



*THE
CONE
COLLECTOR*

#26 December 2014



THE CONE COLLECTOR

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On the Cover

Purpuriconus zylmanae

Three specimens collected off
a wreck near New Providence,
Bahamas. Collected and
photographed by
Andre Poremski

Note from the Editor

Dear friends,

The year 2014 has been quite rich with interesting events and publications for Cone lovers.

For one thing, we had our 3rd International Cone Meeting, held in Madrid in the first weekend in October, and what a great meeting it was! The organization was flawless, the talks were mightily interesting, the ambiance was excellent, the weather was brilliant. What more can one ask for? You will read more about it in the present issue of TCC.

Shortly before that, Alan Kohn's long awaited book on Western Atlantic Cones was published at last. Controversial in some respects (such as resorting to the use of a single genus, or the criteria for specific separation or synonymizing), it is an important work that will fuel much discussion. You will also read a few comments in the following pages.

In our usual section "Who's Who in Cones", you will get to know Gavin Malcolm a little better. As usual, there is also a detailed list of recent publications and newly described taxa. Several other articles will, I hope, be of interest to everybody.

So, without further ado, enjoy the new issue of TCC!

António Monteiro

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Who's Who in Cones

Gavin Malcolm

It seems a long way from sharing a few thoughts with Antonio at the recent conference in Madrid from when I grew up in east Scotland in Dundee where I was much more interested in soccer and cricket than any collecting hobby. During the summer however, I spent many happy hours exploring the nearby rocky beaches. In 1966, I graduated in applied science and mathematics at the University of St. Andrews and also left the town with a low golf handicap.

At the time, computers were just becoming a commercial proposition so I joined IBM in Edinburgh, Scotland and learned the technical basics and the communication skills necessary for dealing with customers. After a few years in technical and sales management, I progressed to running operations in Scotland.

One day, the chairman of IBM was playing golf on a visit to Scotland. At the end of the day, he asked if I wanted to work for him and a few days later Edna and I and our young family were in New York. After a very large learning curve about the decision making, people development, and the qualities needed to run a large business, I was assigned to many positions which over 30 years required me to travel widely, mainly to our operations in USA, France, Germany, Japan, Hong Kong and Singapore.

In the 1990's, I became interested in minerals and fossils which are found near my home in the New Forest National Park of southern England and built a collection of minerals which have the property of fluorescing in all the colours of the rainbow under UV light.

My vacations in the USA took me to Sanibel and Captiva on several visits, so I naturally migrated from fossil shells to being interested in collecting shells. By chance, I always seemed to arrive in Sanibel when the beaches were awash with shells after storms so it was not hard to get a starter collection.

After a short time, I began to specialise in Cones and Olives and later added Terebra. Vacations in the Pacific, Australia, and South Africa helped me collect and build a good collection. Business trips often involved jetlag and weekends away with a few leisure hours to collect and using Rice's Guide to collectors/dealers, I contacted local shell collectors, made friends and improved my collection.



At the turn of the century, I retired from business back to the UK and had some spare time to get involved in the British Shell Club where Mike Filmer and I became friends. He offered me the opportunity to scan his vast library and many slide pictures of cone material. At that time, he was regretting not including his type pictures in his catalogue book so we began a project to obtain all the missing

descriptions and type pictures and to coach Mike who was approaching eighty years of age to create the illustrated documents. After a few years, it was ready for publication on the Cone Collector website.

I had learned a lot about Conidae so I began to use my library and concentrate on each geographic region in turn and try to collect a specimen close to the type of each species and then several forms showing the variation within the species.

Sinistral *Lautoconus ventricosus* (Gmelin, J.F., 1791) in aquarium

Andrea Nappo

As part of the Filmer project, I had collected all the data in a database and added some descriptive material of the species plus the latest family and genera thinking. Paul Kersten and I had a glass of wine at the Cone Collectors conference and this resulted in a joint project to develop his checklist/guide which is now on the Cone Collector website. The first draft text documents plus type pictures were created from the database and Paul then chose the names that he wished to include or delete and then added his own pictures.

Having learned the value of a good reference system, I created a similar library and database for Terebridae and built a fine collection. These days, I spend some time reviewing papers and occasionally describing some Terebridae or identifying specimens prior to DNA analysis. I do not understand all the biological details or the finer points of DNA but use my experience of many years in listening to scientific and technical assessments to pick out the key points.

Cones remain my main interest and the last few years has seen an explosion in new species, new phylogeny papers and new books so I still have more reading and ideas to explore than time available and many gaps to fill in my collection.

Edna and I enjoy our vacations mainly in Europe where we can enjoy the culture, wine and drop in on any provincial shell shows whilst the international cone conference provides a great opportunity to meet new cone friends and to learn and exchange ideas

Keywords

Mollusca, *Gastropoda*, *Caenogastropoda*, *Conoidea*, *Conidae*, *Lautoconus ventricosus* (Gmelin, J.F., 1791), sinistral.

Introduction

The phenomenon of sinistrality for *Lautoconus ventricosus* (Gmelin, J.F., 1791) has been noticed for a long time.

Back in 1967 an observation of sinistral *L. ventricosus* was made at Cap Benat, in the French coast, where 5 such living specimens were found (*La Conchiglia*, year I, n. 4 June 1969, p. 14); a further finding took place at the same locality in 1970 (*La Conchiglia*, year II, n. 10 (20) October 1970, p. 6).

The first register of the presence of sinistral *Lautoconus ventricosus* on the coast of Sardinia Island dates back from 1973 and is reported by G. Donati, S. Gargiulo & B. Porfirio in “Nota sul rinvenimento di 11 esemplari sinistrorsi di *Conus mediterraneus* Hwass in Bruguière 1792” (*La Conchiglia*, year XVI – n. 182-183 May-June 1984, p. 21-23).

In the present article we briefly describe the behaviour of a sinistral specimen and a few dextral specimens of the same species, kept in aquarium for 28 months.

Sinistrality

Sinistrality is caused by a seldom manifested genetic mutation. This inversion of the sense of coiling not only regulates the development of the spire, but the entire anatomy of the animal (Fig. 1).

After a high number of findings of such specimens along the south western coast of Sardinia Island, we have asked ourselves a question to which we still have no definite answer: are such high numbers of sinistral *L. ventricosus* due to particular environmental conditions that somehow foster the occurrence of that particular mutation?

Along the coast of Sardinia Island, in the period from 1987 to 2013, several individuals were found, 28 of them beached, some in fine to coarse sandy detritus, about 3 m deep, and 3 living specimens on the littoral (Tab. 1).

One of the three live taken specimens was placed in an aquarium, together with a few dextral specimens (Figs. 2a, 2b e 2c), allowing us to study its behaviour more closely and to increase our knowledge of the biology of this species; in particular, we wanted to see if sinistral and dextral specimens showed any observable behavioural differences.

The aquarium

For our observations, we have used a 40 litres aquarium, placed in a cool area, with an oxygenator and a mechanic filter to help cleaning and circulating the water. We have taken especial care with the quality of the water, through regular measurement of pH, density, nitrites and temperature, using specific indicators. The bottom was filled with sand mixed with small pebbles, in order to mime as best we could the habitat where the specimen was found.

Behaviour

In spite of the sinistral coiling, which we thought might influence some of the mollusk's activities, we have observed no behavioural compartments that differed from those of the dextral specimens. Since the species is lucifugous, our *L. ventricosus* reduced their activity during daytime, burying in sand or looking for some hideout far from the light, whereas during the night they hunted for food (Fig. 3). Indeed, we were able to observe that both the dextral specimens and the sinistral one showed no "discomfort" from living in their new environmental conditions.

Feeding

This species feeds on annelids. During the first weeks of their stay in aquarium we have tried to feed the *L. ventricosus* with different species of worms. When

the annelids were of a large size, we chopped them in small parts before giving them to the mollusks. As time passed, the *L. ventricosus* became less suspicious, to a point that we often managed to "mouth feed" them without difficulty (Fig. 4). We have found out that the *L. ventricosus* prefer live annelids and the overall favourite was *Perinereis cultrifera* (Grube, 1840), possibly because its meat was softest among those used.

Conclusions

In general, both the dextral and sinistral *L. ventricosus* have shown a remarkable capacity for adaptation and noticeable change in their behaviour was observed, in spite of being kept in captivity.

At the same time, we detected a notable growth of the sinistral specimen in the first 7 months in aquarium (Tab. 2 e Graf. 1), probably due to the fact that that period coincided with its period of maximum development and/or to the food supply. As time went by, we noticed a change in the search for food, both in the dextral specimens and the sinistral one, with a reduced activity of prey hunting and a lesser release of the venomous barbs to immobilize it. We suppose that such behaviour was due to the abundance of food present in the aquarium and the fact that they were often mouth fed.

Appendix

Tab. 1 – Some data on the 3 sinistral *Lautoconus ventricosus*

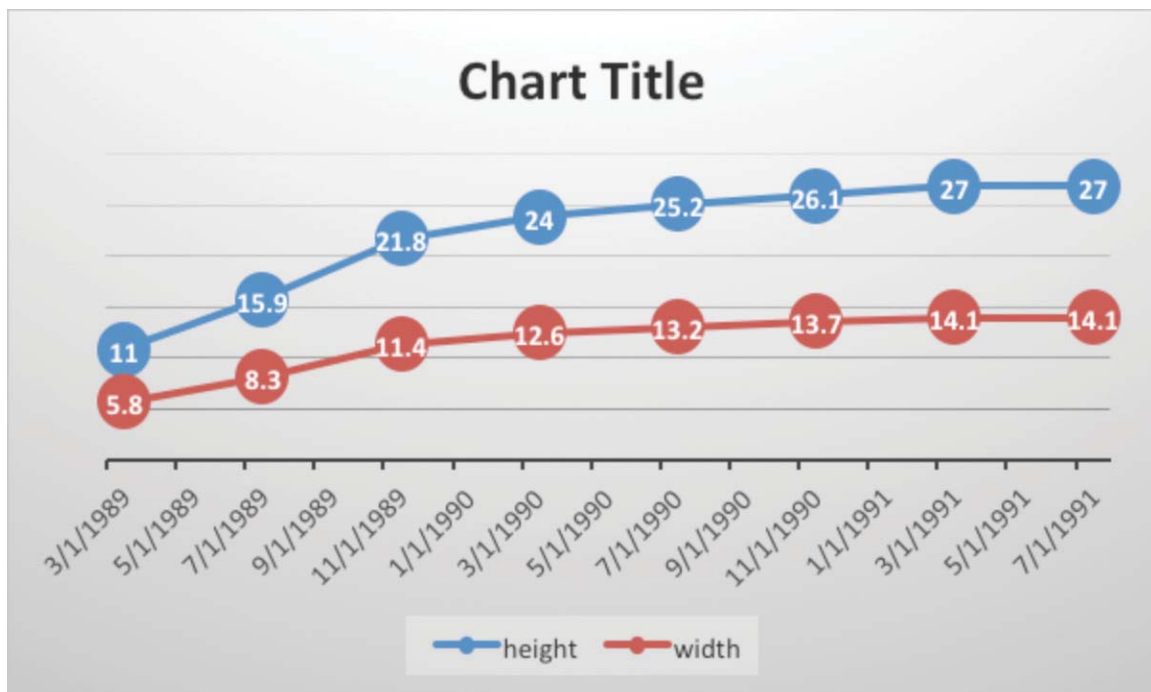
	Date of finding	Height (h)	Width (l)	h/l
1° specimen	20/04/87	20,0 mm	11,0 mm	1,818
2° specimen	27/08/88	11,0 mm	6,0 mm	1,833
3° specimen	27/03/89*	11,0 mm	5,8 mm	1,897

*Observed specimen

Tab. 2 – Height and width of the exoskeleton of the sinistral specimen observed in aquarium (27/03/1989 - 29/07/1991)

Date of measurement	Height (h)	Width (l)	h/l
27/03/89	11,0 mm	5,8 mm	1,897
27/07/89	15,9 mm	8,3 mm	1,916
26/11/89	21,8 mm	11,4 mm	1,912
28/03/90	24,0 mm	12,6 mm	1,905
28/07/90	25,2 mm	13,2 mm	1,909
27/11/90	26,1 mm	13,7 mm	1,905
29/03/91	27,0 mm	14,1 mm	1,915
29/07/91	27,0 mm	14,1 mm	1,915

Graph. 1 – Height and width of the exoskeleton of the sinistral specimen observed in aquarium (27/03/1989 - 29/07/1991)



Photographic register



Fig. 1 – Foot of the sinistral *Lautoconus ventricosus*



Fig. 2a – *Lautoconus ventricosus* in aquarium



Fig. 2b – *Lautoconus ventricosus* in aquarium

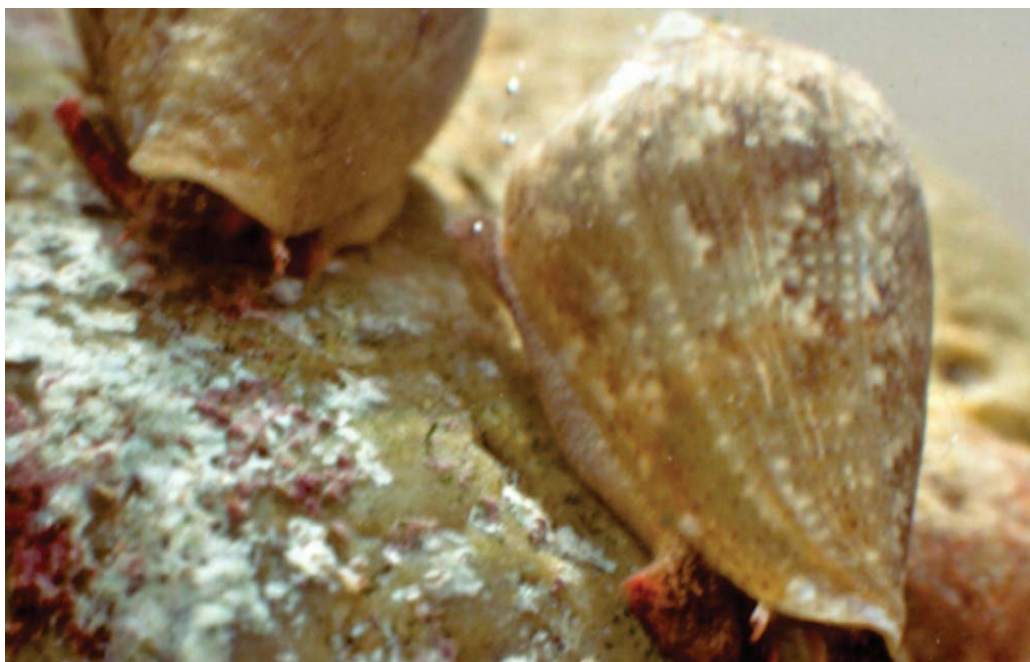


Fig. 2c – *Lautoconus ventricosus* in aquarium

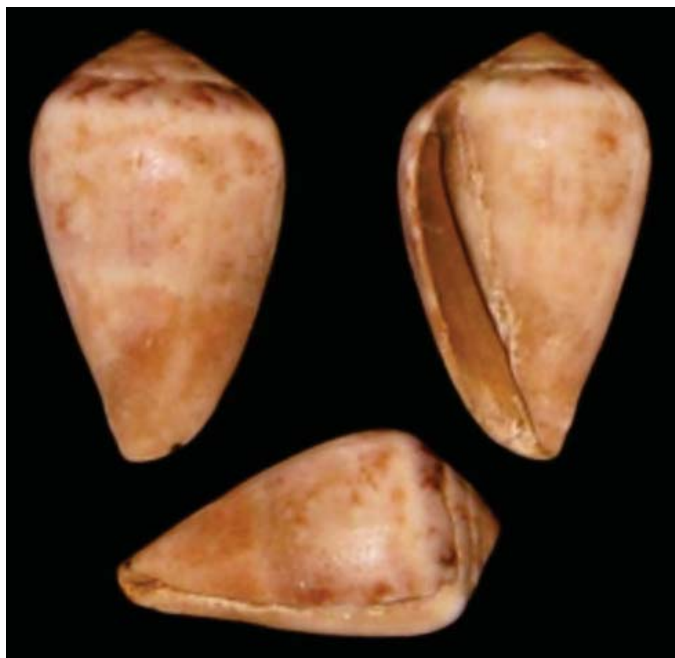


Fig. 3 – *Lautoconus ventricosus* hunting for food



Fig. 4 – sinistral *Lautoconus ventricosus* during a “facilitated” meal

Fig. 5 – Sinistral specimens of *Lautoconus ventricosus*, South western coast of Sardinia Island



(Photo: Andrea Nappo)



(Photo: Benito Josè Muñoz Sanchez)



Fig. 6 – Beached *Lautoconus ventricosus* (South western coast of Sardinia Island)

A Review of Alan Kohn's Book (Part I)

Bill Fenzan

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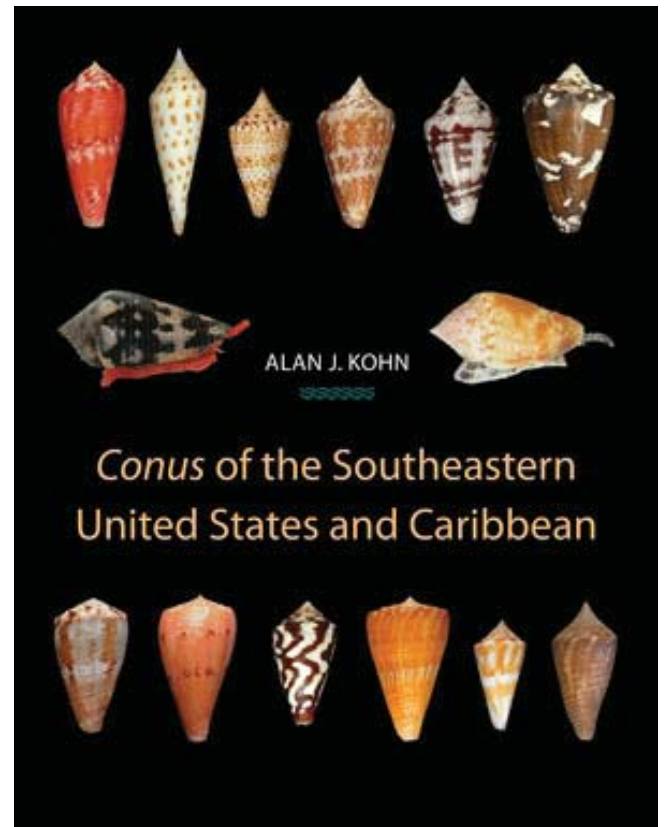
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Conus of the Southeastern United States and Caribbean
by Alan J. Kohn

This book is recommended for anyone interested in learning more about the cones that are found in the region covered. Even the author maintains this book will not be the final word on identification, but information currently available in public institutions and scientific literature is presented in a clear and concise way. A weak point is that information from private collections and popular literature, while represented, have not been fully evaluated and included in the volume. However, the author wisely takes the position that much remains to be learned.

The book contains a total of 457 pages, including 109 color plates. Over 2,100 images, 35 distribution maps, and even supplementary data available on the internet for download are provided to ensure broad coverage and exceptionally detailed information is presented...

A lot that I liked can be described as an educational component of the book. Introductory chapters explaining general principles of taxonomy, geological history of the area concerned, methods used for identification and classification of cones to species, and definitions of specialized terms can all be found in other works. In this book, though, I felt that the effort made to clarify complex aspects of these topics was done in an exceptional manner. I am not able to think of another single work where the author has been able to bring these matters so sharply into focus for me.

In the species accounts, some significant changes are proposed:

- First, the author uses the single genus *Conus* to include all the species. If you have read the introductory chapters, you will find that the author is aware of recent proposals (Tucker & Tenorio in 2009, revisions by Tucker & Tenorio in 2013, revisions by Petuch in 2013, plus publication of a different classification by Puillandre et. al. in 2014) to change the classification within the family *Conidae* by other authors. He believes that these changes are too recent to be adopted without further research and confirmation.
- Second, 263 species-group names are treated in the species accounts. Only 20% (i.e. 53) are concluded to be valid species after taxonomic analysis. In most cases, species-groups recognized as valid by other authors are also concluded to be valid here. What is different is that many commonly accepted species-groups are concluded to be synonyms. Examples: *Conus mcgintyi* is considered a synonym of *C. mazei*; *Conus juliandrae* is considered a synonym of *C. mappa*; 29 species-group names are treated as synonyms of *C. cardinalis*; *Conus boui*, *norai*, and *goajira* are all treated as synonyms of *C. daucus*; *Conus penchaszadei*, *aureonimbosus*, *binghamae*, *colombianus*, and *hennequini* are all treated as synonyms of *C. amphiurgus*; and *Conus flamingo* is treated as a synonym of *C. attenuatus*; *Conus lindae* is treated as a

synonym of *C. flavescens*; *Conus sennottorum* is treated as a synonym of *C. anabathrum*; *Conus cuna* is treated as a synonym of *C. mus*;

- Third, of the 53 species-groups considered valid, some of these poorly known from few specimens or seem to be weakly supported as valid species found living in the region covered by this book. Examples: *Conus janowskyae* (= *C. arcuatus* from the Eastern Pacific?) is based on a holotype and two paratypes (plus one possible juvenile) with uncertain provenance; *Conus sauros* is only known from empty shells which may be fossils (= extinct species?); and *Conus ziczac* is only known from a worn holotype measuring 8.2mm long which seems to have only been compared to larger shells of other taxa. (= *nomina dubia*, or possibly a synonym of an aberrant *C. ventricosus*?).
- Fourth, of the 253 species-group names treated, 18 are considered *nomina dubia*. Most of these names were described using a single specimen (i.e. holotype), however in four cases species were described using more than one specimen. In each of these cases, other issues prevented complete taxonomic analysis. Even so, some of these species are known to private collectors who have specimens similar to institutional type material. Hopefully, these privately held specimens will be used to provide more information in future contributions to the literature.

In summary, this is a significant contribution to our knowledge of the *Conidae*. More work needs to be done, but I believe this book sets a credible benchmark for guiding further study. I hope other authors will follow Dr. Kohn's lead and support their conclusions with at least as much justification as used in this book.

Does Lightning Strike Twice?

Joaquin M. Inchaustegui

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At the Annual Auction of the Houston Malacological Society I was the only bidder for a bag labeled “#84 Cerith Collection”. I got this for a bid of \$1.00 and when I got the 10 or so shells home I identified and labeled most of the shells but a larger shell that at first glance looked like the Ceriths I had collected in French Polynesia, Fiji, Tahiti and Tonga, back in the 1970’s was puzzling me. I searched through all my books of that area of the South Pacific and, sure enough, there were several Ceriths that looked similar to my mystery shell but none matched exactly, so I labeled it “*Cerithium* sp.” and added “H.M.S. #84 Cerith Collection.” and put it in one of the boxes with the shells obtained at the Auction for further study at a later time. By taking an average I estimate this shell cost me about 10 cents.

There it remained until months later when Dr. Emilio Fabian Garcia traveled from his home in Lafayette, La. to my home in Sugar Land, TX. to spend six days and nights helping me with my shell identification. He brought with him a gift box with rare or uncommon shells valued at approximately \$600. These were: *Schilderia achatidea* (Sowerby, 1837), *Morum dennisoni* Reeve, 1842, *Acesta rathbuni* (Batsch, 1913), *Murexiella hidalgoi* Crosse, 1869, *Pterynotus bednalli* Brazier, 1877, *Pterynotus miyokoeae* Kosuge, 1979, *Ancilla rubiginosa* (Swainson, 1823), and *Perotrochus teramachi* Kuroda, 1955.

He would take one of the unidentified shells, determine the Genus and the Species and then I would complete the label with the Family, the Author and Date, the Collector if known and the Date I obtained the shell. In the six days he was here we completed the I.D. of about 50 shells. This would have taken me about a month of Sundays without Emilio’s help.

During one of our frequent rest breaks, Dr. Garcia said “Let me show you some interesting shells named for me.” (there are 13 as follows: *Conus garciai* da Motta, 1982, *Vokesimurex garciai* Petuch, 1986, *Cerithioclava garciai* Houbbrick, 1986, *Voluta garciai* (Petuch,

1987), *Opalia garciai* Kilburn, 1994, *Sinezona garciai* Geiger, 2006, *Scaphella garciai* Bail, 2007, *Vexillum garciai* Salisbury & Wolff, 2009, *Stocisia garciai* Rolan, Fernandez-Garces & Lee, 2009, *Anatoma emilioi* Geiger, 2011, *Haplocochlias garciai* Rubio, Fernandez-Garces & Rolan, 2013, *Fusilaria garciai* Snyder, 2013 and *Ferrocina garciai* Taylor & Glover, 2013.) He then proceeded to open a file in my computer and there appeared a *Conus garciai*, da Motta, 1982 and as he continued to show me how to navigate the P.C. for his shells, the screen showed a large view of a *Cerithioclava* and I immediately recognized it and I practically yelled while jumping to my feet “I have that shell!”

But Emilio was incredulous and asked to see it. I went to the large box where I believed I had put it and after a minute or so I found it and gave it to him to compare with the *Cerithioclava* on the P.C. screen. After a few moments he said “Joaquin, there you go again, jumping to conclusions! This is not “*Cerithium* sp.” with an unknown Locality somewhere in the South Pacific, at all! You have an \$80 to \$100 shell, if you can find one for sale. It is *Cerithioclava garciai* Houbrick, 1986 and there are not many to be found for sale, especially one like this, gem quality with its operculum to boot! It is found only in a restricted area east of Roatan, Honduras. The genus was considered extinct by many experts for years and when Dr. Houbrick saw what I had sent him, he asked me “Are you sure this is a recent shell from the Western Caribbean and not a fossil? If so, this is a totally new, living example of the genus *Cerithioclava* that has up to now only been known from the fossil records of the Tertiary Caloosahatchian Province of Florida. This merits an immediate description!” He soon published in 1985 “THE DISCOVERY OF A NEW LIVING *CERITHIOCLAVA* SPECIES IN THE CARIBBEAN (*MOLLUSCA: PROSOBRANCHIA: CERITHIIDAE*)” with nine pictures of *C. garciai* from Nicaragua and/or Honduras.

When Emilio was finishing up and preparing to leave for Houston to visit his friend, and then on to his home

in Lafayette, La. he promised to send me an article prepared by Dr. Houbrick on *Cerithioclava garciai* Houbrick, 1986 and one prepared by A.J. da Motta on *Conus garciai* da Motta, 1982 because I had no literature on these two shells and I was very interested in both.

Conus garciai da Motta, 1982 is compared by da Motta to *Conus angulatus* Lamarck, 1810 but it differs by having distinct channeled sutures, and in other ways as well. However, the nearest conus is *Conus cancellatus* Hwass, 1792 and then *Conus floridensis* Sowerby, 1870 which “...has an equally pronounced turreted spire, but which is sharply carinated at the shoulder.” according to da Motta.

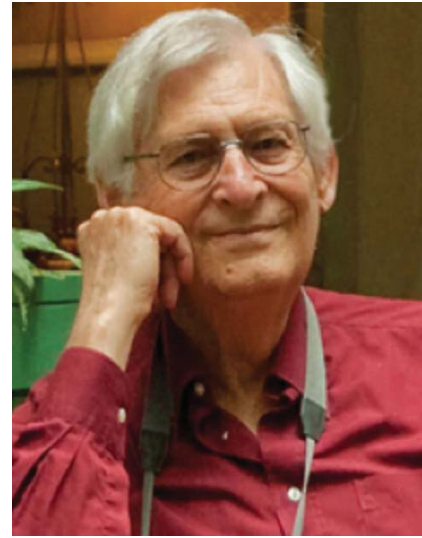
In “The Cone Collector” issue #0 dated October, 2006 António Monteiro wrote an “Obituary” for his friend António José da Motta, (almost 3 years after his death) who he describes as a “dynamic, kind and of convivial nature, with a genuine love for shells and for their study.” Da Motta’s family originated in northern Portugal. Monteiro goes on to say “Da Motta described a number of species, not all of them accepted by the international community as valid....”

Dr. Richard S. Houbrick (1937-1993) entered a seminary and was ordained a Catholic Priest in 1964 and was a monk for eleven years. He later left the seminary to pursue his doctorate in biology which he achieved in 1971. He specialized in the systematics, anatomy and reproductive biology of prosobranchs, especially the *Cerithiidae*. I also have in my literature file “THE FAMILY *CERITHIIDAE* IN THE INDO-PACIFIC Part 1: The Genera *Rhinoclavis*, *Pseudovertagus* and *Clavocerithium*” by Richard S. Houbrick, published December 15, 1978. There in are many pictures of *Rhinoclavis*, *Pseudovertagus* and *Clavocerithium* but naturally none of *Cerithioclava* which was believed by many experts for many years to be an extinct, fossil Genus.

Robin Michael (Mike) Filmer

(1926-2014)

Later, at our Annual Banquet, I showed it to Tina Petway, (the Mollusk Curator at the Houston Museum of Natural Science) and she said, “The Museum has four or five others, perhaps not as nice as this, and we needed to make room. Congratulations on being the lucky bidder.”



Robin Michael (Mike) Filmer

Mike (Robin Michael) Filmer was born in Ipoh, Malaysia in 1926 and grew up in Malaya, Singapore, Lausanne, Capetown and Nairobi. After finishing school, he joined the British Army and was sent to serve in East Africa, Egypt, Palestine, France and England. On leaving the military, he joined the Royal Dutch Shell Oil group and worked in The Philippines, Sarawak, Brunei, Indonesia, Iran, Hong Kong, Thailand and Australia and latterly in the UK.

His real interest in collecting shells began when living in Hong Kong in 1967. In the early years, he collected all families of marine shells but by the late 1970's he began to specialise in cones.

He built his cone collection and a circle of cone friends with shell collecting trips in southern Thailand, Australia, Papua New Guinea, Vanuatu, Fiji, New Caledonia and many South Pacific localities. His time as an executive at Shell had developed the ability to thoroughly research topics, to consult and to listen to opinions before expressing his views. His approach developed many friends among the cone collector community with whom he exchanged specimens, building a collection of some 10,000 specimens.



Mike Filmer with António Monteiro
(Lisbon, November 2007)



Mike Filmer at home
(December, 2007)

Not only did he build a significant collection, his library contained almost all published cone papers which he would index in many ways with his typical thoroughness. He had several attempts to write books on cones which were never published before starting development of his cone catalogue. He visited most of the world's major museums, with important collections of cone shells, including all those in Japan, Australia, South Africa and the USA and most of those in Europe and created a reference set of over 4000 slide pictures of cone type specimens.

His book on the Genus *Conus* entitled "A Catalogue of Nomenclature and Taxonomy in the Living *Conidae* 1758 - 1998" was published in 2001. In 2008, he regretted not using his album of cone pictures and started the task of adding more than 3000 pictures to his catalogue and obtaining the type pictures that he was missing. Already aged over 80, he learned new computer skills to create his illustrated catalogue. In 2011, it was published on the internet on the website run by the cone collector and scientific community as Filmer2011 (<http://www.theconecollector.com/filmer/index.html>).

The publication within his 2011 catalogue of original description information plus type data and pictures for

every cone name published, will be a valuable source of reference information for years to come. Using his vast research library and collection, he also expressed a personal opinion on the synonymy of many names; opinions which continue to be the source of challenge and debate.

Mike described several species new to science, either individually or with other experts:

1985 *Conus dampierensis* and *Conus tropicensis* from Australia (with Henry Coomans);
2005 *Conus moncuri* from the Philippines;
2010 *Conus zandbergeni* from the Philippines (with Robert Moolenbeek);
2011 *Conus athenae* from Hawaii;
2011 *Conus moolenbeeki* from Philippines;
2012 *Conus kostini* from Mindanao, Philippines (with António Monteiro, Felix Lorenz, Armando Verdasca);
2012 *Conus balabacensis* from the Philippines.

In 2000, his colleagues, Dr. Dieter Röckel and Prof. Emilio Rolán recognised his contribution to science by naming *Conus filmeri* from Angola.

Color Fading in Cones

Erasmus M. Vogl

Many collectors collect cones, not to extract toxins from their glands or to name it after their loved ones, but for the sheer delight of looking at them. This delight is due to the cones' pleasant shape and their intricately and geometrically structured multiple patterns and colors. And this is where the problem starts.

Colors of cones like any other seashells will inevitably fade over time. Nothing is forever. But then, at least a lifetime would be nice.

Colors are particularly important in case of priced items, special or unusual patterns or shades, cones for the aesthetic connoisseur, "coffee table pieces" as some auctioneers would put it. Actually I always wonder where they find space to put the coffee...

In any case, as prices are high for such cones, the disappointment is even more severe if the color fades. So here we try to list a few cones which were found easier than others to fade. Knowing and expecting might save us some disappointment. This is certainly incomplete, subjective and an old hat for specialists. Comments or additions or corrections are very welcome. Perhaps we can come up with a sensitivity ranking, if it does not already exist somewhere in the vast literature. From the strongest fainters to the most durable.

The general fact that sunlight is the worst contributor to fading is well known. However, right behind ranks the temperature as an equally bad time machine. Cones stored in a warm area at 35 degree Celsius during only one hot summer lose many years of their youth, even if fully protected from light. So it is probably a good idea to store them in a basement rather, and at low temperatures. After all, some dealers wrap their shells and store them in the fridge until posted, to ensure similarity with the auction photograph.

The typical disappointment is *C. kinoshitai*. Deep purple variations attract most novice collectors at first, but usually, within months, it ends up with a rather pale

lavender base color with only the much less attractive brownish pattern remaining. Blue colors are difficult to preserve in general. It is also true for *C. dusaveli*. It's blue hues, which make it particularly striking, fade easily. For *C. dusaveli* even the orange loses its brightness. So after a few years many *C. dusaveli* can end up rather dull, pale zombies from natural history museums.

Purple is also an issue for *C. floccatus*. While the yellow of *C. floccatus magdalenae* stays remarkably bright, purple background hues of regularly brown patterned specimens fade easily. And so does the brown pattern, although much less fast, you could call it "the average cone fading speed". *C. ammiralis* with very dark background colors may also fall into that group becoming regular brown over time.

C. circumcisis can display relatively intense purple backgrounds when fresh. This is another candidate, fading relatively quickly. Some purple might stay but not much.

C. purpurascens is certainly also a terribly disappointing species if you don't carefully think about the name. Ascending purple, might suggest the purple goes up into thin air, never to be seen again. But surely when fresh some of these must be truly spectacular.

Now the problem with blues is not limited to cones. If you ever collected a fresh *Cypraea poraria* you will know. Black dorsum with white stars shining through and wonderful purple teeth at first, it will become a pale greyish pebble after only a few months. "It's easy with *Cypraea*, the most expensive ones are also the most sensitive ones, only cheap ones keep their colors", is how a dealer once warned me. I guess this is not exactly true, and surely does not apply to cones.

An example to the contrary is the very inexpensive *C. rattus*. After collecting one alive, it will be surprising to see that the ones offered online all look dull light brown with irregular pale spots at the shoulder.

Compare that to the freshly collected ones, with pitch black-purple body colour, and white translucent flecks at the shoulder shining like alabaster! But it won't stay, the black will fade and the alabaster will lose its depth. Such a pity.

It is a similar story for *C. miles*. If you haven't collected *C. miles* yourself, you possibly won't know. It comes with very striking colours, particularly if relatively young. The dark areas and axial bands are really black, the fine dark lines are reddish veins and the white is translucent marble. Fantastic! Compare that to what is left after a few months.

Another rather inexpensive conus is *C. voluminalis*. It can display wonderful transparent and deep canary yellows at the moment of freshly photographed species. But over time these neon yellows and bright oranges fade away and brownish tones become stronger and stronger.

And even the reds are not forever. Take *C. tessulatus*. The red flecks on the white background of regular pieces are attractive to many tourists, and actually they stay pretty well. But there are some even nicer pieces which have a red background color as well, and these attract even non-tourists. It looks like they have been in nature's dyeing bath for too long and got too much stain. Pity is, indeed they did get too much and to make up for it these special colorations do not last long. After some time they pretty much resemble regular pieces and the background becomes pale. Perhaps this situation even has a certain generality: If you happen to come across cones with colors in places where they do not belong, be wary. These cones might know about it and they might let go of the color.

Also the regular red flecks of *C. tessulatus* will over extended time lose their bright shades and become lighter or brownish. Of course, again cones are not alone. How many times did you read "*Cymbiola aulica*, with blood red colour"? It might have resembled fresh

blood at some time before mailing but after arriving in your home, chances are it surely more resembles blood sausage. Compared to that, *C. tessulatus* is doing pretty well. As is *C. pertusus*, and while there may be some fading, the red will not turn brownish.

But the red of *C. sazanaka* does turn into brown or ochre rather. It can still be pretty, but it will be a very different color compared to what you may have bought. As is the case with *C. merleti moluccensis*, it can lose its flaming red and will turn into a more subdued brown red. *C. robini* might also be mentioned here. And certainly all the wonderful pastel colors of the various *C. kintoki* color variations. They will stay to some extent, but the intensity will become terribly compromised.

There are other surprising effects. I have collected *C. musicus* from two different locations in Vietnam. At first they both looked pretty much the same. But with time one of them changed its blue-greenish colors to the reddish tones of *C. musicus mighelsi*. The other one remained unchanged except for some light fading.

The good news is, there are species which last beautifully for a long time. Or at least they are tough. Take *C. marmoratus* or *C. ebraeus*. Can sit in the sunshine a whole Philippine summer and still show its pattern beautifully. Or *C. sanguineus*, a green species. I once had a cute small one with very nicely corded body, but didn't like the green. Thought it looks like seaweed or algae. So I put it into direct sunlight on the roof hoping it would eventually fade to an even cuter yellow. After the summer I took it back, it stayed green. Maybe I wasn't patient enough. It might also be an interesting question, if cones from different populations with similar initial coloration can display different color stability over time?

All such observations are terribly subjective. Of course you could introduce some science and systematically study the "lightfastness" of cones. Not sure if it has been done. It might be fun. It would be relatively easy.

Chemically most of the colors are expected to be of organic nature. It would be possible to some extent to predict the lightfastness by knowing the formula. A quick literature search did not reveal much work on chemical characterization though. Some colors of sea urchins have been extracted and characterized. But also for cones, one would expect for example to find derivatives of carotenoids and of polycyclic chinoidal structures. Typical colors in nature.

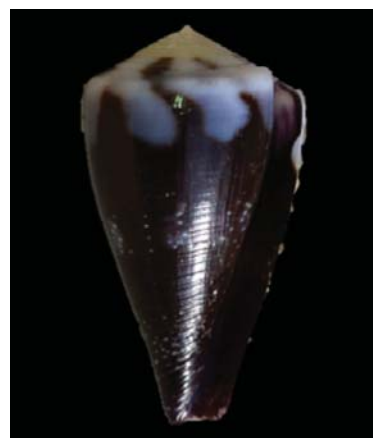
Last but not least there is yet another type of fading, and surely this one is the fastest, it is the beast in the basket. It occurs instantly, the moment you unwrap the shell and discover: The seller photo-shopped the color intensity!



C. floccatus (fresh purple tint above, after 1 year below)



C. tessulatus (fresh above, after 1 year below)



C. rattus (still fresh, about two weeks)

Etymology of Cone Species

António Monteiro



C. musicus (after 1 year, one turned reddish, one stayed green-blue)

The series of articles on the etymology of cone species names has been well received by our readers, according to the replies to the survey recently organized by Gavin Malcolm. I was, of course, quite happy to learn that. Some points in the listings remained obscure and I shall be very grateful to those who can provide further information.

For the moment, the following contribution has been sent by Alessandro Zanzi:

«I will point out the etymology of the name *Conus tamsianus* (Dunker, 1855), correcting the one indicated in No. 13 of *The Cone Collector*. The description of *Conus tamsianus* is contained in this document: *Index Molluscorum, Quae in Itinere ad Guineam Inferiorem Collegit Georgius Tams Med. Dr. Accedunt novarum specierum diagnoses, Cirripedia nonnulla et X. tabulae iconum Cassellis Cattorum*, T. Fischer. It is therefore plausible to think that the species is dedicated to Dr. Georgius Tams.»

This is obviously the best solution and I heartily thank Alessandro for his communication!

Some Interesting Finds in Mozambique Waters

José Rosado & António Monteiro

The malacological fauna of Mozambique is extremely rich and in it, Cones are well represented by many different species and some very particular variations. Recently, the first author obtained a few specimens that may be considered rare for the area and it is a pleasure to share them with our readers.

Yeddoconus ione Fulton, 1938



According to Paul Kersten's invaluable Checklist, this distinctive species is found from Japan to Philippines, N.W. Australia, Loyalty Is., New Caledonia and Mozambique, and has been recently reported from Reunion.

In Mozambique, it remains quite uncommon. The illustrated Specimen was taken by lobsters, North of Inhambane (South Mozambique), between 225 and 250 m deep.

Dead specimens are occasionally found attached to shells of *Xenophora*.



Profundiconus teramachii Kuroda, 1956



A deep water species, *P. teramachii* can be found from Natal (South Africa), Madagascar and Somalia, to Japan and Taiwan, and also to Northern New Zealand, Queensland, and W. Australia, according to Paul Kersten's Checklist.

This Specimen was trawled by shrimp fishermen, North of Inhambane (South Mozambique) at a depth of about 600 m.

Pionoconus barthelemyi Bernardi, 1861



P. barthelemyi is certainly one of the most outstanding Cone species in the Indian Ocean, its geographical range extending from Mascarenes, Comores, Seychelles, Chagos and Maldives, and probably also Sri Lanka, to Christmas Is. and Cocos (Keeling) Is. (S. E. Indian Ocean), according to Paul Kersten's Checklist.

It must be considered quite uncommon in Mozambique, the presente Specimen coming from Nacala Bay (North Mozambique), where it was found by a diver, 35 to 40 m deep.

Kioconus typhon Kilburn, 1975



K. typhon – often considered conspecific with the Australian *K. nielsenii* Marsh, 1962 – is a well-known southern-African species. In his Checklist, Paul Kersten indicates its geographical range as extending from North Transkei (South Africa) to East Africa. Albeit uncommon, the species is regularly collected in Mozambican waters.

Typical specimens are about 30-55 mm long, but already in 1992 Fernandes & Monteiro reported on the existence of much larger deep water specimens (César Fernandes & António Monteiro, "On a new occurrence of *Conus typhon* Kilburn, off the Moçambique coast", in *Publicações Ocasioneis da Sociedade Portuguesa de Malacologia*, 16 (pp. 57-59), 1992).

In the above photos, two very large specimens are shown, taken in Boa Paz (South Mozambique) by shrimpers, about 50 to 70 m deep. According to Philippe Quiquandon, the current World Record Size for the species stands at 89.42 mm.

A Review of Alan Kohn's Book (Part II)

John K. Tucker

Conus of the Southeastern United States and Caribbean
by Alan J. Kohn

Introduction

Published by the Princeton University Press, this book consisting of 457 pp and 109 plates has been a long awaited volume for cone collectors. The book is well crafted but it is not going to be the equivalent of the Indo-Pacific volume, *Manual of the Living Conidae* by Röckel, Korn and Kohn published in 1995. One of the difficulties is that the day this book published, a new edition was already needed. Already 25 species have been described from the West Atlantic that are not included. Moreover, exclusion of Brazilian taxa has left a large hole in the coverage. At a minimum 13 Brazilian species were excluded. This is a total of 38 species that are completely missing.

The text format is fine and by far this book is much more complete in covering details of systematics than any other available. The images used in the plates are adequate but for many of the species they are much too small. The problem is in the attempt to make them all scale sized. Better to have large images and just give the shell length of the shell in the image. I do like the copious use of images of various type specimens. This allows the readers to draw their own conclusions as to synonymies. This will be needed because the taxonomic approach of the author is quite broad. In other words, this book is a lumpers' bible. In many ways, I agree with this approach. However, I am certain that many of the contained suggested synonymies will cause consternation. In particular the text for each species is often unclear and leaves many questions of relatedness unclear.

Supraspecific classification

Kohn uses the single genus, single family plan (1=1) for all of the species included in the book. In contrast, Tucker (2012) uses the classification of Tucker &

Tenorio (2009, 2013). The most recent classification is that of Puillandre et al. (2014a, b) which uses a 1=4 plan, i.e., 1 family, 4 genera. Kohn is a coauthor on one of these papers so his use of 1=1 hypothesis in the cone book cannot be taken too seriously. I prefer the Tucker & Tenorio classification (4=100+ plan) simply because it carries more information than any simplified 1=4 plan. The collector should realize that any plan for generic classification is subjective. In my opinion the Kohn book used the worst one available. The Puillandre et al. 1=4 plan is not much of an improvement. It disguises the evolutionary complexities of the *Conidae* demonstrated by Tucker & Tenorio (2009, 2013) in a single monstrous genus, *Conus*. The cladograms (Puillandre et al., 2014a,b) show multiple large clades within that genus all of which correspond to genera defined by Tucker & Tenorio.

Errors

Sowerby confusion. G. B. Sowerby I, II, III

Page 67 *acutimarginatus* correctly identified as Sowerby II but in plate 6, fig. 23-24, holotype is incorrectly identified as Sowerby III

Page 67 *corrugatus* correctly identified as Sowerby II but in plate 6, figs. 25, 26, holotype is incorrectly identified as Sowerby III

Page 168 plate 38 caption author for *catenatus* only identified as Sowerby should be Sowerby III

Page 194, *jucundus* Sowerby, 1887 s/b *jucundus* Sowerby III, 1887

Main changes from Tucker, 2012, *Cone Shells of Florida*, MdM publishing.

Here I point out differences in taxonomy between Tucker's (2012) *The Cone Shells of Florida* and the Kohn book. Kohn did not cite the Tucker book apparently

he did not receive the copy sent to him in time to do so.

Gradiconus phiippii in Tucker (2012) is more or less *G. largillierti* as defined by Kohn. In Kohn, *G. philippii* is identified as a synonym of *K. delessertii*. Kohn considers *G. largillierti* to occur only along the Atlantic coast of Florida. Tucker considers the species to occur from North Carolina to Texas and the Florida Keys. Specimens that Tucker identifies as *G. philippii* in the western portion of the range would be identified by Kohn as *G. anabathrum* (see his pl. 86, figs. 10-23, pl. 87, figs. 1-14). These specimens from the western portion of the range are broader bodied than is *G. anabathrum*. In fact they appear rather pyriform. They also tend to occur at greater depths than do *G. anabathrum*.

Excluding suggested synonymies that I find puzzling, I found only one obvious misidentification. The specimen in plate 60, fig. 17 is a *Conasprelloides stimpsoni* not a *Dauciconus amphiurgus*. Paul Kersten pointed out another possible misidentification. Plate 47, fig. 22 is a specimen of *Rubraconus coccineus* (Gmelin, 1791) and is not *Purpuriconus cardinalis*. This observation could be proved by examining the whorl tops. In *R. coccineus* there are three or more spiral cords on the whorl tops. In contrast the whorl tops of *P. cardinalis* are smooth or have a single weakly developed cord.

Selected synonyms of note

These are taxa that are often treated as though they were valid species by other authors but were treated as synonyms by Kohn. I add comments to some of these conclusions. Where Tucker & Tenorio (2013) disagree with the treatment used by Kohn, the synonymy is marked with an *. This does not necessarily mean that Kohn's conclusion is incorrect. Rather it means that the conclusion is not completely supported in my estimation. One unfortunate practice in the Kohn book is that a synonymy is cited then both hypotheses (i.e., synonyms or valid species) are supported in the text with no judgment as to whether the species are

conspecific or not. The only indication is really made in the plate captions.

Conus granulatus espinosai Sarasua, 1977 is *Atlanticonus granulatus*.

**Conus verrucosus* Hwass in Bruguière is *Jaspidiconus jaspideus*. In Tucker & Tenorio (2013) the name *verrucosus* is listed as a synonym of *J. jaspideus*. However, many consider this pustulose variant to be a valid species. Such pustulose specimen can be found among specimens of *J. j. jaspideus*, *J. j. pealii*, and *J. j. pfluegeri*. Clench (1942) designated Puerto Plata, Santo Domingo as the type locality. The species *J. j. jaspideus* occurs at this locality.

**Conus acutimarginatus* Sowerby II is *Jaspidiconus jaspideus*. Vink (1991) designated a locality in Venezuela as the type locality for this species. That locality would fall in the range of *J. j. jaspideus* as defined in Tucker (2012). Many collectors consider this a valid species but I think it is *J. j. jaspideus* in agreement with Kohn.

**Conus verrucosus vanhyningi* Rehder, 1944 is *Jaspidiconus jaspideus*. Tucker (2012) considered *J. vanhyningi* to be a valid species found along the east coast of Florida. The pustulose and nodulose species of the Bahamas and Caribbean is *J. anaglypticus* (see below). Kohn considered both to be synonyms of *J. jaspideus*. These two species differ from typical *J. jaspideus* in having a convex body profile, whereas the body is more conical in typical *J. jaspideus*. At present, I consider these (*vanhyningi* and *anaglypticus*) to be distinct species (also see Tucker & Tenorio, 2013).

**Conus jaspideus branhamae* Clench, 1942 is *Jaspidiconus pealii*. Tucker (2012) also considered *branhamae* to be a synonym of *J. j. pealii* in agreement with Kohn. The specimens usually identified as *J. branhamae* by collectors seem to be large and possibly gerontic individuals of *J. jaspideus*. These specimens tend to develop flattened sides rather than the more convex to

slightly convex sides typical of *J. jaspideus*.

**Jaspidiconus pfluegeri* Petuch, 2003 is *Jaspidiconus pealii*. Kohn (2014) recognized three related species: *J. jaspideus*, *J. pealii*, and *J. stearnsii*. In contrast, Tucker (2012) suggested that *J. jaspideus* was a polytypic species with four recognizable subspecies: *J. jaspideus jaspideus*, *J. j. pealii*, *J. j. pfluegeri*, and *J. j. stearnsii*. These are allopatric with *J. j. jaspideus* occupying the southern Caribbean, Brazil and South America, and Central America from Panama to Mexico. The gulf coast of Florida is occupied by *J. j. stearnsii*. The northern Caribbean into the Florida Keys constituted the range of *J. j. pealii* and *J. j. pfluegeri* occurs on the east coast of Florida. These subspecies are definable by geographic locality and by shell traits (see Tucker, 2012). I am now more inclined to recognize *J. stearnsii* as a valid species confined the Gulf Coast of Florida based on molecular evidence contained in Kohn. However, Kohn did not present enough evidence to suggest that *J. jaspideus* and *J. pealii* were actually different species.

Conus duvali Bernardi, 1862 is *Jaspidiconus pusio*.

**Conus anaglypticus* Crosse, 1765 is *Jaspidiconus pusio*.

See *Conus vanhyningi* above.

Conus agassizii Dall, 1886 is *Jaspidiconus mindanus*.

Conus bermudensis Clench, 1942 is *Jaspidiconus mindanus*.

Conus bermudensis lymani Clench, 1942 is *Jaspidiconus mindanus*.

Conus puncticulatus cardonensis Vink, 1990 is *Jaspidiconus mindanus*.

**Conus mcgintyi* Pilsbry, 1955 is *Dalliconus mazei*. Tucker & Tenorio (2013) considered *Dalliconus mcgintyi* a species distinct from *D. mazei*. Essentially

the latter species has a color pattern of spots in spiral rows, whereas the other species has a blotchy pattern. Besides this the spire of *D. mazei* is shorter relative to the body length than is the case for *J. mcgintyi*.

Conus roberti Richard, 2009 is *Dalliconus mazei*.

Conus pacei Petuch, 1987 is *Dalliconus rainesae*.

Conus clarki Rehder & Abbott, 1951 is *Dalliconus armiger*.

Conus bajanensis Usticke, 1968 is *Dalliconus armiger*.

Conus guyanensis Van Mol, 1973 is *Dalliconus armiger*.

**Conus philippii* Kiener, 1847 is *Kohniconus delessertii*. Kohn shows the figure of *Conus philippii* in Kiener as the holotype (pl. 25, figs. 14, 15). He identifies this drawing of a 36 mm long shell as a specimen of *Kohniconus delessertii*. Kohn apparently had not included conclusions of Tucker (2012) that this species is a *Gradiconus* not a *Kohniconus*. The problem is that the shoulder of this specimen is rounded, whereas the shoulders of a *K. delessertii* of this size should be sharply angular (Tucker, 2012, fig. 16A). The only solution to this problem is to designate a neotype to replace the missing holotype.

**Conus cedonulli caledonicus* is *Tenorioconus cedonulli*. Kohn's treatment of *T. cedonulli* and *T. mappa* is very difficult to understand. He considers it a polytypic species with three subspecies. All of these occupy the central Caribbean. In contrast *T. mappa* is a polytypic species with three subspecies. These are mostly forms that inhabit coastal areas of South and Central America. It is never clear exactly how one can distinguish the subspecies from each other or the species from each other.

Conus insularis Gmelin, 1791 is *Tenorioconus cedonulli insularis*.

Conus cedonulli dominicanus Hwass in Bruguière, 1792 is *Tenorioconus cedonulli dominicanus*.

Conus cedonulli trinitarius Hwass in Bruguière, 1792 is *Tenorioconus mappa trinitarius*.

Conus granarius Kiener, 1847 is *Tenorioconus mappa granarius*.

Conus sanctaemarthae Vink, 1977 is *Tenorioconus mappa*.

Conus granarius panamicus Petuch, 1990 is *Tenorioconus mappa*.

Conus duffyi Petuch, 1992 is *Tenorioconus mappa duffyi*.

Conus juliandreae Cargile, 1995 is *Tenorioconus mappa*.

Leptoconus mappa jesusramirezi Cossignani, 2010 is *Tenorioconus mappa*.

Conus gadesi Espinos and Ortea, 2005 is *Stephanoconus regius*.

**Conus magellanicus* Hwass in Bruguière, 1792 is *Purpuriconus cardinalis*. As can be seen from the following list, Kohn presents a very broad concept for *Purpuriconus cardinalis*. He included many species that most other collectors consider valid species. Tucker in *The Cone Collector* 14A (2010) considered the following species of *Purpuriconus* as valid. *Purpuriconus magellanicus*, *P. sphacelatus*, *P. hennequini*, *P. kalafuti*, *P. havanensis*, *P. richardbinghami*, *P. kulkulcan*, *P. velaensis* and *P. pseudocardinalis* were considered valid species by Tucker (2010). Others such as *P. kalafuti*, *P. kirkandersi*, and *P. magnottei* that were considered synonyms of *P. sahlbergi* need further study. Obviously the situation among the little red cones is not at all well understood. In fact, species such as *jucundus*, *jacarusoi*, *richardbinghami*, and *zylmanae* that were considered synonyms of *P. cardinalis* in Kohn (2014) were listed

as valid species in Puillandre et al. (2014), a molecular study that Kohn was a coauthor. Obviously it is going to take extensive molecular and morphological study to make sense of this group of taxa. Simply lumping them all into a single species is not the solution. The taxa listed in Tucker & Tenorio (2013) as valid may be the best place to start.

Conus sphacelatus Sowerby I is *Purpuriconus cardinalis*.

Conus liratus Reeve, 1844 is *Purpuriconus cardinalis*.

Conus jucundus Sowerby III is *Purpuriconus cardinalis*.

Conus regius abbotti Clench, 1942 is *Purpuriconus cardinalis*.

Conus havanensis Aguayo and Farfante, 1947 is *Purpuriconus cardinalis*.

Conus mayaguensis Nowell-Usticke, 1968 is *Purpuriconus cardinalis*.

Conus kulkulcan Petuch, 1980 is *Purpuriconus cardinalis*.

Conus harasewychi Petuch, 1987 is *Purpuriconus cardinalis*.

Conus richardbinghami Petuch, 1993 is *Purpuriconus cardinalis*.

Conus caysalensis Raybaudi and Prati, 1994 is *Purpuriconus cardinalis*.

Conus deynzerorum Petuch, 1995 is *Purpuriconus cardinalis*.

Conus donnae Petuch, 1998 is *Purpuriconus cardinalis*.

Conus jacarusoi Petuch, 1998 is *Purpuriconus cardinalis*.

Conus ortneri Petuch, 1998 is *Purpuriconus cardinalis*.

Conus rosalindensis Petuch, 1998 is *Purpuriconus cardinalis*.

Conus stanfieldi Petuch, 1998 is *Purpuriconus cardinalis*.

Conus zylmanae Petuch, 1998 is *Purpuriconus cardinalis*.

Conus lucaya Petuch, 2000 is *Purpuriconus cardinalis*.

Conus theodroeri Petuch, 2000 is *Purpuriconus cardinalis*.

Conus olgae Bacallado, Epinosa and Ortea is *Purpuriconus cardinalis*.

Conus alainallaryi is *Purpuriconus cardinalis*.

Conus beddomei Sowerby III is *Poremskiconus ziczac*.

Conus kalafuti da Motta, 1987 is *Purpuriconus sahlbergi*.

Conus kirkandersi Petuch, 1987 is *Purpuriconus sahlbergi*.

Conus magnottei Petuch, 1987 is *Purpuriconus sahlbergi*.

Conus boui da Motta, 1988 is *Dauciconus daucus*.

Conus goajira Petuch, 1992 is *Dauciconus daucus*.

Conus norai da Motta and Raybaudi, 1992 is *Dauciconus daucus*.

Conus vikingorum Petuch, 1993 is *Dauciconus daucus*.

Conus juliae Clench, 1942 is *Dauciconus amphiurgus*.

**Conus penchaszadehi* Petuch, 1986 is *Dauciconus amphiurgus*. This species and *D. aureonimbosus* are likely valid species. The latter species was covered by Tucker (20112).

**Conus aureonimbosus* Petuch, 1987 is *Dauciconus amphiurgus*. See above.

**Conus binghamae* Petuch, 1987 is *Dauciconus amphiurgus*. Tucker (2012) identified this species as a *Gladioconus* related to *G. patae*.

Conus colombianus Petuch, 1987 is *Dauciconus amphiurgus*.

**Conus glicksteini* Petuch, 1987 is *Dauciconus amphiurgus*. This species was considered a valid species of *Dauciconus* by Tucker (2012).

Conus hennequini Petuch, 1993 is *Dauciconus amphiurgus*.

Conus hunti Wils and Moolenbeek, 1979 is *Sandericonus sanderi*.

Conus finkli Petuch, 1987 is *Conasprelloides cancellatus*.

Conus kevani Petuch, 1987 is *Conasprelloides cancellatus*.

Conus tristensis Petuch, 1987 is *Conasprelloides cancellatus*.

Conus venezuelanus Petuch, 1987 is *Conasprelloides cancellatus*.

Conus fosteri Clench and Aguayo in Clench, 1942 is *Conasprelloides villepini*.

Conus perprotractus Petuch, 1987 is *Conasprelloides villepini*.

Conus flamingo Petuch, 1980 is *Attenuiconus attenuatus*.

Conus honkeri Petuch, 1988 is *Attenuiconus attenuatus*.

**Conus lindae* Petuch, 1987 is *Tuckericonus flavescens*. *Lindaconus lindae* does not fit the more narrow bodied

sort of shells included in *Tuckericonus*. The former species more closely resembles *L. spurius* in shell and spire whorl morphology. Unfortunately the radula of this species is not known.

Conus castaneus Kiener, 1848 is *Gradiconus cingulatus*.

**Conus optabilis* A. Adams, 1854 is *Gradiconus anabathrum*. This pyriform little shell is more similar to *G. largillierti* than it is to the more elongated *G. anabathrum*.

**Conus floridanus burryae* Clench, 1942 is *Gradiconus anabathrum*. Manuel Tenorio and I have examined the radula of specimens that we identify as *G. burryae* provided by Anton Oleinik. These do not match the radula of *G. anabathrum*. Moreover, the two are different molecularly (Tenorio unpublished data). The radulae differ in the nature of the serrations along the shaft of the tooth. The radula of *G. anabathrum* has multiple rows of serrations near the anterior end of the tooth. In contrast the radula of *G. burryae* (and *G. largillierti*) have larger serrations and they are in a single file row. The shells also seem to differ in one detail of the color pattern. The anterior ends of specimens of *G. anabathrum* are lightly shaded, whereas that area is a dark brown in *G. burryae*.

**Conus sennottorum* Rehder and Abbott, 1851 is *Gradiconus anabathrum*. This turnip shaped shell is more similar to *G. largillierti* than it is to the more elongated *G. anabathrum*.

**Conus floridanus tranthami* Petuch, 1995 is *Gradiconus anabathrum*. This species is probably a synonym of *G. burryae*. However, the radula is not known for *G. tranthami*.

Conus rosemaryae Petuch, 1990 is *Gradiconus gibsonsmithorum*.

Conus brunneobandatus Petuch, 1992 is *Gradiconus*

gibsonsmithorum.

Conus ernesti Petuch, 1990 is *Gradiconus garciai*.

**Gradiconus ostrinus* Tucker and Tenorio, 2011 is *Gradiconus garciai*. Tucker & Tenorio (2011) used morphometric methods to distinguish this species from several other *Gradiconus* from the southern Caribbean. Those methods provided statistical support for the conclusions reached.

Conus lorenzianus Dillwyn, 1817 is *Lindaconus spurius*.

Conus baylei Jousseaume, 1872 is *Lindaconus spurius*.

Conus spurius atlanticus Clench, 1942 is *Lindaconus spurius*.

Conus spurius aureofasciatus Rehder and Abbott, 1951 is *Lindaconus spurius*.

Conus cuna Petuch, 1998 is *Gladioconus mus*.

Nomina dubia

Taxon...suggested possible closest relative or synonym
Conus aureopunctatus Petuch, 1987...*Gradiconus anabathrum*.

**Conus bayeri* Petuch, 1987...*Tenorioconus harlandi*.
Gradiconus bayeri looks nothing like *T. harlandi*. The former species is more similar to *G. paraguana*.

Conus bessei Petuch, 1992...*Purpuriconus kirkandersi*.

Conus brunneofilaris Petuch, 1990...none.

Conus edwardpauli Petuch, 1998...none.

Conus flammeacolor Petuch, 1992...*Purpuriconus sahlbergi*.

Conus floridanus patglicksteinae Petuch, 1987...
Gradiconus anabathrum.

Conus hilli Petuch, 1990...none.

Conus kremerorum Petuch, 1988...*Dalliconus rainesae*.

Conus leekremeri Petuch, 1987...*Conasprelloides cancellatus*.

Conus paraguana Petuch, 1987...none.

Conus parascalaris Petuch, 1987...none.

Conus paschalli Petuch, 1998...*Gradiconus garciai*.

Conus paulae Petuch, 1988... *Gradiconus gibsonsmithorum*.

Conus portobeloensis Petuch, 1990... *Gradiconus garciai*.

Conus poulosi Petuch, 1993...*Dauciconus daucus*.

Conus rachelae Petuch, 1988... *Conasprelloides cancellatus*.

Conus velaensis Petuch, 1993...*Tuckericonus flavescens*.

West Atlantic taxa not included in the book

This section includes the species that were left as possibly valid Western Atlantic species by Tucker & Tenoio (2013), but that do not occur in the region covered by the book. No list for such taxa was provided by Kohn.

A. Artemidiconus selenae (van Mol, Tursch & Kempf, 1967)

Brasiliconus scopulorum (van Mol, Tursch & Kempf, 1967)

Coltroconus iansa (Petuch, 1979)

Jaspidiconus damasoi (Cossignani, 2007)

Jaspidiconus henckesi (Coltro, 2004)

Lamniconus clerii (Reeve, 1844)

Lamniconus lemniscatus (Reeve, 1849)

Lamniconus xanthocinctus Petuch, 1986

Lamniconus carcellesi (Martins, 1945)

Poremskiconus cargilei (Coltro, 2004)

Poremskiconus colombi (Monner & Limpalaër, 2012)

Purpuriconus pseudocardinalis (Coltro, 2004)

Sandericonus carioca (Petuch, 1986)

B. Species described after book was published

Attenuiconus marileae Harasewych, 2014

Conasprelloides coltrorum Petuch & Myers, 2014

Conasprelloides hazinorum Petuch & Myers, 2014

Conasprelloides levistimpsoni Tucker, 2013

Dauciconus jorioi Petuch 2013

Gradiconus maya Petuch & Sargent, 2011

Jaspidiconus allamandi Petuch, 2013

Jaspidiconus arawak Petuch & Myers, 2014

Jaspidiconus berschaueri Petuch & Myers, 2014

Jaspidiconus damasomonteiroi Petuch & Myers, 2014

Jaspidiconus ericmonnieri Petuch & Myers, 2014

Jaspidiconus fluviamaris Petuch & Sargent, 2011

Jaspidiconus henriquei Petuch & Myer, 2014

Jaspidiconus herndli Petuch & Myers, 2014

Jaspidiconus honkerorum Petuch & Myers, 2014

Jaspidiconus marinae Petuch & Myers, 2014

Jaspidiconus ogum Petuch & Myers, 2014

Jaspidiconus pomponeti Petuch & Myers, 2014

Jaspidiconus poremskii Petuch & Myers, 2014

Jaspidiconus roatanensis Petuch & Sargent, 2011

Jaspidiconus simonei Petuch & Myers, 2014

Lamniconus patriceae Petuch & Myer, 2014

Poremskiconus mariaodetae Petuch & Myers, 2014

Poremskiconus tonisii Petuch & Myers, 2014

Purpuriconus belizeanus Petuch & Sargent, 2011

Conclusions

This book will be a must have for those interested in Western Atlantic cone shells. However, for the novice trying to identify specimens from this area, the book is not going to be very helpful. It might instead cause

Feedback on Cone Collector Communications Survey

Gavin Malcolm

confusion because I fear that users of this book are already going to have to know the answers before they seek them here. It certainly will be a useful reference for a cone shell specialist like me. I would have liked to have seen a better reason for ignoring the Tucker & Tenorio classification than the non-answer that was given. However, I was happy to see radular teeth illustrated.

Many thanks to all of you who responded to our survey. We were seeking to establish how our magazine and website offerings were perceived by the cone community; to understand how the community use the web and evolving social media; to receive suggestions about what offerings that would like to see made available.

The Cone Collector distribution list is about 170 names; a mixture of scientists, taxonomists, mainly experienced cone collectors, expert dealers etc. These are our contributors and the cone specialists of today. In addition, there are many people out there who choose not to be on the distribution list but they download cone collector magazine and our other web material. This is just as important an audience, since amongst them are tomorrow's cone specialists.

I would suggest that the *raison d'être* of the Cone Collector community is to share Knowledge. In future, the website and the magazine will provide a platform for structured information on a monthly or quarterly basis while social media will provide instant news and updates and enable new friends and colleagues to be added with whom to share informal views.

In developing short and long term ideas, we need to reflect that some policy decisions have already been put in place by Antonio and the team. These enhance the reputation of Cone Collector as a source of knowledge communication.

The Cone Collector is not part of the scientific record and this also applies to the website sections.

The Cone Collector does not have any commercial interests and does not support paid advertising.

We try to respect the copyright and commercial interests of publishers who give us pictures and

text by using summaries of new species and by referencing the website of such publications. We have been given type pictures by museums for publication and need to respect their wishes that some pictures are not for use in a commercial environment.

A reality test must also be considered. We are a community without financial resources and any new activity which is undertaken, needs an enthusiastic volunteer leader to organise and undertake the work.

Cone Collector magazine

Our first publication was Cone Collector magazine; it is also our most popular. It scored (9.2 out of ten) in the survey being consistently between 8 and 10 with one low score of 6. Customers like the concept of a community contributing articles and sharing opinions and the quality of design.

Positive comments were expressed most often concerning: the Who's who articles; Articles reviewing the cones of a region or a species complex; the pictures of living animals; the etymology articles.

Areas for improvement were also put forward: Indexing is needed to find articles of interest particularly by new users of the website. Recently, Cone collector has been prone to errors and corrections which need some adjustments to its review process. (Agreed actions by Antonio)

Overall, a big thumbs up to Antonio, the contributors and Andre Poremski for a job well done.

Recommendations

a) We should consider introducing a prize for the best article to encourage the flow of articles.

b) We should encourage articles which are a series eg on a species complex; a geographic area.

c) We should turn selected articles from Cone Collector into web pages and allow the author to keep updating them with new information over several years.

If you have ideas for items b and c then contact Antonio. We can provide help to turn word documents into web pages and load them onto our website.

The Cone Collector website

The homepage of the Cone Collector website is striking yet confusing ie 25 icons for Cone Collector magazine overpowering the three tabs for the other sections. Combined with the lack of an index to Cone Collector articles, it is therefore not surprising that a recurring theme in our feedback was "I did not realise all that information was available"

Recommendation: The homepage should be redesigned to illustrate what is available on the website in user terms and to encourage others to add new material. (Agreed action)

The website currently has three elements: information on the Cone Collector conference, Filmer 2011, Paul Kersten Guide.

Recommendation: The section on the cone collector conference should be used to cover the agenda of the last conference and include photographs together with any information on future meetings.

Several comments were received from people downloading Cone Collector from other websites stating that they did not know we had a website or facebook page!

Recommendation: Insert paragraph in website homepage, facebook and each edition of Cone Collector highlighting other Cone Collector offerings. (Agreed action)

Recommendation: Insert paragraph on website homepage and in Cone Collector suggesting that newcomers join our distribution list

Feedback on Filmer 2011

This section was developed by Mike who learned in his mature years at eighty plus to create illustrated word documents which were turned into web pages. It contains information on every cone name published with details of the publication and type pictures.

From the comments in the survey, it is highly a highly respected work; 99% had downloaded the files; however less than 90% would recommend it.

The negative comments were all associated with use of a single genus and with his strong personal opinion expressed on the taxonomy.

A recurring criticism was the lack of recent updates. (Mike had not updated his section since 2013 due to ill health. Sadly, we can report that Mike died in July 2014.)

Recommendation: The elements of this work of a catalogue of the names and type pictures are primary data and will not change with time. We need to inform people what is included in this section on new homepage and add to the new homepage, a What's New section which covers new names since 2013. (Agreed action)

Feedback on Paul Kersten Checklist

The objective is to provide data on a collectable list of circa 1200 cones. Names thought to be synonyms, *nomen dubium* etc. are excluded but readily recognisable forms are included. It was designed to include pictures from his collection and other pictures contributed by the cone community. It includes publication information, type pictures and summary descriptions of each name. It is regularly consulted by most community members (95%+) and would be recommended to new collectors.

(99%) There was some criticism of Paul's taxonomy decisions and the lack of updating of genera data and comments that more pictures are needed to improve its use for identification.

Recommendation: We need to highlight on our new homepage what is available in this section. Perhaps the perception of checklist does not signal the significant descriptive data and pictures that are available when people access the website for the first time.

We asked in survey what websites the community use to support their cone activities and what information is difficult to find on web to get some ideas what we could add to the Cone Collector website.

Feedback on websites used

Other than the Cone Collector website, the most popular website by a wide voting margin was Eddie Hardy www.gastropods.com for identification and name checks. We encourage you to make pictures available to Eddie and Paul Kersten so that their cone identification sections continue to improve.

Several other websites received recurring positive comments.

Alan Kohn's Biodiversity website
WORMS database of names
Biodiversity Heritage library for historical original descriptions
Poppe Encyclopedia for identification
Alex Medev'ev's collection website

Feedback on what you would like to see more available on the web

What cone information is missing or difficult to find on the web?

Four themes were recurring:

- 1) Information on new species
- 2) Identification assistance by geographic area or complex.
- 3) Live animal pictures which are currently scattered across web.
- 4) Updated information on genus/family names.
- 5) In addition, there was a suggestion that we should add information on the venomous nature of cones to our website.

Given our minimal resources, we are limited in reality to what volunteers are willing to create and maintain for our website.

- 1) Information on new species
We must adhere to copyright law and we are constrained by commercial reality in how much information we can provide. We rely on good relations on publishers and authors to obtain type pictures.

We will publish soon after publication in the What's New on the website, the name, author, locality and publication details of each new name together with a link to the publisher's website so that you may obtain publication. Many authors also give us a type picture. The same information will be added to Facebook.

As part of the quarterly update of Paul Kersten's section on the website, we will quote summarised parts of the description which form the scientific record.

However, the expressed need in the survey for shared opinions on recent newly named species is probably not going to be satisfied by our website and would be more appropriate using a social network or forum of cone collectors.

- 2) Identification assistance
We would ask you to improve website of Paul Kersten and Eddie Hardy by making pictures available to fill any gaps

We will introduce a section which recommends links and recently published books to assist with identification. Many of you continue to use RKK for identification of Indo Pacific specimens but it is out of print and difficult for new collectors to obtain. We have entered into discussion with Conchbooks and the authors to obtain permission to make a webcopy available on our website. (*)

We would encourage you to develop a series of articles about the cones of a region or a cone complex for Cone Collector which we can turn into webpages and you can keep updated.

- 3) Live animal pictures
We received lots of positive feedback on the publication of live animal pictures. It is striking that they have never been brought together and published.

Antonio is asking for a volunteer who would like to lead an effort to bring together and publish our website a catalogue of live animal pictures of cones. By publishing some pictures each month we could develop over time an interesting new publication. Some available time, some skills in word and handling of digitised pictures are the necessary qualifications.

- 4) Updated information on Genus and Family names
Much frustration was expressed in the ever changing Genus, subgenus and even Family names. For many years, the *Conidae* family was treated as one genus. Recent work by Manuel Tenorio and John Tucker split *Conidae* into 4 families and many genera based on shell morphology and the format of the radula. This approach was being accepted by the Cone community with 65% supporting and 45% have started to change their labels. However, 2014 has seen the publication of wide ranging papers based on the DNA of cones led by Nicolas Puiilandre which propose one family and 4 genus names with many subgenera groups similar to the Tucker & Tenorio.

Since the definition of family and genus is not defined and is a matter of some scientific judgement, this issue is not likely to be decided soon. The good news is that the two approaches are convergent in their ideas.

We are in discussions to enable us to publish on the website a spreadsheet with all the species names and their allocation to genus, family, etc according to each of the 2 approaches and to provide a summary of the two different approaches.

5) The Venomous nature of cones

We will explore creating a section with an introduction and links to websites offering further information.

Use of Newer Technologies

We asked you in the survey about your use of technologies. 60-70% of you use database or spreadsheets to manage your collections. Apple and PC platforms split 50-50 in their use. Only 40% of you were at least minimal Facebook users with an average age 45-50 years, perhaps a younger profile group amongst our subscribers. Most have mobile phones; tablets for picture capture; few have the latest generation of phones. None mentioned Twitter but several mentioned the need for forums to exchange views.

Our challenge is how to integrate the cone collectors of tomorrow who have grown up expressing instant opinions on social networks with the more calculating world of the taxonomist.

Facebook and Forums

Feedback within the survey on forums was mixed with negative comments regarding the varying levels of experience and different interests in forum discussions. Open public forums on the internet seem to be swamped by requests for identification by inexperienced dealers or by offers of shells for sale.

Many of our more expert collectors have their own Facebook pages illustrating their family and personal activities and also their shell activities which are shared with friends who comment on interesting specimens posted as pictures. The most active public group forum seems to be Conidae.info with 400 participants. From a research survey of Facebook, there seem to be about 20-30 experienced cone collectors who use Facebook and actively post material.

There is a registered page on Facebook for The Cone Collector which was set up by Andre Poremski and Paul Kersten; it highlighted the availability of new issues of Cone Collector and our members exchanged views on posted pictures of interesting specimens. It was active up until 2012 but has since been dormant (Note: recently Andre and Paul have started new posts to this page).

However Facebook is a powerful communications method used by many of tomorrow's cone collectors so I would recommend that the minimum presence should be posts about new releases of Cone Collector; a link to the website; information on how to join its distribution list and preferably a What's New news section.

Recommendation: Antonio is asking for a volunteer to edit and manage our Facebook page.

The Cone Collector has an excellent brand as a magazine for enthusiasts and experts in the sharing of knowledge. In expanding the Facebook offering, it is a challenge to avoid a tabloid image for the Cone Collector page unless the content is controlled to avoid the page becoming a shell market or dealer advertising space.

We would like the editor to stimulate some discussions on Facebook. We could use this mechanism to obtain pictures of live animals; to consider a shell of the month series to encourage collectors to post their

latest additions. There is nothing better than a “like” feedback from a top cone expert with which to motivate a newcomer to become a member of cone collecting community.

Overall Conclusion

Lots of progress has been made over the last 6 years. Some comments from regional and expert collectors in other families, who have used our website.

“You have an excellent information oriented website that includes a periodic magazine presented in a format that is easy to read and navigate. Many clubs and special interest groups don't have anything that even comes close to the set-up that you have developed.”

“Having just started using the Cone Collector website recently (March 2014). I very much appreciate the current offering. It took some time for me to understand all the capabilities of the website. Especially helpful were the Filmer Cone files. Nothing like this exists in *Mitridae* or *Costellariidae*. To be able to go to an online site and locate and copy images of the types of most of the Cone shell species is about as good as it gets.”

Many thanks to everyone for their feedback and ideas. I have not included all of them but have focussed on those which seem to address the stated needs of the community and have a scope which is within the bounds of our resources. If you have some time, some document editing skills and would like to help develop a new section on our website then Antonio would be pleased to hear from you.

(*) – Note from the Ed.: I am very happy to inform that this matter has now come to a most satisfying conclusion. Bill Fenzan has just told us that “we now have permission from all three authors and the publisher holding rights to put a digital version of RKK on the web. [So,] full speed ahead!”.

With help from Gavin Malcolm, Manuel Tenorio and André Poremski, we shall soon have the entire book online!

The 3rd International Cone Meeting

António Monteiro

On the weekend of 3-5 October, the 3rd International Cone Meeting took place in Madrid, Spain, as widely advertised. It is a great pleasure to be able to report that it was a big success, just like the two previous ones.

The local organization, that included Dr. Manuel Jimenez Tenorio, Dr. Rafael Zardoya and Dr. Rafael Araújo, from the Museo Nacional de Ciencias Naturales, was absolutely impeccable and everything went along smoothly, without the slightest glitch. To them, our best thanks and compliments are due!

The list of participants included (in alphabetical order):

Alain Robin
Alistair Moncur
André Poremski
António Monteiro
Armando Verdasca
Benito Muñoz Sánchez
Bill Fenzan
Carlos Afonso*
Christfried Schoenherr
Christophe Roux
Dâmaso Monteiro
Emilio Rolán
Emma Harris
Eric Monnier
Fernando Serafim
Gabriella Raybaudi-Massilia
Gavin Malcolm
George & Lucy Muehleisen
Georges Richard*
Günther Herndl
Jan Kåre Nymoen
Joaquín López Soriano
José Coltro
Loïc Limpalaër
Manuel Jimenez Tenori
Michaël Rabiller
Mike Burrell
Nicolas Puillandre

Paul Kersten
Paulo Granja
Peter Bedbur
Rafael Zardoya
Ramiro Fiadeiro
Sara Rocha
Stephan Veldsman
Trevor Young

* Registered but could not attend at the last minute
In all, thirteen different countries were represented.

The invaluable help and support of the Museo Nacional de Ciencias Naturales was of course much appreciated.

The director, Dr. Santiago Merino Rodríguez, was present at the reception that took place in the evening of Friday, 3rd October, and addressed a few words of welcome to the participants.



Entrance to the Museum

The logotype of our meeting was present everywhere, directing attendants to the rooms where it took place

The collaboration of the Sociedad Española de Malacología was also of paramount importance in many aspects of the organization. Dr. José Templado said a few words in the opening session, in representation of the President of the Sociedad, who was unable to attend.

The registration of participants started Friday afternoon and the mini-bourse was set in place, which allowed several of those present to make important acquisitions for their collections. As a matter of fact, there were many interesting specimens offered for sale, including a number of great rarities!



Partial views of the mini-bourse

During the afternoon, the first guided tours of the collections of Cones in the Museum were organized, including the many type specimens housed there – the number of which actually place the MNCN in the front line of Natural History museums in this regard. These visits, in groups of about ten, because of space

restrictions, were repeated in the following days, always conducted by Dr. Rafael Araújo.



Visiting the collections; left to right:
Paul Kersten, Alistair Moncur, Rafael Araújo

In the evening, practically all participants had already arrived and we had the welcoming reception. It was a very pleasant occasion, giving everybody a chance to mingle and talk. Old acquaintances and friendships were renewed, some new ones were built, which of course is one of the main aspects of a meeting such as this.



Jan Kåre Nymoen and wife, Gabriella Raybaudi Massilia



Part of the French delegation; left to right: Nicolas Puillandre, Eric Monnier, Michaël Rabiller, Loïc Limpalaër, Christophe Roux



Left to right: Mike and Neva Burrell, Marguerite and Trevor Young



Alain Robin and wife Kouka



Left to right: Emilio Rolán Mosquera, José Templado, Rafael Zardoya



Manuel (Manolo) Tenorio and Dâmaso Monteiro

Saturday morning, the sessions began, in the old auditorium of the museum, actually a room full of character, where the Sociedad Española de Malacología has also held a number of meetings.

I had the pleasure of making the overture and in that first address a short but heartfelt tribute was paid to the memory of Mike Filmer, who sadly left us only a few

months ago.

Before an interested and attentive audience, the program proceeded according to plan.



Views of the auditorium

Our Guest of Honour this time was my excellent friend of many years, Dr. Emilio Rolán, to whom a souvenir commemorative plaque was offered, engraved with the following text:

«To Dr. Emilio Rolán Mosquera, on the occasion of the 3rd International Cone Meeting, acknowledging his outstanding role and his unfailing interest in the study of Cones, which inspired generations of researchers and collectors.»

Emilio then presented his talk, titled “Cones and other shells – a career in Malacology”, a sort of autobiographical summary of his work with shells. For the record, a brief profile will be useful:

Emilio Rolán Mosquera was born at A Guarda, Galicia, Spain, in 1935, and since early childhood developed a vivid interest for outdoor activities such as swimming, hunting, fishing and scuba diving, as well as a great love for divers aspects of Natural History.

His shell collection was initiated during his three-year stay in Pobra do Caramiñal as a pediatrician, from 1962 to 1965, after which he moved to Vigo to proceed with his professional career. By then, he had begun to correspond with other seashell collectors, worldwide, which allowed his collection to grow by exchanging specimens; at the same time, he joined several international malacological societies. In the beginning of the 1970s, Emilio Rolán became one of the founding members of the Sociedad Española de Malacología.

From 1970 onwards, he travelled to many different locations to collect seashells, having for instance visited Puerto Rico and the Virgin Islands, Kenya and Tanzania, Morocco and Egypt, Algiers and Turkey, Sri Lanka, Singapore, Indonesia and Thailand, Cuba and Senegal, Venezuela and Peru, China and the Philippines, and many others, including the Cape Verde Islands.



Emilio Rolán during his presentation

Emilio Rolán's scientific research began after his first visits to Cape Verde, in expeditions that included several other Spanish, Portuguese and German collectors. At the time he worked with António Monteiro, Luís Burnay, Dieter Röckel, etc., developing a particular interest for Cones, of which he described a number of new species, either alone or with other co-authors. From this extensive work resulted the preparation of a PhD thesis, completed in 1992. In the same year, he was elected president of the Sociedad Española de Malacología.

In 1998, Rolán retired from his position as a doctor, head of Pediatrics and professor in the Escola de Enfermería do Centro Médico Povisa, and associated professor in the Medical Faculty at Santiago de Compostela, and was able to work full-time in Malacology.

He has published extensively, including books on the malacological fauna of the Ria de Vigo and the Cape Verde Islands, and countless papers in which he described a huge number of new species. Besides his extensive bibliography in the Malacology, Rolán has also published several books in other genres, including ethnography, memoirs and even poetry.

A number of species were named after him, such as *Euthria rolani* von Cosel, 1982, *Belgrandiella rolani* Boeters, 1986 and *Conus rolani* Röckel, 1986.

The extensive shell collection (about twenty thousand lots with a total of nearly one and a half million specimens), amassed along the years, is currently housed in the Natural History Museum "Luis Iglesias", in the University of Santiago de Compostela.

The morning session ended with the talks by Dr. Rafael Araújo (MNCN), who gave valuable precisions about the malacological collections of the museum ("The Cone collection at the MNCN-CSIC") and by Prof. Rafael Zardoya (MNCN-CSIC) and Manuel Tenorio, on "The extraordinary diversity of Cape Verde cone snails". Cape Verde Cones being quite popular – and occasional controversial – among collectors, this talk was awaited with great interest and certainly met everybody's expectations.

The group then dispersed for lunch in nearby restaurants, meeting again at the museum afterwards. Bill Fenzan chaired the afternoon session, which began André Poremski's talk titled "*Jaspidiconus*, a Complex Complex", a delightful presentation that highlighted the variability of a particularly difficult group, whose final classification certainly needs much further study.

Before the afternoon's coffee break Alain Robin talked about "New species at the bottom of your drawer: New cones from Oman and Western Australia", detailing the processes that had led to the recent description of

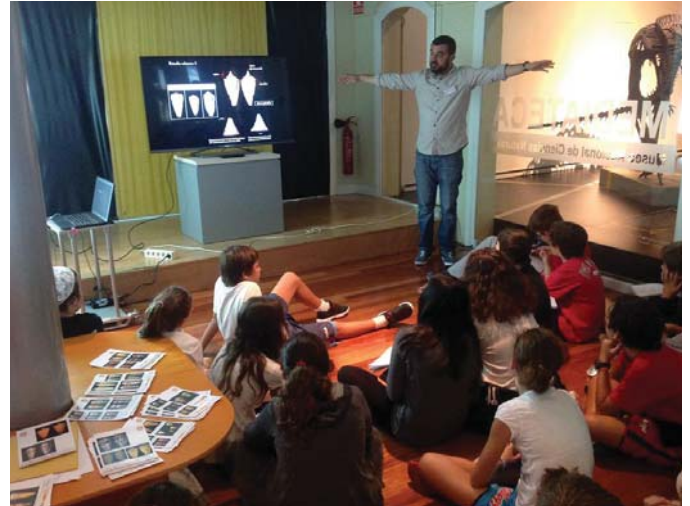


Bill Fenzan opening the afternoon session on Saturday José Coltro was the following speaker, with his presentation “Brazilian *Conidae* Biodiversity”, a very informative talk on the zoogeography of Brazilian species.

three new species in the “*achatinus* group”.

To end the afternoon session, Michaël Rabiller, from the Muséum d'Histoire Naturelle in La Rochelle, France, made a short summary of the activities he had developed in workshops for local school children, which had taken place on Friday and Saturday. His presentation was titled “Explaining Cones to young people” and it must be said that his workshops – which reportedly met with a great success – were an important and valuable aspect of the 3rd International Cone Meeting. A relatively large number of children and

youngsters was introduced to the world of Malacology in general and to the study of Cone shells in particular, and who knows if some avocations may have been awakened?



Michaël Rabiller in his workshops

For Saturday evening was scheduled the official dinner, which took place at the Holiday Inn Bernabéu, the hotel where most participants were lodging. The dinner was served as a buffet and the quality was quite good. Everybody was in an excellent mood, enjoying the food and above all the conversation!



Views of the workshops



Manuel Tenorio giving a helping hand in one of the workshops



As a mark of a perfect organization, the locale of the dinner was clearly advertised in the hotel's closed TV circuit:



Chris Schoenherr and wife

The hotel's closed TV circuit with information about the official dinner

Here are a few photos taken during the dinner:



Gavin Malcolm and wife Edna



Peter Bedbur and wife Kornelia



Bill Fenzan



Armando Verdasca and wife Nora



Günther Herndl and Gabriella Raybaudi-Massilia



Left to right: Armando Verdasca, António Monteiro, Fernando Serafim



Paul Kersten and wife

On Sunday morning, after a good night's sleep, everybody returned to the Museum, for the final session, which was chaired by Manuel Tenorio.



Manuel Tenorio taking the stand

In the first part of the session, two talks were scheduled. The first one was by Nicolas Puillandre, who talked about “The Conotax project: Taxonomy, venoms and evolution of the *Conoidea*”. His presentation showed a vast work already done with the *Conoidea*, and a huge amount of work yet to be accomplished, which, in fact, was quite inspiring.

The second talk before the morning’s coffee break was “Biogeographic patterns in South African cone snails”, by Stephan Veldsman, a summary of the distribution of South African endemic species.



Nicolas Puillandre during his presentation



Stephan Veldsman during his presentation

Finally, the meeting ended with two more presentations. Gavin Malcolm talked about “Cone Collector... community communications”, presenting the results of the survey he had prepared a few months ago and a few suggestions and recommendations; you will read more about that elsewhere in the present number of TCC.

André Poremski rounded things up with a presentation and partial demonstration of “CHROMA: App Software for Cone Collectors”, whose vast possibilities greatly interested everybody.



Gavin Malcolm during his presentation

After the sessions, the mini-bourse was still open for a short time and around 13:30 h the 3rd International Cone Meeting was definitively over. A great success, as I said above.



António Monteiro and André Poremski



Paulo Granja and his cousin Ricardo

As in previous occasions, group photos were taken – more than one actually, because not everybody was actually at the entrance of the museum the first time round. (see next page)

Notice that blue remains the most popular colour on the clothes of participants, perhaps as a subconscious tribute to the blue seas where our precious Cone shells live

The TCC project began in October 2006, that is to say, precisely eight years ago. It started modestly – as things should, from my point of view – as a newsletter about Cone shells, to be distributed among collectors, but thanks to the interest of many and the efforts of some, it soon took larger proportions.

André Poremski's collaboration changed an eminently amateur publication, a sort of fanzine, into a professionally laid out magazine, benefitting from top quality graphic arrangement. At the same time, André created our website at www.theconecollector.com, where we were able to upload not only the successive numbers of the magazine, but also the quite important sections by Mike Filmer and Paul Kersten, a few surprises being in store there, about which you will



read elsewhere in the present number of TCC.

The numbers of our magazine *The Cone Collector* are also uploaded in a number of websites belonging to friends, whom we thank for their help in spreading our work amongst as large as possible a number of interested readers.

The enthusiasm generated around our project and the generous and dynamic collaboration of Bill Fenzan and Manuel Tenorio allowed us to engage in even more ambitious initiatives: the International Cone Meetings.

We have managed to put them together as strictly amateur organizations, for which we could enlist the support of important Natural History Museums: the Staatliches Museum für Naturkunde in Stuttgart (2010), the Muséum d'Histoire Naturelle in La Rochelle (2012) and the Museo Nacional de Ciencias Naturales in Madrid (2014). We are very thankful to these prestigious institutions for their invaluable support and hope to find equally suitable partners in the future.

More than everything else, the TCC project contributed to the creation of a true Cone Community – as aptly mentioned by Gavin Malcolm in his presentation. We are now much more than a mere bunch of Cone lovers; without any strict official organization we have become a true community, structured by bonds of comradeship and friendship and linked by our interest in the collection and study of Cone shells, certainly one of the most fascinating groups of Molluscs.

The survey that Gavin organized gave us many suggestions – all quite pertinent of course – for improvement and we will try to comply henceforward. It also confirmed that much of what we have done so far has met with the general approval of the community, which is extremely gratifying for all those involved in the projected and obviously for me in particular. It does give us the strength to carry on and endeavour to

do better and better each time.

I will leave you with a few more candid photos taken in Madrid and illustrating the excellent ambiance during our entire meeting.



Examining the rarities at the mini-bourse



At the beginning of a session



Kouka, Christophe, Loïc, Eric and Alain at lunch time



Another view of the mini-bourse



Some interesting while relaxing at the entrance to the museum: Günther Herndl, André Poremski, Manuel Tenorio, Christophe Roux, Eric Monnier, George and Lucy Muehleisen, Nicolas Puillandre, Loïc Limpalaër, Michaël Rabiller



During the workshops



Benito Muñoz Sánchez, Rafael Zardoya, André Poremski, Manuel Tenorio



Gabriella Raybaudi-Massilia and António Monteiro



Eric Monnier



Gabriella, Günther, Eric and Loïc

I thank all those who made photos available: Paulo Granja, Günther Herndl, Michaël Rabiller, Benito Muñoz Sánchez and Stephan Veldsman.

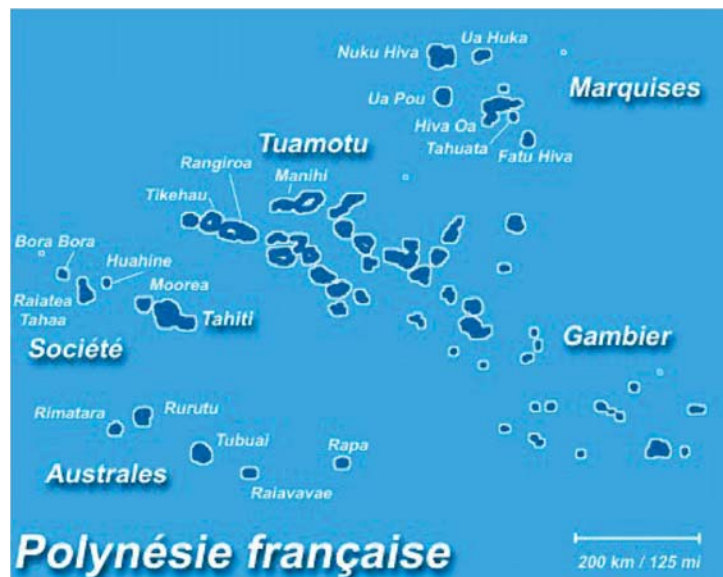
Iconography of Cones from French Polynesia

David Tuitou & Michel Balleton

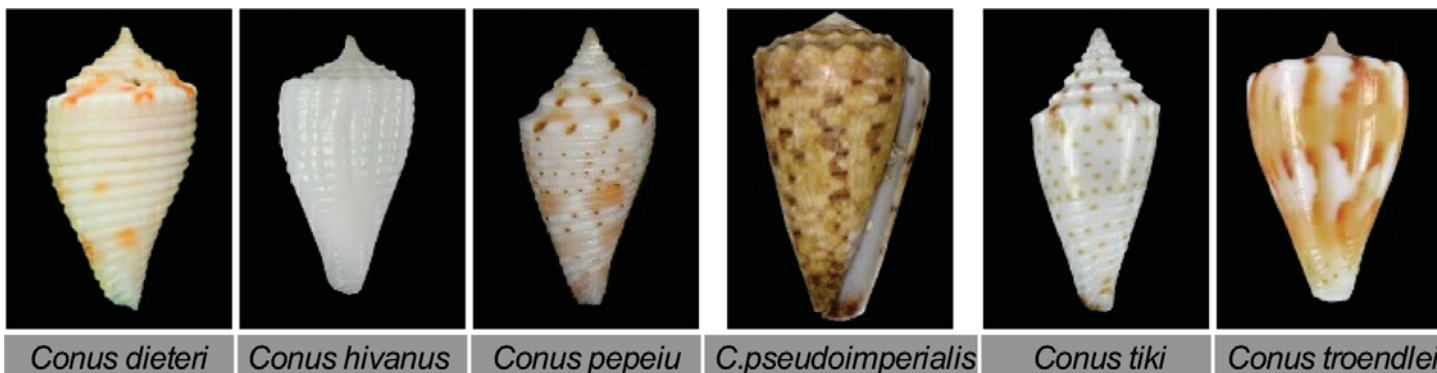
Showing full revision in October, 2013 and updated January 2014

Iconography Key

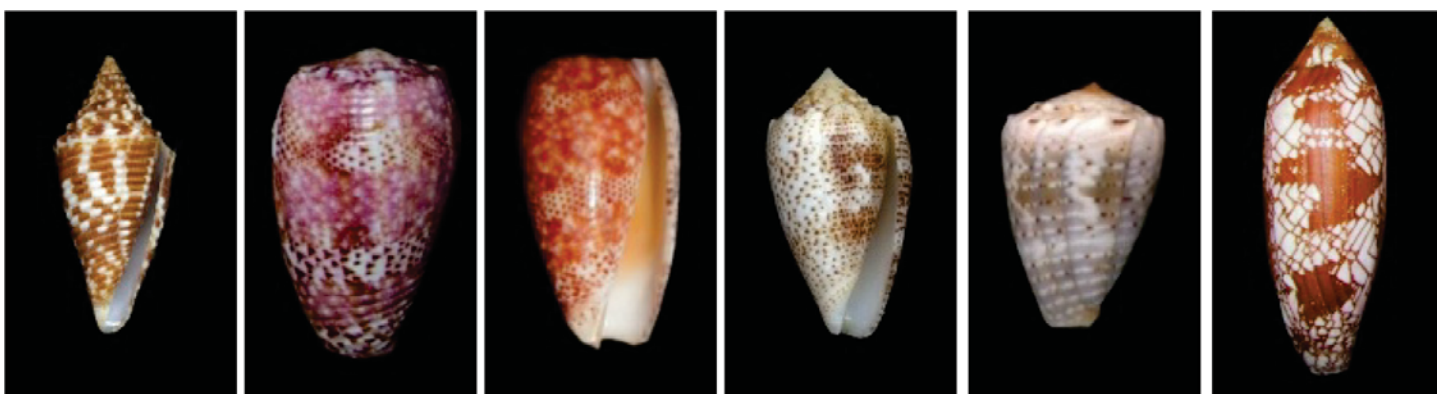
(M): Marquesas color variation
(PE): image from perlae.fr (website down)
(SP): image from www.shellspassion.com
(TUA) : C. textile variation from Tuamotu
(CS) : image from ww.coneshell.net



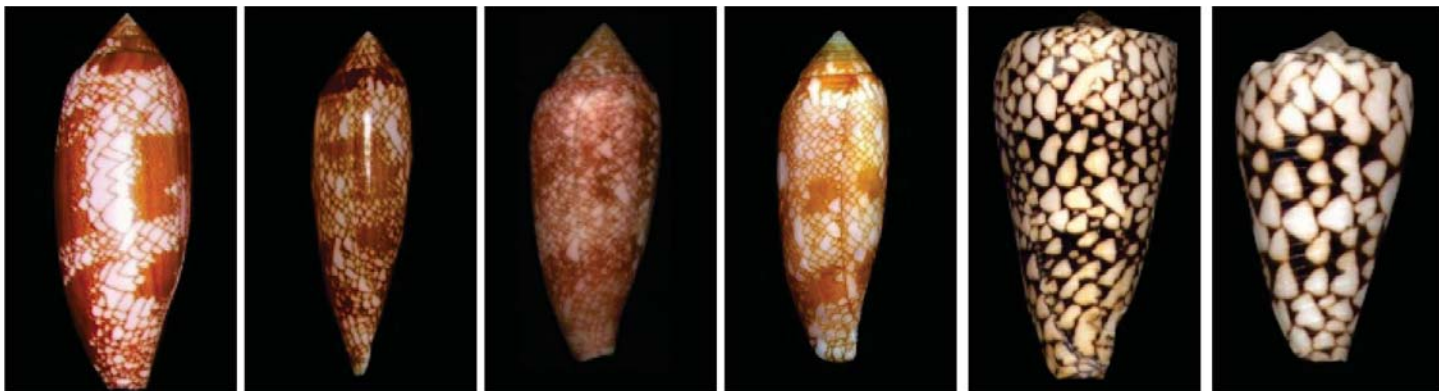
Recent descriptions (Deep Water species from Marquesas)



Images copyright : MNHN (Paris, France) *Conus pseudoimperialis* have been also found in the Marquesas live by divers in 25-35m and is not restricted to deep water.



C. acutangulus *C. adamsonii* *C. adamsonii* (M) *C. arenatus* *C. aristophanes* *C. auratinus*



C. auratinus

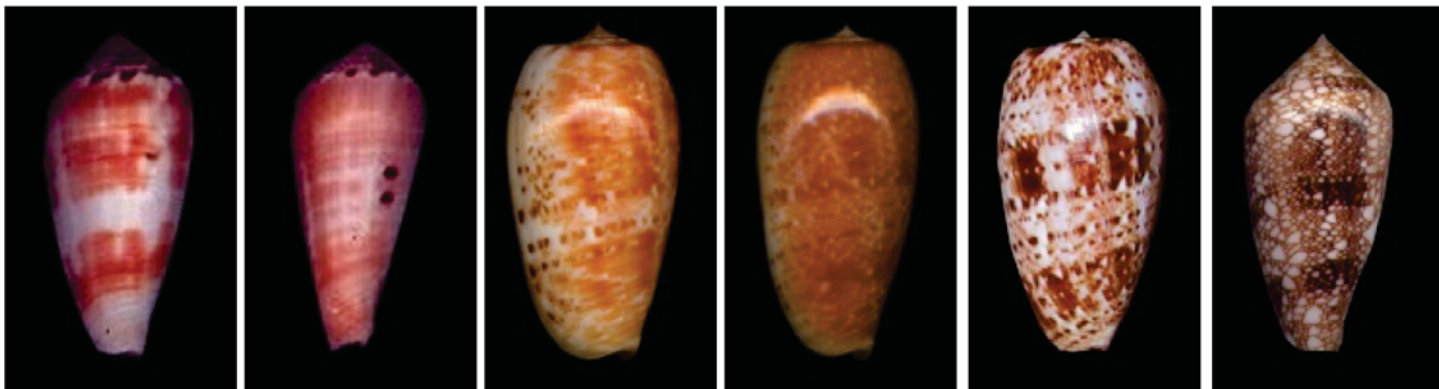
C. auratinus

C. aureus

C. auricomus

C. bandanus

C. bandanus



C. boutetorum

C. boutetorum

C. bullatus

C. bullatus

C. bullatus (M)

C. canonicus



C. catus

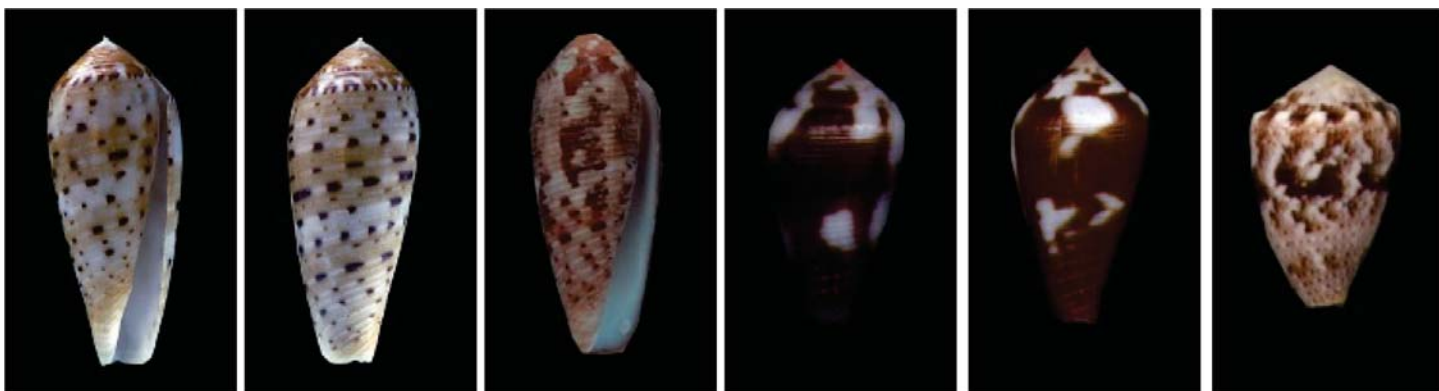
C. catus

C. catus

C. catus (M)

C. chaldeus

C. chaldeus



C. circumcisis

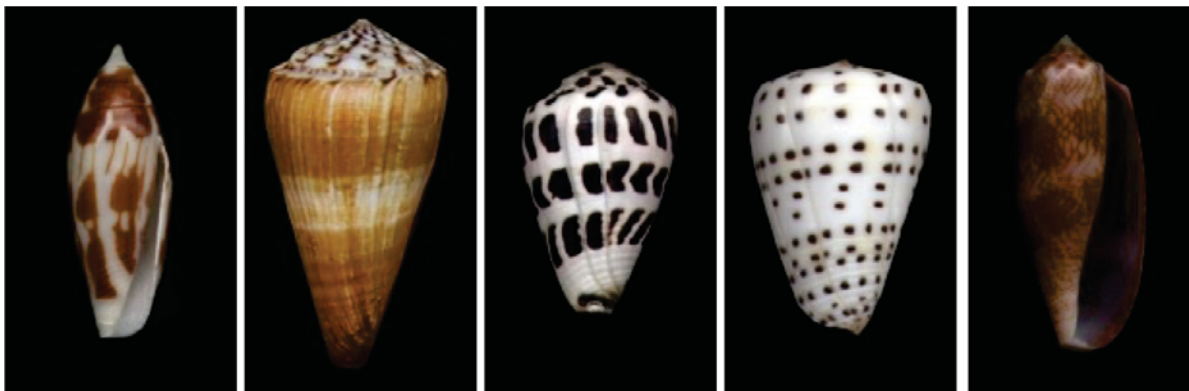
C. circumcisis

C. circumcisis

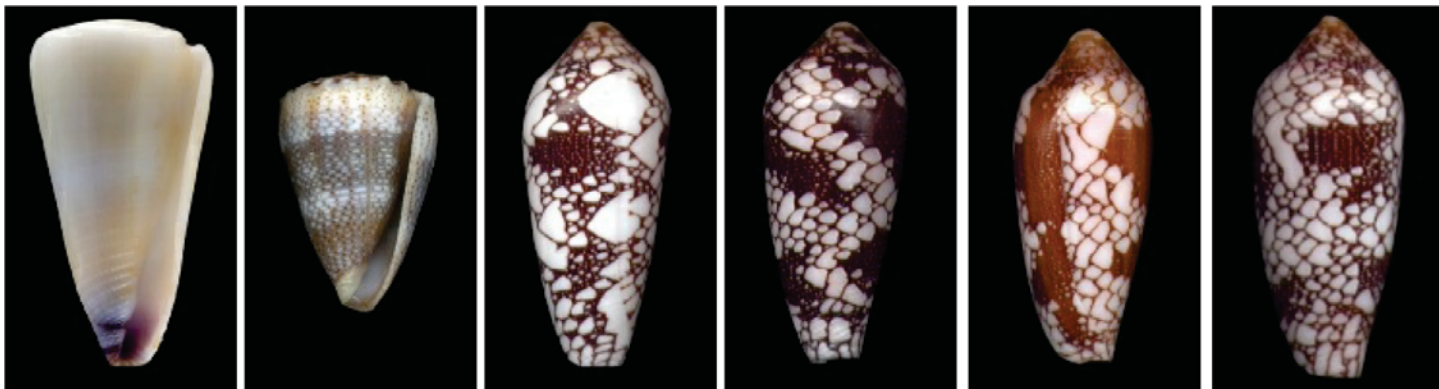
C. coffeae

C. coffeae

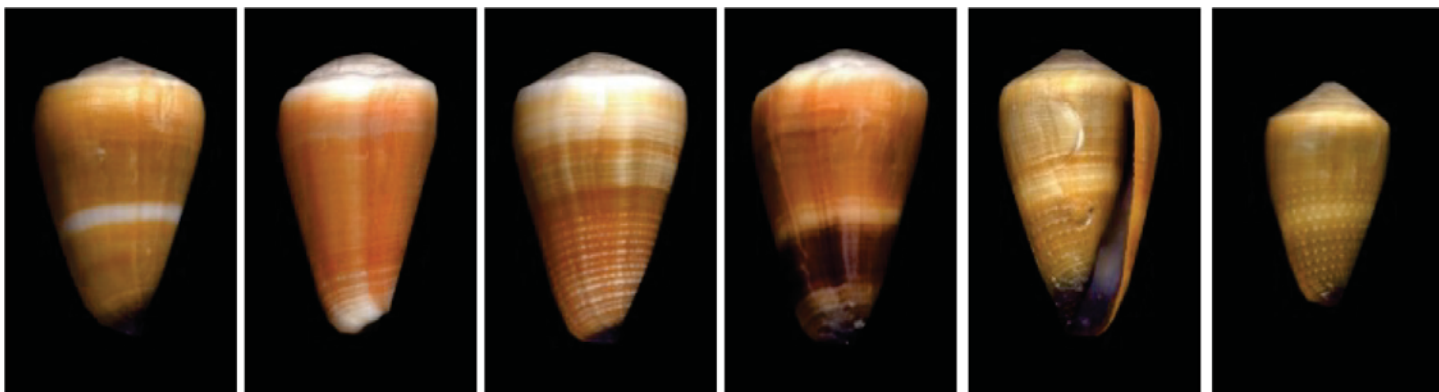
C. coronatus



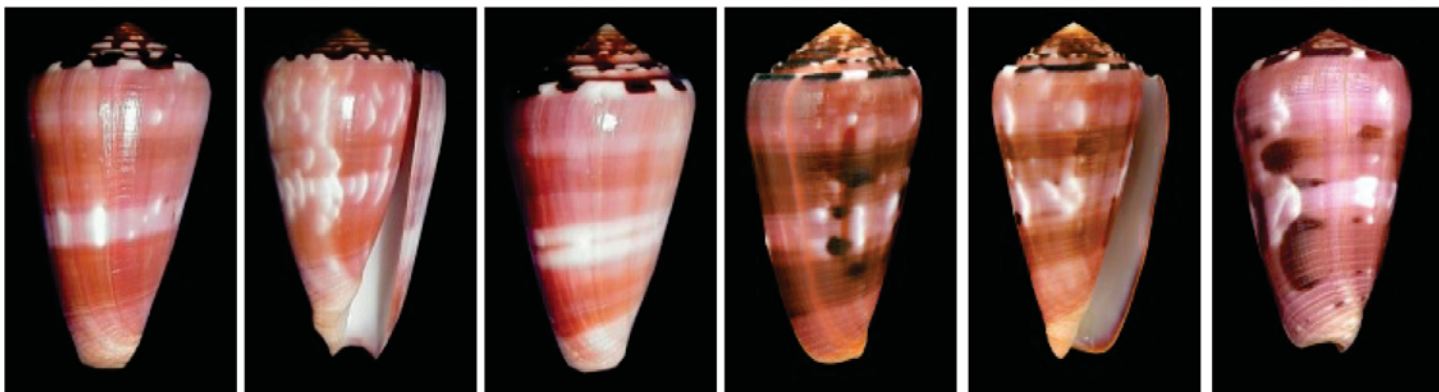
C. cylindraceus *C. distans* *C. ebraeus* *C. eburneus* *C. eldredi*



C. emaciatius *C. encaustus* *C. episcopatus* *C. episcopatus* *C. episcopatus* *C. episcopatus*



C. flavidus *C. flavidus* *C. flavidus* *C. flavidus* *C. frigidus* *C. frigidus*



C. gauguini (PE) *C. gauguini* (PE) *C. gauguini* (PE) *C. gauguini* (SP) *C. gauguini* (SP) *C. gauguini*



C. generalis

C. geographus

C. glans

C. imperialis

C. imperialis

C. imperialis



C. judaeus

C. legatus

C. legatus

C. leopardus

C. leopardus

C. litoglyphus



C. litteratus

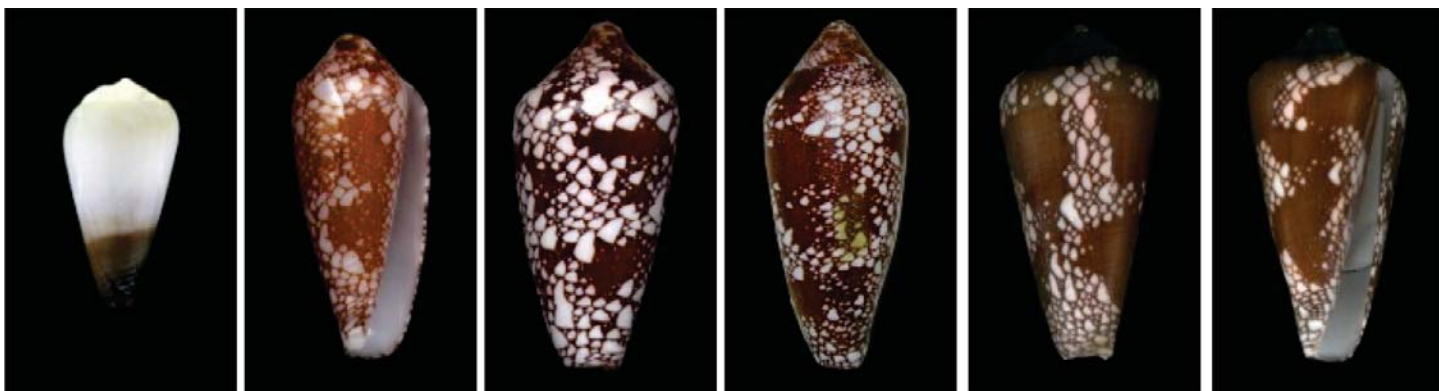
C. litteratus

C. lividus

C. lividus

C. lividus

C. luteus



C. mcbridei

C. magnificus

C. magnificus

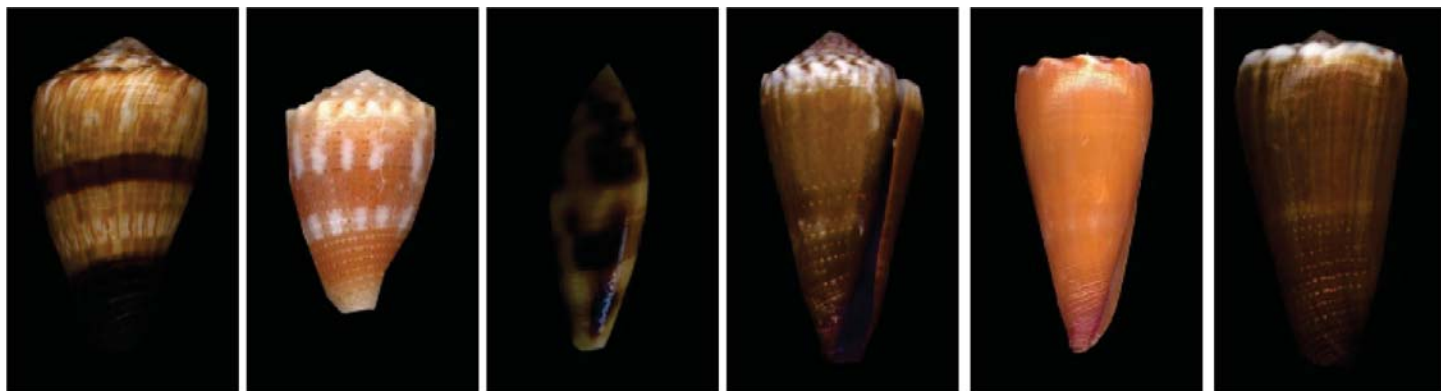
C. magnificus

C. magnificus (M)

C. magnificus (M)



C. marchionatus (SP) *C. marchionatus* (SP) *C. marchionatus* (SP) *C. marchionatus* *C. marielae* *C. marielae*



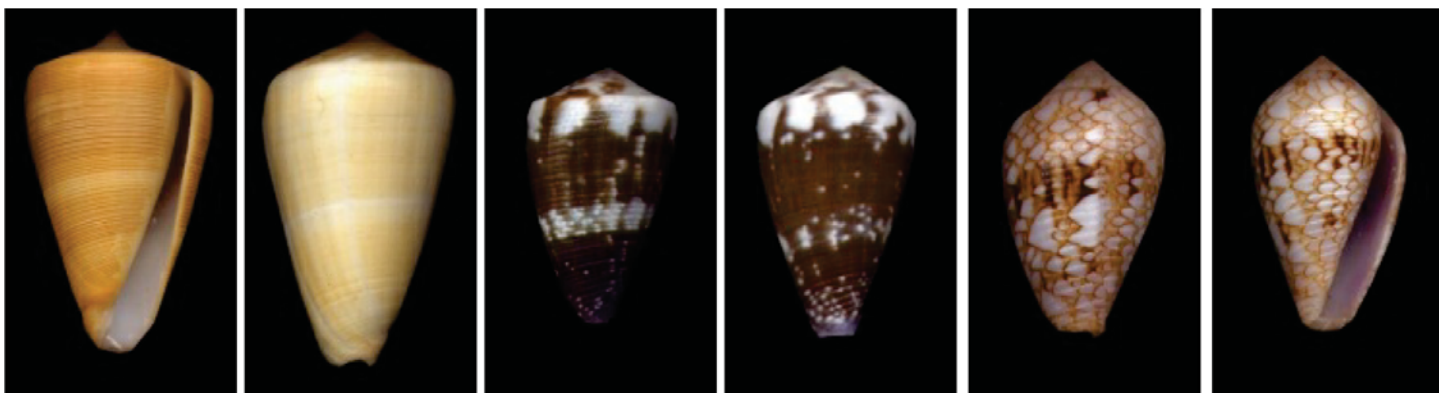
C. miles *C. miliaris* *C. mitratus* *C. moreleti* *C. moreleti* (M) *C. moreleti*



C. nanus *C. nussatella* *C. obscurus* *C. pertusus* *C. pertusus* *C. pertusus*



C. pulicarius *C. pulicarius* *C. pulicarius* *C. pulicarius* *C. pulicarius* *C. pulicarius*



C. quercinus

C. quercinus

C. rattus

C. rattus

C. retifer

C. retifer



C. retifer

C. retifer

C. retifer

C. retifer

C. retifer

C. retifer



C. sanguinolentus

C. sanguinolentus

C. sponsalis

C. striatus

C. striatus

C. striatus



C. sugillatus

C. sugillatus

C. sugillatus

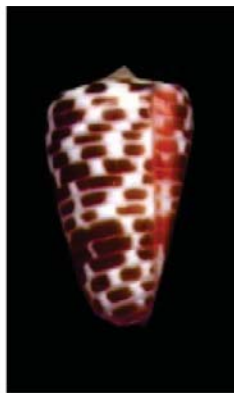
C. tenuistriatus

C. terebra

C. terebra



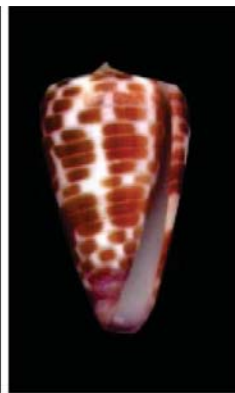
C. tessulatus



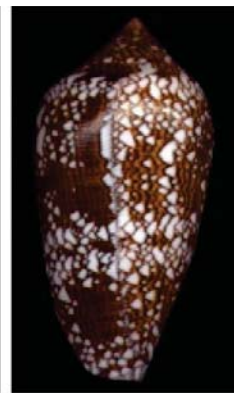
C. tessulatus



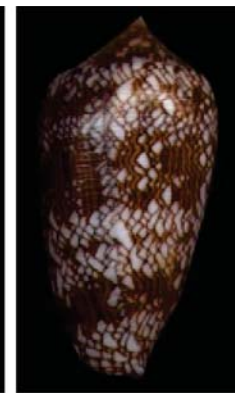
C. tessulatus



C. tessulatus



C. textile



C. textile



C. textile



C. textile



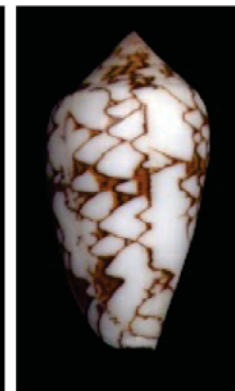
C. textile



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textile (TUA)



C. textilinus



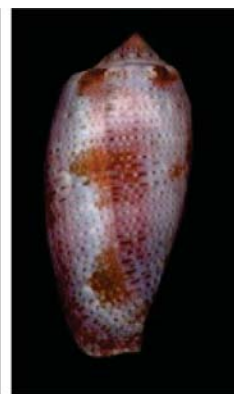
C. textilinus



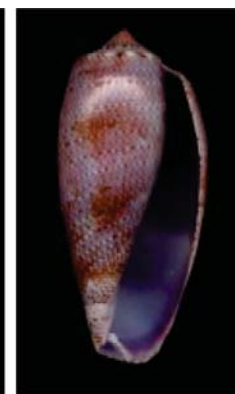
C. textilinus (SP)



C. textilinus (SP)



C. tulipa



C. tulipa



C. vautieri (CS)



C. vautieri (CS)



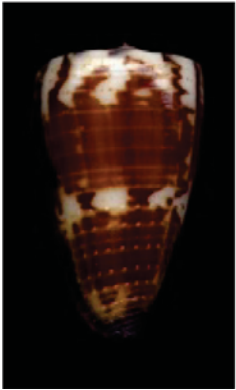
C. vexillum



C. virgo



C. virgo



C. vitulinus



C. vitulinus



C. vitulinus



C. vitulinus



C. vitulinus



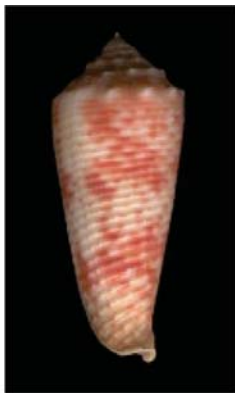
C. vitulinus



C. vappereaui



C. vappereaui



C. vappereaui



C. vappereaui

Iconography of Cones from Martinique & Guadeloupe

David Touitou & Janine Jacques

First published by Touitou David in 2005, updated in March 2014

A few more species and new species from this area will be added to our work later (2014), after the publication of Dominique Lamy.

Acknowledgements

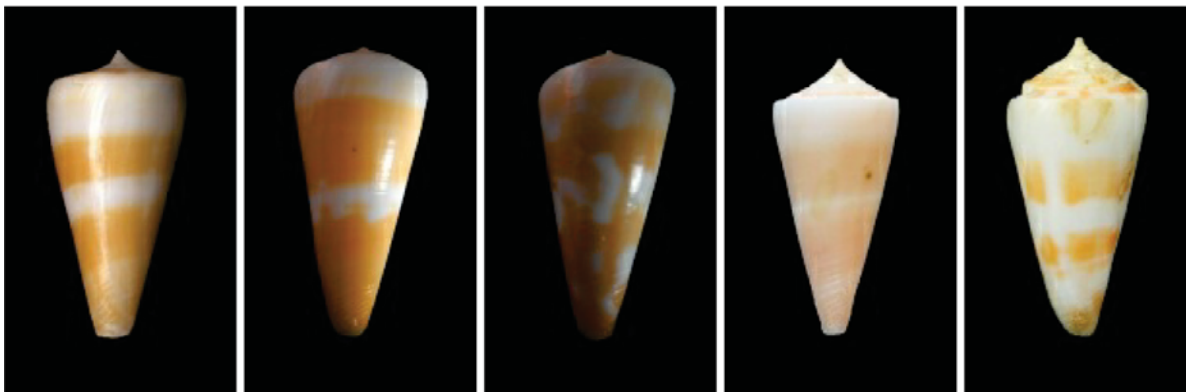
Dominique Lamy, Bernard Duré, Pierre Clovel, Michael Tosato, Loic Limpalaër, Michael Tosato, John K Tucker

***Attenuiconus attenuatus* (Reeve, 1844)**

Rarity : rare

Size : 20-35 mm

Distribution : Martinique & Guadeloupe



C. attenuatus
(Martinique)

C. attenuatus
(Guadeloupe)

C. attenuatus
(Guadeloupe)

C. attenuatus
(Martinique)

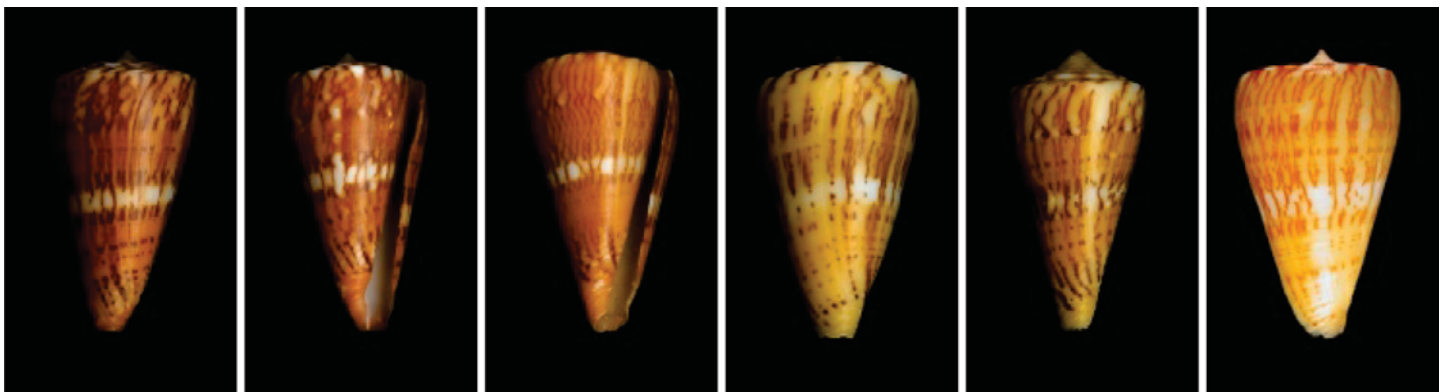
C. attenuatus (SP)
(Martinique)

***Dauciconus boui* (da Motta, 1988)**

Rarity : rare

Size : 20-40 mm

Distribution : Martinique



C. boui Orange
(Martinique)

C. boui Orange
(Martinique)

C. boui Orange
(Martinique)

C. boui Yellow
(Martinique)

C. boui Yellow
(Martinique)

C. boui
Holotype (**)

(**) : Conus Biodiversity website Repository: MHNG Type Locality: Pte. de la Baleine, SW coast of Martinique.
Photo Credit: Alan J. Kohn

We consider it as a valid species. So many differences between both *C. boui* and *C. daucus* : Shell pattern, animal color, average size, depth, habitat are completely different between these species. We have collected both species live and assume totally our choice of level species according to da Motta. It can be found during the daytime at depth from 10 to 40 meters hiding in grass and sand, often not buried, just laying. It seems more common in 25-35m. In Martinique, it has been found in the south caribbean coast only.

***Kohniconus centurio* (Born, 1778)**

Rarity : rare

Size : - mm

Distribution : Guadeloupe



(**) : Conus Biodiversity website Repository: NHMW
Type Locality: Puerto Plata, Santo Domingo
Photo Credit: Anita Eschne

Several populations occurred in Guadeloupe in the past. Some have declined after hurricane Marilyn. It can be found between 8 and 15 meters.

C. centurio

(St Barthélemy)

C. centurio

(St Barthélemy)

C. centurio

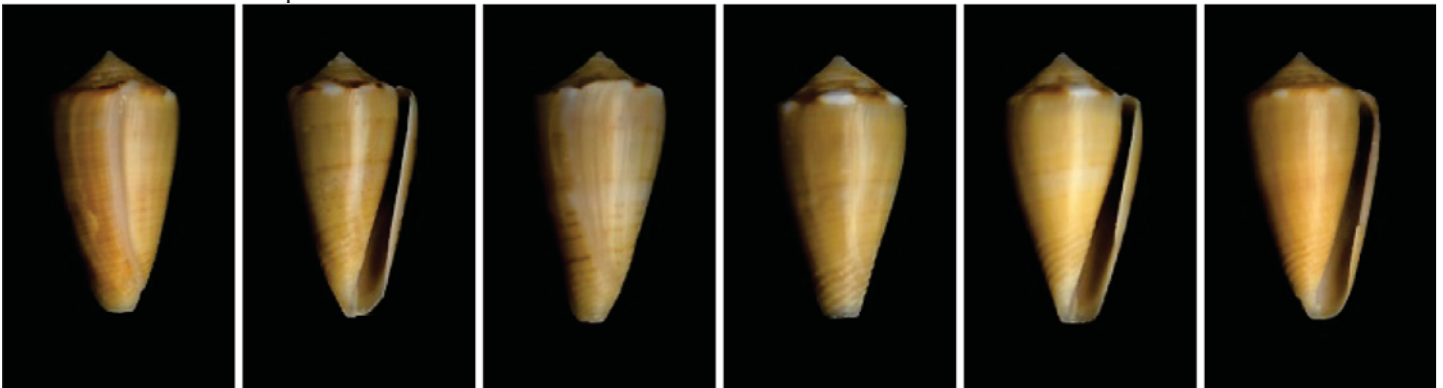
Holotype (**)

***Poremskiconus colombi* Monnier & Limpalaër, 2012**

Rarity : common beached

Size : 15-30 mm

Distribution : Martinique



C. colombi

(Martinique)

C. colombi

(Martinique)

C. colombi

(Martinique)

C. colombi

(Martinique)

C. colombi

(Martinique)

C. colombi

(Martinique)

These small shells have been a real nightmare for collectors and malacologists. Before it was described (2012), this very localized species from Le Vauclin (Martinique) was sometimes called *Conus burryae*, which is found in Florida, effectively it is close to this specie but it can be easily separated when you look carefully at the shells (spire). Very recently it has been finally described as *Conus colombi*. Some collectors related these shells to *Conus hennequini* but they are clearly very different. I have found hundreds of empty shells in Le vauclin in sand patches between grass fields in 2-4 meters of water. Shells must live in this habitat and may be found during the night.



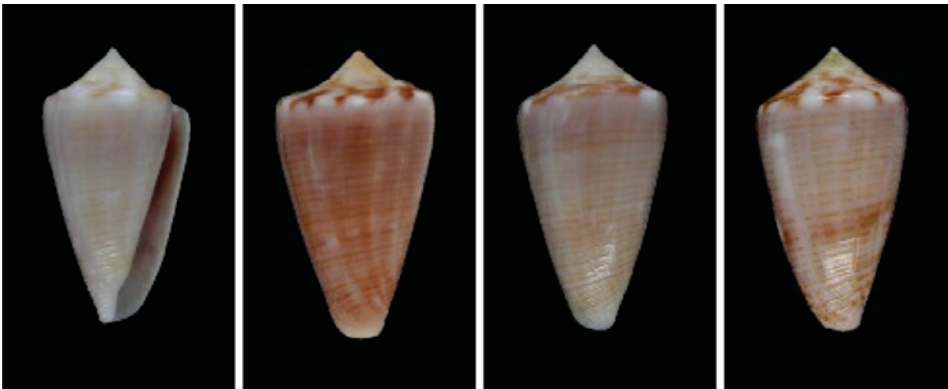
C. colombi
Holotype (*)
(Martinique)

C. colombi
Holotype (*)
(Martinique)

C. burryae
Holotype (**)
(Florida)

C. hennequini
Holotype (**)
(Martinique)

C. hennequini
Holotype (**)
(Martinique)



C. colombi
Paratype (*)
(Martinique)

C. colombi
Paratype (*)
(Martinique)

C. colombi
Paratype (*)
(Martinique)

C. colombi
Paratype (*)
(Martinique)

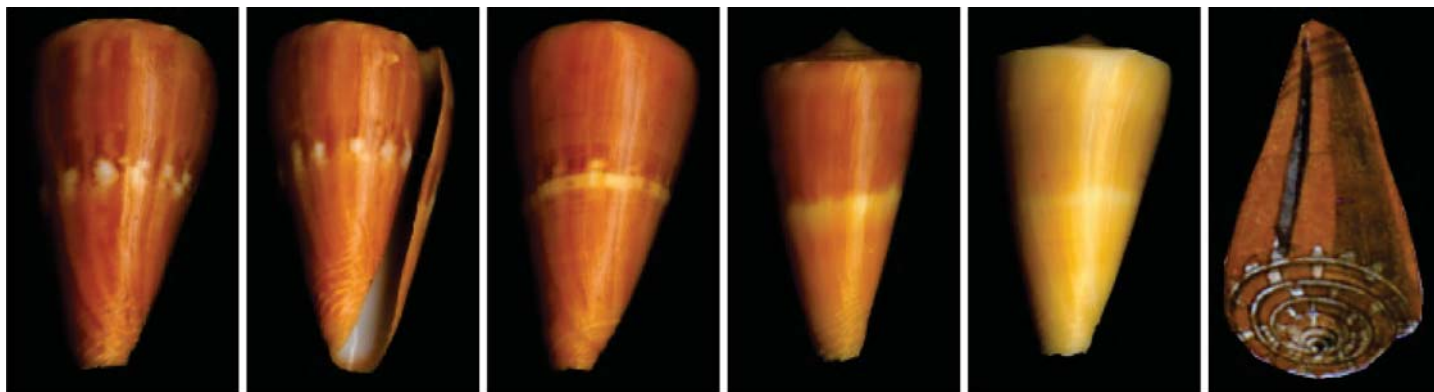
(*) : in the courtesy of Loïc limpalaër
(**) : Conus Biodiversity website

Dauciconus daucus (Hwass, 1792)

Rarity : uncommon now

Size : 30-70 mm

Distribution : Martinique & Guadeloupe



C. daucus
(Martinique)

C. daucus
(Martinique)

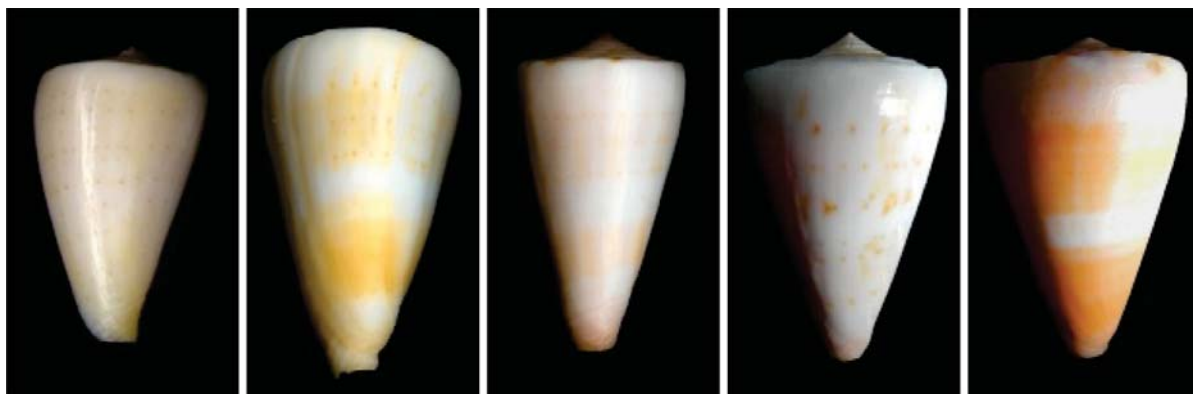
C. daucus
(Martinique)

C. daucus
(Martinique)

C. daucus
(Martinique)

C. daucus
Lectotype (**)

(**) Conus Biodiversity website (Representation of Lectotype of Conus daucus Hwass in Bruguière, 1792 Repository: Chemnitz (1788: pl. 144A, fig. L)



C. daucus
(Martinique)

C. daucus
(Martinique)

C. daucus
(Martinique)

C. daucus
(Guadeloupe)

C. daucus
(Guadeloupe)

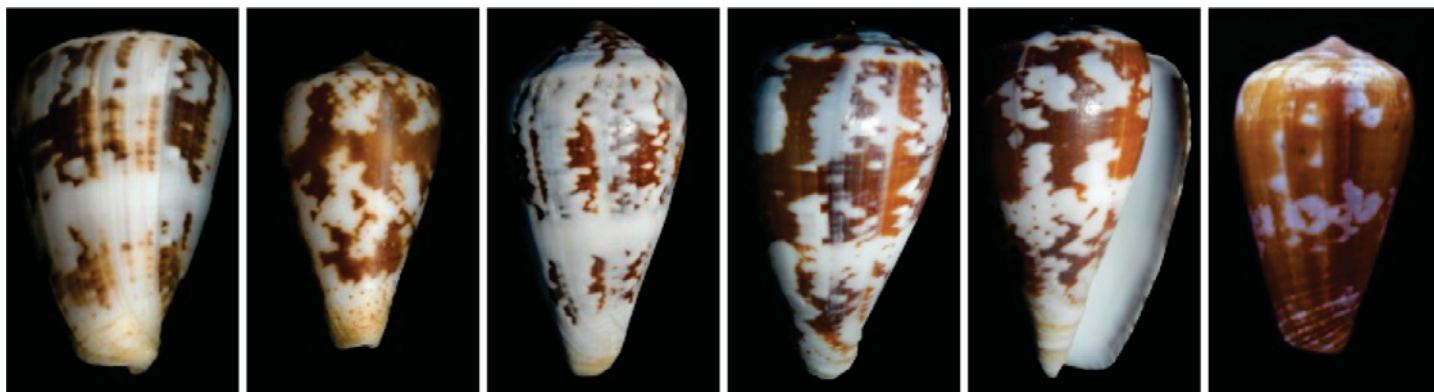
This specie is very variable in color. Animal color may also vary. The most common color is the nice orange that gave its name as the "Carrot Cone". Though, yellow, brown and white shells may be found too. The white ones may have also nice pink spots and sometime a pinkish overall color too. This shell may be found in a few meters, hidden in rocky fissures often camouflated with its "algae periostracum". Big gem specimens are difficult to find now.

***Chelyconus ermineus* (Born, 1778)**

Rarity : actually probably disappeared from this area

Size : 40-80 mm

Distribution : Martinique & Guadeloupe



C. ermineus
(Martinique)

C. daucus
(Martinique)

C. daucus
(Guadeloupe)

C. daucus
(Martinique)

C. daucus
(Martinique)

C. daucus
Lectotype (**)

(**) : Conus Biodiversity website Repository: NHMW, Photo Credit: Alan J. Kohn, Type Locality: "Indiis," from Martini (1773)

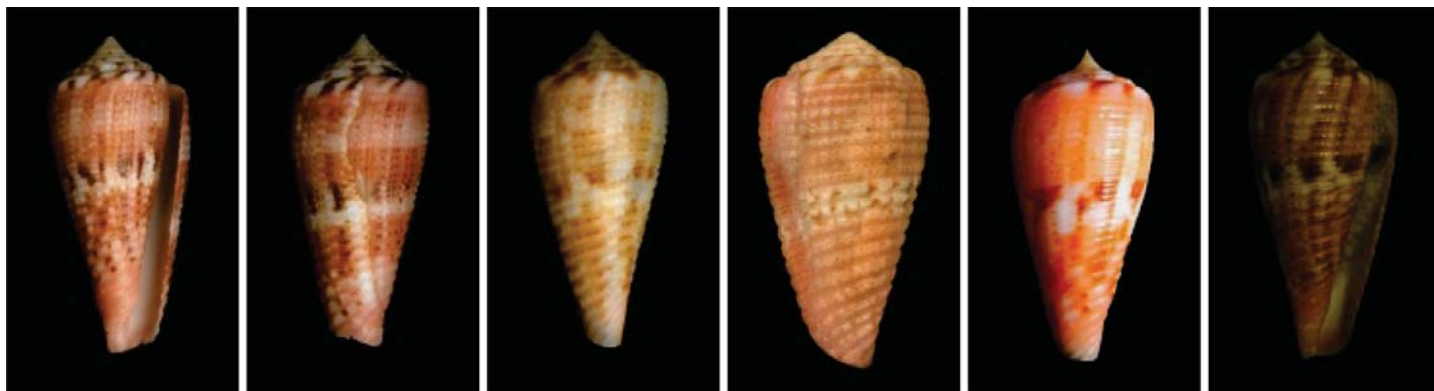
In Martinique, divers have seen (before year 2000) hundreds of empty fresh dead shells (south Martinique) in their diving spots. Might this suggest that this specie has been decimated by pollution, virus, bacteria, or parasite?

***Atlanticonus granulatus* (Linnaeus, 1758)**

Rarity : very rare

Size : 30-70 mm

Distribution : Martinique & Guadeloupe



C. granulatus
(S. Martinique)

C. granulatus
(S. Martinique)

C. granulatus
(N. Martinique)

C. granulatus
Lectotype (**)

C. granulatus
(N.E. Guadeloupe)

C. granulatus
(S. Martinique)

(**) : Conus Biodiversity website Repository: LSL Type Locality: Jamaica Photo Credit: LSL (Linnean Society of London)

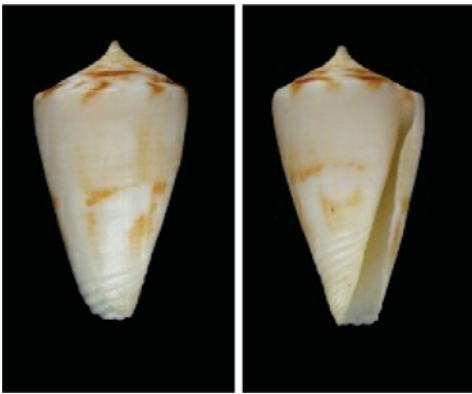
This very nice and rare shell may be found deeply hidden in rocky crevices. I only found one empty shell in 5m of water off north Martinique (Caribbean side). Divers have found also some fresh dead specimens in 5-10m off south Martinique (Caribbean side). Specimens have been also found on the Atlantic side like the fifth specimen shown (from Guadeloupe).

***Purpuriconus hennequini* (Petuch, 1993)**

Rarity : ? This shell is collected in a very restricted area.

Size : mm

Distribution : Martinique



(**) : Conus Biodiversity website Repository: MNHN
Type Locality: La Vauclin, Martinique, French West
Indies. Photo Credit: Alan J. Kohn

<i>C. hennequini</i>	<i>C. hennequini</i>
Holotype (**)	Holotype (**)
(Martinique)	(Martinique)

***Purpuriconus magellanicus* (Hwass in Bruguière, 1792)**

Rarity : Rare now

Size : to 20 mm

Distribution : Guadeloupe



This tiny species may only be found in a restricted area and from 6 to 18 meters. It was found in less than 6 meters in the past but has been overcollected by some at this depth.

(**) : Conus Biodiversity website
Repository: MHNG Type Locality:
Strait of Magellan [erroneous] Photo
Credit: Alan J. Kohn

<i>C. magellanicus</i>	<i>C. magellanicus</i>	<i>C. magellanicus</i>	<i>C. magellanicus</i>
(Guadeloupe)	(Guadeloupe)	Lectotype (**)	(Guadeloupe)

***Dalliconus mazei* (Deshayes, 1874)**

Rarity : deep water species

Size : 40 - 50mm

Distribution : Martinique & Guadeloupe



C. mazei 250 m
(Guadeloupe)

C. mazei 250 m
(Guadeloupe)

C. mazei
Holotype (**)

C. mazei
Holotype (**)

This deep water species may be found from 90-250 meters of water.

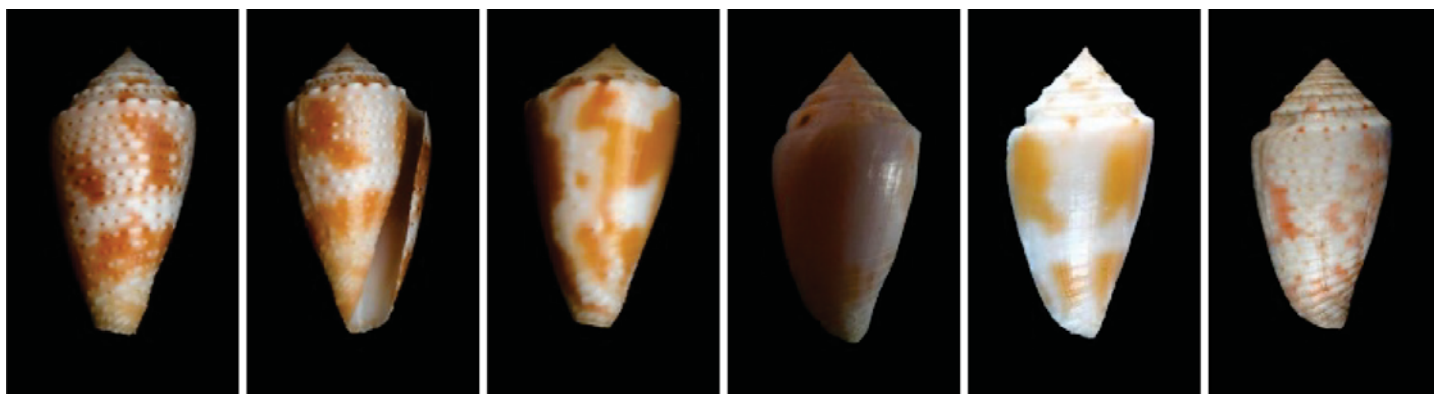
(**) : Conus Biodiversity website
Repository: MNHN Type Locality:
Martinique; 90 m Photo Credit:
Alan J. Kohn

***Jaspidiconus mindanus* (Hwass in Bruguière, 1792)**

Rarity : uncommon

Size : 10-30 mm

Distribution : Martinique & Guadeloupe



C. mindanus
(Martinique)

C. mindanus
(Martinique)

C. mindanus
(Martinique)

C. mindanus
(Guadeloupe)

C. mindanus
(Martinique)

C. mindanus
Lectotype (**)

(**) : Conus Biodiversity website Repository: MHNG Type Locality: N. of Nellies Point, South Lake Worth, Florida; 46 m Photo Credit: Alan J. Kohn

I found this species in 15m of water. It used to be easy to find in the past. This species may be found crawling on the sandy areas of the rocky shorelines at night. During the daytime it is buried in the sand patches.



C. mindanus
(Martinique)

C. mindanus
(Martinique)

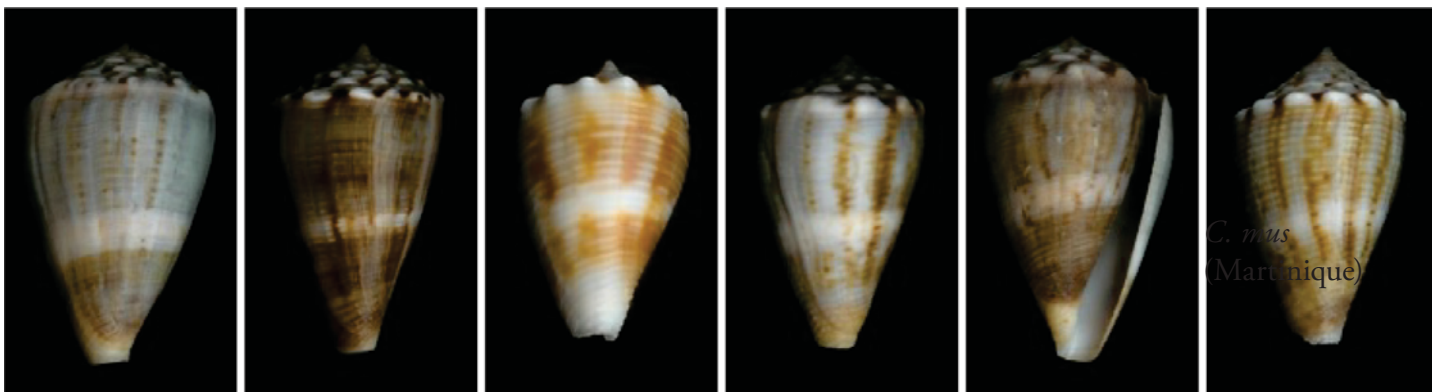
C. mindanus
(Guadeloupe)

***Gladioconus mus* (Hwass in Bruguière, 1792)**

Rarity : common to uncommon

Size : 20-50 mm

Distribution : Martinique & Guadeloupe



C. mus
(Martinique)

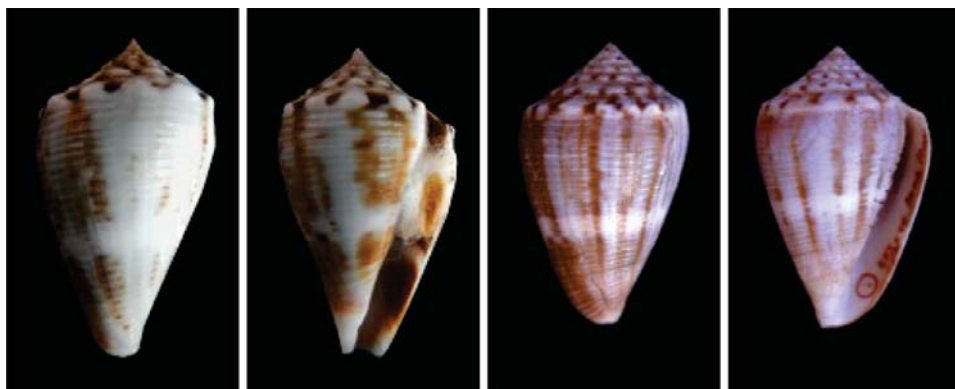
C. mus
(Martinique)

C. mus
(Martinique)

C. mus
(Martinique)

C. mus
(Martinique)

This is not a rare shell but is hard to spot sometimes due to its color. It lives usually in 1-10 meters of water along rocky shorelines in small crevices or under rocks.



C. mus
(Guadeloupe)

C. mus
(Guadeloupe)

C. mus
Lectotype (**)

C. mus
Lectotype (**)

(**) : Conus Biodiversity website
Repository: MHNG Type Locality:
Guadeloupe Photo Credit: Alan J.
Kohn

***Dauciconus norai* (da Motta & G. Raybaudi Massilia, 1992)**

Rarity : actually rare

Size : 30-60 mm

Distribution : Martinique



C. norai
(Martinique)

C. norai
(Martinique)

C. norai
(Martinique)

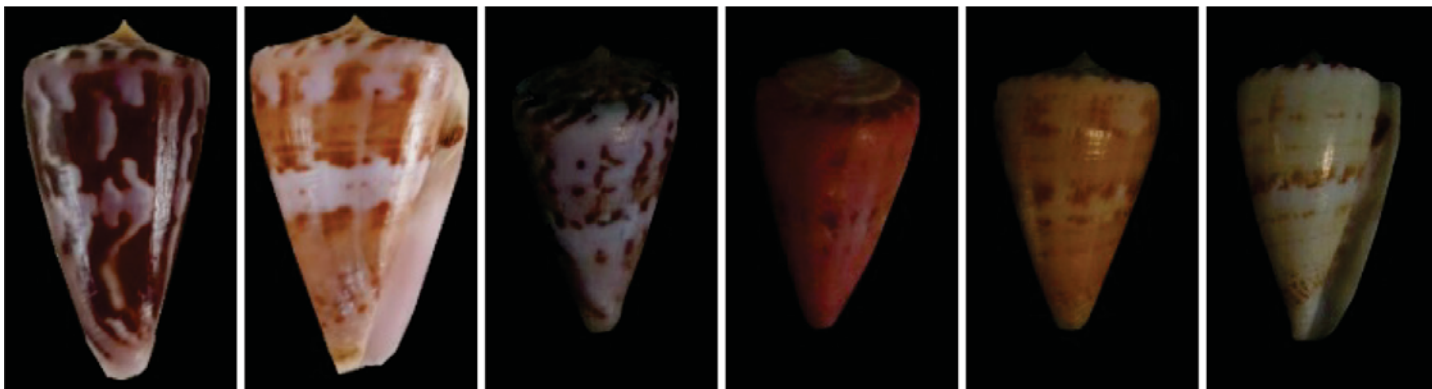
C. norai
(Martinique)

C. norai
(Martinique)

C. norai
Holotype (**)

(**) Conus Biodiversity website Repository: MHNG Type Locality: Pte. de la Baleine, SW coast of Martinique. Photo Credit: Alan J. Kohn

This shell is rarer than in the past. It seems to occur deeper than *Conus daucus*. Live shells usually come from 20-45 meters of water. Recent finds in Guadeloupe could extend the actual range of this supposed endemic species.



C. norai
(Martinique)

C. norai
(Martinique)

C. norai
(Martinique)

C. norai
(Martinique)

C. norai
(Martinique)

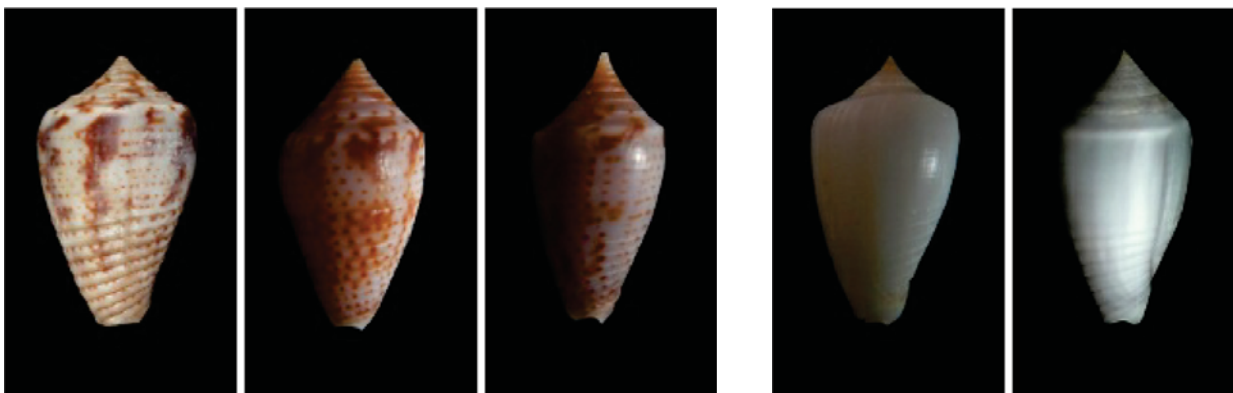
C. norai
(Martinique)

***Perplexiconus puncticulatus* (Hwass in Bruguière, 1792)**

Rarity : common

Size : 10-20 mm

Distribution : Martinique & Guadeloupe



C. puncticulatus
Lectotype (**)

C. puncticulatus
(Martinique)

C. puncticulatus
(Martinique)

C. p.f. columba
(Guadeloupe)

C. p.f. columba
(Martinique)

(**) Conus Biodiversity website Repository: MHNG Type Locality: Colón, Panama Photo Credit: Alan J. Kohn

This shell is commonly found on the Atlantic side, in 1m of water. If you swim in many beaches in Martinique, you may find hundreds of empty shells of *C. puncticulatus* and *C. puncticulatus* f. *columba*. They live in grass fields and sand patches. They bury in the sand during the daytime. Sometimes (breeding season?) they can be found grouped even during the daytime.

***Jaspidiconus pusio* (Hwass in Bruguière, 1792)**

Rarity : uncommon

Size : 10-20 mm

Distribution : Martinique & Guadeloupe



C. pusio
(Martinique)

C. pusillus
Lectotype (**)

(**) Conus Biodiversity website Repository: MHNG Type Locality: Guinea [erroneous] Photo Credit: Alan J. Kohn

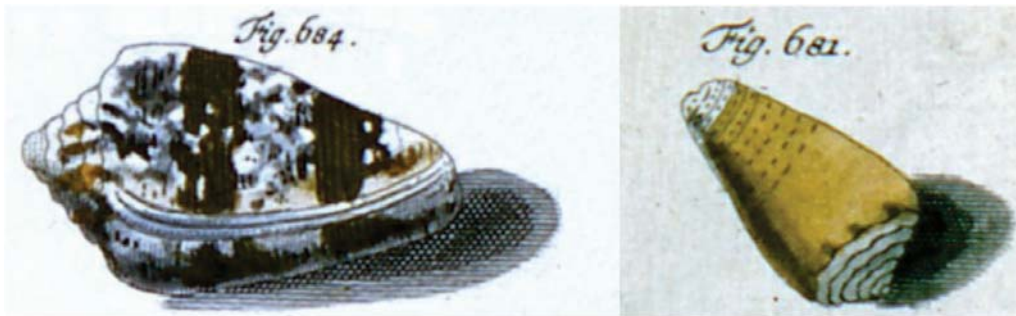
The name *Conus pusillus* Lamarck, 1810 had been used until Vink revealed that it was a synonym of *Conus pusio* earlier described (1792 versus 1810), that is the reason why the taxa to be actually used is *Conus pusio* Hwass, 1792.

***Stephanoconus regius* (Gmelin, 1791)**

Rarity : common

Size : 30-70 mm

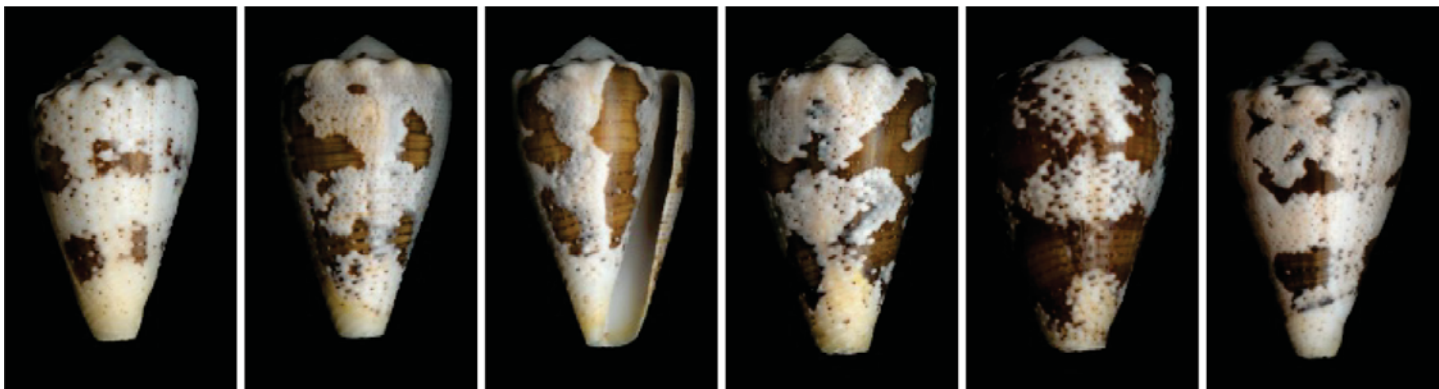
Distribution : Martinique & Guadeloupe



Representation of Lectotype of *Conus ammiralis regius* Gmelin, 1791 Repository: Martini (1773: pl. 62, fig. 684)

Representation of Lectotype of *Conus citrinus* Gmelin, 1791 Repository: Martini (1773: pl. 61, fig. 681)

This specie is commonly found from shallow water to 20-30 meters deep. It's feeding on the well known "fire-worm". This specie is highly variable. We could say that every specimen is unique. In my opinion the best way to separate them is to arrange specimens in several color variations : the dark ones (overall dark brown pattern), the clear ones (overall clear pattern), the yellow and orange ones that I call "*citrinus* variation" and of course all the others that are intergrades between these three main color pattern variations. In 2000-2002 I sent a lot of samples for molecular research on this species and results have shown that there is only one species. So for that reason the *citrinus* name must be used as a variation name only. The animal is clearly the same in all kind of variations. *Conus regius* can be found during daytime resting sided to huge rocks, in sandy crevices along the rocky shoreline. It may also burry like most cones. It can be found also crawling during the day time, usually around 16h00, before the end of the day.



C. regius
Clear variation
(Martinique)

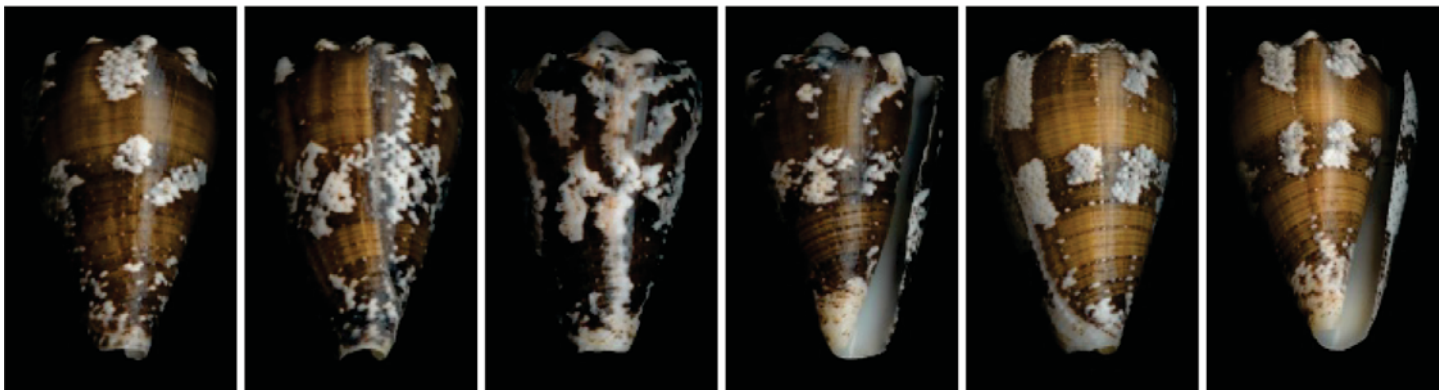
C. regius
Clear variation
(Martinique)

C. regius
Clear variation
(Martinique)

C. regius
Clear variation
(Martinique)

C. regius
Clear variation
(Martinique)

C. regius
Clear variation
(Martinique)



C. regius
Dark variation
(Martinique)

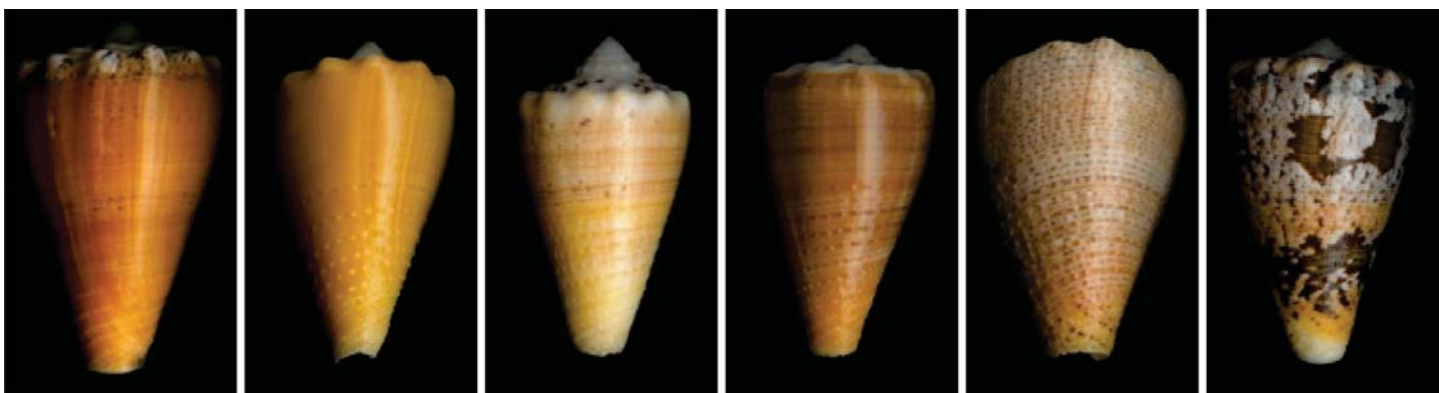
C. regius
Dark variation
(Martinique)

C. regius
Dark variation
(Martinique)

C. regius
Dark variation
(Martinique)

C. regius
Dark variation
(Martinique)

C. regius
Dark variation
(Martinique)



C. regius
citrinus variation
(Martinique)

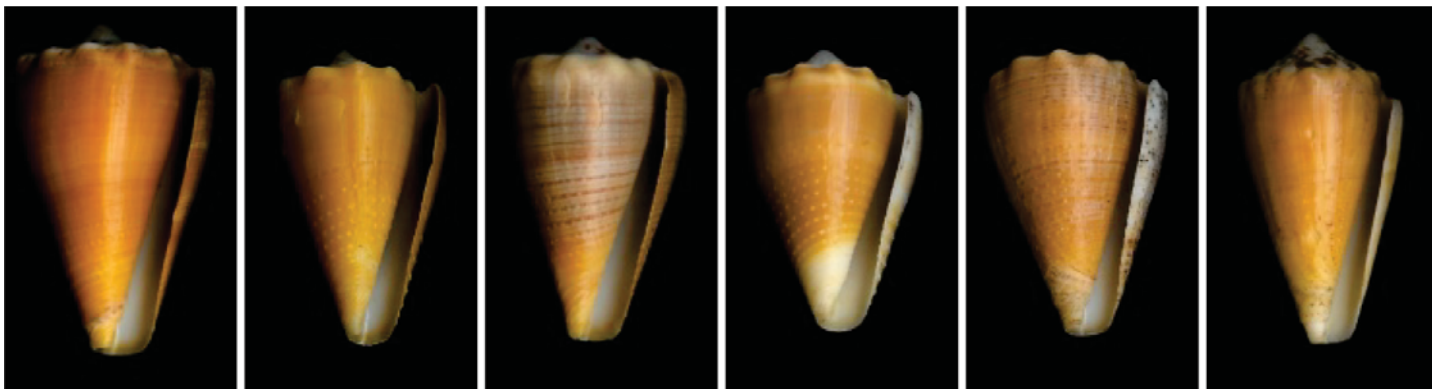
C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus intergrade
(Martinique)



C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

C. regius
citrinus variation
(Martinique)

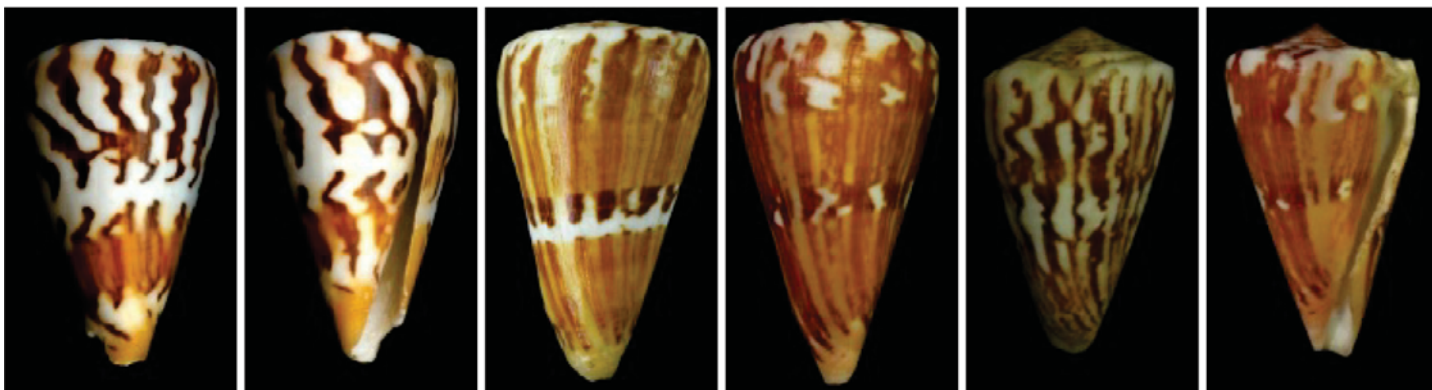
C. regius
citrinus variation
(Martinique)

***Dauciconus riosi* (Petuch, 1986)**

Rarity : very rare

Size : 40-70 mm

Distribution : Martinique



C. riosi
(Martinique)

C. riosi
(Martinique)

C. riosi
Holotype (**)

C. riosi
(Martinique)

C. riosi
(Martinique)

C. riosi
(Martinique)

(**) Conus Biodiversity website Repository: MORG Type Locality: Salvador, Bahia State, Brazil; Trawled 50 m. Photo Credit: Paulo Mârcio Costa

This shell is very rare. I only found one empty shell in 40m of water. Though very nice specimens have been found fresh dead in the past in Fort-de-France bay in moderately deep water (40-60m). It's a very nice shell and it may reach big sizes. Actually *Conus riosi* applies to Martinique populations but also to other populations like the Brazil one. For some authors these are distinct species and one might in the near future separate them, describing a new species.

***Lindaconus spurius* (Gmelin, 1791)**

Rarity : Rare now

Size : mm

Distribution : Martinique & Guadeloupe



C. spurius
(Martinique)

C. spurius
(Guadeloupe)

C. spurius
(Guadeloupe)

C. spurius
(Guadeloupe)

C. spurius
(Martinique)

C. spurius
(Martinique)



C. spurius
(Guadeloupe)

While I was living in Martinique (2000-2002), it was really hard to find. I have never found a live specimen, only very old broken parts of shells. In Guadeloupe, live specimens may be hardly found from 5 to 10 meters in various habitats such as rubble and grass or near mangroves areas. This species used to be common in the past but for an unknown reason (epidemic?) populations have declined in Martinique and Guadeloupe rapidly years ago, just like *Conus ermineus*.

New Publications

1) *Xenophora* Taxonomy

The fourth number (July 2014) of this young but already prestigious publication of the Association Française de Conchylologie included two papers of interest to the Cone world:

- «Designation of a neotype of *Africonus maioensis*», by António Monteiro, Carlos Afonso & Gonçalo Rosa
The holotype of *Africonus maioensis* (Trovão, Rolán & Félix-Alves, 1990) being currently untraceable, the authors designate a neotype, which is deposited in the Museo Nacional de Ciencias Naturales, Madrid.

- «Additions to the Cone Shell Faunas (*Conidae* and *Conilithidae*) of the Cearaian and Bahian Subprovinces, Brazilian Molluscan province», by Edward J. Petuch & Robert F. Myers

The following new species are proposed:

a) *Conasprelloides hazinorum* Petuch & Myers, 2014



Holotype (57 x 29 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil
Type locality: Off Pirambu, Sergipe State, Brazil
Etymology: Named after the Brazilian conchologists

Fauze Hazin and his son Rodrigo Fauze Hazin

b) *Poremskiconus mariaodetae* Petuch & Myers, 2014



Holotype (25 x 13 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil
Type locality: Off Camocim, Ceará State, Brazil
Etymology: Named after Maria Odete Monteiro, the mother of the well-known Portuguese conchologist Dâmaso Monteiro

c) *Poremskiconus tonisii* Petuch & Myers, 2014



Holotype (26 x 14 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil

Type locality: Abrolhos Platform, off Prado, Bahia State, Brazil

Etymology: Named after Mário de Paula Santos Tonisi, Brazilian conchologist and marine naturalist

d) *Jaspidiconus damasomonteiroi* Petuch & Myers, 2014



Holotype (20 x 9 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil

Type locality: Off Camocim, Ceará State, Brazil

Etymology: Named after Dâmaso Monteiro Sr., father of the well-known Portuguese conchologist Dâmaso Monteiro

e) *Jaspidiconus marinae* Petuch & Myers, 2014



Holotype (20 x 9 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil

Type locality: Off Porto de Itaparica, northern coast of Itaparica Island, Todos os Santos Bay, Salvador, Bahia State, Brazil

Etymology: Named after Marina de Carvalho Heise, daughter of the Brazilian conchologist José Roberto Heise

f) *Jaspidiconus pomponeti* Petuch & Myers, 2014



Holotype (12 x 8 mm), Museu de Zoologia da Universidade de São Paulo, São Paulo, Brasil

Type locality: Todos os Santos Bay, Salvador, Bahia State, Brazil

Etymology: Named after Geraldo Semer Pomponet Oliveira, well-known Brazilian conchologist

The fifth number (October 2014) of *Xenophora Taxonomy* included three papers about Cone shells:

- «*Conus* (Gastropoda, Conidae) from offshore French Polynesia: Description of dredging from Tarasoc expedition, with new records and new species», by Michaël Rabiller & Georges Richard

This paper consists of a study of the cone shells present in samples dredged at 49 stations during the TARASOC expedition to French Polynesia. A total of

29 cone species were found, of which 15 represented range extensions of known species and the following three are described as new:

a) *Conus paumotu* Rabiller & Richard, 2014



Holotype (15.7 mm), Muséum National d'Histoire Naturelle, Paris

Distribution: Society archipelago (island of Huahine) and Tuamotu Archipelago (Kaukura, Makatea and Niau atolls)

Etymology: Named after the population of the Tuamotu Islands (Paumotu is the Polynesian word for the Tuamotu inhabitants)

b) *Conus aito* Rabiller & Richard, 2014



Holotype (57.5 mm), Muséum National d'Histoire Naturelle, Paris

Distribution: Society Archipelago (island of Tahiti) and Tuamotu Archipelago (Kaukura, Tikehau and Niau atolls)

Etymology: Named after the Polynesian word for “warrior”, and as a wink to species named in Latin after soldiers’ and officers’ ranks by Linnaeus, Born or Crosse

c) *Conus tarava* Rabiller & Richard, 2014



Holotype (28.8 mm), Muséum National d'Histoire Naturelle, Paris

Distribution: Only known from four stations on the Tarava seamounts

Etymology: Named after the type location (“tarava” is a Polynesian word that can mean “across” or “stretched out”, and also designates a variety of traditional Polynesian song)

The photos of these specimens were made by Manuel Caballer, e-recolnat project, MNHN

- «A new endemic species from French Polynesia: *Leporiconus pomareae* n. sp. (*Gastropoda, Conidae*)», by Eric Monnier & Loïc Limpalaër

A new species was described in this paper:

Leporiconus pomareae Monnier & Limpalaër, 2014



Holotype (24.72 x 9.12), Muséum National d'Histoire Naturelle, Paris

Type locality and distribution: The type locality is Moorea, Society Islands, French Polynesia. The species has been collected throughout French Polynesia

Etymology: Named after Pomaré IV (1813-1877), the most famous Queen of Tahiti, Moorea and dependencies (from 1827 to her death)

- «New data on the endemic Cones (*Gastropoda, Conidae*) of Angola, with the description of new species», by António Monteiro, Carlos Afonso, Manuel J. Tenorio, José Rosado & David Pirinhas

In this paper, three new Angolan species were described:

a) *Varioconus inesae* Monteiro et al, 2014



Holotype (31.0 x 16.7 mm), Museo Nacional de Ciencias Naturales, Madrid

Type locality and distribution: The type locality is Cabo Santa Marta, Namibe Province, Southern Angola. The species has also been found at Capins, Baía do Calongo, São Nicolau and Piscinas

Etymology: Named after Inês Faleiro Pirinhas, daughter of the fifth author

b) *Varioconus medvedevi* Monteiro et al, 2014



Holotype (26.0 x 14.4 mm), Museo Nacional de Ciencias Naturales, Madrid

Type locality and distribution: The type locality is Baía do Bom Fim, Lucira, Namibe Province, Southern Angola. The species has been found throughout the Lucira area, including Baía da Canhoca, Zeca Pequeno, Periquitos and Doca.

Etymology: Named after Alexander Medvedev, well-known Russian cone collector and a personal friend of the authors

c) *Varioconus petuchi* Monteiro et al, 2014



Holotype (28.6 x 17.2 mm), Museo Nacional de Ciencias Naturales, Madrid

Type locality and distribution: Known only from the type locality, Northern Baía do Baba, Namibe Province, southern Angola.

Etymology: Named after Edward J. Petuch, PhD, well-known researcher, author of more than 100 papers and 14 books, who has worked extensively on fossil and living Cones and is a personal friend of the authors

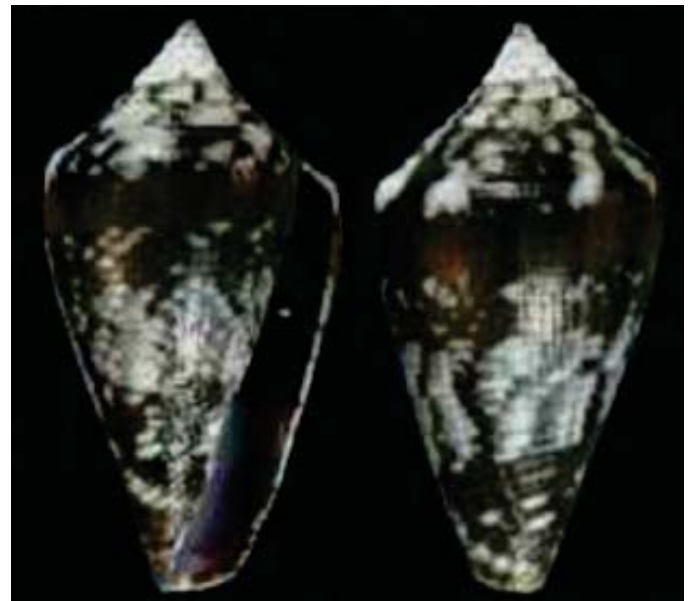
In the same paper is included a reappraisal and redescription of *Varioconus variegatus* (Kiener, 1845).

2) *Malacologia*

In *Malacologia* # 83 (Cupra Marittima, April 2014) was included the following article, in which four new species from the Cape Verde Islands were described:

- «Quattro nuovi conchi da Capo Verde», by Tiziano Cossignani & Ramiro Fiadeiro

a) *Africonus marcocastellazzii* Cossignani & Fiadeiro, 2014



Holotype (16.1 x 9.3 mm), Mostra Mondiale, Cupra Marittima

Type locality: Praia Real, Maio Island, Cape Verde Islands

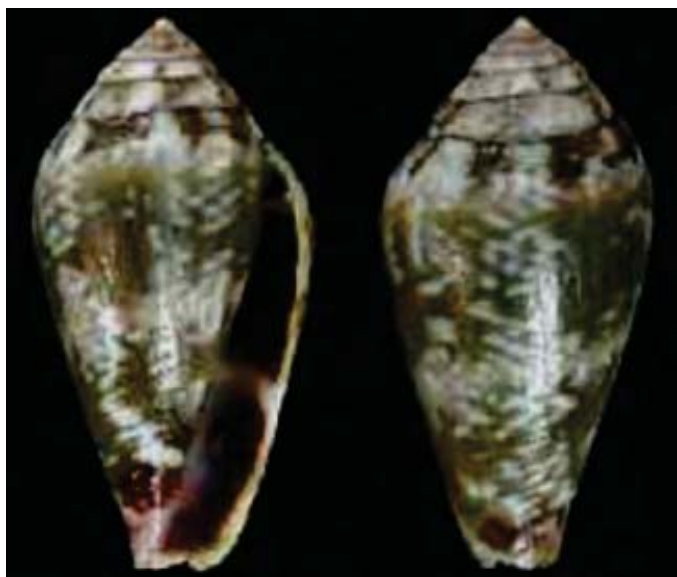
Etymology: Named after Dr. Marco Castellazzi, an Italian marine biologist

b) *Africonus antoniaensis* Cossignani & Fiadeiro, 2014

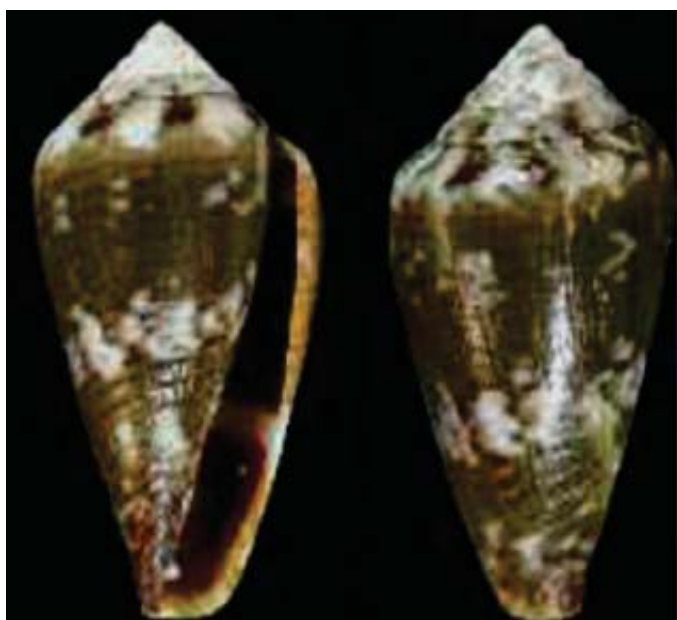
Holotype (15.6 x 7.9 mm), Mostra Mondiale, Cupra Marittima

Type locality: Baía Antónia, Boa Vista Island, Cape Verde Islands

Etymology: Named after the type locality

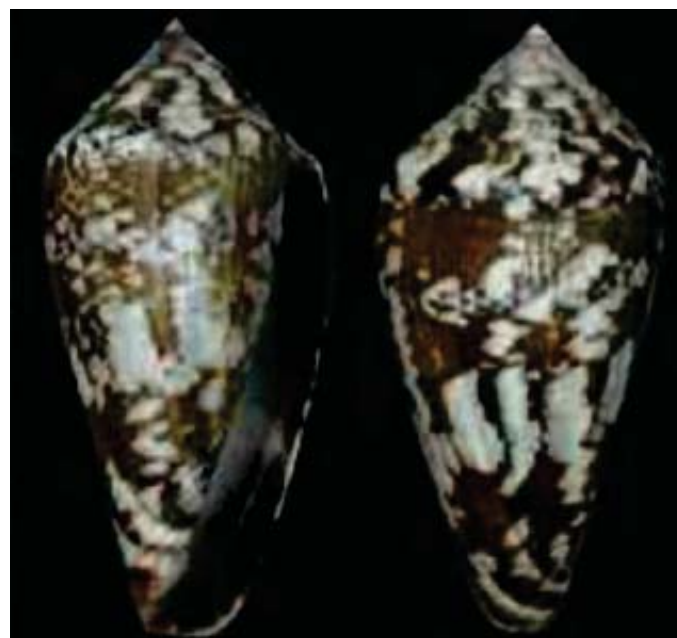


c) *Africonus morroensis* Cossignani & Fiadeiro, 2014



Holotype (12.2 x 6.8 mm), Mostra Mondiale, Cupra Marittima
 Type locality: Morro da Areia, Ninho do Guincho, Boa Vista Island, Cape Verde Islands
 Etymology: Named after the type locality

d) *Africonus cossignanii* Cossignani & Fiadeiro, 2014



Holotype (28.5 x 14.6 mm), Mostra Mondiale, Cupra Marittima
 Type locality: Praia Real, Maio Island, Cape Verde Islands
 Etymology: Named after Vincenzo Cossignani, cofounder of the Museo Malacologico Piceno, and brother of the first author.

In *Malacologia* # 84 (Cupra Marittima, July 2014) was included the following article, in which five new species from the Cape Verde Islands were described:

- «Cinque nuovi conchi da Capo Verde», by Tiziano Cossignani & Ramiro Fiadeiro

a) *Africonus umbelinae* Cossignani & Fiadeiro, 2014

Holotype (17.8 x 10.4 mm), Mostra Mondiale, Cupra Marittima
 Type locality: Baia di Spinguera, Boa Vista Island, Cape Verde Islands
 Etymology: Named after Mrs. Umbelina, the mother of José Geraldo Évora



b) *Africonus calhetinensis* Cossignani & Fiadeiro, 2014



Holotype (11.2 x 5.5 mm), Mostra Mondiale, Cupra Marittima
Type locality: Baia di Calhetinha, Ilhéu do Galeão,

Boa Vista Island, Cape Verde Islands
Etymology: Named after the type locality

c) *Africonus docensis* Cossignani & Fiadeiro, 2014



Holotype (16.5 x 9.5 mm), Mostra Mondiale, Cupra Marittima
Type locality: Água Doce Bay, Boa Vista Island, Cape Verde Islands
Etymology: Named after the type locality

d) *Africonus gonsalensis* Cossignani & Fiadeiro, 2014



Holotype (11.2 x 6.3 mm), Mostra Mondiale, Cupra Marittima

Type locality: Gonçalves Beach, Maio Island, Cape Verde Islands

Etymology: Named after the type locality

e) *Africonus nelsontiagai* Cossignani & Fiadeiro, 2014



Holotype (19.1 x 11.7 mm), Mostra Mondiale, Cupra Marittima

Type locality: Between Calheta São Miguel and Pedra Badejo, Praia, Santiago Island, Cape Verde Islands

Etymology: Named after Nelson Tiago, a Portuguese collector and shell dealer

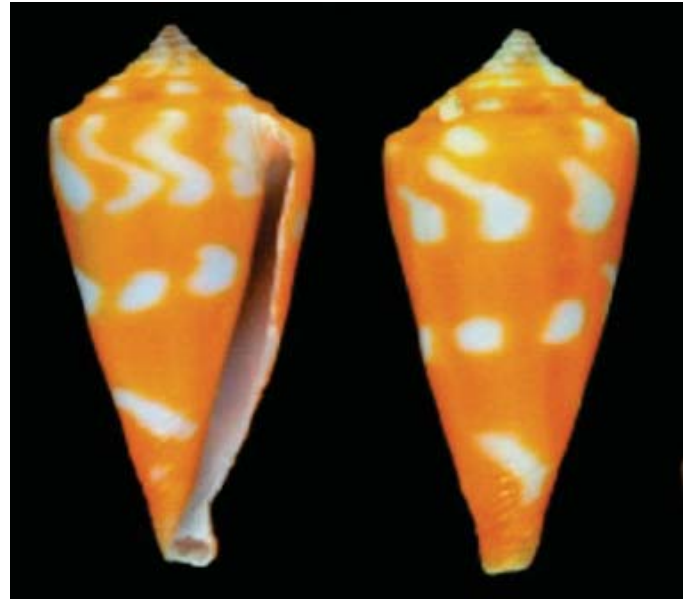
3) *The Nautilus*

In *The Nautilus* # 128(2) (pp. 55-58), the following paper was published:

- «*Attenuiconus marileeeae*, a new species of cone (Gastropoda: Conidae: Puncticulinae) from Curaçao», by M. G. Harasewych

In this paper the following new species is described:

Attenuiconus marileeeae Harasewych, 2014



Holotype, USNM (National Museum of Natural History, Smithsonian Institution)

Type locality: Off the Sea Aquarium, Bapor Kibra, Willemstad, Curaçao

Etymology: Named after Marilee McNeilus, in recognition of her longstanding interest in mollusks and her support of research

4) A few important papers recently published

a) «Molecular phylogeny and evolution of the cone snails (Gastropoda, Conoidea)», by Nicolas Puillandre, Philippe Bouchet, Tomas F. Duda Jr, S. Kaufenstein, Alan J. Kohn, Baldomero M. Olivera, M. Watkins & C. Meyer, in *Molecular Phylogenetics and Evolution*, Vol. 78, September 2014 (pp. 290–303)

b) «One, four or 100 genera? A new classification of the cone snails», by Nicolas Puillandre, Thomas F. Duda, C. Meyer, Baldomero M. Olivera and Philippe Bouchet, in *Journal of Molluscan Studies* (September 2014)

The authors present a new supra-specific classification,

based on molecular phylogenetic analyses of 329 species. A single family (*Conidae*) is proposed, containing four genera: *Conus* (encompassing about 85% of known species), *Conasprella*, *Profundiconus* and *Californiconus*. Within *Conus* and *Conasprella*, 57 and 11 subgenera, respectively, are recognized.

c) «Conopeptides from Cape Verde *Conus crotchii*», by Jorge Neves, Alexandre Campos, Hugo Osório, Agostinho Antunes & Vitor Vasconcelos, in *Marine Drugs* 11 (2013), pp. 2203-2215

The authors study *Conus crotchii* venom duct using a peptide mass-matching approach. The *C. crotchii* was collected on the Cape Verde archipelago in the Boa Vista Island. The venom was analyzed using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS).

I thank all the authors and publishers for kindly authorizing the reproduction of the photos.

5) *Conus of the Southeastern United States and Caribbean*

«*Conus of the Southeastern United States and Caribbean*», by Alan J. Kohn. Princeton University Press, 2014. 457 pp., 109 colour plates, numerous colour figures

Whereas families such as *Cypraeidae* or *Volutidae* have long seen the publication of compendiums presenting all their known living species, the same has not happened to Cone shells, since the classic *Cone Shells of the World* (Marsh & Rippingale, 1964) and *Cone Shells. A Synopsis of the Living Conidae* (Walls, 1979). And even these two volumes had severe limitations, the former because of the very restricted information supplied and the poor quality of the watercolours used for illustration, and the latter because of the paucity of variations shown for each species. The year 1995 saw publication of what was announced as the first

of three volumes that would cover the whole family extensively, providing detailed information on each taxon that included geographic distribution, extensive discussion and presentation of many different colour/pattern variations. Unfortunately, the *Manual of the Living Conidae*, by Dieter Röckel, Werner Korn and Alan J. Kohn, was never completed and only the first volume, dealing with the Indo-Pacific region (with the exclusion of the South African Province and the western American coast), was produced. About ten years later, three volumes of the *Conchological Iconography* edited by Guido T. Poppe & Klaus Groh, tried to fill the remaining gaps: *The Family Conidae - The genus Conus of West Africa and the Mediterranean* (Monteiro, Tenorio & Poppe, 2004), *The family Conidae - The South African species of Conus* (Tenorio & Monteiro, 2008) and *The Families Conilithidae and Conidae - The Conus of the Eastern Pacific* (Tenorio, Tucker & Chaney, 2012).

This means that the Cones of the Western Atlantic were yet to be studied in a similar publication. A project for the preparation of a fourth volume of the *Iconography* was created, but in the meantime news circulated that Prof. Alan J. Kohn was about to finish his own book on Caribbean Cones, on which he had been working for a number of years already. This work was hence awaited with great interest and even excitement by all those interested in Cones generally and in the Western Atlantic fauna in particular. In mid-2014 the wait was over and the new book was finally available.

The geographic region covered in this volume, viz. Southeastern United States and Caribbean, still leaves out the eastern South American coast, namely the rich Brazilian fauna, which means that we still do not have a full coverage of worldwide Cones. It is understood that other projects are under way for a full-scale revision of the family (or families, according to the classification system used), but no publication schedule has been announced yet.

Reviews of this book will be found elsewhere in the

present number of *The Cone Collector*. Still, a few comments are perhaps appropriate here.

First of all, the geographic characteristics of the Caribbean, with the myriad islands and habitats, make the study of cone shells especially hard; the author states (page ix) that the species present in the area are “arguably the least known assemblage of species” within the genus *Conus* (which Kohn uses exclusively). The author also underlines the increasing use of modern techniques in “the practice of systematics”, including “new insights into both classification and phylogeny from knowledge of molecular genetics” (p. ix) and the book accordingly presents some explanation of these methods, to help non-specialist readers to follow discussions based on such methods. Information in the book is complemented by online databases such as the well-known *Conus Biodiversity Website*.

In his Introduction, Kohn states that “the main purpose of this book is to present a systematic revision and to facilitate identification of the extant species of *Conus* in the [...] region”, later adding that “surveying and evaluating the validity of all available described or nominal species proposed for the focal geographic region is a necessary but secondary purpose of the book” (p. 1), and this is of course an important point to keep in mind throughout the volume. Great emphasis is put on intra-specific variation: “...no two members of a species are exactly identical; all individual organisms vary from one another, even identical or monozygotic twins. Our task is to distinguish this within-species variation from the attributes that distinguish similar but different species from each other” (p. 9).

Another very important point to bear in mind is to be found on page 10: “...a classification, or an identification of a specimen as a member of a particular species, is a scientific hypothesis. And like any hypothesis in science, it is unlikely that it can ever really be proven to be correct.” Then, on page 12 we read: “...it is important to remember that the

description of a new species is the hypothesis that the species differs from all others described in its genus [...]. Much more responsibility than honor accrues to the person who describes a new species. The author’s responsibility is to present all possible relevant evidence for and against the hypothesis, and to staunchly defend his/her conclusion.” I am forced to notice that this responsibility is unfortunately absent from a number of recent descriptions of allegedly new species, but authors-to-be would do well to abide by such sound advice.

When discussing the criteria for synonymizing nominal species, Kohn says: “In some cases, the distinguishing features are quantitative or continuous characters [...]. And often in these cases, two nominal species that are considered distinct overlap somewhat in respect to the distinguishing character, even though the difference between them is highly significant statistically. In other cases, the differences may be equally highly significant, but the overlap is broader, making separation and distinction of specimens difficult. Here I have synonymized such nominal species, at least pending more detailed future study.” (p. 33)

Further along on the same page, the author clearly states his prudent approach: “Some nominal species [...] are tentatively concluded to be valid in the absence of contrary evidence. This policy serves to facilitate future improvement of the results presented. If further research supports the hypothesis of validity, this work will retain its usefulness. For those nominal species presented as valid but later shown to be junior synonyms, it will be less useful, but it is more difficult to split after one has lumped the data than to lump after one has split.” This of course means that the first aim of the present book is to supply the reader with all information available at the time of writing, and the system of classification used is in no way contradictory with different conclusions reached after further study is undertaken, if and when further specimens and data become available. Kohn goes so far as saying that “of course it is also likely that

Erratum

David Touitou

some species I have synonymized will in the future be demonstrated to be distinct. Recent discoveries [...] make(s) this increasingly likely.”

I am quite aware of the fact that not everybody sees eye to eye with the author in his decisions to synonymize a large number of nominal species. Many, often based on personal field experience collecting cone specimens in the geographic region encompassed in the book, would prefer a much stronger splitting of populations into autonomous species and they are certainly justified to think so. The approach Alan Kohn used is indeed quite conservative, perhaps in a few instances even too much so. But all kinds of information are to be found in the discussion of each species presented as valid and where synonyms are listed, the holotypes of the different synonymized nominal species are usually illustrated, which should allow readers to reach their own conclusions.

The “Species Accounts” (Chapter 5) obviously constitute the main and by far the longest section of the book. The illustrations referring to each species are presented together with the corresponding text and text figures (which include distribution maps and often also photos of live animals, radular teeth, etc.). The descriptions are very detailed, including morphometric data whenever possible. Errors will have crept into the species accounts; you will read about some of them elsewhere in the present number of *The Cone Collector*. The arrangement of species along Chapter 5 does not always facilitate finding a particular one, as they are arranged in groups of similarity, whose order can be a bit puzzling (except for the fact that the first species listed is *C. granulatus* Linnaeus, 1758, for the candid reason that it was the first Western Atlantic species to be described, and actually the only one Linnaeus described in the tenth edition of the *Systema Naturae* (1758)).

So, in all, a truly major work that will be studied, discussed and improved on for years to come.

All those who have acquired the recent book by Alan Kohn, «*Conus* of the Southeastern united and Caribbean» (2014), will have seen in the captions for photos of *Conus cedonulli*, on pages 151 (Text-fig. 5.33) and 153 (Text-fig. 5.36): “Martinique, Photo by David Touitou”.

That, however, is a mistake.

The photos have indeed been taken in Martinique, but the specimen illustrated was collected at Union Island, Grenadines!

I am always extremely careful with the locations of specimens collected, so I really must point this out. As far as I know, similar specimens are not found in Martinique.

**We hope to see
your article in
the next TCC!**

