



**A review of *Rare and Unusual Shells of the Florida Keys and Adjacent Areas*
by Edward J. Petuch and Dennis M. Sargent, 2011**

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Rare and Unusual Shells of the Florida Keys and Adjacent Areas is the title of both a CD and a book authored by Edward J. Petuch and Dennis M. Sargent. The differences in the two forms of what is basically, but not exactly, the same work will be discussed in an Appendix at the end of this paper as it may be helpful to those having the CD but not the book.

The CD is dated 9 June 2011 and was sold at a Florida shell show later that month. Although the International Code of Zoological Nomenclature provides for the availability of nomina published on CD in Article 8.6, there is no indication on the CD that it was intended to comply with that Article. As it does not meet the necessary provisions of the Code, the new names cannot date from the CD. The book, in hardcover, was distributed on 9 July 2011 (Personal communication from Robert Janowsky, publisher), and the new names became available on that date.

The book consists of 159 numbered pages. Of those 159, four are devoted to the title, contents, and dedication; five are index pages to the plates (confusingly labeled as Figures); two are pages about the authors; and one is blank (page 159). Of the remaining 147 pages, 84 are full page Figures. There is no index for the text, which obviously makes it difficult to find discussions about, and descriptions of, the species included.

Considering the inconsistencies in the book, this absence may have been intentional. It is certainly irresponsible.

Fifteen of the full page color Figures are excellent photographs of ecological areas and living mollusks in situ; three are simulated satellite views of Florida as it may have looked at various times in the past; and 66 are figures of shells, some of which are fossils. All six of the images on Figure 1.9 are reproduced on other Figures, making it somewhat redundant. Not only are the same species figured, but the same figures are reproduced. This makes it rather strange that *Calliostoma adela* Schwengel, 1951 on Figure 1.9 (Figure D) is 15.8 mm in length, but on Figure 2.7 (Figure C) it is 17.4 mm. Even stranger is the case of *Melongena bicolor* (Say, 1827) on Figure 1.9 (figure E) at 33.6 mm which changes to *Melongena bicolor* color form *estephomenos* Melvill, 1881 on Figure 3.25 (figure B) with a length of 32.4 mm.

As the book is about living species that are treated by geographic and ecological areas, it is unfortunate that maps of those areas were not included instead of simulations of ancient topography. For example, when reading about "deeper water areas of the Hawk Channel" it would be nice to have a map showing the location of the Channel. Throughout the introductory portion "the Florida Keys" is stressed, "Keys" appearing eight times in the first two paragraphs. This

is slightly misleading, although the authors define their area by stating that they cover “the marine gastropod mollusks found from Naples (Collier County), through the Dry Tortugas and Florida Keys (Monroe County), and the northernmost Keys (Dade County), to Broward and Palm Beach Counties.” They state that 61 families of macrogastropods are covered, excluding those families with species that do not average 5 mm in length. The great majority of included species are listed by coarse habitat types, but there are no sources for the compiled information.

In the Introduction it is stated, about the included descriptions of new species, that “we feel that this is a good educational tool; demonstrating to both students and amateur naturalists the procedures for naming a new animal.” It is true that the descriptions meet the absolute minimum requirements for a new name to be available, but they fall far short of malacological standards and would be unacceptable in a peer reviewed journal. These descriptions will be addressed later in this review.

The Introduction refers to the authors having discovered that “eleven important and beautiful gastropods were new to science” which are named in a Systematic Appendix at the end of the book. A cursory review of the Appendix reveals that only eight species and one subspecies are described. Two species, *Gradiconus tortuganus* and *Jaspidiconus fluviamaris*, are on Figure captions as of “Petuch & Sargent, 2011” but are not described. As they were not described until later, the appearance of these names in the book must be treated as *nomina nuda*. For reasons unknown, the authors decided not to name these two species in the book but to put them in a larger Conidae paper in *Visaya*. The issue of that journal including their paper did not appear until September. My issue, by subscription, was billed and mailed from the publisher on 21 September 2011. Unless evidence to the con-

trary is presented, that is the effective date of publication of the *Visaya* paper. In addition to the species group names there is one new subgenus introduced in the Appendix.

In the period between 9 July and 21 September, a paper, dated August 2011, was published by William P. Cargile in which he described *Conus anabathrum antoni*. This is the same subspecies named *Gradiconus tortuganus* Petuch & Sargent. Enclosed with the issue of *Visaya* was an undated form letter signed by Klaus Groh and Guido T. Poppe, publisher and owner of *Visaya*, respectively, stating that “Shortly after printing the present *Visaya* 3 (3), we got information that W. P. Cargile described *C. antoni*. This is the same species as the here described *G. tortuganus*. However, afterwards Ed Petuch got extra information and he answered us the following on the matter of these confusing *Conus*.” Following that announcement is a long paragraph by Petuch which begins with: “The pink *Gradiconus* specimens from the Dry Tortugas that were named *G. tortuganus* in this paper are now known to be simply color variants of the previously named *G. anabathrum tranthami* (Petuch, 1995).” There follows a lot of verbiage about the varieties of *G. a. tranthami*. It is interesting to speculate as to whether or not this epiphany would have been made public had Cargile not published his paper. In the *Visaya* article, *Gradiconus anabathrum tranthami* is figured on the same plate as *G. tortuganus*, the latter being given species status with considerable discussion being made about how it differs from *G. a. tranthami*. It appears that it was a good species for Petuch and Sargent but not a good subspecies for Cargile.

Throughout the book there are discussions about various species and forms as well as much ecological data. There are no references to the source of such data or to the reintroduction of names previously placed in synonymy by other authors (*Zaphrona taylo-rae* Petuch, *Architectonica sunderlandi* Petuch,

Modulus calusa Petuch, *Oliva bifasciata* Küster, etc., etc.). The most egregious instance of missing data is to be found on page 74 where the following is found:

“Living ... on these deeper lagoon sand bottoms is Adele’s Nutmeg Shell, *Cancellaria adela*e Pilsbry, 1940 (Figure 3.18), a species endemic to the Florida Keys Reef Tract area. Like many members of the genus *Cancellaria*, this pretty banded shell with a pink aperture is actually a vampire, lying in wait for Sting Rays to return to their daytime sleeping spots. Once the ray is settled in, *Cancellaria adela*e inserts its long, thin, needle-tipped proboscis into the gill tissue and feasts on the Sting Ray’s blood.”

The authors give no details as to how this information was obtained. Did they actually observe one of these rare shells engaged in such feeding? In my 40+ years of working with Cancellariidae, I have never seen a live collected specimen of *C. adela*e. As the food of very few cancellariids is known, this information, if correct, should have been made more widely known. It would have been a worthwhile subject for a paper in its own right instead of just appearing as a comment in this book. The lack of information invites speculation that this might be an extrapolation of the feeding habit of the Californian *Cancellaria cooperi* Gabb, 1865 which was shown in 1987 (O’Sullivan *et al.*) to feed on the blood of the California Electric Ray. The Florida Sting Ray is not closely related to the California Electric Ray and is not even in the same Order. No information has been found to indicate that Sting Rays have a fixed “daytime sleeping spot.” The fine specimen of *Cancellaria adela*e that is figured has a white, not pink, aperture. The nematoglossan radulae of Cancellariidae are very long and thin, but are not pointed at the end, and the proboscis is certainly not needle-tipped as it is through the proboscis that the radula must be extended.

As mentioned earlier, much of the book consists of non-annotated, non-referenced, lists of taxa occurring in various areas and habitats with sections of comments, such as in the previous paragraph, separating them. Explanations of why some of these names were used to the exclusion of others considered by some authors to be senior synonyms should have been included. I would have been interested in more data on the rare (in Florida) *Bivetopsia rugosum* [sic; = *rugosa*] (Lamarck, 1822). The absence of the more common *Trigonostoma (Ventrilia) tenerum* (Philippi, 1848) raises concerns about other species that may have escaped inclusion.

The “Bibliography” on page 141 consists of only 10 books, six of which are by Petuch. It is an understatement to call this list of references deficient. The reasons for these works being singled out for citation can only be partially explained. Abbott (1974) is mentioned twice in discussions. Lee (2009) and Tunnell *et al.* (2010) are each mentioned once where identification of a species is disputed. Species described by Cate in 1973, 1976 and 1978 are listed, but none is discussed, and Cate is not quoted anywhere, his name appearing only as the author of species. Why Cate (1973) is listed, to the exclusion of his other two papers, is not known.

The Systematic Appendix (pages 143–151) is the description of new species. Of the eight new species and one subspecies described, the protoconch is mentioned only in the description of the two *Scaphella*, which have unique protoconch structure. Even there the transition from protoconch to teleoconch is not described. Of course, without a protoconch description transition descriptions could not be given for the other seven species. For almost all of the new species there is no indication of the number of specimens that were available for study. In no description is the number of teleoconch whorls stated, nor is there any statement of aperture height relative to the teleoconch.

Only two specimens of *Phyllonotus whymani* are mentioned in the discussion, and two are illustrated on Figure 4.2. On the Figure the holotype measurement is the same as that in the description, but the specimen marked as a paratype is listed as 45.9 mm, and in the description it is stated to be 43.8 mm. The new species are each compared to only one other species. With one or two exceptions, only the height of one specimen is given, and no other measurement is provided.

The new species *Scaphella (Caricellopsis) marchetti*, the type of the new genus *Caricellopsis*, is stated in its description to have been “trawled by deep water shrimp boats from 200 m depth due west of Naples, Collier County, Florida and due north of the Dry Tortugas.” However, on pages 87–88 the species is stated to have been collected from lobster traps at 35 to 100 m. Another of the three new species listed as taken from these 35–100 m lobster traps is *Conus tortuganus*, which is figured but not described in this book. The figure caption (Figure 4.1 A & B), gives the locality of the two specimens as 3 m depth south of Fort Jefferson, Dry Tortugas.

This Systematic Appendix was touted on page 5 as a model to be followed in the description of new species. Hopefully that advice will be ignored. If any readers really want to describe a new species or subspecies, they should see such descriptions in peer reviewed journals such as *The Nautilus*, *The Journal of Conchology*, etc. An excellent paper on the subject was written by Dr. Alan J. Kohn (1980) that can be viewed on the *Conus* Biodiversity Website (click on Information, then on Descriptions). His comments are as true today as they were 30 years ago. For the really serious, there is an entire book on the subject (Winston 1999).

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APPENDIX

Although the CD was released first, it was obviously made after the proofs for the book had been received. All references in the book to the two new *Conus* species as being "Petuch & Sargent, n. sp." were changed on the CD to "Petuch & Sargent, 2011." References to those two species in discussions (pages 5 & 7) were deleted on the CD. There are several pages where two lines of text were dropped that should have been on the bottom of the previous page. At the top of page 88 there is an incorrect reference to page 144. That number is not in the book, but that Index starts on page 143.

The only serious difference between the CD and the book, other than the fact that only the book is valid for the introduction of new species, is the addition in the CD of the citation on page 141 to "Petuch, E.J and D.M. Sargent. 2011. New Species of Conidae and Conilithidae (Gastropoda) from the Tropical Americas and Philippines, with Notes on Some Poorly-known Floridian Species. *Visaya* (May 2011): 117 - 138." This is incorrect. The correct citation is in the References Cited above (2011b).

NOTE

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- No. 3. Petit, R. E. 2011. Reprint of Lamarck's 1816 "Liste des objets". 19 pp.