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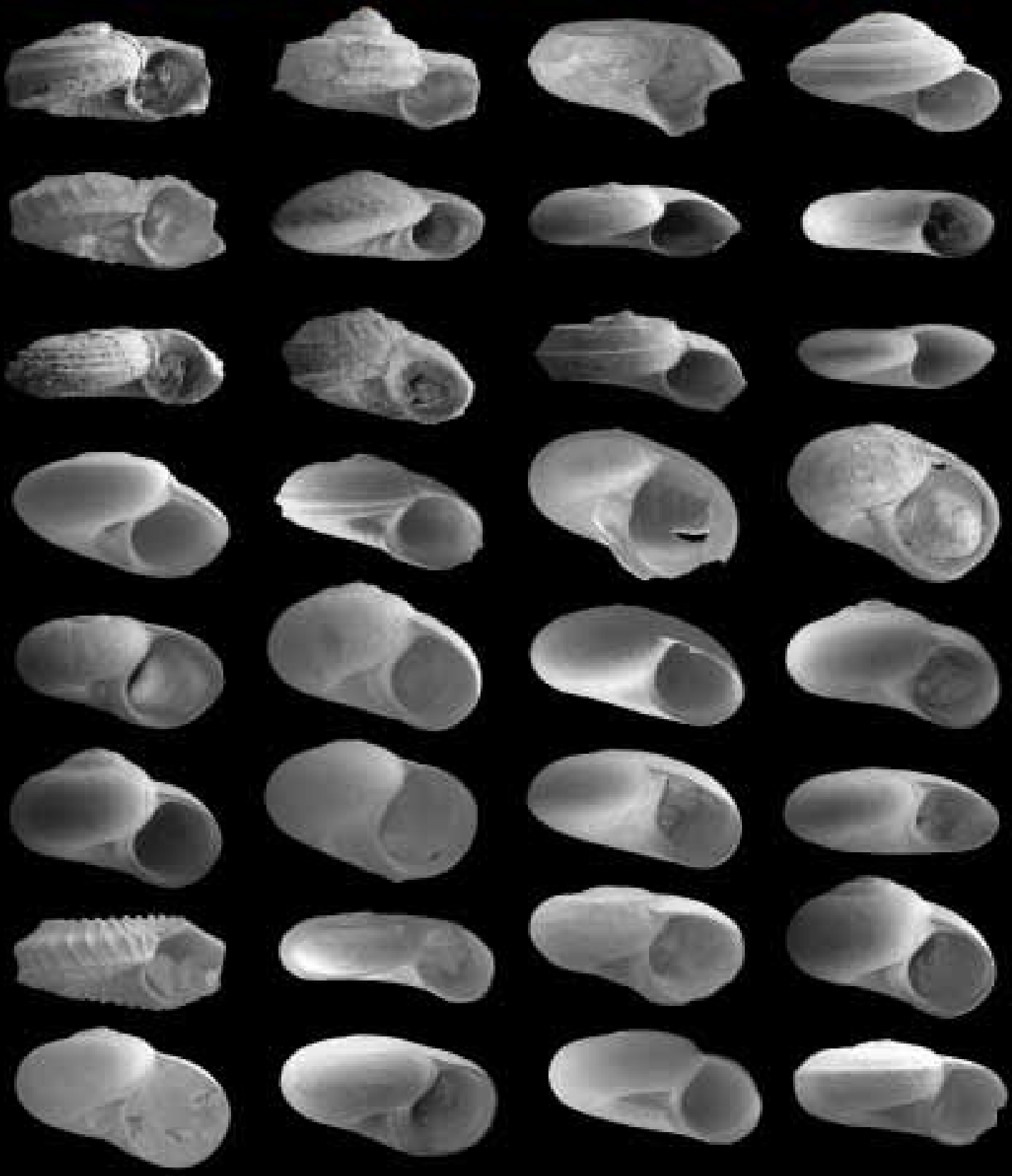

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

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

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In This Issue

Editor comments:

This issue of *American Conchologist* has the usual eclectic gathering of shell-related articles, plus a couple of departures. Both the front and back covers are black and white, something not seen for the last couple of decades, but they do serve as a nice lead-in to the microfossil findings by Harry Lee in the Pliocene Pinecrest Beds during the last convention. Dr. Lee points out some fascinating shells that would probably be overlooked by 99% of shell collectors.

We also have an article on a shell collection database program developed by David Berschauer. While his article can be construed as an "infomercial," I felt that the "info" part was important enough to print as an article rather than a 1/4 page advertisement. There are a number of methods to electronically catalog a shell collection (MS Excel, MS Word, MS Access). I personally use MS Access. David's program is yet another option, cheaper than Access and most likely easier to use than any of the other programs I mentioned. A word of caution is in order for any electronic database program - operating systems change every few years and this can leave you with an unsupported system. Hard copy backups are still a good idea.

Front Cover: Assorted shells of species in the family Tornidae. The species depicted have a median maximum dimension of about 2 mm. All specimens were collected at the SMR Aggregates mining operation in northern Sarasota Co., Florida, and most during the pre-COA field trip on 14 July 2013, led by Dr. Ron Bopp and Roger Portell. Consequent to these collections a total of 38 species of tornids (also called vitrinellids) are now recognized in this exposure of the Pliocene Lower Pinecrest Beds in the Upper Tamiami Formation. See page 4 for an elaboration on the unexpectedly rich element of this 3,000,000 year old fauna, of which about 70% is extinct. SEM's by Dr. Ann Heatherington (University of Florida Dept. Geology) and Harry G. Lee; images edited with the assistance of Bill Frank.

Back Cover: Thirteen species of the family Caecidae (Gastropoda: Rissooidea). These 2-3 mm microfossils were collected along with over 200 other micromollusks (less than 5 mm in maximum dimension) from the 3,000,000 year-old Lower Pinecrest Beds (Upper Pliocene) near the 2014 COA Convention site. Only a small fraction of this microfauna is recorded in the literature. See p. 35 for a species list and key. SEM's by Dr. Ann Heatherington (University of Florida Dept. Geology) and Harry G. Lee; images edited with the assistance of Bill Frank.

A "gap in the fossil record" bridged: the Tornidae of the Lower Pinecrest Beds, exemplar of paleoconchological neglect

Harry G. Lee

I have always found COA Conventions to be most enjoyable – start to finish. Yet some of them incorporated a very special experience, more memorable and resonant, as with the Claiborne Bluff field trip (Mobile, 2006; Lee, 2006) and the 2011 bourse at Port Canaveral (Lee, 2012). Last July it was the field trip to the SMR [I've not unraveled this acronym, probably because it's intended not to be] Aggregates Phase 10 shell and sand pit mines in Sarasota, just a few miles from the convention venue.

Under the guidance of Dr. Ron Bopp (Sarasota Shell Club) and Roger Portell (Invertebrate Paleontology, Florida Museum of Natural History [FLMNH]), a group of about forty conventioneers collected fossil shells brought to the surface by the mining operations of Phase 10 of the SMR Aggregates operation. Here the Upper Tamiami Formation is composed of material belonging to the Lower Pinecrest Beds. Both conchologists and miners are rewarded by a great abundance of shells, often in a fine state of preservation. Various bits of evidence indicate this fauna lived in the Late Pliocene Epoch (Cenozoic Era, Neogene Period) ca. 3,000,000 years ago (MYA).

After recoiling from my initial amazement at this conchological cornucopia **[Fig. 1]** and immediate preoccupation with the charismatic megafauna, I turned my attention to the smaller shells, with which I've made no secret of my abiding fascination. In certain areas of the piles of excavated spoil, recent rains had culled and accumulated smaller particles much in the way that a shoreline sorts drift by the winnowing effect of the swash. As I'd hoped, smaller shells **[Fig. 2]** were no less abundant than the eye-catching macromollusks.

Over most of our 2-3 hour reconnaissance, I set out to capture as much of this selective "grunge" as I anticipated I could haul and later scour for the little shells. Fifteen gallons seemed sufficiently ambitious. Nonetheless, weeks later I realized it wasn't. The stuff was chock full of micro- (< 5 mm maximum dimension [MaxD]) and meso-mollusks (> 5, < 10 mm MaxD) as well as assorted juvenile specimens and fragments of 'macros' (> 10 mm MaxD).

Being a real paleomalacology piker, I sought advice from a few experts and immersed myself in the relevant literature. This autodidactic campaign soon revealed that I had half-witting(witted)ly blundered into not only a Lilliputian melting pot, but *terra incognita*. A benchmark study (Allmon, Rosenberg, Portell, and Schindler, 1993; reviewed by Lee, 1993) reported an alarming lack of micromollusk species diversity known from the Pinecrest Beds. The numbers reported, vs. elements > 5 mm MaxD, were so disproportionately low (40 spp. *in toto*; 0 from SMR) that clever strategic multipliers had to be applied to allow rigorous comparisons with other faunas, particularly the Recent (hereafter referred to as Holocene), which analysis was central to the theme of their study.

Fig. 1. COA conventioneers collecting fossils at the SMR Aggregate pit mine. This 2013 Sarasota COA convention field trip provided a plethora of fossil micro-shells.

Fig. 2. Smaller mollusk shell fossils were in abundance.

Over the ensuing months, ongoing study of samples taken before and after our July 14, 2013, epiphany, this

SMR exposure has continued to bear fruit. Although many of the species are > 5 mm MaxD, the micromollusk species inventory has inexorably grown as I and colleague Rick Edwards (Jacksonville Shell Club member and fellow 2013 COA fossil field-tripper) have logged about 200 man-hours at the microscopes in our homes and at FLMNH.

Presently, close to 200 species of micromollusks have been identified from our SMR samples, and about half have been imaged at least once by scanning electron microscopy [SEM] though the cooperation of the Department of Geology, University of Florida.

To illuminate this newfound diversity, I have chosen to present an element of this fauna, the Tornidae, of which all but one species is a micromollusk by our definition. Tornids (Prosobranchia: Rissooidea) have minute, depressed to globose helicoid shells and possess non-cirriform pedal appendages as well as a taeniglossate radula. The group arose in the Upper Cretaceous, quite possibly in eastern North America. Today they are circumglobal in distribution, only slightly more speciose in tropical than temperate seas, mostly living in shallow water (< 30 m). There are forty genera, most of them extant; thirteen of them (101 spp., all 4 subfamilies) are Holocene in the western Atlantic (Rubio, Fernández-Garcés, and Rolán, 2011). Here is a run-down of their taxonomy and nomenclature:

Tornidae Sacco, 1896 [Type genus (TG) *Tornus* Turton & Kingston, 1830]*

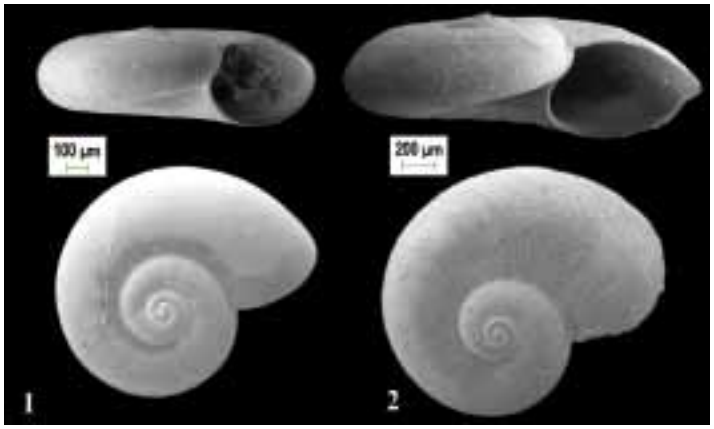
= Adeorbidae Monterosato, 1884 [TG *Adeorbis* S.V. Wood, 1842]*

+ Vitrinellinae Bush, 1897 [TG *Vitrinella* C.B. Adams, 1850]

- Subfamily Torninae Sacco, 1896
- Subfamily Circulinae Fretter and Graham, 1962
- Subfamily Teinostomatinae Cossmann, 1917
- Subfamily Vitrinellinae Bush, 1897

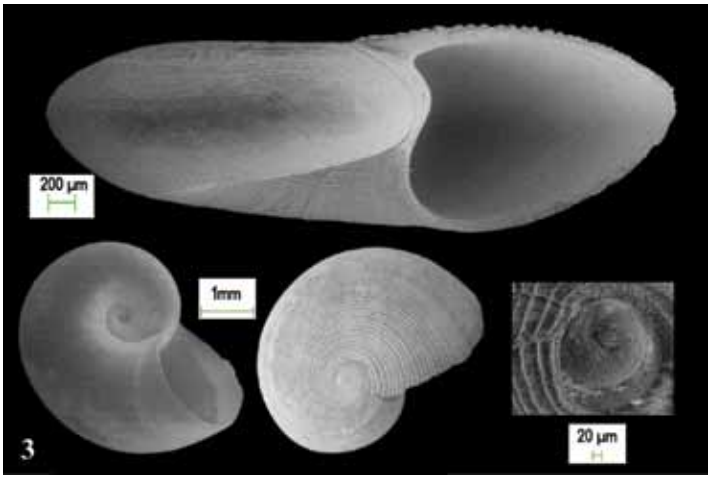
* Objective synonyms; the type genus of each is based on *Helix subcarinata* Montagu, 1803. The reversal of priority of Tornidae over Adeorbidae, based on the priority of the respective type genera (Iredale, 1915: 344), is a valid action under the provisions of Article 40 paragraph 2 of the *Code* (ICZN, 1999), which reads: "Names replaced before 1961. If, however, a family-group name was replaced before 1961 because of the synonymy of the type genus, the substitute name is to be maintained if it is in prevailing usage. A name maintained by virtue of this Article retains its own author but takes the priority of the replaced name, of which it is deemed to be the senior synonym." I have followed Recommendation 40A: "Citation of author and date. If the author and date are cited, a family-group name maintained under the provisions [above] … should be cited with its original author and date...followed by the date of its priority as determined by this Article; the date of priority should be enclosed in parentheses." Ergo 'Tornidae [and Torninae] Sacco, 1896 (1884).'

The following species have been identified thus far (alphabetical order with fig. no.). † indicates extinct (absent from the Holocene; 27 spp.; 71%) and **boldface signifies probably un-named** (20 spp.; 53%). Scales are in micrometers (thousandths of a mm).

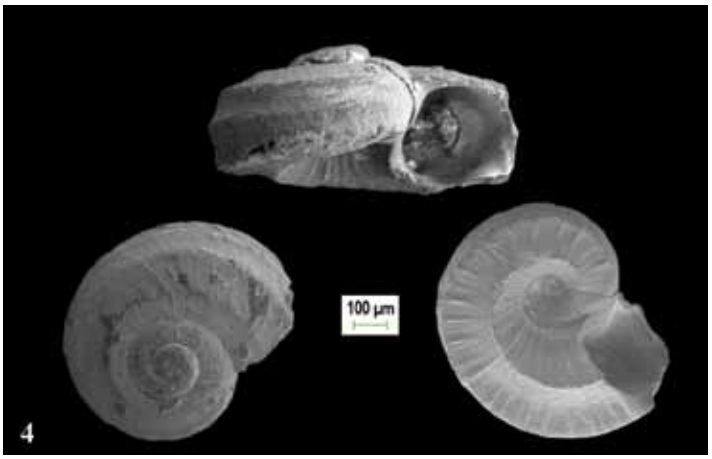


1. (left) *Cochliolepis holmesii* (Dall, 1889). Dall (1889: 360, 392) rendered the species epithet "*Holmesi*" and "*Holmesii*" respectively. The First Reviser (Dall, 1892: 419) fixed the latter orthography.

2. (right) †***Cochliolepis* n. sp. cf. *C. planispiralis* Rubio, Fernández-Garcés, and Rolán, 2011.** SMR shells are more tightly coiled with less deflected apertures than the Holocene species.



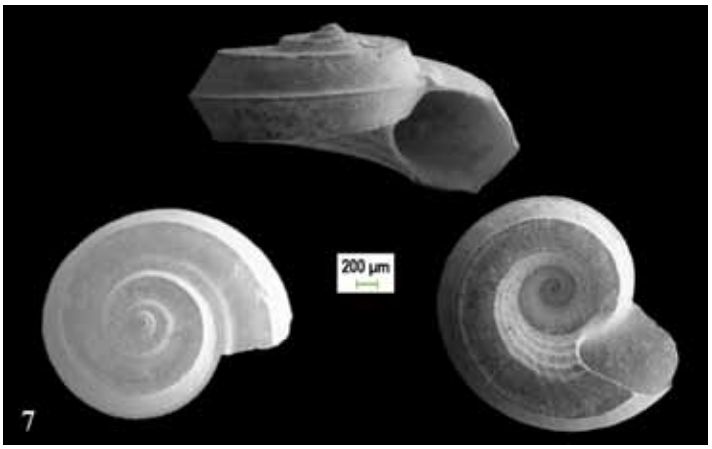
3. *Cochliolepis striata* Dall, 1889. One of our specimens exceeds 5.0 mm in MaxD; it is the only non-micromollusk in this tornid assemblage.



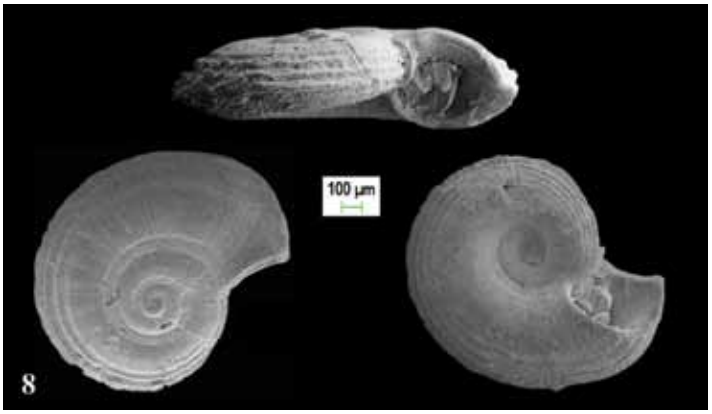
4. *Cyclostremiscus bartschi* (Mansfield, 1936). Described from the Neogene but survives in the Holocene (Rubio, Fernández-Garcés, and Rolán, 2011).

5. †*Cyclostremiscus fargoi* Pilsbry *in* Olsson and Harbison, 1953. The figure captioned *C. fargoi* is actually *Solariorbis eugenes*, and vice-versa, in Rubio, Fernández-Garcés, and Rolán (2011; figs. 110, 111).

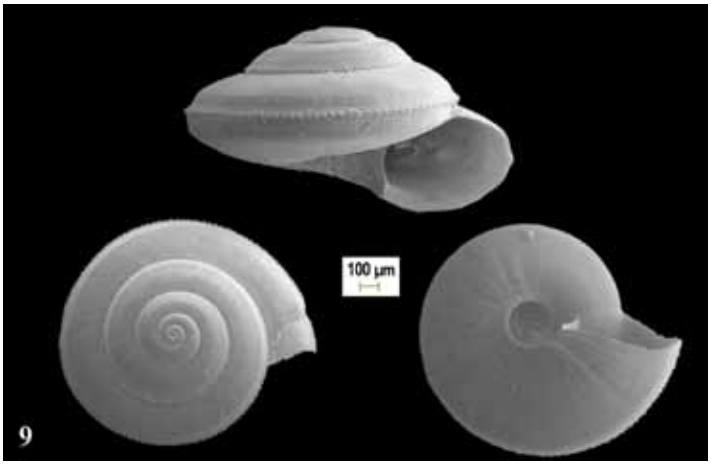
6. †*Cyclostremiscus gunteri* (Mansfield, 1930).



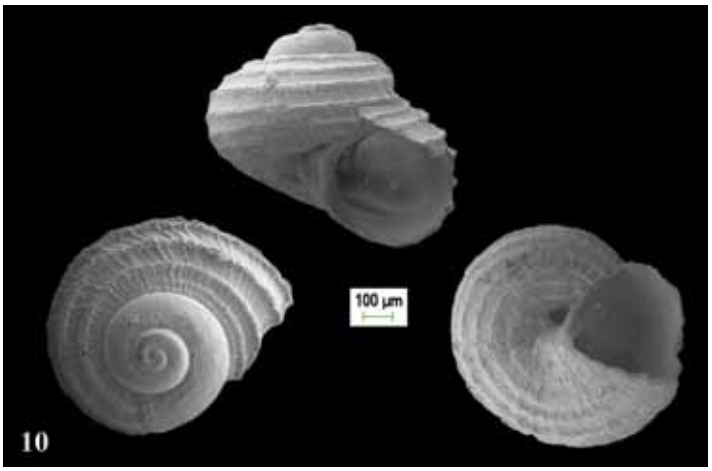
7. *Cyclostremiscus trilix* (Bush, 1885). Described from the Holocene. Rubio, Fernández-Garcés, and Rolán (2011) distinguish between this taxon and *C. pentagonus* (Gabb, 1873), described from the Neogene of the Dominican Republic, based on the latter's protoconch ornamentation and secondary spiral sculpture.



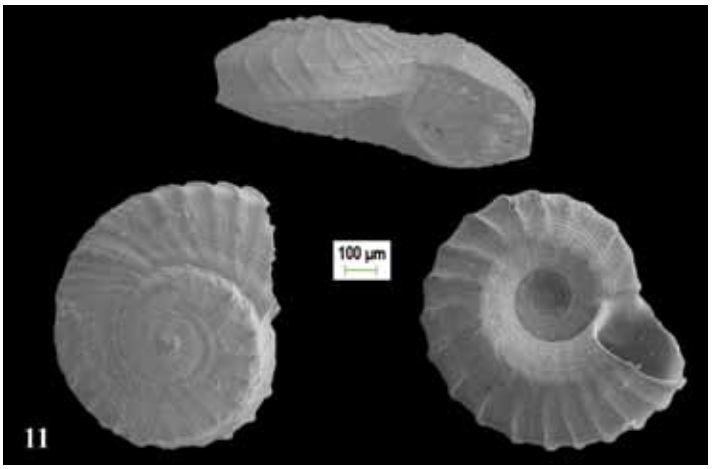
8. **†*Cyclostremiscus* n. sp. cf. *C. microstriatus* Rubio, Rolán, and Lee *in* Rubio, Fernández-Garcés, and Rolán, 2011.** This otherwise distinctive shell is quite similar to the Holocene species, but it has a significantly reduced H/D ratio and is more widely umbilicate. The two are almost certainly ancestor and descendant.



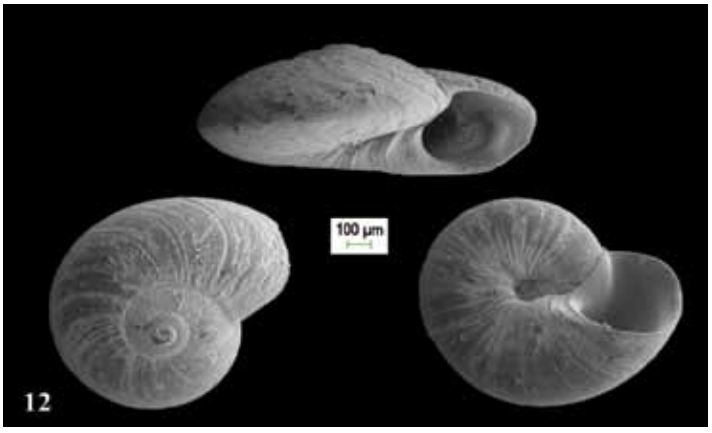
9. *Episcynia inornata* (d'Orbigny, 1842).



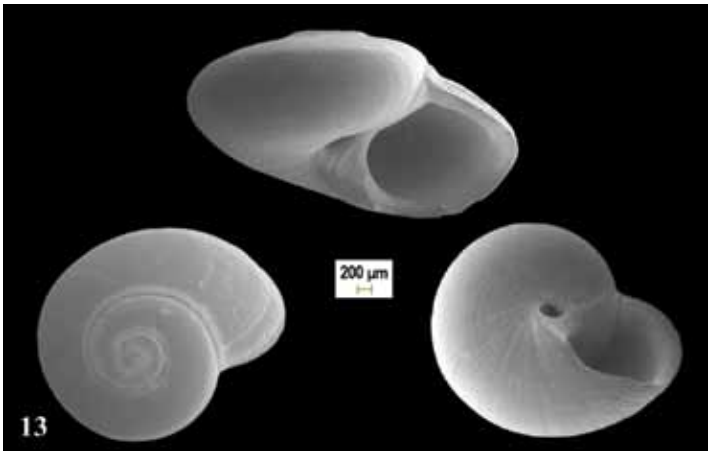
10. *Parviturboides interruptus* (C.B. Adams, 1850). Caloosahatchee material was been referred to *P. avitus* Pilsbry *in* Olsson and Harbison, 1953 based on their imperforate condition. SMR shells are umbilicate and closely resemble Holocene material.



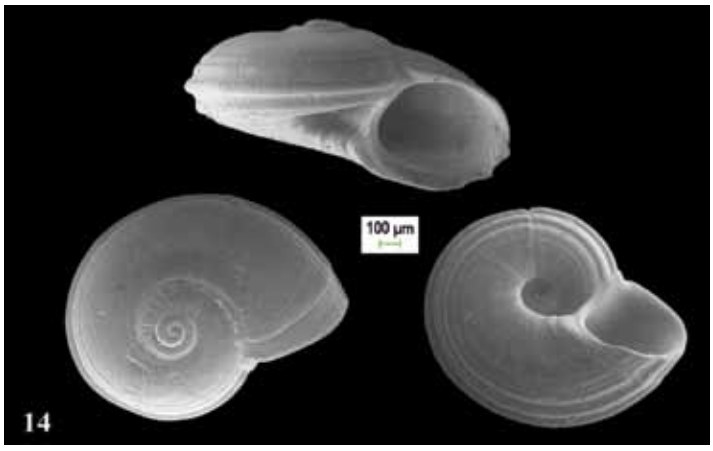
11. †***Pleuromalaxis* n. sp. cf. *P. balesi* Pilsbry and McGinty, 1945 [+ *P. olssoni* (Pilsbry *in* Olsson and Harbison, 1953)].** SMR shells have higher spires and much weaker peripheral keels whereas the Caloosahatchee *P. olssoni* is indistinguishable fro the Holocene *P. balesi*.



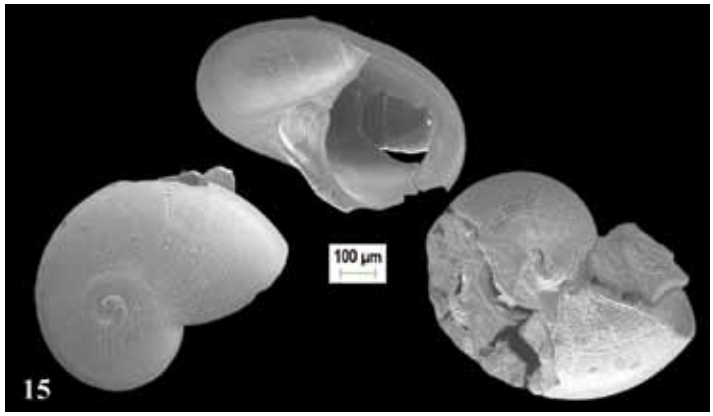
12. †***Solariorbis* n. sp. cf. *S. depressus* (I. Lea, 1833).** The Eocene *S. depressus*, the type species of *Solariorbis* Conrad, 1865 (monotypy), is less angulate and domelike as are the Holocene *S. blakei* (Rehder, 1944) and *S. antillensis* deJong and Coomans, 1988.



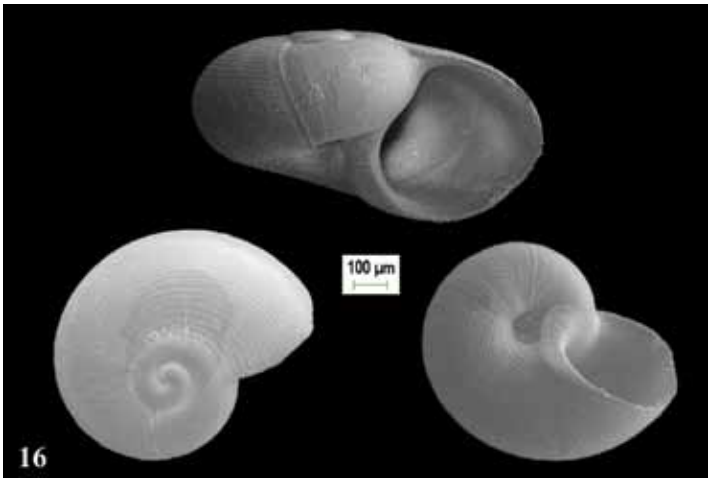
13. †*Solariorbis eugenes* Pilsbry *in* Olsson and Harbison, 1953. The figure captioned *S. eugenes* is actually *Cyclostremiscus fargoi*, and vice-versa, in Rubio, Fernández-Garcés, and Rolán (2011; figs. 110, 111). Until the work of the latter authors, this species was considered extinct.



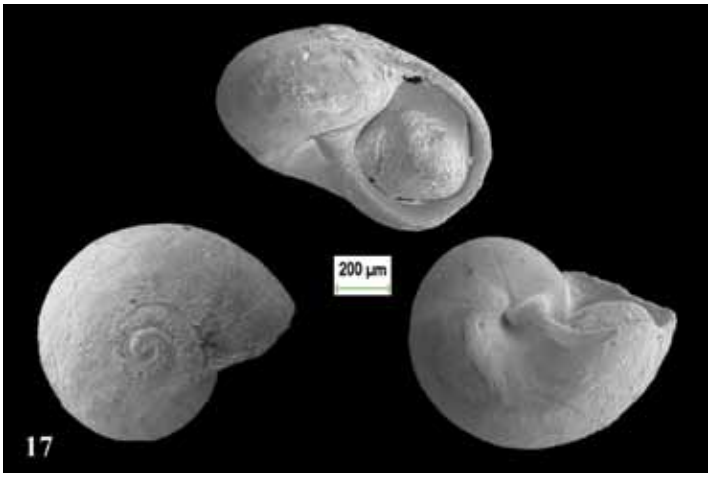
14. *Solariorbis infracarinatus* (Gabb, 1881). This is a very common species in multiple strata.



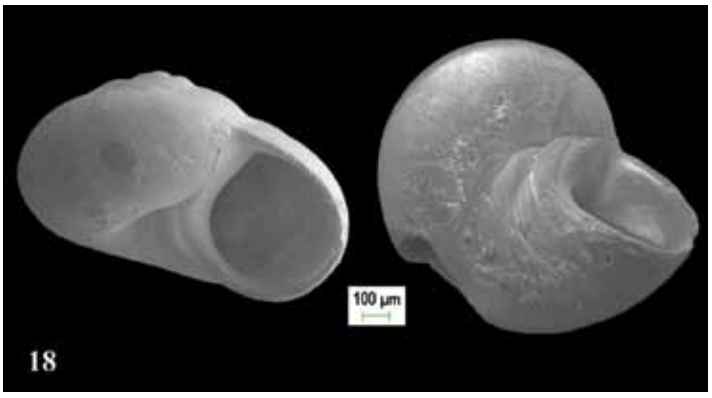
15. †***Solariorbis* n. sp. cf. *S. multistriatus* (A.E. Verrill, 1884).** Greater H/D ratio and looser coil than the Holocene species.



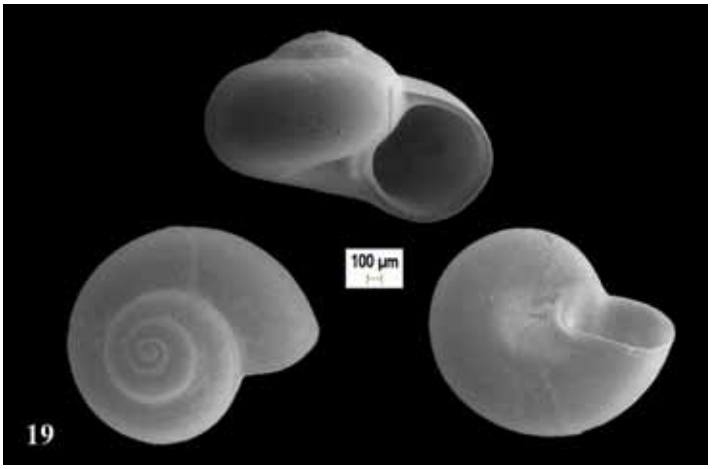
16. †***Solariorbis*** **n. sp. cf. *S. ruris* Rubio, Fernández-Garcés, and Rolán, 2011.** Has a wider umbilicus than the Holocene species.



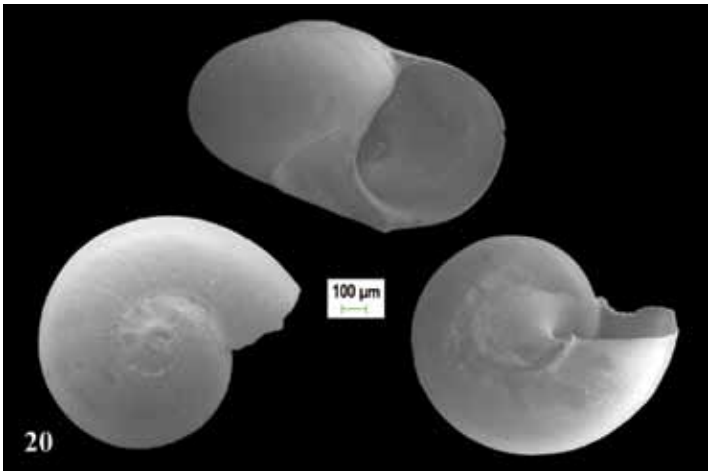
17. †***Solariorbis*** **n. sp. cf. *S. schumoi* (Vanatta, 1913).** Material is juvenile and poorly-preserved, but absence of major and presence of fine minor spiral sculpture distinguish this taxon from the Holocene *S. schumoi*.



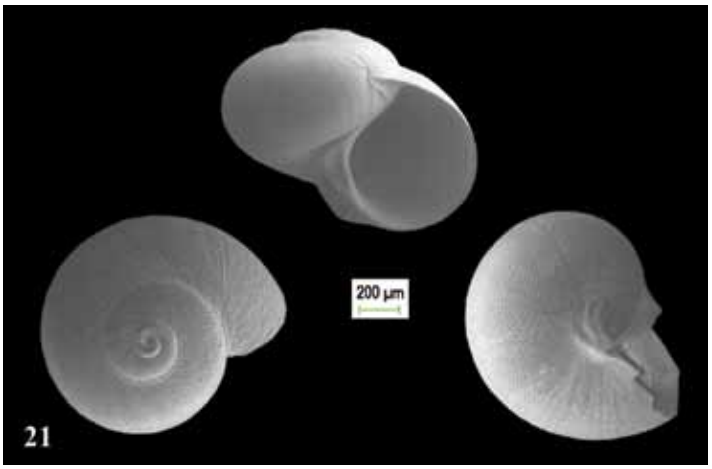
18. †***Teinostoma*** **n. sp. cf. *T. altum* Pilsbry** ***in*** **Olsson and Harbison, 1953.** Our material has a consistently lower spire and H/D ratio than *T. altum*, named from the Caloosahatchee Beds and occurring in the Holocene.



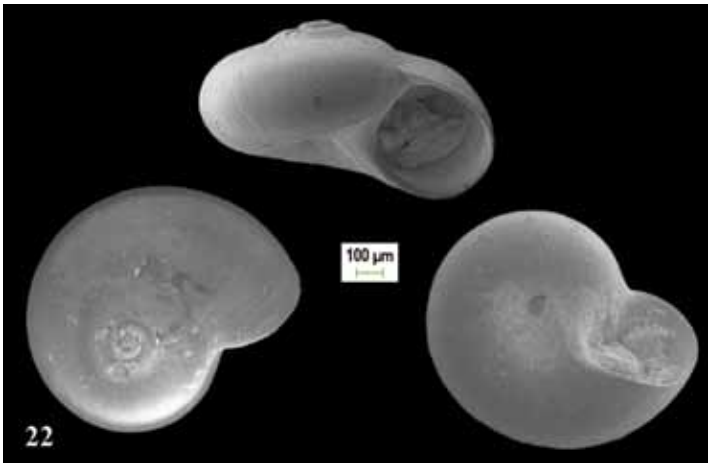
19. †***Teinostoma*** **n. sp. cf. *T. anastomosis* Rubio, Rolán, and Lee** ***in*** **Rubio, Fernández-Garcés, and Rolán, 2011.** Spiral sculpture on early teleoconch is far less vermiculate (less "anastomotic") than the Holocene species.



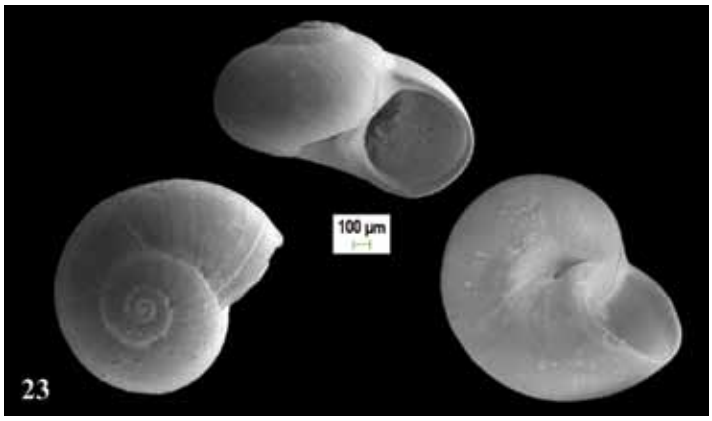
20. *Teinostoma carinicallus* (Pilsbry and McGinty, 1946).



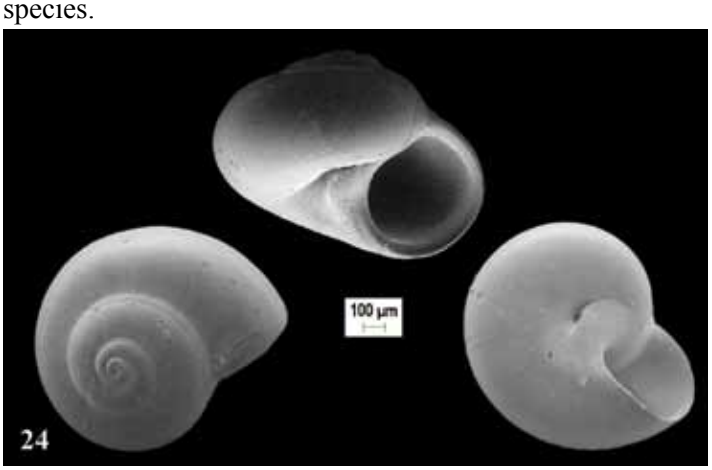
21. *Teinostoma ciskae* Faber, 1995. This is the most distinctive of its congeners in this and the Holocene faunas. The conchological features may reflect a "deeper" evolutionary origin.



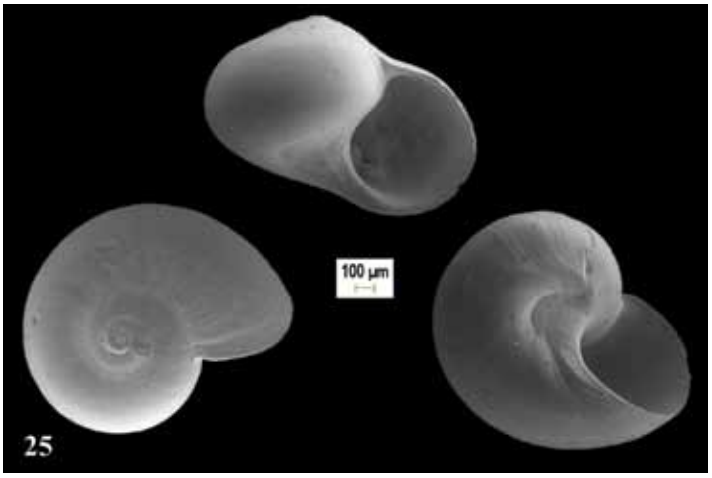
22. †***Teinostoma* n. sp. cf. *T. helicinum* Rubio, Fernández-Garcés, and Rolán, 2011.** Similar in apertural view, but sutures of SMR shells are overlain with reflected callus and obscured. Sutures of the Holocene species are impressed and distinct.



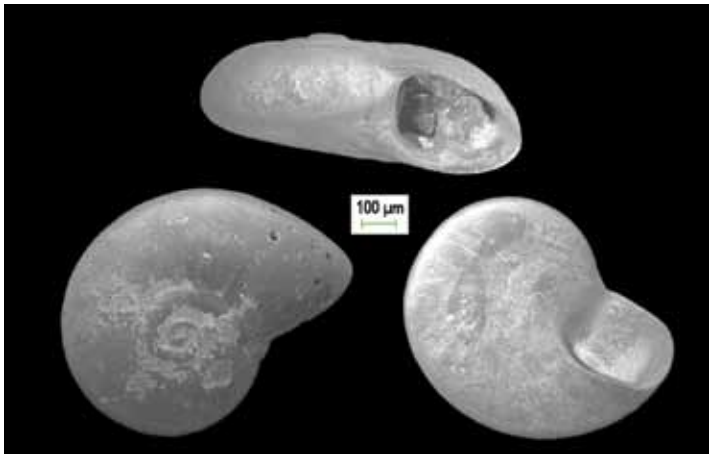
23. †***Teinostoma* n. sp. cf. *T. incertum* Pilsbry and McGinty, 1945.** SMR shells have lower H/D ratio, less deflected aperture, and open umbilicus vs. the Holocene species.



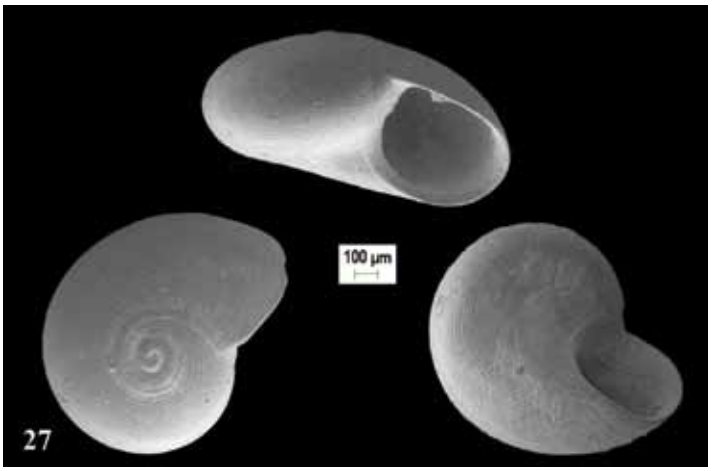
24. †***Teinostoma* n. sp. cf. *T. lunense* Rubio, Fernández-Garcés, and Rolán, 2011.** Our material has tubercles on the protoconch and distinct sutures, lacking the reflected callus of the Holocene species.



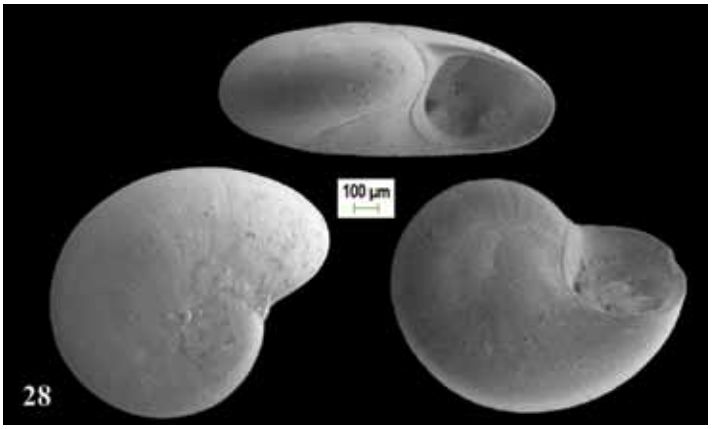
25. †***Teinostoma* n. sp. cf. *T. megastoma* (C.B. Adams, 1850).** The Holocene species has a lesser H/D ratio and is less compact.



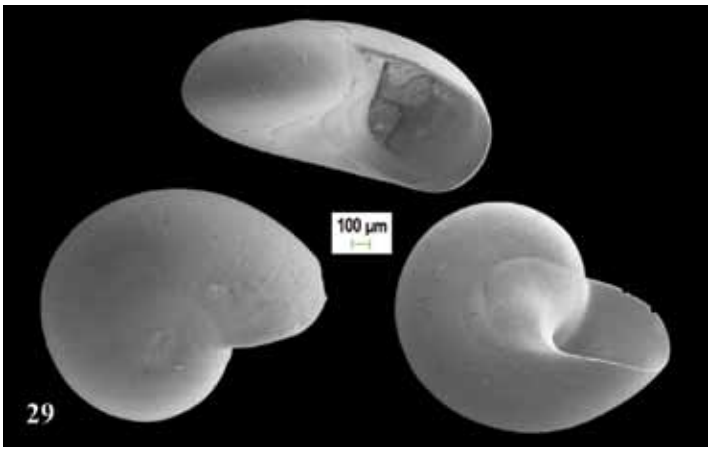
26. †***Teinostoma* n. sp. cf. *T. minusculum* (Bush, 1897).** The two taxa differ, the SMR shells having a lower whorl periphery and larger, more oblique aperture.



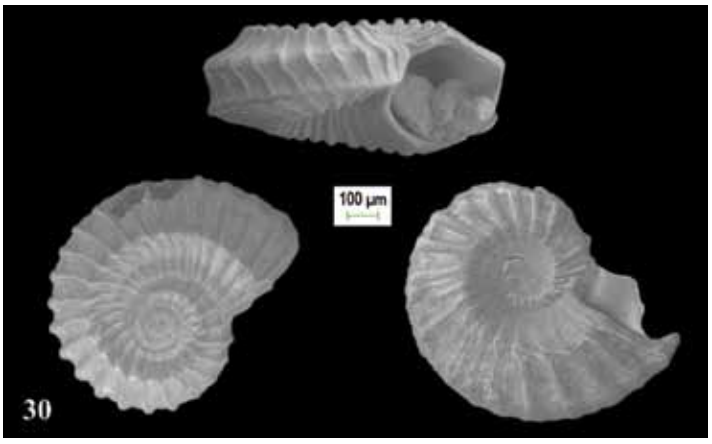
27. *Teinostoma semistriatum* (d'Orbigny, 1842).



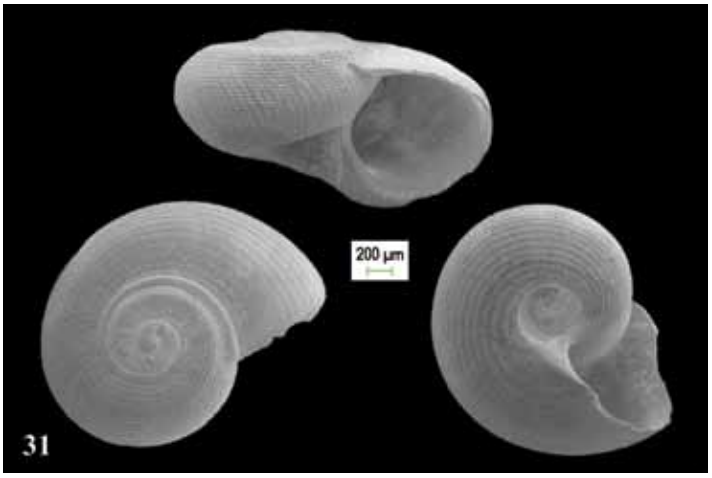
28. †*Teinostoma tectispira* Pilsbry *in* Olsson and Harbison, 1953. The Holocene *T. obtectum* Pilsbry and McGinty, 1945, a probable descendant, has a more deflected aperture and lower whorl periphery.



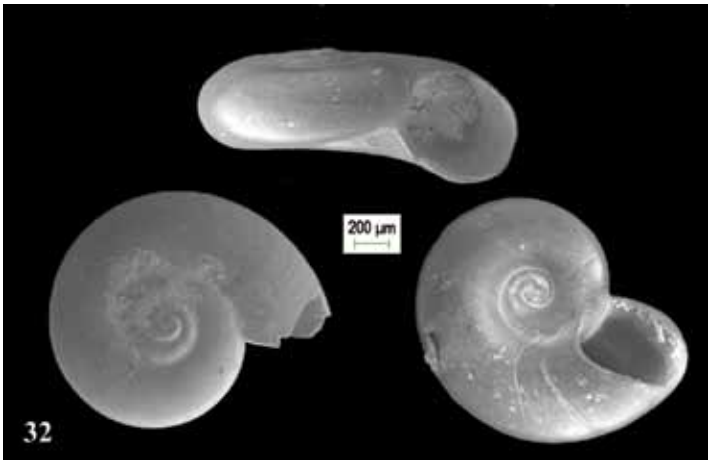
29. †*Teinostoma umbilicatum* (H.C. Lea, 1843). The Holocene *T. cryptospira* (A.E. Verrill, 1884) has a more deflected, oblique aperture. Rubio, Fernández-Garcés, and Rolán (2011) synonymized the two.



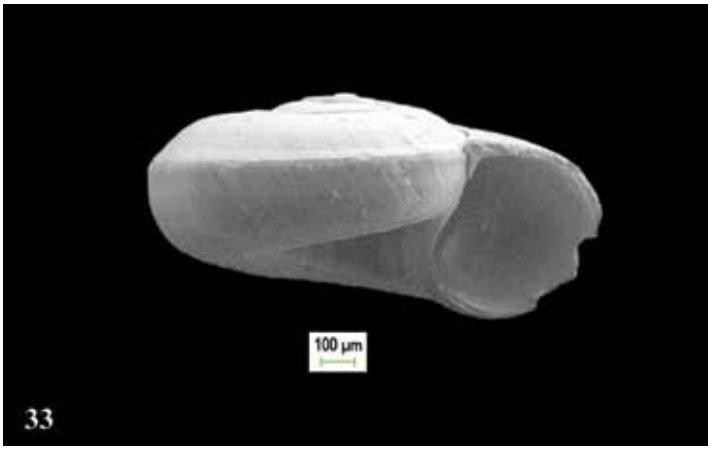
30. †***Tornus* n. sp. cf. *T. schrammi* (P. Fischer, 1857).** The two are close, but the apical spiral cord in SMR shells is placed more laterally from the suture than is the case in the Holocene shells.



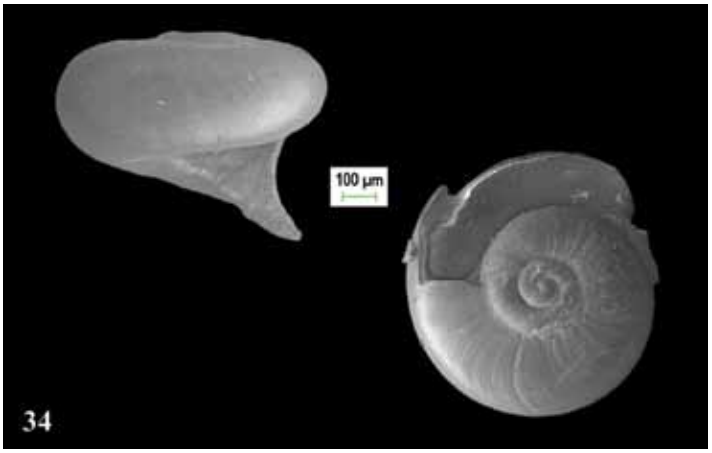
31. †***Vitrinella* n. sp. cf. *V. aguayoi* (Corgan, 1968).** SMR shells have a much smaller umbilicus than the Holocene species.



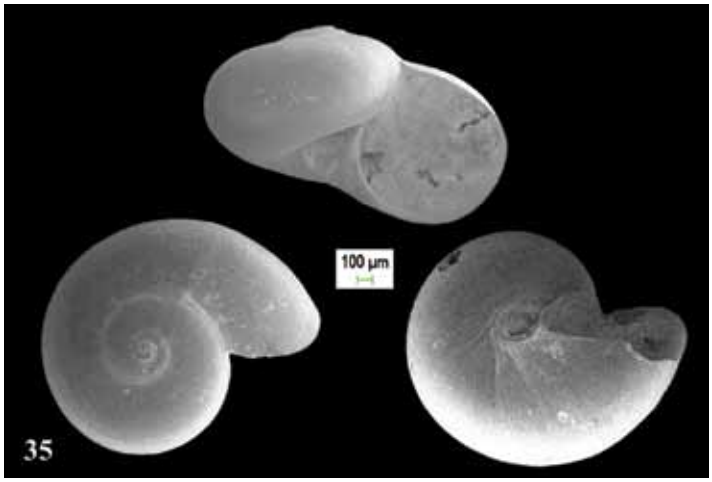
32. †***Vitrinella* n. sp. cf. *Cochliolepis* sp.** I can find nothing close to this species. Possibly it's a tightly-coiled member of the latter genus.



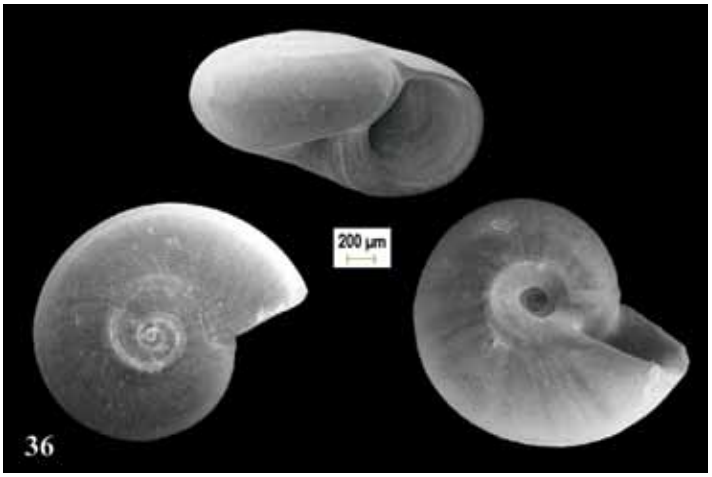
33. †*Vitrinella funiculus* (Dall, 1892).



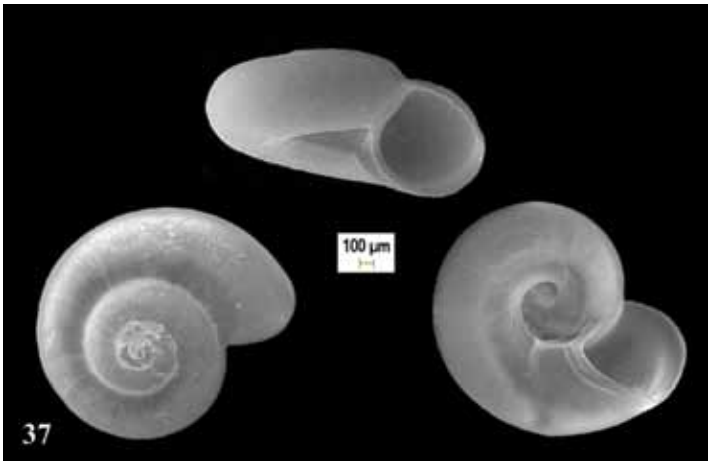
34. *Vitrinella helicoidea* C.B. Adams, 1850.



35. †***Vitrinella* n. sp. cf. *V. helicoidea* C.B. Adams, 1850.** More globose with a narrower, umbilicus than the preceding.



36. †*Vitrinella opsitelotus* (Dall, 1892).



37. †***Vitrinella* n. sp. cf. *V. pseudoaristata* Rubio, Fernández-Garcés, and Rolán, 2011.** Wider umbilicus and flatter spire than the Holocene species, which is likely descendant.

38. †***Vitrinorbis* n. sp**. Distinctive peripheral carina and regular, pitted secondary spiral sculpture.

The following tabulation puts the above assemblage in context with what we know/did know of five well-studied Florida horizons:

Holocene, **all** FL records < 30 m (Rubio *et al.*, 2011): 49
Upper Caloosahatchee (Campbell, 1993: 141-142): 28
Lower Caloosahatchee (Campbell, Idem): 26
Upper Pinecrest (Campbell, Idem): 16
Lower Pinecrest (Campbell, Idem): 0
Lower Pinecrest, present study: 38

The comparison of diversity of living faunas with fossil ones is fraught with a number of apples and oranges disconnects. For instance, how do we relate a collection of shells that accumulated over, say, a few hundred thousand years with what has been gathered over a mere two hundred years? What role does preservation (or its lack) play on

the fidelity of apparent fossil assemblages? On the other hand, the variety of habitats, geographic extent, and sheer numbers of collectors and collecting events should favor the Holocene. The latter advantage, termed the "pull of the Recent" by comparative paleontologists, is generally conceded to outweigh the stratigraphic advantage, i.e., space trumps time.

Looking at the comparison a little differently, one may contrast the present results and reports of Holocene assemblages well-studied for tornids (and not many are thus-powered) **[Fig. 3]**. This approach confirms the prodigious species richness of this exposure of the Lower Pinecrest. The Holocene coastline lengths studied range from 1 to 1000 km, which dimension is generally one or more orders of magnitude greater than that of the present study area.

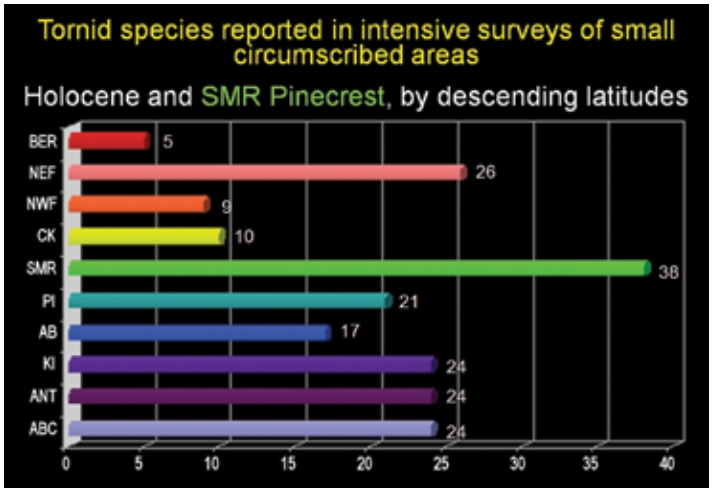


Fig. 3. BER: Bermuda (Jensen and Pearce, 2009); NEF: northeast Florida [FL] (Lee, 2009, also <http://www.jaxshells.org/marine.htm>); NWF: northwest FL [central Panhandle] (Brunner, J, L. Brunner, J. Keeler, and J. Robertson [H.G. Lee ed.] <http://www.jaxshells.org/nwfla.htm>); CK: Cedar Key, FL (H.G. Lee [ed.] <http://www.jaxshells.org/cedarkey.htm>); SMR: the present study; PI: Peanut Is., Palm Beach Co., southeast FL (H.G. Lee [ed.] <http://www.jaxshells.org/peanut.htm>); AB: Abaco, Bahamas (Redfern, 2013); KI: Kice Island, near Marco, southwest FL (H.G. Lee [ed.] <http://www.jaxshells.org/kice.htm>); ANT: Antigua [and Barbuda] (Deng, 2012); ABC: Aruba, Bonaire, and Curaçao (deJong and Coomans, 1988).]

In conclusion, I admit that the "gap in the fossil record" addressed in this chronicle is not the customary "missing link" lamentation of creationists and paleontologists alike. Just the same, it reveals some interesting facts (1) we **can and must** shore up our knowledge of biodiversity if we are going to understand the vagaries of the evolutionary process. This consideration has particular currency as we face another potential extinction event, and (2) amateurs are **able and needed** to help remediate our ignorance in such matters. I also suggest a more subjective conclusion to this report: "Nature is to be found in her entirety nowhere more than in her smallest creatures" (Pliny, 0077).

Acknowledgements: The author thanks Roger W. Portell for logistical and intellectual support, the Sanibel-Captiva Shell Club for financial support, and Dr. Anne Heatherington for exceptional technical support at the helm of the SEM. Bill Frank provided image-editing, Dr. Jeff Schroeder created the graphic, and Alan Gettleman contributed the light photographs. Dr. Gary Schmelz kindly lent valuable comparative SMR material, Rick Edwards has provided immense assistance in the discovery of small SMR 10 mollusks, including a substantial number of the shells depicted in this report. Finally I acknowledge deep appreciation to Drs. Federico Rubio, Raúl Fernández-Garcés, and Emilio Rolán for their timely provision of a monograph that greatly facilitated this analysis.

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The long and the short of it: Cypraeoidea of Pacific Panamá

Simon Aiken

At first sight, it's an unlikely place to collect shells: the center of a city of 900,000 people, with a beach visibly affected by raw sewage runoff. Icons of Central American banking tower 60 stories overhead. This is the middle of Panamá City, and the 'beach' is called Punta Paitilla. The locals know it as "Poo Poo Beach" and the Panamá Tourist Authority won't tell you much about it.

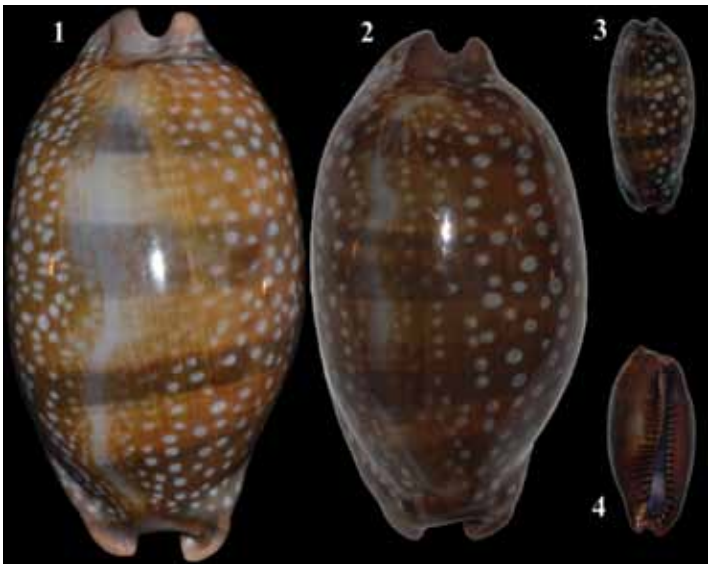
I was on the Pacific side of Panamá in early February 2014 and had the opportunity to visit this unprepossessing spot. An outlet of untreated sewage is clearly visible on Google Earth and the whole area is caked in several centimeters of effluent. The only access is by pulling up on the shoulder of the main highway and vaulting the crash barrier. Small wonder that tourists avoid Punta Paitilla. Shell collectors take a different attitude however, and my enthusiasm was buoyed by the lowest tides in a decade.

High boots are essential for collecting here, and prophylactic antibiotics might be a good idea. It doesn't take long to realize that this badly polluted area is in fact teeming with molluscan life. Different color forms of the nerite *Vitta luteofasciata* (Müller, 1776) are living right in the sewage at the high tide level. Chitons are abundant on the rocky areas, including *Chaetopleura lurida* Sowerby, 1832, *C. roddai* Ferreira, 1983, and *Callistochiton pulchrior* Carpenter & Pilsbry, 1893.

My particular interest was in the cowries at Punta Paitilla. Most of the cowries here were significantly larger than the normal populations, and crevices in large rocks contained exceptionally large individuals. *Macrocypraea cervinetta* (Kiener, 1843) sometimes exceeded 90mm and this may be the only place in the world where such a size is known to live. I collected several *Pseudozonaria arabicula* (Lamarck, 1811) measuring 31mm, and several *Pseudozonaria robertsi* (Hidalgo, 1906) measuring 32mm. I was able to collect all three species at other localities in Panamá, but the size of the Punta Paitilla specimens was striking. The *Calliostoma antonii* (Koch in Philippi, 1843) were also unusually large at this locality.

Local shell collectors turn rocks at low tide at Punta Paitilla, Panamá City.

Within a geographical radius of some 100 miles, Panamá hosts cowrie populations that show far more size variation than in other parts of the world. *Luria isabella-mexicana* (Stearns, 1893) and *Talostolida pellucens panamensis* (Lorenz, 2002) are further examples. The ovulid species *Jenneria pustulata* (Lightfoot, 1786) exceeds 30mm in some Panamic populations, and yet exists only as a 'dwarf'



Comparison of *Macrocypraea cervinetta* from Punta Paitilla (1,2) and from Isla Cebaco (3,4). Sizes: (1) 94.3mm, (2) 87.0mm, (3) 33.4mm, (4) 32.1mm.

Comparison of *Pseudozonaria arabicula* from Punta Paitilla (1) and from the reef between Isla Cebaco and Isla Naranjo (2,3). Sizes: (1) 31.8mm, (2) 21.8mm, (3) 21.1mm.

While collecting these shells I heard several volleys of gunshots from the neighboring housing development, obliging me to shelter behind rocks. Meanwhile, this living *P. robertsi* glides serenely across a rock at Punta Paitilla.

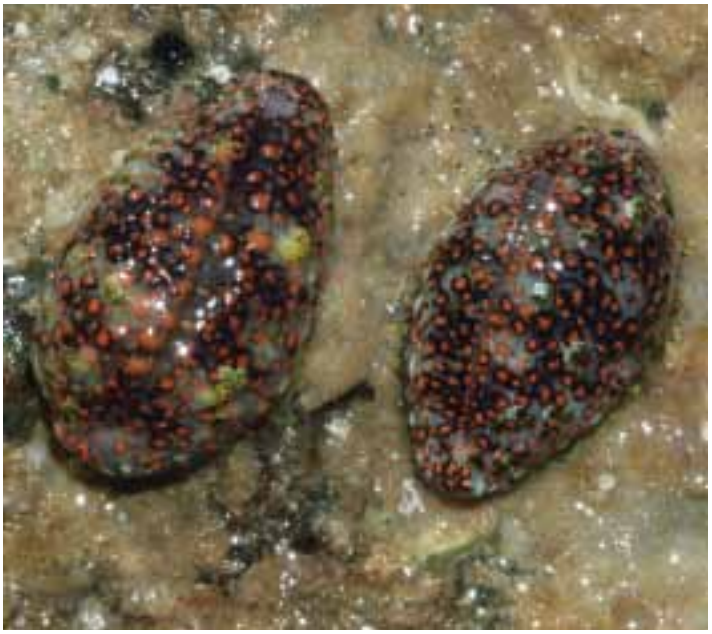
Comparison of *Pseudozonaria robertsi* from Punta Paitilla (1) and from the reef between Isla Cebaco and Isla Naranjo (2). Sizes: (1) 32.4mm, (2) 19.0mm.

form in one of Panama's most famous collecting localities – Isla Gobernadora.

I am not aware of any direct explanations in the literature, but presumably the populations respond to local environmental factors. For instance, the unusually small *P. robertsi* that I collected between Isla Cebaco and Isla Naranjo were living in a fast-moving current, and with more coral substrate than around Panamá City. In the case of Punta Paitilla, it is tempting to speculate that the sewage has created a nutrient-rich environment that favors certain molluscan species. The negative effects of pollution on coral growth are well documented (*e.g.* Pastorok & Bilyard, 1985), but there are anecdotal reports of mollusks flourishing in badly polluted areas. Yet, there are few quantitative data linking pollution with size. There was a report from the Californian coast that *Neobernaya spadicea* (Swainson, 1823) is more

(left) Size variation in *Luria isabellamexicana* from Isla Cebaco. Sizes: (1) 26.7mm, (2) 40.7mm. (right) Size variation in *Talostolida pellucens panamensis* from Isla Cebaco. Sizes (3) 38.8mm, (4) 22.8mm.

Size comparison of *Jenneria pustulata* from Isla Gobernadora and Isla Cebaco. Isla Gobernadora sizes: (1) 12.3mm, (2) 11.5mm, (3) 12.2mm, (4) 11.8mm, (5) 12.9mm, and Isla Cebaco (6) 28.3mm. According to local collectors, the specimens from Isla Gobernadora are always 'dwarf', and there has been no obvious drift in the typical size over the last two decades.



***Jenneria pustulata* on coral between Cebaco Island and Naranjo Island, exposed at minus tide. The orange spots on the mantle mimic the orange pustules of the shell. The shell on the right is a juvenile and lacks the pustules, and yet with its mantle extended it appears very similar to an adult (left).**

abundant near municipal wastewater outfalls (Grigg, 1979). Increased *diversity* of marine gastropods was noted in the vicinity of a sewage outfall in Broward County, Florida (Wayne Harland, personal communication), however, this may have been due to the construction process of the pipes themselves, effectively creating artificial reefs. Cabral-Oliveira *et al.* (2009) studied the effect of sewage effluent on the littorinid *Melarhaphe neritoides* (Linnaeus, 1758) in Portugal, and found that the population density was higher in polluted areas. Adult size was *smaller* however, and juvenile mortality was higher.

A new sewage treatment plant has been promised for this part of Panamá City. It will be very interesting to try to correlate sewage treatment to a change in the size of the shells. In the meantime, "Poo Poo Beach" embodies our lack of understanding of complex ecosystems.

***Macrocypraea cervinetta* from Isla Gobernadora, exposed at low tide. Specimens from this area and other localities are nowhere near the size of specimens from Punta Paitilla.**

The *Trivia solandri* Sowerby, 1832, at Punta Paitilla are also quite large, typically 20mm.

Punta Paitilla has a high concentration of molluscan life. Here, *Pseudozonaria robertsi* (right) passes *Trivia solandri* (left). Other species found on a single visit to Punta Paitilla included *Diodora inaequalis* (Sowerby, 1835), *Erato scabriuscula* Sowerby, 1832, *Trivia pacifica* (Sowerby, 1832), *Trivia sanguinea* Sowerby, 1832, *Engina pulchra* Reeve, 1846, *Anachis varia* (Sowerby, 1832), *Anachis fluctuata* (Sowerby, 1832), *Eupleura nitida* (Broderip, 1833), and *Trachypollia lugubris* C.B. Adams, 1852.

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The photographs in this article appear courtesy of Simon's Specimen Shells Ltd.

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Size Matters! III

Moshe Erlendur Okon

Fig. 1. *Tonna melanostoma* (Jay, 1839) Poindimie, New Caledonia, taken at 10 meters. This is the largest and rarest in the family. It inhabits the intertidal zone in an area around New Caledonia and Tonga. The giant specimen shown here is a 300 mm (11.8") female and perhaps only 1 mm (!) smaller than the world record size. The abrasion in the aperture was probably caused by the gelatinous egg mass the animal laid just before being caught. The shell is in the collection of Chris Vos, who has also written the extensive and up-to-date Conchological Iconography on Tonnidae. Courtesy of Chris Vos.

In Part II, I discussed the cowries, a group in which it is quite easy to determine maturity by the morphology of the shell. The tun shells – family Tonnidae Suter, 1913 – are quite different in this regard. This is because growth does not cease upon reaching sexual maturity (which happens rather early) and can continue long afterwards.

Tun shells are formed episodically, as with certain Muricidae, Cassididae and Ranellidae. Between growth periods, there is a rest period used for thickening the outer lip (and the formation of denticles in the genus *Malea*) and reproduction. Then growth resumes, but since the animal dissolves the outer lip when starting a new growth phase, it is very difficult to tell how many phases took place and whether or not the shell has indeed reached its full size.

The spire on these shells is short and the body whorl comprises most of the shell. Spiral sculpture is rather elaborate and forms ridges and canals of differing depths and widths. There is often an impressed suture as well as a prominent fasciole (spiral bands, raised or impressed, at the anterior portion of the shell near the siphonal canal). Some young specimens may also possess an operculum.

The animals prey on holothurians, such as sea cucumbers, and do so by paralyzing them with a salivary secretion containing 3-5% sulfuric acid. They then use a strong radula and hooked jaws to wholly begin ingesting the food into the proboscis. This is probably why the aperture is so large and wide. When fully extended, the animal is much larger than its shell.

There are three genera in the family: *Tonna*, *Malea* and *Eudolium* (which has only two species). Average size is

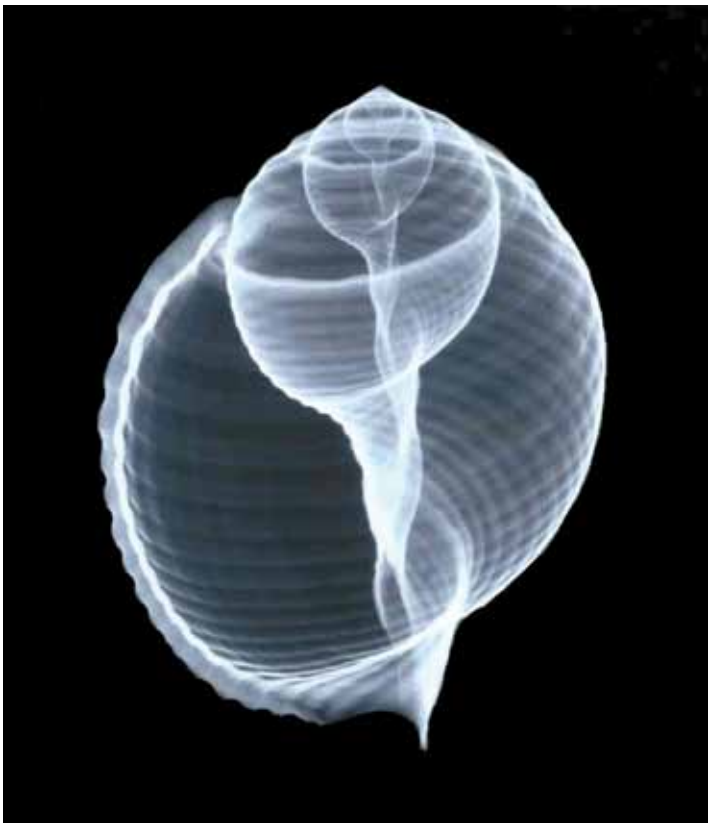

Fig. 2. An X-ray image of *Tonna sulcosa* (Born, 1778). Courtesy of Emanuel Lattes.

Fig. 3. A hand colored lithograph from 1867 by Dunker of his "*Dolium japonicum*" (now *Tonna luteostoma* (Küster, 1857)). Notice the healed break indicating the fragility of the shell.

Fig. 4. A live fully extended *Tonna perdix* (L., 1758) photographed at 9 meters, Tubod, Siquijor, Philippines. Courtesy of Guido T. Poppe.

between 60-200 mm, and females are larger than males. Tun shells can be found in temperate and tropical seas, in shallow water (*Tonna* & *Malea*) and down to 600 meters depth (*Eudolium*).

These shells (named for their tun, cask, or barrel shape) have been known for hundreds of years. Vos (2007) tells of a shell known from Roman times, and Dance (1986) depicts an engraving of *Tonna galea* from 1622. Linnaeus named a few tun species under different genera (*Bulla*, *Buccinum*) in his 1758 Systema Naturae. Since that time many additional species have been named.

Please feel free to contact me at mosherlend@gmail.com with suggestions or if you have any particular shells of unique size in your collections you wish to share.

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Marco Island Shell Show - 13-15 March 2014

Jim Cordy with his COA Award-winning display at the Marco Island Shell Show.

Longtime COA member James (Jim) Cordy won the COA Award at this year's Marco Island Shell Show. His exhibit was titled "Guaymas San Carlos Déja Vu" and was in 7 cases over 15 feet. Jim is a member of the Astronaut Trail Shell Club and has more than 40 years experience scouring all areas of the globe in a search for specimen seashells. He has one of the largest private Caribbean shell collections in the world, with hundreds of his shells on display in the Brevard Museum, where he is curator of mollusks. In his display for the Marco Island event he highlighted shells from Guaymas, Mexico, and the local populace who collect (and eat) many of the mollusk species he displayed.

This year's show had almost 2,000 visitors and marked a real high point for the club. Other winners included:

Shell of Show - Phil Miller with the volute *Livonia nodiplicata* (Cox, 1910).

Florida Gulf Coast University Trophy (most outstanding single self-collected Marco Island shell) - Sue Goril with a right-handed lightning whelk, *Busycon sinistrum* Hollister, 1958.

Best Miniature Shells Trophy - Phyllis Gray.

Dr. William Reid Plaque (best combination of scientific and esthetic aspects of conchology) - Pat and Bob Linn with "*Tibias* of the World."

Scribner Trophy (most outstanding Marco Island self-collected shells) - Bruce and Paulette Carabelli with lettered olives, *Oliva sayana* Ravenel, 1834.

(above) Some shells in Jim's award winning display.

Natural History Photographic Award - Bruce Carabelli with "How a Clam Actually Deposits Material to Make a Shell."

Judges Special Merit - Rodger and Kris Woods with "Endemic Shells of New Zealand." The couple were visiting the US from New Zealand and brought the shells along for the show.

Judges Special Merit - Greg Curry with *Athleta* of Africa and Australia.

77th Annual Sanibel-Captiva Shell Show - 6-8 March 2014

Ron Bopp, winner of the COA Award at the 77th annual 2014 Sanibel-Captiva Shell Show.

Despite weather that resulted in tornado warning sirens and horrendous thunderstorms that caused power outages and pretty much shut down the first day of the show, the 77th annual Sanibel-Captiva Shell Show finished with success for the remaining two days of the show. The COA Award was won by Ron Bopp of Bradenton, Florida. His exhibit was titled the "Alum Bluff Group" and was displayed in 16 cases over 36 feet. He also won for best single fossil shell. Scientific judges were Gary Schmelz PhD and Harry Lee MD.

Other winners included:

DuPont Trophy - Gene Everson for "Everything You Need To Know About The Shell Collecting Hobby."

Anne Joffe Sanibel Superstar Award - Jim and Linda Brunner for "Seashells of NW Florida: A Reference Set."

People's Choice Award (scientific division) - Leroy Neitzel, Harold (Smokey) Payson, and Jim Scatterday for "In the Belly of the Batfish."

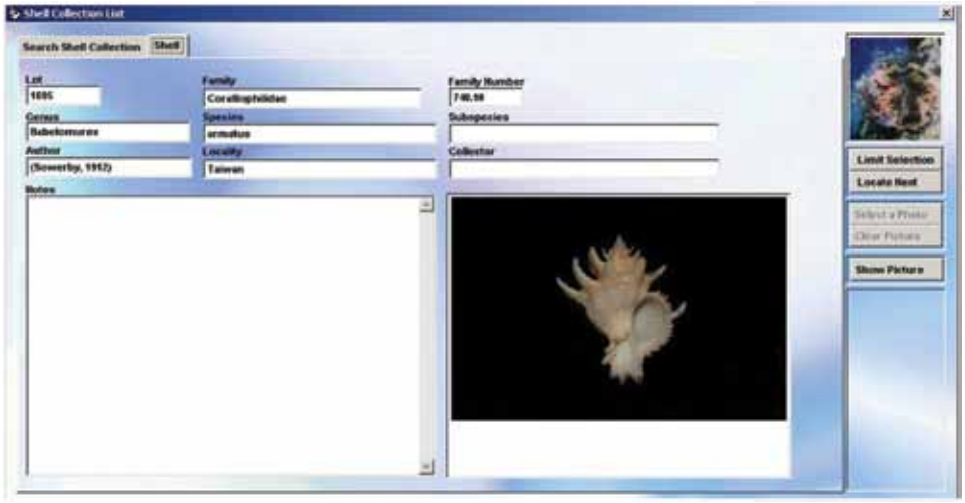
Best Student Exhibit - Bethany Namour.

Anne Joffe Sanibel Superstar Award winners, Jim and Linda Brunner.

DuPont Trophy winner, Gene Everson

How we organize our shell collections; log books, card catalogues, and computers

David P. Berschauer



As shell collectors we tend to spend more of our time, energy and efforts with the shells in our collections, as we should, because they are the beautiful creations that got us interested in this hobby to begin with. Sadly, the hard work of curating a collection is often neglected. Curating includes acquisition, care, cleaning, organization, and preservation of both the shell and, most importantly, the data associated with the shell. Collecting, cleaning, touching, and handling the shells are the fun parts of our hobby. Keeping and maintaining a scientifically organized collection with full locality data in a manner so that data can be recalled and used at a later date is the hard part. So, why do it? The scientists and museums will tell you that a pretty shell without complete locality data is of little value – scientifically. Nevertheless, we all know that a rare and beautiful shell in gem condition will still sell for serious money to collectors at an auction. Some people just want pretty shells to decorate their homes. Others use shells in arts and crafts. Many of us appreciate having a museum style collection, arranged in a systematic manner, in drawers, easy to access and work with, however we chose to do so.

Many books have been written about shells, and most of them start with a section about how to organize a collection and maintain your collection's data. Back in the "good old days," before computers, all the data on a grouping of shells acquired at a given time (i.e. a lot) was maintained in an acquisition log book or in a card catalogue. Some collectors even kept their data in their shell identification books, handwritten in the margins. Whatever method chosen was personal to the collector. A problem arises when the collector dies and the collection is broken up, transferred, or sold. Then the shell books and the shells are usually separated and either sold, given away, or thrown out. Shells that find their way to museums without accurate data are usually not included in the collection and may be discarded. Shells that find their way to collectors, either in a bulk sale or through a shell club, often face the same fate if they do not have complete data. The best way to prevent this is to ensure that your shells and data are kept together, and that you maintain a complete record of your collection in an easily retrievable location – hence the use of computers.

Computers are wonderful tools to keep, maintain, and organize data of all kinds. There are a lot of readily available computer programs on the market for keeping track of numbers and financial data, as well as word processors for writing. Database programs are often very technical and seem to be written for computer programmers, but they are versatile and can be adapted to organizing a collection. Most shell collectors are not computer programmers, therefore using database programs as a tool has traditionally been out of reach for most of us. Museums usually have excellent computer database programs, proprietary software written for each institution. One might ask, what is your everyday collector to do?

I was weaned on computers since the mid 1970s. My father worked for IBM, and back when computers were mainframes the size of an office building I was learning to write computer programs that were fed into the computer through a punch card reader. By the mid-1980s personal computers had become fairly commonplace and I had been programming computers for almost ten years. As a shell collector, I realized that a computer database program to keep track of my shell collection data was an absolute necessity, so I set about writing my own database program. By 1987 the database program I had written in dBase programming language was as complete as I felt it needed to be and it kept track of all of my shells and data. I put all the data from my card catalogue into the computer database program, printed out data tags and threw away the cards. At the time, I had never met another shell collector and did not know that what I had would be useful to anyone else.

Fast forward to the new century, computers are now commonplace. We all communicate via e-mail, text messages, instant messaging, Skype, and Facebook. My dBase shell collection program that I wrote in the 1980s was DOS based software and would only run on older Windows operating systems. I hired a computer programmer in Hawaii who specialized in updating older database applications and brought my program up to modern standards for the 21st century, realizing its potential for other shell collectors like myself. I still regularly find shells from deceased club members in the "Silent Auction" or on the "Dollar Table" that have been separated from their data, yet have interesting notes that hint at the collector's data – now never to be found as the old card catalogues or log books have been lost or discarded. This is sad as those shells were loved and cared for by someone for many years, and undoubtedly the collector would have wanted their shells to be treasured by someone else.

I believe that an "easy-to-use" computer program for collectors is sorely needed. Often the best use of computers by collectors is that some are using spread sheet programs (designed for accounting, not a natural history collection) to keep track of their shell collections. A good computer program for shell collectors would mimic a card catalogue, with a single entry (like a card) for each species or lot of shells in the same species collected at the same time and place.

Such a program would enable the collector to keep, organize, and maintain the individual records and data from their shell collection in a readily accessible manner, would be easy to use and menu driven by self-explanatory pull tabs. Such a program should be versatile and allow the collector using the more detailed features of the program to make searches, prepare reports, or to make global corrections to their database affecting the fields for Family, Genus, Species, Subspecies, Author, Locality, and Collector. Such a program should also assign lot numbers to each data entry, much like the old fashioned card catalogues or museum acquisition systems. What a collector needs is in essence a database program, customized for a natural history collection – similar to that used in modern museums but at an affordable cost. I searched for an available database program that would fit my needs and help me organize my shell collection, but was unable to find one. This led me to write my own program. I have made changes and upgrades to it over the years to make it easier to use and to enhance its ability to perform searches and reports.

The Shell Collection Management Program™ is easy to use, and can be personalized by adding the name of the collector to the main screen. The collector can also add digital macro photos of their shells to individual records which enhances the utility and enjoyment of the program. One of the benefits of this program is that the collector can also print labels for use in their collection, perform a limited search report by one or more than one criteria (*i.e.,* Family, Genus and Locality, or a range of Lot Numbers), or a detailed report of the entire collection. Computers can arrange data in alphabetical order or in numerical order. As a systematic order arrangement is preferred in a natural history collection, merely being able to keep track of one's shell collection in alphabetical order is not enough. This problem was solved by assigning an arbitrary number, a "family number", to each family of shells so that the computer could sort and list the entries in systematic order by using the "family number" data field. The program is so versatile that it can also be easily used by Entomologists and other collectors by simply editing the "look up lists", deleting the data for Mollusks and adding in Family names and "family numbers" for Lepidoptera, Hemiptera, Coleoptera, and other insect orders to maintain their entomology data in systematic order.

The Shell Collection Management Program ™ is the culmination of many years of work to make a stream lined, easy to use collection database management system, and makes the job of curating a collection easy and fun. Things certainly have come a long way from log books and card catalogues. This database is available to collectors and may be purchased online at www.shellcollections.com.

Happy shelling!

David P. Berschauer

www.shellcollections.com

A North Carolina WHELKome

2014 COA Convention

11 to 15 August 2014

Tours & Dinner Cruises 9 & 10 August

Wilmington, NC

By Jeannette Tysor & Ed Shuller

Convention Hotel: Hilton Wilmington Riverside 910-763-5900

The North Carolina Shell Club, host for the 2014 Convention, has arranged an outstanding week of activities including tours, programs, Welcome Party and Banquet, raffle, silent and oral auctions and mini-shell show; concluding with the annual bourse in both ballrooms in the Hilton. Whether you are a serious collector, professional malacologist or just a lover of shells, there is something for everyone!

Programs

Thanks to our Program Chair, Doug Wolfe, we have an outstanding line-up of speakers and topics. Several presentations will feature the diversity and distribution of North Carolina mollusks from the mountains to the sea. There will be updates on the Fasciolariinae and Pectinidae, a report on the geographic distribution of Brazilian Conidae, and a discussion of trumpet tritons. As always there will be a number of general interest presentations.

Poster Session

A new feature at this Convention is the addition of a Poster Session. This is a chance for you to discuss a topic of your choice with others in a very informal setting. Thus far we have presenters ranging from a Junior NC Shell Club member, to a couple of NC Shell Club Scholarship recipients, to the Curator of Aquatic Invertebrates at the NC Museum of Natural Sciences. Contact Doug Wolfe, 252-728-3501 or dawolfe@ec.rr.com, if you are interested in more information. There may still be openings for this activity.

Welcome Party

The Monday night welcome party has a Scots theme to honor the strong Scots-Irish heritage of the state and participants are encouraged to wear something plaid. Costumes will be judged and prizes given. A special feature will be the appearance of the Port City Pipes & Drums led by Pipe-Major Andy Simpson, a native Scot who was formerly a member of the 1st Battalion Scots Guards.

Banquet

The Wednesday night banquet is the final activity before the eagerly awaited opening of the Bourse on Thursday. Raffle winners will be announced and trophies given to winners in the Mini Shell Show. The speaker for the evening is Charles Rawlings who will share with us pictures of living mollusks from around the world.

Raffle

Thanks to our generous donors, we have the most exquisite raffle items with something for everyone! With the winning ticket one of these could be yours:

- A freak ***Chicoreus ramosus,*** 227 mm, 5 fingers on each spine. Valued at $750. Donated by Donald Dan.
- Crystal beadwork scallop by renowned North Carolina fashion designer, Eric Ennis. For 30 years Mr. Ennis made gowns for governors' wives, debutantes, beauty queens, and opera divas. After retiring he began making textile art by hand-beading patterns onto fabric. The piece in our raffle, created using Swarovski crystals, was donated by NC Shell Club member Mary Louise Spain and is valued at $300.
- A gorgeous Shell mirror created by NC Shell Club member Harold Brown, valued in excess of $200.
- A lovely freshwater pearl and amethyst necklace donated by Charlotte Thorpe and valued in excess of $150.
- A framed lithograph of ***Pterynotus loebbeckei*** (1/1) by Anthony D'Attilio, acclaimed author, illustrator and long-time contributor to the San Diego Shell Club newsletter, *The Festivus*. Donated by Don Pisor, the lithograph is valued in excess of $100.

Door Prizes

Highly desirable items will be given as door prizes at all program sessions. We have a number of North Carolina collected shells including ***Busycon carica*** with apertures in brilliant colors ranging from yellow, to purple,

to deep reddish-orange. Also several North Carolina collected ***Triplofusus giganteus***. There is a ***Neptunia lyrata decemcostata***, an ***Epitonium rugosum***, a necklace and earrings, a wine basket, and much more. You will not want to miss a single program session and take a chance of not getting a great gift.

Bargain Shell Sale

Thursday morning in the lower lobby area outside the Grand Ballroom will be our Bargain Sale. Shells and other items from 25¢ to $1. Spend some time hunting for great deals while waiting for the bourse to open.

Bourse

Thursday and Friday the much anticipated shell market will be in full swing in both ballrooms at the Hilton; more than 10,000 square feet of shells. Dealers from all over the world will offer specimen shells, many of which you may never see except at this event.

Tours

Come early and join your friends, old and new, on our pre-Convention tours. You will especially enjoy the Saturday and Sunday night cruises. For those arriving early the Black River Eco Cruise on Saturday will be a great choice. The catamaran "Wilmington" leaves from the hotel dock for a 4 hour trip up-river to one of the tributaries of the Cape Fear River. There will be an on-board picnic and cash bar. Sunday evening is an elegant dinner cruise on the "Henrietta" also with cash bar and a door prize. Don't miss either.

Wilmington Information

Monday morning the Wilmington and Beaches Convention and Visitors Bureau will be on hand to give out information and answer questions about the area. Their desk will be near the Convention Registration desk in the lower lobby of the Hotel.

Thanks to Our Most Recent Donors:

Terry Benczik
Karen VanderVen
Bob & Alice Pace
Alice Monroe estate
Mr. & Mrs. Marvin Chaikin
Mique Pinkerton
Emily Vokes
Glenn Duffy
Phil Clover
Hank Chaney
Larry Tysor

At publication time 59 dealers and individuals had donated items for our raffle, door prizes, and various auctions. We are most grateful for the response we have received.

We are pleased to continue receiving donations for the Oral Auction. Cash Contributions are always appreciated.

Hilton Wilmington Riverside 910-763-5900

Black River Eco Cruise

See ya'll in Wilmington
9-15 August

ORAL AUCTION

In addition to a long list of highly desirable items from a wide range of donors the Oral Auction this year includes many rare, difficult to find species donated by Walter Paine. On the open market many of our offerings would be valued in the hundreds of dollars. Here is your chance to add to your collection at bargain prices. Take a look at these beauties:

Cymatium ranzanii **Muscat, Oman, donated by Jeannette Tysor & Ed Shuller.**

Pair of *Scaphella dohrni* lamps. Shells dredged off the Florida Keys. Yes - both lamps are filled with *S. dohrni.* Donated by Harold Brown and Ed Shuller.

Entemnotrochus rumphii **183 mm dia. Northeast Taiwan. Donated by Stephen Ko, C&S Shell Cabinet.**

Nodipecten magnificus **183 mm Galapagos Is., donated by Marcus & Jose Coltro, Femorale.**

Amoria macandrewi **54 mm, from the Walter Paine collection.**

Lambis digitata **130 mm, from the Walter Paine collection.**

Siratus motacilla **64 mm, from the Walter Paine collection.**

Ptdrynotus elongatus **69 mm Philippines, donated by Al & Bev Deynzer, Showcase Shells.**

Mitra hayashii **60 mm, from the Walter Paine collection.**

Amoria turneri **75 mm form *newmanae*, Walter Paine collection.**

Pleiotygma helenae **89 mm, from the Walter Paine collection.**

Busycon carica **204 mm Shackleford Banks, Harkers I, NC, donated by the NC Shell Club.**

Colobostylus humphreysianus **17 mm, Hanover Parish, Jamaica, donated by Rich Goldberg.**

Luria tessellata **30 mm, donated by John Timmerman.**

Antique cameo 20 mm, "Rebecca at the Well," donated by Charlotte Thorpe.

Cypraea cervus **f *peilei* 53 mm, Cienfuegos, Cuba, donated by Glenn Duffy.**

Zoila friendii vercoi **73 mm Breaksea Island, SW Western Australia, donated by Hugh Morrison & Simone Pfuetzner, Australian Seashells.**

Fulgoraria kaneko **174 mm Tsuchima Island, Japan, donated by Marcus & Jose Coltro, Femorale.**

Guivillea corderoi **45 mm, Trawled between Uruguay & Argentina, donated by Don Pisor.**

Lobatus gallus **90 mm pink dwarf, La Parguera, Puerto Rico, donated by the Alice Monroe estate.**

Amoria exoptanda **96 mm, donated by John Timmerman.**

Benthovoluta claydoni **80 mm, from the Walter Paine collection.**

Lyncina leucodon **81 mm, donated by Mique Pinkerton.**

Alcithoe wilsonae **90 mm, donated by Mique Pinkerton.**

SCUM XVIII: Southern California Unified Malacologists

by Lindsey T. Groves, Natural History Museum of Los Angeles County, Malacology Section, 900 Exposition Blvd., Los Angeles, CA 90007
lgroves@nhm.org

The 18th annual gathering of **S**outhern **C**alifornia **U**nified **M**alacologists (SCUM) was held at the City of San Diego Marine Biology Laboratory and attended by twenty-five professional, amateur, and student malacologists and paleontologists on Saturday, January 25th, 2014. This informal group continues to meet on an annual basis to facilitate contact and keep attendees informed of research activities and opportunities. In keeping these gatherings informal, there are no dues, officers, or publications. The ongoing success of informal groups including SCUM, Bay Area Malacologists (BAM), Mid-Atlantic Malacologists (MAM), Ohio Valley Unified Malacologists (OVUM), and FUM (Florida Unified Malacologists) will hopefully encourage more regional groups of malacologists and paleontologists to meet in a likewise manner.

SCUM XVIII co-hosts George L. Kennedy and Wendy Enright greeted pre-meeting attendees with a variety of breakfast goodies. In continuing SCUM tradition all present were given the opportunity to introduce themselves and give a short update about current mollusk related activities. Most presentations were informal but eight attendees gave more detailed talks. It was particularly refreshing to have eight first-time SCUM attendees including five students from California State University, Fullerton. Noteworthy presentations included the 17-year history of SCUM by unofficial historian Lindsey Groves, autotomy in octopod arms by Jean Alupay, the description of a new semi-cryptic species of *Cahuillus* (Helminthoglyptidae) by Lance Gilbertson, and the continued enthusiastic malacological research by Sean Wiedrick.

SCUM XIX will be hosted by Carol Stadum at the Laguna Hills Community Center in January of 2015. Many thanks to Quinn Enright for providing security for the meeting and he is now an honorary SCUM member.

SCUM XVIII participants and their respective interests and/or activities:

Jean Alupay (Univ. So. Calif.): Currently on a post-doc position studying autotomy in octopod arms. Her research includes ontogeny, evolutionary adaptation, arm regeneration, and whether or not arms are shed in response to predation. Arms appear to be shed along cleavage plains and need 2 to 3 months to regenerate.

Kelvin Barwick (Orange County Sanitation District): Current Western Society of Malacologists treasurer. Also conducts monitoring surveys for OCSD, particularly near outfalls, and identifies mollusks and polychaetes.

Hans Bertsch (San Diego Shell Club): Researching the Tritoniidae and Bornellidae of the NE Pacific. The results will unscramble the out-of-date taxonomic nomenclature of these families and establish systematic stability.

Doug Eernisse (Calif. St. Univ., Fullerton): In addition to teaching, Doug has a myriad of research projects with professional and grad student colleagues including: phylogeny and biogeography of the shell-eyed chitons, molecular phylogeny in *Acanthochitona*, phylogeny of oysters of the Gulf of California, trans-Pacific and invasions of north Pacific limpet species.

Wendy Enright (City of San Diego): Continues work as marine invertebrate taxonomist for the city of San Diego Marine Biology Lab. Current work on and off the continental shelf includes faunas as deep as 5000 meters. Her son Quinn is now honorary SCUM.

Wes Farmer (San Diego Shell Club): Reported on past docent work at Torrey Pines State Preserve, including photography of whales and dolphins and sea slug research.

Lance Gilbertson (Newport Beach, CA): Research Associate at the Nat. His. Mus. L.A. Co., continues research on terrestrial mollusks of the southwest. Published a paper with Doug Eernisse (CSUF) on a new species of *Cahuillus* (Helminthoglyptidae), a semi-cryptic species, from Soda Dry Lake in the Mojave Desert using molecular techniques.

Lindsey Groves (Nat. Hist. Mus. L.A. Co.): Collection manager of Malacology at NHMLAC. Part of a group documenting the presence of Potomac Equine fever in California by identifying and illustrating freshwater mollusks that were vectors for disease carrying nematodes. Participated in a field trip for the annual Society of Vertebrate Paleontologists meeting in Los Angeles and wrote sections on southern California geologic evolution and tectonics for a fieldtrip guidebook. Identifies fossil invertebrates for publications on Channel Island Pleistocene terrace deposits with Daniel Muhs (US Geol. Survey, Denver).

Carole Hertz (San Diego Shell Club): Editor of *The Festivus*.

Jules Hertz (San Diego Shell Club): Business manager of *The Festivus*.

Seth Jones (Marine Taxonomic Services, San Marcos, CA): Conducts marine taxonomic work for MTS, San Marcos, California.

George L. Kennedy (Brain F. Smith & Associates, La Mesa, CA): Conducts paleo-monitoring in San Diego County and researches marine terraces in California. Formally passed the duty of the WSM reprint sale to Sean Wiedrick.

Pat LaFollette (Nat. Hist. Mus. L.A. Co.): Continues with rearrangement of the Pyramidellidae in the NHMLAC

Back row: (upper left to lower right): Jim McLean, Kenny McCurre, George Kennedy, Doug Eernisse, Lance Gilbertson, W. Britt Leatham, James Verhoff, James Smith, Kelvin Barwick.

Front row: (upper left to lower right): Jean Alupay, Jann Vendetti, Jules Hertz, Carol Hertz, Wendy Enright, Seth Jones, Quin Enright, Sabrina Marquez, Carol Stadum, Thomas Parker, Nicole Tronske, Wes Farmer, Lawrence Moser.

Bottom row: (left to right): Pat LaFollette, Shawn Wiedrick, Hans Bertsch, Lindsey Groves.

malacology collection. Works with micromollusks from the Pleistocene Lake Cahuila sediments and Miocene and Pliocene Imperial and Brawley formations in the Whitewater Canyon area of Riverside County. Reported that *The Veliger* is available on line via the Biodiversity Heritage Library

W. Britt Leatham (Calif. St. Univ., San Bernardino): First time SCUM attendee with an interest in mollusks.

Sabrina Marquez (Calif. St. Univ., Fullerton): Grad student with Doug Eernisse.

Kenny McCurre (Calif. St. Univ., Fullerton): Researches phylogenetics of cryptic limpet species in California.

Jim McLean (Nat. Hist. Mus. L.A. Co.): Jim, a Research Associate at NHMLAC, continues work on a monograph of worldwide Liotiidae, which will be published by the Natural History Museum in Paris. He will next work on the eagerly awaited volumes on northeast Pacific shelled gastropods.

Lawrence Moser (Pac. Conch. Club): General shell collector and vice-president of the Pacific Conchological Club. Also works for the Los Angeles County Sheriff's Department.

Thomas Parker (Calif. St. Univ., Fullerton): Working with Danielle Zacherl on recruitment and growth of native and non-native oysters.

James Smith (Calif. St. Univ., Fullerton): Currently researching *Megathura crenulata* at CSUF.

Carol Stadum (San Diego Nat. Hist. Mus.): Associate in the IP section at the SDNHM. Working on a publication on Miocene "Fossil Reef," which includes over one hundred species of invertebrates and marine mammals.

Nicole Tronske (Calif. St. Univ., Fullerton): Conducting undergraduate research under Doug Eernisse.

Jann Vendetti (Calif. St. Univ., L.A.): First time SCUM attendee. Conducted PhD research on invertebrate fossils of the Pacific northwest at UC Berkeley. On a post-doc at Calif. St. Univ., L.A., researching saccoglossan phylogeny.

James Verhoff (CH2M Hill): Conducts local salvage paleontological and is searching for research projects.

Shawn Wiedrick (Pac. Conch. Club): President of PCC and interested in all areas of shell collecting. Volunteers at the Nat. Hist. Mus. of L.A. Co. identifying micro-turrids of the Indo-Pacific. Discussed a collecting trip to Costa Rica (published in the Jan. 2014 *Festivus*). Elaborated on his extensive collection including self-constructed cabinetry, database techniques, and library. Working on an illustrated guide to Panamic Province micromollusks, especially those not illustrated by Keen (1971).

Donn Lloyd Tippett
(January 14, 1924 – January 29, 2014)

Alan R. Kabat

Donn Tippett made significant contributions to the systematics of the gastropod family Turridae *sensu lato*, in curating the turrid collections in the National Museum of Natural History (Smithsonian Institution) and in helping numerous other researchers and collectors with this diverse and difficult family. Given Donn's extensive work on the turrids, it may come as a surprise to learn that his day job was as a psychiatrist. A native of Ohio, he obtained his medical degree from the Ohio State University College of Medicine in 1947, and practiced in both Ohio and Illinois, including serving as a clinical faculty member at the medical schools of Ohio State University and the University of Illinois. He also served with the U.S. Navy from 1950 to 1952.

While in Ohio, Donn published two psychiatric papers from his professional work (1957; 1958). Both were co-authored with Irving Pine, who one decade previously was the last psychiatrist for the author Zelda Fitzgerald (1900-1948) (Cline, 2003: 286-287, 359, 362, 375, 400-402).

In 1962, Donn moved to the Washington, D.C., area, where he lived the rest of his long life. Donn started a private psychiatric practice in the Woodley Park neighborhood, with his office located across the street from the National Zoo. Perhaps because the nature of that practice would be mostly rich neurotic women and their spoiled children, Donn spent one day a week working for the federal government at St. Elizabeths Hospital, the mental hospital, which has a more realistic spectrum of mental patients. Donn formally retired from both positions in 1989, although he continued a part-time consultancy until 1997. He later recounted that a favorite topic of discussion among the older psychiatrists at St. Elizabeths was Ezra Pound (1885-1972), who was incarcerated there from 1946 to 1958 for committing treason during World War II by making numerous radio broadcasts in support of Mussolini. According to Donn, the older psychiatrists were never able to decide whether Pound was faking his insanity (so that he would not be sentenced to the maximum security federal prisons at Leavenworth or Alcatraz) or whether he was truly insane.

Sometime around 2005 or 2006, Donn prepared an autobiographical sketch, which included a section titled "The Shell Game" that explained how his malacological interests began:

> Sea shells were a source of little familiarity or knowledge to me prior to the summer of 1967 or 1968, at which time I was in a "touristy" store in Bethany Beach. There, accompanying a friend looking for a gift, I came across the standard display of shells, laid out to show the shapes, colors and sizes of these objects. At once, taken by them, I had to have something of this fascinating conglomeration of nature's wares. "Something" grew to about $100.00 worth, which included only a beginning of the profuse varieties available. The clerk, a seasoned student and dealer, explained much about them in the course of capturing my fancy. A beginner's book accompanied the shells, and this provided study and a beginning to the field of what I soon learned is the field of Malacology.
>
> Before long I received a copy of Tucker Abbott's first edition of *American Seashells*. I was now hooked for sure. With this I began a program of collecting. How naïve it was, I learned later, to think I could collect a specimen of every shell. So my original plan to collect shells world-wide was gradually reduced to collecting just Atlantic shells, and then to just collecting Western Atlantic shells, then to Caribbean shells, and then to collecting only shells known as gastropods. From there I gradually began to specialize in collecting only the family Turridae – but I did begin to collect them world-wide bringing me full circle. Naturally, I had to make the transition from common names to learning the scientific names plus the classification and taxonomy involved. From a short-term intensive hobby that captured my attention and took time and money it gradually evolved into a long term, serious, and, life-long labor.

Donn focused his malacological interests on the turrids, perhaps the most speciose of marine gastropod groups, and even today, one that is particularly difficult for species identification. Although the Turridae is now divided into about a half-dozen families, that split did not make species identification or generic assignments any easier. As Tucker (2004: 4) wrote, turrids "are perceived to be the most difficult gastropod group to study," due to "the large number

of supraspecific taxa that have been described" and "the extraordinary species diversity," all of which "complicates their systematics." Fortunately, the turrids did not drive Donn crazy, although he was assuredly frustrated at times with the problems created by the proliferation of names and the very real biological diversity of this group.

Donn was active in the National Capital Shell Club, serving as its President for two terms, and in 1978, he became a volunteer research associate at the National Museum of Natural History. Those of us who worked there fondly remember his weekly visits – always on Tuesdays – where he could faithfully be found identifying the voluminous unsorted material, updating the systematic arrangement of the turrids, and reconciling the conflicting interpretations in the malacological literature. Two long-time curators at the Smithsonian – Paul Bartsch and Joe Morrison – were both enamored of the turrids, and made extensive collections that were inadequately curated until Donn arrived on the scene. In 1995, Donn donated his turrid collection to the museum, after cataloging it in the museum's database.

Donn went out of his way to make other visitors to the Mollusk collection feel welcome, and took an interest in their work. Paul Callomon (Academy of Natural Sciences) aptly wrote on the Conch-L list serve (Feb. 24, 2014), that "I used to greatly enjoy spending time with him, as he represented an earlier, gentlemanly age, very much like his SI [Smithsonian] contemporary Fred Bayer. He epitomized the meticulous approach that was characteristic of medical doctors in those days."

On March 23, 2011, Donn wrote to me that he was "still curating the collection – all these years and am not done yet. But who was it said 'a complete collection is a dead collection?'" While that aphorism about collections that Donn quoted sounds like something that W.H. Dall of the Smithsonian might have written, it appears that the literary critic Susan Sontag, in her book *The Volcano Lover*, about Sir William Hamilton (1731-1803), the inveterate collector of antiquities and paintings, was the first to popularize it:

> A complete collection is a dead collection. It has no posterity. After having built it, you would love it less each year. Before long, you would want to sell or donate it, and embark on a new chase.
>
> The great collections are vast, not complete. Incomplete: motivated by the desire for completeness. There is always one more. And even if you had everything – whatever that might be – then you will perhaps want a better copy (version, edition) of what you have; or . . . simply an extra copy, just in case the one you possess is lost or stolen or broken or damaged. . . . The collector's need is precisely for excess, for surfeit, for profusion. It's too much – and it's just enough for me. Someone who hesitates, who asks, Do I need this? Is this really necessary? is not a collector. A collection is always more than is necessary. (Sontag, 1992: 72).

Donn Tippett, circa 1980. Photograph courtesy Kathy Tippett.

Donn published nine papers on turrids, starting with the description of a rare sinistral species from Brazil (Tippett, 1983). As his confidence and expertise grew, he wrote increasingly detailed papers that discussed the generic relationships among species, and he did much to clarify the systematics of several problematic genera. He described twelve new species, mostly from the western Atlantic, and also established two replacement names for junior homonyms.

Donn was also an invaluable resource on the turrids for other malacologists and collectors, as demonstrated by the fact that many authors acknowledged his contributions to their research, and that at least four turrid species were named after him. Perhaps the most fitting dedication was that of John Tucker, whose 1,259 page catalog of over 11,350 species-group names in the Turridae *sensu lato* has this dedication: "This book is dedicated to Donn Tippett for all the efforts he made to keep me at this" (Tucker, 2004: 2).

Donn was a long-time member of the American Malacological Society, the Conchologists of America, and

the National Capital Shell Club (before it disbanded). He was also active in his community, including the River Road Unitarian Universalist Congregation (Bethesda, Maryland).

Donn leaves his wife, Kathy Tippett (also a shell collector), and his son, Gregory Nelson Tippett.

Donn's life and work demonstrate how a dedicated amateur, through research, curation, and assisting others, can make significant contributions to the study of mollusks.

Acknowledgements

Kathy Tippett kindly provided me with the excerpt on mollusks from Donn's autobiographical sketch, the photograph, and additional information on his retirement from psychiatry.

List of New Taxa:

blakensis, Drillia (*Clathrodrillia*) – Tippett, 2007: 210-211, figs. 1-3, 8 [400-450 m, Blake Plateau, northwestern Atlantic].

brasiliana, Borsonia – Tippett, 1983: 136, figs. 1-5 [150 fm, 200 miles north of Sao Luis, Brazil].

coltrorum, Strictispira – Tippett, 2006a: 45-47, figs. 1-3, 19, 25, 36 [25-30 m, Escavalda Island, Guarapari, Brasil].

dautzenbergi, Drillia (*Clathrodrillia*) – Tippett, 1995b: 129, figs. 4-5 [Isla Margarita, Venezuela]. Replacement name for *Drillia gibbosa* (Born, 1778), var. *minor* Dautzenberg, 1900, *non Drillia minor* Seguenza, 1880.

eversoni, Clathurella – Tippett, 1995b: 135, figs. 10-11 [21 m, off Dania Beach, Florida].

hedlandensis, Bathytoma – Tippett & Kosuge, 1994: 19-20, pl. 8, figs. 5-8 [260-340 m, northwest of Port Hedland, Western Australia].

kathyae, Fenimorea – Tippett, 1995b: 132, figs. 14, 32 [152 m, Barbados].

knudseni, Drillia – Tippett, 2006b: 20. Replacement name for *Drillia dunkeri* Knudsen, 1952, *non* Weinkauff, 1876.

petiti, Fenimorea – Tippett, 1995b: 133, figs. 17, 33 [30 fm, west of Crystal River, Florida].

petuchi, Drillia (*Clathrodrillia*) – Tippett, 1995b: 130, fig. 18 [Barbados].

redferni, Strictispira – Tippett, 2006a: 54-60, figs. 4-8, 23, 29, 31-35 [12 feet, Guana Cay, Abaco Island, Bahamas].

riosi, Sediliopsis – Tippett, 1995b: 133, figs. 6-7 [250 m, off Sao Paulo, Brazil].

rosenstielanus, Hindsiclava – Tippett, 2007: 211-213, figs. 4-6, 9-10 [549 m, west of Riohacha, Colombia].

wolfei, Drillia (*Drillia*) – Tippett, 1995b: 127, figs. 1, 28, 31 [20 fm, 15 km east of Cape Lookout, North Carolina].

Eponyms:

tippetti, Bathytoma (*Bathytoma*) – Vera-Pelaez, 2004: 12 [Philippines].

tippetti, Hindsiclava – Petuch, 1987: 76, pl. 13, figs. 12-13 [Honduras].

tippetti, Kermia – Chang, 2001: 3, figs. 5A, B [Taiwan].

tippetti, Turricula – Tucker & Le Renard, 1993: 2 [Eocene, France]. Replacement name for *Surcula multifilosa* Cossmann, 1923, *non* Bellardi, 1877.

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Tippett, D. L. & Pine, I. 1957 [July]. Denial mechanisms in masked epilepsy. *Psychosomatic Medicine* 19(4): 326-331.

Pine, I., Gardner, M., & Tippett, D. L. 1958 [July]. Experiences with short-term group psychotherapy. *International Journal of Group Psychotherapy* 8(3): 276-284.

Tippett, D. L. 1983 [28 October]. A new sinistral turrid from Brazil (Gastropoda: Turridae). *The Nautilus* 97(4): 135-138.

Tippett, D. L. 1992 [25 June]. Comment on the proposal to remove the homonymy between Clavidae McCrady, 1859 (Cnidaria, Hydrozoa) and Clavinae Casey, 1904 (Mollusca, Gastropoda). *Bulletin of Zoological Nomenclature* 49(2): 144-145.

Tippett, D. L. & Kosuge, S. 1994 [30 April]. Descriptions of a new species and a recently described species of the genus *Bathytoma* from the West Australia and the Philippines (Gastropoda Turridae). *Bulletin of the Institute of Malacology Tokyo* 3(2): 19-21, pls. 8-9.

Tippett, D. L. & Tucker, J. K. 1995 [7 March]. Taxonomic notes on *Kenyonia* Brazier and *Conopleura* Hinds (Gastropoda: Conoidea). *The Nautilus* 108(2): 37-38.

Tippett, D. L. 1995a [March]. [Letter to the editor]. *American Conchologist* 23(1): 14-15 [*Pleurotoma ebur* and *P. opalus*].

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Tippett, D. L. 2007 [21 December]. Two new gastropod species (Neogastropoda: Drilliidae, Turridae) from the western Atlantic Ocean. *The Nautilus* 121(4): 210-213.

Tippett, D. L. [undated, probably written around 2005-2006]. The shell game. Manuscript, 1 page [extracted from longer life history].

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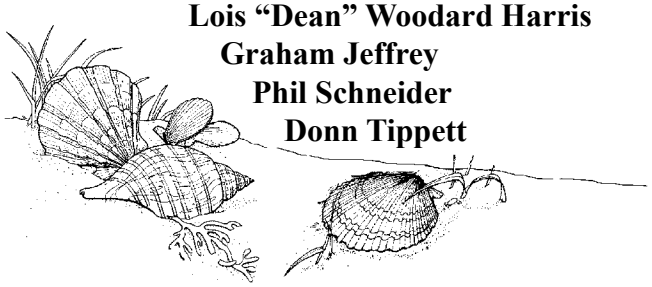
Tucker, J. K. 2004. Catalog of Recent and fossil turrids (Mollusca: Gastropoda). *Zootaxa* 682: 1-1295.

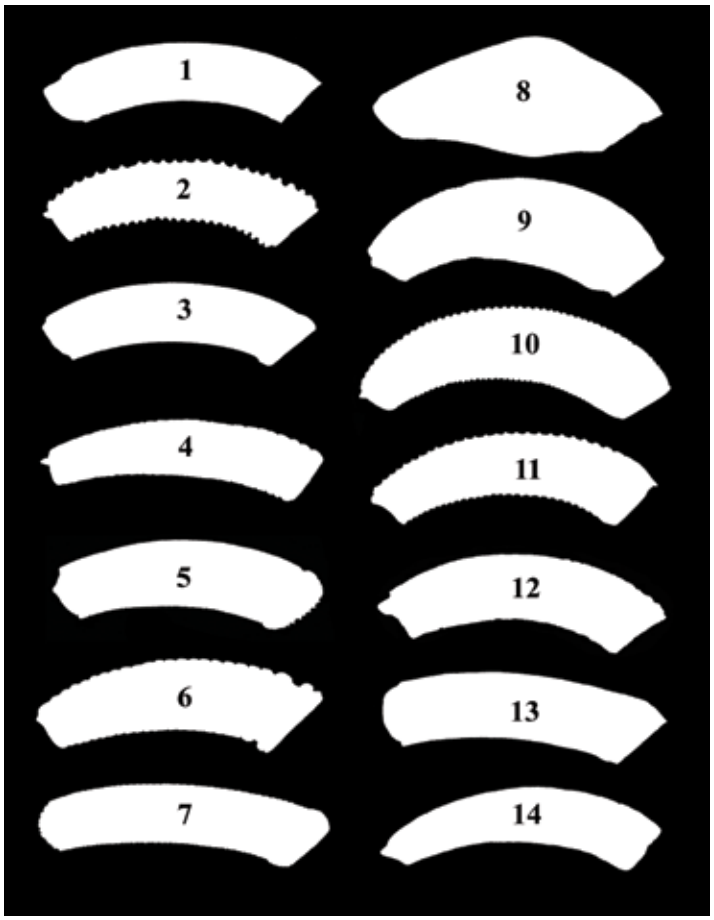
Tucker, J. K. & J. Le Renard. 1993. Liste bibliographique des Turridae (Gastropoda, Conacea) du Paléogène de l'Angleterre, de la Belgique et de la France. *Cossmanniana* 2(1/2): 1-66.

Vera-Pelaez, J. L. 2004. Contribution al conocimiento del genero *Bathytoma* Harris & Burrows, 1891 (Gastropoda, Turridae, Borsoniinae) en Japon, Taiwan y Filipinas con la description de tres especies nuevas. *Pliocenica* 4: 107-125.

In memoriam:

Ken Boss
George Cook
Lois "Dean" Woodard Harris
Graham Jeffrey
Phil Schneider
Donn Tippett





Key to the Caecidae on the back cover

1. ***Caecum* n. sp. cf. *C. achirona* (de Folin, 1867)**
2. ***Caecum* n. sp. cf. *C. brasilicum* de Folin, 1874**
3. ***Caecum circumvolutum* de Folin, 1867**
4. ***Caecum imbricatum* Carpenter, 1858**
5. ***Caecum cycloferum* de Folin, 1867**
6. ***Caecum floridanum* Stimpson, 1851**
7. ***Caecum heladum* Olsson & Harbison, 1953**
8. ***Meioceras cingulatum* Dall, 1892**
9. ***Caecum* n. sp. cf. *C. cinctum* Olsson, & Harbison, 1953 (an extremely variable, common species)**
10. ***Caecum* n. sp. cf. *C. cinctum* Olsson, & Harbison, 1953 (an extremely variable, common species)**
11. ***Caecum* n. sp. cf. *C. regulare* Carpenter, 1858**
12. ***Caecum* n. sp. cf. *C. plicatum* Carpenter, 1858**
13. ***Caecum* n. sp. cf. *Caecum* sp., 203 of Redfern, 2013**
14. ***Caecum tortile* Dall, 1892**