

# Hawaiian Shell News

VOL. VIII, No. 3

JANUARY 6, 1960

NEW SERIES NO. 1

## SOMETIMES DREAMS COME TRUE; SHELLS NEWS ENTERS NEW ERA

With this issue the Hawaiian Shell News comes to you in a new dress. It will be Offset printed, proofread, (we hated to proofread those stencils; it was bad enough to write them), on coated white paper, with pictures and even more important with a wonderful supplement which in time is destined to become the most comprehensive cataloging, with pictures, of Hawaiian Shells ever attempted.

All this didn't happen over night. For several years past, many conferences have been held, all of them informal, but attended by interested persons who felt that the Hawaiian Shell News fell far short of the ideal they had for it. So they dreamed on.

Always the expense was the stumbling block. In spite of all the hours and hours of donated service from a half dozen or more members dollars were always necessary. The members of the Hawaiian Malacological Society at their meetings cheerfully met each request for a raise in dues, and when additional volunteer services were needed they were always forthcoming. But the raise in dues always seemed to be just a step behind the increased prices. So the fulfillment of that dream seemed to be getting no closer.

During 1959, there were a number of developments, which, although it was not apparent at the time, had a definite part in bringing about this change in the HSN. Probably no single one of them would have been enough to warrant this change, but the cumulative effect produced the sheet you are now reading.

First there were the extensive dredging operations which were covered rather fully in the HSN during the past few months. But the complete story has not been, and cannot be published until the great mass of data that has been accumulated can be straighten out, and the results evaluated. This will take a great deal of research. It is known that there are genera new to Hawaii, new species, new locality records and many other details which will have to be studied. All this developed a need for publication of the results as they are determined, with the definite idea that a modern, up-to-date catalogue of the shells of the Hawaiian Islands would be the outcome. The idea smoldered.

The second development to be considered was the continual adding of the names of new members to the Hawaiian Malacological Society. All this without

any promotional efforts. The membership list has tripled within the past five years. Then the "break-even" point came in for a lot of figuring. Did the HSN have enough readers now to justify changing to a slick print? The cold statistics said "No". At \$2.00 a year close figuring showed that with the increased cost of all supplies, the increased postage, and all correspondence by air mail (25¢ to most Pacific areas) the HSN was being run at a loss. No slick print yet awhile.

The third development came at the annual dinner on Dec. 2. After a most satisfying dinner, and before the distribution of the presents started, President Lee called for a short business session. The dues question was discussed fully and at length. President Lee even favored a \$5.00 annual membership. Finally on motion of Jean Bromley, and carried better than five to one, it was decided that the annual dues would be \$4.00, air-mail \$6.00, and any altruistic member could enroll additional members of his or her family for \$1.00 each. In fairness to all concerned no mention was made concerning the changing the form of the paper, a development which came within a few days and rapidly.

Within 24 hours the conferences started again. It still seemed a little risky. Then came the break. The Spencecliff Corp. Ltd., volunteered a limited underwriting for a year. And that's how the new Hawaiian Shell News came into being.

### AN ARTICLE YOU SHOULD HAVE

If you want the most complete compilation of the subject matter ever printed in one article, you should get "The Hawaiian Species of Conus" by Alan J. Kohn, in the October issue of Pacific Science, just issued by the University of Hawaii Press. It is based on original research by the author, extensive collecting trips throughout the Hawaiian area, and a personal inspection of specimens from Hawaii in many of the museums of Europe and the United States. Under each valid species is listed the name and author, description, length, type locality, extensive remarks, and a list of the references to that particular shell in literature. *Conus elisae* is listed as a possible valid species, and there is considerable discussion on species known

## NEXT DIVERSION - THE SHELL SHOW

With the holidays over, members are now turning their attention to their exhibits at the Third Annual Shell Show which will be held at the Ala Wai Club House, on Kapiolani Boulevard, February 15 to 22, 1960 inc.

It has been announced that, while shells compose the majority of the exhibits, there will be some interesting other displays of marine life. One in particular will be living specimens of those interesting little creatures, the sea horses, some of which will come from as far away as Singapore.

Another exhibit which should prove interesting is based on *Murex pele* Pillsbry, and allied species of the genus *Homalocantha*. Any one of them is rare enough to warrant a little study, even considered alone, but to have *pele*, *scorpio*, *anatomica*, *rota* and any more that might be considered as belonging, all in one exhibit, should be a rare treat. Donald Dan, 1642 Marcelino St., Manila, John Q. Burch, 4206 Hallsdale Ave., Los Angeles, and two local exhibitors, Bobby Lee, and the Children's Museum, will have displays of these interesting little shells.

Like a good little child, the Kauai club which insists on being an affiliate of the Honolulu Society, sends a copy of the minutes of their monthly meetings to Honolulu, and from the November minutes we quote the following: "Mr. Duarte told of Shell Fair plans for the Kauai club. Displays of *Conus elisae* and *Conus pennaceus* will be prepared. Mr. Paden and Mr. Watanabe plan to enter their own displays. Several other members are considering exhibits."

The Divisions and the Classes of exhibits were given in abbreviated form in our last issue, and all local members have received this information direct. However for any additional information, communicate with the general chairman, who will gladly cooperate with you. Don't hesitate to write. Address--Mrs. Mary Elinor King, 303 Portlock Road, Honolulu 16, Hawaii.

only from the collection of dead specimens. Unverified and inaccurate records take up another page. A reference list of more than 50, and an index complete the article. We do not know how many extra copies the University has but every person interested in Hawaiian cones should have a copy. It is not known whether it will be available as a reprint or not.

## Hawaiian Shell News

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

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Issued monthly and mailed to all regular members. Annual membership (Jan. to Dec.) \$4.00. By air-mail, wherever U. S. postage applies, \$6.00. Immediate members of a regular member's family may join for \$1.00 but are not entitled to the *Hawaiian Shell News*.

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



On the preceding page you were told how the HSN arrived at its present form, but there is still considerable explaining to be done. Two of our hardest working officers, Mrs. Harrison and Mrs. Andrus, who between them write most of the letters and keep the membership records, decided that if the members wanted the HSN for 1960 they would like to know it by January first rather than May 1. They also were the best informed as to what it was costing! Detailed figures showed that \$2.00 a member was not enough so it was decided after consulting the other officers that the matter would be presented at the December meeting and an increase in the membership rate asked for. The decision you have already read. This resulted in the slip-sheet being placed in the mail with the December issue. To be fair about it, it was also decided that all renewals at the \$2.00 rate mailed before January 1st, would be accepted as full payment for 1960, but if not mailed by that date the new rate would apply. Fortunately for you and unfortunately for the HSN, the great majority of the members have already renewed, but there is no law that says you cannot send in another two dollars, if you think the new paper is worth it, for in its present form it's going to cost considerably more than the old mimeographed form you are used to receiving. Enough on that subject. To show continuity of publication the

volume and issue number of the paper you are now reading is the same as it would have been had there been no change in form. In other words, the last mimeographed issue was Vol. VIII, No. 2. This is Vol. VIII No. 3. Incidentally this is the 87th consecutive monthly issue of the *Hawaiian Shell News* under that name, and does not count eight monthly bulletins issued prior to the formal adoption of its present name.

Then there is the Supplement. You have probably discovered it by this time. In "Hawaiian Marine Mollusks" an attempt will be made, in the months to come, to give you a picture, two views generally, in black and white of every shell found in Hawaiian waters, some 500 of them. If this first attempt appears slightly amateurish, remember it's also largely experimental, but you will have to admit that the pictures are good. All the shells in the current supplement are from the collection of Clifton S. Weaver, but he doesn't claim to have a specimen of every shell found in Hawaii. However he will have access to other great collections in Honolulu from which the best specimens will be selected and due credit given. This supplemental series will start with Vol. I, No. 1, as it should, and it is not gummed, stitched or stapled to the HSN, for ease in filing separately. If you ever had the most remote idea that the present operation is in any way in competition with Indo-Pacific Mollusca being issued by the Academy of Natural Sciences of Philadelphia, disabuse your mind on this subject right now. Indo-Pacific Mollusca (a project we are back of 100%) covers a vast area, is printed in natural colors, and is highly scientific, Hawaiian Marine Mollusks (also in the 100% class) is a purely local (Hawaiian area) operation. So, here's a suggestion,

(Continued on page 3, col. 2 & 3)



## KAHALUU

By Dr. C. M. Burgess

I am sure that somewhere in the State, every member of our Society has a favorite spot or area that they feel is the best and most enjoyable collecting grounds. Perhaps it is a secret place known only to themselves alone, or shared with one or two others. Perhaps it is an area where special technique is required to get the desired results. In any case, it is an area that has produced for them fine shells with repeated visitations.

For me this enchanted spot is Kahaluu, North Kona, Island of Hawaii. It is about six miles or a 12 1/2-minute drive toward South Point from Kona Inn; I say 12 1/2 minutes because I have traveled the route near a hundred times and know.

You'll know when you are there at once. The first landmark is a candy box church, set like a child's toy at the edge of a gray gravel and sand beach. It is white, blue trimmed, neat and clean. It carries its small white cross proudly, as becomes the land and the people. To the left and behind the beach is a stream-fed lava pool that reflects to the greatest advantage the surrounding palm fronds and adds further to the picture-book character of the whole scene.

Beyond the beach sweeps a shallow bay partly protected on the ocean side by a row of huge boulders placed there, it is said, by the Menehunes or little people, in a single night. Inside this natural breakwater is a calm lagoon, which during the low tides of June is broken up into several pools, most of them bear the breakwater.

This is the box collectors' dream: waist deep, sparkling clear water; good footing; and almost always sunshine. It is impossible to imagine that such a spot exists a bare 200 miles from cold, windy Oahu, where most of the time the surf, silt bearing rivers and civilization have dirtied the water and, in general, made things tough for the shell fanatic. Here at Kahaluu the collecting time is limited only by the tide and the resilience of your vertebral column. The hours from 8 A.M. to noon and high tide pass with impossible speed.

Here many rare shells have been collected: *Cypraea gaskoini*; *Conus bullatus*; *Strombus tridentatus*; *Conus spiceri*; *Cypraea chinensis*; *Cypraea semiplota* to name a few. However, to me, Kahaluu means *Cypraea scurra*. Here, for the first time, the habitat of this mollusk was discovered.

One day in 1945, which, except for the beautiful environment, had been most unproductive and after Charlie Boerner had gone home a final last round of the area was made. Under a loose piece of coral, a living *scurra* was found. This was the second such specimen taken in Hawaiian waters. The first was found at the edge of the Pearl Harbor channel by the late Ted

(Continued on page 3, col. 1)

## SHELL LOG - (Cont. from pg. 2)

Dranga at a time when the channel was being widened, I believe in 1928. It had been brought up and deposited in shallow water by the dredge. Its presence had long been known from beach specimens and dredged semifossils from both Honolulu and Pearl Harbor.

The same area was eagerly revisited the next day but after a most careful search a blank was drawn. Likewise, the next day proved unfruitful. Where was the elusive mollusk? Then through more accident than anything else, one of the large, fluted, green coral heads, a species of porites, was broken up. Deep under the center of this huge mass where the coral was yellow and nearly in contact with the sand, in one of the interstices of the coral itself was a living *Cypraea scurra*. No wonder they had been hard to find!

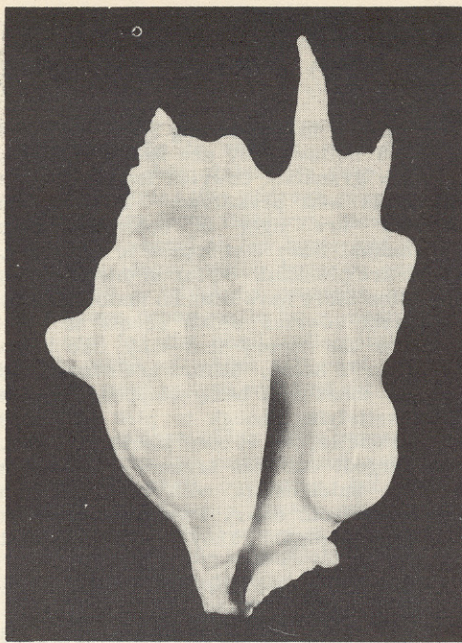
Needless to say, more coral heads were attacked and more *Cypraea scurra* were taken under the same circumstances. They are still there but the solidarity of the remaining coral heads defy anything except explosive force. One shell bears the inscription, "Ten Ton Tilly," because it must have required the handling of that much coral before he, she or it was collected. I know of no other area in waist-deep water where this species may be collected. THE SECRET IS OUT. Now, given such coral heads in 10 to 20 feet of water, the time and energy, I probably can produce a *Cypraea scurra*. What fine shells they are! No where else in the world do they attain such size and beauty.

I am sure that other areas in the Pacific will also produce this shell under similar circumstances. Tom Richert early in his aqualung career learned the trick and passed it on to a friend in East Africa. This friend was successful and amazed to find them just as instructed. It all goes to prove that no shell is rare; we simply do not know its habitat.

*Cypraea scurra* is only one of many happy memories of Kahuluu. My cabinets are liberally scattered with 100 or more species from this area, but even if there were none to be found the simple charm of this tiny bay is enough to make one count the days until it can be revisited.

I can close my eyes and see the large balloon fish that persistently followed us about year after year rolling its enormous eyes with appreciation as it gulped clams that were cracked for him or her. It WAS the same fish; a stellate scar made identification positive. Another never-to-be forgotten sight was an ancient Hawaiian who spent almost as much time as we did on the reef. He was after fish and wana. He was also barefoot. How a human foot could contact wana with no apparent discomfort was evident when close inspection revealed the largest and most heavily callused feet I have ever seen. The callus actually turned up at the edges similar to the soles of the overshoes I wore as a child in North Dakota. Wana concerned him not at all as he pushed his small outrigger between the rocks to open water.

What will we find at Kahuluu now that the aqualung has opened up the area just outside the Menehunes breakwater? That is a sequel I hope some day to write. What am I waiting for?



*Strombus taurus* Reeve, top and bottom views. Taken on the Island of Rongelap, in the Marshall group, in about 20 feet of water, by R. C. Willis, 1959. This specimen is evidently a young adult, judging from the amount of brown showing on the top side. The three rectangular figures at the base of the long finger and the one spot on the shorter finger are golden brown, which color in lighter shades is suffused over the upper side. On older and larger specimens no trace of this color remains. The under side is mottled with golden brown and white with the brown predominating. The interior color is a dark brownish purple changing to a lighter pinkish lavender towards the base. Although the color on the outside fades out in the older specimens the interior blotch intensifies and spreads. This specimen is slightly under average. Its measurements are: Length to finger tip 110.6 mm. Length to apex of spire 96.5 mm. Maximum width, slightly on the diagonal, 70.2 mm. This specimen donated to the Children's Museum of Honolulu by Mr. Willis.

## WITH THE EDITORS (Cont. from pg. 2)

if you really want to get mired down in your hobby, set aside \$9.00. Mail five to R. Tucker Abbott at the Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pa., and if you have not already done so, send four to the Hawaiian Malacological Society, 2777 Kalakaua Ave., Honolulu 15, Hawaii, and get in on the ground floor.

The HSN has been publishing since November, 1958 (Vol. VII, No. 1) two mimeographed pages monthly of a "Provisional Check List of Gastropods Recorded from the Hawaiian Chain. This has been compiled by E. H. Bryan, Jr., Curator of Collections, at the Bishop Museum, and publication is not completed. It seems desirable to continue this feature, but to do so will require some adjustments. It is planned to devote the last two columns of the last page of the HSN to the Provisional Check List for several months yet, or until the list is completed. Obviously this presents difficulties to those of you who have been filing this list in its mimeographed form, as some of you have written you are doing. The last two mimeographed pages, published in the December issue were Nos. 26 and 27. To those of you who wish to continue this pagination, a few copies will be mimeographed each month, successively numbered, until the end of the list. If you want this service all you have to do is write the HSN, Box 3751, Honolulu 11, Hawaii and they will be sent to you as issued.

The subject of advertising in the HSN has been discussed. Most publications cannot exist without it. Can the unselfish volunteer services of a number of interested persons take its place? If a one line advertisement, for instance, "Golden Cowry

for sale for \$50," were placed in the HSN and also in the New York Times, which medium would draw the most answers? What do you think? Frankly the subject has not been gone into very thoroughly as yet.

The Children's Museum of Honolulu and the Bishop Museum's Book Store will continue to be favorites with the HSN. The Children's Museum because of its work with the youngsters; because the Golden Cowry Register is kept there, as are many records, data, measurements, etc., of many of the rarer shells of this area. The Bishop Museum Book Store because they stock many shell books. If they don't have it, they will get it, and the cost will never exceed the established price. Besides it is a source of quite a little income for the Museum (about \$7,000.00 this past year) and what Museum couldn't use more income?

It is particularly gratifying to note how many members of the Society took the time and trouble to forward Christmas greetings. This is particularly true of those who at one time or another lived in Honolulu and were in attendance regularly at the monthly meetings. Among these were R. M. Gray, Ray Summers, Bob Sheats, Dr. Kaiser, John Souder, Jean Kauanui to list a few. Other greetings from those who know the Society only through correspondence were received from Australia, the Philippines, Paris, France, and a number of places on the mainland. These will all be on display at the January meeting.

This "chatter" as Louis Brand calls it, might well be terminated with the trite old saying, "If you like the HSN and it's supplement, tell your friends, if you don't, tell us."

# HARBOR ENTRANCE DREDGING YIELDS MANY FINE SHELLS

By Harold M. Baker

"Little drops of water; little grains of sand" (coral, mud, lava or whatever else there is) "make a mighty ocean and a pleasant land". Out at Maunalua where the Damon estate at one time was the country show place, bulldozers were sent in and they built up a 10 to 15 foot dike around the perimeter of the lagoon area. Then a 24 inch pipe line was laid from the Sand Island area where the second Honolulu Harbor entrance will be dredged. A giant dredge churning day and night is steadily filling in the lagoon. Whatever lies in the path of the dredge is sucked into the mouth of the machinery and forced by hydraulic pressure approximately two miles to the lagoon where it is scattered by the force of water and the blade of a bulldozer over the lagoon area. It is fascinating to watch the stream of conglomerate and water come out of the pipe. Enclosed in that vast labyrinth of coral, mud, sand and lava there are bound to be shells and other kinds of sea life.

The upper strata of the channel being dredged at Sand Island is of fairly recent date and the shells coming from this area are easily identified, but the lower strata 20 to 30 feet down is composed of pure white coral and from it you can obtain many fossils that will require considerable research to identify or classify. Clams, cones, tritons and cowries make up the greater portion of the loot, plus many small shells.

The end of the pipe line, in the Maunalua lagoon, is perhaps fifteen feet above sea level and the lagoon itself is about sea level, therefore the twenty-four inch stream of water and coral once it gets started fills up the area around the pipe line and then starts moving down hill to fill in the rest of the lagoon. When the pipe line is in operation it is next to impossible to do any searching, but when the flow is stopped to change location or make repairs the water runs off rapidly and the area becomes more or less like a reef and the search is on. You search the area near the end of the pipe line first then you start walking down the various stream beds that fan out over an eighth of a mile. The shells, being lighter than the coral, sand or rock, are deposited along the stream-like flows.

It is well to watch where you walk and when you get the feeling that you are walking on rubber don't go any farther as there is no telling how deep you might sink. If you should break through this rubber-like layer, throw yourself flat and crawl out to solid ground.

Keelii Lagoon which extends from the Honolulu Airport to the Honolulu Harbor entrance has long been a nesting ground for several species of the triton family, consequently the major part of your find will be tritons. Top shells are numerous as well as auger shells.

I found several cypraea talpa in excellent shape with no cracks or punctures. I picked up approximately fifty small cream colored cowries about seven-eighths of an inch long but with a wide base. They appeared to have small dark spots covering

the dome. In comparing them with live shells I believe they are fossil helvolas. The few granulata cowries found are pure white but well preserved. The isabella cowries are light in color and have longitudinal lines that appear to be etched. These are plentiful. So far in this dredging operation there have been no mauritania or reticulata cowries which seems to substantiate the theory that they like black rocks for a home. Meters are scarce and for the most part badly chipped. It was quite satisfying though to pick up three sundial shells, two of them like live models. The largest one was broken. Out of ten cypraea sulcidentata with a complexion equal to a gold cowry I was able to select six for keeping. They are fossils but beautiful.

The dredge must have gone right through the middle of an oak cone (*Conus quercinus*) reservation. In one twenty-four hour period the area was covered with them. They were fossils but well preserved.

It is amazing to me how so many different types of coral can be in one area and a bag full of this coral if taken home and studied under the magnifying glass would be well worth the time spent.

The arrow moon shell (*Natica sagittifera Reclus*) dotted the sides of each rivulet. Many of them were dark brown with a glass like luster. Two Harp shells approximately one and one-fourth inch long spurred me on. Then I spied what appeared to be a portion of a tun shell. I started to kick it out of the mud but thought better of it and picked it up. To my surprise it was a harp (*Harpa conoidalis*) in almost perfect condition. The finish inside and out was like a live shell; the intricate pattern was excellent and the color was good. After cleaning it up I measured it and it was almost four inches in length. How it ever survived that two mile trip through the pipe will remain a mystery. Three good specimens of the cypraea tessellata were found.

I hope that I have made myself clear when I call these shells perfect specimens. I am referring only to their luster and the fact that they are not marred. They can in no sense compare to live shells.

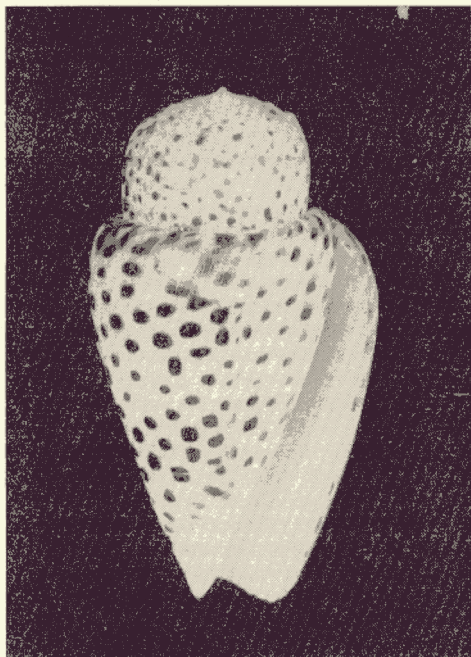
Some day this area will be a mighty land covered by industrial establishments and few if any of the thousands of people who will be employed there will remember that at one time it was the estate of a great people with a love for beauty and a desire to live with nature. They will not remember the ponds with the ducks and swans and the islands with pathways or foot bridges leading to them, or the buildings built for royalty with an Oriental touch constructed without the use of power tools, surrounded with flowers and shrubs brought in from the four corners of the world. Here dwelt the Alii who were the law. Here the problems of the islands were solved amid the beauty of nature and to the tune of song birds who like the Alii have long been gone.

Now a new and different people are asserting themselves, building an industrial empire where problems of a different



Harold M. Baker in his story on the Second Harbor Entrance dredgings, has described the operation and listed some of his rarer finds. Here are some additional details on the subject. Henry Roxburgh, a member of the maintenance staff, of the Children's center who happens to live in the neighborhood and is an early riser, presented the Children's Museum the other day with a shoe box full of shells he had collected in the newly dredged material. Although not a shell collector, he stated that he had only picked up unbroken perfect specimens and this proved true as we delved into the shoe box. Here are listed a few of the shells in that box: A *Fusinus sandwichensis* (Sowerby), white as the driven snow, fragile, yet absolutely unbroken. It was 96 mm. in length and how it ever passed through two miles of watery slush unmarred, we'll never know. A *Conus acutangulus* Lamarck, also referred to as *C. eugramatus* D. B. & R., unbroken in the slightest degree, beautiful brown color markings and the largest we ever saw, measuring 32x15.5 mm. A beautiful yellow and white cone, 36.5 mm. long, with round shoulder and flaring outer lip, which must be called *C. pennaceus* Born on present information. A *Mitra* (*Pusio*) *patriarchalis* Gmelin, 25.4 mm long, marred by a growth flaw only, and also the largest we ever saw of this species. An *Architectonica* *perspective* (Linnaeus), 36.6 in diameter, beautiful, bright and shiny, the top looking for all the world like a collection of spirally arranged strings of tiny glassy, white, and brown beads. *Casmaria erinaeus*, we used to call it *Cassis vibex*, and its smaller, sturdier half brother, *Casmaria ponderosa*, with bright brown markings on cream for *vibex* and pure white for *ponderosa*. A bright brown and white *Mitra baldwini*, one of the rarer *mitras*, which must have been alive when the dredge sucked it up. A number of *Pyramidella sulcata*, not too common, but perfect shells and retaining all their almost iridescent coloring. One of the big surprises was several dozen *Cypraea semiplota* Mighels, an endemic species. W. M. Ingram, in 1937 characterized it as one of the most plentiful of this genus in the islands, yet there is no record of anyone having collected a live specimen in recent years. These shells were all fossil or semi-fossil, although some of them still retained a considerable portion of the original brown color, and on a few, the characteristic white spots were visible.

nature will be solved. Here in the shadow of the flag with fifty stars that flies at Fort Shafter from early dawn to sunset many people will work and dwell unaware that beneath the floors they walk on are fifteen to twenty feet of coral conglomerate hiding the many jewels of the ocean, the sea shells that time would not permit the beachcomber to pick up. Who knows a *Gloria Maris* may have been washed out into the fill to help support the walls of this new empire.



A freak *Conus pulicarius* Bruguiere collected summer 1959 by Mrs. Lelah Foss, Asan Point, Guam, M. I. It was not alive, but was occupied by a hermit crab. Actual size, 28x19 mm. For more information concerning this shell, see HSN, Vol. VIII, No. 1, page 4. (Nov. 1959).

## LESSONS IN MALACOLOGY SOLD WITH BURCH'S SHELL

While John Burch is a dealer in shells and books, he is retired, well at least partially so, has closed his shop on West Vernon avenue, (the address most of you could repeat from memory), moved lock, stock and barrel to his home and closed the front door, which however may be opened by a telephone message to him. This move promises to be a most fortunate one for the shell collectors of the world, some of whom will read this. If you will read on, you will find out why this is so.

In the course of his many years in this business John has accumulated, not only a magnificent shell collection, but also a voluminous reference library, which is the envy of many a shell scientist, and which it would be impossible to duplicate, due to the many rare and out-of-print volumes it contains. It would be hard to say where it ranks in comparison with the other great molluscan libraries, but the wonderful thing about the situation is that he is there living with it and consulting it every day. Apparently it was collected not for number of books, but for useful information.

The above paragraphs were inspired by the receipt of Lists 511 and 512 from John Burch, and what a difference from the usual form of such literature with which we are familiar. Before he even offers you a single shell of that family, he devotes a whole page to the discussion of the Family Cassidae. He divides it into major groups, gives authors, alternate names, synonyms, with brief comments of his own, all of which shows hours of consulting that reference library of his. Even if you bought a shell or two, you would still be ahead of the game considering the wealth of malacological information you would have obtained--information which many of you would be unable to obtain without paying a great deal more for it in time or money. Other families discussed in this list are Tonnididae and Turbinidae. List 511 discusses the Family Trochaea in all its ramifications. If these two are indicative of the shell lists of the future, it might be a good thing for shell collectors that the front door is closed.

## SHELLS AND PRIMITIVE MAN

Interest in shells takes many forms. You will find collectors who specialize in one family, or one locality, or recent shells or those of past ages, but R. W. Tansil, of 618 Judson Ave., Evanston, Illinois has his own approach to the subject. Having been an archaeologist for many years, and shells always popping up in his investigations, he is now, as he says in a recent letter, accumulating material "wherein he will try to accurately show how tremendously important Shells have been to the human race ever since man walked." He has already authenticated fifty different categories for this record. Incidentally he says he has a particular penchant for cones, and would like to exchange Caribbean specimens for those from the Hawaiian area.

## MISCELLANEOUS ITEMS

The H. C. & D. (Hot Coffee & Doughnuts) in reality the Hawaiian Dredging & Construction Company's Tide Calendar for 1960 has been mailed to the dozens of local collectors who consider it a very necessary part of their equipment. Not so long ago local shell collectors used to clip the monthly tide tables from the daily papers until they found out that by filing your name with H. C. & D. you could have the tides for a whole year mailed to you each December. This calendar in graphic form shows the tide level at any hour of every day in the entire year. A glance through the 1960 edition will disappoint some of you, especially those who feel that you have to collect on a minus tide. Reason--there are practically no minus tides during the whole year, and lots of high water. Saturday, Dec. 17th, 1960 at about 9 p.m. shows as the lowest tide of the year, while the week after July 4th shows particularly high water, with July 8th being the highest.

\* \* \* \* \*

Those of you who specialize in fossils, will be interested in No. 31 of the Los Angeles County Museum's "Contributions in Science", issued in October. It is entitled "Late Pleistocene Invertebrates of the Newport Bay Area, California", the authors are George P. Kanakoff, Curator of Paleontology, Los Angeles County Museum, and Wm. K. Emerson, of the American Museum of Natural History, New York. This study was started in 1940 and has resulted in 496 species of identified invertebrates, of which 436 are molluscs. This last named group divide into 128 pelecypods, 289 gastropods, 7 scaphopods (tooth shells) and 12 amphineura (chitons). However there are more than 500 species of unidentified specimens of various families of the invertebrates.

The shell collecting hobby must be on the increase; at least the list of shell dealers grows longer with almost every issue of the HSN. The two latest are (1) Sea Shell Shop, On the Beach, Sanibel Island, Florida. It is operated by Churchill and Hayes Hudson, and is based, as they say, "on the purchase of Mr. Lee R. Biel's magnificent Panama shell collection." (2) Mrs. J. Hurev, Box 60, Kenningau, North Borneo. Mrs. Hurev, although she lists a few specimen shells, seems to be prepared in some cases to wholesale certain shells, as *Cypraea tigris* in lots of 500. 20 cents each. She doesn't state the size however. If the above is free advertising, we'll donate it to the cause.

\* \* \* \* \*

Many of the collectors we have listed in the exchange column of the HSN in the past have stated that they wanted to get a collection of Hawaiian shells. May we suggest that you can get a finer and more complete collection of Hawaiian shells (in pictures) with up-to-the-minute data, by joining the Hawaiian Malacological Society, starting with Jan. 1960, and filing, as they are issued, that wonderful supplement you will get with your HSN.

## AN ANNIVERSARY REPORT

Dec. 13th, 1958, 15 year old Billy Weaver died as a result of a shark bite. Dec. 13th, 1959, just one year later, 566 sharks and 375 unborn shark pups had been killed in the waters around the Island of Oahu. This is what might be called an interim accounting, for the destruction is still going on.

It was easy to organize the Billy Weaver Shark Control Fund in the hectic days that followed the untimely death of this youngster. The Bishop Trust Company offered to act as depository. Contributions rolled in. Almost \$17,000 was subscribed. The Governor of the state gave \$11,000 from his contingent fund. By April 1st, the fishing boat, Holokahana, with a crew of three men had been chartered and the shark hunt was on. On the anniversary date the boat had been around the island twice and was starting on the third round. There is enough money on hand to continue this work until April if no further funds are received.

Complete statistics are being kept as to species, where caught, depth etc. The greatest number have been caught in the Honolulu neighborhood ranging from the Diamond Head light to the Pearl Harbor entrance. The stomachs are always slit open to study their feeding habits. A beer can or two have been found, once a calves head, but mostly garbage, especially in the Honolulu vicinity and along the ship lanes. They also eat lobsters, crabs, turtles, and sometimes other sharks. No shells. As to species taken, the sand shark leads easily with over 400. The tigers and black tips come next away behind, with 70 and 65 respectively, Hammerheads account for 13 the remainder scattered among the rarer kinds.



Hawaii and Hawaiian shells are publicized in English, at least as far as the HSN is concerned, so how he heard about them is hard to determine, but well typewritten in German, an inquiry has been received from Alfred GLOMB, Gemmericher str., 134, Ahlen, Westf., Germany. Says he has a small collection and wants Hawaiian shells. Doesn't say whether he wants to trade or buy. Is preparing an exhibit, and may buy Tinker's book later. Any of you that can handle that language, might write him.

Mrs. Margaret Davies, who lives on Lady Elliott Island, on the Great Barrier Reef, 45 miles from the mainland of Australia, wants to exchange shells. Says she has only been collecting about 18 months, but all her specimens are live taken and in perfect condition. Cones, cowries and volutes are her principal interest she says. Hasn't too many spares now, but "we have the reef more or less at our doorstep so we should have more in the future." Her mail address should you be interested is, P. O. Mail Box, Bundaberg, Queensland, Aust.

Another letter from Germany, but in English. George Scheller, Wislicenus str. 14, Goslar, West Germany, says he got the Hawaiian Malacological Society's address from Tucker Abbott's book. "I beg you to ask the members of your shell club if there are any, perhaps, who would be interested in exchanging shells with me". Says he can offer numerous and rare shells--marines from North Sea and the Mediterranean, and fresh water and land shells from eastern Europe. Wants any Hawaiian shells.

Paul E. Walshe, P. O. Box 8044, Dar es Salaam, Tanganyika, East Africa, writes "I have not attempted to treat shell collecting seriously until just recently when I took stock of my collection and decided to do

something about it." He is principally interested in cowries, although he says he has about 100 other species. He asks "Would it be possible to exchange shells with members of your society? I could possibly be of some help in return." Well, you know the motto of the office--Never overlook a bet.

Helen E. Hallstrom, 623 West Guava St., Oxnard, Calif. writes that she is particularly interested in trading for a *Conus geographus* or *Conus ammiralis*. She says she has many fine shells collected in the Marshall islands for exchange, if anyone cares to trade with her.

Mrs. Doris Chandler, P. O. Box 2344, Ft. Myers Beach, Florida says she would like to exchange Florida *Conus*, *Cypraea* and *Mitras*, for Hawaiian shells of the same families. Will send a list of her exchange material on request. "I am greatly in need of Hawaiian specimens," she says in closing her letter.

## YOU'RE ON NOTICE NOW

Mrs. Katherine V. W. Palmer, currently president of the American Malacological Union, although that was not her primary object, is probably boosting Canada's crop of summer visitors by sending out the following notice: "The American Malacological Union will hold its Annual Meeting in Montreal, August 9-12, 1960 with the McGill University Museum as hosts. Mrs. Alice Turnham, Director of McGill University Museum, Montreal, Canada, is chairman of the local arrangements. We hope that you may attend."

Then, going or coming you might stop at Ithaca, New York, and visit the Paleontological Research Institution, which is where Mrs. Palmer hangsout when she is on duty.

## MORE GOLDEN COWRIES REGISTERED

Nos. 91, 92 and 93 have been recorded in the Golden Cowry Register since our last report. They are:

GCF	L	W	H	Locality	Owner
264278	87.2	61.6	49.2	Yap	W. L. Exley, c/o Weather Bureau, P. O. Box 3650, Honolulu, Hawaii
331500	100	65	51	Not given	Mrs. J. A. Grigg, 21 Dalrymple St., Cairns, Aust.
363528	99	68	54	do	do

To the uninitiated, the distinguishing number for any cowry registered, is the six digit figure under GCF (GOLDEN COWRY FACTOR). This is the product arrived at by multiplying together the length, width and height in mm. If these dimensions are accurately measured on a millimeter calipers, it is contended that the six figure number will never be duplicated, thus forming an infalible method of identifying your shell should it ever be lost or stolen.

During the past month, Lloyd Webb, and Dr. Kaiser, until recently residing in Honolulu, and both members of the HMS, have written that they are in the market for a Golden Cowry. Probably there are others in this category, but as of now, there are none for sale that we know of.

While on the subject, and referring to Herb. Ward's article (See Research), of the 93 registered at the Children's Museum, where the "locality where found" is given, none are from Guam or the Mariannas. There are two however which were collected on Yap.



## GOLDEN COWRY DEVELOPMENTS ON GUAM

Herbert S. Ward, Box 1285, Agana, Guam, M. I. writes an interesting letter about the latest Golden Cowry developments on Guam, and although we had another letter from him telling about his five week's vacation "Down Under" that will appear in a later issue. He says: "Thought the readers of the HSN would be interested in the latest about the Golden Cowry in the Mariannas, and Guam in particular. I still can't agree with Dr. Schilder on his standards of rarity for some shells, and particularly *Cypraea aurantium*. (Schilder's rating for Guam and the Mariannas is a 3, meaning 'moderately frequent'.) Until last Friday, (Dec. 18) only two shells had been reported found in the last fifty years or so. One of them was taken from a fish's stomach, and the other was found dead in Apra Harbor. I did not consider this information sufficient enough to include them in my list of Guam *Cypraeidae*. but now it is a different story as I have first hand evidence of their existence here.

"Last Friday my diving buddy and I were fishing offshore on the south end of the island. I chased a nice grouper into a tunnel in a huge coral head, and while peering through the crevices into the tunnel, I spotted a piece of a cowry. I often pick up pieces of shells when diving with the lung and examine them later in the boat. Anyway, I stuck it in my bathing suit, and took it topside. When I got a good look at it, it turned out to be the posterior end of a young, orange-red golden cowry. It was only about one third of the complete shell, but to me it established a fact, where before there was nothing but heresay. It is a beautiful shell - or would be if whole.

"Yesterday we decided to go back to the same spot, and have another look. While my partner was looking under a ledge, he spotted a cowry upside down in the sand. It was a dead, but still very respectable *Cypraea aurantium*. The spot where it was found was about fifty yards from where I had found the fragment the other day, but a little shallower, at seventy feet. The shell wasn't damaged. You can bet we are going back there again, and next time, we shoot for the live ones. We will be armed to the teeth with crow-bars for the next encounter, and that coral head will look like a typhoon hit it full force. The only trouble is that at that depth, we will be lucky to get in fifteen minutes work using the lung, and not having to worry about decompression tables.

"It is possible that if we can find a similar type of coral formation in shallower water, we may eventually come up with something.

"Golden Cowries have been found in most of the islands south of Guam, and in many other places in the Pacific, and now Guam has gained admission into the realm."



Phillip Clover, who became a shell collector and a member of the H.M.S. while stationed here is now stationed in Japan, and writes that he is busy skin-diving for *Cypraea* and now has 120 species. He has been lucky in finding *Cypraea hirasei*. Says they sell for from \$35 to \$40 there. He still lacks a big five inch Tiger cowry for his collection, so maybe some of you can dicker with him. Address him as follows: P. W. Clover, Navy 830, Box 12, Care Fleet P. O. San Francisco.

Mrs. Olive Ragg, who had quite a collection of Fijian shells, returned to Suva, Fiji, in December. The Shell News will follow her. She will probably return to Hawaii within the year. Her address, Box 418, Suva, if you are interested.

Mrs. Alice Anita Scott, who collected a magnificent collection of marine shells, while stationed on Okinawa, but who for the past year has lived at 6116 - East 21st St., Indianapolis 18, Indiana writes that she lost her husband about two months ago. As a result she has placed her collection in the hands of her sister, Mrs. Alde Vores, New Cuyama, California, and will probably return to Okinawa, if and when it can be arranged.

## The Endemic *Cypraea Semiplota*

What has happened to *Cypraea semiplota*? Why have so few been collected in recent years? According to old and even fairly recent publications on Hawaiian *Cypraeidae* and from personal communications with old-time shell collectors such as Ditlev Thaanum, they were considered fairly common as recently as 1935. Even in my own experience during the early 1940's it was not unusual to get one of these cowries, and yet when I asked the Hawaiian Malacological Society members about two years ago if any had found this shell alive the answer was in the negative. I have not collected it alive since 1947, and have found but two decent specimens since that time, one across from Fisherman's Wharf, the other at Makapuu; both crab shells.

At first glance, there seems to be several reasons why the shell should become scarce; it is a shallow water species and inhabits the quiet water on the reef inside the break of the surf. In other words, its habitat is vulnerable to the increased number of shell collectors and to the large number of individuals of all ages who swarm in the shallow water especially here on Oahu. Also the most productive area, Waikiki reef from Gray's Beach to the Hawaiian Village Hotel, has been dredged so often and so altered that the entire area is dead so far as shell life is concerned. Another good collecting area, across the channel from the Tuna Packer's and Fisherman's Wharf, has been filled in, but this does not explain why the shell is no longer found on the Koko Head side of Black Point, where

no such operations occurred. Nor does it solve the mystery of what has happened at Fort Kamehameha on Oahu and at Hilo and Kahuluu on the big Island, where they have been taken in the past. Coconut Island, Kaneohe, also no longer produces this shell, though here again dredging can be blamed.

I collected *Cypraea semiplota* in deeper water on only one occasion, at Waianae, Oahu, from a single branch coral head in 18 feet of water. Three small specimens plus a specimen of the variety known as *Cypraea annae* were found. The shell has been collected under coral slabs, in dead coral and under stones in knee or waist deep water. It can be found in the sand on several beaches; Blow Hole, Pamalu, Pupukea, and Maile, to name a few. Semifossils are also quite common in the harbor dredgings at Honolulu, Pearl Harbor, Keehi and elsewhere. However, the shells are faded or eroded, obviously very old and in no way to be compared to the brilliant living specimens. In this state the shell is black, the dorsum covered with white dots. The base is creamy white, and the teeth are bright orange brown.

For the record, the mantle is jet black with two tufts of pure white papillae about midway up on either side at about the location of the black spots on *Cypraea tessellata*. It is a beautiful little shell, said to be related to *Cypraea staphylaea*. It is found nowhere in the world outside the Hawaiian chain so far as is known. It varies in size from the small cylindrical *Cypraea semiplota* Mighels to the large and inflated *Cypraea polita* Roberts, which are ecological varieties. *Cypraea annae* Roberts in my humble opinion deserves a place as a sub-species but the experts do not agree. It is hoped that this short note will focus attention on this shell and help solve the mystery of the apparent threatened extinction of the species.--C. M. Burgess, M. D.

## The Tie That Binds-Shells

That invisible bond between shell collectors must be pretty strong when it can be credited with saving a man's life. The story is said to be true, according to Dr. Wm. J. Clench of the Museum of Comparative Zoology, Harvard University, who told it to A. Gordon Melvin of Watertown, N. Y. Dr. Melvin included the story in an article which he recently published in the October NATURE MAGAZINE, (Wash. D. C.). It concerns Pedro de Mesa, a well known collector of Manila, and Tokubei Kuroda, who was probably Japan's leading shell authority. Here's the story as printed in Dr. Melvin's article, entitled "Something Special in Sea Shells".

"Some years ago, when Mr. de Mesa was a young school teacher, he exchanged shells with the Japanese scientist Kuroda, the authority whose name is linked with such well-known shells as *Murex pliciferoides* and *Pecten nipponensis*. It happened that Dr. Kuroda's father was the general in command when the Japanese invaded the Philippines."

"Among the people of Manila who fled into the mountains was de Mesa. Word reached him, however, that Professor Kuro-

## Natural Science Foundation

Copies of the minutes of the sixth annual meeting of the Natural Science Foundation, 1510 Chestnut st., Philadelphia, held on October 27, 1959, have been received locally. Shell collectors all over the Pacific area are particularly interested in this organization, because of its interest in publishing a long needed reference work on the shells of the Pacific and Indian Oceans. In this connection the following excerpt from the minutes may be of interest:

"Dr. Abbott reported that the first 32 pages of the new journal, "Indo-Pacific Mollusca," were published in April, 1959. Introductory matter, a monograph on the Vasiidae by Dr. Abbott, and a loose-leaf binder were issued. Work has begun on several other groups by various malacologists--Strombidae by Dr. Abbott; Tonniidae by Dr. Ruth Turner of Harvard University; the genus *Drupa* by Dr. W. K. Emerson of the American Museum of Natural History; and the Turridae by Dr. A. W. B. Powell of the Auckland Institute and Museum. Approximately 375 subscribers have been obtained in the first year."

One of the principal objects of the Natural Science Foundation is a memorial to the late Dr. H. A. Pilsbry, in the form of the PILSBRY CHAIR OF MALACOLOGY in the Academy of Natural Sciences of Philadelphia, already established and presently occupied by Dr. R. Tucker Abbott. The endowment goal has been set at \$200,000 to \$250,000, and as reported at the October meeting, this fund now has a market value of \$146,500.

Here's more on the subject in their own words:

"Support of the Pilsbry Chair is not the only aim of the Foundation. In addition, the Foundation is anxious to support "Indo-Pacific Mollusca," to expand somewhat the grants it gives others who collaborate on the Indo-Pacific project and to give financial assistance to expeditions collecting in the Indo-Pacific region. The Academy has now added an Assistant Curator to its full-time Mollusk staff and this extra expense, combined with increases in salaries and other expenses which can be expected in the future, may well require some further contribution toward the Mollusk Department budget. If the Foundation is to do all these things, the Pilsbry Chair must be made independent by building up the Fund to the point where its income can fully cover the expenses of the Chair.

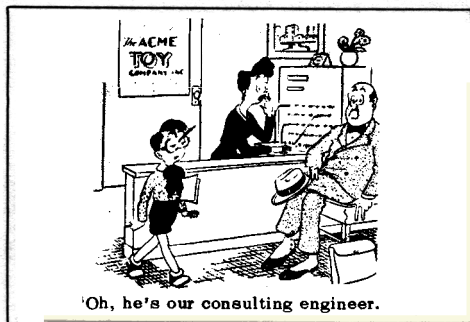
(Continued on page 8, col. 1)

da was in Manila, and was searching for him. Much alarmed, de Mesa sent his brother-in-law into Manila to make inquiries. It turned out that the purpose of the search was to make a friendly offer of a job--which de Mesa refused. He was surprised, therefore, when he received Professor Kuroda's calling card, together with two Japanese sea shells, a magnificent emperor's top labeled *Pleurotomaria hirasei*, and a superb wonder shell labeled *Thatcheria mirabilis*. When Japanese patrols finally reached de Mesa's hide-out, the gift card and the two shells from Professor Kuroda actually saved de Mesa's life!"

## Blame It On Our "Isolation"

The Hawaiian Shell News has received an announcement of a new publication to be called "The Ocean World Review", to be issued by Herman W. Hollingsworth, Seffner, Florida. It will be a continuation of a former publication called "World Wide Sea Shells" with a change of format and a widening of the scope of the material carried. The announcement closes with these words: "If the hobby of shell collecting is ever to resume its place in the field it once had, there must be a publication to assist in carrying out the functions of those who make up this group."

While we welcome the newcomer in this field, it has not been our impression that shell collecting is a decadent hobby as seems to be implied by the paragraph just quoted. When one considers the number of new shell clubs organized in the past five years, the increased number of little shell papers they publish, the never ending flow of requests for Hawaiian shells in exchange, from beginners in the game, the impression locally has become firmly established that shell collecting is on the upsurge. Could it be that from our isolated position out here in the middle of the Pacific, a false impression has been gained. Are we really slipping backwards. It's hard to believe. More power to Mr. Hollingsworth.



## NATURAL SCIENCE FOUNDATION (Continued from page 7)

"The Board of Directors of the Foundation again urgently appeals to those interested in mollusks and the Mollusk Department of the Academy, and to those who wish to pay tribute to Dr. Pilsbry, to help the Pilsbry Fund reach our \$200,000-\$250,000 goal as rapidly as possible."

With the minutes was enclosed an application for membership, from which it appears that you can join as a (1) Contributing member for \$10 a year; (2) a Sustaining member for \$100 annually and (3) Life membership--limited to persons who have contributed either (1) at least \$2,500 in any one year to the Foundation, or (2) an aggregate of \$5,000 or more in one or more years either to the Foundation, or to The Academy of Natural Sciences of Philadelphia for the uses and purposes of the Department of Mollusks, or to the Henry A. Pilsbry Fund.

Among those in attendance who have visited in Honolulu, were the following: A. J. Osteimer 3rd, Dr. R. Tucker Abbott, Dr. Harald A. Rehder, and Dr. Joseph P. E. Morrison.

## PROVISIONAL CHECK LIST OF GASTROPODS RECORDED FROM THE HAWAIIAN CHAIN

Compiled by E. H. Bryan, Jr.  
(Continued from December issue)

### 97. CONIDAE "cone shells"

(Note: A very comprehensive account of the Hawaiian cone shells by Alan J. Kohn, published in Pacific Science, 13 (4): 368-401, October 1959, gives such full synonymy and bibliography that, in this provisional listing, it is necessary to record here only a brief summary of synonymy plus the date of original description and page in Kohn's paper.)

"C." precedes valid names  
"(C." is invalid

- Conus Linnaeus, 1758  
 C. abbreviatus Reeve, 1843, Kohn 371 "abbreviated cone"  
 C. acutangulus Lamarck, 1810, Kohn 372  
 (C. arenatus Hwass; doubtful record based on one specimen in USNM) Kohn 398  
 (C. aristophanes Sowerby, 1858, = coronatus locally) Kohn 398  
 (C. atramentosus Reeve, 1849, is in the genus Mitromorpha, type of Lovellona) Kohn 398  
 (C. aulicus Linnaeus, known from dead specimens only) Kohn 397  
 (C. auratus Hwass, known only from fossils and referred to C. aulicus Linn.) Kohn 397  
 (C. aureus Hwass, known from dead specimens only)  
 (C. auriconus Hwass in Bruguiere, 1792, dredged from Midway) Kohn 397  
 (C. bandanus Hwass = C. marmoreus Linn.) Kohn 383  
 C. bullatus Linnaeus 1758, Tinker 1952 & 1958, Kohn 372 "The bubble cone"  
 (C. cancellatus Hwass locality error) Kohn 398  
 C. capitaneus Linnaeus 1758, Kohn 373  
 C. catus Hwass in Bruguiere, 1792, Kohn 375, "cat cone"  
 (C. ceylanensis Hwass = C. sponsalis) Kohn 390, including its varieties  
 C. chaldaeus (Roding) 1798, Kohn 375  
 (C. cingulum Martyn = C. quercinus) Kohn 388  
 C. circumactis Iredale, 1929, Kohn 377  
 (C. clavus Linn. error for C. auriconus) Kohn 397  
 (C. condensus Sowerby, 1866 ?=C. textile) Kohn 371  
 (C. coronatus Gmelin, error for C. abbreviatus) Kohn 371  
 (C. crebriculcus Sowerby of Paetel, 1887 ?= C. acutangulus) Kohn 372  
 (C. cylindraceus Broderip and Sowerby, 1830 known from dead specimens only)  
 (C. dactylosus Kiener known from dead specimens only)  
 C. distans Hwass in Bruguiere, 1792, Kohn 378, "knobby-top cone"  
 C. ebraeus Linnaeus, 1758, Kohn 378, "Hebrew cone"  
 C. elisae Kiener, 1845, Kohn 396  
 (C. emaciatatus Reeve, probably a locality error) Kohn 398  
 (C. episcopus Hwass, = C. pennaceus Born) Kohn 386  
 (C. ermineus Born, see C. lithoglyphus) Kohn 381

- (C. eugrammatus Bartsch and Rehder, 1943 = C. acutangulus) Kohn 372  
 (C. fabula Sowerby, known subfossil from dead specimens only) Kohn 397  
 C. flavidus Lamarck 1810, Kohn 379, "the golden yellow - or yellow-tinted cone"  
 (C. fusiformis Pease 1860, is a Mitromorpha) Kohn 398  
 (C. generalis Linnaeus, not specifically reported from Hawaii)  
 (C. geographus Linnaeus, not specifically reported from Hawaii)  
 (C. halitropus Bartsch and Rehder, 1943, = C. obscurus Sowerby) Kohn 385  
 (C. hammatus Bartsch and Rehder, 1943, = C. circumactis Iredale) Kohn 377  
 (C. hawaiiensis Bartsch & Rehder, nomen nudum = C. suturatus Reeve) Kohn 392  
 C. imperialis Linnaeus 1758, Kohn 379, "Imperial cone"  
 (C. inermis Born, error for C. ermineus, see C. lithoglyphus) Kohn 398  
 C. leopardus Roding, 1798, Kohn 380, "lettered cone"  
 C. lithoglyphus Hwass in Bruguiere, 1792, Kohn 381, "carved stone cone"  
 (C. litteratus Linn, var. millepunctatus Lamarck = C. leopardus Roding, 1798) Kohn 380  
 C. lividus Hwass in Bruguiere 1792, Kohn 382, "spiteful cone", "bluish cone"  
 (C. magnificus Reeve, 1843, = C. pennaceus Born, 1780) Kohn 386  
 C. marmoreus Linnaeus 1758, Kohn 383, "marbled cone"  
 C. miles Linnaeus 1758, Kohn 284, "the soldier cone"  
 (C. miliaris Hwass = error for C. abbreviatus Reeve. 1843) Kohn 371  
 (C. millepunctatus Lamarck = C. leopardus Roding, 1798) Kohn 380  
 (C. minimus Linnaeus, error for C. abbreviatus) Kohn 371  
 C. moreleti Crosse, 1858, Kohn 384  
 (C. nanus Sowerby & Broderip, 1833, = C. sponsalis Hwass, 1792) Kohn 390  
 (C. neglectus Pease, 1860 = C. flavidus Lamarck) Kohn 379  
 C. nussatella Linnaeus 1758, Kohn 385, "slender cone", "nussatella cone"  
 (C. oblitus Reeve, 1849 = C. moreleti Crosse, 1858, Kohn 384  
 C. obscurus Sowerby, 1833, Kohn 385, "dusky or obscure cone"  
 (C. omaria Hwass, error for C. pennaceus Born 1780) Kohn 386  
 (C. panniculus Lamarck, may = C. textile) Kohn 393  
 (C. parvus Pease 1868 see C. fusiformis Pease which is in Mitromorpha) Kohn 398  
 C. pennaceus Born, 1780, Kohn 386  
 C. pertusus Hwass in Bruguiere, 1792, Kohn 387, "prickled or perforated cone"  
 (C. planorbis Hwass, two so named specimens = C. vitulinus) Kohn 395

(Continued on our next issue)