THE CONE COLLECTOR

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THE CONE COLLECTOR

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On the Cover:
A fine specimen of *Conus ventricosus* Gmelin, 1792. Image courtesy of Giancarlo Paganelli.

Note from the editor

Another year has passed; a new one is just beginning!

Our world is not an easy place to understand – often not an easy place to live in. The news frequently bring us titles that we would rather not read, that we would rather weren't true. They are.

But among the many sorrows that Man more often than not brings upon himself, there is much around us to marvel about, from the powerful balance of the galaxies to the beautiful paintings of Vermeer or Michelangelo, from the intricacies of evolution to the wonderful chords of a symphony, from the latest advances in nanotechnology to the most fragile seashell washed ashore at low tide.

And who but a collector to marvel at the beauty of shells? Our love for Cones – and probably for shells in general, as well as for other elements of Natural History – is what brings us together and what brings us near to the wondrous world of Nature.

Our bulletin endeavours to stimulate that love and that appreciation of natural things by bringing you a selection of articles on Cones and on Cone collecting. It couldn't be done without the direct help of many and the supportive enthusiasm of many others. To all I am grateful.

The year of 2010 will see the realization of a new project: our first international meeting – of which more below. With that same enthusiasm, anchored in good friendship and cooperation from diverse hands, we will do it! And we will do much more.

A.M.

Who's Who in Cones: André Poremski

I was born to collect shells. Having grown up in Wisconsin (far, far away from the ocean), my childhood interests melded perfectly into what I enjoy most today about being a conchologist: traveling, treasure hunting, SCUBA diving, observing, photographing, designing, and categorizing.

My passion ignited on the beaches of Florida. An annual family trip to Sanibel Island – famous for its bountiful beach collecting – always produced a large assortment of shells that made our luggage reek of sea detritus during the flight home. I stored my finds in an old cabinet within a walk-in closet in the attic. It was my secret study and, at 10 years old, I meticulously labeled the shells according to their common names, lining them up from worst to best quality.

Among the scallops, whelks, pen shells, olives, tulips and fighting conch, the top drawer of this cabinet was reserved for only my most prized of finds: 2 Junonia and a good quantity of beach-collected coneshells. My favorite was a perfect Chinese Alphabet Cone (*Conus spurius atlanticus* Clench, 1942) with the most exquisite calligraphy on its body whorl. After my parents gifted me with Leonard Hill's book, *The World's Most Beautiful Seashells*, I became a "serious" collector!

Today, at 28, I collect exclusively *Conus* from the Caribbean and Western Atlantic Provinces. Apart from those who collect a few choice representatives of each species, I collect population samples. In my most favorable of scenarios, I would have 12 or more adult specimens collected from a given population that represent its full range in morphological variability. In addition to this display set would be one juvenile specimen, and one gerontic specimen, the latter representing the growth potential of the species.

With this method of collection, I want to better understand the relationships between populations within a given species complex. I am comparing morphological observations about each group I study and compiling data to compare habitat, food and substrate information as well. I have also begun to record seasonal movements and breeding habits of some species, although I am admittedly lacking in knowledge of valiger development of Caribbean/Western Atlantic *Conus*.

My goal is to develop a far richer context for identifying *Conus*, especially polymorphic clusters with little taxonomical distinction. For example, in my most recent contribution to TCC, I figured three morphological variations of *Conus mindanus* Hwass, 1792 from Honduras. One variation was collected in soft coralline sand in very shallow water near coral heads of a low profile reef. Another was collected at scuba depth in very fine sand intermixed with algae at the base of a high profile reef. And yet another group was collected in the sand patches among eel grass, in areas that contained dense, silty sand.

I hypothesize that the morphological distinction be-

tween these three groups is in some way significant in terms of helping them survive in each habitat. Furthermore, I think that, despite being genetically viable, each would not survive in the others' biological niche. I suppose my hypothesis falls somewhere within the theories of parapatric and sympatric speciation, but I have much evidence to collect if I am to fashion any argument on the subject – stay tuned!

From science to art, I also love shell photography. As creative director at an environment nonprofit in Washington DC (U.S. Green Building Council), I've enjoyed putting my design knowledge to work with shells. My newest and most ambitious project is the creation of *www.CaribbeanConus.com*, a website dedicated to the study of *Conus* from my favorate region. Although there are only a small quantity of images posted as of today, I intend to photograph and post thousands of specimens from my collection, add photos of live *Conus*, as well as adding what I refer to as "habitat profiles" – photographs of distinct habitats with descriptions of key characteristics such as substrate, coral/algae species, depth range, etc. I welcome suggestions for our TCC readers!

But my favorite pastime of all is of course diving for shells myself! I've been lucky enough to travel to the Caribbean at least twice a year and am always interested in diving with new shell enthusiasts (so please feel free to contact me at *andre@poremski.com*). Afterall, there are so much places yet to be explored for shells and I am sure many new discoveries await the pages of TCC.

Best,
Andre

Caribbean Corner: André Poremski

Conus pusio from Grenada

Another fun puzzle is the numerous and diverse populations of *Conus mindanus* Hwass, 1792 that inhabit the matrix of islands and bays of the Lesser Antilles. Among these are cones you will find, mostly at SCUBA depth, nowhere else but on volcanic or mineral sand (or a mixture thereof) where the polychaete worms they feed on thrive. Such is the habitat where a beautiful dark variation of *C. mindanus* was collected in a quite bay off the southwest coast of Grenada – "Black Bay."

Quite distinct from the habitat I associate with true *C. mindanus mindanus* (which I find in sand patches among coral reef), this variation matches the Types for *C. pusillus* Lamarck, 1810 and *C. duvali* Bernardi, 1862, both figured on "The Conus Diversity Website" (*http://biology.burke.washington.edu/conus*). Therefore, I have identified them as *Conus pusio* Hwass, 1792 since that has been established as the senior name of the former two.

Do you agree with my identification?

Figures

Fig 1 – *C. pusio*, Black Bay, Grenada, 16.4 mm
Fig 2 – *C. pusio*, Black Bay, Grenada, 16.3 mm
Fig 3 – *C. pusio*, Black Bay, Grenada, 16.4 mm
Fig 4 – *C. pusio*, Black Bay, Grenada, 15.7 mm
Fig 5 – *C. pusio*, Black Bay, Grenada, 15.5 mm
Fig 6 – *C. pusio*, Black Bay, Grenada, 15.5 mm

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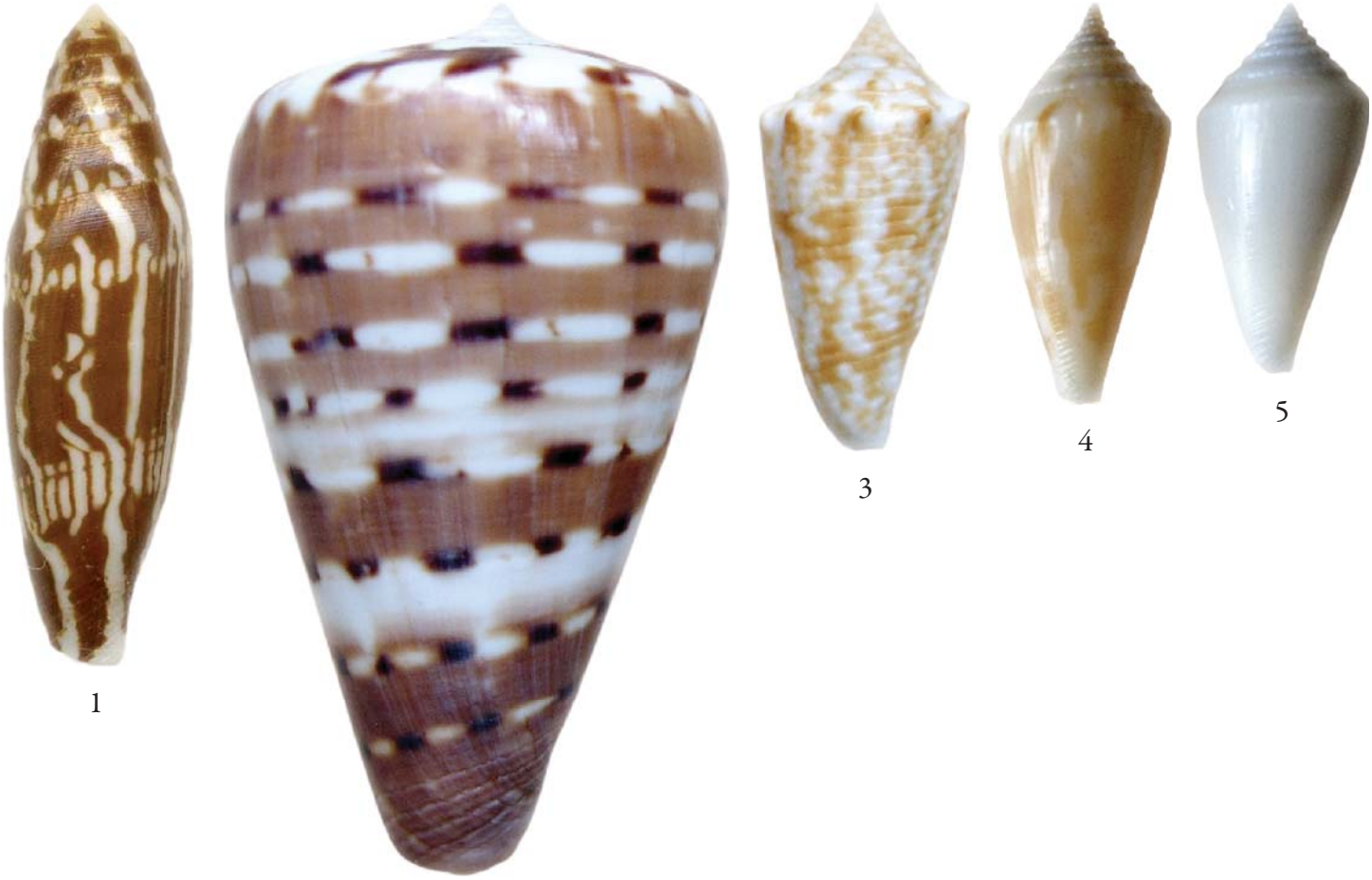
A Few Outstanding Specimens

Eric Monnier

Our friend Eric Monnier has recently sent along photos of a few outstanding specimens from his collection. It is also a pleasure to be able to see these specimens and to be able to share them with everybody. Enjoy!



Figures

Fig. 1 – *C. cylindraceus* Broderip & Sowerby, 1830, Madagascar, 40.9 mm (a very large and perfect specimen)
Fig. 2 – *C. medoci* Lorenz, 2004, Madagascar, 53.6 mm
Fig. 3 – *C. helgae* Blöcher, 1992, Madagascar, 22.4 mm
Fig. 4 – *C. vaubani* Röckel & Moolenbeek, 1995, New Caledonia, 24.9 mm
Fig. 5 – *C. loyaltiensis* Röckel & Moolenbeek, 1995, New Caledonia, 20.4 mm

New Caledonian Rarities

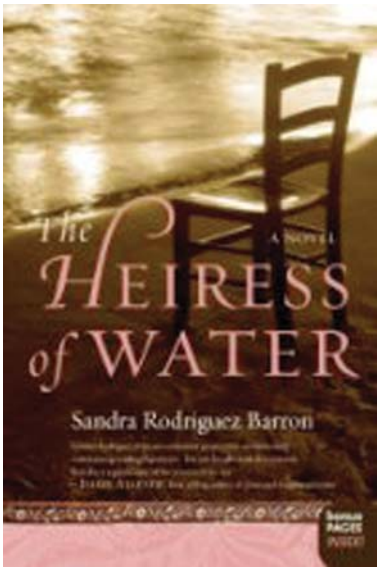
Our friend Paul Kersten has sent a photo of two interesting specimens from New Caledonia, which he has labeled as *Conus sp. cf. vaubani* Röckel & Moolenbeek, 1995.

These specimens measure 21.2 mm and 25.8 mm. Any comments from our readers on this identification or in fact on the rare species in point will be much welcome.

Book Review: The Heiress of Water

Bruce Livett

Sandra Rodriguez Barron has included a quest for *Conus furiosus* in the plot of *The Heiress of Water* HarperCollins Publishers, New York. 2006. ISBN13: 9780061142819; ISBN: 0061142816; Imprint: Rayo; On Sale: 9/5/2006; Format: Trade PB; Trimsize: 5 5/16 x 8; Pages: 320; $13.95; Ages: 12 and Up.



This novel, set in a fictional place called 'Negrarena' (loosely based on a place called Playa El Cuco on the eastern shore of El Salvador) makes for excellent reading. It deals with the use of a synthetic cone toxin, SDX-71 based on a natural conotoxin from *Conus exelmaris*, which unfortunately and unlike the toxin from *Conus furiosus*, produces a variety of adverse effects that can linger on indefinitely including "tunnel vision, hallucinations, delirium, paranoia, suicide, and self-mutilation". In the novel, the toxin is administered by injection intrathecally into the spinal fluid in an attempt to restore consciousness to a subject in long-term coma - and with some success. But the claimed "successes" of this treatment have to be measured against the potentially disastrous long-term consequences. A thoughtful, well researched and engaging novel. I recommend it to you.

Conus episcopatus from the Pacific and Indian Oceans

David Touitou

Dear Cone lovers all over the world, I would like to present to you today a species that I know well, having often found it during my researches in clear tropical waters. I am speaking of *Conus episcopatus* da Motta, 1982, a species I particularly care for.

I first collected this Cone at the Seychelles (from where the holotype originally came), right in the heart of the Indian Ocean. The species is uncommon there. Nevertheless, one can still find several specimens per dive provided one finds the right spot (as is often the case for many shells). Specimens become stocky and wide shouldered with age. A feature that often occurs is the enlargement of the white triangles that sometimes coalesce forming "white blotches" (yellow if the periostracum is preserved) of very fine aesthetic appearance. That happens in particular with da Motta's holotype, shown in RKK page 450 (fig. 6, Mahé, Seychelles, 82mm, MHNG). That being said, the holotype does not in fact represent the usual Seychelles' form and in fact it is a rather extreme form, which is rather regrettable. It can be noticed that the "mini-triangles" that punctuate the brown areas are few (in comparison with specimens from Polynesia). This feature is constant and the spire perfectly reflects it.

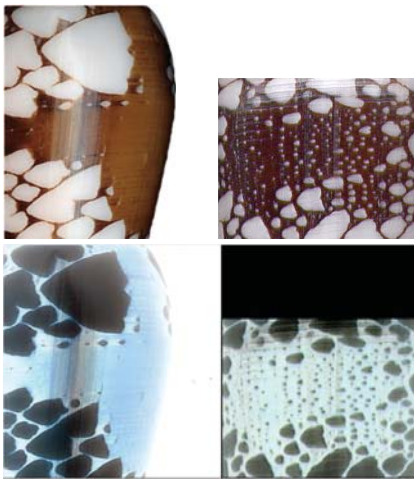
This species is hidden during the day under dead coral slabs, from shallow waters to greater depths. So far, I have found it between 0.5 and 18 metres. Most of the time the cones are not buried, they are merely resting on below a piece of dead coral. Only once have I found this species buried! Because of the texture of the periostracum ("slippery"), specimens are not ruined by concretions. My largest specimen is over 83 mm long.

In 2002 I went to live in Polynesia (Moorea), in the Pacific Ocean. I have once again encountered the species. The habitat is similar, under slabs of dead coral, almost never buried. It lives in the lagoon, behind the barrier reef, never on the fringing reef. The species appears to be usually absent from the external slope. It shares its habitat with *C. magnificus* which it does resemble. Nevertheless *C. magnificus* is found both in the lagoon and in the external slope. *C. episcopatus* is uncommon to rare locally. My largest specimen is over 74 mm long.

The specimens differ from those from the Seychelles. When they are old their shoulder is not as wide. The spire is higher. The white triangles are more abundant but smaller. On average they show less tendency to coalesce than in specimens from the Seychelles. Furthermore, the background presents a high density of "mini-triangles": we can in their case speak of a proper constellation.

Having reached such conclusions, I did a simple experiment: I mixed my specimens from the Seychelles with those from Tahiti (obviously keeping labels inside their apertures!). Afterwards I was able to separate the two populations without a single mistake! We may thus distinguish two different varieties in the species described by da Motta.

I was also able to collect two specimens in New Caledonia, where the species is quite rare. The small number of specimens does not allow us to say much. Nevertheless, they did seem to be somewhat intermediate between the two forms described above. Their shape is more elongated than in those from the Seychelles, but less so than in those from Polynesia. The triangles appear to be smaller but the small white triangles on the background are less numerous than in Polynesian specimens.



Left, background in *C. episcopatus* from Seychelles
Right, background in *C. episcopatus* from Polynesia

Left, shoulder of *C. episcopatus* from Seychelles
Right, shoulder of *C. episcopatus* from Polynesia

During my last trip to the Seychelles (in 2009), I took samples of tissue from the cones I was fortunate to find, to send to Chris Meyer (SI NMNH, *http://invertebrates.si.edu/meyer.htm*) to help him in his research on *Conidae*. He has recently (summer 2009) sent me the following message:

> "I'm still waiting on the Seychelles results - the plate should be going on the sequencer today (they ran out of polymer last week, so the machine was down for a few days). Two species don't look like they like the primer set we use for the COI gene - *episcopatus* and *pennaceus*."

I am not aware of the provenance of the specimens mentioned as "the primer set we use for the COI gene," but it would seem that this species still holds nice surprises for us in the near future... This is certainly something to be looking for!

The illustrated specimens can also be found here:
http://system.seashell-collector.com

Help Wanted

Within the project of obtaining tissues from cones, I have also been able to get several specimens of *C. gubernator* from the Seychelles, usually designated as the "*leehmani*" variety. I have sent these specimens to Chris Meyer, but he is unable to compare his results because he does not have samples coming from the usual distribution area of the typical forms (Mozambique Canal, Madagascar,...).

If any of our readers happens to go to that area and manages to get specimens of *C. gubernator*, it would be of great interest to collect pieces of the animal (a part of the foot would do fine) and preserve them in 90° alcohol. Chris Meyer can provide containers for that purpose.

Figures

Fig. 1 – *C. episcopatus*, Moorea, Polynesia
Fig. 2 – *C. episcopatus*, Seychelles
Fig. 3 – *C. episcopatus*, New Caledonia
Fig. 4 – *C. episcopatus*, Seychelles with periostracum
Fig. 5 – Vials for samples of tissues from animals

Figures on next page.

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Case of Human Envenomation by *Conus regius* in Brazil

Bruce Livett

In an article in 2006, Prof. Vidal Haddad Jr. from Motucatu, SP, Brazil raised the possibility that accidents caused by *Conus* could occur in Brazil citing the species *Conus regius* as a likely potential species. This was confirmed in a more recent report by Prof. Haddad detailing the case in which "A 42-year old male patient suffered an accident while scuba diving to look for shells on an intertidal rocky outcrop near Itapoan in the city of Salvador, State of Bahia, Brazil.

The injury occurred around 10:00 am, after the victim had collected two *Conus regius* specimens. The handling procedure that the patient had been following for the specimens that he collected was to put the soft parts of the body under pressure in order to extract the operculum. After manipulating two specimens, he noticed a very small puncture in his right hand and felt a slight itching sensation, which was followed by local tingling and numbness.

These symptoms later extended to the wrist and forearm, and after a few hours, he experienced paresthesia, numbness and mild difficulty in movement in his entire upper limb. There was no sensation of pain or any systemic phenomenon such as disseminated paresthesia, perioral tingling, alteration of consciousness or muscle palsy, etc. The heavy arm feeling remained throughout the day and had disappeared by the following morning, without leaving any sequelae."

References

Haddad Jr V, Paula Neto JB, Cobo VJ, 2006. Venomous molluscs: the risks of human accidents by *Conus* snails (*Gastropoda, Conidae*) in Brazil. *Revista da Sociedade Brasileira de Medicina Tropical* 39: 498-500.

Haddad, V. Jr., Coltro, M and Simone, LRL, 2009. Report of a human accident caused by *Conus regius* (*Gastropoda, Conidae*). *Revista da Sociedade Brasileira de Medicina Tropical* 42: 446-448.

I thank Edu Moreira (*edumoreira@patua.com.br*) for bringing these cases to my attention.

Information about these and other cases of non-fatal and fatal human envenomation by species of *Conus* are documented at the following web site:

http://grimwade.biochem.unimelb.edu.au/cone/deathby.html

An Interesting Colour Form of *Conus regius* Gmelin, 1791

Robert Eason

I collected this particular shell on July 17th, 1983 in 3-5 meters of water under a small coral slab in a slight current on the inside of the reef at Sand Key which is now restricted waters with no collecting allowed. Sand Key is approximately 7 miles south of Key West, Florida USA. The length of this specimen is 29.75 mm.

An interesting specimen from Mayotte Islands

Giancarlo Paganelli

This nice 50 mm specimen of *Conus fuscatus* Linnaeus, 1758 was recently taken at Mayotte Islands.

The colour pattern is of very unusual uniform dark olive with thin darker spiral lines. The spire is of the same dark colour rather than whitish as usual. The aperture has a collabral band of the same colour pattern, violet deep inside. The shoulder is strongly coronate and so is the spire.

Australian Corner: Jon F. Singleton

Conus eximius - 42

Conus eximius is one of the small to medium sized cones which rarely seems to get very much publicity, despite possessing a striking medium brown pattern on a white base colour. The amount of pattern can vary, and seems to diminish as the shell grows larger, and on extra big specimens can disappear, leaving an off-white shell. The holotype is a 27.3 × 14.9 mm specimen with a type locality of Moluccas, Indonesia.

The holotype was to remain the only known specimen for more than 100 years. It was re-discovered off the Sembelen Islands in the Malacca Strait in 1964, and followed quickly by further specimens taken off the northern Malayan Coast. This species is still not easy to find today, although there was a mini "boom" in specimens which were trawled off Madras, India, in the early 1980s.

C. eximius is also found in Australian waters. The first records were in the early 1970s and obtained as a by-product of the prawning trawlers working off Cape Moreton in southern Queensland at a depth of 160 metres. I was fortunate in finding two fresh dead specimens when sorting through a tea-chest full of miscellaneous shells from the region. To the best of my knowledge, *C. eximius* has not surfaced since that time.

C. eximius is also found in West Australian waters. The first record was a specimen found off Weld Island, and held in an overseas collection. It was to be some decades later before another surfaced. It was collected by a diver off the N. W. Cape at a depth of 30 metres. Fortunately the diver was not a cone collector, and I was able to obtain this cone.

The illustrated specimens range in size from 24 to 53 mm in length. Fig. 1 is the holotype; fig. 2 a Taiwan specimen; fig. 3 Queensland; fig. 4 West Australia; figs. 5 & 6 India; fig. 7 Thailand.

Reference

J. Johnson. 1965.
Rediscovery of *C. eximius* in Malaya. *Hawaiian Shell News,* July, 1965.

More on *Conus lischkeanus* - 43

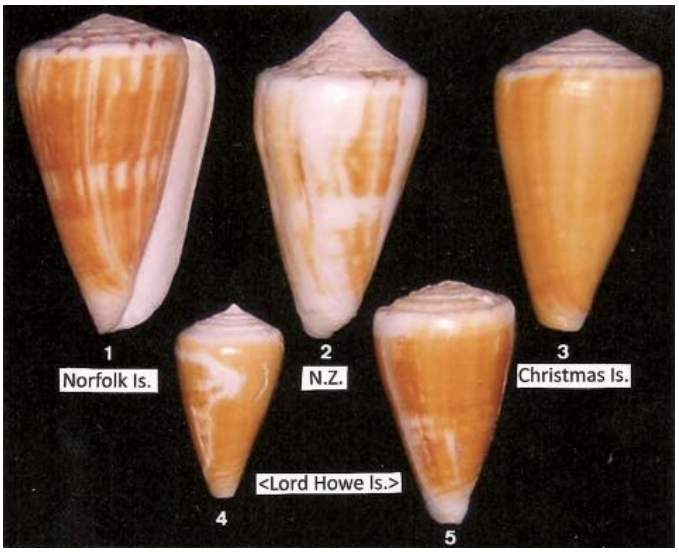
Conus lischkeanus is one of the long ranging species from East Africa to the Western Pacific, but there are some large gaps where no sign of the species has ever been recorded.

It is a common species around the mainland coast of Australia, north of a line between Perth and Sydney. It occurs in New Caledonia, but then a jump to the Philippines where it is a rarely collected cone. Then from Taiwan to Japan it is found more frequently. However there is a 3000 kilometre Asia coastline to Korea, where the coastal fauna remains virtually unknown.

The Indian Ocean is similar, with *C. lischkeanus* being

not uncommon off East Africa, Somalia and South Arabia. Then again, a giant leap to the West Australian coast. I have never found any records from either Indonesia or New Guinea, but I would be surprised if it does not inhabit those regions.

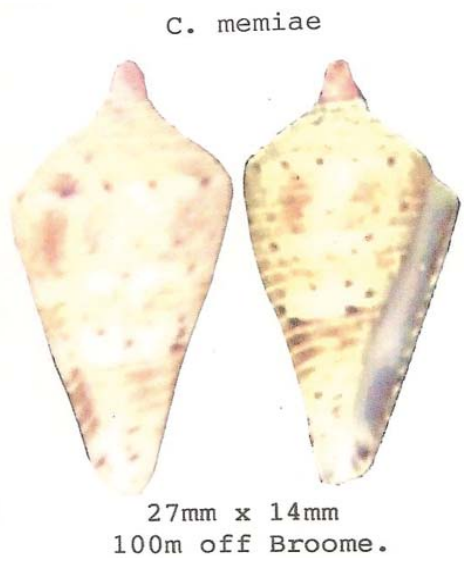
As well as the Australian coastal specimens illustrated with a previous article, *C. lischkeanus* is also found around some of the Territorial Islands, and New Zealand. The illustrated specimens range in length from 31 to 53 mm.



Conus memiae - 44

Conus memiae Habe & Kosuge, 1970 is one of the smaller Japanese species, and since being named and described, has become easily available to the collectors' market when found in the Philippines. The range has since extended south in the Western Pacific to the Solomons.

Recent Western Australian Museum expeditions to the N. W. of Australia have extended the known range into the eastern Indian Ocean with the species surfacing from several locations. Although most were dead, two specimens were live collected. As well as the standard medium brown patterned specimens matching the type, the distinct form *C. adonis* Shikama, 1971 was also collected.



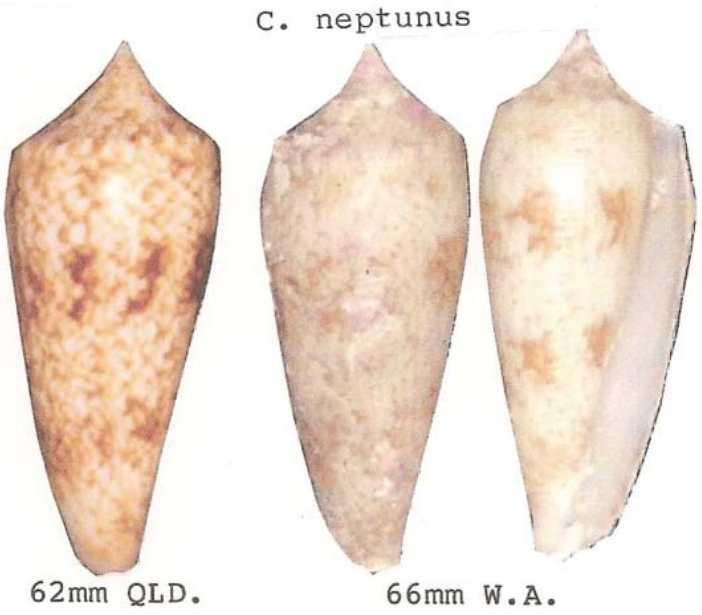
These Indian Ocean specimens of *C. memiae* were a surprise to myself. It would not have been too unexpected for this cone to have surfaced from somewhere off the Queensland coast.

Conus mucronatus - 45

When the *Cone Manual* was published in 1995, it listed *Conus mucronatus* Reeve, 1843 as being found in Australian waters. For myself, I had never recorded this species from Australia, and was unable to get any confirmation from local collectors.

It was not until 2006 that a few dead specimens of *C. mucronatus* were collected off Thursday Island in the Torres Straits, in the extreme north of Queensland. Very few of the specimens sighted had very much of the usual dark brown colouration remaining, being off-white with a few horizontal lines.

I was unable to obtain any specific details such as depth, etc., but I understand these were found by pearl divers searching for young oysters for the cultured pearl industry.



Reference

1995. *Manual of the Living Conidae*, D. Röckel, W. Korn & A. Kohn.

Conus neptunus - 46

Conus neptunus Reeve, 1843 is predominantly a Philippine species, and the main source of many fine specimens for the collectors' market. It is generally a deep water species being either trawled or fished using the tangle nets, although the holotype was stated to have been collected off a reef-top.

The known range of *C. neptunus* has extended south through the Western Pacific to the Solomons and Vanuatu, with little change in colour or pattern, though they seem not to attain the size of the Philippine specimens, which can attain a length of 70 mm.

In the late 1980s this species was also trawled off the Swain Reefs in Queensland waters from a depth of 240 metres, adding Australia to the range. On to 2008 and we now have the first occurrence of *C. neptunus* being collected in the eastern Indian Ocean. A Western Australian Museum expedition to the N. W. region of Western Australia dredged two dead collected specimens from a depth of 100 metres off Adele Island in the Buccaneer Archipelago. Although the two specimens had a number of small "encrustations", the colour and patterns were well preserved.

Cone or Turrid? - 47

The illustrated shell was tarwled from a depth of 100 metres off the coastal town of Lancelin, which is about 120 kilometres north of Perth, Western Australia. It was a dead collected specimen, with a breakage on the anterior, but with good colour and pattern. the size is 15.9 × 8 mm, with a mottled dark pink pattern, a whitish band mid-body and at the anterior, and strongly nodulose around the shoulder and spiral whorls.

This shell is heavy for the size, and looks as if it belongs with the *Conus eugrammatus* or *C. wakayamaensis* group of cones. Yet when I handle the specimen, I have the thought that it may not be a true *Conus*, but possibly a colourful Turrid.

This specimen is just a "one-of" at the present time, and there are no fishing industries working the region at this time. However, there are occasional crayfishing pots placed off Lancelin, so we can always hope a few odd crabbed specimens surface in the future.

The Problem of Juveniles

Paul Kersten

One of the difficult problems in identifying Cones is that we really do not have enough information about juvenile forms, which can be quite different from adults. This issue has been addressed before in the pages of *The Cone Collector* (namely by Jon Singleton), but this is something we should pursue further.

I urge everyone who has photos of identified juvenile Cones to share them with us. For now, I will leave you with these photos of very young *Conus tulipa* Linnaeus, 1758. They measure only 10 and 7 mm, respectively.

Dark *Conus ventricosus* Colour Pattern

Giancarlo Paganelli

Last Summer I spent two weeks by the Ionian Sea searching for *Conus ventricosus*, as I have been in the habit of doing for about ten years now. In the first two days I collected seven specimens, so my hopes of finding many more were high. Unfortunately during the following five days I was not able to find any. Subsequently I found five more specimens, albeit in a different reef.

Not much indeed, if you bear in mind that I spent 2-3 hours every day free diving, 3 to 5 metres deep.

Even if not many cones were found, this year I collected a few interesting specimens with a darker colour pattern, when compared to the usual light grey.

As usual, the spire is often eroded and the ventrum dull, most probably because of the acidity of the water. The size is 30 to 50 mm. The lip is often thin also in mature specimens. The animal is blackish or reddish.

1st specimen, I row (plate 2)

4th specimen, I row (plate 2)

4th specimen, II row (plate 2)

6th specimen, II row (plate 2)

Plate 1 - Live Cones

Wet periostracum

Dry periostracum

Clean shells

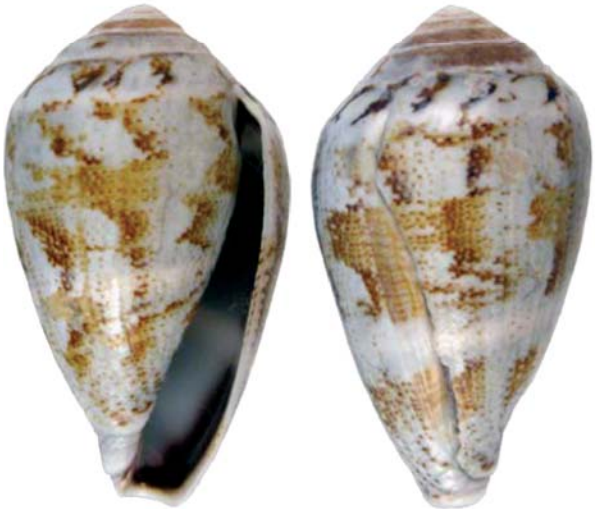
Plate 2

50.5 mm

48.9 mm

41.0 mm

35.9 mm



49.9 mm

Plate 3

47.0 mm

Exceptional Specimens From Cape Verde

Our friend Philippe Quiquandon is a great and well-known specialist in outstanding specimens. His findings have been featured on our pages often before.

This time, he has sent photos of the current World Record Size specimen of *Conus ateralbus* Kiener, 1845, from the Cape Verde Islands (Fig. 1). Measuring a staggering 71.3 mm, the specimen was taken in about 6 metres of water by diver and what's more, it kept an excellent quality for its size and corresponding age.

On the other hand, Fig. 2 shows a specimen of *C. irregularis* Sowerby, 1858, found at a depth of 10 metres by a diver, in Boavista Island, Cape Verde Islands. At 42.9 mm, it is also unusually large for the species!

Last, but not least, something I personally had never seen before: a sinistral 33.7 mm specimen of *C. tabidus* Reeve, 1844, collected this year at Sal Island, by a diver at 12 m depth. Quite exceptional! Philippe informs that the specimen has been thoroughly examined, even under ultra-violet light, to make sure that it is not a fake. See Fig. 3.

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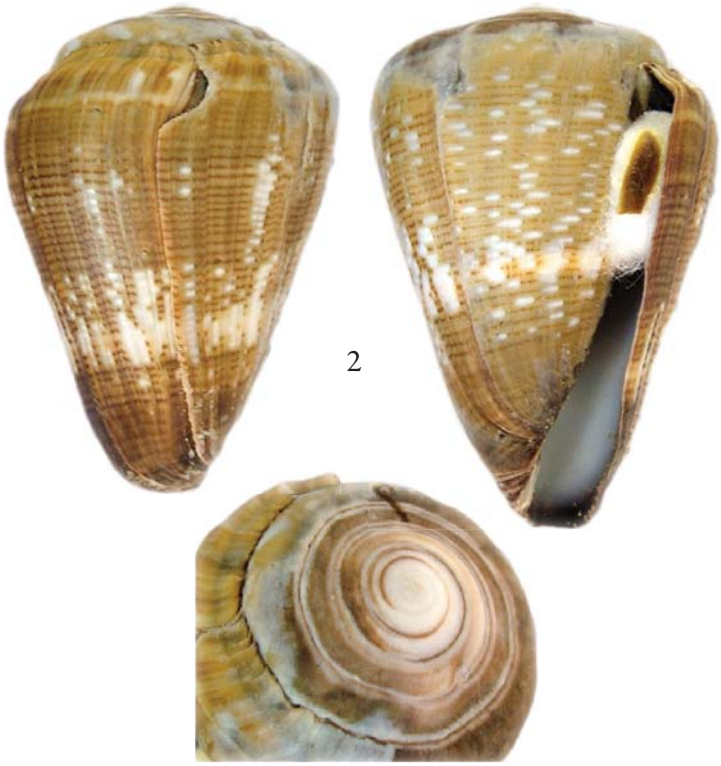

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Why Should a Cone Collector Visit Stuttgart, Germany?

Bill Fenzan & Hans-Jörg Niederhöfer

Cone collectors often want to see examples of shells they do not have in their own collection, obtain photographs of these specimens, and build a photocopy/digital library of original descriptions as a way to better understand cone species. There are several effective ways to do this, but one efficient way is to ask for help from a museum with staff members having a strong background and interest in study of *Conidae*.

Several museums with a well-organized cone collection and an extensive library are distributed around the world, but only a few have their cone collections in a separate room to facilitate study. One of these is the Zoological Museum of the University of Amsterdam (ZMUA). A brief article mentioning this collection, and illustrating some of the cone types stored there, appeared in *The Cone Collector* #8 (Fenzan, 2008). A more detailed article on the ZMUA can be found in *Hawaiian Shell News* (Cross, 1968). Both of these papers are currently available for download from the internet.

Another museum with large cone holdings in a separate room to facilitate study is the Staatliches Museum für Naturkunde Stuttgart (SMNS) in Stuttgart, Germany (Fig. 1). The museum also has a curator interested in study of the family *Conidae*, equipment for digital photography, and an extensive library of malacological publications. Consequently, SMNS seems well suited to support individuals interested in pursuing cone research.

Historical Overview

The SMNS mollusk collection contains more than a million objects. The oldest are exotic marine shells listed in the collection catalog of the physician Pasquay living in Frankfurt am Main in 1777 (SMNS website, 2009). Fig. 2 shows a specimen of *Conus bullatus* with the original label from the Pasquay collection. During the 19th century and early years of the 20th century, several small collections were acquired by the museum that contained cones.

One of these collections was formed by Dr. Carl Ferdinand Friedrich Krauss (1812-1891) who undertook a pioneering privately-sponsored expedition to South Africa from 1838 to 1840 (Krauss, 1848). Dr. Krauss described two new cone species in subsequent writings about this field work done in South Africa: 1) *Conus caffer* Krauss, 1848, and 2) *Conus loveni* Krauss, 1848. Both of these have been reported as destroyed during the Second World War (Filmer, 2001). In 1961, a lectotype was designated for *Conus caffer* Krauss by H. Janus (1961). Filmer (2001) reports this lectotype designation as invalid because the specimen designated was not part of the original type lot.

According to SMNS researchers, some parts of pre-war collections were saved from destruction. These are still being searched for missing types and other historically important shells (SMNS website, 2009).

Cone Holdings

Starting in the late 1980's, SMNS acquired some important cone collections. First, the collection of A. J. "Bob" da Motta came to the museum in 1988 (Burch, 1989 & Nicolay, 1989) Fig. 3 shows cabinet labels for the da Motta collection. In addition to the thousands of cones acquired individually by Mr. da Motta during his years as a collector, the da Motta collection also included the collection of Rear Admiral Worthington S. "Skip" Bitler, another noted cone researcher and author (da Motta, 1994). Original catalogs containing supplemental information about specimens in da Motta's collection are maintained by the museum with the collection (Figs. 4, 5). Although most of Mr. da Motta's cone types were deposited in the Muséum d'Histoire Naturelle, Geneva, Switzerland, the holdings of SMNS contain many paratypes and series of shells that supported Mr. da Motta's research and writings (Figs. 6-8).

In 1992 the large collection formed by Dr. Dieter Röckel was transferred to SMNS (Röckel, 2004). Dr. Röckel is best known to cone collectors as the senior author of the

most extensive monograph available on the Indo-Pacific *Conidae – The Manual of the Living Conidae*, *Volume 1: Indo-Pacific Region* (Fig. 9). Since all photographs without attribution in the captions of this work are of specimens in the Röckel collection in the SMNS (Röckel, Korn, and Kohn, 1995), the shells are an invaluable aid in gaining insight into the variation of species illustrated in the book. It is also important that "Most of the shells measured..." in the *Manual of the Living Conidae* are in the SMNS. Fig. 10 shows a representative drawer of the Röckel collection. Röckel also acquired specimens from older collections, an example is shown in Fig. 11. Dr. Röckel took particular care in seeking out unusual specimens, for example the shell illustrated in Fig. 12. In addition to the shells, Dr. Röckel also transferred a nearly complete collection of original cone descriptions/copies, many slide transparencies of *Conus* types, and a complete collection inventory. The whole Röckel collection is in the museum database. It is planed to put this inventory online in the near future.

Later (1999) the Indo Pacific (excluding South Africa) cone collection of Dr. Werner Korn came to the museum. This collection is noteworthy because of the large number of voucher specimens it contains related to Dr. Korn's many publications on the *Conidae.*

The large Philippine cone collection by Horst Fischöder was acquired by the museum in 2006.

These collections have brought under one roof a combined collection of over 50,000 documented lots of cone specimens (SMNS website, 2009). All these cone collections are segregated in their own cabinets within the collection room (Fig. 13) to facilitate study.

Available Resources

In addition to the shells, SMNS also has facilities and equipment that supports research into the *Conidae.* The museum itself is divided in two administrative sections. One oversees management of the Castle Rosenstein buildings and park around the castle, while the other maintains the "Am Löwentor" museum devoted to primarily to geology and palentology. The malacology section works under the management of the "Am Löwentor" part of the organization.

Within the "Am Löwentor" museum building, the malacology section has several large and small rooms assigned for housing collections, working spaces, offices and a small departmental library (Fig. 14). One of these working spaces has a copy stand (Fig. 15) and other photographic aids that can be used by visiting researchers with advance notice. The section library also contains a collection of photocopied cone descriptions collected by Dr. Röckel for most species described between 1758 and 2000. Horst Fischöder compiled extensive documentation of cone taxa supplementing the original descriptions of most taxa. These are contained in a collection of 150 notebooks within the section library.

In addition to the small library maintained by the malacology section, the larger "Am Löwentor" museum library is also available for deeper searches into the literature. It has many more journal series, the rarer old books, and more working space. Although most of the publications a visiting cone researcher would need are in the section library, it is convenient to be able to consult the larger library if it is needed.

Equipment available in another museum section, with advance arrangement, includes an SEM and Photo Composite Microscope.

If work is expected to take more than a single day, it is possible to reserve a guest room (Fig. 16) in the "Am Löwentor" museum building in advance. Since the cost, 10 euros/night, is very low, these rooms are popular and consequently not always available. Even though the guest rooms are basic, they have shower facilities, and each has its own entrance.

Visit Planning

The first step in planning a visit to the Stuttgart museum is to decide what you want to accomplish. For example, if you wanted to see and photograph cones in the *Conus textile* complex it would be a good idea to list them by name so you communicate clearly what you want to do. If you want to see specific specimens, such as types, try to find out as much as you can about the shells (e.g. accession number, dimensions, plate & figure numbers, etc.) to make it easy for the museum staff to prepare the material you want to study.

Several resources are available to help plan a visit. First, books provide a guide to SMNS holdings. Examples are the *Manual of Living Conidae* (Röckel et. al. 1995), *A Catalogue of Nomenclature and Taxonomy in the Living Conidae* (Filmer 2001), and the *Conus Biodiversity Website*. SMNS also has a portion of its collection photographed on a website which can be found using the following link: *http://www.naturkundemuseum-bw.de/stuttgart/projekte/malakozoologie/tp103.htm*.

Once you have decided what you want to do and have done some planning, the next step is to contact the curator, Hans-Jörg Niederhöfer (Fig. 17). The best way to communicate with him is by e-mail. His e-mail address is: *niederhoefer.smns@naturkundemuseum-bw.de* . Try to provide as many specifics as you can in your visit request. Also, be aware that there are many other duties that the curator of mollusks must perform, including field work, which may cause a delay in answering the mail. When the curator is not available, Annette Schultheiss (Technical assistant in Malacology) can facilitate visits (Fig. 18). Her e-mail address is:
schultheiss.smns@naturkundemuseum-bw.de

As noted by Bob da Motta (Burch, 1989), the Stuttgart museum is "...accessible by air, rail or road." The Stuttgart airport (*http://www.flughafen-stuttgart.de/sys/index.php*) is located about eight miles south of the city. It is an international airport that has direct connections with many other countries. From the airport, ground transport is readily available in to the city and then on to the museum.

One of the most convenient ways to travel from the airport is the local municipal rail system, called the S-Bahn. Signs in the terminal guide travelers to the S-Bahn terminal in the station where tickets can be purchased from a machine or ticket agent. At this point, the traveler can choose to purchase either a one-way ticket or a system pass for one to three days unlimited travel on the S-Bahn system around Stuttgart. S-Bahn lines S-2 and S-3 depart from the airport for the center of Stuttgart. There, in the main train station (or the three stops before it after the University stop) travelers can transfer to line S-4, S-5, or S-6 to the 'Nordbahnhof' stop (Fig. 19). From this stop, there is a short walk to the entrance of the "Am Löwentor" building where the cone collections are housed. Visitors are asked to check in at the security desk when they arrive.

On first arrival, a visitor needs to check in at the staff entrance of the museum (Fig. 20). This is important because the number of official visitors are totaled at the end of each year and included in an annual report. A general orientation is also provided so that guests are comfortable working in a new set of rooms. The museum has a small cafeteria for meals and breaks can be as frequently as desired. Normally, the staff leaves the building at 5:00 pm (17:00 hours) each evening. Visitors leave a little before this time to allow the staff to close the museum on schedule.

Conclusion

Not every cone collector needs to do in-depth research using the large collections stored in museums. If you are, however, interested in deeper study of the Conidae, the facilities at SMNS are available for your use. Museums can be more than just places where large collections are stored. They are also places of learning where students of any age are welcome. One reason a cone collector should

visit Stuttgart is to learn.

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Figures

Fig. 1 – SMNS, public exhibition building.
Fig. 2 – *Conus bullatus* specimens (Pasquay collection).
Fig. 3 – Cabinet label for the da Motta collection.
Fig. 4 – Typical page in the da Motta collection catalogue.
Fig. 5 – Da Motta collection catalogue page with exceptional detail.
Fig. 6 – *Conus tisii* Lan, Paratype, Taiwan, 150 x 75 mm.
Fig. 7 – *Conus gloriamaris* Chemnitz, Cuyo Is., Philippines, ex coll. da Motta (0662), voucher specimen for *Manual of the Living Conidae*, Plate 68, Fig. 17, 69 x 31 mm.
Fig. 8 – *Conus n. skinneri* da Motta (animal model), Bali, Indonesia, gift from Renate Wittig Skinner to Bob da Motta.
Fig. 9 – Annotated *Manual of the Living Conidae* page showing which figured specimens are in the SMNS collection.
Fig. 10 – Representative drawer of Röckel collection cones.
Fig. 11 – *Conus nobilis* Linnaeus, Indonesia, ex coll. Dabbert, 59 x 27 mm.
Fig. 12 – *Conus sp.*, Russell Islands, Solomons, voucher specimen for *Manual of the Living Conidae*, Plate 69, Fig. 20, 77 x 27 mm, identified as *C. ranonganus*.
Fig. 13 – Collection cabinets in SMNS.
Fig. 14 – Malacological section library book cases.
Fig. 15 – Photo copystand in section workroom.
Fig. 16 – One of SMNS museum guestrooms.

Fig. 17 – The curator in his office.
Fig. 18 – Technical assistance in Malacology Annette Schultheiss.
Fig. 19 – One of the fossil casts decorating the Nordbahnhof S-Bahn station.
Fig. 20 – The authors at the entrance of the museum collection building.

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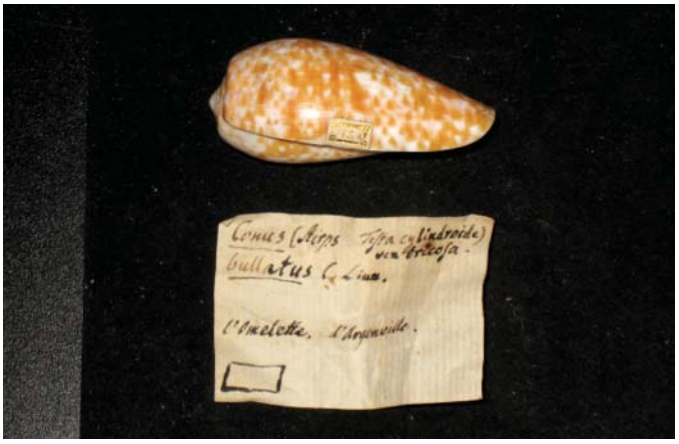

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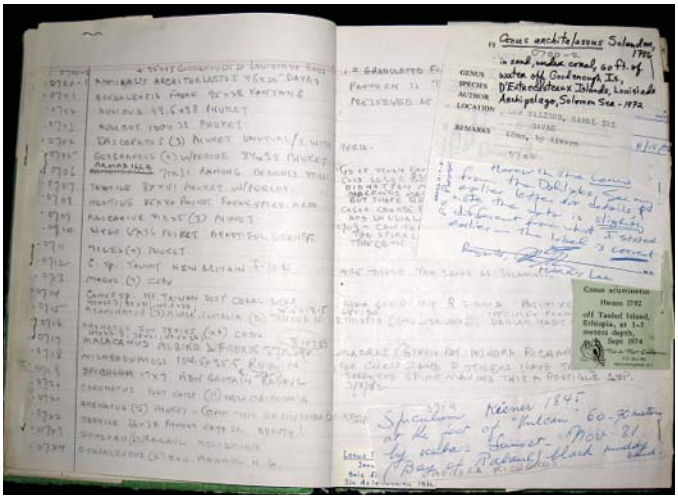

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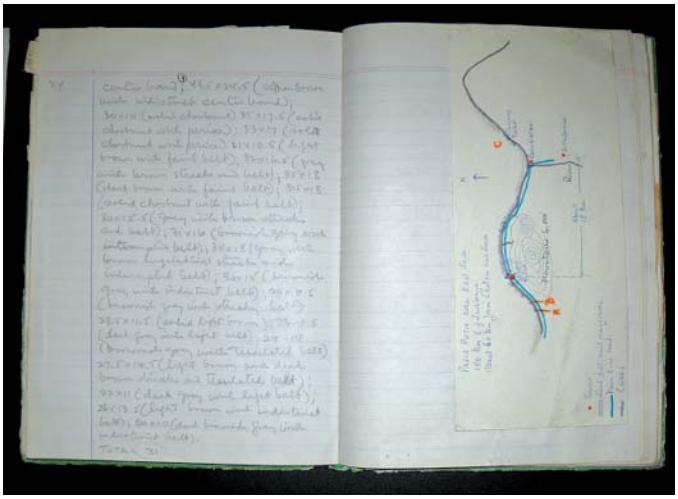

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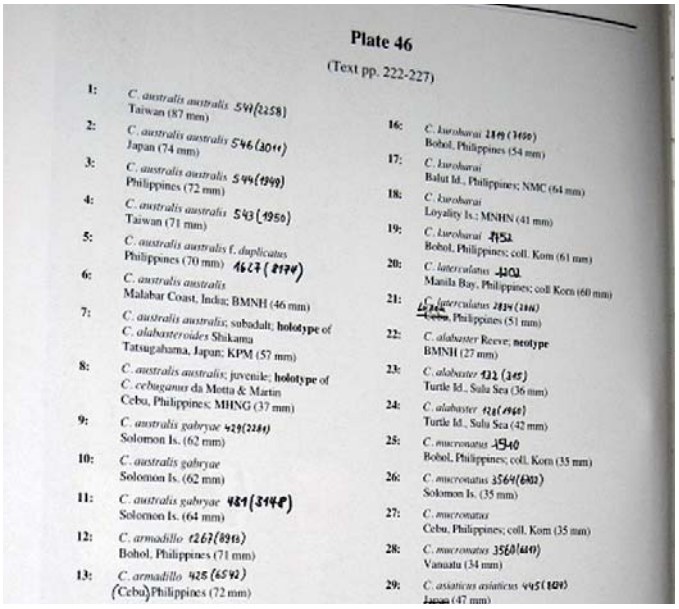

Plate 46

(Text pp. 222-227)

1: *C. australis australis* 541(2258)
Taiwan (87 mm)

2: *C. australis australis* 546(3011)
Japan (74 mm)

3: *C. australis australis* 544(1949)
Philippines (72 mm)

4: *C. australis australis* 543(1950)
Taiwan (71 mm)

5: *C. australis australis* f. *duplicatus*
Philippines (70 mm) 1627(2194)

6: *C. australis australis*
Malabar Coast, India; BMNH (46 mm)

7: *C. australis australis*; subadult; **holotype** of *C. alabasteroides* Shikama
Tatsugahama, Japan; KPM (57 mm)

8: *C. australis australis*; juvenile; **holotype** of *C. cebuganus* da Motta & Martin
Cebu, Philippines; MHNG (37 mm)

9: *C. australis gabryae* 429(2284)
Solomon Is. (62 mm)

10: *C. australis gabryae*
Solomon Is. (62 mm)

11: *C. australis gabryae* 489(3148)
Solomon Is. (64 mm)

12: *C. armadillo* 1267(8916)
Bohol, Philippines (71 mm)

13: *C. armadillo* 425(6542)
(Cebu) Philippines (72 mm)

16: *C. kurosharai* 289(3450)
Bohol, Philippines (54 mm)

17: *C. kurosharai*
Balut Id., Philippines; NMC (64 mm)

18: *C. kurosharai*
Loyality Is.; MNHN (41 mm)

19: *C. kurosharai* 7153
Bohol, Philippines; coll. Korn (61 mm)

20: *C. interculatus* 4302
Manila Bay, Philippines; coll Korn (60 mm)

21: *C. interculatus* 2834(2206)
Cebu, Philippines (51 mm)

22: *C. alabaster* Reeve; **neotype**
BMNH (27 mm)

23: *C. alabaster* 432(345)
Turtle Id., Sulu Sea (36 mm)

24: *C. alabaster* 426(4946)
Turtle Id., Sulu Sea (42 mm)

25: *C. mucronatus* 4540
Bohol, Philippines; coll. Korn (35 mm)

26: *C. mucronatus* 3569(6802)
Solomon Is. (35 mm)

27: *C. mucronatus*
Cebu, Philippines; coll. Korn (35 mm)

28: *C. mucronatus* 3560(6449)
Vanuatu (34 mm)

29: *C. assaticus asiaticus* 445(1824)
Japan (47 mm)

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1st International Cone Meeting

António Monteiro

In mid-October, I proposed to our subscribers the idea of organizing a meeting of shell collectors and professional researchers interested in cones. Along with this proposal, I sent out a questionnaire to determine whether or not such a project would be feasible.

I am now happy to report that the response from every quarter has been overwhelmingly positive. The positive response was not only from those who immediately said they would be interested in attending such an event, but also from those who confessed that they would be unable to participate. This means that our meeting can be a reality and, even more than that, can be a great success.

We have been far from idle during this time, discussing the organization of the event from every possible angle and trying to anticipate every detail, so that things go smoothly. Our main goal is that we may all spend a pleasant weekend discussing cones and cone collecting while having fun! So, let's do it!

1st International Cone Meeting

Our first step was to put together an international organizing committee that could take care of all aspects of the organization. This committee includes (in alphabetical order):

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Any suggestions, enquiries, etc. can be sent at any time to any of the members of the organizing committee.

We have also to thank Luís Ambar – a Portuguese shell collector – for the meeting logo you see above. It may look familiar. Luis also designed the logo for *The Cone Collector*.

We are very fortunate to have secured sponsorship of the meeting by the Staatliches Museum für Naturkunde Stuttgart (SMNS), an important Museum of Natural History, where major collections of cones are currently housed. We thank Hans-Jörg Niederhöfer, curator of Molluscs at the SMNS, for his invaluable help!

A lot of brainstorming has been going on among the members of the organizing committee using replies to our questionnaire. It is now possible to give some information about our plans.

First of all, we are proud to inform everyone that we will have as guest of honour the well-known collector, researcher, and author Dr. Dieter Röckel, from Eberbach am Neckar, Germany. Dieter's company will certainly be much enjoyed by everybody.

The program will include a number of talks (some of our speakers have already agreed to make presentations, while we are waiting for the probable acceptance by oth-

ers), an identification workshop (details about this will be forwarded at a later date), a mini-bourse devoted to Cones only (some shell dealers have already stated their intention of going to Stuttgart and others may join us), an "official" dinner, plus a few surprises. Also, we are trying to allocate time and opportunity for everybody to mingle, to get to know one another, to discuss cones, and generally to have a good time.

At the present stage we are investigating several options for group-discounted accommodations during the meeting. Travelling arrangements, costs involved, etc., are being given full attention. We will get all the proper information to you (including a registration form for the meeting) in due time.

We also plan to prepare a directory of participants, with lots of relevant information, so that participants can stay in touch after they return home. This directory may also be available to non-participants, in case they want to contact participants for help in getting involved with cone collecting.

With everybody's help, we will make a big hit out of the 1st International Cone Meeting, so that many others may follow!

And, I will keep you informed every step of the way!!

We have just received from our friend Felix Lorenz a very interesting plate with some Cones that we have the pleasure of sharing with all our readers. Here is what Felix has to say about these specimens:

In a past issue of TCC the rare South African *Conus queketti* was discussed and illustrated. I thought you might enjoy these pictures of three live collected specimens.

Top row: One is completely white, retaining the typical fine speckles seen in all *imperialis*-like species (42 mm), the other typically brown (46,6 mm).

The second row depicts a white specimen that changed to saturate colouration in the very last bit of the body-whorl (39,6 mm). This phenomenon implies that the colour can be switched on and off spontaneously in *Conus queketti*. The more typical, brown and yellow-dotted shell shows a combination of colours and banding not encountered in any given form of *C. imperialis* or *C. fuscatus*, although the shapes may be quite similar (third row from left to right: *C. imperialis* – Spratly Islands 27,2 mm; *C. fuscatus* –Mozambique, 29,7 mm; *C. fuscatus* – Tanzania, 74,1 mm; *C. imperialis* – New Ireland, 20,5 mm).

Conus queketti to my knowledge is found only in a restricted area, from Mzamba in the Transkei, where I found a large specimen in a sand pocket on rocky reef at 35 m, to Park Rynie, Natal. The depth ranges from just below the intertidal to 100 m. The three shells illustrated here were dredged from 85 m off Ramsgate, Natal.

Fourth row: a new species from China! These two shells are samples of a new *Conus* that has repeatedly been trawled in an area 200 km each of Taizhou, Eastern China. That area is famous for many formerly rare Chinese shells that now pop up by the thousand. This lovely species is somewhat similar to *C. kiicumulus*, *C. moluccensis* and may be confused with *C. ciderryi* by those who never saw a real one of those.

I suppose somebody is going to give a name to it and I would like to offer my two specimens (34,9 and 33,8 mm) for this venture.

Identification Needed!

We have received from our good friend Emmanuel Guillot de Suduiraut the photos of a few specimens from the Philippines, whose identification is not straightforward. They all come from Balabac Island, South of Palawan.

Will someone send along suggestions?

20 mm

16 mm

Etymology of Cone Species Names

António Monteiro

Have you have wondered about why a certain species of Cone (or of any other animal, for that matter) bears a certain name?

Well, I certainly have, so I propose we open a new section in *The Cone Collector* to establish the proper etymology for each name. Easy enough for most recently described species, perhaps not so with older ones...

Let us start with West African species, something I have paid particularly attention to along the years:

C. aemulus Reeve, 1844

From the Latin aemulus (= jealous, rival); the rival cone, possibly by comparison with other species such as Conus guinaicus Hwass, 1792

= *tamsianus* Dunker, 1855

Tamsi is the name of a village in East India; relation unclear

C. africanus Kiener, 1845

Clearly named after the African continent

= *neoafricanus* da Motta, 1991

The "new" *africanus*

C. albuquerquei Trovão, 1978

Named after Jorge Albuquerque, one time president of the Centro Português de Actividades Subaquáticas (CPAS), a shell collector, responsible for the collecting expeditions taht the CPAS made to several locations in Western Africa.

C. ambiguus Reeve, 1844

= *gernanti* Petuch, 1975

Named after Dr. Robert E. Gernant, American malacologist

= *griseus* Kiener, 1845

The grey cone

= *miser* Boivin, 1864

The miserable cone – probably alluding to its rather drab looks

C. anabelae Rolán & Röckel, 2001

Named after Anabela Fernandes, the daughter of Francisco Fernandes, a well known shell collector from Angola

C. anthonyi Petuch, 1975

Obviously named after Anthony, but not having the original description at hand, I fail to know which Anthony...

C. antoniomonteiroi Rolán, 1990

Named after António Monteiro, Portuguese shell collector, editor of *The Cone Collector*

C. ateralbus Kiener, 1845

From the Latin ater (black) + albus (white): the black-and-white cone

C. atlanticoselvagem Afonso & Tenorio, 2004

Named after the "Atlântico Selvagem" (= Savage Atlantic) expedition during which the first specimens were obtained

C. babaensis Rolán & Röckel, 2001

Named after Baba Bay, South Angola

C. belairensis Pin & Leung Tack, 1989

Named after Bel Air Beach, Dakar, Senegal

C. bellocqae van Rossum, 1996

Named after Martha Bellocq

C. bellulus Rolán, 1990

From the Latin bellulus, a diminutive of bellus (= beautiful)

C. boavistensis Rolán & Fernandes, 1990

Named after Boavista Island, in the Cape Verde Archipelago

C. bocagei Trovão, 1978

Named after José Vicente Barbosa du Bocage (1823-1907), a Portuguese zoologist

C. borgesi Trovão, 1979

Named after José Pedro Borges, Portuguese shell collector, author of several works on Portuguese shells

C. bruguieresi Kiener, 1845

Named after Jean-Guillaume Bruguière (1750-1798), a French physician, zoologist and diplomat, author of the famous treatise *Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature*, which appeared in 3 volumes in 1827

C. bulbus Reeve, 1843

From the Latin bulbus meaning bulb, apparently referring to the shape of the shell

C. cacao Ferrario, 1983

Cacao is the plant (*Theobroma cacao* L.) from whose seeds cocoa (the main ingredient in chocolate) is made. The name supposedly refers to the colour of shells

C. carnalis G. B. Sowerby II, 1879

From the Latin caro, carnis meaning flesh. The "fleshy" cone, apparently alluding to the colour of shells

= *amethystinus* Trovão, 1975

From the Latin, meaning "amethyst coloured", referring to the colour of typical specimens

C. cepasi Trovão, 1975

Named after the Centro Português de Actividades Subaquáticas (CPAS). The acronym "CPAS" is read in Portuguese as "cepas", hence the specific name

C. chytreus Melvill, 1884

Etymology unknown, suggestions much appreciated!

= *lucirensis* Paes da Franca, 1957

Named after Lucira Bay, Angola

C. cloveri Walls, 1978

Named after Phillip Clover, American conchologist and shell dealer

= *soaresi* Trovão, 1978

Named after Guilherme Soares, Portuguese shell collector and dealer

C. crotchii Reeve, 1849

Etymology unknown, suggestions much appreciated!

= *poppei* Elsen, 1983

Named after Guido T. Poppe, well known collector, conchologist and shell dealer

C. cuneolus Reeve, 1843

From the Latin cuneolus (= small wedge), possibly referring to the strong wooden aspect of some specimens

C. curralensis Rolán, 1986

Named after Curral Bay, Santa Luzia Island, Cape Verde Islands

C. damottai damottai Trovão, 1979

Named after A. J. (Bob) da Motta, American cone collector who lived most of his life in the Fasr East

C. damottai galeao Rolán, 1990

Named after Galeão Bay, Maio Island, Cape Verde Islands

C. decoratus Röckel, Rolán & Monteiro, 1980

From the Latin decoratus (= decorated), referring to the spectacular pattern of specimens

C. delanoyae Trovão, 1979

Named after Marie Wilhelmine De Lanoy Meijer, Dutch shell collector who lived in Portugal for many years

C. derrubado Rolán & Fernandes, 1990

Named after Derrubado Bay, Boavista Island, Cape Verde Islands

C. desidiosus A. Adams, 1854

From the Latin, meaning lazy; connection unclear

C. diminutus Trovão & Rolán, 1986

From the Latin deminutus (= small)

C. echinophilus Petuch, 1975

From the Latin echinus (= urchin) + philo (Greek) (= loving); the species is found in holes inhabited by sea-urchins

C. ermineus Born, 1778

Etymology unknown, suggestions much appreciated!

= *aspersus* G. B. Sowerby I, 1833

From the Latin aspersus (= sprinkle), probably referring to the pattern of some specimens

= *barathrum* Röding, 1798

From the Latin, meaning abyss, pit, the underworld, possibly based on dark specimens

= *caerulans* Küster, 1838

From the Latin caeruleus (= blue coloured), which refers to the colouration of some specimens

= *coerulescens* Schröter, 1803

From the Latin caeruleus (= blue coloured), which refers to the colouration of some specimens

= *eques* Hwass, 1792

From the Latin eques (= a knight); relation unclear, possibly just meaning to imply some form of distinction

= *inquinatus* Reeve, 1849

From the Latin inquino (= to soil), perhaps referring to the pattern of some specimens

= *luzonicus* Hwass, 1792

Luzón is a Spanish locality, and Luzon is one of the islands in the Philippines archipelago. "Luzonicus" meaning "the cone from Luzon (or Luzón)", the name can result from some confusion as to locality from which specimens were gathered

= *narcissus* Lamarck, 1810

From the Latin narcissus (a flower also known as daffodil), probably referring to the colour and/or the pattern of some specimens

= *perryae* Clench, 1942

Apparently named after Perry (a lady, since "perryae" is a feminine form), but whose identity is unknown

= *piraticus* Clench, 1942

From the Latin piraticus (= pirate), possibly referring to specimens collected in the Caribbean region

= *rudis* "Chemnitz" Weinkauff, 1873

From the Latin rudis (= coarse), probably referring to the general aspect of some specimens

= *testudinarius* Hwass, 1792

From the Latin testudo (= tortoise), possibly referring to the colouration of some specimens

C. evorai Monteiro, Fernandes & Rolán, 1995

Named after José Geraldo (Zinho) Évora, a fisherman from Boavista Island, Cape Verde Islands

C. fantasmalis Rolán, 1990

From the Latin phantasma (= ghost). Named after its dark lugubrious look and the fact that it was found in dark caves.

C. felitae Rolán, 1990

Named after Maria da Fé, known to her friends by the diminutive Felita, the wife of Herculano Trovão, Portuguese shell collector and researcher who published a number of papers on West African cones, with the descriptions of several new taxa

C. filmeri Rolán & Röckel, 2000

Named after Michael Robin (Mike) Filmer, well known British collector and researcher, author of *A Catalogue of Nomenclature and Taxonomy of the Living Conidae 1758-1998*

C. flavusalbus Rolán & Röckel, 2000

From the Latin flavus (= yellow) + albus (= white), referring to the usual colouration of specimens

C. fontonae Rolán & Trovão, 1990

Named after Fontona Bay, Sal Island, Cape Verde Islands

C. franciscoi Rolán & Röckel, 2000

Named after Francisco Fernandes, a well known shell collector from Angola

C. fuscoflavus Röckel, Rolán & Monteiro, 1980

From the Latin fuscus (= dark, black) + flavus (= yellow), referring to the usual colouration of specimens

C. fuscolineatus G. B. Sowerby III, 1905

From the Latin fuscus (= dark, black) + lineatus (= with lines), referring to the pattern of spiral lines of specimens

C. gabrielae Rolán & Röckel, 2000

Named after Gabriella Raybaudi Massilia, well known shell collector, researcher and dealer

C. genuanus Linnaeus, 1758

Genua was the Latin name for Genoa, a north Italian city; it can refer to similarity between the distinctive pattern of the shells and some forms of Genovese art or handicraft

= *fasciatus* Perry, 1811

From the Latin fascia (= band), obviously referring to the spirally banded pattern of the shells

= *papilio* Linnaeus, 1767

From the Latin papilio (= butterfly), referring to the beauty of the shell pattern

= *sphinx* Röding, 1798

Referring to the Sphinx, possibly because of the amazingly regular and colourful pattern and the enigma of its formation

C. grahami grahami Röckel, von Cosel & Burnay, 1980

Named after Graham D. Saunders, British shell collector who visited the Cape Verde Islands and studied the local fauna

C. grahami luziensis Röckel, Rolán & Monteiro, 1983

Named after Santa Luzia Island, Cape Verde Islands

= *grahami pseudoventricosus* Röckel, Rolán & Monteiro, 1980

Named from ventricosus with added prefix pseudēs (Greek)(= false)

C. guanche Lauer, 1993

Named after the Guanche people, native inhabitants of the Canary Islands

= *guanche nitens* Lauer, 1993

From the Latin niteo (= shining)

C. guinaicus Hwass, 1792

From the Latin, meaning "from Guinea"

= adansonii Lamarck, 1810

Named after Michel Adanson (1727-1806), a French naturalist of Scottish descent, the author of Histoire Naturelle du Sénégal (1757)

= grayi Reeve, 1878

Named after John Edward Gray (1800-1875), British zoologist

C. hybridus Kiener, 1845

From the Latin hybrida meaning hybrid, the offspring of two animals or plants of different breeds, possibly considering that the species has affinities with others

C. infinitus Rolán, 1990

From the Latin infinitus (= indefinite, indeterminate, as well as endless), referring to the scant morphological features that allow for separation of the species

C. irregularis G. B. Sowerby II, 1858

= *iberogermanicus* Röckel, Rolán & Monteiro, 1980

Named after the Iberian Peninsula and Germany, to mark the fact that the description was proposed by three authors, one Portuguese, one Spanish and one German

C. josephinae Rolán, 1980

Named after Josefina, the wife of Emilio Rolán Mosquera

C. jourdani da Motta, 1984

Named after Ken Jourdan, who collected specimen at St. Helena Island, under very hard circumstances

C. longilineus Röckel, Rolán & Monteiro, 1980

From the Latin longu (= long) + linea (= line), referring to the elongated shape of the shell

C. lugubris Reeve, 1849

From the Latin lugubre, meaning lugubrious, gloomy. It refers to the very dark colour of the shell

= *fuscus* Barros e Cunha, 1933

From the Latin fuscus, meaning dark, dusky, same reason as above

C. luquei Rolán & Trovão, 1990

Named after Angel Antonio Luque del Villar, professor of Biology in the Universidad Autónoma de Madrid

C. maioensis Trovão, Rolán & Félix-Alves, 1990

Named after Maio Island, Cape Verde Islands

C. mercator Linnaeus, 1758′

From the Latin mercator, meaning trader, merchant. Connection unclear

= *aurelius* Röding, 1798

Aurelius was the name of an important Roman family. Connection unclear

= *lamarcki* Kiener, 1845

Named after Jean Baptiste Pierre Antoine de Monet, Comte de Lamarck (1744-1829), important French naturalist

= *orri* Ninomiya & da Motta in da Motta, 1982

Named after John Orr, malacologist

C. messiasi Rolán & Fernandes, 1990

Named after João Messias, a Portuguese shell collected who visited Angola and the Cape Verde Islands

C. micropunctatus Rolán & Röckel, 2000

From the Greek mikros (= small) + punctum (Latin) (= dot), referring to the pattern of spiral rows of small dots of the specimens

C. miruchae Röckel, Rolán & Monteiro, 1980

Named after Casimira Garrido Montes, known to her friends as Mirucha, a Spanish shell collector

C. mordeirae Rolán & Trovão, 1990

Named after Mordeira Bay, Sal Island, Cape Verde Islands

C. musivus Trovão, 1975

From the Latin musivum (= mosaic), clearly referring to the pattern of the specimens

= *tevesi* Trovão, 1975

Named after Francisco Teves, a Portuguese diver

C. naranjus Trovão, 1975

Latinized form derived from the Arab naranj (= orange), which refers to the overall colouration of specimens

C. navarroi navarroi Rolán, 1986

Named after Ignacio Navarro, a Spanish malacologist

C. navarroi calhetae Rolán, 1990

Named after Calheta Bay, Maio Island, Cape Verde Islands

C. neoguttatus da Motta, 1991

Named from guttatus with added prefix neos (Greek) (= new)

C. nobrei Trovão, 1975

Named after Augusto Nobre (1865-1946) an important Portuguese researcher, politician and professor who pioneered the study of modern marine Biology in Portugal. author of many important works, including a number of books on the Portuguese malacological fauna, marine, land and fresh water.

C. pineaui Pin & Leung Tack, 1989

Named after Dr. Pierre Pineau, a radiologist from Dakar, Senegal

C. pseudocuneolus Röckel, Rolán & Monteiro, 1980

Named from cuneolus with added prefix pseudēs (Greek)(= false)

C. pseudonivifer Monteiro, Tenorio & Poppe, 2004

Named from nivifer with added prefix pseudēs (Greek)(= false)

C. pulcher pulcher Lightfoot, 1786

From the Latin pulcher (= beautiful)

= *archithalassius* Link, 1807

From the Latin archi (= first, chief) + thalassinus (sea-green; by extension, related to the sea)

= *bicolor* G. B. Sowerby I, 1833

From the Latin, meaning two-coloured

= *breviculus* G. B. Sowerby I, 1833

From the Latin breviculus (= summary)

= *conakryensis* (n. nom.) van Rossum, 1997

Named after Conakry, the capital of Guinea

= *fluctifer* Dillwyn, 1817

From the Latin fluctus (= wave); the cone from the waves

= *grandis* G. B. Sowerby I, 1823

From the Latin grandis (= large)

= *indiae* Röding, 1798

From the Latin for India

= *leoninus* Gmelin, 1791

From the Latin, related to lions

= *nicolii* J. Wilson, 1831

Named after Nicoli (unidentified)

= *papilionaceus* Hwass, 1792

From the Latin papilio (= butterfly); similar to a butterfly

= *papillaris* G. B. Sowerby I, 1833

From the Latin papilla (= nipple)

= *prometheus* Hwass, 1792

Prometheus was one of the Titans, in Greek Mythology, who stole fire from Zeus to give to mortals; Zeus punished him by having him bound to a rock while an eagle ate his liver which continuously grew back to be eaten again

= *pseudothomae* "Chemnitz" G. B. Sowerby I, 1858

From the Greek pseudes (= false) + thomae: resembling *Conus thomae* Gmelin, 1791

C. pulcher byssinus Röding, 1798

From the Latin byssinus, meaning "made of linen", probably referring to the pattern of the shells

C. pulcher siamensis Hwass, 1792

Siam is the ancient (up to 1939) name of Thailand, so this would be the "cone from Siam", possibly because of some error in the locality of specimens forwarded to Hwass

= *canariensis* (n. nom.) van Rossum, 1997

The name refers to the Canary Islands

C. raulsilvai Rolán, Monteiro & Fernandes, 1998

Named after Raul Silva, shell collector from Boavista Island, Cape Verde Islands

C. regonae Rolán & Trovão, 1990

Named after Regona Bay, Sal Island, Cape Verde Islands

C. roeckeli Rolán, 1980

Named after Dieter Röckel, well known German shell collector and researcher, coauthor of *Manual of the Living Conidae*

C. salreiensis Rolán, 1980

Named after Sal-Rei Bay, Boacista Island, Cape Verde Islands

C. saragasae Rolán, 1986

Named after Saragasa Bay, S. Vicente Island, Cape Verde Islands

C. serranegrae Rolán, 1990

Named after Serra Negra Bay, Sal Island, Cape Verde Islands

C. tabidus Reeve, 1844

From the Latin tabidus (= emaciated), referring to the pale colouration of the shells

C. taslei Kiener, 1845

Named after M. Père Taslé, 19th century French naturalist

= *luridus* A. Adams, 1854

From the Latin luridus, meaning "sallow", "of a sickly yellowish colour", referring to the greenish colouration of the shell

C. tenuilineatus Rolán & Röckel, 2001

From the Latin tenuis (= subtle) + lineatus (with lines), referring to the very thin lines in the pattern of specimens

C. teodorae Rolán & Fernandes, 1990

Named after Teodora Bay, Boavista Island, Cape Verde Islands

C. trochulus Reeve, 1844

From the Latin trochus (a metal hoop used for games or exercises); trochulus means "a little trochus" and possibly refers to some similarity with shells of species belonging to the family *Trochidae*

C. trovaoi Rolán & Röckel, 2000

Named after Herculano Trovão, Portuguese shell collector and researcher who published a number of papers on West African cones, with the descriptions of several new taxa

C. unifasciatus Kiener, 1845

From the Latin unūs (= one) + fascia (= band), which refers to the usual pattern of specimens

C. variegatus Kiener, 1845

From the Latin variego (= variate, change appearance): the variegated cone

= obtusus Kiener, 1845

From the Latin obtusus (= blunt, obtuse), referring to the profile of the shell (mainly the spire)

C. vayssierei Pallary, 1906

Named after Albert Jean-Baptiste Marie Vayssière (1854-1942), French zoologist

C. ventricosus Gmelin, 1791

From the Latin ventricosus or ventriosus, meaning large-bellied, referring to the rather swelling profile of the shell

= *adriaticus* Nardo, 1847

Named after the Adriatic Sea

= *amazonicus* Nardo, 1847

Probably from the name of the Amazons, members of a race of legendary female warriors

= *ater* Philippi, 1836

From the Latin ater (= black)

= *cailliaudii* Jay, 1846

Named after Frédéric Cailliaud (1787-1869), French naturalist

= *chersoideus* Nardo, 1847

From the Latin chersos (= land tortoise)

= *cinctus* Bosc, 1801

From the Latin cinctus (= surrounded), probably referring to a spiral band at mid-body

= *clodianus* Nardo, 1847

Possibly from Clodianum, a river in Spain

= *cretheus* Nardo, 1847

Named after Cretheus, a king from Greek Mythology

= *epaphus* Nardo, 1847

Named after Epaphos, a king (son of Zeus) from Greek Mythology

= *franciscanus* Hwass, 1792

Possibly to do with the religious order of the Franciscans? Connection unclear

= *galloprovincialis* Locard, 1886

Probably from the Latin gallus (referring to the Gauls, ancient inhabitants of Gaul, the region in Western Europe roughly corresponding to modern France and Belgium) + provincialis (meaning "from the province"): the cone from the province of Gaul

= *glaucescens* G. B. Sowerby I, 1834

From the Latin glaucus (= greenish): somewhat greenish

= *glaucus* Röding, 1798

From the Latin glaucus (= greenish)

= *grossi* Maravigna, 1853

From the Latin grossus (= thick)

= *guestieri* Lorois, 1860

Named after Guestier, possibly Baron Daniel Guestier

= *hanleyi* G. B. Sowerby III, 1857

Named after Sylvanus Charles Thorp Hanley (1819-1899), British malacologist who published the first book on shells using the then new technique of photographs

= *herillus* Nardo, 1847

From Herillus, a Greek philosopher (3rd century b.C.) or from the Latin herilis (which can be related to heres (= heir) or herus (= master)). Relation unclear

= *humilis* von Salis, 1793

From the Latin humilis (= humble)

= *ignobilis* Olivi, 1792

From the Latin ignobilis (= ignoble, unknown, obscure)

= *inaequalis* Reeve, 1849

From the Latin inaequalis (= unequal, irregular)

= *istriensis* Nardo, 1847

Named after Istria, a peninsula in the Adriatic Sea

= *jamaicensis* Hwass, 1792

Named after Jamaica in the Caribbean region

= *jaspis* von Salis, 1793

From the Latin jaspis (= jasper)

= *madurensis* Hwass, 1792

Apparently named after Madura Island, near Java. possibly a wrong locality indicated to the author

= *marmoratus* Philippi, 1836

From the Latin marmoratus (= marbled)

= *mediterraneus* Hwass, 1792

From the Mediterranean Sea

= *meridionalis* Giorgianni, 1996

From the Latin meridionalis (= southern)

= *olivaceus* von Salis, 1793

From the Latin olivaceus (= olive-coloured)

= *pallans* Nardo, 1847

Perhaps from palla, a Roman mantle worn by women

= *phegeus* Nardo, 1847

From Phegeus, a king in Greek Mythology

= *rusticus* Poli, 1826

From the Latin rusticus (= peasant)

= *scalare* Dautzenberg, 1911

From the Latin scala (= stairs), meaning stepped (referring to high-spired specimens

= *siculus* Delle Chiaje, 1828

From the Latin siculus (= pertaining to Sicily)

= *stercutius* Nardo, 1847

From Stercutius, the Roman god of fertilization, who supervised the manuring of the fields

= *submediterraneus* Locard, 1886

From the Latin sub- (prefix meaning under) + mediterraneus (see above)

= *thuscus* Nardo, 1847

From the Latin Tuscus (= Etruscan)

= *trunculus* Monterosato, 1899

From the Latin truncus (= trunk (of a tree)), meaning "little trunk"

= *zealandicus* Hutton, 1873

Possibly from Zeeland, a province of the Netherlands

C. venulatus Hwass, 1792

From the Latin vena (= vein), meaning "with small veins" and referring to the pattern on the shell

= *nivifer* Broderip, 1833

From the Latin niveus (= covered with snow)

= *nivosus* Lamarck, 1810

From the Latin niveus (= covered with snow)

= *quaestor* Lamarck, 1810

From the Latin quaestor, a state treasurer

C. verdensis verdensis Trovão, 1979

Named after the Cape Verde archipelago

C. verdensis furnae Rolán, 1990

Named after Furna Bay, Brava Island, Cape Verde Islands

C. xicoi Röckel, 1987

Named after Francisco Fernandes, a well known shell collector from Angola, know to his friends as "Xico"

C. zebroides Kiener, 1845

Latinized form for "remindful of a zebra", which refers to the pattern of the specimens, formed by strong dark spiral lines against a whitish background

= *angolensis* Paes da Franca, 1957

Named after Angola

Comments on TCC #12

From Jon Singleton

Many thanks for the last *Cone Collector*, and a most interesting issue.

I was surprised to read Mike Filmer's comment on my "Amethyst Blotch" article within. It was as Bill Fenzan suggested, the 1993 Lauer it certainly was for sure. I rechecked and realized I had failed to notice the editor had omitted my two references, one of which was the Lauer article.

On a sadder note, I noticed B.F. stated the "late" J. M. Lauer, and the news of his passing seems not to be known amongst the Australian shell scene.

> The Editor replies:
>
> Thank you, Jon! For some mysterious region, the references were indeed omitted from your "Amethyst Blotch" article. I am very sorry that it eluded revision! Here they are now:
>
> References
>
> 1993. J.M. Lauer, *C. planorbis*. *World Shells* No. 4
>
> 1995. D. Röckel, W. Korn & A. Kohn. *Manual of the Living Conidae*

From Bruce Livett

Dear Toto and Ashley,

I enjoyed very much your article "Cone Shells and Human Culture" in *The Cone Collector* #12. It reminded me of other examples that I came across of the use of Cone Shells as adornments, some of which I have on my Cone Shell and Conotoxins webpage.

For example, there are several adonments depicted on Cones on Stamps *http://grimwade.biochem.unimelb.edu.au/cone/cones_on_stamps.html* (eg. from Namibia).

Here are a few links for your inspection:

Conus betulinus Linnaeus, 1758 [Namibia]

Take a look at:

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/672.jpg Necklace

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/674.jpg String of beads

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/912.jpg Base of shell on necklace of Mbukushu woman

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/914.jpg Neclace of Himba woman

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/917.jpg Bases of shells on necklace of Ngandjera / Kwaluudhi woman and collections of stamps on sheets

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/906sheet.jpg Sheet 1

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/912sheet.jpg Sheet 2

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/912-sheetbottom.jpg Detail at bottom of Sheet 2

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Namibia/912-sheettop.jpg Detail at top of Sheet 2

Conus pulcher pulcher Lightfoot, 1786 [Angola]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20

images/Angola/550.jpg Necklaces

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Angola/552.jpg

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Angola/554.jpg

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Angola/555.jpg

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Angola/557.jpg

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Angola/558.jpg

Conus pulcher pulcher Lightfoot, 1786 [Belgian Congo]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Belgian%20Congo/BEC195.jpg Local Scenes and People: forehead ornament is the base of a *C.pulcher*

Conus pulcher pulcher - Lightfoot, 1786 [Burkino Faso]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Burkino%20Faso/884.jpg Hairstyles

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Burkino%20Faso/886.jpg

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Burkino%20Faso/888.jpg

Conus pulcher pulcher Lightfoot, 1786 [Ruanda-Ununi]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Ruanda-Urundi/RUA92.jpg Local Scenes and People: chest ornaments are the base of *Conus pulcher*

Conus pulcher pulcher Lightfoot, 1786 [South West Africa]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/South%20West%20Africa/427.jpg Necklace of Kwamba woman

Conus marmoreus Linnaeus, 1758 [Maldives]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Maldives/431.jpg Bosschaert painting; also freshwater snail

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Maldives/434.jpg

Conus marmoreus Linnaeus, 1758 [Paraguay]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Paraguay/PARB151.jpg Bosschaert painting; also freshwater snail

Conus sp [various countries]

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Czechoslovakia/2282.jpg (Czechoslovakia) Hero and Leander: Cupid mourning

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Czechoslovakia/2282mag.jpg enlarged image of above

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Kenya/222.jpg (Kenya) Costumes, pendant

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Liberia/Liberia1306.jpg (Liberia) Mask: African festival

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Papua%20New%20Guinea/125.jpg (Papua New Guinea) nose ornament

http://grimwade.biochem.unimelb.edu.au/cone/Cone%20images/Papua%20New%20Guinea/319.jpg (Papua New Guinea) headpiece

Toto, another article I enjoyed reading but is no longer on the web as far as I can find out is the following by Christopher J. Scheller. However, you should be able to track him down through the Dept. of Anthropology at the University of Oregon.

Cone shell armbands from Nan Madol. The rulers of Nan Madol on the island of Pohnpei were identified by their shell armbands made of tridacna and conus shell. The armbands, carved in several styles, have been found in association with the remains of chiefs on the islets Nan Madol within tombs (date 600 BP) and as surface finds. This fascinating article by Christopher J. Scheller, Department of Anthropology, University of Oregon, describes the classification, analysis and construction of these shell armbands in which the largest part of the conus shell is cut away and then the inside spirals are removed (see Figure 1) leaving a natural band to be worn on the arm or strung as bead.

Hi again Toto and Ashley

I managed to locate the Scheller article by using the web archive service.

Take a look at :

http://web.archive.org/web/19991006025346/http://www.teleport.com/~scheller/old/shell.htm

I am still looking for Fig. 1 from this article which is of cone shell construction. But at least you have the text.

If I find any more relevant material I will send to you. I am interested in whether the Aboriginals in Australia (particularly in the Kimberley) ever used cone shells for adornment. I am not aware that they did. I know there are shell middens on Lizard Island but that only shows that they ate shells.

In the meantime, here is some more information relating to Cone Shells and Human Culture that is relevant to a possible follow-up article:

Fossil Conus

The June 2005 Scientific American has images of shell beads from Blombos Cave in South Africa, dated 75,000 years ago. The reference is Francesco d'Errico, Christopher Henshilwood, Marian Vanhaeren and Karen van Niekerk, "Nassarius kraussianus Shell Beads from Blombos Cave: Evidence for Symbolic Behavior in the Middle Stone Age", in *Journal of Human Evolution*, 48: 3-24 January 2005.(Thanks to John W. Lancaster, PA, who posted this on CONCH-L).

Aboriginal Shell Middens:

http://www.ccmaindig.info/heritage/images/miniposters/13CoastalMiddens.pdf

http://www.environment.nsw.gov.au/nswcultureheritage/ShellMiddens.htm

http://www.aboriginalaffairs.vic.gov.au/web7/rwpgslib.nsf/GraphicFiles/AA_13_ShellMiddens_13/$file/AA_13_ShellMiddens_13.06.08.pdf

http://www.griffith.edu.au/ins/collections/webb/html/10-41.html

http://www.ccmaindig.info/heritage/SitesArtifacts_MiddensFresh.html

Two Books on Shell Art reviewed:

1. *Shells* by Paul Starosta & Jacques Senders (Firefly Books)

2. *The Shell: A World of Decoration and Ornament* by Ingrid Thomas (Thames & Hudson)

We hope to see your contribution in the next TCC!