hues in turquoise and teal. The reef alive and teaming with lacy purple fans, large sponges, coral reefs separated by white sand bottom corridors, which became a snorkeler's highway. Heaven truly does exist on Earth! With all this natural beauty to absorb, one can truly forgive the fact that this beach offers nothing for shell collectors. In fact, it was difficult to find any shell of any kind whatsoever, but there were a couple of surprises to be relinquished by the ocean. Ellen found two king helmets, one live and the other being the most outstanding, clean and fresh dead, with markings so rich and dark in color, it would have "knocked my socks off" had I been wearing any. I plucked a pretty flamingo tongue (*Cyphoma gibbosum* (Linnaeus, 1758)) from a purple sea fan and I found an Atlantic Triton's trumpet attached to the wall of the reef. The shell was of poor quality so I returned it. Even though we hit rock bottom as far as shelling goes at this location, for me, the sheer beauty of the place puts it at the top of the list to visit again on my next trip. In my opinion, it is a feast for the eyes.

Sunday, May 30, 2010

The day of reckoning has arrived, and the critical question is will all of those frozen shells make it home frozen, or at least semi-thawed? Another thought was how heavy are we now? We found out in Ft. Lauderdale upon checking in for our flight. We definitely were over the weight limit and paid the additional fee. I must confess it must have been those four liters of Ricardo Rum that tipped the scales upward, but it was worth it!

A Few Things Learned

1. How helpful it is to have daily high and low tide schedules to plan for a successful shell hunt.

2. How amazing it is to see color differences in the same species such as true tulips that differ from one location to another, being separated by only a few miles.

3. How crucial habitat is to the viability of shell speciation, such as *Chicoreus dunni* and *Volvarina jimcordyi*, which are endemic to only two different salt ponds on Eleuthera.

4. How crucial it is to keep a daily log or journal to record what shells were found where, along with pertinent habitat information to create accurate identification slips.

5. Always "hang" king helmets immediately to help hasten the cleaning process.

6. Bug spray is as important as bottled water.

7. Enjoy Kalik Beer and Ricardo Gold Rum which is made only in the Bahamas.

8. Empty Pringles Crisps canisters make great shell collecting containers.

9. Take time to visit with the locals and be a good American ambassador.

10. If one must drive with parking lights on during daylight hours, be absolutely sure you turn them off before leaving your rental car, as getting a jump may be just as difficult as calling Triple A.

11. How wonderful it is to share a cottage with a woman who has taken the time to cook, freeze, and fly six complete and nutritionally balanced meals from the U.S. to a Bahamian island.

12. I had so much fun I can hardly wait to return.

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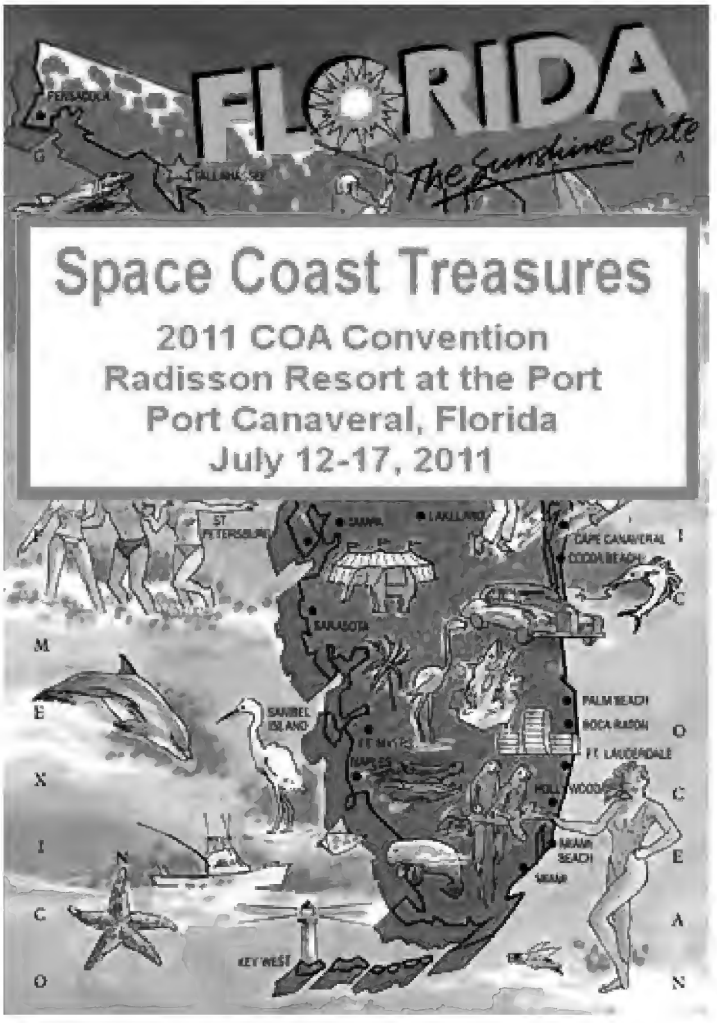
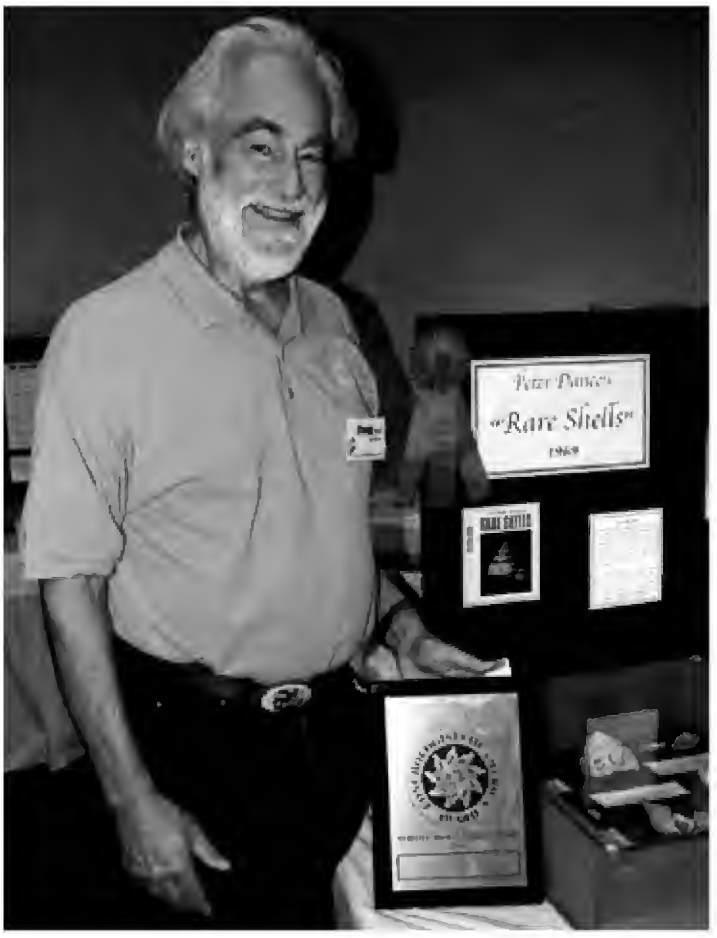


COA Award Winners

Doug Wolfe won the COA Award at the North Carolina Shell Show, 25-26 September 2010. Doug's display was a showing of 49 of the 50 shells listed by Peter Dance in "Rare Shells," (1969). Amassing 49 of the 50 shells listed by Peter Dance is no mean feat. Of the shells listed, Dance says, "A book like this is necessarily a very personal, subjective affair…" So too is attempting to collect these same species. Yes, many are now fairly commonly available, but just as many are still uncommon enough to command hefty price tags and a few are famously difficult to obtain. There are rarer shells, but these were both rare and showy. Doug's display encompassed 6 cases spread over 13 feet. Like Dance's book, he presented much more than just the shell. He also summarized the history of each shell as provided by Dance and then updated the collecting history from when Dance wrote "Rare Shells." It was an eye-catching display, well worth winning the COA Award. There were a total of 190 feet of shell display at this year's event. Judges were Dr. Harry Lee and Brain Hayes; Shell Show Chairman was John Timmerman. Other winners at the show were:

DuPont Trophy - Ed Shuller & Jeannette Tysor for "Mystery of the Migrating Mollusks."
Hugh Porter Award - Vicky Wall for "Self Collected Shells from North Carolina."
Dean & Dottie Weber Award - Vicky Wall for "The Queen Conch - Icon of the Caribbean."
Shell of Show any source - Ron Hill for *Austroharpa exquisita*
Shell of Show self-collected - Vicky Wall for *Decatopecten noduliferum*



Doug Wolfe with his COA Award won for his display of Peter Dance's "Rare Shells." The caption for each shell included its present status and collecting history.

Karen VanderVen won the COA Award at the Philadelphia Shell Show, 9-10 October 2010. Karen's display was "Volutes of the Tropical Western Hemisphere." She had 8 cases displayed in over 22 feet with volutes from all areas of the tropical Western Hemisphere. Karen's display was well thought out and exhibited the many forms, colors, and sizes of this varied group of volutes. The Philadelphia Shell Show is a large well attended event with stiff competition in any category imaginable. This year there were over 350 feet of exhibit cases and an attendance well over 1,000. Judges were Dr. Ellen Strong and Dr. M.G. Harasewych, Shell Show Chairman was Paul Callomon, and Exhibits Chairman was J.B. Sessoms. Other winners at the show were:

DuPont Trophy - John & Darlene Schrecke for "True Conchs of the World."
Masters Award - Gene Everson for "Seashells of the New Millennium, Self-collected."
Leonard Hill Award - Tom Grace for "*Maurea* of New Zealand."
John Dyas Parker Award - Rich Kirk for "Mother of Pearl."
Robert Fish Award - Michael Gage for "Shells of Hawaii."
Best Shell - Patricia Whitacre for *Angaria sphaerula*.
Best Shell, Self-collected - Gene Everson for *Conus theodorus*.

Karen VanderVen with her COA Award for "Volutes of the Tropical Western Hemisphere." Also shown, left to right: Ellen Strong, M.G. Harasewych, Paul Callomon, & J.B. Sessoms.

Mystery Bivalve in the Caribbean

by D. Y. Zhang

On 10 April of this year I was walking the shore of St. John's, Antigua, the largest and capital city of this marvelous Caribbean island. The tide was quite low and I took advantage of that fact to explore some infrequently exposed rocks and beds of seaweed. I came across an area that no one seemed to have walked on and found a large exposed bed of seagrass (*Halodule wrightii*) (Fig. 1). When I sifted through the seagrass to see if there were any hidden mollusks, I found thousands of small bivalves literally covering the individual blades of grass (Figs. 2 & 3). There were also dozens of small blue crabs amongst the grass, possibly feeding on the bivalves. I pulled apart three small bundles of seagrass to take back and study, hoping to be able to identify these small bivalves. These were small patches of grass (held comfortably in one hand) and yet I counted a total of 1,380 bivalves attached to the grass. The smallest shells were 4-6mm (about 6 individuals). There were about 200 shells that were over 6mm but less than 10mm, and the rest were 10-13.3mm.

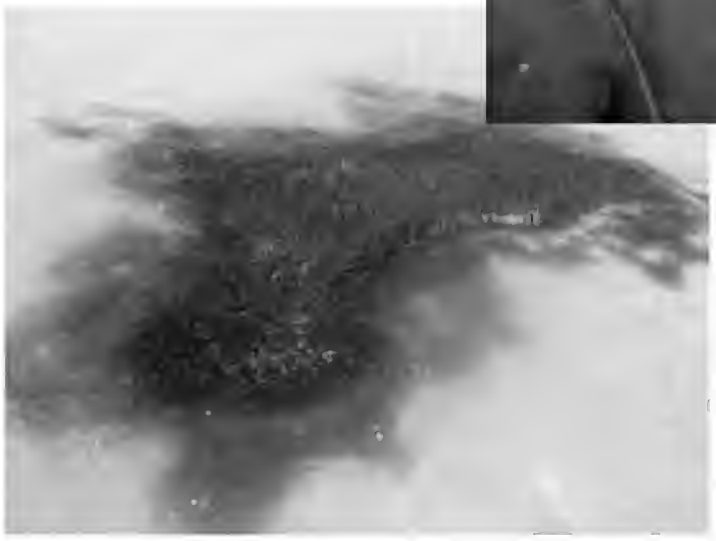


Fig. 1 One of the untouched beds of seagrass (*Halodule wrightii*) exposed by the low tide.

Fig. 2 The seagrass from a closer perspective showing the bivalves exposed on top. Many more were hidden within the grass cluster.

Fig. 3 A close up view of the mystery bivalves, each measuring approximately 10mm+.

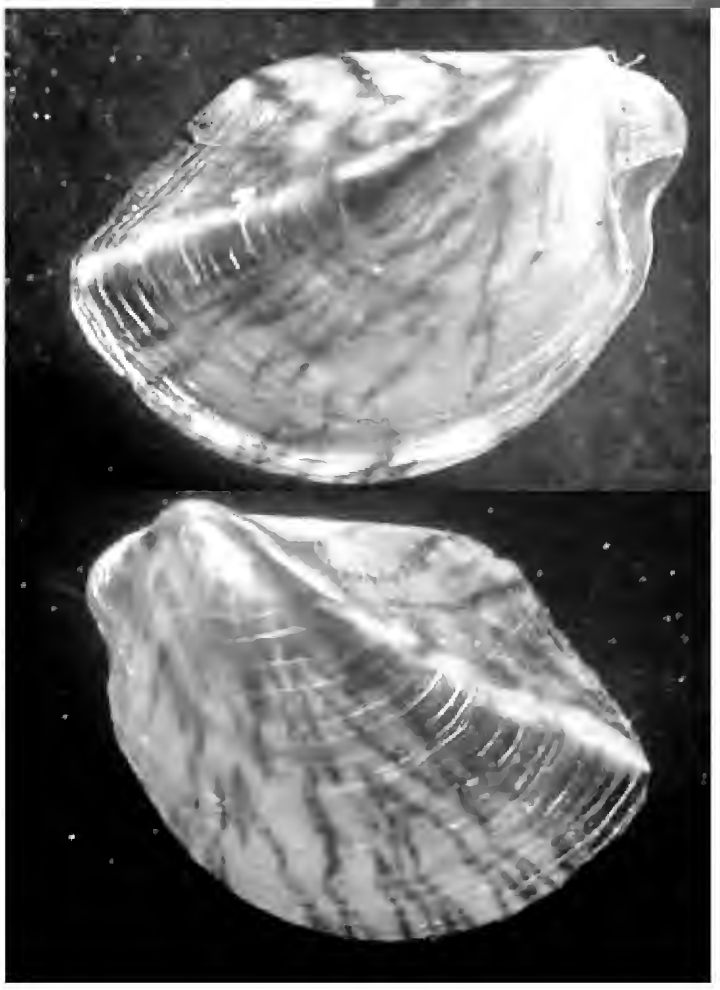
I returned to the site one week later and almost all of the shells were gone. While some were certainly served up as prey to crabs or other mollusks, I believe the majority released their hold on the grass to let the tide and currents take them elsewhere. I base this upon an observation of the few remaining shells that, as I watched, released their hold on the grass and became free floating (Figs. 4, 5, & 6).

The shell are translucent green to pale greenish-brown and mottled with rayed zigzag stripes of dark green, greenish-brown, or brownish-purple. In some there was a wider band of color (green, brown, dark brown, or white) from the umbo to the posterior ventral margin. The interior of the valves is a pearly nacre. Figs. 7-8 show a typical shell, this one is 12.3mm in its longest dimension.

So what is this small mystery bivalve. My best guess is that this is a species of *Electroma*. This is a small genus in the family Pteriidae, the pearly oysters that include the genera: *Electroma*, *Pinctada* (pearl oysters), and *Pteria* (winged oysters). When I asked Harry Lee what he thought, he concurred with this initial identification. So why should we care about this find that may be interesting but seems rather mundane? Because, until now, they have not been found in Atlantic or Caribbean waters. This "infestation" is probably the product of a visiting ship dumping its ballast. As these things typically go, the newly introduced

(Above & right) Figs. 4, 5, & 6 The bivalve pushes away from the seagrass and becomes free floating.

(Below) Figs. 7 (right valve) & 8 (left valve) Magnified view of the *Electroma* species.



organism fails to gain a viable foothold and is soon gone from its new potential home, but we all know that sometimes the introduction succeeds. Just ask Tampa, Florida, residents about the success of the green mussel (*Perna viridis* (Linnaeus, 1758)) or anyone interested or involved with waterways in most of the United States about the zebra mussel (*Dreissena polymorpha* (Pallas, 1771)). The introduction of an alien species can have disasterous effects. This is the first recorded introduction of this species and we shall see what the future holds. I did find a few broken shells, obviously predator mutilated, on the shore (Fig. 9).

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(Below) Fig. 9 A broken shell (predation?) collected on the beach.