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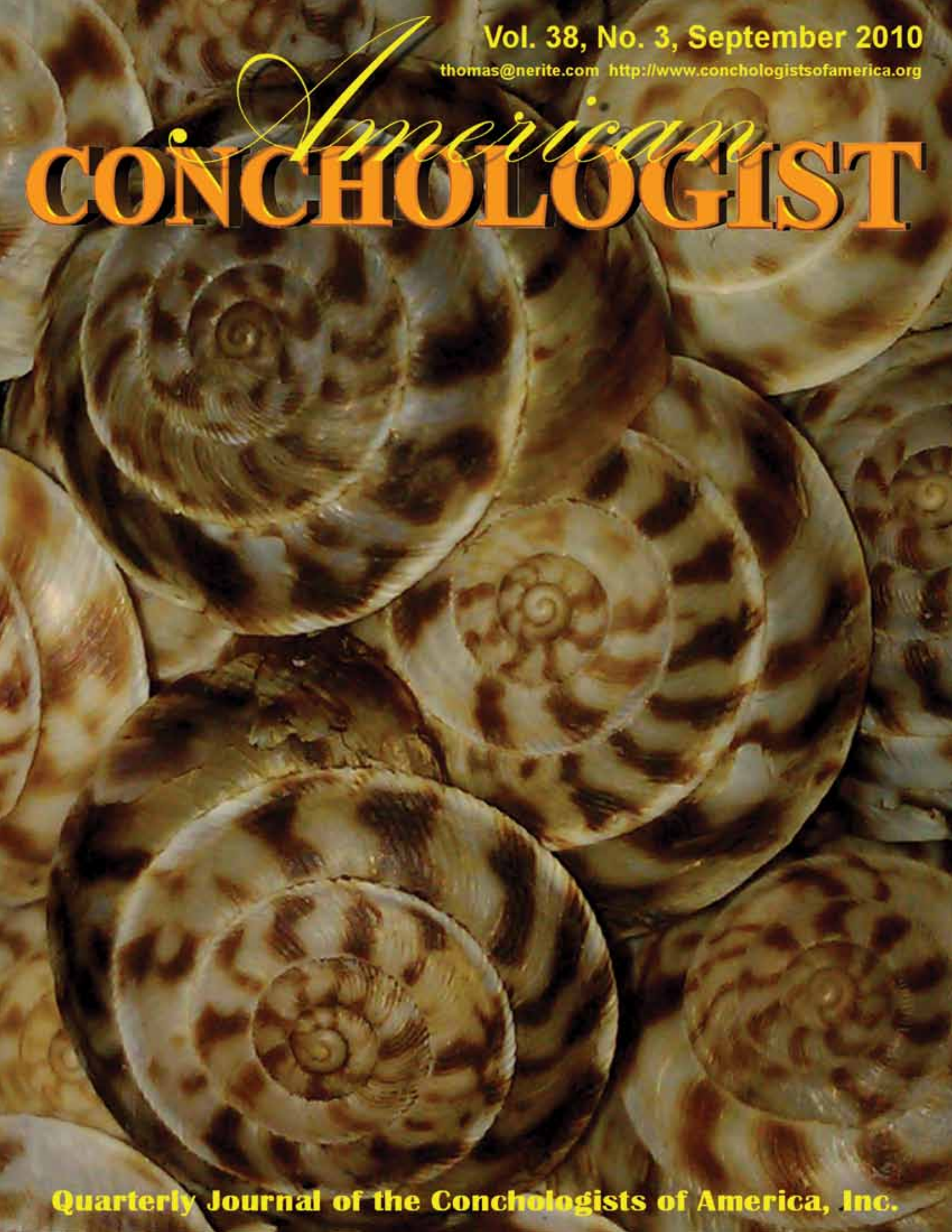

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

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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*.

Clench, W. J. 1942. The Genus *Conus* in the Western Atlantic. *Johnsonia* 1(6) 1-40.

Coomans, HE. Moolenbeek, RG. Wils, E., 1982. Alphabetic revision of the (sub)species in recent Conidae 5. baccatus to byssinus, including Conus brettinghami nomen novum. Basteria 46(1-4):3-67.

Díaz, J. M. and M. Puyana. 1994. Moluscos del Caribe Colombiano. 291 pp., [8] + 78 pls. Colciencias y Fundación Natura Colombia: Santafe de Bogota.

García, E. F. 2010. Bocas del Toro revisited. A follow-up of Olsson & McGinty's report on the Panamanian Archipelago. *American Conchologist* 38(2): 4-12.

Macsotay, O. and R. Campos Villarroel. 2001. Moluscos representativos de la Plataforma de Margarita - Venezuela. [iii], iii, 280 pp., 32 pls. Editora Rivolta: Valencia, Venezuela.

Olsson, A. A. and T. L. McGinty. 1958. Recent marine mollusks from the Caribbean coast of Panama with the description of some new genera and species. *Bulletins of American Paleontology* 39:1-58.

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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).

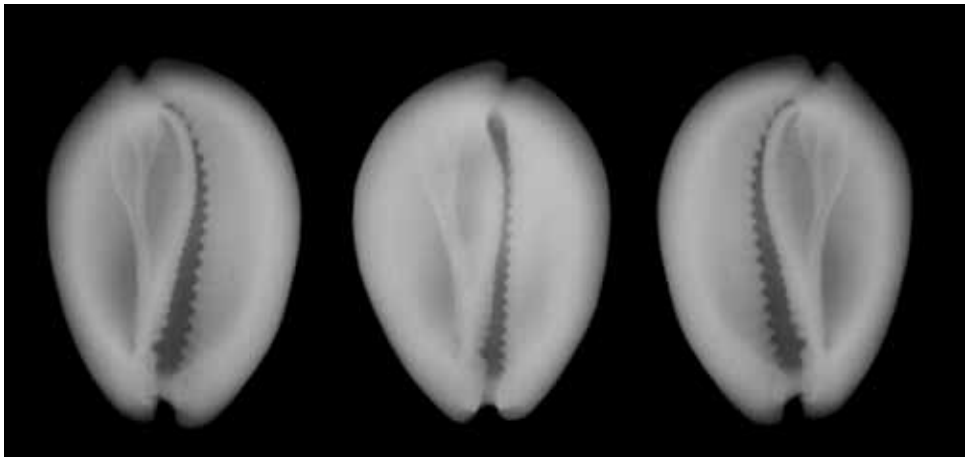

Fig. 5 Xray images of a normally coiled *Mauritia mauritiana* (L), the specimen originally thought to be sinistral (M), and "mirror image" of a normal dextral specimen (R) showing what a sinistral specimen would look like.

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.

Anon. 1975. *Cypraea capensis*. *Of Sea and Shore* 5(4): 165 incl. 3 figs. Winter, 1974-75.

Anon. 1985. What's wrong with these photos? *Hawaiian Shell News* 33(4): 4. April.

Ancey, C.-F. 1906. Mollusques gastéropodes sénestres de l'epoque actuelle. *Bulletin scientifique de la France et de la Belgique* 40: 187-205.

Burgess, C.M. 1985. *Cowries of the World*. Seacomber Publications, Cape Town. 1-289.

Dance, S. P. 1972. Abnormal sinistrality in marine gastropod shells. *La Conchiglia* 4 (36): 13. Feb.

Dautzenberg, P. 1914. XXIme assemblée générale annuelle (presidential address). *Bulletin du Société Zoologique de la France* 34: 50-60.

de Bruin, B. 1994. *Luponia fuscorubra* (Shaw, 1909) common species, yet rare. *World Shells* 11: 39-41 incl. figs 1-7; 4 figs outside and inside front cover. Dec.

Fischer, P. & E.-L. Bouvier, 1892. Recherches et considerations sur l'asymétrie des mollusques univalves. *Journal de Conchyliologie* 40: 9-207 + 3 pls.

Griffiths, R.J. 1962. *Memoirs of the Natural History Museum of Melbourne* 25: 217 [not seen; citation lifted from Schilder, 1964].

Hendricks, J.R. 2009. Sinistral snail shells in the sea: developmental causes and consequences.*Lethaia* 42(1): 55-66. March.

Hoeblich, P. 1986. Do sinistral cowries die young? *Hawaiian Shell News* 33(2): 10. Feb.

Jearey, M. 2000. Southern Hemisphere sinistrals. *Shell-O-Gram* 41(3): 5-6. May-June. Also posted at <http://home.sprynet.com/~wfrank/jearey.htm>.

Litved, W.R. 1989. *Cowries and their relatives of Southern Africa.* Gordon Verhoef, Seacomber Publications, Cape Town. 1-208.

Lorenz, F. 22 March 2009. My favorite sinistral cowrie *Muracypraea mus*, live taken gem.<http://cowryforum.bboard.de/board/ftopic-41123903nx25725-170.html>. Last accessed 19 July, 2010.

Pelseneer, P. 1920. Les variations et leur hérédité chez les mollusques. *Memoires Acad. Royale de Belgique Deuxième série Tom.* V: 1–826. Dec.

Pisor, D.L. [edited by D.L. Pisor and G.T. Poppe] 2008. *Registry of world record size shells Fifth edition.* Pisor Marine Enterprise, San Diego, CA and Conchbooks, Hackenheim Germany. 1-[208]. March.

[Raybaudi, L.], 1986. Gemme del Mare auction sales. *The Connoisseur of Shells* 12: 29-40. Dec.

Raybaudi, L. 1987. Sinistrism in Cypraeidae. *The Connoisseur of Shells* 15/16: 56 + 6 figs. [57].June-Aug.

Raybaudi, L. 1992. News news news news. *World Shells* 2: 63; 4 figs. outside back cover. Sept.

Raybaudi, L. 1994. Live collected Dead Collected. *World Shells* 11: inside front cover. Dec.

Schilder, F.A. 1964. Do sinistral cowries exist? *Hawaiian Shell News* 12(6): 2. April.

Sykes, E. R. 1905. Presidential address. Variation in Recent Mollusca. *Proceedings of the Malacological Society of London* 6: 253-271.

Wilson, B.R. 1985. Direct development in Southern Australian cowries (Gastropoda: Cypraeidae). *Australian Journal of Marine and Freshwater Research* 36(2) 267 – 280.

Wilson, B.R., 1998 in Beesley, P.L., G.J.B. Ross & A. Wells (eds), 1998. *Mollusca: the southern synthesis. Fauna of Australia.* Vol 5. CSIRO Publishing, Melbourne. Part B. vii + pp. 565-1234. [Cypraeoidea: 780-786].

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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 28º 06.975'N, 90º 58.150'W, in 92-89 meters (Figure 1) (EFG 23206). A second specimen was dredged in Campeche Bay, southern Gulf of Mexico, at 21º51.32'N, 92º03.68'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 16º21'N to 18°16'N, and from 61º37'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.

REFERENCES

García, E. F. 2007. Report on mollusks collected in a dredging expedition to Bahía de Campeche,southwestern Gulf of Mexico. *American Conchologist* 35(2)4-11.

García, E. F. & H. G. Lee. 2002. Report on molluscan species found in the offshore waters of Louisiana, including many extensions of known range and un-named species. *American Conchologist* 30(4):10-13.

_____. 2003. Report on molluscan species found in the offshore waters of Louisiana, including many extensions of known range and un-named species. II. *American Conchologist* 31(1):26-29.

_____. 2004. Report on the malacofauna of offshore Louisiana waters-including many range extensions and un-named species. III. *American Conchologist* 32(3): 21-24.

Houart, R. 2005. Description of a new species of *Favartia* (Gastropoda: Muricidae: Muricopsinae) from Brazil. *Novapex* 6: 41-44.

Rosenberg, G. 2009. Malacolog 4.1.1: A Database of Western Atlantic Marine Mollusca. [WWW database (version 4.1.1)] URL http://www.malacolog.org/.

Rosenberg, G., F. Moretzsohn, & E. García. 2009. Gastropoda (Mollusca) of the Gulf of Mexico. In: *Gulf of Mexico: Its Origins, Waters, and Biota.I, Biodiversity.* D. L. Felder & D. K. Camp, eds, Texas A & M University Press, pp. 579-699.

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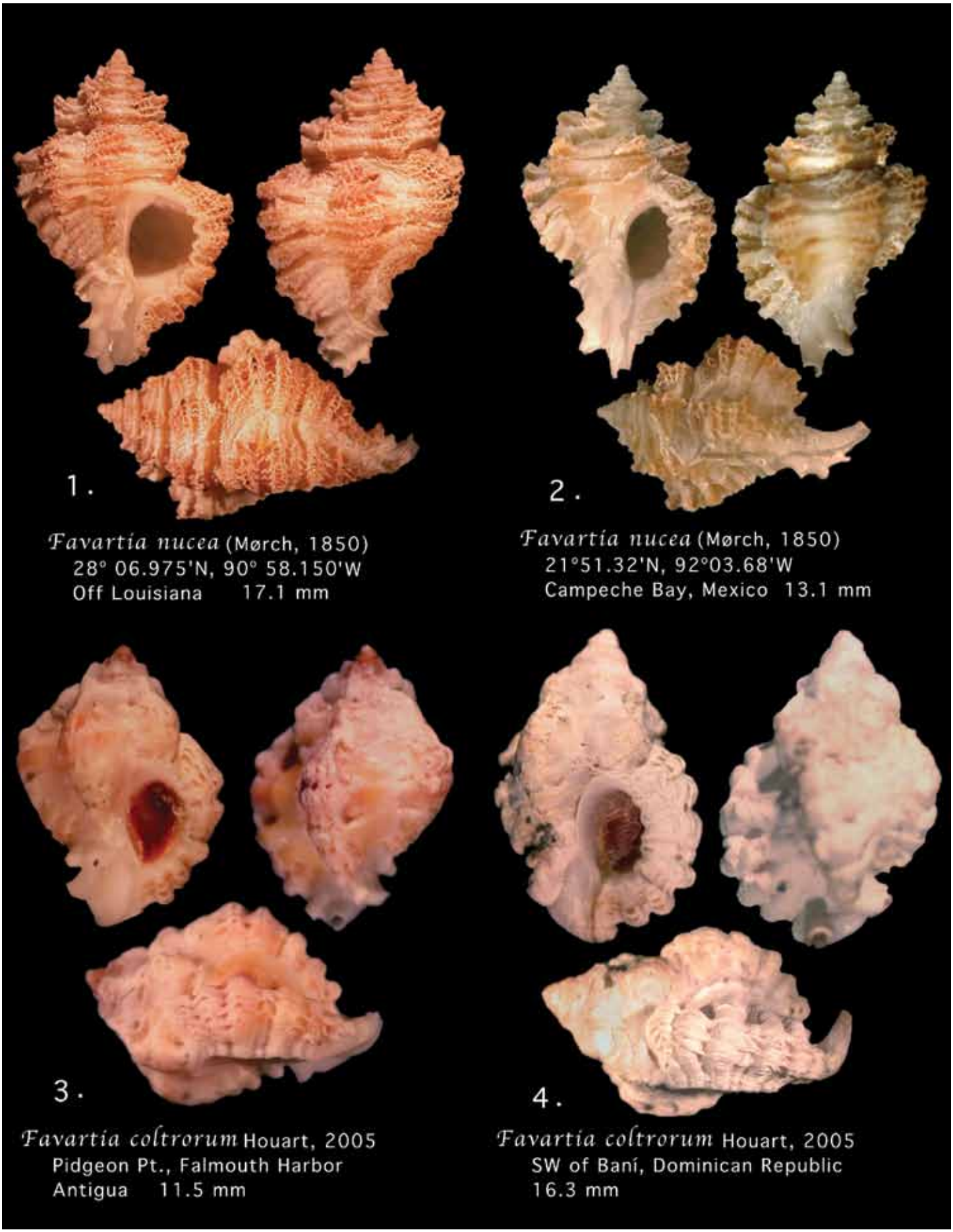
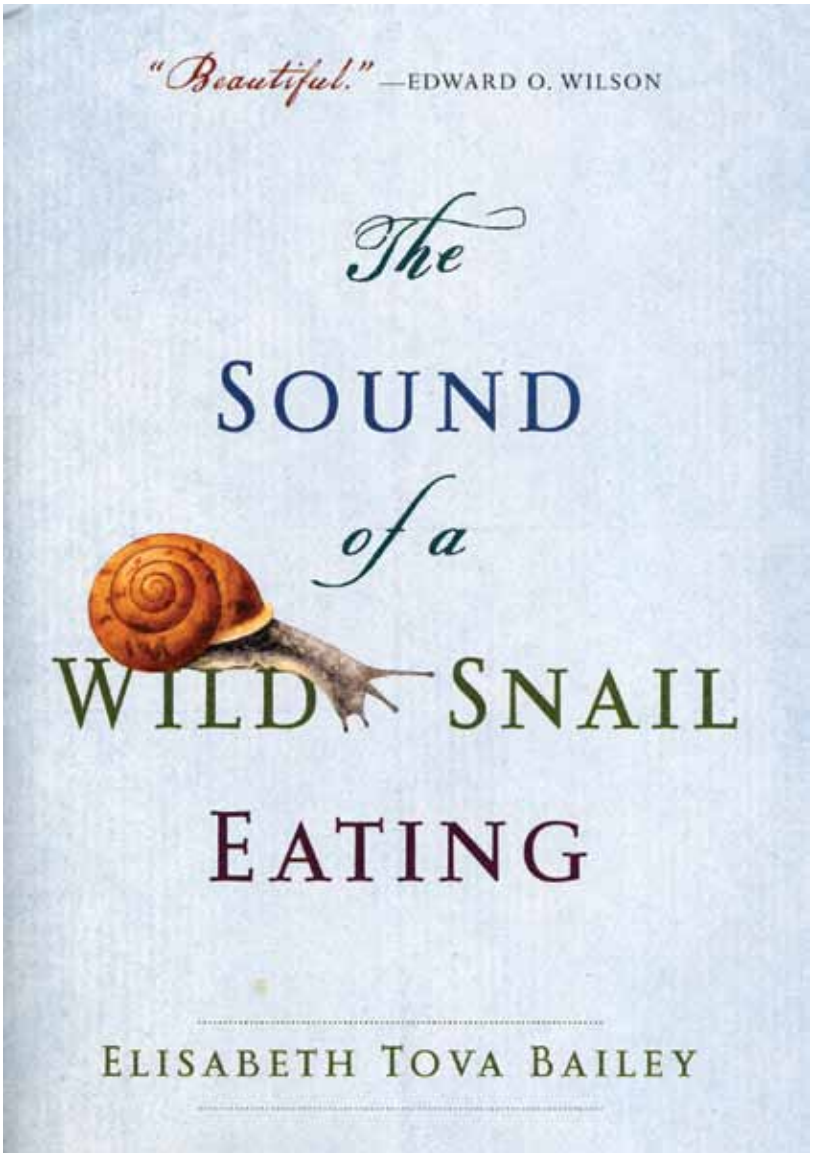

1.
Favartia nucea (Mørch, 1850)
28° 06.975'N, 90° 58.150'W
Off Louisiana 17.1 mm
2.
Favartia nucea (Mørch, 1850)
21°51.32'N, 92°03.68'W
Campeche Bay, Mexico 13.1 mm
3.
Favartia coltrorum Houart, 2005
Pidgeon Pt., Falmouth Harbor
Antigua 11.5 mm
4.
Favartia coltrorum Houart, 2005
SW of Baní, Dominican 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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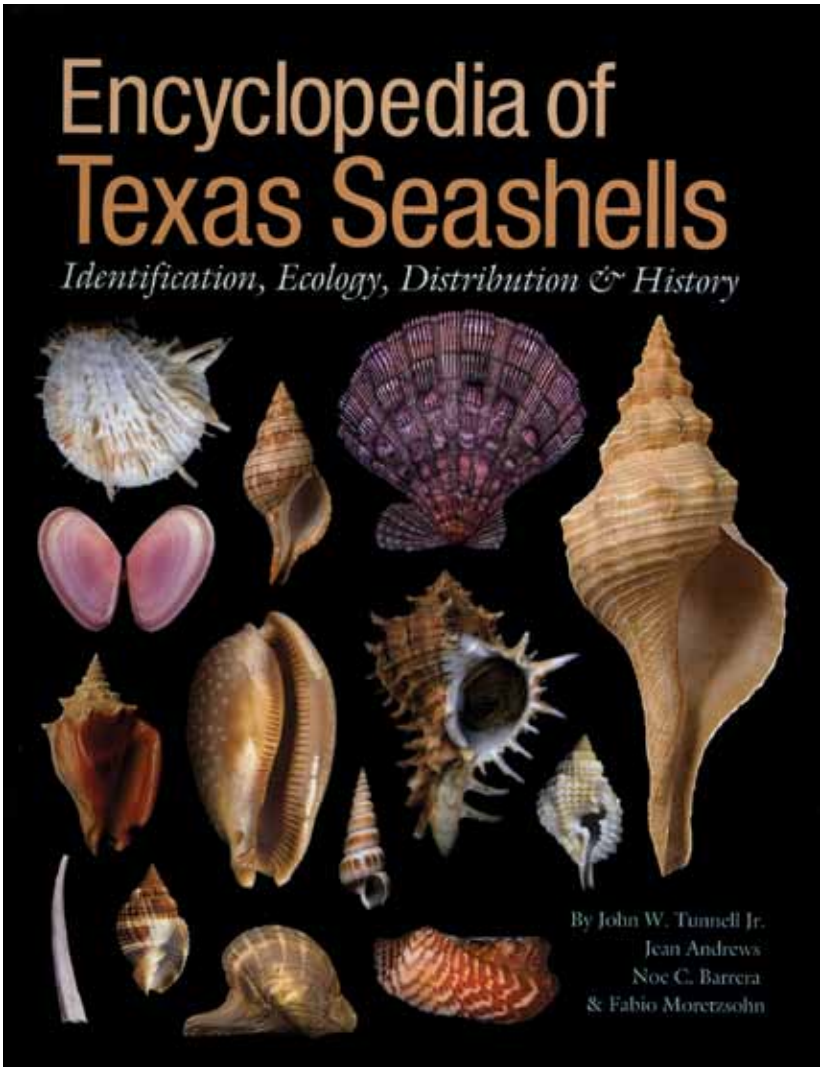
Encyclopedia of Texas Seashells

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.

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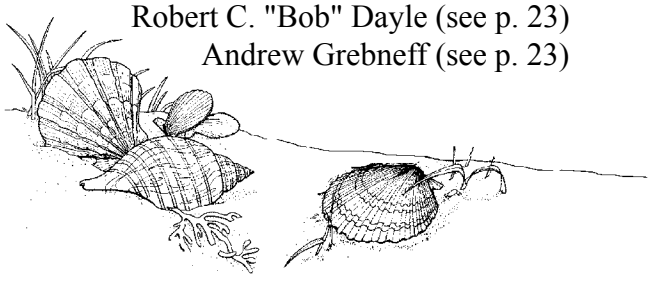
As I stated in the review, I believe the "Encyclopedia of Texas Seashells" is a valuable "need-to-have" reference that belongs in any sheller's (professional or amateur) library. That being said, a work of this magnitude always has a few errors. While the authors did what they could to eliminate errors, 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.

In memoriam:

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

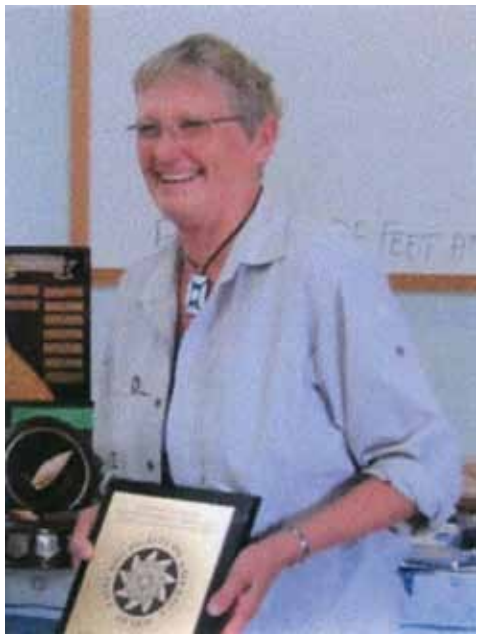


Sydney Shell Club Shell Show 24 October 2009

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).

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)**

Recent Literature

Abbott, R. Tucker. 1960. The genus *Strombus* in the Indo-Pacific, *Indo-Pacific Mollusca* 1(2):33-146.

Abbott, R. Tucker. 1961. The genus *Lambis* in the Indo-Pacific, *Indo-Pacific Mollusca* 1(3):147-174.

Abbott, R. Tucker. 1967. *Strombus (Canarium) wilsoni* new species from the Indo-Pacific, *Indo-Pacific Mollusca* 1(7):455-456.

Bandel, Klaus. 2007. About the larval shell of some Stromboidea, connected to a review of the classification and phylogeny of the Strombimorpha (Caenogastropoda), Freiberger Forschungshefte C 524 psf (15):97-206.

Bernard, P. A. 1984. Coquillages du Gabon [Shells of Gabon]. Libreville, Pierre Bernard, 140 pp.

Blackwood, Tim. 2009. *Barneystrombus*, a new genus of Strombidae (Gastropoda) from the Indo-West pacific, with discussions of included taxa and the general morphology of their shells, *Visaya* 2(5):11-16.

Caro, Oliver. n.d. Strombidae Pictures, http://www.idscaro.net/sci/01_coll/plates/gastro/pl_strombidae_1.htm#acana

Cernohorsky, Walter. 1971. New molluscan species of *Strombus* (Strombidae) and *Cancilla* (Mitridae) from New Britain and Taiwan, *Records of the Auckland Institute and Museum* 8:131-135.

Coltro, Jose and Coltro, Marcus. n.d. Femorale, http://www.femorale.com.br/shellphotos/

Dekker, Henk. 1996. *Strombus orchroglottis betuleti* Kronenberg, 1991 in Thailand (Gastropoda: Strombidae), *Vita Marina* 44(1-2):19.

Dekkers, Aart M. 2008. Revision of the family Strombidae (Gastropoda) at the supra-specific level, Part 1. *De Kreukel* 44(3-4):35-64.

DeTurck, K., Kreipl, K., Man in't Veld, L. M., and Poppe, G. T. 1999. In The Family Strombidae: Poppe, G. T. and Groh, K. (dir.), *A Conchological Iconography*, ConchBooks, Hackenheim, 60 pp., 130 pls.

Emerson, William K. 1965. *Strombus* (*Tricornis*) *oldi* new species, *Indo-Pacific Mollusca* 1(6):397-398.

Frank, Bill. n.d. http://jaxshells.org/fams.htm (The Family Strombidae)

Frank, Bill. (Lee, Harry - ed.) n.d. Peanut Island Marine Mollusks, http://jaxshells.org/peanut.htm

Goldberg, Richard. n.d. Worldwide Conchology, http://www.worldwideconchology.com/fam/Strombidae.shtml

Hardy, Eddie. n.d. Hardy's Internet Guide to Marine Gastropods, http://gastropods.com/

Heiman, E. L. 2002. Shells of East Sinai, an illustrated list:Strombidae, *Triton* 6:12-14.

Heiman, E. L. 2003. A list of Strombidae of East Sinai, *Triton* 7: supplement #2.

Kronenberg, C. G. 1991. *Strombus (Canarium) ochroglottis betuleti*, a new subspecies from Sri Lanka with a short note on the distribution of *S.*(*C.*) *mutabilis* Swainson, 1821, *Gloria Maris* 30(4):53-58.

Kronenberg, G. C. 1993. On the identity of *Lambis wheelwrighti* Greene, 1978 and *L. arachnoides* Shikama, 1971, *Vita Marina* 42(2): 41-56.

Kronenberg, G. C. 1998. Revision of *Euprotomus* Gill, 1870. 1. The systematic position of *Strombus listeri* Gray, 1852, *Vita Marina* 45(3-4):1-6.

Kronenberg, G. C. 1999. Revision of *Euprotomus* Gill, 1870. 2. On the identity of *Strombus hirasei* Kuroda, 1942, *The Festivus* 31(6):63-67.
Kronenberg, G. C. 2002. Addendum to a revision of *Euprotomus* Gill, 1870. 2. On the identity of *Strombus hirasei* Kuroda, 1942, *The Festivus* 34(9):110.
Kronenberg, G. C. 2002. Revision of *Euprotomus* Gill, 1870. 3. Description of *Euprotomus aurora* spec. nov. from the Indian Ocean, *Vita Malacologica* 1:55-60.
Kronenberg, G. C. 2008. Strombidae, in G. T. Poppe, *Philippine Marine Mollusks*, Vol. 1, Hackenheim: ConchBooks, 538-571.
Kronenberg, G. C. 2008. An intergeneric hybrid (Gastropoda: Caenogastropoda: Strombidae) with remarks on the subdivision of Indo-Pacific *Tricornis, Basteria* 72(4-6):331-343.
Kronenberg, G. C. 2008. Born's strombs (Mollusca: Gastropoda), with some notes on *Strombus succinctus* Linnaeus, 1767, *Ann. Naturhist. Mus. Wien* (109 B): 51-66.
Kronenberg, G. C. 2009. A note on Bandel's 2007 review of the classification and phylogeny of the Strombidae (Caenogastropoda), *Basteria* 73(1-3): 65-67.
Kronenberg, G. C. and Berkhout, J 1984. Strombidae, *Vita Marina* 31(1-6):263-362, pls. 1-9.
Kronenberg, G. C. and Dekker, H. 2000. A nomenclatural note on *Strombus wilsoni* Abbott, 1967, and *Strombus wilsonorum* Petuch, 1994, with the introduction of *Strombus praeraninus* nom. nov. (Gastropoda, Strombidae), *Basteria* 64:5-6.
Kronenberg, G. C. and Dharma, B. 2005. New distributional records for four species of Stromboidea (Mollusca: Gastropoda) from Australasia, *The Beagle*, *Records of the Museums and Art Galleries of the Northern Territory* 21:47-51.
Kronenberg, G. C. and Lee, H. 2007. Genera of American Strombid Gastropods (Gastropoda: Strombidae) and remarks on their phylogeny, *The Veliger* 49(4):256-264.
Kronenberg, G. C., Liverani, V. and Dekker, H. 2009. On the identity of *Strombus coniformis* Sowerby II, 1842 (Gastropoda: Strombidae) with additional notes on its distribution, *Journal of Conchology* 39(6):659-668.
Kronenberg, G. C. and Vermeij, G J. 2002. *Terestrombus* and *Tridentarius*, new genera of Indo-Pacific Strombidae (Gastropoda), with comments on included taxa and on shell characters in Strombidae, *Vita Malacologica* 1:49-54.
Latiolais, J.M., Taylor, M.S., Roy, K., and Hellberg, M.E. 2006. A molecular phylogenetic analysis of strombid gastropod morphological diversity, *Molecular Phylogenetics and Evolution* 41:436-444.
Landau, B. M., Kronenberg, G. C. and Herbert, G. S. 2008. A large new species of *Lobatus* (Gastropoda: Strombidae) from the Neogene of the Dominican Republic, with notes on the genus, *The Veliger* 50(1):31-38.
Man in't Veld, L. and Visser, G. J. 1993. A revision of the subgenus *Doxander* Iredale, 1931, including a nomen novum for *Srombus turritus* and the description of a new subspecies from the Philippines, *Vita Marina* 42(1):11-32.
Man in't Veld, L. and Visser, G. J. 1995. Contributions to the knowledge of Strombacea, 2, *Strombus* (*Doxander*) *vittatus entropi* versus *Strombus sulcatus*: a recitification, *Vita Marina* 43(1-2):63-64.
Man in't Veld, L. and De Turck, K. 1998. Contributions to the knowledge of Strombacea, 6, A revision of the subgenus *Laevistrombus* Kira, 1955 including the description of a new species from the New Hebrides, *Gloria Maris* 36(5-6):73-107.
Moolenbeek, R. G. and Dekker, H. 1993. On the identity of *Strombus decorus* and *Strombus persicus*, with the description of *Strombus decorus masirensis* n. ssp. and a note on *Strombus fasciatus, Vita Marina* 42(1):3-10.
Moscatelli, Renato. (translated by by Presada, William A.) 1987. Superfamily *Strombacea* from Western Atlantic, Antonio A. Nanô & Filho Ltda., Sao Paulo, 97 pp., 38 pls.
Mühlhäusser, H. 1981. *Strombus kleckhamae boholensis* n. subsp., *Spixiana* 4(3):319-324.
Mühlhäusser, H. 1982 *Strombus kleckhamae boholensis* n. ssp. (Gastropoda: Strombidae), *La Conchiglia* 14(156-157):3-4.
Natural History Museum of Rotterdam. n.d. Strombidae, http://www.nmr-pics.nl/
Petuch, Edward J. 1993. Molluscan discoveries from the tropical western Atlantic region, *La Conchiglia* 25(266):51-54.
Raven, Han. 2002. Notes on mollusks from NW Borneo. 1. Stomboidea (Gastropoda, Strombidae, Rostellariidae, Seraphidae), *Vita Malacologica* 1:3-32.
Rosenberg, G. 2005. Malacolog 4.1.0: A Database of Western Atlantic Marine Mollusca, http://www.malacolog.org/
Simone, Luiz. 2005. Comparative morphological study of representatives of the three families of Stromboidea and the Xenophoroidea (Mollusca, Caenogastropoda), with an assessment of their phylogeny, *Arquivos de Zoologia* 37(2)141-267.
Visser, G. J. and Man In't Veld, L. 2005. Contributions to the knowledge of Strombacea.7, Notes on the S*trombus (Dolomena) marginatus* complex (Gastropoda:Strombidae) and the status of *Strombus (Dolomena) robustus* Sowerby, 1874; with the description of a new subspecies, and a neotype designation of *Strombus (Dolomena) marginatus* Linne, 1758, *Gloria Maris* 44(3-4):55-68.
Walls, J. G. 1980. *Conchs, Tibias and Harps*, T.F.H. Publications, Neptune, New Jersey, 191 pp.
Wieneke, Ulrich. 2009. http://www.stromboidea.de/?n=Species. Strombidae
Willan, Richard C. 2000. *Strombus hickeyi*, a new species in the subgenus *Labiostrombus* (Gastropoda: Strombidae) from the tropical southwestern Pacific Ocean, *Vita Marina* 47(1):18-24.
Willan, R. C. and Kronenberg, G. C. 2004. Rectification of nomenclature for two species in the family Strombidae (Gastropoda), *Basteria* 67: 153-157.
Wilson, Barry. 1993. *Australian Marine Shells*, Vol. 1, Odyssey, Kallaroo, 408 pp.
Yamada, Machiko. n.d. BISYOGAI data base, http://shell.kwansei.ac.jp/~shell/pic_book/family/2500.html

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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 C*repidula* 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

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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.

Literature cited:

de Boury, E. 1913. Observations sur quelques espèces ou sous-genres de *Scalid*æ. *Journal de Conchyliologie* 61(1), 65-112.

Nakayama, T. 2003. A review of northwest Pacific epitoniids (Gastropoda: Epitoniidae). *Monographs of Marine Mollusca* No. 6. Backhuys Publishers, Leiden.

Thiele, J. 1925. Gastropoda der Deutschen Tiefsee-Expedition. II. *Wiss. Ergebn. dt. Tiefsee exped. 'Valdivia'*, 17, 37-382.

Weil, A., Brown, L. & Neville, B. 1999. *The Wentletrap Book: Guide to the recent Epitoniidae of the world.* Evolver, Rome, Italy.

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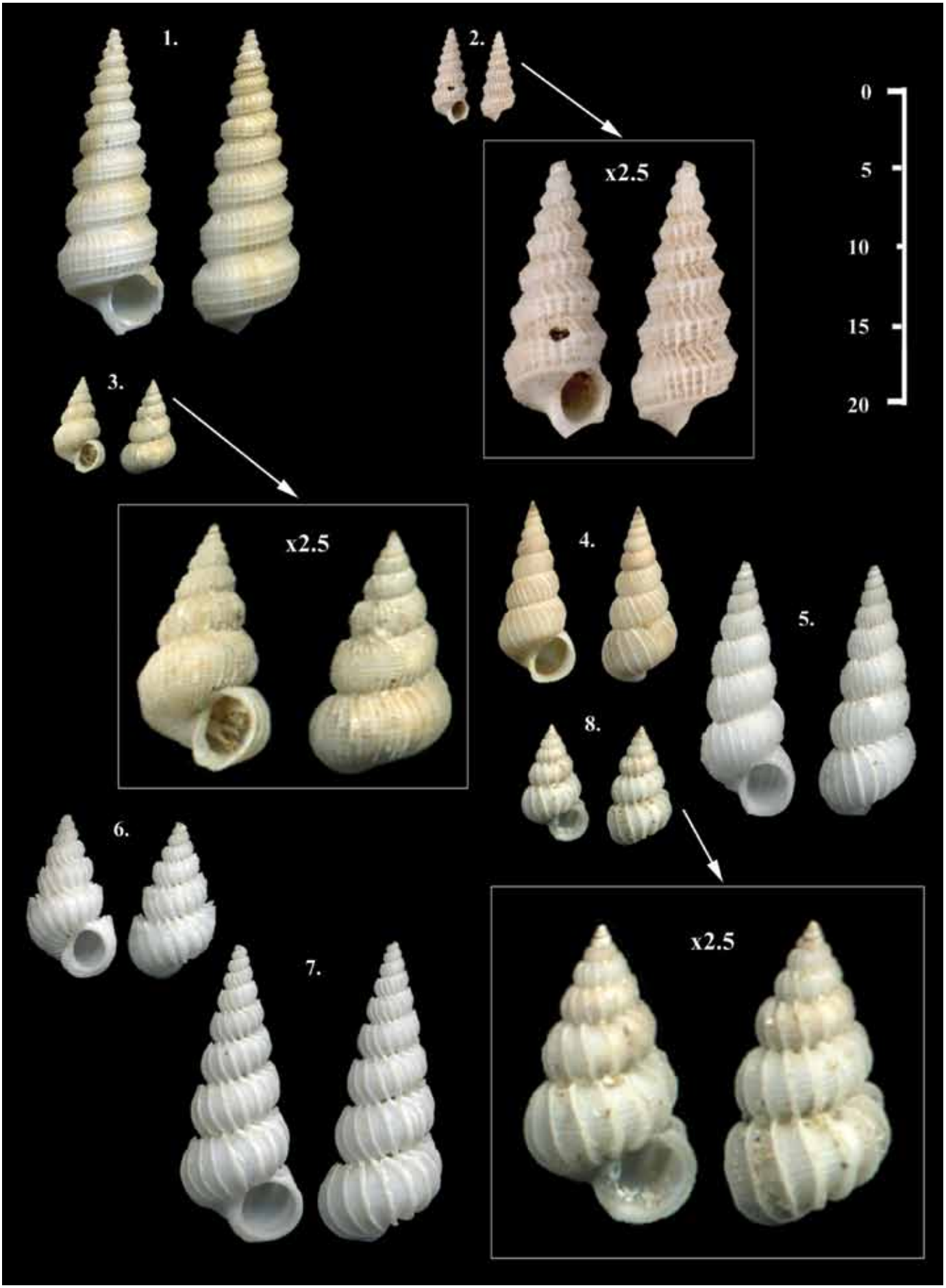
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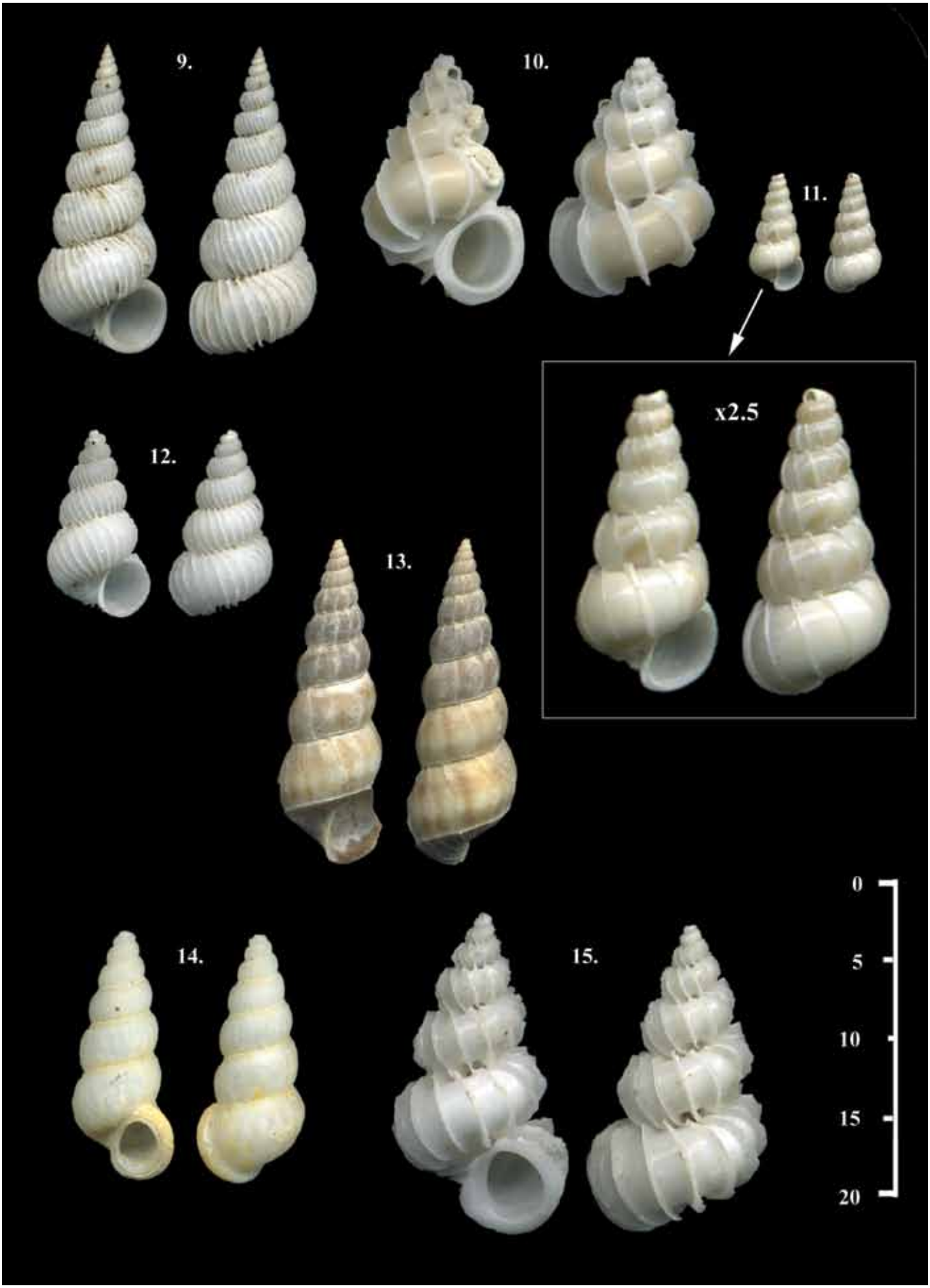
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A reclusive Tennessee native snail: *Anguispira picta* (Clapp, 1920) (Discidae)

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.

Abbott, R. Tucker. 1989. "Compendium of Landshells," American Malacologists, Inc., Melbourne, FL., pp. 240.

Clapp, G.H. 1920. A new species of *Pyramidula* from Alabama and notes on *P. cumberlandiana* with new varieties. *The Nautilus*, vol. 34, pp. 23-26. Available on line at: www.biodiversitylibrary.org/item/17803#5

Freedman, R. 2002. *Anguispira picta* (on line), Animal Diversity Web, accessed 9 September 2010 at: www.animaldiversity.ummz.umich.edu/site/accounts/information/Anguispira_picta.html

Solem, Alan. 1976. Species criteria in *Anguispira* (*Anguispira*) (Pulmonata: Discidae), *The Nautilus*, vol. 90, (1) pp. 15-23.

U.S. Fish & Wildlife Service. 1982. Painted Snake Coiled Forest Snail Recovery Plan, U.S. Fish & Wildlife Service, Atlanta, Georgia, pp. 26, available online at: www.fws.gov/southeast/5yearReviews/5yearreviews/PaintedSnakeCoiledForestSnail.pdf.

U.S. Fish & Wildlife Service. 2006. Painted Snake Coiled Forest Snail (*Anguispira picta*) 5-Year Review, available online at: www.fws.gov/southeast/5yearReviews/5yearreviews/PaintedSnakeCoiledForestSnail.pdf

Withers, David. 2003. Distributional Surveys for *Anguispira picta*, Painted Snake Coiled Forest Snail, a report to the U.S. Fish & Wildlife Service under Revenue Grant #1448-40181-02-G-051. Tennessee Division of Natural Heritage, Nashville, TN, pp. 20.

Withers, David. 2004. Distributional Surveys for the Painted Snake Coiled Forest Snail, (*Anguispira picta*) under Revenue Grant #1448-40181-02-G-051, Addendum to Final Report. Tennessee Division of Natural Heritage, Nashville, TN, pp. 11.

Withers, David. 2009. A Guide to the Rare Animals of Tennessee, Tennessee Natural Heritage Program, Division of Natural Areas, Tenn. Depart. of Environment & Conservation, pp. 61. Available on line at: www.state.tn.us/environment/na

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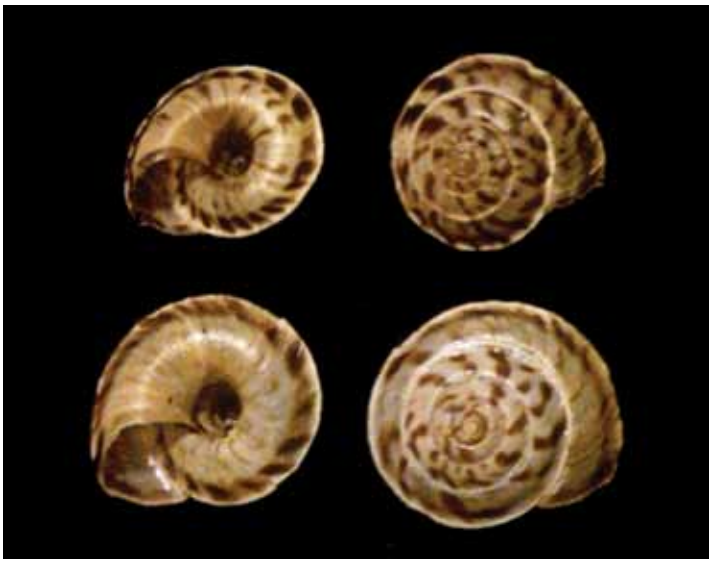
A. alternata **(Say, 1816), 16-17mm, New York.**

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).**