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In Memoriam

E.F. LOOSJES TOM MONTGOMERY LANCE MOORE OSSIE RIPPINGALE WALTER E. SAGE, III

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Editor TOM RICE

From the Editor's Desk

It is always sad when a friend dies, even more so when that friend has contributed so much to our mutual hobby. Although I never had the chance to meet Walter Sage, we did carry on a years long correspondence and did look forward to meeting at the San Diego Conchologists of America Annual Convention in June. Unfortunately that was not to be.

Coincidentally I have received word that C. Clifton Coney, who like Walter was a Collection Manager of Mollusca (at the Los Angeles County Museum of Natural History), has also passed away (more in our next issue).

Continued on page 162



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Dar to Mtwara & on to Zanzibar

E. Shery Almasi

In October of 1994, Trevor Roberts and I joined Don Pisor of La Jolla, California and nine other people on a trip to Africa. My first trip to The Fragile Continent. We travelled to Dar es Salaam via London's Heathrow and arrived mid afternoon.

After lunch and a short rest we visited the local shell market to see what local shells were available. Afterwards we visited a small village, Kinadone, filled with fabric for sale. These colorful fabrics are called "kangas" and are basically simple rectangles of cloth that the women wrap around their bodies and their heads. It is a village of "seamstresses and butcherys" - an odd combination!

On the way back to the hotel we saw a Muslim funeral procession headed for the cemetery. All were on foot. Six men carried the body.

Dar es Salaam, the "Haven of Peace", started out as a small fishing village in the mid-1800's. It is a city of approximately 1½ million people and I came away with very mixed feelings about the city. "Dar" is dirty, fascinating and, in many ways, difficult to appreciate. The streets are filled with badly crippled beggars, small darkened shops, cashew vendors and colorfully clothed people. There are smells you prefer never to have experienced and there is heat.

The next morning we visited an enclave of wood carvers and saw some really handsome carvings as well as beautiful batiks. Then, after a drive o about 15 miles north, along the coastline, we had lunch at a lovely hotel. We then took a boat to a small island which was about 25 minutes from shore. White sands, grasses and coral. The shelling was exceedingly good. We took Bursa, Murex, Conus, Lambis, Mitra, Terebra, etc. The only exciting finds were two very lovely Harpa ventricosa taken live. We could easily have spent more time at this spot.

Originally it had been planned that we fly from "Dar" west, then south to the Selous Game Reserve, but when we arrived in Dar es Salaam we found the plane had been changed by the State Tourism Office and we were

to drive to Selous ... a short six plus hour drive. Welllll - we left at 7:40 a.m. and a few kilometers out of town the pavement ended. As usual, the sights were interesting. Boys pushing carts filled with 5-gallon water containers. Bicycles with loads of bamboo rakes or loads of "coke" (burnt charcoal for their cooking fires), squalor, garbage dumps, mounds of rice, cashew trees. mothers with babies on their backs, houses built of woven sticks, then packed with mud. Further into the countryside we would get glimpses of Vervet monkeys (small beige monkeys with black faces). The chickens were "street smart". Red dust is everywhere. Then the road eventually turned to sand. We were travelling in two vehicles - one a 4-wheel drive "Rover" type and the other a van which, unfortunately, did not have 4-wheel drive. And we got stuck. Our driver was sweet, but he had no notion of how to drive in sand. Nor would I! It took at least an hour to get us out of the first rut. The first, you say? Yes, the first of four times. And the "Rover" ended up pulling us out each time. Needless to say this put a damper on the timing of our short six hour trip! We arrived at Selous at 6:05 p.m. A ten-anda-half hour ride, but everyone was still in a really great mood. As it turned out, it took a lot to upset this group of shell collectors.

Selous Game Preserve is an extremely large preserve, but undeveloped. However, this is the first place I've ever stayed that provided bidets in the tents. Is that class? After coming via a week in Paris, this was an unexpected sight. Our camp was located on a cliff above the Rufiji River. In this river were many hippos ... and their snorts and roars serenaded us through the night. Early the next morning we set out to see the wildlife. It was a lovely morning and we spotted water bok, giraffe, gazelle, greater kudu, impala (thousands of them), wildebeest, hippo, mongoose, vervet monkeys and the much maligned wart hog. At least it is maligned by cartoonist Gary Larson. With the help of a bird book that our guide provided I spotted Egyptian geese, yellow-billed stork, wattled plover, crowned hornbill, African skimmer, black egret, red-cheeked cordon bleu, swallow-tail bee eater, lilac-breasted roller, crested guinea fowl, cinnamon-chested bee eater and various weaverbird species. It is a birders paradise and I loved the names! After several hours we came in for lunch

and then went out again in the afternoon. By now we were experiencing a bit of rain. Well, more than a bit! We had come just at the end of the dry season and at the beginning of the wet season. Thank heaven we didn't come later. In fact the camp shuts down during the rains - November to late spring - as the trails are completely impassable. In the afternoon we added Burchell's zebra, elephants and red squirrels to our list of sightings. More rain. Mud, mud, mud. Finally the van got stuck (it was destined) and we were in a sea of mud. As the "Rover" pulled us, mud flew everywhere. The windshield had huge globs on it and we had to use precious drinking water to clean it. As one of the men wiped the windshield clean, Terry Gosliner said, "and change the oil while your're at it please." You had to be there. It was Terry's birthday and truly a day to remember.

The next morning we awakened to the sounds of small monkeys scampering about and hippos snorting below, in the river. It started raining at breakfast. I had a omelet which looked amazingly like scrambled eggs. Terry's birthday cake was served (ordered by Dodie Goodman the night before!) - it was sort of a jam tart. Nice. Late, but nice. Swallows overhead, monkeys feeding in the trees, everything grey with the rain. The hornbills danced about catching the termites in the air. There were termites everywhere and later Terry told us that the rain brings them out.

We headed out at ten a.m. for a short drive and then a walk into the forest to find the colobus monkeys. We had a difficult time finding them, but perseverance paid off. There they were, high in the tree tops. Black and white - with long white hair down the sides of the face on the neck and down the back of the shoulders. They move constantly, flying from branch to branch and from tree to tree. They seldom come down to ground level. After lunch we did a river trip in boats and counted about 80 hippos, a few very handsome cape buffalo and even more species of birds, including the Goliath Heron.

We now headed for our first shelling destination. We were to fly out of Selous in a 14-seater, 2-prop Cessna to Mtwara, on the south coast of Tanzania. When the pilot saw the amount of luggage our group had with us, his face turned to an unusually pale color. The take-off was memorable! I wanted desperately, to become instantly weightless! We barely cleared the trees at the end of the runway. After a one hour flight we landed in Mtwara where we were greeted by Mike Lewis, divernaster for the Ruvula Camp on M'simbati Island, where we were to spend the next four plus days. The island is connected to the mainland by a man-made causeway. The camp is located on an old cashew and coconut plantation and Peter Jones, an owner, is in the process of making the plantation portion pay for itself

too. These ambitious young men are also renovating an old stone home, which will be used to house some of their guests in the future. The camp is a dive camp and this was the first time that Mike and Peter had catered to "shellers". They had to expand the camp for our group as they normally accommodate no more than ten persons. because of this, Kit Stewart moved into a brand new tent ... and had the added pleasure of having a pandanas woven roof constructed over her tent (extra sun protection) while she "lived" in it! Kit was a marvelous sport about the whole thing. The main camp is situated on the lee shore of M'simbati, at Ruvula Beach with a view of the 60 square mile Mnazi Bay. There is incredible marine diversity here, including hundreds of different species of fish, over 100 types of coral, several species of whale, dolphin, nesting turtles and rays. The tents share toilet and shower facilities. Meals are served in a common dining area and the cooks do a wonderful job for being so very far from what we call civilization. We spent our first afternoon wandering the beach and came up with a new Donax, Hastula solida, Oliva duclosi lentiginosa and O. caroliniana.

In the morning we took small boats to Namponda Island. We had a good low tide and did beach collecting. We found the usual Cypraea, Conus textile, Cymatium, Bursa, Mitra and Trochus. It was much too hot to shell in the afternoon so we consoled ourselves that evening by going night shelling with Don and Terry. Nothing was found except Nassarius gualteriana and they were abundant. Returned to the camp and sat on the beach with a glass of Bailey's, watching the starry sky and saw a sight I'll not forget. Five natives, bicycling in single file, down the beach at the water line, merrily chatting in the moonlight. They were fishermen on their way back to their village after a long day of fishing. Later, we found that cycling is the main mode of transportation on the island - along with foot travel, of course.

The next morning we awakened to find that the tent over our toilet had blown over. Fortunately no one was "caught" in the mishap. We went beach shelling with a good minus tide. Found a new Fissurella, but Jim McLean talked me out of it, so I'll probably never know what species it was! I did take Diodora ruepelli, Clanculus puniceus, Strombus decorus decorus, Lambis chiraga arthritica, L. crocata crocata, Casmaria erinaceus, Bursa humilis, Fasciolaria trapezium. These were all new to my collection. Each of us could have added about a dozen Cypraea tigris to our collections, had we been so inclined! And of course there were other shells, more common, that we had taken elsewhere in our travels.

Back at our tent, I watched two weaver birds building a nest from scratch. It was wonderful. They attach



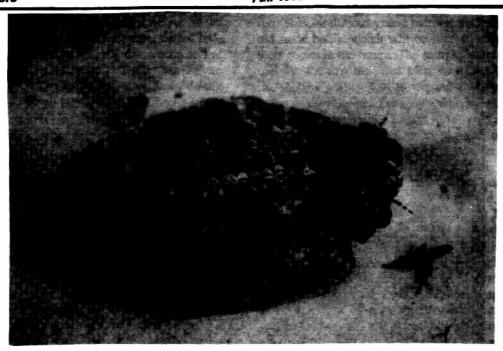
Our Cessna - before taking off for Mtwara with limited luggage capacity.



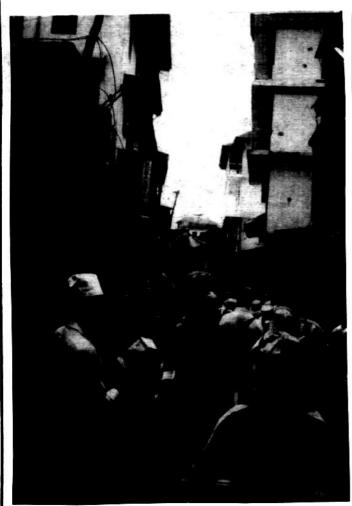
Giraffe at Selous - a baby was nearby & he/she is being very protective.



Elly - roasting our cashews.



Harpa ventricosa



Stonetown, Zanzibar with its narrow picturesque and crowded streets.



Don Pisor in all his glory at Ras Nungwe.



Fishing boats at Ras Nungwe.

materials to a tree branch then hang on the nest as they build it. They hang upside down while weaving with their beaks, their wings fluttering to keep their balance. They looked like large upside down hummingbirds.

For the next two days we traveled about 3 km north up Ruvula Beach to a wonderful tidal area. It seemed like miles of tide flats with good rock turning. The shelling was good and we added Bursa rosa, Engina incarnata, Nassarius acuticostus, an Olivella and Turridae species I can't identify, Harpa amouretta and Conus geographus, which had eluded me for years. At one point I was trying to free some unsuspecting mollusk from a rock and not getting anywhere. Absentmindedly I picked up a "rock" and banged it against my mollusk. Went to throw the "rock" away and found that I was holding a very large Tutufa bubo. In beautiful condition, luckily! We gathered a few Haliotis pustulata for ourselves and for Kit Stewart. Haliotis are Kit's passion and the best way to her heart is to give her a few Haliotis. We found many more for her later in the trip I also collected my first nudibranchs, which I gave to Terry. He hoped to collect about 200 species on this trip and came away with about 180. A lot of nudies!

Well, the toilet tent collapsed again, but it was fixed in record time. There were several people in the group who were "under the weather" and these toilets were pretty important to their lives!

One evening, before dinner, Elly (I think she was a cook?) and a lady who helped serve meals got a nice bonfire going. After dinner, when it was dark and the

coals were really hot Elly put a wok-shaped metal pan into the fire and filled it with cashews (the fruit had been torn away from the nut). The cashew hulls or skins heat up and after a few minutes the oil in the husk gets extremely hot and the nuts literally ignite, sending yellow-white flame two to three feet into the air. They continue stirring and shaking the pan for several minutes, then dump them into the sand to cool. The men then crack the shells off with the handle of a small machete while the nuts are still hot. A fine membrane like we find on the peanut - is still attached to the nut and it is peeled or flaked off before eating the warm nut. I rather liked eating the fine membrane as it gave the nut a smoky flavor. The cashew season was just beginning and they wait until the fruit and nut drop off the tree before hand harvesting. The fruit is the size of a small crabapple and it a tawny golden color and very good to eat. In the morning we were served cashew nut fruit preserves with our toast and it was delicious. The green husk covering the cashew nut is very toxic and care is taken not to eat it. From watching the roasting process it is safe to say that the hull is saturated with oil. Peter Jones told us that if there is a fire in a cashew orchard, the nuts explode all over the place. After harvest the nuts are usually shipped to India to be processed. In India they are cooked in a hot oil, thus extracting the cashew oil. This oil is used for lamp fuel. Then the cashews are roasted in a less labor intensive way.

If you are the hardy type, this is a wonderful place to go shelling. And if you are a diver, then so much the better. Mike Lewis showed a great interest in shell



The beach at Ras Nungwe.

collecting and later purchased books through the Bailey-Matthews Museum in Sanibel to use for reference. If interested in this part of Africa you can contact Mike's mom, Anne Cusic, 100 S. La Senda Dr., Laguna Beach, CA 92677 or call 1-800-244-2366. She is most helpful. Peter Jones also does safari's out of Arusha, Tanzania. He prefers to specialize in walking safaris with the Massai tribesmen. He is also a fine nature photographer.

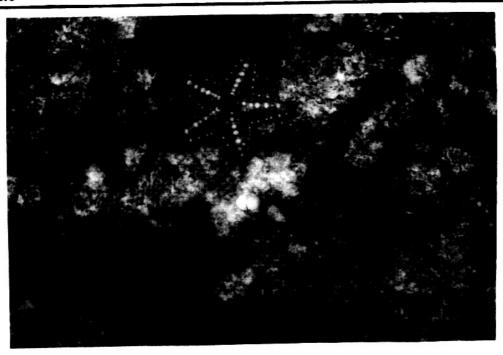
We left M'simbati for Mtwara in the morning. There were many people on the road. Women hoeing the fields, gathering cashews, carrying bundles on sticks. Saw a man cycling down the road with a white dress shirt, tie, gold tie bar and jacket. Generally, you always see the women working and the men gathered in little groups, smoking and talking. In the villages small tables were set up with coconut, tomatoes, onion and other small veggies for sale.

Our flight to Zanzibar was a short hour and a half and wonder of wonders, our pilot saw to it that we went in two planes this time! Guess he was as nervous about that Selous take-off as I was! The group checked into the Hotel Kiponda in old Stonetown and it was truly picturesque. The location was great, but there was no water or electricity until six p.m. then it went off again shortly after. No water. No flush. No, no, no we said. While Don checked on the situation. Barbara Hudson, Connie Boone, Terry, Jim, Kit and Trevor and I sat in the lobby and laughed about the hotel situation. Twelve shellers in a hotel without private baths is too monstrous to imagine, though the showers and mosquito netting were great. The food was very good too, and we weren't surprised when we found that the chef was from

Seattle! Eventually, Don, his brother Richard and Terry went out and found "another place" (which happened to be very near the oldest church in Zanzibar).

The next morning we moved to the "Inn By The Sea", then headed for Ras (Point) Nungwe on the north tip of Zanzibar. We spent the next three days shelling this general area. After a two hour trip we arrived at our destination only to find that there were so many people in the water looking for shells (actually, they were looking for their dinner) it looked like a shopping center. We didn't think we'd find a thing, but were pleasantly surprised. At this location I found a beautiful Modulus species, Trivia globosa, Strombus labiatus olydius, Lambis scorpius indomaris, Cymatium lotorium, Nassarius siquijorensis, Mitra chalybeia, a Cancellariidae - Scalptia obliquata, Prunum terverianum, and Conus tessulatus. I found more of my favorite Cypraea - C. fimbriata and C. kieneri. To me they are particularly lovely when you find them alive. Trevor found Strombus pipus which was new to me. Don was delighted to come up with two Homalocantha anatomica and several rather uncommon Vasum rhinoceros [yellow form]. There may have been many other new finds, but it was difficult tracking the shells others found. While at Ras Nungwe we visited a local dealer that Don had done business with. Many of us made purchases, but Don really showed us the true meaning of "shelling". He was like that proverbial "kid in the candy store" and at one point he was on all fours in the midst of the shells.

On the drive back to the Inn we saw thatched roof mud and stick houses with smoke coming up through



Don's sea star collection from Ras Nungwe.

the roofs. The cooking fires keep the damp off the thatched roofs. We passed a compound filled with 30 to 50 children sitting in front of a TV set placed on a table. Everyone has bicycles and all bicycles are the same. Black. Made in China. The bicycle franchise there has made someone very wealthy! Ten or more kangas were drying on the metal roof of a large house (they were still there three days later). Terry tells me that there is a nudibranch named after the colorful kangas that we see. And all the while a constant tooting of our driver's horn to warn pedestrians and cyclists of our passing. Had the pleasure of seeing the President of Zanzibar pass by as he left his stately mansion. He had quite an entourage.

One day we had to stop so Terry could take a photograph of his favorite sign. It said "Mahonda Sign Writters". Weird sense of humor, that Terry! Saw an old man crossing the road on his bicycle, wearing a T-shirt "Property of Chicago Bears". Gardens of cassava root, tomatoes, onions, bananas, pineapple, oranges and some sort of greens. Orchards of clove trees ... after all, this is the "Spice Island"!

Meals at the Inn turned out to be a new experience each night. The food was usually quite good and by the time it was served we were ravished! On the first evening after dinner was finished, the Italian manager, who spoke little English, communicated to Don that he would like to serve us dessert. Don accepted and five or six of us said we'd love dessert. Well, after another long wait it arrived. And it was a main course pasta dish! Language can still be an amusing barrier. When

you expect ice cream and get pasta what can you say!? We couldn't touch it. Each day as we left town, we would pass the garbage dump. There were always several cattle browsing in the garbage! And, wouldn't you know, on the night that we were scheduled to have beef for dinner, the cattle disappeared! We'll always wonder about that one. Especially since the beef was so tough! One evening Kit was having a problem understanding the waiter or vice versa. Anyway, she cocked her head and said "You know, I have learned two words in Swahili and I've already forgotten one of them". Don't know if he appreciated her humor, but others of us did!

One afternoon was spent on the east/central shore of Zanzibar. The east side is very arid. There are more clove orchards, baobab trees, rice fields. We saw a pack of dogs. Think about it ... There were several seaweed "farms" in the area. This side of the island was more sparsely populated. We stopped in one village to purchase shells and Kit Stewart and Jim McLean each purchased a primitive oil painting, done by "Hinga", for about 3000 T shillings (\$6.00 U.S.).

One afternoon we did a walking tour of Stonetown after having lunch at the Hotel Kiponda. Our guide was Jean, the chef at the hotel. She showed us some of her favorite shopping spots. The streets were extremely narrow and crowded. Somewhere in that teeming mass of humanity that we encountered, Rosemary Pierce had her wallet stolen from her purse. We had been warned to keep a hand on our valuables and now knew why. Rosemary and her husband, Frank, and Dodie headed

for the American Consulate and we headed for the post office to find commemorative stamps! An interesting time in the oldest part of the city.

At the airport, when our Air Tanzania pilot saw the mountain of luggage we produced, he burst out laughing. The two small planes we were to use materialized into three planes after a quick phone call from the pilot. Trevor and I ended up on the last flight and that same pilot made the comment that he liked to pretend that Air Tanzania was a "real airline". The flight was beautiful. After five days traversing the island we knew how green and agricultural Zanzibar was, but we were reminded of it all over again as we saw it from the air. It is lush. We told the pilot that his smooth landing was better than a "real airline" could do. After lunch at the hotel in Dar es Salaam, we went shopping again. Found our way back to the wood carving compound and

while wandering about, Terry spotted more of "Hinga's" paintings. And they were only 1,500 shillings! A bit later Terry went back to that shop and found that Jim had just encountered the Hinga's - the price was down to 1,000 shillings for Jim. His only comment was "bummer, man". We did laugh.

Africa is a continent that definitely brings forth mixed emotions. A well-known journalist once wrote that the "real" present day Africa is not in the jungle nor in the game preserves, but in the cities. He is probably right, but I know that the parts of Africa that I loved best will always be outside the cities. I'm not ready to cope with the "real" Africa yet.

I've heard some wild and funny stories about Don Pisor's trips and feel that, all in all, this was a pretty tame one. It certainly was interesting and unforgettable. And the shelling was very good! South Africa next?

Extra Plates

Amy Edwards

(Reprinted from the Conch Courier*)

Most pelecypods have two valves, hence their common group name: bivalves. There are a few families, however, that have some additional shelly plates.

One such family is Pholadidae, the Pholad clams. They are all boring clams, and different species can be found burrowing into mud, clay, peat, shell and rock. The angelwings burrow in mud and clay. *Martesia* are wood borers that are commonly washed ashore in waterlogged wood.

All of these species have one or two long internal finger-like projections (apophyses) that extend downward from the beak, and to which the foot muscles are attached. These projections provide the location for the muscles to pull against when they are boring, which they do by rocking the anterior part of the shells backand-forth against the substrate. These shells also have ridges on the anterior end of the valves that helps them bore.

Unlike many heavy-shelled clams, the boring clams have valves which do not fit tightly. This allows the animals to move the valves quite a bit. The spaces

between the openings are covered up by up to four external accessory plates. The single valves that are collected on the beach will not have these plates, since the accessory plates are not attached to the main shell. The plates are easily seen on live animals. These plats are often referred to in texts but seldom described in a way that makes any sense. These plates cover the gap between the two valves, protecting the animal's exposed body.

The most anterior (in the front of the umbos) dorsal (on the hinge side of the valve) is the protoplax. It is an almost flat plate that sits above the anterior adductor muscle. Next is the mesoplax, a small plate (or plates) that fit just behind the protoplax. It (or they) is long and narrow, and covers the posterior dorsal margin (behind the beak). The gap along the ventral margin (side without the hinge) is covered by a long narrow plate called the hypoplax. A few species have an additional shelly extension (or set of extensions) that fit around the siphon, called a siphonoplax.

Finally, in some species the space between the valves at the anterior end (the end that does the boring) of an Continued on page 174

A Scientific Checklist of Philippine Land Shells, Continued

By JAMES L. BARNETT

- calobapta contracta MOLF, 1898. Mountains, northeast Mindoro.
- calobapta sibuyanica MOLF, 1898. Hills, central Sibuyan Island.
- calobapta tablasensis KOLT, 1916. Hills, central Tablas Island.



Fig. 42. subgenus **Dollchostyla**. Top row: (L) **D.** calobapta tablasensis, shell golden brown, with streaky HP on top only. (C) **D.** calobapta, shell a medium brown, with moderate HP cover, and dark brown bands at the periphery and the suture. (R) **D.** c. sibuyanica, shell a dark red-brown, with heavy, streaky HP throughout. Bottom row: (L) **D.** cuyoensis, shell small, shiny yellow, with dark brown banding at the suture and the periphery. (R) **D.** calobapta contracta, shell somewhat similar to the above, but larger, and without the banding.

- 6. cerina BART, 1932. Foothills, southeast Mindoro.
- cuyoensis PEER, 1842. Mountains, northern Mindoro.
- cuyoensis subpallida BART, 1932. Mountains, northeast Mindoro.
- dryas BROD, 1841. Mountains, near Mansalay, Mindoro.
- dryas alba MOLF, 1898. Mountains, northwest Mindoro.
- dryas gracilis MOLF, 1898. Mountains, northern Mindoro.
- fictilis BROD, 1841. Hills, Ambulon Island, Mindoro.
- fictilis ambulonensis BART, 1932. Hills, Ambulon Island, Mindoro.

- fictilis cagurana BART, 1932. Hills, near Cagurai, Mindoro.
- fictilis fulva BART, 1932. Mountains, Mangarin, Mindoro.
- fictilis larvata BROD, 1841. Mountains, near Mangarin, Mindoro.
- marmorosa BART, 1932. Hills, Ilin Island, southwest of Mindoro.
- nigrocineta SEMP, 1877. Mountains, Calapan, Mindoro.
- partuloides BROD, 1841. Foothills, Calapan-Socorro, Mindoro.



Fig. 43. subgenus **Dolichostyla**. Top row: (L) **D. dryas**, shell color ranges from a light olive green to a green-brown, with no HP. (C) **D. dryas/virgata**, shell a possible intergrade between **D. dryas** and **D. virgata**, usually having the dark tops of **D. virgata** and the light bottoms of **D. dryas**. (R) **D. dryas gracilis**, shell a dark, shiny yellow, with some HP on early whorls only. Bottom row: (L) **D. dryas alba**, shell usually all white, with sparse HP on top only. (R) **D. dryas/virgata**, shellmainly white, but with some of the dark characteristics of **D. virgata**.

- virgata JAAY, 1839. Mountains, near Calapan, Mindoro.
- 21. virgata alampes MOLF, 1901. Hills, near Bongabong, Mindoro.
- 22. virgata maxwellsmithi MCGI, 1932. Mountains, northern Mindoro.
- virgata porracea JAAY, 1839. Mountains, northern Mindoro.
- 24. virgata pulchrior PILS, 1892. Mountains, northern Mindoro.
- virgata sylvanides SEMP, 1877. Mountain, northeast Mindoro.
- virgata sylvanus BROD, 1841. Mountains, northern Mindoro.

virgata winterae KOLT, 1910. Mountains, near Baco, Mindoro.



Fig. 44. subgenus **Dolichostyla**. Top row: (L) **D.** nigrocincta, shell an off-white richly decorated with wide and narrow brown bands. (C) **D.** partuloides, a large form, shell light brown throughout, with a few very narrow red-brown bands. (R) **D.** partuloides, a small form, shell a cream, with many, red-brown bands. Bottom row: (L) **D.** fictills larvata, shell very dark brown, with moderate to heavy HP. (R) **D.** fictills, shell a medium brown, usually with just sparse HP, in streaks.



Fig. 45. subgenus **Dolichostyla**, species **virgata**. She of the **D. virgata** group are very variable, and it is impossible to find two shells with the same color, pattern, and HP placement. The primary colors of the group are white and brown. Some shells are heavily covered with HP, while others show just traces of it. Bands can be wide or narrow, and white or brown. Shell sizes and shapes range from short and squat to tall and narrow. Some lips can be dark-edged, but most are pure white.

G. Genus Phoenicobius Mörch, 1852

The shells of the genus *Phoenicobius* have a rough appearing exterior, are medium in size, and generally some shade of brown in color. The intermediate and final whorls are well-rounded, and the entire shell is heavily marked with oblique axial ridges. The aperture is round, and the columella and peristome are edged with whiny brown. The hip is thin, fragile, and frequently chipped. Type species: *Phoenicobius aratus*.

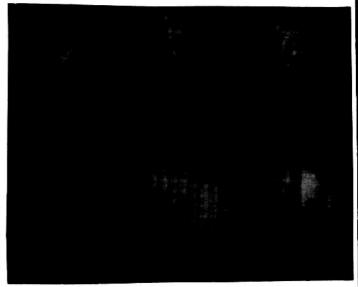


Fig. 46. Genus Phoenicobius. Top row: (L) P. naujanica, shell a shiny dark brown above and a shiny dark brown below, with the trace of banding at the periphery. The ridges of this shell are not as deep as the other shells of the group, making this the smoothest appearing shell of the lot. (C) P. adustus, shell elongated, with light brown early whorls and darker brown final whorl. (R) P. aratus, shell somewhat similar to the above, but shorter, more broad, and lighter in color. Bottom row: (L) P. aratus, as the above, but a smaller race. (C) P. aratus lutes, as the above small shell, but a completely white form. (R) P. aratus, as the above two shells, but this form appears to be an intermediate form between the two.

- 1. adustus SOBY, 1841. Mountains, southeast Mindoro.
- adustus subaratus KOLT, 1905. Mountains, near Mansalay, Mindoro.
- 3. aratus SOBY, 1841. Mountains, northeast Mindoro.
- 4. aratus lutea PILS. Mountains, eastern Mindoro.
- 5. brachyodon SOBY. Mountains, eastern Mindoro.
- naujanica HIGO, 1887. Mountains, near L. Naujan, northeast Mindoro.
- oblongus SOBY, 1841. Mountains, northern Mindoro.



Fig. 47. Genus Mesanella. Left: M. lagunae, shell ground color an off-white, almost completely covered with wide and narrow dark brown bands. Center: M. monochroa, shell an of-white, heavily decorated with light brown and yellow banding. Right: M. saullae, shell off-white, almost totally covered with light and dark yellow, and with a shiny white columella and lip.

- comorpha SOBY, 1841. Mountains, near Abra de Ilog, northern Mindoro.
- oomorpha amatanganus SMIT, 1932. Mountains, near Amtang, Mindoro.
- oomorpha diminutus KOLT, 1905. Mountains, southwest Mindoro.

H. Genus Mesanella Clench and Turner, 1952

All of the shells of the genus *Mesanella* are from Palawan, and all are quite similar in appearance to *Calocochlia*, found throughout the rest of the Philippines. The surface of the shell is somewhat rough, being marked with oblique axial ridges. Most of the shells of the genus are banded, and the solid, flaring lip is usually white, or white edged with brown. Type species: *Mesanella trailli*.

- 1. lagunae HIGO, 1887. Hills, Balabac Island, south of Palawan.
- lagunae gigas MOLF, 1896. Hills, central Balabac Island.
- monochroa SOBY, 1841. Mountains, near Taytay, Palawan.
- palawanica PEER, 1855. Mountains, central Palawan.
- 5. palumba SOBY, 1841. Mountains, central Palawan.
- 6, sauliae PEER, 1855. Mountains, southeast Palawan.
- 7. trailli PEER, 1855. Mountains, south-central Palawan.
- 8. trailli weberi BART. Mountains, east-central Palawan.
- turrita MOLF, 1898. Mountains, west of Puerto Princesa, Palawan.

I. Genus Phengus Albers, 1850.

The shells of the genus *Phengus* are thin, and distinctly trochoidal in shape. *Phengus* shells are



Fig. 48. M. lagunae, shell as above, with a shiny redbrown covered columella and peristome. M. monochroa has frequently been confused with M. lagunae, but both Semper and Hidalgo conform M. lagunae as the heavily banded shells, and M. monochroa as the more solid shell, with only lighter bands at the summit and the periphery.

somewhat similar to *Opalliostyla* in texture and in color, but while *Opalliostyla* shells are more oval or ovate in shape, *Phengus* shells are more trochiform. Only two shells: *P. dumonti* (pale green) and *P. opalinus* (offwhite) are confirmed as belonging to the genus. Type species: *Phengus opalinus*.

- 1. dumonti PEER, 1846. Hills, central Catanduanes Island, southern Luzon.
- opalinus SOBY, 1841. Mountains, near Pamplona, Cagayan, northern Luzon.

J. Genus CANISTRUM Mörch, 1852

Shells of the genus *Canistrum* are solid, ovate-conic or oblong, usually banded, and with heavy, light, or no HP. The surface is microscopically striated spirally, and the usual ground colors are white, light green and light and dark brown. The columella is vertical, the aperture is moderately large and oval, and the white lip is thin, but solid. Type species: *Canistrum ovoideum*.

- 1. brevicula PEER, 1846. Hills, central Burias Island.
- 2. ovoideum BRUG, 1798. Hills, Masbate Island.
- 3. ovoideum alba MOLF, 1898. Hills, Masbate Island.
- 4. ovoideum bifasciata MOLF, 1898. Hills, Masbate Island.
- ovoideum euryzona PEER, 1847. Hills, Masbate Island.



Fig. 49. genus Canistrum. Tope row: (L & C) C. brevicula, shell an off-white, with white early whorls, and remainder of shell a red-brown, with just traces of HP at the summit. (R) C. brevicula, shell an all white, with no other color, and no HP. This shell was received from the field as is, i.e. albinistic, along with about 10 other normally colored forms. It was not possible to determine whether there is an albino form of C. brevicula, since this was the only all-white specimen ever received. Bottom row: all four shells, C. stabile. The two left shells are smaller, and totally devoid of HP, while the two right shells are larger ad heavily covered with HP.

- 6. ovoideum lutescens MOLF, 1898. Hills, Masbate Island.
- 7. ovoideum luzonicum SOBY. 1841. Hills, Masbate Island.
- 8. ovoideum multifasciata MOLF, 1898. Hills, Masbate Island.
- 9. stabile SOBY, 1841. Hills, central Burias Island.

II. BRADYBAENIDAE; BRADYBAENINAE

A. Genus Eulota Hartman, 1842

The shells of the genus Eulota are small but solid, and very variable. Some have strong striae, while others have weak striae, some are shiny, and others are dull. Some have round shapes, while others are depressed. The aperture is usually rounded, and the columella and thin lip are usually white. Although Semper lists almost all of the species listed below as belonging to the genus Eulota, variations within the group suggest that other genera may be present.

- 1. batanica ADRE, 1848. Basco, Batan Island, Batates Group.
- 2. carnifera SEMP, 1877. Luzon, Philippines.
- dissimilis SEMP, 1877. Hills, Ilocos Norte & Ilocos Sur, northeast Luzon.

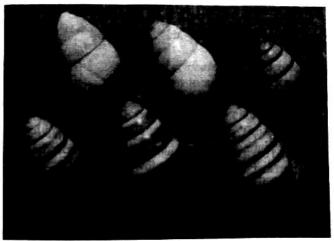


Fig. 50. Genus Canistrum. Top row: (L) C. ovoideum, type species, almost entirely white, except for a thin dark brown band at the periphery. (C) C. ovoideum alba, shell similar to the above, but completely white. (R) C. ovoideum bifasclata, shell an off white, with thin dark brown bands at the suture and the periphery, a dwarf form. Bottom row: (L) C. ovoideum luzonicum, shell an off-white, with many light and dark brown bands. (C) C. ovoideum lutescens, shell mostly light brown, with white bands above and a solid dark brown area below. (R) C. ovoideum multifasclata, shell an off white, with many light and dark brown bands.

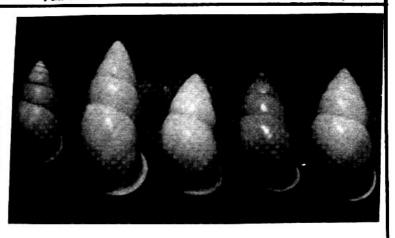
- 4. fodiens PEER, 1855. Luzon, Philippines.
- 5. fodiens costulifera MOLF, 1898. Philippines.
- fodiens cuyoensis HIGO. Hills, central Cuyo Island, Palawan.
- 7. fodiens subbolus NEVILL. Philippines.
- mighelsiana PEER, 1847. Hills, Basco, Batan Island, Batanes Group.
- 9. sanziana HOJA. Philippines.
- 10. schadenbergi MOLF. Philippines.
- similaris (Philippines form) FERU. Mountains, Baguio, Benguet, northern Luzon.

III. CAMAENIDAE: CAMAENINAE

A. Genus Amphidromus Albers, 1850

The Philippine species of the genus Amphodromus are generally ovate, or elongate-ovate, and in shape, are slightly-rounded, well-rounded, or stout. The predominate color is yellow, with whites, greens and browns seen less often. Most are uni-color, while others are decorated with spots, blotches and bands, and some are marked with slanting varices. The shells are usually of five to eight whorls, and range in size from 30-45mm. All Philippine Amphidromus are sinistral, and none are dextral. Philippine Amphidromus are restricted to Mindanao, Palawan, and some of the south Sulu Sea islands.

Fig. 51. genus Amphidromus. Left to right: A. callista, shell small, dark yellow, with fine red and black bands between the whorls; A. chloris (Sulu form), shell bright yellow, the largest of the Philippine Amphidromus; A. chloros (Zamboanga form), smaller than the above, streaky yellow-green in color; A. entobaptus, shell a very dark yellow, with the exterior color showing through the aperture; A. maculiferus cotabatensis, shell a pale yellow, with darker varices, and a few small spots found on some specimens.



- apoensis BART, 1917. On Mt. Apo, near Davao, southeastern Mindanao.
- basilanensis BART, 1917. Hills, Basilan Island, south of Mindanao.
- 3. bilatanensis BART, 1917. Hills, Bilitan Island, Mindanao.
- 4. calista PILS, 1900. Hills, Basilan Island.
- 5. chloris REVE, 1848. Hills, Tonquil Island, Sulu Sea.
- entobaptus DORN, 1889. Hills, west of Ulugan Bay, Palawan.
- entobaptus busuangensis BART, 1917. Hills, Busuanga Island, Palawan.
- 8. entobaptus coronensis BART, 1917. Hills, Coron Island, Palawan.
- entobaptus culioensis BART, 1917. Hills, Culion Island, Palawan.
- entobaptus linapacensis BART, 1917. Hills, Linapacan Island, Palawan.
- 11. entobaptus viridioflavus BART, 1917.. Hills, Malubutglubut Island, Palawan.
- 12. floresi BART, 1917. Mountains, southeast Mindanao.
- inflatus FULT, 1896. Hills, Baranda Island, off Mindanao.
- 14. maculiferus SOBY, 1838. Mountains, Pantar, northern Mindanao.
- maculiferus bulanensis BART, 1917. Mountains, central Cotabato, Mindanao.
- maculiferus cataganensis BART, 1917. Mt. Malingdan, Mindanao.

- 17. maculiferus cosimus BART, 1917. Hills, Basilan Island, Mindanao.
- maculiferus gracilior FULT, 1896. Mountains, near Mainit, Mindanao.
- maculiferus hidalgoi BART, 1917. Mindanao / Palawan, unclear.
- 20. maculiferus strigatus FULT, 1896. Mt. Apo, Davao, Mindanao.
- malingdangensis BART, 1917. Mt. Malingdang, Mindanao.
- mearnsi BART, 1917. Hills, Basilan Island, Mindanao.
- 23. *pallidulus* PILS, 1900. Mountains, near Zamboanga, Mindanao.
- 24. roeseleri MOLF, 1894. Hills, Jolo Island, Sulu Sea.
- 25. suluensis BART, 1917. Jolo Island, Sulu Sea.

b. Subgenus Syndromus

- quadrasi HIGO, 1887. Hills, central Balabac Island, Palawan.
- 2. quadrasi dubius FULT, 1896. Balabac Island.
- 3. quadrasi everetti FULT, 1896. Balabac Island.
- 4. quadrasi solidus FULT, 1896. Balabac Island.
- 5. quadrasi versicolor FULT, 1896. Balabac Island.



Fig. 52. Genus Amphidromus. Left to right: A. maculiferus buluanensis, entire shell a light yellow, with light brown retractive varices on the intermediate and final whorls; A. maculiferus sp., shell a dark brown, with yellow bands between the whorls, and yellow varices on the final whorl. There is also a yellow form, with brown bands and brown varices. Both are from Capual Island, Sulu Sea; A. inflatus, shell a pale yellow throughout, becoming darker on the base; A. pallidulus, shell an off-white throughout, with black bands between the early whorls; A. roeseleri, shell a shiny, very pale yellow throughout.

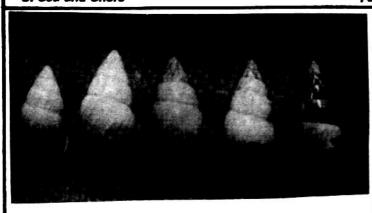


Fig. 53. subgenus Syndromus, left to right. A. quadrasi, early whorls white, darkening to yellow o green, or both on final whorl, apex white; A. quadrasi versicolor, shell similar to above, but usually taller and stouter, apex black; A. quadrasi solidus, early whorls white, marked with axial streaks of dark brown, final whorl solid yellow or solid green, or both; A. quadrasi dublus, early whorls white, marked with axial streaks of dark brown, final whorl marked with spiral irregular bands of light green; A. quadrasi everetti, early whorls yellow, marked with axial streaks of dark brown, final whorl usually green, but indistinct due to the fact that almost the entire shell is usually covered with a purplish film.

B. Genus Camaena Albers, 1850

Shells of the genus *Camaena* are small, usually depressed, slightly elongated, and usually flattened on top. The final whorl is usually well-rounded, as is the aperture. The lip is solid, the umbilicus is usually partly open, and the color is usually light or dark brown.

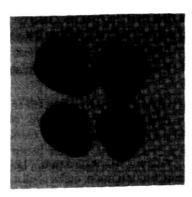


Fig. 54. Genus Camaena. Top row: C. campanula pollex, shell taller than average C. campanula, some banding present. Bottom row: C. campanula, shell shorter than average C. campanula, and banding obscure.

- campanula PEER, 1845. Hills, Tangat Island, north of Palawan.
- campanula bintuanensis HIGO, 1889. Bintual, Busuanga Island, Palawan.
- campanula graniferus KOLT, 1905. Hills, Linapacan Island, Palawan.
- campanula pollex MOLF, 1898. Hills, Culion Island, Palawan.
- stolidota QUMO, 1894. Hills, near Canigaran, Palawan.

C. Genus Chloritis Beck, 1837

The shells of the genus *Chloritis* are small and depressed. They are usually light or dark brown, with a thin and fragile shell, and a thin lip. The umbilicus is almost completely open.

- 1. brevidens SOBY, 1841. Mountains, central Mindoro.
- 2. fultoni MOLF, 1898. Luzon, Philippines.
- 3. leytensis MOLF. Mountains, southern Leyte.
- 4. malbatensis HIGO, 1889. Luzon, Philippines.
- 5. quieta REVE. Philippine Islands.
- spinossima SEMP. Hills, Catanduanes Island, southern Luzon.
- subsulcata MOLF, 1898. Mountains, near Baguio, Benguet, north Luzon.

D. Genus Ganesella Blanford, 1863

The shells of the genus *Ganesella* are small, high, or low conical, and moderately or sharply carinated. The base is usually flat, but sometimes slightly rounded. The columella is curved, and the lip is thin, but strong. All Philippine species are light or dark brown, and they are restricted to the hills of central Busuanga Island, north of Palawan.

- 1. apex MOLF, 1898. Busuanga Island, Palawan.
- 2. apex apiculata MOLF, 1898. Busuanga Island.
- 3. catocryta QUMO, 1894. Busuanga Island.
- 4. gouldi PEER, 1845. Busuanga Island.
- 5. stenodesma QUMO, 1894. Busuanga Island.
- 6. palanica QUMO, 1894. Busuanga Island.
- 7. plansi HIGO, 1889. Busuanga Island.
- 8. poccilotrochus MOLF, 1898. Busuanga Island.

E. Genus Satsuma A. Adams, 1868

The shells of the genus Satsuma are small, high or low conical, with a well-rounded final whorl. All shells are brown, and most are banded with brown. Apparently only one Satsuma species is found in the Philippines, and it may have been introduced from Taiwan. Satsuma batanica, a sinistral shell, is known only from Batan Island, in the Batanes Group, which is located about half way between Luzon and Taiwan, but somewhat closer to Taiwan.

- batanica ADRE, 1848. Hills, near Basco, Batan Island, Batanes Group.
- F. Genus Obba Beck, 1837

The shells of the genus *Obba* are generally small, flat, and carinated, but a few species are slightly conical, and some species are well-rounded at the periphery. All of the *Obba* are of an off-white base color, decorated with light or dark brown. Many species are banded, and some are decorated with blotches, flecks, and other assorted markings. The base is flat, the lip is basal and expanded, and the umbilicus is either wholly or partially exposed. Type species: *Obba planulata*.

a. Subgenus Obba

- 1. basidentata PEER, 1857. Luzon, Philippines.
- 2. bigonia FERU, 1821. Hills, southern Levte.
- 3. bigonia bizonia Adams, 1842. Hills, southern Leyte.
- 4. bigonia samarensis PEER. Hills, southwest Samar.
- bigonia webbi BART, 1932. Mountains, Cotabato, Mindanao.
- 6. bustoi HIGO, 1887. Luzon, Philippines.
- 7. bustoi tritaeniata MOLF, 1898. Luzon, Philippines.
- columbaria SOBY, 1841. Hills, Polillo Island, eastcentral Luzon.
- 9. gallinula PEER, in Philippi, 1845. Philippines.
- gallinula barthelowi BART, 1933. Mountains, Mansalay, Mindoro.
- 11. gallinula convexospira MOLF, 1898. Philippines.
- 12. gallinula contracta MOLF, 1898. Philippines.
- 13. gallinula diluta MOLF, 1898. Philippines.
- galtinula majayjayana BART, 1933. Hills, Laguna Province, central Luzon.
- gallinula pagbilaoensis BART, 1932. Mountains, northeast Mindoro.
- 16. hemiodon MOLF, 1898. Philippines.
- 17. horizontalis PEER, 1845. Hills, central Tablas Island.
- 18. horizontalis major PEER, 1845. Hills, Tablas Island.
- 19. kochiana MOLF, 1898. Philippines.
- 20. lasalli EYDO, 1838. Mountains, central Cebu.
- 21. lasalli globulosa MOLF, 1989. Philippines.
- 22, lasalli pallida MOLF. Mountains, Cebu.
- 23. listeri GRAY, 1825. Hills, Albay Province, southern
- 24. listeri batanensis BART, 1932. Hills, near Basco, Batan Island.
- 25. listeri cabrasensis BART, 1932. Philippines.
- 26. listeri campoensis BART, 1932. Philippines.
- listeri halcona BART, 1933. On Mt. Halcon, northeastern Mindoro.
- 28. listeri intermedia MOLF, 1898. Philippines.
- 29. listeri MOLF. Philippines.

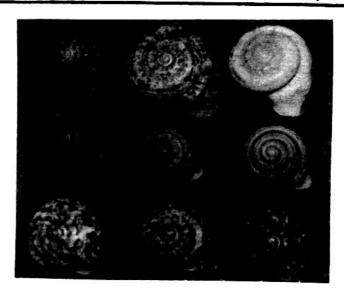


Fig. 55. Genus Obba. Top row: (L) O. columbaria, shell a medium brown, with dark brown bands at the suture and just below the periphery, light brown HP blotches at top of each whorl. (C) O. planulata, shell large and light brown, heavily marked with dark brown bands, streaks, and blotches. (R) O. marmorata, shell large, and almost all-white, sparsely decorated with light brown bands. Middle row: (L) O. horizontalls, shell a light brown, heavily decorated with dark brown bands. (C) O. bigonia, shell an off-white, moderately covered with light brown bands, no basal tooth. (R) O. moricandi, shell very similar to the above, but it always has a tooth on the inner lip. Bottom row: (L) O. listerl, shell a medium brown, heavily marked with darker brown bands, very sharply carinated. (C) O. listeri minor, shell smaller than the nominate form, and lighter brown in color. (R) O. listeri batanica, shell similar to the two above, but O. Ilsteri batanica is the darkest and generally the smallest of the group.

- listeri mayabigana BART, 1933. Mountains, near Baco, northeastern Mindoro.
- 31. *listeri minor* MOLF, 1898. Mountains, northeast Mindoro.
- listeri recurvata MOLF, 1898. Hills, Lubang Island, Mindoro.
- 33. *listeri sibolensis* BART, 1933. Hills, near Sibul, Bulacan Province, central Luzon.
- listeri subplanulata MOLF, 1898. Hills, Ambil Island, Mindoro.
- 35. *listeri smithi* BART, 1933. Hills, Lubang Island, Mindoro.
- 36. livesayi PEER, 1860. Philippines.
- 37. marginata MÜLL, 1774. Mountains, Mindanao.
- 38. marginata griscola MOLF. Mindanao.
- marmorata MOLF, 1898. Hills, Infanta, Quezon Province, central Luzon.
- 40. marmorata benguetana BART, 1933. Mountains, La Trinidad, Benguet.
- 41. marmorata bolinagana BART, 1933. Hills, Pt. Bolinao, Pangasinan.

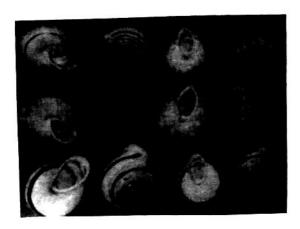


Fig. 56. Genus Obba. Top row: all four shells, O. rota, shell medium brown, with dark brown closely-placed bands, with heavy ribbing and serrated edges, O. rota is the roughest of the complex. Middle row: all four shells, O. parmula, shell medium brown on top and light brown on bottom, very depressed and with very sharp carination. Bottom row: all four shells, O. moricandi, shell off-white with red-brown bands; two left shells a giant race from Bohol Island.

- 42. marmorata ilinensis BART, 1933. Hills, Ilin Island, Mindoro.
- marmorata rizalina BART, 1933. Hills, Montalban, Rizal, central Luzon.
- 44. mesai BART, 1933. Hills, Lubang Island, Mindoro.
- 45. mesai johnsoni BART, 1933. Hills, Ilin Island, Mindoro.
- 46. mesai sablayana BART, 1933. Foothills, southern Mindoro.
- 47. moricandi PEER, 1842. Bohol Island (giant race); Leyte (normal race).
- 48. morongensis MOLF, 1898. Mountains, Morong, Bataan Peninsula, central Luzon.
- 49. parmula BROD, 1841. Mountains, south-central Cebu.
- 50. parmula elevata MOLF, 1892. Mountains, Cebu.
- 51. planulata Lamarck, 1822. Luzon, Philippines.
- planulata bongabona BART, 1933. Mountains, near Bongabong, Mindoro.
- 53. planulata cagurayana BART, 1933. Mountains, near Caguray, Mindoro.
- planulata mangarina BART, 1933. Mountains, Mangarin, Mindoro.
- planulata mansalayana BART, 1933. Mountains, Mansalay, Mindoro.
- planulata marivelensis BART, 1933. Hills, Marivales, Bataan Peninsula, central Luzon.
- planulata paluana BART, 1933. On Mt. Paluan, northern Mindoro.
- 58. planulata salcedoi BART, 1933. Hills, Ilin Island, Mindoro.

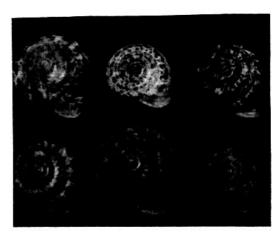


Fig. 57. Genus Obba. Top row: (L) O. marmorata bolinagana, shell of-white decorated with heavy light and dark brown blotches and bands. (C) O. marmorata rizalina, shell somewhat similar to the above, but smaller. (R) O. marmorata benguetana, shell similar to the above two, but the markings are darker, and the shell is somewhat more elevated. Bottom row: (L) O. mesal, shell a medium size with distinctive brown interrupted band just above the periphery. (C) O. listeri halcona, shell typical of the O. listeri complex, somewhat depressed with a very sharp edge, this shell larger than the average. (R) O. scorbiculata, shell small, and medium brown, with a well-rounded final whorl.

- planulata veradoana BART, 1933. Hills, Veradero Island, Mindoro.
- 60. planulata verdensis BART, 1933. Hills, Verdi Island, Mindoro.
- 61. platyzona MOLF. Philippines.
- 62. reeveana PEER, 1842. Philippines.
- 63. rota BROD, 1841. Hills, south-central Bohol Island.
- 64. saranganica HIGO. Hills, Sarangani Island, south of eastern Mindanao.
- 65. sarochroa MOLF, 1898. Mountains, eastern Mindoro.
- 66. scorbiculata PEER, 1842. Mountains, central Cebu.
- 67. scrobiculata canoidalis MOLF, 1892. Mountains, Timobo, Leyte.
- 68. subhorizontalis MOLF, 1894. Hills, Sibuyan Island.
- subhorizontalis radcliffi BART, 1933. Mountains, eastern Mindoro.
- 70. viridiflava MOLF, 1898. Philippines.

b. Subgenus Obbiberus

1. bulacanensis HIGO, 1888. Hills, near Sibul, Bulacan Province, central Luzon.

G. Genus Planispira Beck, 1837.

It has recently been discovered that at least one species of the genus *Planispira* is found in the Philippines. It has erroneously been identified as *P. scheepmakeri* Pfeiffer, 1850. However, research has shown that *P. scheepmakeri*, which is from Indonesia, is a completely different species. While somewhat superficially resembling the Indonesian species, the Philippine species, has well-rounded sides, and has a dark brown band on the base. The true *P. scheepmakeri* has a sharply carinated periphery, and is unmarked on the base.

1. P. sp. Bulaan Island, Sulu Sea.



Fig. 58. Planispira sp. Shell white, with broad light brown band just above the periphery, and at the summit, and red-brown band on base.

CLASS:

GASTROPODA

SubClass:

Prosobranchia

ORDER:

Archaeogastropoda

FAMILY:

Helicinidae

Subfamily:

Helicinicae

Subianniy

Helicininae

II. HELICINIDAE: Helicininae

A. Genus Sulfurina Möllendorff, 1893

- citrina GRUP. Mountains, by Tuguegarao, Cagayan Province, northeast Luzon.
- 2. webbi BART. Hills, Polillo Island, central Luzon.
- 3. acutissima SOBY, 1841. Hills, southern Bohol Island
- amaliae KOLT, 1886. Mountains, by Mainit, Surigao, Mindanao.

ORDER:

Mesogastropoda

FAMILY: Subfamily: Cyclophoridae Cyclophorinae

III. CYCLOPHORIDAE: Cyclophorinae

A. Genus: Cyclophorus Montfort, 1810

a. Subgenus Cyclophorus

- 1. acutmarginatus SOBY, 1841. Luzon, Philippines.
- aetarium MOLF, 1895. Mountains, by Morong, Bataan Peninsula, central Luzon.
- alabatensis KOLT, 1886. Hills, Alabat Island, southern Luzon.
- 4. appendiculatus PEER, 1852. Hills, near Boac, Marinduque.
- appendiculatus resdiva MOLF, 1898. On Mt. Halcon, northeast Mindoro.
- 6. barandae HIGO. Baranda Island, Mindanao.
- batanicus QUMO, 1894. Hills, Basco, Batan Island, Batanes Group.
- 8. benguetensis HIGO. Mountains, northern Benguet, northern Luzon.
- canaliferus SOBY, 1842. Mountains, Calapan, northeast Mindoro.
- 10. coronensi MOLF, 1895. Hills, Coreon Island, Palawan.
- 11. daraganicus HIGO. Bondoc Mountains, Quezon Province, southern Luzon.
- pretoi HIGO, 1888. Hills, Catanduanes Island, southern Luzon.
- 13. quadrasi HIGO. Philippines.
- 14. semperi KOLT. Philippines.
- 15. sericinus OUMO, 1894. Hills, Busuanga Island, Palawan.
- 16. smithi HIGO. Philippines.
- 17. thersites SHUT. Mountains, central Cebu.
- tigrinus SOBY, 1842. Bondoc Mountains, southern Luzon.
- 19. woodianus LEEA, 1841. Mountains, northeast Mindoro.
- woodianus intercedens MOLF, 1894. Mountains, northern Mindoro.
- woodianus ssp. (1). Hills, by Tuguegarao, Cagayan, northeast Luzon.
- 22. woodianus ssp. (2). Mountains, Casiguran, Aurora Province, northeast Luzon.
- 23. zebra GRAT, 1841. Hills, Burias Island.

b. Subgenus Cricophorus

- 1. bustoi HIGO. Philippines.
- fernandezi HIGO, 1888. Mountains, northeast Mindoro.

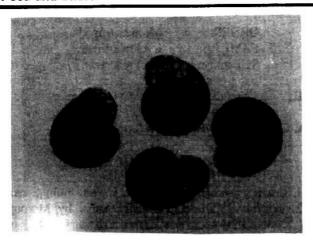


Fig. 59. subgenus Cyclophorus. Left and top: C. woodlanus, shell light brown with typical spokes at summit. Right and bottom: C. woodlanus intercedens, similar to above, but color dark brown on top and bottom. Of the three subgenera o Cyclophorus, shells of the subgenus Cyclophorus are medium-sized, while shells of the subgenus Cricophorus are the smallest, and shells of the subgenus Glossostylus are the largest.

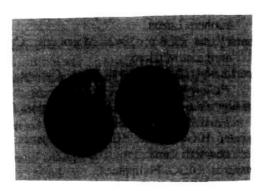


Fig. 60. C. woodianus asp. (1). Shell light brown on top and dark brown on the bottom. Operculum a shiny redbrown. Found on cave walls, near Tuguegarao, Cagayan Province. Normally, true terrestrials stay on the ground, but the cave was flooded and the snails were about one foot above the water line. Terrestrials apparently have the survival instinct to station themselves just above the highwater line.

- guimarasensis SOBY, 1843. Hills, Guimaras Island, Panay.
- 4. linguilatus SOBY. Philippines.
- 5. palawanensis SMIT. Mountains, Palawan.
- 6. philippinarum SOBY, 1842. Throughout Luzon.
- 7. pterocyclus GRAT. Philippines.
- 8. punctatus GRAT. Philippines.
- 9. reevei HIGO, 1888. Philippines.
- 10. sowerbyi HIGO. Philippines.
 - c. Subgenus Glossostylus
- leucostomus PEER, 1852. Mountains, Surigao Province, northeast Mindanao.

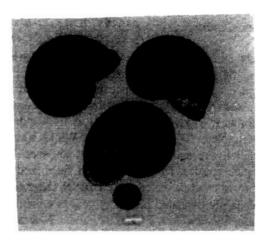


Fig. 61. C. woodlanus ssp. (2). Shell red-brown on top and dark brown on bottom. Operculum a shiny golden. Found in mountains, at about 6,500 feet, west of Casiguran, Aurora Province, northeast Luzon. These were found in great numbers during the dry season, under forest floor debris and in holes in rotting logs. During the rainy season the snails were found a short way up tree trunks.

- 2. linguiferus SOBY, 1843. Hills, southern Bohol.
- 3. picturatus PEER, 1852. Mountains, Surigao, Mindanao.
- 4. validus SOBY, 1842. Mountains, Surigao, Mindanao.
- validus ssp. Mountains, west of Casiguran-Baler, Aurora, northeast Luzon.

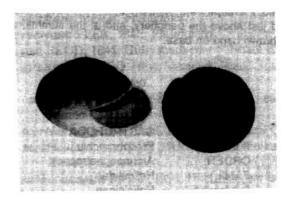


Fig. 62. Cyclophorus (Glossostylus) validus ssp. Shell large, very dark brown on top, and golden brown on bottom. Aperture deep orange within. A recently discovered shell from deep in a mountain forest, at an altitude of about 6,500 feet, in Aurora Province, just west of Casiguran-Baler. Note the worn spot on the base, caused by the in-and-out action of the snail.

- B. Genus Cyclotus Swainson, 1840
- caroli KOLT, 1884. Mountains, Tuguegarao, Cagayan, northeast Luzon.
- 2. sulcatus MOLF. Mountains, central Cebu.
- variegatus Swainson, 1840. Basilan and Jolo islands, Sulu Sea.
- C. Genus Japonia Gould, 1859
- guimarasensis MOLF, 1898. Hills, Guimaras Island, Panay.
- similis SMIT, 1893. Hills, central Balabac Island, Palawan.
- D. Genus Leptopoma Pfeiffer, 1847
- calamanensis BART. Calamaines Islands, north of Palawan.
- cotabatoensis BART. Mountains, Cotabato Province, Mindanao.
- 3. helicoides GRAT, 1840. Luzon, Philippines.
- maculatum LEEA. Hills, Cavite Province, central Luzon.
- 5. perlucidum GRAT, 1840. Philippines.
- perplexum SOBY, 1841. Mountains, Cagayan, northeast Luzon.
- pileus SOBT, 1843. Foothills, Ilocos Sur, northwest Luzon.
- 8. polillanum MOLF, 1894. Hills, Polillo Island, central Luzon.
- stainforthi SOBY, 1842. Hills, Albay Province, southern Luzon.
- 10. vitreum LESS. Mountains, central Cebu.
- vitreum pellucida GRAT, 1840. Mountains, Cotabato, Mindanao.
- E. Genus Diplommatina Benson, 1849
- quadrasi MOLF, 1893. Hills, near Montalban, Rizal Province, central Luzon.
- sowerbyi PEER, 1852. Hills, central Siquijor Island, Negros.
- F. Genus Moulinsia Grateloup, 1840
- 1. aurantia GRAT, 1840. Luzon, Philippines.
- 2. fusca GRAY, 1840. Hills, southern Bohol Island.
- 3. grandis GRAY, 1840. Southern Luzon.
- G. Genus Pupina Vignard, 1829
- 1. bicanaliculata SOBY, 1841. Hills, eastern Cebu.

- H. Genus Schistoloma KOLT, 1902
- 1. alta SOBY, 1842. Mountains, northern Negros Island.
- 2. alta sibuyanica BART. Hills, central Sibuyan Island.
- macgregori BART, 1909. Mountains, northern Mindoro.
- quadrasi HIGO, 1889. Hills, central Busuanga Island, Palawan.
- IV. PUPILLIDAE: HYPSELOSTOMATINAE
- A. Genus Hypselostoma Benson, 1856
- 1. grandis MOLF, 1898. Luzon, Philippines.
- latispira Thompson & Auffenberg, 1984. Mountains, Baguio, Benguet.
- 3. luzonicum MOLF, 1888. Luzon, Philippines.
- 4. luzonicum major MOLF, 1890. Luzon, Philippines.
- 5. polyodon MOLF, 1896. Luzon, Philippines.
- roebelini MOLF, 1894. Hills, Coron Island, Philippines.
- V. HELICARIONIDAE: SESARINAE
- A. Genus Hemiglypta Möllendorff, 1893
- blainvilleana LEEA, 1840. Hills, Lubang Island, Mindoro.
- connectens MOLF, 1898. Mountains, Bataan Peninsula, central Luzon.
- cuveriana LEEA. Mountains, west of Casiguran, Aurora, northeast Luzon.
- franciscanarum QUMO. Hills, Camarines Sur, southern Luzon.
- globosa SEMP, 1870. Mountains, Tandag, Surigao, Mindanao.
- iloilana SMIT, 1932. Hills, Iloilo Province, southeast Panay.
- mayonensis HIGO. On Mt. Mayon Volcano, Albay, southern Luzon.
- microglypta MOLF. Hills, Catanduanes Island, southern Luzon.
- panayensis BROD, 1842. Mountains, near Kulasi, Antique, Panay.
- 10. semiglobosa PEER. Mountains, northwest Negros.
- 11. semperi MOLF, 1898. Mountains, La Trinidad, Benguet, northern Luzon.
- 12. webbi BART. Mountains, southeast Mindoro.
- B. Genus Lepidotrichia Bartsch, 1942
- baleriana BART. Mountains, near Baler, Aurora, northeast Luzon.
- luteofasciata LEEA. Mountains, near Casiguran, Aurora, northeast Luzon.

- 3. settigera SOBY, 1842. Hills, central Romblon Island.
- 4. velutina SOBY, 1842. Hills, central Burias Island.
- 5. xanthotrichia PEER. Hills, Guimaras Island, Panay.
- C. Genus Rhyssota Albers, 1850
- antoni SEMP, 1870. Mountains, Baler, Aurora, northeast Luzon.
- balerana BART, 1939. Mountains, Baler, Aurora, northeast Luzon.
- borneensis PEER. Mountains, Antique Province, Panay.
- 4. bulla PEER. Hills, Camarines Sur, southern Luzon.
- dvitija SEMP. Mountains, near Atok, Benguet, northern Luzon.



Fig. 63 Subfamily Sesarinae. Top row: (L) Ryssota sagittifera, shell a light brown, streaked with red-brown on top, shiny red-brown on bottom. (C) R. borneensis, shell a dull green-brown on top, and a shiny green-brown on bottom. (R) R. porphyria, shell a medium brown, streaked with whitish or yellowish zigzag streaks. Bottom row: (L) R. globosa, shell a very dark brown on top, and a shiny green-brown on bottom. (C) Hemiglypta semperi, shell rough and very dark brown on top, shiny green-brown on bottom. (R) H. blainvilleana, shell a medium brown on top, and a shiny green-brown on bottom.

- 6. lamarckiana LEEA, 1852. Hills, southeast Masbate Island.
- 7. maxima PEER, 1853. Mountains, southeast Mindanao.
- maxima mearnsa BART, 1938. Mountains, eastern Mindanao.
- mindanaensis SEMP. Mountains, near Davao, Mindanao.
- 10. mulleri PEER. Mountains, northeast Mindoro.
- mulleri fuscescens MOLF. Mountains, southwest Mindoro.

- nigrescens MOLF, 1898. Hills, Rizal Province, central Luzon.
- 13. nigrescens moellendorffi BART, 1939. Hills, Montalban, Rizal.
- ovum VALE, 1827. In mountains and hills throughout Luzon.
- 15. oweniana PEER, 1853. Mountains, central Cebu.

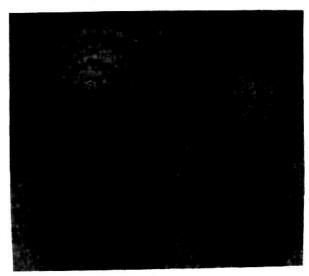
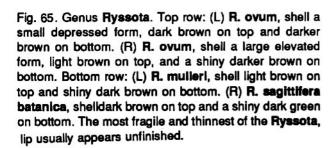
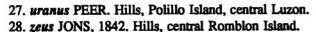


Fig. 64 Genus Ryssota. Top row: (L) R. lamarcklana, shell a light green-brown on top and a shiny green or brown on bottom, usually with a brown and white band at the slightly carinated periphery. (R) R. zeus bourns!, shell small and light brown with yellow streaks and flammules on top, shiny green-brown on bottom. Bottom row: (L) R. zeus, shell laarge and dark brown with yellow streaks on top, shiny dark brown on bottom. (R) R. dvitija, shell a rough dark brown throughout, with a well-rounded periphery.

- 16. porphyria PEER. Hills, central Sibuyan Island.
- quadrasi HIGO, 1890. Hills, Catanduanes Island, southern Luzon.
- 18. rhea PEER. Mountains, Altique Province, Panay.
- sauli BART, 1938. Hills, southeast Guimaras island, Panay.
- sauli igbarasana BART, 1938. Mountains, Igbaras, southwest Panay.
- 21. sagittifera PEER, 1854. Hills, Donsol, Albay Province, southern Luzon.
- sagittifera batanica BART. Hills, nar Basco, Batan island, Batanes Group.
- sagittifera carinata MOLF. Hills, Quezon Province, southern Luzon.
- sagittifera hepatica REVE. Hills, Guimaras Island, Panav.
- sagittifera solida MOLF, 1898. Hills, Nueva Ecija, northern Luzon.
- sowerbyana PEER. Hills, Infanta, Quezon Province, central Luzon.







zeus walkeri BART, 1939. Hills, central Sibuyan Island.



Fig. 66 Ryssota mindanaensis, shell a dark brown on top and a very light brown, fading to a near-white, on the bottom, scattered blotches of whitish HP on sides of final whorl. This shell began to appar in large numbers about two years ago and was incorrectly identified as R. maxima and, while it bars some resemblance to that species, R. maxima is usually larger and more heavily marked with lines of whitish HP on top.

VI. TROCHOMORPHIDAE: TROCHOMORPHINAE

A. Genus Videna H. & A. Adams, 1855

- beckiana PEER. Hills, central Lubang Island, Mindoro.
- 2. metcalfi PEER. Mountains, central Cebu.
- 3. repanda PEER, Central Luzon Island.
- 4. sibuyanica HIGO, 1887. Hills, central Sibuyan Island.

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In addition to the above works, the author has written a number of articles for the <u>Hawaiian Shell News</u> and for <u>The Papustyla</u>, on the subject of Philippine terrestrials. Anyone interested in further information on the Philippine Islands and on Philippine land shells, should consult the following articles.

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IN REVIEW

The World's Most Beautiful Seashells
Leonard Hill (text) & Pete Carmichael (photos)
Carmichael Publications; Tampa, Florida
240pp,, 12" x 11"

Sometimes the hyperbole used in advertising, or in creating a book title leads to disappointment with the final product. That is certainly NOT THE CASE with this new book! Not only is the book very well written, but photographs are exquisite and the shells chosen are, no matter your personal preference, certainly among the most beautiful in all the world.

For years I have proudly hung every calendar Pete Carmichael has produced. The 1996 is already here. Along with the new book and calendar there is a shell picture puzzle to confound the puzzle enthusiast.

But, back to the book. This is that book you've been looking for to show visitors when they ask why you like shells. Not only are the photographs sharp, clear and

Continued on page 164

RECENTLY DESCRIBED SHELLED MARINE MOLLUSKS

In 1993 a paperback volume appeared out of Germany. It dealt with the sundial group of snails and was entitled "Architectonicidae of the Indo-Pacific" and was authored by Rüdiger Bieler. Because of the volumes high cost (\$100 U.S.) many amateur collectors are likely to be unaware of the new species described therein. To help remedy this we print photographs of the new species holotypes and a few notes about the various species.

Bieler, Rüdiger. 1995. Architectonicidae of the Indo-Pacific (Mollusca, Gastropoda). 376 pp, 286 text figs., 3 color plates. Gustav Fischer Verlag, Stuttgart.

Architectonica gualtierii Bieler, 1993

Type locality is Tosa Bay, Japan, but the species occurs from the Indian Ocean to the central Pacific (excluding Australia?) and occurs at depths from 19 to 95 meters. The author considers it a fairly common species. In comparing it with A. maxima, the new species has much coarser sculpture, a higher-spired shell, a color patten on the peripheral ribs that consists of fewer and larger blotches and much darker colored umbilical crenae; there are radular differences as well. The brown umbilical crenae and the much larger protoconch-size readily separate this new taxon from its closest congener, A. grandiosa. The species has been "known" for about 250 years, but has been called by a myriad of names.

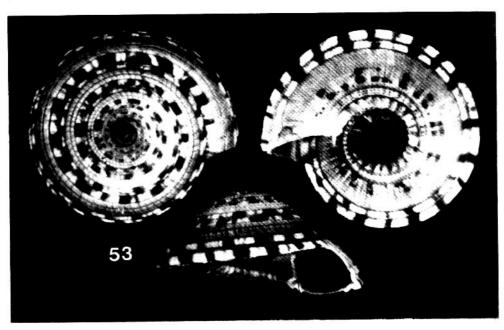


Fig. 53: Architectonica gualtierii Bieler, 1993 28.3 mm

Architectonica arcana Bieler, 1993

Type locality is Karachi, Pakistan and is apparently restricted to the northwestern Indian Ocean (Arabian Peninsula to Sri Lanka) and at depths between 67 and 103 meters. Distinguishing characters between this and its closest living relative, A. laevigata is its wider umbilicus with finer umbilical crenae and especially its overall olive-brown appearance (A. laevigata is whitish). The new species can easily be separated from A. purpurata which has reddish-brown umbilical crenae by its pale ones.

Architectonica consobrina Bieler, 1993

Type locality: south of Gaspar Island, Marindique, Philippines, and it is known only from the central Philippines from depths between 249 and 370 meters. The new species is compared with A. nobilis which also has a multi-ribbed base (the only two species that do); the new species has sculpture that is much more regular, with midribs and proxumbilical rib being wider and the shell nodules smoother and not scaly as in A. nobilis. The new species lacks the irregular brown markings displayed by A. nobilis on midribs and basal field.

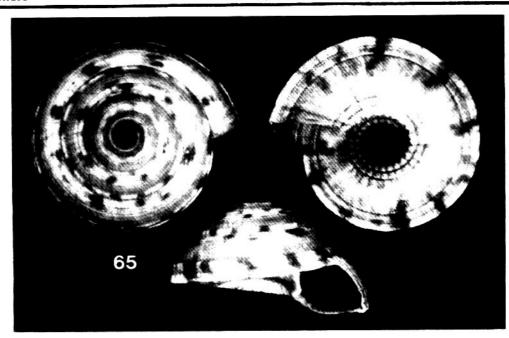


Fig. 65: Architectonica arcana Bieler, 1993 33.5 mm

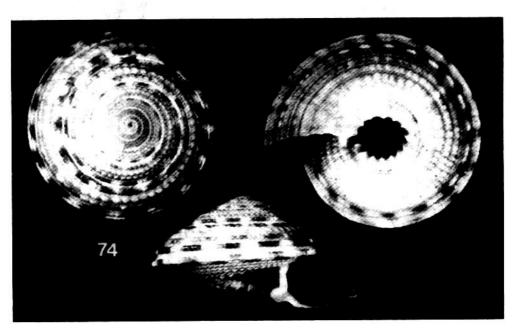


Fig. 74: Architectonica consobrina Bieler, 1993 28.9 mm

Granosolarium excavatum Bieler, 1993

Type locality: off southern coast of Molokai, Hawaiian Islands. Known only from the type locality and is known only from the holotype. Its closest relative is *G. mirabile* (Schepman, 1909) from the western Pacific and eastern Indian Oceans.

Granosolarium gemmiferum Bieler, 1993

The type locality is Réunion and the species is known only from there and from the site of the paratypes,

Raoul Island, Kermadec Islands. The species differs from others of the genus mainly by its prominent, ridgeforming upper peripheral rib.

Solatisonax kilburni Bieler, 1993

Type locality and entire range of the species is on the Transkei coast, South Africa. It differs from S. injussa (Iredale, 1931), from the southwestern Pacific in having convex (rather than concave) subsutural and midrib areas.

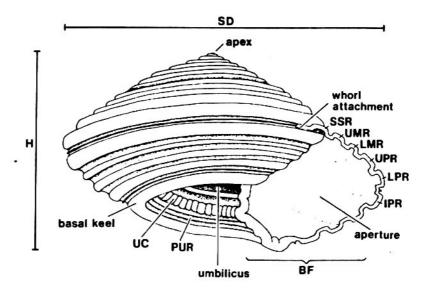


Diagram of idealized architectonicid teleoconch, illustrating major elements of spiral sculpture. - BF basal field, H height, IPR infraperipheral rib, LMR lower midrib, LPR lower peripheral rib, PUR proxumbical rib, SD shell diameter, SSR subsutural rib, UC umbilical crenae, UMR upper midrib, UPR upper peripheral rib

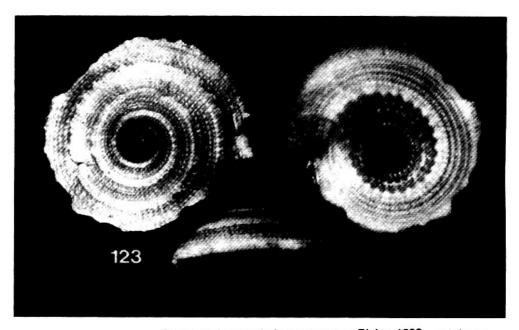


Fig. 123: Granosolarium excavatum Bieler, 1993 11.4 mm

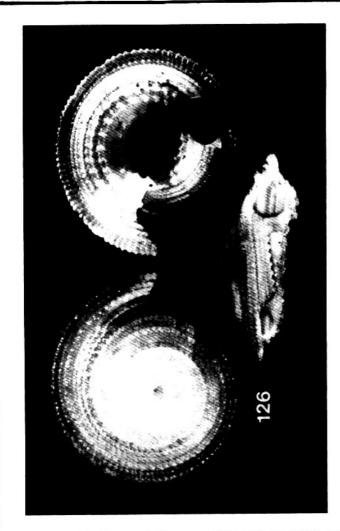
Solatisomax rehderi Bieler, 1993

With a type locality of Kauai Channel, Oahu, Hawaii, this new species ranges from the western Indian Ocean to the western and central Pacific Ocean at depths recorded between 75 and 624 meters. The author states that this species differs from other Indo-Pacific members of the genus by its very coarse umbilical crenae which are sunken into the umbilicus.

Heliacus (Torinista) hyperionis Bieler, 1993

The type locality is Twofold Bay, New South Wales, Australia and the species is known only from Australia and New Zealand at depths of 36-196 meter. No living specimens have been recorded.

Heliacus (Torinista) germinus Bieler, 1993 See page 156



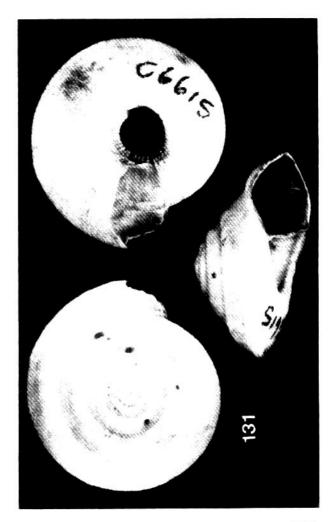


Fig. 126: Granosolarium gemmiferum Bieler, 1993 5 mm

Fig. 131: Solatisonax kilburni Bieler, 1993 20.6 mm

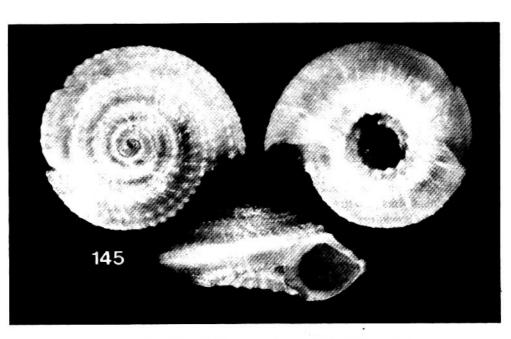


Fig. 145: Solatisonax rehderi Bieler, 1993 7.2 mm

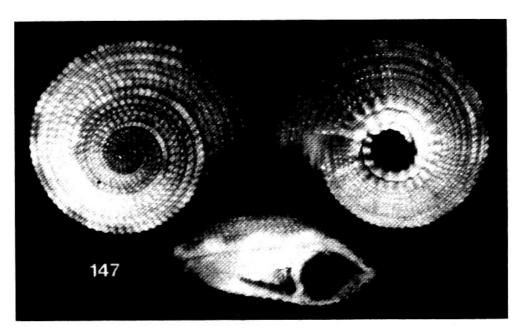


Fig. 147: Solatisonax propinqua Bieler, 1993 8.2 mm

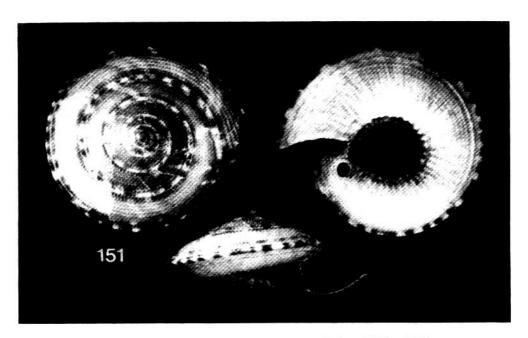


Fig. 151: Solatisonax? orba Bieler, 1993 23.5 mm

Solatisomax propinqua Bieler, 1993

The type locality is near Cabo San Lucas, Baja California México and is known from Bahia Banderas, Jalisco, México and Puntarenas, Costa Rica at depths between 37 and 73 meters. While the regular sculpture of beaded ribs reminds one of the genus *Heliacus*, the infraperipheral rib forms a second peripheral keel almost as prominent as the upper peripheral rib, and the operculum is high-spired (or secondarily depressed) cone-shaped.

Solatisonax? orba Bieler, 1993

Also from México's west coast - known only from the Gulf of California and off the southern tip of Baja California (the type locality is the Inner Gorda Bank, Baja California Sur, West México). While no living specimens have been collected, fresh dead ones have come from depths of 108-183 meters, and one from the intertidal. The lack of living specimens make generic placement uncertain. There are characteristics in common with three genera: Solatisonax, Adelphotectonica and Discotectonica.

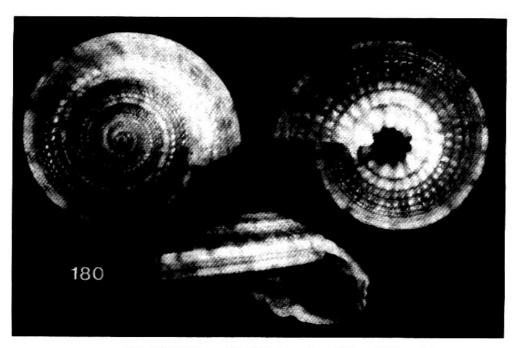


Fig. 180: Heliacus (Torinista) geminus Bieler, 1993 9.0 mm

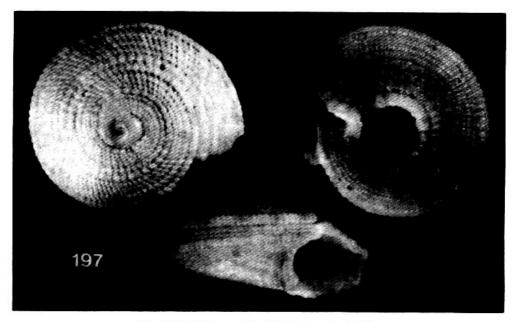


Fig. 197: Heliacus (Torinista) hyperionis Bieler, 1993 6.2 mm

Heliacus (Torinista) nereidis Bieler, 1993

Joseph Bonaparte Gulf, Western Australia is the type locality and the species is known only from Western Australia in depths between 35-183 meters - no living specimens recorded. This species is very similar to *H. oceanitis*. Members of *H. hyperionis* are also similar and can be separated by the presence of two additional ribs between lower and infraperipheral ribs, resulting in a four-ribbed periphery. *H. nereidis* has a much larger protoconch than the other two.

Heliacus (Torinista) oceanitis Bieler, 1993

Known only from Madagascar (from 10 meters) type locality of Grand Récif de Tuléar. No living specimens recorded.

Heliacus (Torinista) proteus Bieler, 1993

The type locality is one of the famous R/V 'Albatross' off Baluk-Baluk Island, Sulu Archipelago, Philippines. Depth records 30-80 meters, no living specimens,

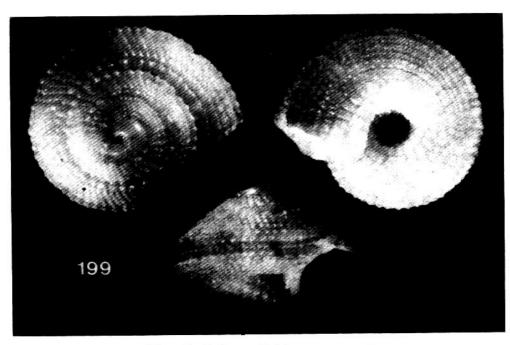


Fig. 199: Heliacus (Torinista) nereidis Bieler, 1993 6.2 mm

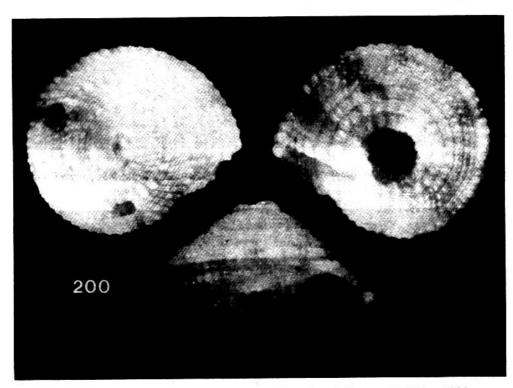


Fig. 200: Heliacus (Torinista) oceanitis Bieler, 1993 4.8 mm

known only from the Philippines. It is similar to H. implexus, but the latter does not have a deep suture and other sculptural differences.

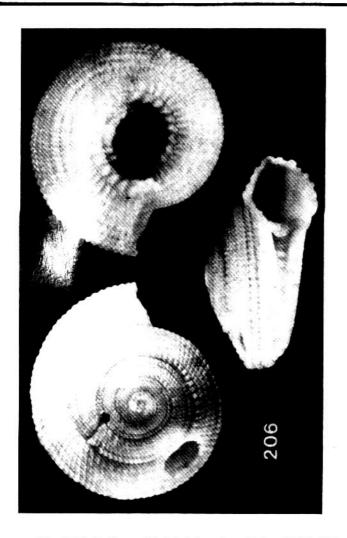
The genus *Pseudotorinia* Sacco, 1892 is composed of very small (3-5 mm) shells and species are found in many areas of the world. The following new species are included in the book under discussion.

Pseudotorinia yaroni Bieler, 1993

The type locality is in the central part of the Red Sea and the species is known only from the Red Sea at depths between 609 and 934 meters, with no living specimens recorded.

Pseudotorinia armillata Bieler, 1993

Type locality is Réunion and the species is known only from the western Indian Ocean at depths between 100 and 625 meters; no live records.



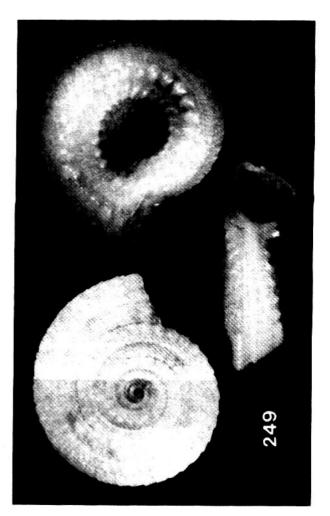


Fig. 206. Heliacus (Torinista) proteus Bieler, 1993 8.5 mm Fig. 249: Pseudotorinia yaroni Bieler, 1993 4.5 mm

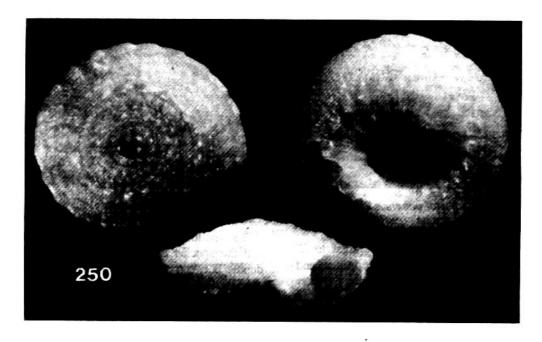
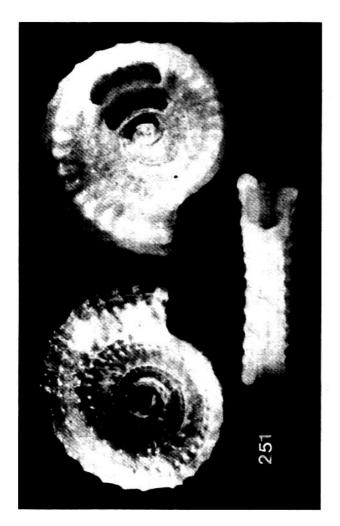
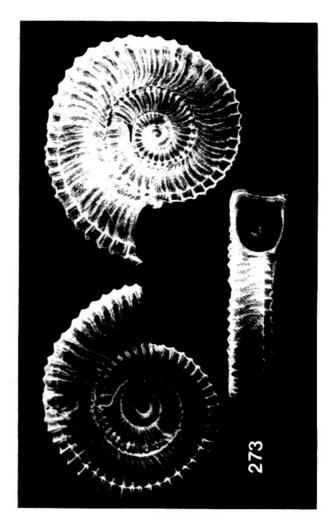


Fig. 250: Pseudotorinia armillata Bieler, 1993 4.8 mm





18:3, 155

Fig. 251: Pseudotorinia sestertius Bieler, 1993 3.4 mm Fig. 273: Spirolaxis argonauta Bieler, 1993 4.5 mm

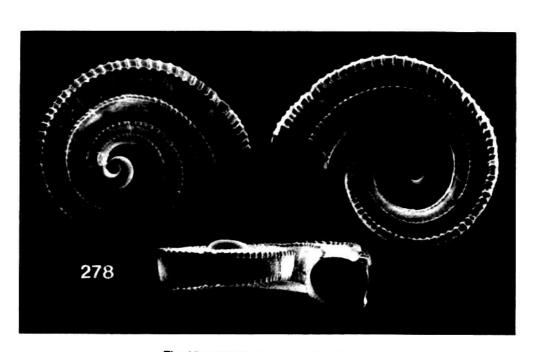


Fig. 278: Spirolaxis cornuarietis Bieler, 1993

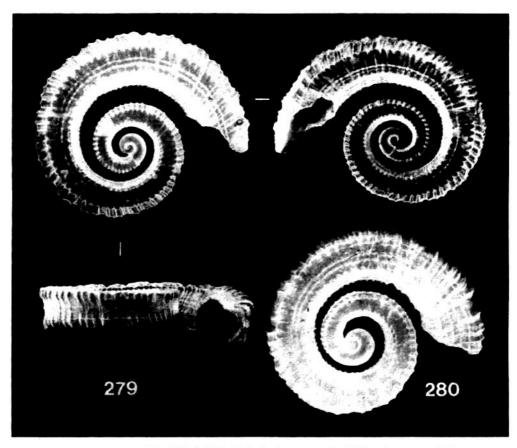


Fig. 279 & 280: Spirolaxis exornatus Bieler, 1993 3.8 mm

Pseudotorinia sestertius Bieler, 1993

Type locality is between Luzon and Mindoro in the Philippines and the species is known only from the type locality. Depths are 130-137 meters and no living specimens have been recorded.

The species in the genus *Spirolaxis* Monterosato, 1913 are very small, usually under 3 mm, and the shell is usually somewhat uncoiled. The following new species are described in detail in the book under discussion.

Spirolaxis argonauta Bieler, 1993

The type locality of this species is off Pratas Island, China Sea and the species is known from China Sea and Kermadec Islands, taken in depths of from 380 to 549 meters.

Spirolaxis cornuarietis Bieler, 1993

Type locality is Réunion and the species is also known off Western Australia and from the Kermadec Islands, at depths between 82 and 340 meters. No living specimens have been recorded.

Spirolaxis exornatus Bieler, 1993

Réunion is also the type locality of this species and it is also known from New Caledonia and, possibly, Hawaii at depths of between 280 and 430 meters, although no living specimens have been recorded.

Addenda

Somehow the following, for *Heliacua (Torinista)* geminus Bleier, 1993 (see Fig. 180, pg. 152) was nopt included with the rest. The type locality is North Lagoon, New Caledonia (42 meters) and trhe species is

known only from New Caledonia and the Andaman Islands. It is compared with H. (T.) enochimensis (Melvill, 1893) and H. (T.) cerdaleus (Melvill & Standen, 1903).

RECENT LOSSES

WALTER E. SAGE, III

Walter Sage died on July 2, 1995 from complications resulting from oral cancer. He served with distinction for the past 12 years as the Collection Manager of the American Museum of Natural History collection of Recent Mollusca. As a senior Scientific Assistant in the Department of Invertebrates, he was largely responsible for expanding the reference collection of mollusks, a task that he undertook with considerable success.

He was Treasurer of the Conchologists of America and an active member of several professional and amateur malacological organizations. He was the author of numerous popular articles and, with William K. Emerson, nine scientific papers.

Walter did not have a shell collection, but did have an extensive collection of fabrics with shell motif.

Walter is survived by his mother, Mrs. Walter Sage II, a brother and two sisters. He will be fondly remembered by his many friends and colleagues.

WILLIAM K. EMERSON

The Man in the Shell Shirt(s)

Walter Sage was a shell guy, through and through, and he let the world know it with his shirts. Sport shirts short-sleeved, light-weight, exuberantly colored and liberally illustrated with shells. Who among his friends and associates ever saw him when he was otherwise shirted?

His goal was to build a wardrobe of 365 such shirts (no two alike), since season and weather never constrained him. If the number seems impossible think beyond the haberdasheries to the fabric shops. The warehouse of yard goods he had stashed away might one day have brought him to his goal in finished shirts at least close.

Walter not only enjoyed being a shell buy, but also the work it led him to, as a professional at the American Museum and as a volunteer in amateur shell circles. And everywhere, his enthusiasm, his friendly nature and his generosity with his time, energy and expertise broadened and deepened the pleasure of others.

Continued next page, column one

TOM MONTGOMERY

(from the Guam Shell News June 1995 issue)

Charles "Tom" Montgomery, one of the founding members of the Guam Shell Club, recently passed away in Washington State. This species newsletter is being prepared to tell you a little about this remarkable man, his love of shells and his experiences living and shelling on Guam.

Born in 1908 is Maple Creek, Saskatchewan. Tom moved in the 1920's to Los Angeles, and later became a U.S. citizen. In 1951, looking for something new, he and his wife moved to Guam to work as civilians for the Navy. They initially lived at Camp Asan which is, I believe, part of the current War In The Pacific Park by Camel Rock.

He and his family shelled, reef-walked and snorkeled all over Guam. On about 1957 or 1958 the Montgomerys helped to form the Guam Shell Club. Tom also ran a shell store on Marine Drive for some years. Except for an occasional shelling trip to the Philippines, etc., the Montgomerys lived on Guam for 22 years. In 1973 Tom and Louise moved back to California, a move I think he often regretted.

It sounds as if shelling on Guam was quite exciting in those days. Although Tom didn't use scuba he reported finding Conus connectus, C. circumcisus, C. floccatus, C. bullatus, C. retifer and C. ammiralis on the reefs—shells rarely or never found today. As for cowries he found Cypraea humphreysi and C. irrorata on the Piti reef. Cypraea globulus and C. clandestina frequently in Apra harbor as well as Cypraea caurica. Also Phyllocoma convoluta and Murex ramosus. His name is memorialized in Terebra montgomeryi. Tom was the first to find this species in the shallow water off Piti and, with R. Tucker Abbott's help the shell was named for Tom.

Tom had an extensive worldwide collection and had collected in the Philippines, California and many other places. But amongst his fondest memories were the years he spent on Guam. In about 1991 his health began to fail and he passed away in August of 1994. He will be missed.

Continued from page 157, column one

Twelve years ago malacologists and conchologists in many parts of the world wondered if the large void, professional and personal, left behind by Bill Old could be filled. Now, much too soon, the same question is being asked about the huge empty space Walter has left behind. But, however well it might be filled again with ability, dedication and warmth, Walter Sage will be remembered by all of us who knew him as a thorough professional, good friend and a guy who really did something for whatever shell shirt he happened to be wearing.

Milton Werner

The above from <u>New York Shell Club Notes</u> No. 336 (Sept. 1995)

E.F. Loosjes 1913-1994

Dr. Frederik Elisa Loosjes, internationally renowned specialist in the land snail family Clausiliidae, died on 25 July 1994. Born in Hilversum, The Netherlands, on 13 August 1913, he read biology at Amsterdam University in 1931-1937. He obtained his Ph.D. on a monograph of the Indo-Australian Clausiliidae in 1953 (still frequently consulted) at the same university. Although he had a distinguished career as a specialist in control measures and related, particularly environmental, problems, he devoted much of his spare time to the pulmonate family Clausiliidae. At the end of his working life he was Inspector of Environmental Health. He assembled a large, worldwide collection of shell material (now in the National Museum of Natural History, Leiden, The Netherlands) and published more than 30 papers on the subject, frequently in collaboration with his wife, Mrs. A.C.W. Loosjes-van Bemmel.

A.C. Van Bruggen & E. Gittenberger in <u>Basteria</u> 59 (1-3): 3-7 (June 1995)

LANCE MOORE

1928-1994

The shell world has lost one of its most colorful dealers. Lance Moore, of Marine Specimens, under the Harbour Bridge in Sydney, Australia. Lance died in Continued on page 162

Ossie Rippingale

1911-1994

Longtime Australian Malacological Society member and Patron of the Queensland Branch, Ossie Rippingale died after a long battle with cancer.

Ossie was born at Merrivale near Warwick, Queensland, in 1911 and became a sewing machine mechanic, eventually starting his own business, which took him all over the State.

In 1940 while in Yeppoon he found many shells washed up on the beach after a storm; this started his shell collecting hobby, however like many, he was unable to name many of them due to a lack of illustrated shell literature at that time.

In 1951 his interests turned to painting and he soon developed an expertise which later earned him wold wide recognition. In 1961 in conjunction with Dr. D.F. McMichael, who was then Curator of shells at the Australian Museum, Sydney, the well known "Queensland and Great Barrier Reef Shells" came in to being, with Ossie doing the illustrations and Dr. McMichael the text. This was followed up in 1964 with "Cone Shells of the World". Both books for many years were the main identification references for Queensland shells and World Conidae and in fact today, many collectors still find these books very useful. Ossie married Joy in 1974 and they settled in their Chatham (Redcliffe) home where Ossie continued his painting and shell collecting hobbies.

Many of the paintings used in both of the above mentioned books were obtained by Dr. Willem Backhuys from Leiden in Holland, and are housed in his private library.

More recently Ossie devoted his collecting to worldwide *Murex*, disposing of the remaining shells in his collection. In 1987 he privately published a small book on recently named species; during this time he painted some 70 paintings of colorful shells from various families with a view to publishing a book on them. However time caught up with him and the paintings have recently been obtained by several discerning collectors in Australia and New Zealand.

In 1994 Ossie donated him comprehensive *Murex* collection to the Australian Museum where it now resides. Ossie was a regular and respected visitor to numerous shell clubs throughout Queensland.

Kevin Lamprell

Australasian Shell News No. 87, October 1994

Recent Publications

Many malacological publications cross the Editor's desk during the coarse of a year's time. This column will call our readers' attention to articles of interest of which they might ordinarily be unaware.

Xenophora is the publication of the Association Française de Conchyliologie (Franck Frydman; 3, rue Dupuis; 75003 Paris, France). Issue #68, Oct-Nov-Dec 1994 has several articles of interest, including "Deep Water Molluscs of the French Antilles" (pp.3-19) by Gérard Paulmier (article in French and English, with 79 black and white illustrations), with many fascinating micromolluscs included. "Moon shells of Thailand" by Marc Streitz (part III, pp 20-31, 15 color illustrations) also in French and English (previous installments were in numbers 57 and 60).

The Conchologists' Newsletter from the Conchological Society of Great Britain and Ireland (Editor: Rosemary Hill; 447B Wokingham Road; Earley, Reading RG6 2EL, U.K.) has been running a series of interesting articles entitles "Collectors in East Africa" by B. Verdcourt. J. Petherick (1813-1882) in No. 132, and K.L. Pfeiffer (1874-1952) in No. 133 are the latest in the series which now numbers 23 articles.

Reseñas Malacológicas IX of the Sociedad Española de Malacologia (Museo Nacional de Ciencias Naturales; C/José Gutiérrez Abascal, 2; 28006, Madrid, Spain). The small booklet (90 pp, approx. 6 x 8¼ inches) is entitled "Catálogo Actualizado de los Moluscos Marinos Actuales de Cuba" and is authored by José Espinosa, Raúl Fernández-Garcés and Emilio Rolán and lists 1,501 species of marine molluscs from Cuba, including 20 gastropods that are new records for Cuba. Text is in Spanish.

<u>Poirieria</u> a publication of the Auckland Museum Conchology Section (The Secretary, Mrs M. Town, 9 Otakau Rd., Milford, Auckland 9, New Zealand) has an article of interest to land snail enthusiasts. "Solomon Islands Placostylus Snails" ny Norman Gardner (Vol. 17, No. 2, October 1994, pp. 1-13, 41 black & white figs.)

The Smithsonian Institution publishes a great number of booklets each year. Occasionally on the subject of molluscs. While the following are not in that category, perhaps some of our readers would find them helpful.

Kornicker, Louis S. Ostracoda (Myodocopina) of the SE Australian Continental Slope, Part 2. <u>Smithsonian</u>
 <u>Contributions to Zoology</u>, Number 562. 1995. 97pp, 54 figs. (line drawings)

Kornicker, Louis S. and Thomas M. Iliffe. Ostracoda (Halocypridina, Cladocopina) from an Anchialine Lava Tube in Lanzarote, Canary Islands. Smithsonian Contributions to Zoology, Number 568. 1995. 32pp, 16 figs. (line drawings)

Child, C. Allan. Pycnogonida of the Western Pacific Islands, XI: Collections from the Aleutians and Other Bering Sea Islands, Alaska. Smithsonian Contributions to Zoology, Number 569. 1995. 30pp, 10 line drawings

Lemaitre, Rafael. A Review of the Hermit Crabs of the Genus Xylopagurus A. Milne Edwards, 1880 (Crustacea: Decapoda: Paguridae), Including Descriptions of Two New Species. Smithsonian Contributions to Zoology, Number 570. 27pp, 17 line drawings. New species Xylopagurus anthonii Lemaitre, 1995 (from the Western Caribbean off Panama and Belize, inhabiting pieces of wood or empty, comeous polychaete tubes) and Xylopagurus tenuis Lemaitre, 1995 from the Caribbean Sea off Cuba, Jamaica, Hispaniola, Puerto Rico and St. Vincent, in pieces of wood.

Ahearn, Cynthia Gust. Catalog of the Type Specimens of Seastars (Echinodermata: Asteroidea) in the National Museum of Natural History, Smithsonian Institution. Smithsonian Contributions to Zoology, Number 572, 1995, 59pp.

Also of interest (my thanks to Peter Gunn for bringing this to my attention) - you probably have seen the TV ads telling you to get the Consumer Information Catalog that the United States General Services Administration issues out of Pueblo, Colorado. Well the Summer 1995 uses six shells for its cover illustrations. Strangely, none of the pamphlets listed in the small catalog (16 pp) has anything to do with shells!

GLORIA MARIS

GLORIA MARIS is the publication of the Association belge de conchyliologie (Belgian society for conchology). Starting in 1988 a series "The Conidae of the Solomon Islands" by A. Delsaerdt has appeared in 5 parts, and has included a total of 10 color plates. The final part appeared in Vol. 33 (4-5), December 1994 and is an alphabetical review treating the (sub)species from Conus sertacinctus to Conus zebra. (English text)

Volume 34(1) of GLORIA MARIS is a 20-page booklet titled "Schelpen op de Belgische Kust" (Shells of the Belgian Coast) by A. Delsaerdt and L. Steppe (May 1995) has 8 color plates and covers 65 species. Text is, I believe, in Flemish.

Information on the society and its publications can be obtained by writing the Secretary, R. De Roover, Vorsterslaan 7, 2180 Ekeren-Donk, Belgium.

Symposium Scheduled

The Malacological Society of Australasia Ltd. has announced a symposium on the molluscs of the Indo-West Pacific and Australasian Region to early February 1997

The huge Indo-West Pacific and Australasian Region has a tremendous diversity of molluscs in all environments: marine, freshwater and terrestrial. This will be the first meeting to bring together malacologists and other interested scientists working on the molluscs of the region.

The symposium will be held at the Rottnest Environmental Education Centre at Rottnest island, off the coast of Perth, Western Australia from 1 to 4 February 1997.

The first two days of the conference, Saturday 1 and Sunday 2 February, will be devoted to scientific sessions, as will Tuesday, the 4th. Excursions will be held on Monday, 3 February.

Rottnest Island is on the central west coast of Western Australia, where there is a mixture of temperate, tropical and Western Australian endemic molluscs. An island tour with the opportunity to explore the local rocky shore habitats will be organized for Monday, 3 February.

The symposium will be held over a weekend so that Australian participants can obtain the cheapest airfares (which require a stay including a Saturday night).

Three symposia are planned:

- Molluscs of environmental or economic importance
- · Evolutionary studies of molluscs
- · Contributed paper sessions

Posters are also welcomed as an alternative to papers. The symposium is open to papers and posters on all aspects of Indo-West Pacific and Australasian molluscs, whether marine, freshwater or terrestrial.

Participants are encouraged, but not required, to publish the papers presented in <u>Molluscan Research</u>, the journal of The Malacological Society of Australasia. Papers submitted to <u>Molluscan Research</u> will be subject to the normal editorial review process.

Post Conference Tours

Many of the delegates will be visiting Western Australia for the first time. There will be a five day postconference tour to Albany on the south coast of the state, pending sufficient interest. More information in future announcements. Information will also be forthcoming on day trips in the Perth area.

To register for the mailing list for further announcements please contact: Dr. F.E. Wells; Western Australian Museum; 1 Francis Street; Perth WA 6000, Australia. Phone: 61 9 427 2745, Fax: 61 9 328 8686

Chiton Workshop

A work shop on chitons will be held on January 20, 1996, at the Marine Science Center in Poulsbo, Washington. Topics to be covered will include external anatomy, identification, internal anatomy, and macrophotography. For more information contact: Brian D. Gregory; 1124 Pennsylvania Ave.; Bremerton, WA 98337. The registration fee is \$20.00 and space is limited.

PUBLICATIONS ANNOUNCEMENT

The Santa Barbara Museum of Natural History has announced the upcoming publication of three titles: Bivalves Seashells of Western North America by Eugene Coan, Paul Scott, and Frank Bernard is scheduled for winter release and will include descriptions and photographs of all bivalve species found form the Mexican border north to arctic Alaska. Cost is set at \$85.00. Volumes 8 and 9 of Taxonomic Atlas Series describes the marine invertebrates of the Point Conception region of Southern California. Volume 8 is Mollusca Part 1 - Gastropoda by James McLean (prosobranchs) and Terry Gosliner (opisthobranchs), and Volume 9, Mollusca Part 2 - The Bivalvia, Cephalopoda, Aplacophora, Polyplacophora and Scaphopoda by Paul Scott, Eric Hochberg, Amelie Scheltema, Doug Eernisse and Ron Shimek. Cost is \$35.00 each volume, paperback and will be available this fall. Order through Paul Scott at the Santa Barbara Museum, (805) 682-4711 ex. 319, or fax (805) 569-3170.

UPCOMING SHOWS, ETC.

- Nov. 11 & 12, 1995. Nantes Shell Show. Association Française de Conchyliologie and Editions Ivoire. 9:00 a.m. to 7:00 p.m. at the Cité des Congrés Nantes Atlantique, 5 rue de Valmy 44000 Nantes, France.
- Nov. 10-12, 1995. Philadelphia Shell Show. Philadelphia , Pennsylvania. Al Schilling; 419 Linden Ave.; Glenside, PA 19038. (215) 886-5807
- Nov. 17-19, 1995. North Carolina Shell Show. Wilmington, North Carolina. John Timmerman; 32 Jeb Stuart Dr.; Wilmington, NC 28412-1700. (910) 452-0943.
- Jan. 20-21, 1996. Astronaut Trail Shell Show. Melbourne, Florida. Jim & Bobi Cordy; 385 Needle Blvd.; Merritt Island, FL 32953. (407) 452-5736
- Jan. 26-28. Greater Miami Shell Show. North Miami, Florida. Frank R. Gomez; 1371 Westward Dr.; Miami Springs, FL 33166. (305) 887-3230.
- Feb. 2-4. Broward Shell Show. Pompano Beach, Florida. Wayne M. Harland; 2549 SE 15th St.; Pompano Beach, FL 33062. (305) 942-3950.
- Feb. 3-4. VIII émes Recontres Internaionales du Coquillage. Paris, France. Gilbert Jaux; 3 rue Saint-Honore; 78000 Versailles, France. (1) 39-53-80-46.
- Feb. 16-18. Sarasota Shell Show. Sarasota, Florida. Peggy Williams; P.O. Box 575; Tallevast, FL 34270. (941) 355-2291.
- Feb. 23-25. Naples Shell Show. Naples, Florida. Gary Schmelz; 5575 12th Ave. S.W.; Naples, FL 33999. (941) 455-4984.
- Feb. 24-25. Melbourne Shell Show. Hampton, Victoria, Australia. Chris Bunyard; 21 Hillcrest Rd.; Eltham North, Victoria 3095. 439-2147.
- March 7-10. Sanibel Shell Show. Sanibel Island, Florida. Charles Barr; P.O. Box 990; Boca Grande, FL 33921. (941) 964-1034.
- Mar. 14-16. Marco Island Shell Club Show XVI. Marco Id., Florida. John Maerker; 365 Henderson Court; Marco Island, FL 33937. (941_ 394-3438

- Mar. 15-17. St. Petersburg Shell Show. Treasure Island, Florida. Bob & Betty Lipe; 440 75th Avenue; St. Pete Beach, FL 33706. (813) 360-0586
- Mar. 15-17. Treasure Coast Shell Show. Stuart, Florida. Ruth Wischmann; 5000 S. Federal Hwy. #194; Stuart, FL 34997. (407) 220-1956
- April 26-28. St. Louis Shell Show. St. Louis, Missouri. Vern Stubblefield; 8028 Orlando; St. Louis, MO 63105. (314) 863-5207
- April 28. Pacific Shell Club Show. San Pedro, California. Frank Jewett; 1739 Vallecito Drive; San Pedro, CA 90732. (310) 514-8012
- May 4-5. Sixth Belgium International Shell Show. Aarschot, Belgium. R. De Roover; Vorsterslaan 7; 2180 Ekeren-Donk, Belgium. (3) 644-3429
- June 15-16. VX éme Salon International du Coquillage. Lutry, Switzerland. Dr. Ted W. Baer; CH-1602 La Croix, Switzerland. (21) 791-3771; Fax: 792-1411
- June 23-27. Western Society of Malacologists Annual Meeting. San Diego, California. Hugh Bradner; 1867 Caminito Marzella; La Jolla, CA 92037. (619) 459-7681
- June 29-July 3. American Malacological Union Annual Meeting. Chicago, Illinois. Rudiger Bierler; Div. of Invertebrates; Field Museum of Natural History; Roosevelt Road at Lake Shore Drive; Chicago, IL 60605. (312) 922-9410, ext. 270
- July 15-19. Conchologists of America Annual Meeting. St. Pete Beach, Florida. Bob & Betty Lipe; 440 75th Avenue; St. Pete Beach, FL 33706. (813) 360-0586

This information courtesy of Donald Dan; Conchologists of America Award Chairman; 2620 Lou Anne Court; West Friendship, MD 21794. Tel: (410) 442-1242 or 442-1942.

SANIBEL MUSEUM OPENS

Grand Opening for the Bailey-Matthews Shell Museum, Sanibel Island, Florida is scheduled for November 18, but the Museum has been open to visitors since June 27 on a "preview" basis. Admission is \$4 (free to members). Hours are 10-4 each day except Monday.

Continued from page 158

March 1994 after a long life enjoying shells as a collector and later a dealer. He ran away to sea at the age of 13 and served many years on Burns Philp ships in New Guinea and south west pacific waters, getting an exposure to shells which was to last him a lifetime. As, first a supplier to others (notably Bob and Dorrie Brown of Yeppoon, Queensland) Lance opened his own shop at 27A George Street, Sydney in 1958. There he stayed until virtually the end.

But Lance was not merely a dealer (and a very honest one at that). He was a friend to all. He was a regular attendee at Society (Malacological Society of Australia) meetings during their early years in Sydney from the 1960s onwards and was always generous in providing advice to other collectors whether beginners or long-standing enthusiasts. He would frequently ring Winston Ponder or Phil Colman at the Australian Museum to tell us to "come down and get this specimen of such and such before I sell it", knowing we didn't have it in the museum collections and couldn't afford to buy it.

Lance attended the first Australian Shell Convention at Yeppoon in September 1967, including the preconvention camping/collecting trip to North West Island in the Capricorn Group where he kept all amused with his droll tales and unsuccessful attempts at campfire cooking.

Lance has gone, and there is certainly no one to replace him. Long may he remain in our memory.

Phil Colman and Don McMichael

Australasian Shell News No. 87, October 1994

LETTERS

A REPLY TO H. MIENIS

Thank you Mr. Mienis for your correction on the land snails of Calabia, Italy. I did find three species, but one was considered a juvenile. The reason they were taken to the United States is for study in my laboratory, with no possibility to create economic damage to agriculture in the United States as you stated.

Most likely information on their spawn will b in my next book when I combine Volume I and Volume II of my Field Guide to Molluscan Spawn, which will probably have an additional thirty species added to it. You assume that I do not have a permit.

BEATRICE E. WINNER

NEW EDITION

The 19th edition (1995-96) of *A Sheller's Directory of Clubs, Books, Periodicals and Dealers* has been published. Now in a larger format (8½ x 11", spiral bound) 115 pp. Still only \$4.95 plus postage of \$1.50 to U.S. (or \$2.75 First Class Mail), or add \$2.50 for surface delivery elsewhere; for air mail add \$2.55 to Canada, \$2.80 to Mexico, \$4.50 rest of Western Hemisphere, \$5.50 to Europe, \$6.50 to Africa & Asia or \$7 to Pacific Rim (added size increased weight - reason for postage being more than the publication!) Order from *Of Sea & Shore; P.O. Box 219; Port Gamble, WA 98364-0219 U.S.A.*



Continued from page 123

With the approach of winter and the shell show season, I hope those of you who have never attended a shell show will make an effort this year to do so. It's a great way to meet other shellers and also to see shells you might only view in books. Try it, you'll like it!

TOM RICE, Editor

Until next time.

Shelling in Venezuela

Bob Wright*

In February of this year, I contracted to do diamond exploration in the jungles of Venezuela. With memories of last year's rather futile shelling efforts in Guyana still fresh in my mind, I set out for Caracas without the usual shelling paraphernalia in tow, figuring that I could get them when I returned home for a break after a couple of months - if it looked like shelling opportunities might arise.

Caracas has miles of shanty slums like you see in pictures of Rio, surrounding a downtown core that is about 15 miles long and one mile wide, tight up against the mountains on all sides. It's a bustling, noisy city with large numbers of crazy drivers and a murder rate that rivals New York City. I was only too happy to be heading south, across the Orinoco River, into the relative safety of the jungle.

The next morning we flew to Calcara, on the south bank of the Orinoco River. After several days of doing not much - waiting for the weather to clear - we finally headed for the airport. The army type at the airport (every airport has one) stopped me and demanded to know whether we had paid our bill at the hotel (we hadn't ... it's billed to the company). I gave him my very best dumb gringo look and he just stood there, wondering what to do next. Finally, he just walked quietly away and pretended that I wasn't even there didn't even check my passport.

The flight into the property was fascinating! We started in dry scrubland like you would find in Arizona, then gradually crossed the tree line into the jungle. As we approached the property, I got this feeling of deja vu (all over again) ... the jungle and terrain were very similar to last year ... shudder. After circling several times to alert the locals, we landed on the main street of a small town called Salvacion, which is the local diamond mining centre. It looks like something out of a B-movie, with kids and dogs playing in the dirt, people sleeping under the trees, and strangely-dressed ladies leaning on what passes for lamp posts in this part of the world.

* Lions Bay, British Columbia, Canada

Salvacion is a sleepy little town (except for Saturday nights) that has grown up over the last 25 years, since diamonds were discovered in the Quebrada Grande area. Since then roughly 20-million carats of diamonds have been produced by the local miners who use hydraulic methods and also by tunnelling through the soft clays that contain narrow "pay streaks". Generally, they will work an area until the tunnel collapses and kills someone, then they move to another spot nearby, and mark the old spot with an iron cross there are lots of iron crosses.

We drove out to the camp along a bumpy dirt road. The camp was quite comfortable, with individual cabins for each person ... sheet metal roofs and concrete floors, which is ok, but with sheet metal walls as well! It reminded me of the film "Bridge on the River Kwai". At an average of 100 degrees F in the shade, it's a wonder my computer screen didn't melt!

On Saturday night we drove into town for a beer. We stopped to visit one of the diamond buyers we knew and were invited into a back room to see "the goods". It reminded me of that movie about Harrow Street and the diamond houses. Anyway, we looked at lots of sparkly stones. You can buy a nice gem 1-carat octahedral diamond for about \$170 U.S., although the miners themselves will trade for watches, flashlights, boots, etc at a considerable discount ... all strictly illegal, of course. I wonder what I could get for this computer ... hommmmm.

Well, the real point of this story is that during Semana Santa (Holy Week), the project was shut down, so we all got on the company plane and headed north to Margarita Island for a few days of sun and fun. After about 2 hours the island loomed up out of the mists of the Caribbean. I was surprised to find that it is a desert, with cactus, bare rocky soil, and not much else.

We all piled into a taxi and headed off to the Isla Bonita Hotel. We drove for about 45 minutes, past slums, garbage, and small towns ... a lot like Tijuana (shudder). At this point the suspense was becoming unbearable, as we had no idea what we were getting

into. Our instructions to the secretary in the Caracas office had been "near the beach, less than \$50 US per night", and every time a bombed-out ruin came into view we half expected to pull into the driveway. Anyway, we drove to the north tip of the island, and, coming over the top of a hill, saw the Isla Bonita Resort, a 5-star luxury hotel with sweeping driveways, limos parked everywhere, an attached 18-hole golf course ... I half expected to see Robin Leach doing his thing on the front steps!

Anyway, we boldly pushed on (bare in mind we had just come out of the jungle and were, shall we say, less than appropriately dressed). We felt like a bunch of country bumpkins just arrived in the big city "whoooeee, will ya lookit that!" The lobby was a 5-story-high atrium with lots of potted palms and a grand piano ... you get the picture. We sauntered up to the reception, trying to look real cool, like eccentric millionaires, perhaps. Unfortunately, the illusion was blown when one of our group announced in a too-loud voice "my god, what's this going to cost?" We were discreetly informed by the receptionist that our single rooms would by a paltry 20,000 Bolivars (that's \$120 US) per night! Since it was impossible to get anything else on the long weekend, we were stuck.

I checked in, and headed directly for the beach. The "beautiful set" was already there, playing volleyball, etc. in speedos and dental floss bikinis (I think my tongue got the worst sunburn) ... it made "Baywatch" look positively geriatric. Since I'm not much into that beach stuff (methinks he doth protect too much?), I headed down the beach to a rocky headland to do some shell collecting. The rocks were literally covered with chitons and other critters, but of course I had no way of collecting and preserving them ... talk about frustrating! I picked up a small bag of shells, figuring I would worry about preserving them later.

When I got back to my room, I had a flash of brilliance -- the minibar! I downed all the juices (in wide-necked bottles), put the shells in them, and poured in an assortment of vodka, gin, and whiskey, costing about \$5 in total (booze is super-cheap here). Ta da! Preserved shells ... what a way to go, drowned in vodka.

I spent the rest of the holiday exploring the beach and collecting shells. Unfortunately, I wasn't able to improvise chiton-collecting stuff, so they're still there waiting for my next trip when I will be better equipped!!

On the third day we rented a taxi and had a tour of the island. We ended up on a deserted beach in the untravelled portion of the island. I went off to do my usual shell collecting and found 2 or 3 Nerita, a Planaxis, an Arca, and many more. Most of the locals are fishermen, so I headed down the beach to where they cleaned their nets and, sure enough, there were a few fresh shells, including a Murex margaritensis and a Chicoreus species, discarded on the beach. I returned to the hotel, wet, sunburned, and grinning from ear to ear, with bags of smelly shells in hand. My companions, who had spent the entire holiday closing down the various discos on the island, took one look at me and announced, "You're a sick man, Bob." As Shakespeare would say ... "tis a consummation devoutly to be wished".

I haven't had time to identify anything yet, but will get started on that soon. Meanwhile, I dream of returning to Isla Margarita, properly equipped, to gather some of those tenacious chitons!

This article originally appeared in the Pacific Northwest Shell Club's newsletter, **Dredgings** (Vol. 35, No. 5, Sept/Oct 1995), and is reprinted here with the author's permission.

Continued from page 146

colorful, the shell (or shells) is the focus of each, not some "artsy" background or tricky use of mirrors, etc. A few of the photographs make use of a natural background such as a piece of driftwood and a few show the mollusc itself. But mostly the focus is on the shell and its beauty and while one might wish for a particular missing species had been included, it's difficult to fault the selection of species or specimens used. The text, usually a paragraph or two about each photograph, includes the "common" and scientific names, the authors and the year of description. Len Hill also provides some fascinating information about each species and group of shells, including habitat, range, etc. My one-and-only complaint is the lack of indication, in most cases, of sizes of the shells - but that's really stretching to find something to complain about (isn't a reviewer supposed to complain about something, even in an object he really finds truly great?).

And, to go along with all the other good points about this boo, the price is right! In today's atmosphere of escalating shell book prices, where nearly everything, even small think volumes, run between \$50 and \$100, it's amazing to find that this book sells for a few dollars over \$20 for the paperback and just \$30 for a hardbound copy! Perhaps this helps explain while the book is already into another printing!

So go out, do not stop at "go", or mail order a copy today. You' not regret adding this volume to your shell-book library.

Reviewed by TOM RICE

Newly Described Non-shelled Marine Mollusks and Non-Marine Mollusks

While our main interest lies in the shelled marine mollusks, there are numerous newly described marine mollusks that have no shells and also many freshwater and terrestrial species of mollusks. The following is a listing of some recent new species. Please refer to the listed publications for further details.

Hemiphaedusa farooqi Auffenberg & Fakhri, 1995

Family: Clausiliidae

From: Swat District Northwest Pakistan
In: Archiv für Molluskenkunde 124(1/2):89-92

Nothoserrulina subterranea Németh & Szekeres, 1995

Family: Clausiliidae

From: Unye, northern Turkey

In: ibid: 93-96

Serrulina (Dobatia) mariae Németh & Szekeres, 1995

Family: Clausiliidae

From: Taflan, northern Turkey

In: ibid.

Truncatellina velkovrhi Stamol, 1995

Family: Vertiginidae

From: island of Grgur, Croatia

In: ibid.: 97-101

Truncatellina lussinensis Stamol, 1995

Family: Vertiginidae

From: island of Losinj, Croatia

In: ibid.

Arion iratii Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: Pyrenees mountains, Iberian Peninsula

In: ibid.: 103-118

Arion lizarrustii Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: Navarra, NE Iberian Peninsula

In: ibid.

Arion molinae Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: La Molina, Serra del Cadi, Catalonia

In: ibid.

Opisthorchophorus valvatoides Beriozkina &

Starobogatov, 1955

Family: Bithyniidae

From: Sergievka, Balashov district, Russia

In: <u>Ruthenica</u>, 5(1): 34

Paraelona fausseki Beriozkina & Starobogatov, 1995

Family: Bithyniidae

From: branch from Bolshoy Yegorlyk to Gudilo Lake,

Rostov Region, Russia

In: ibid.: 35

Paraelona milachevitchi Beriozkina & Starobogatov,

Family: Bithyniidae

1995

From: Balki village, Konka, Kherson Region, Ukraine

In: ibid.: 36

Turanena inversa Schileyko & Moisseeva, 1995

Family: Enidae

From: Tien-Shan, Chatkal Range, upper part of the

valley of the Aflatun River, Central Asia

In: ibid.: 45-48

Scleroderma latispiculata Ivanov, 1995

Caudofoveata, Aplacophora Family: Prochaetodermatidae

From: Bismark Archipelago, Pacific Ocean

In: ibid.: 73-75

Strigileuxina concavelamellata illustris

Neubert, 1993

Family: Clausiliidae

From: Nordost-Türkei, Vilayet Trabzon, Tal des

Dogankent Cay 7 km vor der Mündung in

Schwarze Meer; Haselnussplantage In: <u>Archiv für Molluskenkunde</u> 122: 27-28

Strigileuxina carinata carinata Neubert, 1993

Family: Clausiliidae

From: NE-Pontus, Vilyet Trabzon

In: ibid.: 29-30

Strigileuxina carinata boniferae Neubert, 1993

Family: Clausiliidae

From: Nordost-Türkei, Vilayet Trabzon, an der

Strasse von Trabzon nach Gümüshane

In: ibid.: 30

Strumosa abanti alamellata Neubert, 1993

Family: Clausiliidae

From: TR, mittlerer Pontus, Ilgaz Geçidi

In: ibid.: 38-39

Megalobulimus elsae Falconieri, 1994

Family: Megalobulimidae

From: Espirito Santo State, Brazil In: World Shells #9: 108-111

Discus gomerensis Rähle, 1994

Family: Endodontidae From: Canary Islands In: <u>Basteria</u>, 58:11-14

Albinaria argynnis levipalatalis Gittenberger, 1994

Family: Clausiliidae

From: Limin Ierakos, eastern Peloponnese, Greece

In: ibid., 55-62

Albinaria argynnis profundella Gittenberger, 1994

Family: Clausiliidae

From: northeast of Leonidhion, eastern Peloponnese,

Greece In: ibid.

Albinaria discolor eureka Gittenberger, 1994

Family: Clausiliidae

From: Kurkula Mountain, west of Molai, eastern

Peloponnese, Greece

In: ibid.

Albinaria grisea akrocurta Gittenberger, 1994

Family: Clausiliidae

From: South Lakonia, eastern Peloponnese, Greece

In: ibid.

Euxinastra sumelae Neubert, 1993

Family Clausiliidae

From: Nordost-Türkei, Vilayet Trabzon, Kloster

Sumela S Maçka

In ibid.: 40-42

Albinaria zilchi Fauer, 1993

Family: Clausiliidae

From: Peloponnes, Argolithos, Didimon-Gebirge,

Didima

In: Archiv für Molluskunde 122: 49-61

Albinaria hohorsti neglecta Fauer, 1993

Family: Clausiliidae

From: Peloponnes, Provinz Argolithos, Nea Epidavros

In: ibid.

Albinaria hohorsti sibyllae Fauer, 1993

Family: Clausiliidae

From: Griechenland, Provinz Evritania, am Fluss

Tavropos, Kalkfelsen bei der Brücke

In: ibid.

Montenegrina fuchsi pallida Fauer, 1993

Family: Clausiliidae

From: Griechenland, Provinz Epurus, Strasse Konitsa

nach Molivdoskepastos

In: ibid.

Montenegrina janinensis crassilabris Fauer, 1993

Family: Clausiliidae

From: Griechenland, Provinz Epirus, oberhalb des

südöstlichen Friedhofs von Kria bei Perama

(NW des Joaninasees)

In: ibid.

Montenegrina janinensis jakupicensis Fauer, 1993

Family: Clausiliidae

From: Slaw. Makedonien, Jakupica-Gebirge, Nezilovo

In: ibid.

Idyla bicristata acuticosta Fauer, 1993

Family: Clausiliidae

From: Peloponnes, Provinz Argolithos, Prosimna

In: ibid.

Pholeoteras zilchi Subai, 1993

Family: Clausiliidae

From: Greece

In: Archiv für Molluskenkunde: 122: 63-69

Sciocochlea nordsiecki Subai, 1993

Family: Clausiliidae

From: Greece

In: ibid.

Leiostyla superba zilchi Subai, 1993

Family: Clausiliidae

From: Turkey

In: ibid.

Turanena cochlicopoides Gittenberger & Menkhorst,

Family: Enidae

1993

From: Turkey

In: Archiv für Molluskenkunde: 122: 71-87

Turanena conelongata Gittenberger & menkhorst, 1993

Family: Enidae

From: Turkey

In: ibid.

Turanena yusufelensis Gittenberger & Menkhorst, 1993

Family: Enidae

From: Turkey

In: ibid.

Turanena zilchi Gittenberger & Menkhorst, 1993

Family: Enidae

From: Turkey

In: ibid.

Thoanteus zilchi Hausdorf, 1993

Family: Buliminidae

From: Turkey

In: ibid.

Thoanteus corneus Hausdorf, 1993

Family: Buliminidae

From: Turkey

Toolie Turk

In: ibid.

Deroceras (Plathystimulus) juranum Wüthrich, 1993

Family: Agriolimacidae)
From: Switzerland

In: Archiv für Molluskenkunde 122: 123-131

Hemiphaedusa farooqi Auffenberg & Fakhri, 1995

Family: Clausiliidae From: Pakistan

In: Archiv für Molluskenkunde 124: 89-92

Nothoserrulina subterranea Németh & Szekeres, 1995

Family: Clausiliidae From: Turkey In: *ibid*. 124: 93-96

Serrulina (Dobatia) mariae Németh & Szekeres, 1995

Family: Clausiliidae From: Turkey In: *ibid*

Truncatellina velkovrhi Stamol, 1995

Family: Vertiginidae From: Croatia In: *ibid*. 124: 97-101

Truncatellina lussinensis Stamol, 1995

Family: Vertiginidae From: Croatia In: *ibid*.

Arion iratii Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: Pyrenees of Navarra, NE Iberian Peninsula

In: ibid.

Arion lizarrustii Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: Navarra, NE Iberian peninsula

In: ibid.

Arion molinae Garrido, Castillejo & Iglesias, 1995

Family: Arionidae

From: La Molina, Serra del Cadi, Catalonia

In: ibid.

In Of Sea and Shore, Vol. 14, Number 4 (Winter 1992) we featured, on the cover, some tiny land snails from the island of Borneo. They were strangley-shaped minute shells and recently more of the same family have been described. In Basteria (58:3-4, pp. 73-191) J.J. Vermeulen continues the research on the Family Diplommatinidae and describes as new the following:

Opisthostoma dihelicton, O. asyndeton, O. crassicolle, O. acolastron, O. semisolutum, O. sulcatum O. rotundum, O. auriforme, O. subconicum, O. gibbosum, O. simile, O. brachyacrum tatuense, O. delopterum, O.

anisopterum, O. dormani, O. obliquedentatum, O. inornatum, O. dipterum, O. brevituba, O. bihamulatum, O. transequatorialis, O. lissopleuron lissopleuron, O. lissopleuron bigibbum, O. perspectivum, O. heteropleuron, O. stellasubis, O. stenotoreton, O. lituus, O. tuba, O. goniostoma, O. wilfordi, O. cyrtopleuron, O. pyrgiscus, O. crassum, O.wallacei teinostoma, O. aethoderma, O. dancei, O. dancei dispersum, O. ptychodon, O. episomon and O. perglaber all Vermeulen, 1994. 65 black and white plates illustrate the article.

Formosana albiapex Chang & Ookubo, 1994

Family: Clausiliidae
From: Taiwan
In: Bulletin of Malacology, Republic of China,
18:1994. 5-11, several photos & line drawings

10.1754. 5-11, 55-14th process of

Hemiphaedusa odontochila clava Chang & Ookubo, Family: Clausiliidae 1994

From: Taiwan

In: ibid. 83-89, 2 photos, 4 line drawings

Truncatellina arboricola Tattersfield, 1995

Family: Vertiginidae

From: east side of Mount Kenya, Kenya

In: Journal of Conchology, Vol. 35, Part 3 (June

1995) 243-248, line drawing

Tegulaherpia celtica Caudwell, Jones & Killeen, 1995

Family: Lepidomeniidae (a solengastre)

From: Irish Sea

In: ibid., pp. 257-269, line drawings & photos

Eleven new species of chromodorid nudibranchs from New Caledonia are described by W.B. Rudman in Vol. 16, pages 1-43 of Molluscan Research (August 1995) in an article entitled "The Chromodorididae (Opisthobranchia: Mollusca) of the Indo-West Pacific: further species from New Caledonia and the Noumea romeri colour group". New species are: Cadlinella hirsuta Rudman, 1995; Glossodoris pullata Rudman, 1995; G. aeruginosa Rudman, 1995; G. aureola Rudman, 1995; Noumea verconiforma Rudman, 1995; Durvilledoris albofimbria Rudman, 1995; Hypselodoris punicea Rudman, 1995; H. lacteola Rudman, 1995; H. flavomarginata Rudman, 1995; H. koumacensis Rudman, 1995 and Thorunna montrouzieri Rudman, 1995.

Falcidens poias Scheltema, 1995

Family: Chaetodermatidae (an aplacophoran)
From: Rottnest Island, Western Australia
In: ibid., pp. 45-49, 3 text figs. (line drawings)

Pythia colmani de Frias Martins, 1995

Family: Ellobiidae

From: New Ireland, Papua New Guinea In: ibid., pp. 59-67, photos & line drawings

Fastosarion helenkingae B. Scott, 1995
Family: Heliciarionidae (a semi-slug*)
From: northern Queensland, Australia
In: ibid., pp. 69-80, map & line drawings

Fastosarion aquavitae B. Scott, 1995 Family: Helicarionidae (a semi-slug)

From: northern Queenssland

In: ibid. *semi-slugs have small fragile shells

Kalidos kosugei Falconieri, 1995

Family: Ariophantidae From: Madagascar

In: World Shells, #12, pp. 73-76, color photos

Asperitas ginoi Falconieri, 1995

Family: Ariophantidae From: Madagascar

In: ibid., pp. 90-92, color photographs

Prunum clarae Gonzales, 1994 FOSSIL

Family: Marginellidae

From: Tertiary of the Canary Islands In: <u>La Conchiglia</u> #273, pp. 45-46

Vespericola klamathicus Roth & Miller, 1995

Family: Polygyridae

From: Humboldt County, northern California

In: The Veliger, Vol. 38, No. 2, pg. 142 b&w photos

Formosana albiapex Chang & Ookubo, 1994

Family: Clausiliidae From: Taiwan

In: Bulletin of Malacology China, Vol. 18, pp. 5-10,

b&w photo

Hemiphaedusa odontochila clava Chang & Ookubo,

1994

Family: Calusiliidae From: Taiwan

In: ibid., pp. 83-89, b&w photographs

Xeromunda alticola Hausdorf, 1995

Family: Hygromiidae

From: Greece

In: Basteria 59: 25-28, b&w photograph

In this same issue of <u>Basteria</u>, W.J.M. Maassen describes 12 new species of the genus *Mastus* from Crete (Greece). They are: *Mastus gittenbergeri* Maassen, 1995; *M. butoti* Maassen, 1995; *M. sitiensis* Maassen, 1995; *M. itanosensis* Maassen, 1995; *M. ierapetrana* Maassen, 1995; *M. sphakiota* Maassen, 1995;

M. procax Maassen, 1995; M. hemmeni Maassen, 1995; M. violacea Maassen, 1995; M. riedeli Maassen, 1995; M. abundans Maassen, 1995 and M. subaii Maassen, 1995.

Megalobulimus mauricius Falconieri, 1995

Family: Megalobulimidae From: northeastern Brasil

In: World Shells #13, pp. 124-127, color photos

Okenia hispanica Valdés & Ortea, 1995

Family: Okeniidae From: Spain

In: The Veliger, 38(3), pp. 231-32, line drawings

Pachnodus (P.) niger subfuscus Gerlach, 1994

Family: Enidae

From: Praslin, Seychelles Islands

In: Journal of Conchology, 35(2) pp. 168, b&w photo

Pachnodus (P.) becketti Gerlach, 1994

Family: Enidae

From: Mahé, Seychelles Islands In: ibid., pp. 171-2, b&w photograph

Opisthorchophorus valvatoides Beriozkina & Starobogatov, 1995

Family: Bithyniidae

From: Saratov Region Russia

In: Ruthenica, 5(1) pp. 34-35, line drawings

Paraelona fausseki Beriozkina & Starobogatov, 1995

Family: Bithyniidae

From: Rostov Region, Russia In: ibid., pp. 35-36, line drawings

Paraelona milachevitchi Beriozkina & Starobogatov,

1995

Family: Bithyniidae

From: Kherson Region, Russia In: ibid., pp. 36-37, line drawings

Turanena inversa Schileyko & Moisseeva, 1995

Family: Enidae

From: mountains of Central Asia In: ibid., pp. 45-48, line drawings

Scleroderma latispiculata Ivanov, 1995

Class Aplacophora

From: Bismarck Archipelago (Pacific) In: ibid., pp. 73-75, line drawings

NEW JERSEY ADOPTS STATE SHELL

As of April 13, 1995 the State of New Jersey has had an official State Shell - *Busycon carica*, the Knobbed Whelk.

A Day in the Life of a Part-time Shell Dealer

Ross Mayhew

0800: Beep Beep Beep Click. Ok, Ok, I'm awake. Let's turn on the 8 o'clock news and see how many Bosnian piece-keepers (pun intended) are being kidnapped or starved out today ...

0820: "and the rain should ease up around ..." Rats! Slept through another newscast. Aaaaaaarrrgggh! Is it me, or are blankets getting harder to get out from under these days? Alright, what's on the books for today? Two massages, 2 "major" and 3 "minor" packages ... got to get that Of Sea and Shore article started ... should get a bit of study collection backlog work done ...

Perhaps I should introduce myself. In everyday life I'm a mild-mannered therapeutic massage practitioner not professionally trained, but effective nevertheless, at helping people who feel "bent out of shape", beat-up, or just plain out-of-joint(s), become a little less so. I use an technique employed once-upon-a-time by physiotherapists before someone got the idea that a machine spouting high-pitched sound waves would do a better job at assisting the healing process than could human hands guided by experience and perhaps a bit of intelligence ... we interrupt this diatribe to bring you the following article. // Fortunately, since my personal expenses are presently minimal (but that's another story ...), I can keep the pesky business of "earning a living" to a few hours a day, permitting other lives to surface friend and counsellor to strange and wonderful people (please don't ask!), usually unpaid molluscan taxonomist and reference collection curator, marathon letter writer and, yes, the shadow - reality of the part-time shell dealer [Doo doo Doo doo, Doo doo Doo doo ...]

Now, veteran Of Sea and Shore readers will recall that me labors in the finding/trading/buying/selling seashell business, are a fund-raising project for my church's development and relief agency. In practice, this non-profit arrangement has some advantages and some drawbacks. On the "+" side, people tend to be a bit more patient with my errors and relative inexperience with tropical molluscs, and many are quite kind indeed! The main downside is a chronic shortage of capital:

most dealers can, at least periodically, plough much of their profits back into the business, building up stock by substantial purchases, thereby minimizing the necessity for a large amount of socially-fulfilling, but very time-consuming (and occasionally risky) process of trading (but that, too, is another article!). Also, loose capital can be used to take profitable excursions to far-away tropical paradises (do I sound just a teensy bit envious?) where \$10,000 USD in cold, hard cash can facilitate remarkable bargains, even from suppliers all-too-aware of the retail value of their wares!

Enough prologue! This article is really intended to scare-off potential competition by telling the people about the frustrations and plain old-fashioned work involved in shell dealing. However, it will probably back-fire, because, despite the work, if you like (a) making friends, (b) communicating with interesting people in all corners of the globe, often in various incarnations of broken English (I've never encountered a "dull" or boring shell collector!) and/or handling, admiring, identifying, etc a wider variety of shells than you could ever afford, then shell-dealing can be a <u>lot</u> of fun. Forward ...

1030: First satisfied customer gone. Let's take a look at the old "to do" list. #29: Fax Mr P re a year and a half old trade (I never give up!). Mr. P is a kind dealer who makes (so I'm told), a fair piece of change in the realm of commercial shells, and travels the specimen side of the street mainly as a hobby. If you're seeking BIG BUCKS, commercial shells can be vastly more profitable than specimen shells: think hard. How many houses have you surveyed which didn't contain at least one shell or shell-remnant of the decorative persuasion? The market is truly ginormous! ("giant" + "enormous") Of course, in order to compete in the "attractive objects (shell-based or otherwise), knick-knacks, souvenirs and brick-a-brack" business, it helps to have a warehouse at least the size of a Canadian football field (not everything is bigger in Texas!), and enough spare capital to purchase containers-full of shells and/or coralreef pieces: the proverbial "economies of scale" are a definite asset. That's one of the beauties of specimen shells - you can run a half-decent operation on a shoestring and out of a single, small room (trust me on this one!) Anyway, as I said, Mr P is very kind, but he also runs a shell shop, wholesale specimen shell operation, and who knows what else, so finding time for small-time trades is just not that easy. [To his credit, he came through with a truly splendid batch of shells the following week!]

1040: Resisted the temptation to pull a Nebuckanezzar and "babble-on" forever, so can proceed to #43: parcel to Mr H. Now, Mr H is a true gem (as opposed to some other "gems" in the shell world ... but let's not get critical this early in the article!): he sends advances of \$1,000 USD at a time, which for our small-scale operation, falls into the category of Major Money. In return, he asks for hard-to-obtain species and named forms and varieties of every mollusc-type shell: chitons unionids, tree snails to tiny-but-fascinating microshells, Buccinids to bring-your-own bivalves [private; okay, sorry!]. Presently he's hunting Turridae big-time, and I've just received some small turrids back from an expert who is identifying a great batch of Philippine Islands Turridae a friend received from Mactan Island, in return for some Nova Scotia species and some of the extra specimens for his research. He's sent an amazingly generous amount of extra material, including five bonefide really and truly undescribed species of the graceful genus Inquisitor. Mr H will be pleased! The one "beef" I have about this wonderful customer is that, because of his many trips all over the world, it is absolutely impossible to predict, let alone plan, on his periodic transfers of good old-fashioned USD. A month ago one of his beautifully-written (I admire neat, or even ledgeable) letters, in which he announced that he'd instructed his bank to send \$1,500 down the pipeline -- a way of rescuing an abysmally slow summer, cashwise-speaking. Alas, it failed to materialize - an apparent victim of the chaotic international so-called "system". Suffice it to say for now, that although if you want to, say, transfer \$10 million to a village in Lower Slobovia on a Sunday morning, no problemo - takes about five minutes on a slow day. However, just try transferring anything less than \$10,000 to a typical bank in Germany (or viceversa) in the middle of the week. Unless you have mondo patience it is best to follow the advice of the voice of the turtles and "Don't try this at home!". Sometimes it takes three days. Sometimes three weeks. Or four. Or five. Sometimes, your transfer ends up as just another roadkill on the old information superhighway! // Might as well throw in some of the great "odd ball" species one of my "top three" best suppliers sent me last week. He slogs through mounds of fishy innards from critters which feed as deeply as 400 fathoms (ie, 2,400 feet!, or 731 meters for all ye scurvy land-lubbers who know not what a "fathom" may

be), The precious findings include all sorts of little shells that virtually nobody else ever gets. These sell well to "scientific minded" customers, and to people like Mr H who are every dealer's dream: "omnivores" who will purchase nearly anything they don't already have. // Ok, now for the data-slips: the most time-consuming part of preparing most packages, especially when I'm packing self-collected lots, or those from the supplier just praised. People who purchase "odd ball" species, which are not necessarily big, brightly-colored, or shiny, but are scientifically of high interest, like their data as detailed and precise as they can get, as opposed to the purely aesthetic, or as they are sometimes despairingly called, the "Pretty Shell people" [no offense meant! money for a "pretty shell" is just as welcome as any, and a lot easier to earn!], are often satisfied with "Conus over-pricium form dubiosa Petrarch, 1994. Martinique", as opposed to exact latitude and longitude, sediment type, depth, method and date of collection, and often the name of the vessel or other extras. Trouble is, it's a lot easier to just write "Martinique".

1256: Wow! (1) Digging up the right specimens, (2) writing out those data slips, (3) writing the invoice, (4) the cover letter (which always takes longer than planned - I like to "chat" and brevity is not one of my strong points!), (5) the outside and inside addresses, (6) customs forms, and (7) actually packing the shells, to survive being sat on by an elephant, or whatever our blessed postal service might dream up "just for fun", takes TIME. // Ok - #73 (Alright - I'm exaggerating a bit - it just feels like my "to do" lists are a few dozen items too long!) - a teensy package to Mr R - my #1 Muricidae customer (as an aside, Muricidae is a tough family to sell - specimens \underline{I} think are attractive or otherwise desirable, can sit on lists for years! Sometimes I feel tempted to put "free to a good home" beside a few of these items!) Oh, yes - that really oddcolored Favartia. Ethics time: do I offer it to Mr R by sending it "on spec", or do I save it for the lady from Texas who called last week looking for the same sort of thing Mr R likes? Tough one. But, it's good business and good ethics to keep your part of agreements, explicit or implied, as well as keeping your best customers happy! So, Mr R gets it - something he doesn't want is bound to come up for Ms Texas (when I can't remember names, I just substitute the place where they live. Since people names are just about my worst thing, my action-lists look more like gazetteers!). Crunch. I hate the sound shells make while in the process of being crushed. The Compendium of Seashells is a First-class identification tool, but not a good thing to drop on muricids! Sorry, Mr R (that's one thing cowries have going for them - they survive abuse rather well!)

1330: Lunch? Forget it. I eat too much anyway. (Suffice it to say gravitationally-challenged [isn't PC language fun!] I'm not - I can eat all day and still look like a bean-pole!). Let's try the BIG one - #11: 31 Nova Scotia lots for Mr F, twenty-two of them are \$5 lots. I don't know how some dealers can offer shells for \$1 or \$2 - it takes just as long to sell a \$20 or a \$2,000 shell (dream on - those I don't get!) as a \$2 item - less time usually since some variant of Murphy's Law ensures that the cheap shells nearly always have the most data. \$2 shells are the fastest way to turn "part time" into "overtime"! I try to draw the line at \$5, combining two to several specimens in "lots" for common species (showing variation where possible) to give people their money's worth.

1625: Done. Yes, Virginia, it can indeed take three hours to construct a complicated package. One dealer told me he is so organized and efficient that he can knock off such monsters in 1/2-hour. No wonder he can juggle 10 times as many species as I can! A word of free advice to would-be shell dealers (one that's actually worth more than it costs!): "A stitch in time" can save you from coming unravelled later on. Onward: Just enough time to make the 5 p.m. post and reach my other customer - an old neck injury the doctors have given up on - good thing he lives near by: cycling is certainly a lot more fun that city-driving, but can be a bit slow when the miles start to add up! So, stuff the packages into knapsack and we're off. Don't forget the fax! (Sometimes I send a fax all by itself - just so I can say to the postal lady "just the fax ma'am".)

1646: I have a real talent for landing on the post office scene with 10 minutes to go before closing and with three packages to register. If I didn't pass pretty shells around to the postal people, my natural charm and wit might not suffice to earn me "bend over backwards"type service (Ok - so they <u>definitely</u> wouldn't suffice!). Check the P.O. box: anyone sending me money? "Dear Mr. Mayhew, you may have already won \$10,000,000." Not quite what I had in mind. No loot today. Perhaps I should up the discount for pre-payment. Oh well, in 31/2+ years I've only been shafted three times: one American, one German and one Japanese derelict account - a nicely multicultural trio. I can't really complain, although there are always a few customers who require a gentle reminder ... A package! From "A" inn the good old Philippines - the country with the most shell surprises per square mile than any other almost-English-speaking place on the planet. It's main problem is its proximity to Japan. Now, Japan is the "wild card" of the shell world. Conchology (ie, shell collecting in Greek) is highly venerated there as a hobby, passion, pastime and avocation. So, many rich businessmen get into the act. Oddly enough, most of them dislike buying from overseas dealers (except possibly ones with Pleurotomaria to spare!), so cracking the market is not

so easy. Anyway, these rich collectors are always popping down to Punta Engaño (the Alice's Restaurant of Philippine shell markets - if your wallet is thick enough, you can get anything you want!) and other shell-bearing hot spots. It must be against their creed to bargain to shells - they come, they see, they reach into their money-belts - they seem to positively enjoy overpaying for molluscan exoskeletons. "500,000 pesos for this pretty Cypraea valentia [they turn a nice orange color when they get ripe - honest!]." "Fine. How many yen is that? Would you take this cute blue diamond instead? I hope you will." Half the shell dealers in the world try to visit the Philippines when the Japanese are absent. So, very little of "the good stuff" gets sold via mail order, especially at wholesale! In this context "A" is a real treasure. Yes, he often asks a bit more than the usual 50% of fair retail, but he comes through with the goodies. Good. This parcel doesn't feel over-stuffed. His first mail order effort was a little box with about 35 shells which Mr P would have used a banana crate to ship; surprisingly little damage, but the potential for a major smash-up was certainly there. No time to rip it open now, so it's off to the bank.

1750: "10 minutes to closing time - you're early, Ross!" Well, you deserve a break now and then, and I've got a lot to plow through today. I got this weird-looking USD draft from Spain last week - will you take it? "Um let me ask the manager. Ok, he doesn't know quite what it is either, but since it's you we'll take it this time." Thank you. Also, these two little personal cheques (that's the Canadian and European way of spelling those wonderful little pieces of paper that bank tellers sometimes fork over impersonal cash for). Put all three in my US account, then give me a USD money order for X, a US bank draft for Y, dump anything left over into my Canadian account, then give me Q please. "One thing at a time, Mr Mayhew. Do you remember if a US money order taken from a US account is a blue form or a green one?" [Remember this is a SMALL branch office in a little suburb of the capital of gold ole New Scotland - they just don't do that many fancy USD transactions per week. Sometimes it takes three tellers to figure out what color form to use, and which computer codes.] Green. Source code 703. "I don't think you're supposed to use a draft for amounts under \$5,000". I know, but not all countries recognize Canada as a word, let alone a valid concept in international banking. Money orders they send back for collection while my poor supplier waits. Drafts, for some reason, they don't. "Well, since it's you, ok. Thelma, Louise - can you help me with this stupid thing?"

1821: At last. Nine minutes to crank this thing over to Purcell's Cove.

2015: Mission accomplished, and just enough time for a quick dip in my favorite ultra-clean, spring-fed lake (living in the sticks does have <u>some</u> advantages!). time for a bite, then back to the rat race ...

2150: A bit more than a bite, I think. Well, I lost two pounds last week, so a tad more grub won't hurt much. Those three phone calls didn't help any either. Let's open A's package ... Tubular, man! Far out fer shur (yes, I know val-speak. I don't do gangsta tho). What's this? A Cypraea frisbeensis (and they said it wouldn't fly!) Never heard of it. Perhaps Ray's Body Shop lists it. I'll phone up Mrs S who has paid \$50 for his scholarly journal which introduces the world to all of his latest taxonomic discoveries, then conveniently offers them for sale - on the monthly installment plan. if you can't afford two week's salary all at once, for the "subspecies or form of the week". Call me a skeptic, but it just seems like cowries tend to attract/receive/ac-quire a lot more names than equally variable, say, Nassarius or Telescopium. Could the unaccountable fact that collectors will shell out mega-loot for anything that even remotely resembles a ceramic Easter-egg, have anything to do with this curious taxonomic imbalance?

2213: Burring ... you're calling from Thailand? You're looking for West Atlantic Cypraea? How about a nice Epitonium greenlandicum (F+ w/o!)? Oh, you only collect cowries. Well, I'll keep my eyes peeled next time I go out on the trawlers. Just kidding! I'll ask my Caribbean contacts to look out for anything unusual along the Cypraea line. Do you have a more general "want list" you could send me? Well, thanks for calling. I'll do my best. Click. Great! Now all I need is a Caribbean contact who will actually send me shells more often than once a year! Why don't I just go down to the friendly neighborhood arts & crafts supplier, pick up some blank ceramic eggs, a few colors of enamel paints and brush up on my Latin endings?

2245: Time to run up my own phone bill some. (After 10:00 p.m. our phone company gives a 60% discount. Good show as none of our customers live in my timezone! Still, even at \$0.23 per minute to California it adds up when multiplied by a few hundred!). Hello Mr S. "Hello, Ross! What do you have for me this time?" How about a great Conus macdonaldensis a kind man in Germany sent me? "You know, I'm not entirely convinced it's a valid species. It's only found on one or two sea-mounts near Haiti, and doesn't look much different from Conus daucus to me. Personally, I've always regarded it as a sort of 'Mcspecies'." Well, you may be right; just thought I'd ask. Hello, Mrs L. How would you like a really good Conus macdonaldensis?

2325: A sale at last! Good way to end the business day. Too late to start a letter to Herr K (my very first shell

contact, now a friend like no other, our correspondence is, to put it mildly, voluminous!) Why don't I just dive into that *Of Sea and Shore* article?

Splash.

0300: Looks like I might sleep through another newscast this morning

The Most Recent Report on "Octopus giganteus"

An article in <u>Biological Bulletin</u> (188: 219-230; April, 1995) entitles "On the Giant Octopus (Octopus giganteus) and the Bermuda Blob: Homage to A.E. Verrill" by Sidney K. Pierce, Gerald N. Smith, Jr., Timothy K. Maugel, and Eugenie Clark will interest our readers who have been following the articles we've published over the years by Gary Mangiacopra.

The following "Abstract" sums up the article: "We have obtained samples of two large carcasses. One washed up on a beach in St. Augustine, Florida, in 1896 and has been occasionally attributed to a species of gigantic octopus (Octopus giganteus). The other carcass washed up on Bermuda in 1988 and has remained unidentified, although its gross morphology, except for a much smaller total mass, was remarkably similar to the Florida carcass. We have subjected both samples to electron microscopic and biochemical analyses. Our results show that both carcasses are masses of virtually pure collagen. Furthermore, neither sample has the biochemical characteristics of invertebrate collagen, nor the collagen fiber arrangement of octopus mantle. Instead, they are large pieces of vertebrate skin, the Bermuda sample from a poikilotherm and the Florida sample from a huge homiotherm. We conclude that there is no evidence to support the existence of Octopus giganteus."

One of the last paragraphs of the article is also of interest. "Altogether, and with profound sadness at ruining a favorite legend, we find no basis for the existence of *Octopus giganteus*. We concur with Verrill's (1897e) and Lucas' (1897) final words on the matter, that the St. Augustine sea monster was "the remains of a whale, likely the entire skin [blubber layer] ... nothing more or less."

Thank you to Dr. Kent Trego and others for calling this article to your Editor's attention.

ON BEING ALONE

Carol Skoglund

The ugly metal shack sleeps on the shore of a Mexican bay. Its once mauve paint has long since changed to a dirty pink with long streaks made by years of ocean moisture creeping down it's sides. It is hot. August on the Sonoran desert is hot, even in the hour before dawn. On the beach, on the patio, and in the shack people are sleeping the good tired sleep that comes after a day spent hiking the beaches, swimming and skin diving, fishing in the surf, and swimming again. Some wear pajamas, some swim trunks, some are fully clothed. College professor, plumber, high school girls, all sleep in the spot and clothes most comfortable to them. Teen age boys sleep on top of bed rolls right on the sand, next to cots pulled out under the sky for star gazers.

The full moon sinks in the west. Someone stirs, sits up, and sleepily checks for scorpions before shoving feet into canvas shoes still coated with yesterday's sand and salt. The stillness, as the sky lightens, makes the day feel like the first one ever created. The tide is ebbing to extreme low. A scavaging coyote crosses the mud flat in search of fish left by the receding water. You wonder if it's the same one whose foot prints circled your cot while you slept. In the minutes before sunrise the mosquitoes have gone, and the flies have not yet awakened.

A trip into the shack makes the scrunch of sand against concrete floor sound as loud as an avalanche. You pump up the Coleman stove, put on the coffee water. Someone inside stirs to ask drowsily if its time for breakfast, then goes back to sleep. Cool water on dry sun-burned skin, a lick and a promise with a comb through sand filled hair and the coffee is ready. Stirring the spoon quietly in the thick glass mug is impossible. You wonder why the others don't waken when the sound seems so loud to you. You are glad they sleep.

On the beach again, sitting on the edge of a cot, you watch the change of pattern as the first pink rays begin to appear. Across the bay, Black Mountain, five flat miles away across the now almost empty bay bottom, seems to be closer than ever. Mirage changes the long high dune line into the depths of the Grand Canyon, full of buttes and spires and lovely colors. An inland lake appears where you know only sand blows.

Another look at the water shows it is time to leave if you want to be at the Murex Beds in the middle of the bay at the exact instant of extreme low water. A grapefruit thrown into the bottom of the collecting

bucket will be a lifesaver on the long meander for specimens after the sun rises. Sun glasses? Hat? Don't forget to leave a note asking to be picked up at Black Mountain later. Vámanos!

Crossing the few feet of sandy beach, you notice that last night's high tide brought the water within two feet of the still sleeping boys. As you reach the bay bottom you wonder if one of these same grains of Colorado dirt has arrived since your last trip into the canyon. Could this be possible? The first puddle feels cool and refreshing to your sand scraped feet. With each step the water squirts out of the hole in the tow of the old shoe with a squishey sound.

The morning sea bids busy on the bay bottom resent the intrusion and tell you so. As you stride along at a rapid ground-covering pace trying to eat up the two miles between you and the good collection area, the sun blazes over the horizon.

Did one of Man's ancestor's fly? Will he learn levitation in some future time? Perhaps it's just the soaring of the soul.

*Phoenix, Arizona

A SAD ANNOUNCEMENT

Because of a lack of sufficient subscribers, Editor Jiri Zidek has announced the discontinuation of <u>The Cowry N.S.</u>. It is indeed sad that the devotees of one of the most (if not <u>the most</u>) popular groups of molluscs would not support the efforts to establish a journal devoted to their favorite shells.

MORE SAD NEWS

(quoting a letter received)

Dear Mr. Rice

I learnt that you are planning a shelling tour to Costa Rica next February. I am afraid that I have bad news for the people that want to visit Costa Rica for collecting specimens.

As you may know Costa Rica is a leader country in conservation matters, the conservation movement in Costa Rica has about 170 years of history. The experience achieved in all those years has lead our government to create a very strong Wildlife law, quite uncommon in other undeveloped countries.

Continued next page, column one

Continued from previous page

I will briefly explain this law,

1. All specimens (plants, animals, fungi, etc) are considered a national heritage.

2. Collecting in protected areas or outside of them is regulated.

3. It is completely forbidden to collect endangered species.

4. Scientific collection is allowed after you receive a collecting permit.

5. To have a collecting permit you have to submit a research project to our Wildlife department.

6. For taking specimens outside from Costa Rica you need an export permit.

7. Duplicates of the specimens collected should be given to one of our national museums.

8. If you want to collect in a private area you need the owner's permit besides the wildlife permit.

The unauthorized commercialization of wild species has strong penalties. Fines, loss of specimens and associated property, and even jail are applied to people who do not follow the wildlife law. I am not saying that Costa Rica is unfriendly to research. On the contrary, Costa Rica is a friend of scientists, researchers, environmental education and tourist. Costa Rica only wants to protect its resources in order to allow people to enjoy the wildlife benefits forever.

I can send more details and the addresses to which the applications should be sent to you or anyone interested in collecting in Costa Rica. If there is any question or if you or anyone wants to read Costa Rica's wildlife law I can send a copy of it (in Spanish).

I will appreciate if you publish this letter in your magazine. I am really sorry for any disappointment that this news may cause, but certainly you will understand that the enforcement of this law will benefit both nature and people.

Sincerely,
Zaidett Barrientos
Curator, Malacology Department
UNBio (Biodiversity National Institute)
Apartado Postal 22-3100 Santo Domingo
Heredia, Costa Rica
(Teléfono Central [506] 236-7690 - Fax [506] 236-2816)

Christmas Is Coming!

Why not send a shell friend a gift subscription to *Of Sea and Shore?* We'll be glad to send a card telling of your gift.

Continued from page 132

adult clam is closed by a calcareous covering (callum).

What follows is a rough outline of the type of shelly plates recorded for genera in the Family Pholadidae, Order Myoida. For your information, local species names are listed for each genus.

Barnea (B. truncata). Short finger-like apophyses, simple calcareous lanceolate protoplax

Cyrtopleura (C. costata). Large spoon-shaped apophyses. Chitinous T-shaped protoplax. Calcareous mesoplax of 1 or 2 pieces.

Pholas (P. campechiensis). Short apophyses. Rectangular calcareous protoplax which is longitudinally divided. Calcareous butterfly-shaped mesoplax. Thin, long and narrow metaplax.

Zirfaea (Z. crispata). Solid, narrow and strongly curved apophyses. Small triangular calcareous mesoplax.

Martesia (M. striata, M. cuniformis). Long thin and fragile apophyses. Internal oblique ridge that becomes a condyle at the ventral margin. Mesoplax circular with irregular growth lines (M. striata), or heart-shaped with strong growth lines (M. cuneiformis). Metaplax and hypoplax long (and divided posteriorly in cuniformis).

Diplothyra (D. smithi). Mesoplax is oblong and extends anteriorly to cover the anterior muscle in adults. Metaplex and hyoplax pointed anteriorly and forked posteriorly. Dorsal callum extends back or either side of the mesoplax.

Jouannetia (*J. quillingi*). No apophyses. Siphonoplax on right valve only, with small spine-like projections.

Xylophaga (X. atlantica). No apophyses. Large chondrophore in left valve. No callum. Triangular divided mesoplax located ust anterior to the umbones.

Figure Text

(See next page)

- A. The basic Pholadidae design, showing all the possible accessory plates: a. protoplax; b. mesoplax; c. metaplax; d. hypoplax; e. siphonoplax.
- B. The Fallen Angelwing, *Barnea truncata*, accessory plates: a. simple calcareous lanceolate protoplax, top and side views.
- C. True Angelwing, *Cyrtopleura costata*, accessory plates: a. calcareous mesoplax; b. chitinous T-shaped protoplax.

A Tiger Cowrie With An Inscription

Dr. Jaromir Nemec

(Hradec Králové, Czech Republic)

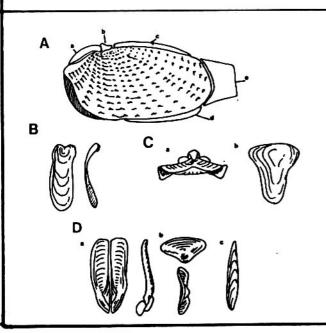


While the Natural History Museum here in Hradec Králové is a small one, it does have quite a large collection of shells. The collection includes about 3,500 species (23,000 specimens) of sea and land shells, as well as numerous species of freshwater shells and shells from our country.

When organizing and cataloguing this collection, I found one curiosity. A Cypraea tigris (Tiger Cowry) on

which is engraved a Jewish-German inscription. The Jewish Museum, in Prague, translated the inscription as follows: "Good New Year" plus era 669 - corresponding to our year of 1909. The German portion of the inscription "Wünscht dein Ella" means "wishes you Ella". So the inscription reads "Good new Year wishes your Ella, 1909".

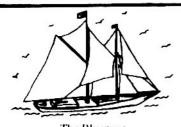
This is a very old curiosity and, I feel, worth noting.





- D. False Angelwing, *Pholas campechiensis*, accessory plates: a. rectangular calcareous longitudinally divided protoplax, top and side views; b. calcareous mesoplax, top and side views; c. thin, long and narrow metaplax.
- E. Striate Martesia, *Martesia striata*, accessory plates: a. irregularly sculptured mesoplax; b. long narrow anteriorly pointed metaplax; c. long narrow anteriorly pointed hypoplax.

*The <u>Conch Courier</u> is published by the North Texas Conchological Society. Editors: Phil Cade & June Huie; 929 Canadian Circle; Grand Prairie, TX 75050



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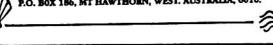
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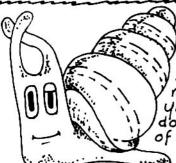
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