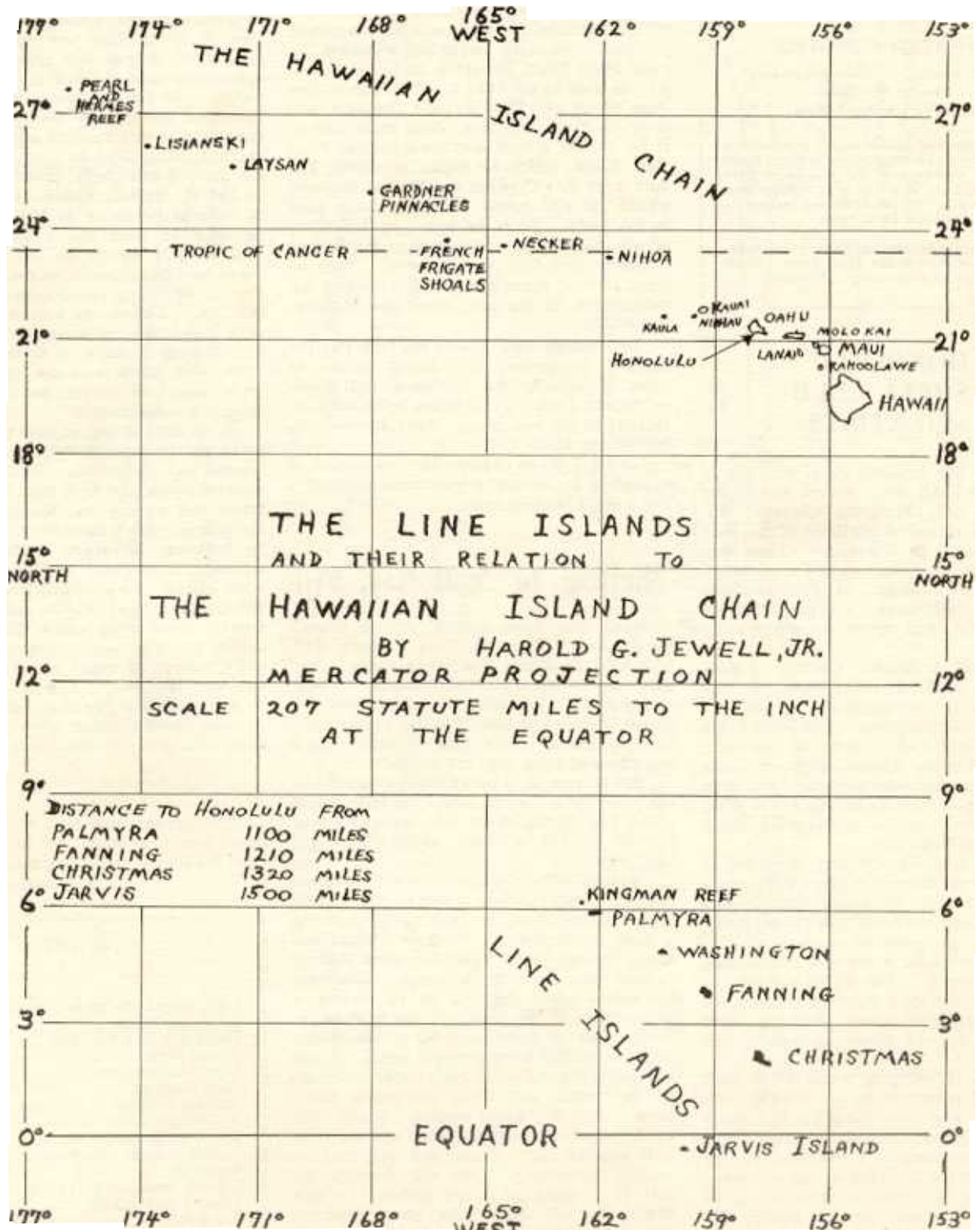


# Hawaiian Shell News



## Hawaiian Shell News

Official Publication of the  
Hawaiian Malacological Society  
2777 Kalakaua Avenue, Honolulu 15, Hawaii, U.S.A.

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Items of interest to shell collectors are solicited for publication in the Shell News. Deadline 20th of month preceding publication.

## LUCKY HONOLULU LUCKY SHELL CLUB LUCKY SCIENTISTS

Three of the malacological wizards of the U. S. A., all well known here, and in the past not infrequent visitors, will spend all or sizeable portions of the 1961 vacation period in Honolulu. They are:

Dr. Alan J. Kohn, now an assistant Professor of Zoology, at Florida State University, Tallahassee, Florida, with his wife and child, will spend the entire summer here.

Dr. Harald A. Rehder, Curator of Mollusks in the U. S. National Museum, Washington, D. C., accompanied by his wife and a son and daughter, will spend the months of July and August, in Honolulu.

Dr. R. Tucker Abbott, Pilsbry Chair of Malacology, Academy of Natural Sciences of Philadelphia, accompanied by his wife, will spend three weeks in Honolulu, from August 27th to Sept. 7th.

And now may we add that the order in which the three learned doctors were mentioned is based on the length of their stay in Honolulu, and was not dictated by personal preference, age, year of graduation, size of family, scientific know-how or standing in the profession. And while summer is usually regarded as a vacation period, you can put a question mark after the word vacation as far as these gentlemen are concerned.

Dr. Kohn is bringing some of his work with him and some will be provided by local collectors. For one thing he will study the *Conus eugrammatus-acuteangulus* problem. Is *eugrammatus* a synonym or are there two species included in this complex? He has asked the cooperation of any local collector who has specimens to confer with him. Also he will be called upon to defend his position that *Conus capitaneus* is found

in Hawaii. Most local collectors say they are all juveniles of *Conus sumatrensis*, as the local form of *Conus vexillum* is called. No one has ever found an adult specimen. They all grow up to be *sumatrensis*. Another problem; if he can be induced to spend some time on it, is whether *Conus lividus* with a red animal is *Conus sanguinolentus* Quoy & Gaimard. Mrs. Harrison kept a so-called *sanguinolentus* alive in her aquarium for several weeks. The red gradually changed to black while the animal was apparently alive and healthy, and when it died it was a black animal *lividus*. No microscopic examination of the soft parts of the two has been made that we are aware of.

Dr. Rehder really has a busy summer planned. The newly organized National Capitol Shell Club, of which he is president, will be host to the 1961 A. M. U. convention June 20 to 24. The Pacific Division will meet at Santa Barbara, June 28 to July 1, if he should attend, and the Hawaiian Shell Fair dates, which he hopes to attend, are July 1 to 9. Then to the Bishop Museum where he will spend the rest of his time in Honolulu. First he plans an inventory of all the various collections of the Bishop Museum, and the area covered. Then as time allows, classifying and arranging the collections in the new cases the Museum has added.

Dr. Abbott will take in the 10th Pacific Science Congress, and being editor in chief of Indo-Pacific Mollusca, will check on Harold Jewell's collection from the Line Islands to see how many, if any, new *Strombus* he can find.

And all three of them are not averse to accepting an invitation from local collectors for a shell hunting trip.

## Shelling In Nadi Bay, Fiji

Have you ever shelled sitting down? A. Jennings, Box 183, Nadi Airport, Fiji tells how it's done. You first got acquainted with him in the Feb. HSN, and he says by a result of his offer to trade shells for classification and identification has brought him so many offers that "I really don't know how to cope with the inflow".

But he seems to be an observant collector, and in a recent letter he tells about collecting sitting down, which may or may not be typical of other areas than Nadi Bay, Fiji.

It must be an area covered with seaweed with a sandy bottom covered by a soft layer of silt from an inch to an inch and a half in thickness. Sheltered bays, and inlets having fresh water streams feeding in are the most likely areas. Low tide when not more than 12 to 15 inches of water covers the area is the best time. Some sort of foot covering is necessary because of the ever present pinna or pen shells. Sit down, slowly, also because of the pinna, and when you move, move slowly for the same reason. Pass your hands slowly through the weed and the first half inch of silt. There you will find the small *strombus*. Then dig through the silt to a depth of 1-1/2 inches. At this depth you will find *bulia*, many bivalves and sometimes a cone or an olive. At

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A live *Strombus hawaiiensis* Pilsbry was collected last month by Reggie Gage and Lockwood Albright, a visiting collector from Encino, California. The shell was collected in water less than knee deep in sand and rubble close to the shore line on a beach on northern Oahu, which Reggie refuses to name specifically until he has searched the surrounding area for more like it. The find was made following a period of storm and high water, which apparently had washed it in from deeper water. So far as known this is the first recorded instance of the finding of a live specimen of this species since the HSN first started publication in 1952. The shell and the animal still in it, have been forwarded to Dr. R. Tucker Abbott, at the Academy of Natural Sciences at Philadelphia. The decision to send the shell to Dr. Abbott was largely based on his discussion of *Strombus hawaiiensis* in the issue of Indo-Pacific Mollusca recently devoted to *Strombus*. In this study, he placed *S. hawaiiensis* with *S. iredalei*, as subspecies of *S. vomer*. His closing remark on *S. hawaiiensis* was "The soft parts have not been examined". This need no longer be true thanks to Reggie's contribution.

It is interesting to note that Dr. Abbott is of the opinion that *S. vomer* Roding is headed for extinction. He bases this observation on the fact that it is currently found but rarely in Okinawa and in New Caledonia, with a stretch of over 3000 miles in between in which it does not occur although it is found in fossil state in this 3000 miles. He also observes that the two subspecies, *hawaiiensis* and *iredalei* resemble each other more than they do the parent species *vomer*, although geographically *vomer* is found in territory located between the two. It will be interesting to see what changes if any are made in the present classification after the soft parts of *hawaiiensis* are examined.

Specimens were few, but what big ones they were, seemed to be the rule for Cliff Weaver's collecting this winter. Dur-

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**SHELL FAIR PREPARATIONS  
SHIFT INTO HIGH GEAR**

At a meeting called for that purpose, some thirty-odd members of the Hawaiian Malacological Society met Wednesday evening March 15, to listen to progress reports of the Fair Committees, and approved a number of decisions, where necessary.

The meeting was an enthusiastic one. The committee reports were listened to with interest, discussed informatively, amended sometimes, and in the end unanimously approved. Almost everyone expressed themselves on one subject or another, it was clearly evident that those present came to the meeting to boost the shell fair project, and were willing to do what they could do to help.

The committee on exhibits and awards reported that there would be five classes into which the exhibits would be divided. 1) Marine shells from Hawaii. 2) Marine shells from restricted areas other than Hawaii. 3) Worldwide marine shells. 4) Live shell exhibits. and 5) miscellaneous exhibits. There will be various sections, five in most cases, under each of the five classes. In the miscellaneous class will be included land shells, educational exhibits and shell craft. These classes relate only to exhibits in competition for the awards, but other exhibits are also solicited. The complete list with detailed explanatory letter will be mailed to every member in the Hawaiian area by April 1st.

The committee said they left out the "largest shell" competition until the membership voted on it. And the membership voted to retain that feature. This will consist of an award for the largest specimen shown in any of the five following: Charonia tritonica, Cassis cornuta, Conus leopardus, Cypraea tigris and Terebra maculata.

Judges tentatively decided upon: Dr. Alison Kay, Honolulu, Dr. Harald A. Rehder, Washington, D.C., Dr. Alan J. Kohn, Tallahassee, Florida.

Admission fees were decided on as follows: general admission adults, 50 cents; teenagers, juveniles, (some discussion on this), 25 cents; children (ambulatory) 10 cents; groups, school classes with teacher, scouts, other organizations with leader, 10 cents each. Season tickets, good for one admission any time \$1.00.

A location for the Fair has not been definitely decided on as yet. The Ala Wai Club House, where two of the last three fairs have been held, has been reserved and it may be held there but also under consideration with the final details to be worked out yet, is the Ala Moana Shopping Center, and also the exhibit rooms at the U. S. Armed Services Recreation Center at Fort DeRussy.

Sales of shells will be a prominent feature. All shells must be donated. There will be no sales on commission this year. All prices will be plainly marked, and the booth will be staffed at all times that the fair is open. The Society's booklet "Helpful Hints for Shell Collectors" will also be available.

On the subject of finances it was pointed out by Chairman Tom Shields that the



From Hungary, and in English, the following has been received: "I should be very glad to exchange shells with you; I am especially interested in the land shells of your country, and I could offer you Hungarian species in exchange. I send only identified material, and I would beg you to do the same. (Signed) Agocsy, Keeper of the Malacological Collection, Hungarian Natural History Museum, Budapest VIII, Baross. u. 13, Hungary". Mr. Agocsy also enclosed a reprint of an article of which he and T. Pocs are joint authors entitled Data on the Mollusk Fauna of Hungary. You may be interested in the opening remarks: "The Mollusk Collection of the Hungarian Natural History Museum was wholly annihilated in 1956. The new collection, brought together since then, is based partly on purchases partly on collectings. In the course of the following two years, we have visited several home areas and of the results of our collecting we submit herewith those data which originate from hitherto unknown localities. The destroyed collection was tenfold the size of the present one. . . . The present collection presents a faunistical picture of preponderantly the present area of Hungary Accordingly we already can dispose of shells and data from within our borders of forty more localities than was the case with the old collection". Then follows several pages of details of locations, names of shells whether new or not, etc.

\* \* \* \* \*

We don't know whether we can help this member or not. It will depend on whether the right person sees it, or not. Mrs. Harvey Bell, 615 West Alturas St., Tucson, Arizona writes "I would like to correspond with some one living in the Panama Canal zone, and learn about shelling there as we hope to visit and gather shells from the area."

\* \* \* \* \*

This will probably be new to most of you. Mrs. C. M. Ackermann, "Dunblane", Firth Road, Rondebosch, Cape Town, South Africa writes "Would you be interested in exchanging sea shells? I have some very rare trawled specimens, some not so rare and the commonest ones. Our limpets are big and beautiful. I am keen on obtaining the giant Hawaiian Tiger Cowrie. I could send you a list of the shells I have available if you are interested. We are leaving March 24th for a ten day shelling trip to Jeffreys Bay. Altho the shells wash out there, they are never alive, but good specimens are to be obtained there". Although there are several Tiger cowries measuring over five inches in length in the Children's Museum, (which is our hobby) it would probably take a Cypraea fultoni to jar one of them loose. So, who is next with a big Tiger cowry they want to dispose of.

primary object was to see that the Shell Fair paid its way, and that any surplus would be turned over to the Treasury of the Society as a further guarantee of the continuance of the publication of the Society's paper the Hawaiian Shell News. The Society owns some 50 or more 18x30 inch exhibit cases. Some upkeep will be necessary on these and it was decided that each exhibitor would be charged a fee of \$1 for the use of a case for exhibit purposes. A few larger cases will be available at proportionate rates. The treasurer's office will provide printed forms for daily reports in order to make the accounting easier.

Insurance will be provided, as in the past, for all exhibits and night watchman service will be provided if necessary. It would not be required at the Ala Moana Shopping Center. The question of volunteer workers during the fair was mentioned, but will be taken up at a later date.

Now that you have read this far we will tell you that the Fourth Shell Fair of the Hawaiian Malacological Society will be held July 1st to 9th inc. 1961 immediately following the meeting of the American Malacological Union, (Pacific Division) which meets at Goleta, Calif starting on June 28th.

And don't forget the permanent address of the local society is 2777 Kalakaua Ave., Honolulu 15, Hawaii.

**RECENT FINDS  
(Continued from page 2)**

ing the week end of March 12, 1961 the results were so startling that he made a special trip to the Children's Museum to have some of his latest acquisitions measured. First there was a Conus striatus taken off Waimanalo on the windward side of Oahu. It measured 125.3 mm. in length by 61.4 mm wide. Reference to the records showed that the longest one up to that time was 120 mm. in length by 53 mm. in width and was also owned by Mr. Weaver. The Children's Museum and Dr. Burgess also have large specimens, but first place goes to the one just measured.

Next he produced, taken on the same trip, a Conus retifer taken live in 25 feet off Rabbit Island, also on the windward side and not far from where the striatus was taken. The retifer measured 69.4 x 39.6 mm. and it also went to the head of the class. Previously the best record was held by the Children's Museum with a shell collected alive in Haleiwa Bay by George Bromley which measured 64 x 34 mm.

Next Cliff produced a Conus chaldeus collected at Kahuku on a prior trip. This shell measured 49.4 x 26.6 also a record for this species. This shell was almost a freak because of its abnormally high spire. Comparative figures show it to be 10.4 mm. longer but only 2 mm. wider than the next biggest one on the record.



## A SHELLING HOLIDAY TO ZANIBAR

By

Samuel Hirschmann

### CONCLUDING INSTALLMENT

Another day we selected a muddy area at Bungi to seek the elusive *onyx adusta*. At a minus tide these can be found feeding on vegetable growth on the muddy bottom. I had been told by my friends Mr. and Mrs. Knight of Zanzibar, avid and knowledgeable collectors of cones and cowries, that under favorable circumstances they have found as many as 40 to 50 *onyx adusta* in one morning. These molluscs, as well as many of the other rarer Cowries like *stolidia* etc. seem to gather in what has been described as suitable ecological habitat, and once the spots are discovered these same little areas seem to continue to yield the same type of mollusc life. But, like most things in the ever-changing mighty ocean, such a area is not a permanent treasure chest and can suddenly turn completely barren. The life has moved elsewhere - something has changed - the environment is no longer ideal. My shell friend in Mombasa, Mr. Metcalfe, and Police Officer Benton of Nairobi (the latter recently spent a 6-months holiday on the Kenya coast) enthusiastically expound, from personal experience, the theory of these little sanctuaries - ideal environments providing just the right food, shelter, protection, etc. which can be relied upon to produce regularly special species of *Cypraea* in particular.

One day we travelled 33 miles north to Bweju and there sought out and found the local native shell hunter who regularly sends his wares to Mr. Virjee. His house, a neat mud-coated single-roomed abode, has a large helmet shell built into the door lintel as a sign of his trade. He agreed to take us out to the reef (he spoke no English and we had to use sign language). We started to walk, but the reef was a long way out and I tired rapidly, especially as we were up to our thighs in water. We hailed two tiny out-riggers. The single occupant of the one put me in his boat, and my two boys and our guide went in the other slightly larger one. The agreed fare was one shilling for each craft. It took over half an hour to reach the reef, and I hurriedly suggested that the two miniature "Queen Marys" wait for us to take us back at double the forward fare!

We found this reef rewarding. We found at least 50 *Conus miliaris*, some *Conus textile*, *Conus multi punctatus* and *litteratus*, several small *Harpa*, two *Conus ermineus* (previously known as *lithoglyphus*), one *pulchra lineatus*, etc. In five feet of water on the inside of the reef lagoon, we found a considerable number of Cowries, some large helmets, and many other shells. We encountered many vicious morays hiding submerged under stones and rocks. We laboriously turned over some of these rocks, which of course we replaced in every instance. Twice morays darted out like express trains and slithered at speed into the deeper protected pools around us. Our guide captured a fairly large octopus, and in this process had to put his arm

## A Report On Preliminary Studies On The Venom In The So-Called Poison Cones

A reprint of an article that appeared in the *Annals of the New York Academy of Science*, Vol. 90, Article 3, Pages 706 to 725, published Nov. 17th, 1960, has been received by the HSN from Dr. Alan J. Kohn, one of the authors. This article is entitled "Preliminary Studies on the Venom of the Marine Snail *Conus*". With context, photographs, drawings and tabular work it occupies 20 pages, and is a summarizing of the research efforts of the three authors, who are Dr. Alan J. Kohn, now with the Department of Biological Sciences of Florida State University, Tallahassee, Florida, Paul R. Saunders, with the Department of Pharmacology, School of Medicine, U.C.L.A. at Los Angeles, and S. Wiener, of Prince Henry's Hospital, Melbourne, Australia.

The poison cones are a common topic with the HSN, and the fact that experimental studies were being conducted concerning the venom has also been referred to. That the work is still in its infancy is indicated by the use of the words "preliminary studies". However, the thoroughness with which the problem was attacked is amazing. Below in layman's language is some of the things we learned.

The poison apparatus of a cone consists of a venom bulb, the venom duct and the radula, and its sheath. The venom bulb is a sausage shaped muscular organ in the upper front part of the shell. It is connected to the venom duct, a long irregularly coiled tube about five times as long as the shell, which connects with the radular sheath. This is a Y shaped affair with the two branches of the Y of unequal length. In the longer fork or branch are held the reserve supply of poison barbs in various stages of development. The shorter branch of the Y contains the matured poison barb and leads into the proboscis, or pharynx as it is called in the report.

Not knowing which of the three organs mentioned above produced the poison, or most of it, and since they all had a part in it, the scientists ground up all three separately either in sterile water or sea water, and either injected it immediately, or froze it for future use.

into a deep rock-hole! The tug-of-war that ensued was something to watch! The octopus lost!

Many were our other expeditions, including a visit to Turtle Island with its huge and ancient turtles basking in the sun. The three of us stood on one large fellow's back, and he unconcernedly ambled on. We found the waters clear and interesting around this island. Huge antler corals and many other forms, made the area fascinating. We dived for over one and a half hours, and found ourselves too far from shore for comfort but slowly we made our way back to the island. The water was fairly deep, but we recovered some large frog and other shells.

Zanzibar is surrounded by many reefs rich in shell life. In different places we found some *Conus iodostoma* (formerly named *acutumarginatus*), several specimens of *Terebra*, some common *Olives*

(Continued on page 6)

This venom extract formula was varied. Sometimes only the venom bulb was used. Sometimes the venom duct and sometimes only the radula was used. The results on various gastropods from the various types of venom from a *Conus textile* were tabulated in the report. Briefly the duct extract was the most lethal, the venom bulb was believed to be the muscular organ of the stinging act, and neither the extract from the bulb or the radular sheath produced death.

Other phases of the investigation included administering varying amounts of the different extracts to determine the lethal amount. All symptoms were carefully observed. Venom extracts were boiled, cooled to body temperature and used, and boiled extracts were frozen, then thawed and used, and the results noted.

Animals used in the experiments were *Conus californicus*, several species of *nasarius* and white mice. The mice were subjected to three types of injections, brain, vein and muscle.

Similar extracts of *Conus striatus* were tried on fish and crabs. The results are tabulated. Lethal results were achieved with both venom duct and venom bulb extracts which leads to the remark that there is some toxic material in the bulb.

The Australian experiments in addition to *C. textile* and *C. striatus*, also included *C. aulicus* and *C. marmoreus*. Venom extracts from the two last named were prepared and the results definitely show that *aulicus* and *marmoreus* are in the poison cone list.

However venom extracts were made from both the bulb and duct of *C. flavidus*, *C. leopardus* and *C. maldivus*, and to quote the report: "No toxic effects were observed from any of these extracts".

Material expressed from the venom ducts of all species examined is usually white or pale yellow. Its consistency is viscous, and it appears granular under the microscope.

A conclusion in the report says: "The toxic manifestations suggest the main action of the venom is interference with neuromuscular transmission, although the possibility of an action on the central nervous system cannot be excluded".

Some attempts at chemical analysis of the venom have been made which the report sums up in this sentence: "The preliminary studies suggest the possibility that the venom of *Conus* may contain several active principles, including protein, quaternary ammonium compounds and possibly amines".

The report closes with the remark that H. T. Ward, S. W. Tinker, C. S. Weaver, Jean Kuanui and Mr. and Mrs. D. Hiatt contributed many of the specimens used in this study.

And just for the record's sake we wish to contribute this thought--*Conus geographus* isn't mentioned in the report, and it is one of the really bad actors. Killed a man in two hours. (See HSN Dec. 1960). *Conus tulipa* should also be included, so it is said. Any one of our Pacific Ocean area members who collects either *geographus* or *tulipa* should save both shell and animal and notify any one of the three authors of this report. Dr. Kohn will be in Honolulu all summer. Just 2777 Kala-kaua Ave., Honolulu will get it to him.



## THE A. M. U. AND PACIFIC DIVISION (1960) REPORT

The American Malacological Union's 27th annual report, with which has been combined the 13th annual report of the Pacific Division has been received, and as usual we spent most of the forenoon with it.

The convention was held last August 9th to 12th, at McGill University, Montreal, Canada. Earlier, 22nd to 25th of June, the Pacific Division had held its sessions at Asilomar, California. Ordinarily any news that old would be considered ancient history, but we found a number of things that interested us even at this late date. Unfortunately neither organization has a press agent, who works after the conventions, although advance publicity (before the meetings) is adequate. Consequently one must wait until the perpetual secretary, Margaret Teskey, issues her annual report, unless, indeed, you were one of the fortunate ones in attendance.

In her opening remarks, Dr. Katherine Palmer, president, said the A. M. U. now had 719 members as compared with 213 when they last met in Canada, 20 years ago at Toronto. The membership list is printed in the back of the report, and represents the high point in membership. As we looked over this list, we found many, many names of persons who may read this article but for the benefit of those who will not see the A. M. U. report, we will continue with a few items, especially since only ten out of the membership of 719 have Honolulu addresses.

The report contains letters from 16 shell clubs which are members, and it is also noted that at the convention session ten persons representing as many different shell clubs were recognized at delegates from their organizations. Also in notes at the end of the Report, Mrs. Teskey in speaking of the increased interest in malacology mentioned eight different shell clubs organized in the past twelve months. To which we can add the Fiji Shell Club, apparently not mentioned because not within the jurisdiction of the A. M. U.

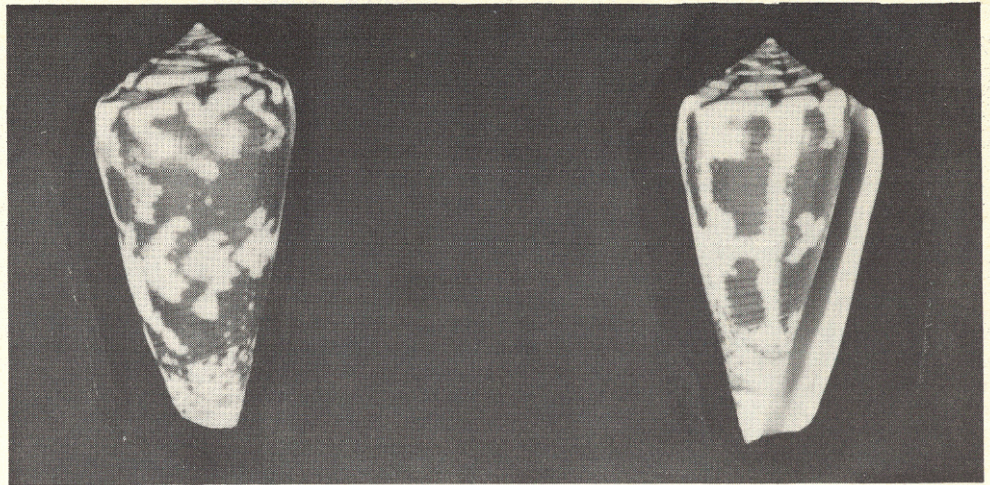
As is usual with all altruistic and non-profit organizations, there were rather extensive discussions of finances at the business sessions of both conventions. The Pacific Division even raised its dues to \$2.50, of which \$2 will go to the A. M. U. as always, but the 50 cents will stay in California.

The registration at the Montreal convention was 97 while only 96 registered at the Pacific Division meeting.

During 1960 the HSN ran a series on William Harper Pease, and those of you who read these articles will recall that Pease in his letters to Andrew Garrett frequently mentioned Philip Pearsall Carpenter. At first the references to Carpenter were very praiseworthy, because Carpenter was then in London and cooperating with Pease in Honolulu in their shell work. Later Pease became incensed at Carpenter, and in some of his last letters (1870) was very bitter, principally because as appears now Carpenter elected to go to Montreal, Canada to live in 1865.

The first four speakers on the A. M. U. program were presented as a Memorial Tribute to Philip Pearsall Carpenter each representing a phase in Carpenter's life.

## "LITTLE STRANGER" DEPARTMENT



Above are shown two views of an unidentified cone. It belongs to Mrs. Mary Eleanor King who knows very little about it but would like to know more. Mrs. King bought it a couple of years ago in London. She was wandering through the Porto Bello market on the day of the week it is open (Friday) when she saw a small basket of shells displayed by one of the merchants. This was the only cone in the basket and these were the only shells she saw in the entire market. The dealer could give her no inkling as to its origin or history. Anyway she bought the shell.

It measures 43.6 mm. in length and 31.8 in width., which is greatest slightly below the shoulder. The basic color is a shiny white overlaid by generous splotchs of light chestnut brown with a few dots of the same color along the ridges at the base and very sparsely elsewhere. This color is continuous over the shoulder and forms eight ragged but continuous streaks on the low spire, cutting through both spiral whorl and suture to the last two whorls which form a raised but not too sharp an apex of bone colored white. The base is definitely ridged. These ridges gradually become less prominent as they ascend the body whorl, but are still evident under a glass as they approach the shoulder. There is a white banded effect about the middle of the body whorl although interrupted by the brown color in places. The base is white both inside and out, and the interior is white. The shell can best be characterized as medium heavy. It has the appearance of having been alive when collected. If you have any ideas on the subject, the HSN and incidentally Mrs. King will appreciate hearing from you.

The first paper (read by Dr. Albert Mead) had been prepared by the California Academy of Sciences, at Golden Gate Park, San Francisco to which institution Carpenter had been elected a corresponding member in February, 1863. In 1848 and 49, a Belgian by the name of Reigen had gathered a very large collection of shells from Mazatlan, Mexico, which Carpenter and his brother-in-law bought in 1855. Carpenter also had access to the Hugh Cuming collection of Western American shells: Carpenter's publications as a result of his studies of these collections accounts for the California Academy being asked to handle this phase of his work.

The second in the series had been prepared by scientists in the British Museum, London, and was read by Miss Ruth Turner. Carpenter in working up the Reigen collection had prepared several identical sets, one of which he presented to the British Museum and which was the basis of one of his most used books, entitled a Catalogue of the Mazatlan Shells in the British Museum.

Carpenter had presented one of his identical sets to the Smithsonian Institution at Washington, D. C., and had spent several months in Washington during 1859 and 1860. While there he had devoted himself to the collections he and others had presented, so No. 3 in this Memorial Tribute was presented by Dr. Harald A. Rehder, curator of the Division of Mollusks in the U. S. National Museum.

The fourth and last of the Tributes to

Carpenter was presented by Vincent Conde, of the Redpath Museum of McGill University. It was to Redpath Museum that Carpenter had bequeathed his own collection, which according to Dr. Conde has now been systematically arranged and placed in modern cabinets constructed for that purpose.

All other papers read, are either abstracted or referred to by title, included among which we find Dr. Albert Mead's annual report bringing up to date his investigations on the giant African snail, from which we learn that "to date, nineteen different invertebrate 'enemies' of the giant snail have been introduced into Hawaii".

Two excellent group pictures with accompanying numbered diagram are included showing those in attendance at each meeting.

Mr. and Mrs. J. Lockwood Albright, of 4401 Haskell Ave., Encino, California, were March visitors in the Islands. To prove they were shell collectors they participated in several collecting tours while here. As a matter of fact Mr. Albright participated in the hunt which resulted in one live taken *Strombus hawaiiensis*, which is discussed elsewhere in this issue.

Maybe it was partly business, maybe the shell fair committee meetings had something to do with it, but Harold Hall, an enthusiastic collector from Lahaina, Maui, attended one of the Fair committee's Wednesday meetings early in March. He promised Maui will be well represented, and watch for the black coral tree exhibit.



## THE LINE ISLANDS WITH RELATION TO HAWAII (MAP Page 1) AND MAP OF JARVIS ISLAND (Page 7)

By

Harold G. Jewell, Jr.

(Continued)

Author's Note -- Mr. Edwin H. Bryan, Jr., curator of collections, Bishop Museum, has very kindly put me in touch with some of the original colonists who were on Jarvis Island prior to World War II. He has also granted permission to use any of the interesting and valuable data from his book "American Polynesia and the Hawaiian Chain". During my stay in the Line Islands, I found this book a gold mine of history, natural history, geology, geography and human interest, complete with photographs, maps and charts of the Line Islands as well as the islands of the northwest Hawaiian chain, the Phoenix, Samoa, Tokelau and other island groups of the tropical Pacific. Copies of this excellent book are available at the Bishop Museum Bookshop.

I am also indebted to Mr. Paul Gordon Phillips, who was on Jarvis at the start of World War II. Mr. Phillips has very kindly furnished data to fill gaps in what was available 'til now. Mr. Manuel Pires, past president and Mr. Marvel Smith, president of the "Hui Panalaaui"; the society of former Line Island colonists, have both been very helpful with information.

Figure 1, page 1, the chart "The Line Islands and Their Relation to the Hawaiian Island Chain" is reduced in size to fit the format of H.S.N., the 3 degree grids are 207 statute miles apart (180 nautical miles). Distance to Honolulu from the various islands is given in statute miles.

Figure 2, page 7, "Jarvis Island". The unspecified figures offshore are depths in fathoms. Note that I have marked the location of some of the remaining shell holes (not sea shells). These were made at the beginning of World War II by a Japanese submarine that surfaced off the west shore of Jarvis. The four colonists on the island thinking this was a U. S. Navy submarine that had come to remove them, rushed down the beach joyously waving their arms. The sub unlimbered its deck gun and commenced to fire upon the completely defenseless unarmed colonists. Fortunately, due to poor marksmanship, no one was hurt. The colonists scattered and ran, hiding inland on the island.

Prior to the January, 1958 storm, I counted 13 shell holes on Jarvis, most of these were eradicated by the storm. Judging from the size of the craters, approximately 12 to 18 in. diameter and five to eight feet deep, it appears that they were made by a shell of at least 5 to 6 inch caliber.

On the north shore reef there are coral incrustated metal ship fittings cemented fast to the reef. These appear much older than their counter parts on the south shore. There is located the wreck of the Barkentine "Amaranth", that ran aground on the night of August 30, 1913. I can find no record of the apparent wreck on the north shore.

The scale on the Jarvis charts (Page 7) is reduced to fit the format of H.S.N., however, the parallel grid lines (minutes

of arc) are one nautical mile (or 6080 feet) apart.

Close inspection of the topography of Jarvis seems to indicate that the island was once horseshoe shaped with a lagoon opening toward the east. The lagoon gradually filled in and a low rim has built up on the east shore.

Gravity - metric measurements made on Jarvis during I.G.Y. indicate a mound or peak, underlying the island, of dense mass, probably volcanic basalt. If this is so, then Jarvis is a relatively thin overlay of coral limestone on a submerged, extinct volcanic formation. The surrounding ocean bottom drops abruptly to a fairly even ocean bottom at about 2800 fathoms (16,800 feet), in all directions except to the east where the depth increases more gradually.

Mr. Paul Gordon Phillips of Kailua, who was a member of the last colonist group on Jarvis, tells me the reef surrounding Jarvis and particularly the reef on the north shore abounded with tens of hundreds of living tridacna clams, a good portion 18 to 24 inches long. In contrast, during my stay on Jarvis, I walked over and searched for shells on every foot of the reef around the island and I saw only four live specimens, these being on the south reef. I collected two specimens and left the other two undisturbed. All four were only 12 to 14 inches long.

Mr. Marvel Smith and Mr. Phillips both report many reef octopi in the mid-1930's, yet in 1941 Mr. Phillips saw only one and I saw none. What caused these changes? (To be continued)

### A SHELLING HOLIDAY (Continued from page 4)

and Cymatium. We found several *Conus quercinus* and *Conus nemocanus*, as well as *Conus catus*. We bagged three quaint *distorsio anus*. I was proud to make a personal discovery of the little heart cockle, *Hemicardium cardissa*, which some local collectors had never seen in Zanzibar before. We encountered many types of coral, including *Globulus coral* (*Galaxea clavus*) in large brownish banks which do not appear to be attached to the sea bed. One finds little shells, including interesting Cowries, attached to this coral fairly low down.

I could go on mentioning many other shell families, but I think this is enough to indicate the great shell wealth that exists in this fascinating area.

We met a gentle and gracious couple, Mr. and Mrs. Fred Mehta. They were the most wonderful hosts and very knowledgeable conchologists. They have an outstanding collection, built up over many years. In the early evenings my boys and I would drop into their apartment to recount our exploits and to munch little three-cornered curry pies (called "samoosas")

## CYPRAEA SEMIPLOTA IS STILL ENDEMIC

In our January, 1961 issue, page 6 under the heading "Recent Finds" we quoted John H. Roberts, Jr., now at Eniwetok, in the Marshall Islands, as stating that he had collected *semitplota* in two feet of water in Sept., 1959, on a little island in the Rongelap atoll. At the moment we had overlooked the fact that *semitplota* is supposed to be one of Hawaii's endemic cowries, but it did not take our readers long to remind us of the fact. So we wrote to Johnny asking if he could forward the Rongelap shells to Honolulu for examination in order to settle the matter. He wrote back that the shells were in his collection at his home in Hilo on the big island, but that he had had a discussion with John Beck, about them and he would authorize Rev. Beck to go to his home, get them and send them to Honolulu.

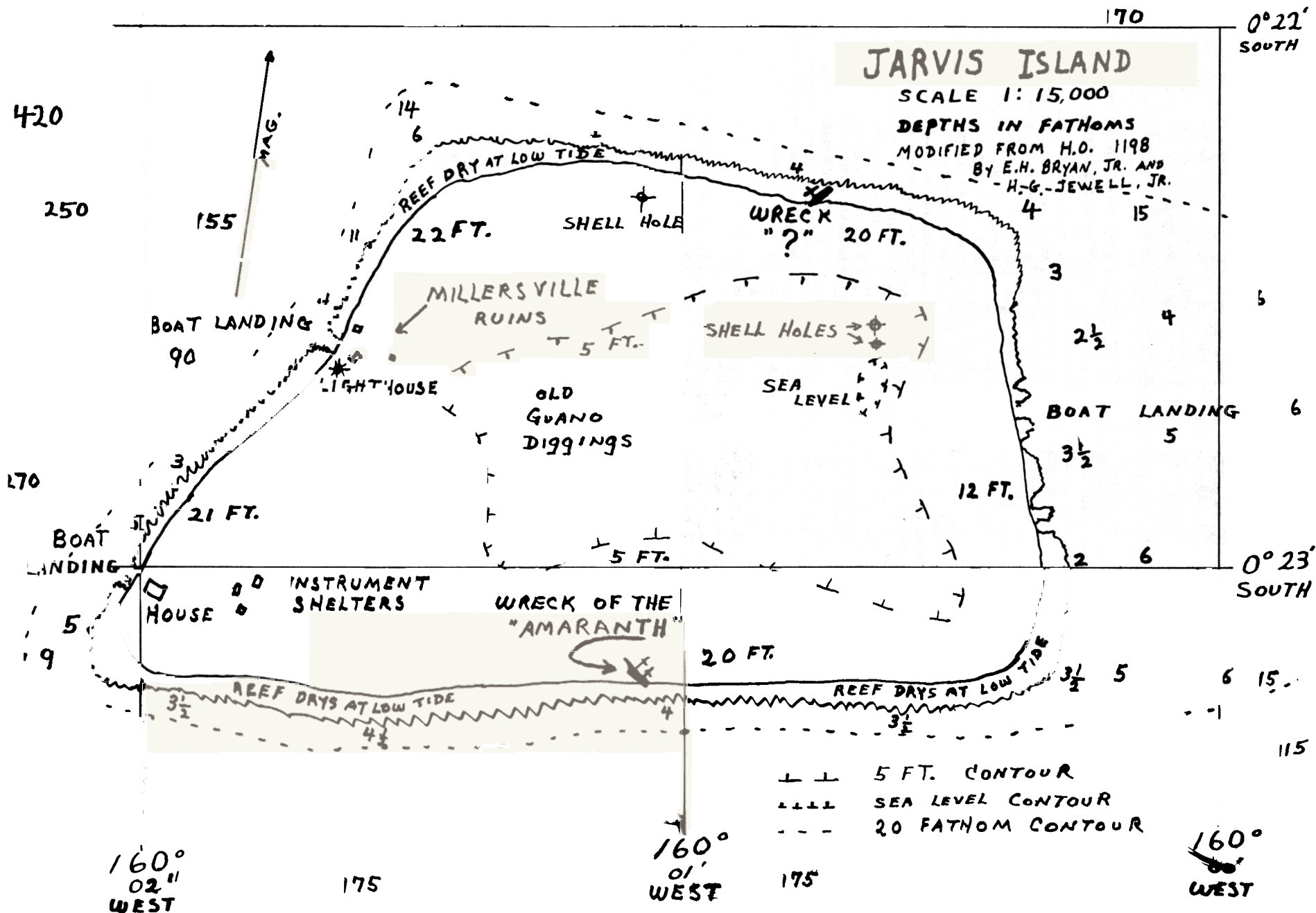
In due time we heard from Mr. Beck. He referred to the discussion he had with Johnny in December in the following language, "There was a small, dark, spotted shell which looked very much like a live-taken *C. semiplota*. John insisted that he had taken this shell in the Marshalls. The entire drawer was under heavy glass and we did not take the shells out".

Continuing Mr. Beck wrote, "Today, Mrs. Roberts removed the glass and I picked up the 'semitplota' and found that it was rough on the surface as a *semitplota* should not have been. The underside didn't look like it should either. It didn't take too much figuring to come up with the fact that we had a small, dark *Staphlea staphlea* Linne. The dark color, shape and size of the shell under the glass had fooled us. I am afraid this is not a *semitplota* from the Marshalls, but a *Staphlea staphlea* Linne that looks like a *semitplota*. Well, I have the shells packed. Shall I send them over?"

We told him he need not send them and we will keep *semitplota* on the Hawaiian endemic list. Incidentally in looking up the species in Schilder, he warns against confusing the two species. Also he says that *Staphlea* is very rare in the Marshalls. See also HSN Vol. VIII, #3, Jan., 1960. "The Endemic *Cypraea semiplota*".

that Mrs. Mehta prepared for us. The atmosphere in this little flat was tranquil and peaceful. I have rarely enjoyed anything quite as wonderful as these evenings. It was through the Mehtas that we discovered a bank of fossiliferous rock from the Pleistocene age, embedded with fascinating shell fossils and casts. Our three long visits to this area resulted in nearly one hundred good specimens of Pleistocene Cowries, Clams and Pectens!

We left Zanzibar after several weeks, with heavy hearts. My wife and baby son were waiting for us several thousand miles away, and of course we had missed them greatly. But in Zanzibar we had seen how people of different colors and different cultures live together in a simple and quiet dignity. Arabs, Asians, Goanese, the local natives, and a handful of Europeans, had learned a lesson which unfortunately is not known universally. Their remote spice island in the sun has much to teach. Here we had lived for weeks, close to nature, and we left enriched by this experience.



160° WEST

## THE MOLLUSCAN FAMILY HARPIDAE

A very informative article in the New York Shell Club Notes for January, 1961, on the family Harpidae by George E. Jacobs, 1960 president of the club, proved to be such interesting reading that the following abstract has been made from it.

The name Harpa was given to these shells in 1771 by Walch, and they have been known by this name ever since. This family has always posed something of a problem to conchologists as there is no intermediate family to connect them with any other group of mollusks. While they display some relationship to the olive shells and possibly to the volute, the gap separating them is very wide. Like the olives and the cowries, the harp shells keep the shell bright and polished by extruding the mantle. Both the shell and the animal are conspicuously and richly colored and have been recognized by conchologists of all ages as one of the most beautiful shell families.

The foot of the animal is so large and muscular that it can not be entirely retracted into the shell. Also because of this fact, it is said that in times of danger the animal can divest itself of the outer portion which it is unable to protect. There is no operculum. Although the Harp shells inhabit tropical waters, there is only one specimen, in the western hemisphere, *H. crenata* Swainson, 1822, found from the Gulf of California to Panama. The one specimen found in the Atlantic is *H. rosea* off Senegal, west Africa. The remainder are found in the Pacific and Indian oceans.

There are ten generally recognized species in the Harp family although even in this small number some species are hard to identify. Here are the ten, alphabetically arranged:

*Harpa amouretta* Roding 1798, although not infrequently also called *H. minor* Lamarck.

*Harpa conoidalis* Lamarck, one of the larger Harps. Apparently no synonym.

*Harpa costata* Linnaeus. Also known as *H. imperialis*, Chemnitz, and by Sowerby in 1839, referred to as *H. multicostata*, and described as very rare and most beautiful.

*Harpa crenata* Swainson. No synonyms recorded. Only western American harp shell. John Mawe in 1823 listed the harps with the family Buccinum.

*Harpa davidis* Roding. Synonym is *H. articularis* Lamarck under which name it appears in Walter Webb's Handbook.

*Harpa exquisita*, no author given. Found only in Sydney (Aust.) Barbor according to Joyce Allan.

*Harpa gracilis* Broderip & Sowerby. No other name.

*Harpa nobilis* Rumphius according to Mr. Jacob's list, but not all authorities agree. The Japanese books give Roding as the author of *H. nobilis*, while according to Julia Rogers revision, *Harpa harpa* Linnaeus is the accepted name, and *nobilis* is a synonym. Joyce Allan also uses *Harpa harpa* and says it is found on the Great Barrier Reef. Evidently someone with access to all the authorities should do a revision on this name.

*Harpa rosea* Lamarck, may be reduced to synonymy by the use of a Roding name--

## "THE COWRY"-- A NEW PUBLICATION

"The Cowry" is the name of a new shell magazine. It is published by Lt-Col. R. J. Griffiths, Smugglers House, Gorran Haven, St. Austell, Cornwall, England. Vol. 1, No. 1, is dated December, 1960. The price is six shillings sterling, and your bank will tell you the equivalent in your local currency. It may be issued monthly. The functions of the magazine will be two-fold says the editor. "First, it will contain a series of articles written in every day language, describing the present state of our scientific knowledge of cowries. Secondly, it will suggest lines on which collectors everywhere can work, describing outstanding problems, and saying what information is needed to solve them". That printing costs money (Don't we know it) is emphasized and the editor states that the continuance of the magazine depends on how many of the cowry collectors of the world send in their six shillings.

A discussion by Col. Griffiths entitled "Names and What They Stand For" could be read by 75% of the shell collectors with profit to themselves, whether they are cowry collectors or not. He starts out by saying that *Cypraea helvola*, Linnaeus and *Erosaria helvola citrinicolor* Iredale refer to the same species. Then in five or six pages of discussion in every day English, he tells why he prefers *Cypraea helvola*. He quotes Dr. Alison Kay of Honolulu in his argument, and also announces that Dr. Kay's article "The Anatomy of Cypraeidae" will be featured in his next issue.

Dr. F. A. Schilder contributes an article on "Intraspecific Taxonomy" and a Section is devoted to "Remarks on Species", which is illustrated by black and white photographs. Our reaction--The editor knows what he is talking about and has the ability to explain it in understandable language. The publication merits the support of not only *Cypraea* specialists, but every collector who possesses any specimens of this family. Try a few copies; it's not only worth-of support, but you'll get your money's worth if this first issue is any criterion.

*Harpa doris*. The Conchologist's Textbook published by John Mawe in 1846 lists habitat as Indian Ocean, and has a steel plate engraving of the shell on Plate 11.

*Harpa ventricosa* Lamarck is the tenth name listed by Mr. Jacobs and he indicated that it was sometimes referred to as *H. major* Roding.

Now to consolidate all the information we will call attention to the fact that Kuroda & Habe in their Japanese check list, give *Harpa cancellata* Roding as a valid name, and list *H. striata* Lamarck as a synonym. Also Joyce Allan mentions a *Harpa punctata*, no author given, which she says has been dredged in 20-30 feet of water in south Australian waters. Now as a final item we add the following:

The Children's Museum of Honolulu has a *Harpa conoidalis* collected in 1940 in Kaneohe Bay, Oahu, by the late Ted Dranga which measured 108 mm in length 71 mm in width and lying with the aperture down is 56 mm high. It was collected alive. So far as is known, it is the largest specimen of this species collected in the Hawaiian Islands.

A recent letter from Col. Griffiths stated that Sgt. E. L. Fobes, 12320S. 27th Ave., Omaha 47, Nebr. has been appointed the representative in the dollar area (U. S. and its Possessions) and remittances can be made to him. The price of 6 shillings amounts to about 84 to 85 cents. No annual subscription rate has been announced, hence the price is for a single copy. However, we understand the second issue is in the hands of the printer:

## SHELLING IN NADI (Continued from page 2)

2 inches, the miters will commence to show up. At this depth should you find a bulla, mark the spot, and search the neighborhood carefully, for there are usually several close together. An afternoon spent this way netted one collector one miter, four cones, 38 bulla, one *cypraea eburnea*, they seem to like weedy areas, and 175 bivalves of many types and colors. It's quite pleasant really sitting in warm water and doing your collecting at the same time.

Summing up the situation he says "This Nadi Bay is amazing in many ways. This muddy weedy bottom produces solarium *cypraea*, *epitonium conus*, *strombus*, *terrebellum*, *mitra*, *terebrata*, *nassa*, many, many bivalves, *spiney murex*, *bulla* and *hydatina physis*".

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