# LLS AND SEA L

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This Month's Shows - see page 12 BROWARD

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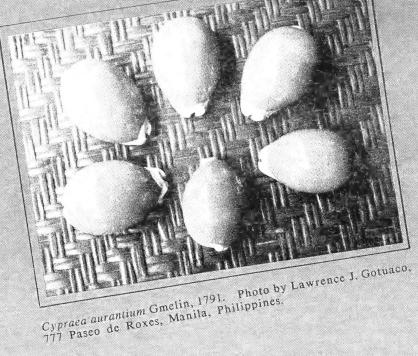
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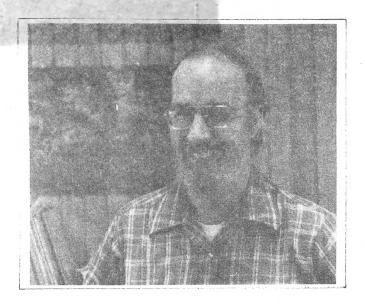
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SMITHSONIAN FEB 20 1986 LIBRARIES

Santa Barbara Shell Show, 1985, Class K (Amatcur, small exhibit), 1st Place, Jack Gilbody, "The Six Classes of the Phylum Mollusca"



Our 199th issue — Published monthly since 1969.



#### EDITOR'S NOTES

Here we go with volume 18 and our 199th issue. I appreciate the lessons in grammar provided by friends and will try not to repeat the same errors. I am certain to find sufficient new errors to keep everyone busy. It IS nice to know that some people read my ramblings (the last ones written about 3am the night before printing.)

It seems to be time to reiterate the basics of Shells and Sea Life. The magazines are produced wholly by Sally and me. We both quit our regular jobs! and are making this our life work. We do typesetting, layout, and mailing with occasional help from our two kids \_ Kristin and Jonathan. The Arcata Union, which will be 100 years old this June, does our printing for us. No one else is directly connected with Shells and Sea Life, although we are grateful to the many people who contribute articles and information information.

When Tom Rice's Of Sea and Shore magazine failed, we decided to support conchology by publishing our own magazine, Shells and Sea Life, and providing the advertiser's and subscribers with equivalent advertising space and subscription issues for which they had paid Tom. We have at no time received any compensation for this \_ we haven't asked for any! It hurts a great deal when an advertiser or subscriber complains about how we are fulfilling Of Sea and Shore's obligations! Tom Rice's only association with Shells and Sea Life is submitting articles. He continues with his other Of Sea and Shore Publications and his Of Sea and Shore Museum.

With this issue, we have sent up to four year's worth of subscription issues to Of Sea and Shore subscribers FREE. We hope that you will now start to support us for our efforts over the past months. I have published 199 editions of this magazine over seventeen-plus years and intend to continue for many more years. I am not aware of any malacological publication in the world which has continued longer with the same editor.

We have continually added space and photographs to the magazine before we received the subscriptions and advertising revenues so that Shells and Sea Life can be the most useful to all of you! Help us -- we need your subscriptions, your articles and notes, and your advertising. We are not supported by any club or institution. Subscription now costs less than nine cents per page delivered to your door and must pay all of our expenses to continue and grow.

All independent publications require advertising revenue to function. We have been including a large section of book advertising as the only way to compensate for less-than-adequate advertising as the only way to compensate for less-than-adequate advertising revenue from other sources. We also know that many of our readers are desperately searching for the books we include in our listings. Less than one-third of the magazine is advertising while most publications include up to fifty per-cent or more! Our advertising percentages are much more similar to Hawaiian Shell News and other "non-profit" publications.

Donations to help us continue and grow are always welcome. We will recognize those people who help in the following way. Friends subscribe for \$100.00 per year. Sponsors subscribe for \$250.00 per year. Benefactors subscribe for \$500.00 per year. Patrons subscribe for \$1000.00 or more per year. Subscribers for each of these categories will be listed (unless you request anonyminity) periodically. Larger denations will have an issue of Shells and Single Patrons and Single Patrons and Single Patrons are supported to the second support of the se periodically. Larger donations will have an issue of Shells and Sea Life dedicated to their name.

Gift subscriptions are always available at a five dollar discount off the current subscription rate. Students and senior citizens also receive the same discount. Life Subscriptions are \$500 each. There are many institutions and schools around the world which cannot subscribe but should be receiving Shells and Sea Life. You are always welcome to gift a subscription to a specific person or organization, or let us decide where your gift will do the most good. In any case, your beneficiary will receive a card recognizing your

January and February are the months for Florida shell shows and we hope that everyone will have a chance to see our publication there. Our apologies for not having more shell dealer ads for you in this issue \_ we have not had time to set them up. If you see your favorite here please tell them so \_ if they are not here please ask them why not.

Best regards,

#### In Memoriam

We have lost several friends in the past month or so. Their contributions to conchology will be sorely missed and our sympathies go out to their family and friends.

A. MYRA KEEN TED PHILLIPS RUTH & BEN PURDY RAY UPTON

Editorial Staff

David W. Behrens R. Tucker Abbott Hans Bertsch Michael T. Ghiselin George L. Kennedy William G. Lyons

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Eveline du Bois-Reymond Marcus

SHELLS and SEA LIFE was formerly known by changing duration of the subscription. as the OPISTHOBRANCH NEWSLETTER. The magazine is open to articles and notes Monthly DISPLAY ADVERTISING is \$26 on any aspect of malacology, fossils or per column inch (2.3" wide), minimum \$33 related marine life. Technical articles per column inch (3.2" wide); \$47 per submitted for publication are subject to column inch (4.8" wide); \$600 per page, editorial board review. Articles should be with discounts for larger ads & multiple submitted typed and double-spaced insertions. Rates & discounts only apply to Authors receive 10 free reprints of their prepaid advertising. Multiple copies of article. Additional reprints are available for individual issues — \$8 for 5 copies; \$10 for purchase provided they are ordered prior to 10 copies; \$20 for 25 copies; \$35 for 50 the publication. No material submited will additional information or rate card. be returned unless accompanied by return postage and packing.

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#### Notes on recent and fossil Neritidae, 13. Five times Neritina spinosa

Henk K. Mienis, Zoological Museum, Mollusc Collection Hebrew University of Jerusalem, 91904 Jerusalem, Israel

In a report on a collecting trip to the Solomon Islands, Boorman (1979) mentioned and figured a spinous Nerite from a freshwater creek near Munda, new Georgia, as cf. Neritina spinosa Lamarck. Although Lamarck has described several Nerites as new to science, none of them were named Neritina spinosa.

The name Neritina spinosa has been employed, however, five times by other authors as a new (sub)species name. They are enumerated and discussed here in chronological order.

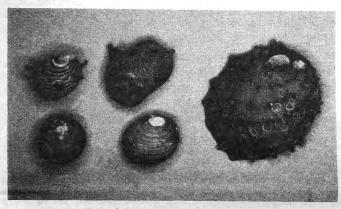


fig. 1 (top left) Clithon spinosus (Sowerby, 1825). fig. 2 (top center) Clithon corona (Linnaeus, 1758). fig. 3 (bottom left) Clithon rarispina (Mousson, 1849). fig. 4 (bottom center) Clithon wallacei. fig. 5 (right) Neritina juttingae Mienis,

Neritina spinosa Sowerby, 1825 \_ fig. 1

This species is well characterized by the presence of dark spiral bands on a greenish to reddish-yellow background and by the well-developed spines on the shoulder of the last whorl (although they may be wanting sometimes). It is a species of the genus Clithon s.s. and its correct name reads: Clithon (Clithon) spinosus (Sowerby, 1825).

Originally the species was described from Otaheite = Tahiti. According to Starmuehlner (1976) it is confined in its distribution to Tahiti. Remark: Budgin is often quoted as the author of this species. However, it was described by Sowerby, who apparently

used a manuscript name by Budgin.

Neritina spinosa Wood, 1828 \_ fig. 2.
This is actually the species figured by Boorman (1979). junior synonym of the rather polymorphic Clithon (Clithon) coronata (Linnaeus, 1758).

This species is characterized by having a shell with an inflated Its basic color is usually dull yellowish, greenish or sometimes violet, often with darker spiral bands and irregular

Neritina rarispina forma spinosa Mousson, 1849 \_ fig. 3.

Also in this case we are dealing with a Clithon species. It is nothing else than a spinous form of Clithon (Clithon) rarispina (Mousson, 1849).

The shell is relatively small, smooth and globular. Usually it is grayish olive-green with numerous very small blackish spots.

Spines, if present at all, are very short.

Both the nominal species and the spinous form were described from Java, Indonesia. It is, however, also known from New Guinea (Starmuehler, 1976), while there are specimens of C. rarispina from Camoguin and Negros Island, both Philippines in the author's collection.

Neritina aculeata var. spinosa Recluz, 1850 \_ fig. 5.

Recluz based his description on a figure in Sowerby (1849, pl. 110, fig. 34), which shows a spiny form of Neritina juttingae Mienis, 1973 (= Nerita aculeata Gmelin, 1791 not Mueller, 1774). The general shape is typical for the genus Neritina s.s. and is

characterized by a very large last whorl and extremely wide aperture. The form spinosa is characterized by the presence of

up to 9 spiral rows of blunt spines.

The exact systematic position within the genus Neritina is still unclear since the anatomy of the species remains so far unknown. The presence of spines on the shell is, however, unique in the

genus Neritina.

The type locality of the spinous form was Sumatra. In its general distribution Neritina juttingae is confined to Singapore, Borneo, Sumatra and Palau Panaitan (Mienis, 1973).

Neritina wallacei var. spinosa Schepman, 1919 — fig. 4.

This is again a Clithon species and represents the very rare spiny form of Clithon (Clithon) wallacii (Dorhrn, 1861), which name was emendated more correctly to wallacei by von Martens (1879).

It has a relatively small, smooth, high conic shell, showing numerous thin colored bands (often red) on a green, blue or violet background.

The type locality of the spinous form is Aru Islands, Bendjina iver. Its general distribution is confined to New Guinea and River. the off laying islands (van Benthem Jutting, 1963).

The status of the five (sub)species originally described as Neritina spinosa can be summarized as follows: Neritina spinosa Sowerby, 1825 = Clithon (Clithon) spinosus (Sowerby, 1825).

Neritina spinosa Wood, 1828 = Clithon (Clithon) corona (Linnaeus,

1758). Neritina rarispina forma spinosa Mousson, 1849 = Clithon (Clithon) rarispina (Mousson, 1849).
Neritina aculeata var. spinosa Recluz, 1850 = Neritina juttingae

Mienis, 1973.

Neritina wallacei var. spinosa Schepman, 1919 = Clithon (Clithon) wallacei (Dohrn, 1861).

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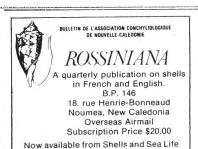
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#### FREE CLASSIFIED AD!

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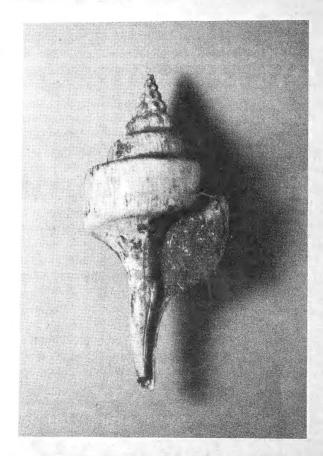
#### Clavilithes penrosei (Heilprin) from the middle **Eocene of Texas**

Christopher Garvie, 66 Higate West Hill, London N6 6BU England

While collecting recently in the middle Eocene (48 million year old) deposits of Texas, an almost complete adult specimen of Clavilithes penrosei (Heilprin, 1891) was found, lacking only the protoconch. I believe this to be the first complete specimen of this species from the area. Apart from the Reklaw formation, where *Clavilithes* is one of the more common large fossils, this species is rarely found complete in the Clairbornian. Just how rare this find is, may be judged from the fact that this is the first large specimen found in over 400 collecting trips and over a large specimen found in over 400 collecting trips and over a period of 15 years! Most collections though, do possess the large columellas and fragments of the body whorl. This specimen came from the top of the Viesca member, (Bureau of Economic Geology (Texas) No. 145-T-34) described as: "Navosota River, upper edge of clearing occupied by narrow clearing on valley slope east of river, about one half mile south of abandoned iron bridge, airline distance. J.A. Donahue 160 acre tract, middle of Jose Maria Viesca Survey." The sediment there consists of a soft vellow mark beneath an indurated ledge, containing many rolled yellow marl, beneath an indurated ledge, containing many rolled and worn molluscs: the Weches in east-central Texas has been regarded as a shallow-water near-shore deposit by Stenzel, 1938.

Redescription: Whorls: 7-1/4, length 165mm, maximum diameter 76mm. First whorl with 9 prominent costae, the next three with 6-7 costae. Spire whorls with 9 revolving lines, two subsutural ones close together and forming a weak subsutural collar, the rest wider and equally spaced. Suture deeply impressed, shoulder prominent and in later whorls concave. Body whorl with an almost rectangualr cross-section. Heilprin, 1891, surmised, from comparison with most other Clavilithes species, that a posterior canal was present: this specimen shows little or no trace of such a feature. Outer lip thin, meeting the previous whorl at right angles. Beak long and slightly twisted, labral callus deposit thin.

Remarks: The thin outer lip of this specimen is not typical of Clavilithes s.s. According to Palmer, 1937, pl. 55, fig. 1, penrosei has a thickened outer lip at least posteriorly. Typical Clavilithes has usually a thick outer lip, which in the adult is often varix like. Perhaps the present species should be separated subgenerically but on a single specimen that is open to question. This adult is a smaller one, as columnellas have been found indicating a maximum size perhaps twice the present 165mm.



Clavilithes, a typically Eocene genus, is known from the Cuisian (Paleocene) of the Paris Basin, and is represented there by C. costarius (Deshayes) and C. parisiensis subscalarius Grabau; the genus is very common in the Lutetian and Bartonian of England In fact a day's collecting from the type Bartonian on the South Coast of England will almost certainly produce two or three 165-210mm specimens of *C. longchaevus* Solander. According to Wenz, 1944, the genus does range to the recent, being represented in the South Pacific by C. (Cyrtulus) serotinus Hinds.

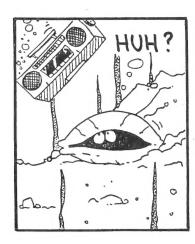
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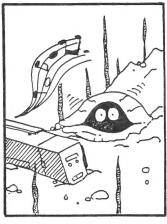
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#### PERSONAL NOTES

From Ellen J. Moore: It is my sad duty to inform you that our friend and colleague Myra Keen passed away at the age of 80 on January 4th. We all have our special memories of Myra and know that she left a legacy behind her of books, former students, colleagues, amateurs and dear friends. I would like to share with you some quotations of hers from interviews, tapes, and letters. May Myra's own words soften the news of her death and bring back to you pleasant memories of your own.

"My Mother used to think that February was the gloomy month, and that if she got through that she could look forward to the rest of the years but I think for the years of the years but I think the second to the rest of the years but I think the second to the years but I think the ye

to the rest of the year, but I think of February as the month when the early spring flowers start to bud and bloom."

"I was not the warrior type of woman. It is the quiet going

ahead and doing it, proving you can do it, so that after awhile (it takes a long time) but after awhile, it reaps its own reward. And I think it's a more solid reward than it is to get out with a

hatchet and start battering down the door."

"I felt that war is no solution for any problem or conflict of any kind, but I'm not a peace activist. I don't get out and

"I never let myself get angry. I'd rather be a martyr to unfairness than be looked at askance as a scrapper."

"I was never particularly adverse to the idea of marriage. I was never particularly adverse to the idea of marriage. I expected to marry some day if the right person came along, but I was never out searching. I was too interested in what I was

"We had been brought up to be ladylike and proper, to do what was socially acceptable, and not to infringe on the rights of others. One should not have an appetite one cannot control which is likely to lead to excesses. One should avoid excesses of any kind. I avoided buying soda-pop and candy or fivolous luxuries."

"Live theater is artificial. It's holding a mirror to life, and I'd rather look at life. But music is something different: it feeds the spirit. Music continues to be one of the joys of my

life."

"I was teaching an advanced paleontology course in which I demonstrated to students the proper way of wrapping shells for shipping. I'd pass out assorted shells to the students for them to wrap. Then I would climb up on a chair and tell them the story of the station agent who was asked by a young man if his trunk would survive the trip to London. The agen threw it off the platform and said, 'That's what it'll get in Edinburgh,' threw it down a second time and said, 'That's what it'll get in Glasgow,' and then dropped it a third time on behalf of London. The trunk fell apart and the agent said to the young man, 'I don't think it'll make it'. Then I'd start throwing packages of the students. The look on their faces would send me off into spasms. That was one course they remembered."

And we will remember Myra, the dedicated scientist and great lady who will continue to inspire us. Best wishes, Ellen J. Moore

lady who will continue to inspire us. Best wishes, Ellen J. Moore

U.S. Geological Survey, Branch of Paleontology and
Stratigraphy - M/S 915, 345 Middlefield Road, Menlo Park, CA

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Frederick Raymond "Ray" Upton, 56, died at home on Christmas Day. Ray spent 37 years in and around the military, almost all of that time as a civil service employee at Fort Huachuca, Arizona. He is survived by his wife Virginia (Ginny), who writes: "I have every interion of continuing with my collecting, but it may involve less dredging and my signing up for tours. Already, I have catalogued more than 18,000 shells just from the Panamic region, with 12 shoeboxes still to be added. My master inventory is listed according to shell in numerical order and location in geographical order. I also have compiled books of locality data, mine as well as that of other shellers. We were ready to seriously pursue this upon our retirement." "I may either consider teaching longer or retiring as planned in 1989. Not sure yet!"

From Gene Everson: In the November issue there was a request in the Reader Forum for information about the "China clam." In case the other collectors are interested in this species, I am sending a copy of my reply.

Dear Karen,

There is a very good reason why you cannot find the scientific name of the china clam in your shell books. It is not there. The name is *Hippopus porcellanus* Rosewater, 1982. Since this species is so recently named, and since popular shell books take years to procrastinate, write & publish, the China clam is not easy for an amateur collector to find. However, it was through the efforts of an amateur that this common shell was named at all.

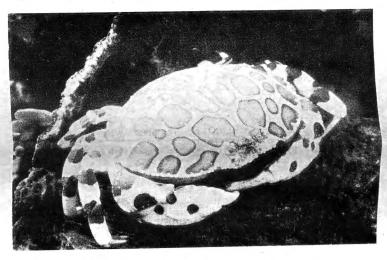
John Root is a shell processor in West Palm Beach, Florida. He gets large quantities of uncleaned shells and bleaches, acids, polishes, slices, buffs and packages the results for gift shops. For years he contended that the "China clam" was different than the "Bear Paw," *Hippopus hippopus* (Linnaeus, 1758). Although the Bear Paw in gem condition has strong flutes, red blotches and is heavy, and the China clam is rather smooth sculptured, grayish white lacking most of the characteristic strawberry color and is much lighter in weight these two species were considered.

grayish white lacking most of the characteristic strawberry color and is much lighter in weight, these two species were considered by professionals since the days of Linnaeus to integrade completely and were all called *H. hippopus*.

The description and the picture that you seek can be found in The Nautilus Vol. 96(1) January 25, 1982, pages 3-6. "A New Species of *Hippopus* (Bivalvia: Tridachnidae). Also, I just noticed that Abbott & Dance's Compendium of Seashells illustrates both *H. hippopus* & *H. porcellanus*. I believe that it was primarily through the efforts of John Root that Joe Rosewater reviewed the classification of this group, and the China clam, *Hippopus porcellanus* Rosewater, 1982, was belatedly named. \_ Gene Everson, 5703 Court View Drive, Charlotte, NC 28226

From Rachel Imlah After October 1, my new address is 178 Summit St., New Haven, CT 06513.

From Pam Scott: I want you to know how much I enjoy Shells and Sea Life in its new format \_ such a variety of information, both for the professional and the amateur. You're covering all bases and that's something that's been needed for a good long time. Hooray for you!



Now, I would like to identify "What Is It? #17." The photograph of the exceptionally attractive and colorful crab is Hepatus ephelithicus (Linnaeus); however, it is commonly called the Calico crab or, according to Voss' Seashore Life of Florida and the Caribbean, the Dolly Varden crab. I find sheds and dead crabs frequently along the shoreline of the bay waters of Sanibel and Captiva Islands here in Florida. The Audubon Society Field Guide to North American Seashore Creatures shows it's range from Chesaneake Ray to Florida and Tayon and the it's range from Chesapeake Bay to Florida and Texas and the West Indies to Campeche. The Stone Crab Menippe mercenaria (Say) is a dark brownish red creature mottled with grey spots; it's pincer fingers are black. They are most often found down here on dinner plates \_ the meat of their claws is absolutely delicious.

Keep up the good work! — Pam Scott, 16861 Davis Road SW #824, Ft. Myers, FL 33908.

\* \* \* \* \*

From Ralph E. Ferguson: "What is it #17" We have called them "Queen Crabs" for years in this business. \_\_ Ralph E. Ferguson, Ferguson's Marine Specialties, 617 N. Fries Ave., Wilmington, CA 90744

Shells and Sea Life, 18(1):5

Notes from Hans Bertsch - Helping Science: The Thrill of Discovery: Southern California is crowded. It is filled with roads, houses, stores, and bodies on the beach. But then, I'm spoiled, because I spent six weeks in Baja California Sur. Using spoiled, because I spent six weeks in Baja California Sur. Using 2 weeks to drive down and up the peninsula, I spent most of the summer on a very private beach which overlooks white sands, fossil shell reefs, Isla Cerralvo, and the incredible blue of the Gulf of California. I stayed at Hotel Las Arenas, 30 miles east of La Paz, on a rocky promontory between Punta Arenas lighthouse and Punta Perico. It is a locale for lovers and dreamers, for quiet moments, and for time leisurely spent dallying under the full moon. But I was there to work. Really!

I was leading marine research expeditions under the sponsorship of Have Mule Will Travel. This is a non-profit educational corporation that advertises scientific research projects (such as my continuing investigations into the zoogeography, taxonomy, and evolutionary ecology of nudibranch mollusks). Interested individuals (such as yourself) joint a research team and spend a week or more helping a scientist a research team and spend a week or more helping a scientist conduct his or her investigations. Their fees cover their own expenses plus a share of the expedition costs (including those of the scientist-leader); their fee is tax-deductible. And it can be a great vacation. Have Mule (787 South Grade Road, Alpine, CA 92001) offers a variety of scientific trips, including archaeological, biological, and paleontological. Destination sites include Nuku Hiva in the Marquesas, Haiti, Antigua, Israel, and Paraguay — on land, on the sea, or underwater.

I had already led an expedition to the Punta Arenas region in April. I have spent 3 summers 20 miles up the coast at Las Cruces, and have visited other nearby collecting localities (some

Cruces, and have visited other nearby collecting localities (some on California Academy of Sciences expeditions). So I knew the area, where the mollusk fauna might be the richest, and what animals I could expect to find. As a scientist I also knew to expect the unexpected: A manta ray swimming alongside the boat. Underwater lava cliffs covered with color. A giant purple sea star with orange tube feet. Stinging Portugese man-of-war. The first record of a species of Favorinus, a white colid nudibranch with rose-pink cerata that eats the eggs of other nudibranchs. The dorid nudibranchs Chromodoris baumanni Bertsch, 1970, with its ruffly egg mass and 5 Chromodoris norrisi Farmer, 1963, all under one rock. Thousands of Cortez garden eels; they live in vertical sand burrows extending their heads and bodies two feet (until approached). Submerged basalt ridges totally hidden under a dense current-swayed covering of purplestalked gorgonians with crystal white polyes stalked gorgonians with crystal white polyps.

During this expedition I was especially interested in documenting biological activities — egg-laying behavior and predator-prey relationships. I found the black sponge that Chromodoris norrisi eats; dozens of egg-laying Epitonium billeeanum (DuShane & Bratcher, 1965) on their solitary coral prey Tubastrea; seasonal differences in the reproductive activity of various gastropods; and the nests of the frilly swimming of the state of various gastropods; and the nests of the frilly swimming clam Lima hemphilli Hertlein & Strong, 1946.

I was underwater almost daily during the summer expedition, and filling tanks with a portable compressor almost nightly Then there were data to transcribe into my log books and discussions with my research team members. Still there was time for non-biological events. I judged a local beauty contest (helping to choose Senorita Los Planes) and was interviewed on the evening news program of the La Paz television station. interview was conducted by the host of El Pulso del Mundo, Senor King; it was live and in Spanish. My good friend Agustino (one of the waiters at Hotel Las Arenas) accompanied me \_ and it was certainly reassuring when the TV cameras focused on me to know that a friend who did not know English

As I write these lines, I am preparing for another Have Mule Will Travel research expedition. If any of you like to collect your own shells, these programs may be ideal. The team leaders usually encourage initiative by the participants \_\_ so you would certainly be able to find some exotic specimens. Moreover, you could also write it off for tax purposes. But best of all, you would be sharing first hand in the thrill of scientific discovery would be sharing first hand in the thrill of scientific discovery and helping scientists in their quest for the unknown. — Hans Bertsch, 6056 Beeman, No. Hollywood, CA 91606

From Kirstie Kaiser: The Red Sea - '85 Expedition will be leaving Los Angeles International Airport on October 24 [1985].

This dive trip and journey into the ancient past is being hosted by Twila Bratcher who is orchestrating the trip for 12 members. Our plans are to fly to Cairo, Egypt where we will go to Sharm el-Sheikh located at the tip of the Sinai Peninsula. There we will board the dive boat "Lady Jennie V" for a week of diving, studying and photographing the molluscan fauna of the Red Sea from Ras Muhammed to the isles of the Straits of Tiran.

Because the Red Sea Borders the extreme end of the vast Indo-Pacific province, there are a number of endemic species but the

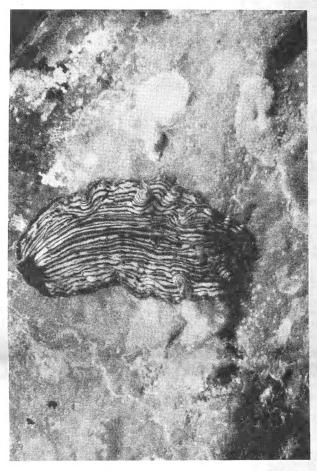
Pacific province, there are a number of endemic species but the majority of species are closely related to the molluscan

inhabitants of nearby waters, mainly those of Indo-Pacific faunal affinity.

We look forward to returning with greater knowledge of the land, the people, and the wide variety of molluscan life! \_\_\_ Kirstie Kaiser, 786 Starlight Heights Drive, La Canada, CA 91011 [ed. - our apologies for not getting this note in sooner. We hope to get a report on what happened on the trip and some photos of the resulting collections]

#### Prostheceraeus bellostriatus: A Flatworm that's hard to forget

Jim Gatewood, 7584 Amethyst St., Rancho Cucamonga, CA 91730



Every once in a while a part-time diver like myself gets a chance to see something that really makes a dive one to remember. In October of last year [1984], I had just such a dive at San Nicholas Island. I was diving off the west end of the island in about 30 feet of water searching for nudibranchs, when out of the corner of my eye I spotted something weaving its way in and out of a kelp holdfast. I swam over, with my camera at ready, to get a closer look. The object that had caught my attention turned out to be the flatworm, *Prostheceraeus* bellostriatus.

This beautiful flatworm is described as being up to 35mm long and 25mm wide. It can easily be identified in the field by its unique color pattern of alternating black and white longitudinal stripes across the dorsum with an orange mid-doral and border stripe. The range of *Prostheceraeus bellostriatus* is from Monterey Bay to Southern California as listed by Morris, Abbott and Haderlie (1980).

Photographing a flatworm can be a real chore. You see, these little guys don't just sit there like a clam; they can move suprisingly fast. Anyhow, after snapping off a half dozen photographs I looked up to see where my buddy was, thinking that maybe he'd like to see this flatworm. Now remember, I only looked away for a few seconds, and you guessed it, old Prostheceraeus bellostriatus was gone. When I tried to tell the other divers on the boat about the beautiful flatworm I'd seen, they all looked at me like I was telling a fish story. for me at least one of my photographs turned out to substantiate my story.

Morris, R.H., D.P. Abbott & E.C. Haderlie [Eds.] 1980. Intertidal Invertebrates of California. Stanford Univ. Press, Stanford, Calif., p.81.

# St. Petersburg Shell Club, Inc.

We would like to let your readers know that on February 14-15-16, 1986, the St. Petersburg Shell Club will present its 39th Annual Shell Show. It will be held at the Community Center, I Park Place at 106th Ave. Treasure Island, Florida.

This show is put on by collectors who prepare museum quality exhibits from their private collections to show to the public. These exhibits are entered in categories and are judged for quality and correctness of presentation.

While the exhibits are judged by noted shell experts, the exhibitors prepare their exhibits with the public in mind. Ribbons and the enjoyment of the public are the only rewards the club members receive.

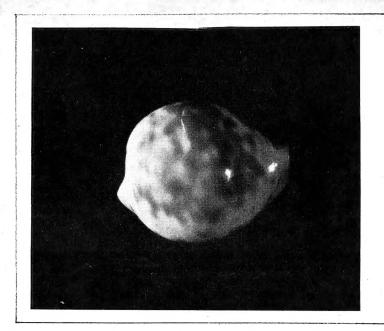
We are proud to be the only shell club in the continental United States that is able to present an award from the Smithsonian Institute. This award goes to the outstanding educational exhibit presented by an amateur. This is a very coveted award and collectors from all over the

country come here to try for it.

Membership in the St. Petersburg Shell Club is open to anyone interested in shells and related subjects. This year marks the 50th Anniversary

of the Shell Club's founding.

A moderate donation of \$1.50 for adults will be taken at the door to help the club defray the cost of putting on the show. Children under 15 are admitted free with an adult. There will also be shells and related items for sale during the show.



Cypraea iu-tsui Shikama, 1974. Photos by Marty Gill, Shamaron Shells, 1306 East Forth-Eighth St., Brooklyn, NY 11234.

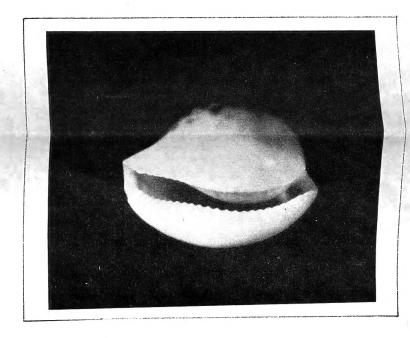
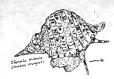


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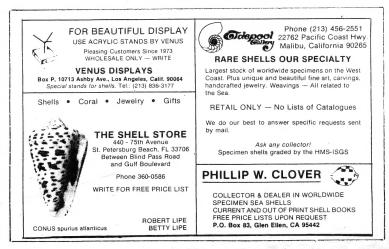
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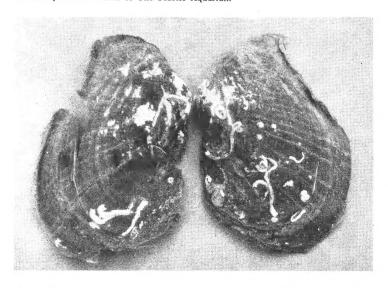
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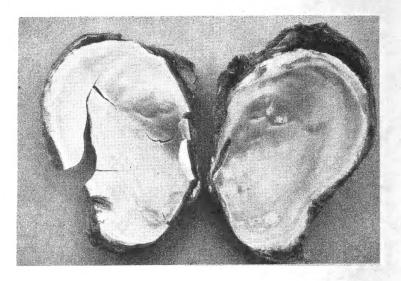
## Preserve your Periostracum or — Save your Skin!

Roland Anderson, The Seattle Aquarium, Pier 59, Seattle, WA 98101 Photos by Lelani Wilson of The Seattle Aquarium



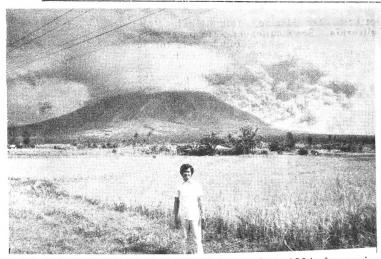
Preserved and unpreserved shells of the northwest ugly clam, Entodesma saxicola.

Shells with tight-fitting periostracums will frequently break when dried, destroying what otherwise might be an interesting or valuable shell. Collectors have overcome this tendency to break by either removing the periostracum or coating it with glycerin (expensive) or mineral oil (messy). Both coatings work adequately but shells prone to such breaking need periodic recoatings. Removing the periostracum might improve the beauty of the shell, but keeping the periostracum intact is necessary for accurate identification of the shell and makes it more interesting to my mind.

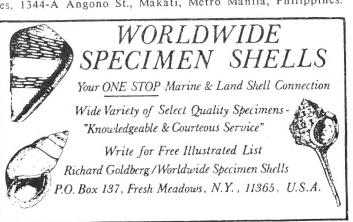


After seeing a television commercial showing the beneficial effects of a moisturizing skin lotion on a dried leaf I tried several of these lotions on shells that are very prone to breaking in hopes of finding a more convenient, inexpensive coating. However, after three weeks all coated shells had dried and cracked.

A somewhat more successful treatment I have used is to soak the shells in a solution of buffered formalin, glycerin, and household sugar, a solution used to preserve the color in dried starfish (Furlong & Pill, 1972, Starfish — Guides to Identification and Methods of Preserving). After soaking for a month the shells can then be dried without fear of breaking. This solution is also expensive; we have still not come up with the ideal method for saving our periostracums.



Mayon Volcano when it erupted 23 September, 1984, Legazpi City, Philippines. Bue Antipora in foreground. Bevan Supplies, 1344-A Angono St., Makati, Metro Manila, Philippines.



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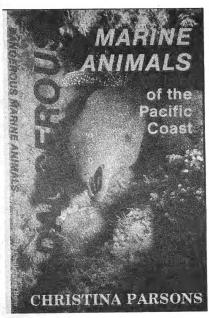
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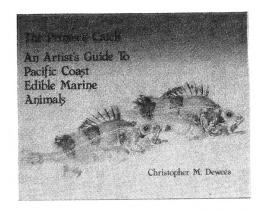
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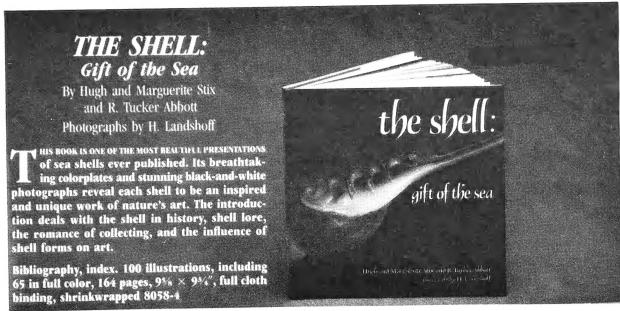




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Schedule Shows & Conventions

1986

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Southwest Florida Shell Show January 17-19, Ft. Myers, Florida. Contact: John Vaughan, Box 05962, Tice, FL 33905, or call 813-693-1913

Greater Miami Shell Show January 23-26, Miami, Florida. Contact: Norris McElia, 905 N.W. 15th Ave., Miami, FL 33125, or call 305-642-1504

Astronaut Trail Shell Show January 24-26, Melbourne, Florida. Seventh Shell Show at the Melbourne Auditorium, 625 E. Hibiscus Boulevard, Melbourne, Florida. The show will be open to the public from 10 am to 6 pm Friday and Saturday and from 10 am to 5 pm on Sunday. Set up time for exhibitors and dealers will be on Thursday, January 23, 1986, from 9 am to 1 pm, with judging immediately following at 1 pm. Contact: Jim & Bobbi Cordy, 385 Needle Blyd., Merritt Island, FL 32953, or call 305-452-5736

Broward County Shell Show January 31-February 2, Pompano Beach, Florida. Contact: Jean Andrews, 451 S.E. 15th Ave., Pompano Beach, FL 33060, or call 305-782-2837

Naples Shell Show February 14-16, Naples, Florida. Contact: Terry Fitzgerald, 660 York Terrace, Naples, FL 33942, or call 813-598.2579

St. Petersburg Shell Show February 15-16, St. Petersburg, Florida. Contact: Bob & Betty Lipe, 440 75th Ave., St. Petersburg Beach, FL 33706, or call 813-360-0586

Sarasota Shell Club February 21, 22, and 23, Sarasota, Florida. Contact: Bet Hamilton, 1240 Primrose, Venice, Florida 33595, or call 813-497-2809.

Sanibel Shell Fair March 6-9, Sanibel, Florida. Contact: Dorothy Putnam, Sanibel Community Center, P.O. Box 72, Sanibel, FL 33957, or call 813-472-2155

Marco Island Shell Show March 12-13, Marco Island, Florida. Contact: Vera Wooley, 930 Montego Court, Marco Island, FL 33937. or call 813-394-1098

Palm Beach Shell Show April 3-6, West Palm Beach, Florida. Contact: Phyllis Diegel, 143 Alcazar St., Royal Palm Beach, FL 33411, or call 305-798-5351

Georgia Shell Show April 11-13, Atlanta, Georgia. Contact: Carl & Rene Beeler, 1868 Gainsborough Dr., Chamblee, GA 30341, or call 404-451-2221

St. Louis Shell Show April 18-20, St. Louis, Missouri. Contact: Alan Gettleman, 4045 Central Lane, Granite City, IL 62040, or call 618-931-1312

2nd International Symposium on Indo-Pacific Marine Biology Guam, Truk & Ponape, Sponsored by the Western Society of Naturalists, June 22 - July 9. Contact: David H. Montgomery, WSN Secretary, Biological Sciences Dept., California State Polytechnic University, San Luis Obispo, CA 93407.

American Malacological Union
Western Society of Malacologists
Joint Meeting, July 2-7, Monterey, California.
Contact: Paula Mikkelsen or Margaret S.
Mulliner

# FEBRUARY 1986

MONDAY	TUE	WED	THU	FRI	SAT	SUN
JANUARY  M T W T F S S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	MARCH  M T W T F S S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			Broward Count January 31-February Beach, Florida. Cont 451 S.E. 15th Ave., FL 33060, or call 30	y Shell Show 2, Pompano act: Jean Andrews, Pompano Beach, 15-782-2837	<b>2</b> Groundhog Day
MONDAY 3	4	5	6	7	8	9
MONDAY 10	11	Ash Wednesday Lincoln's Birthday	13	Naples Shell	OW February 14- ontact: Terry Perrace, Naples, -598-2579  St. I February Conta Ave., or call	Petersburg Shell Show ary 15-16, St. Petersburg, Florida. et: Bob & Betty Lipe, 440 75th St. Petersburg Beach, FL 33706, 813-360-0586
MONDAY 17  Washington's Birthday Observed	18	19	20	21, 22, and 23, S Contact: Bet Han	22	23
MONDAY 24	25	26	27	28	Putnam, San P.O. Box 72 813-472-2155	hell Fair March 6-9, ida. Contact: Dorothy ibel Community Center, , Sanibel, FL 33957, or call  Marco Island Shell Show farch 12-13, Marco Island, Florida. iontact: Vera Wooley, 930 Montego iourt, Marco Island, FL 33937, or call 13-394-1098

North American Paleontological Convention August 10-17, Boulder, Colorado. Contact: Norman L. Gilinsky, Dept. of Geological Sciences, VPI and SU, Blacksburg, VA 24061 Unitas Malacologica Ninth International Malacological Congress, August 31-September 6, Edinburgh, Scotland. Contact: Congress Office, Royal Scotlish Museum, Edinburgh, Scotland If we have missed a show or convention that you are aware of please excuse us, and send the information. We would especially like to hear of overseas shows and meetings. Thanks to Donald Dan for keeping us informed of many of these dates.

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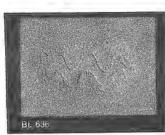


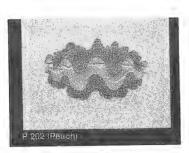












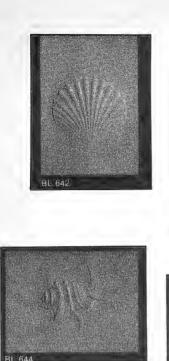
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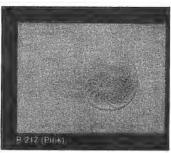
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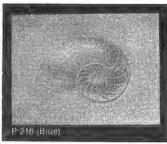
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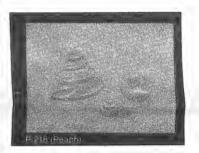












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Thanks for your help. Souly.

#### READER FORUM

From I.S. Roginskaya: I have some nomenclatorial difficulties with the taxonomy of two species of CORYPHELLIDAE, described from the Pacific Coast of North America. And I cannot solve the problems by means of the literature available.

For some years already, I suspect that Coryphella fusca O'Donoghue, 1921, described from Vancouver Island region (O'Donoghe, 1921, pp. 195-197, pl. 3(9), fig. 28, pl. 5(11), fig. 60; from the depth 10-25 fathoms (=18.3 - 45.7m) is to be regarded as a junior synonym of Himatella trophina Bergh, 1894, the coryphellid species, described by Bergh, basing on a single specimen, collected by Dall in 1880 near Port Althorp, Alaska, from the depth of 5 fathoms (=9.1m, Bergh, 1894, pp.134-136, Taf. 1, figs. 16-18; Taf. 2, figs. 1-5).

I agree with O'Donoghue (1921 op. cit.) that Coryphella sp. Bergh, 1879, described by Bergh, basing only on a single bulbus pharyngeus, dredged by W.H. Dall from the depth 9-16 fathoms (=16.5 - 29.3m) near Adakh Island, Aleutian Islands (Bergh, 1879, p.78, pl. 1, figs. 13-18; pl. 2, figs. 7-8) and Coryphella fusca

O'Donoghue, 1921 belong to the same species.

Now, to my eye, the similarity of the radula teeth and mandibles of Himatella trophina Bergh, 1894 and Coryphella sp. Bergh, 1879, is striking. Just only compare the radular teeth: Bergh, 1894, op. cit. Taf. 1, fig. 18; Taf. 2, figs. 4-5 with Bergh, 1879 op. cit. pl. 1, fig. 14, and the jaws and masticatory processes: Bergh, 1894 op. cit. Taf. 1, fig. 16; Taf. 2, figs. 1, 3, with Bergh, 1879 op. cit. pl. 1, fig. 13, pl. 2, The resemblance of the external appearance of Coryphella fusca O'Donoghue, 1921 and Himatella trophina Bergh, 1894 is very strong: the projecting dorsal brim, broad head, three pairs of long tentacles: oral, propodial and the perfoliated rhinophores, bearing 35 (Bergh, 1894 op. cit.) or 32-38 (O'Donoghue, 1921 op. cit.) delicate ringlets etc. The figure of one row of radular teeth, published by O'Donoghue (1921 op. cit.) for his Coryphella fusca, is also very similar to the pictures of radular teeth of Himatella trophina Bergh, 1894 and of Coryphella sp. Bergh, 1879. The latter, as it was already mentioned was recognized by O'Donoghue (1921 op. cit.) as a synonym of his Coryphella fusca.

The perfoliated rhinophores, distinguishing Himatella trophina from other coryphellids (known at that time), with simple smooth dorsal tentacles, seemed to Bergh a decisive argument for establishing a separate genus Himatella Bergh, 1890, with type species by monotypy Himatella trophina, Bergh (1890 p.36). (I don't understand, by the way, why in Russell's "Index Nudibranchia" (1971 p.79) and in Thiele,,, 1931, p. 453 earlier, the genus is cited as Himatella Bergh, 1891? and in "Index to the Opisthobranchia ...." of Behrens and Long (1981,p. 33) as Himatella Bergh, 1892? [ed. - each of us tried to pick the proper date; normally the actual publication year rather than the year printed on the publication]. In consequence of this Bergh had enlarged the diagnosis of his CORYPHELLIDAE including the following phrase: "Rhinophoria simplicia, elongata, raro perfoliata" (Bergh, 1890 op. cit. p.35), or "The Coryphellidae have long, simple (not perfoliated) rhinophores (Himatella only forming an exception in this respect" and "the genus Himatella finally is separated from the others by its perfoliated rhinophores" (Bergh, 1900, p.30-31) (the same in Danish: Bergh, 1899, p.29).

And naturally the question arises, why O'Donoghue (1921 op. cit.), who synonymized his Coryphella fusca with perfoliated rhinophores with Coryphella sp. Bergh, 1879, considering only the shape of radular teeth, hadn't discovered the identity of his species (perhaps to my eye only?) with Himatella trophina Bergh, described basing on the whole specimen and not only on the bulbus pharyngeus as Coryphella sp. Bergh, 1879? The work of Bergh mentioned (1894 op. cit.) was included in the list of literature in O'Donoghue, 1921 op. cit. Later on O'Donoghue (1926) placed the two species: Coryphella fusca and Himatella trophina in the two separate genera (Coryphyella and Himatella of the family FLABELLINIDAE. What is even more odd — that is why Bergh himself never indicated his Coryphella sp. 1879 as a synonym of his Himatella trophina?

The generic name *Himatella* later on was suppressed by Thiele (1931, op. cit., p.453) as <u>nomen preoccupatum</u>, for the new name *Himatina* Thiele, 1931, with type species — *Himatella trophina* Bergh, 1894 (*Himatella trophina* Bergh, 1890 abandoned, being a <u>nomen nudum</u>).

But all these nomenclatorial changes have only historical significance, as later on *Himatina* Thiele, 1931, was synonymized with *Coryphella* Gray, 1850, and *Himatina trophina* (Bergh, 1894) transformed to *Coryphella trophina* (Bergh, 1894) (Marcus, 1961, p.48), and afterwards (Gosliner et Griffiths, 1981) even to *Flabellina trophina* (Bergh, 1894). (But I persist in considering CORYPHELL-IDAE as a taxon distinct from FLABELLINIDAE, and *Flabellina* Voigt, 1834 distinct from *Coryphella* Gray, 1850.)

If we only consider the literature for the last 20-25 years, we shall find the specific name fusca often used by the specialists (Marcus, 1961 op. cit.; Steinberg, 1963; Hurst, 1967; Bernard, 1970; Sphon, 1972b op. cit.; Robilliard, 1974; Gosliner et Griffiths, 1981 op. cit. etc.). Coryphella trophina (Bergh, 1894) was mentioned rather rarely (Marcus, 1961 op. cit.; Marcus et Marcus, 1967 (in the discussion of Flabellina telja); Sphon, 1972 op. cit.; Gosliner et Griffiths, 1981 op. cit.), separately, though simultaneously in the same work with Coryphella fusca O'Donoghue, 1921. So it is clear that the authors cited admitted the existence of two separate species.

In my material I had six specimens of so-called Coryphella fusca O'Donoghue, 1921: one animal provided from Bering Sea, and 5—from the Sea of Okhotsk (from depths 20-115m) (Roginskaya, 1964, 1969). In the latter work I tried also to prove, that Aeolis camchatica Volodchenko, 1941 from Avatcha Bay (East Kamchatka) (Volodchenko, 1941, p.59-60, p.67 (English translation), pl. 3, fig. 6; pl. 4, fig. 6) had to be regarded as a junior subjective synonym of Coryphella fusca O'Donoghue, 1921. Aeolis camchatica was described basing on a single specimen with highly worn obliterated radular teeth.

In 1974 Robilliard (op. cit.) reported the live Coryphella fusca O'Donoghue, 1921 from Alaska. And while the specimens of O'Donoghue (1921 op. cit.) in preserved state were less than 20mm in length, and the specimen of Coryphella trophina of Bergh (Bergh op. cit. 1894) — only 8mm, the examples of Robilliard were of a considerable length (from 20-45mm up to 120-140mm), more approaching the lengths of specimens from my material, attaining from 25.5 up to 40mm in length in preserved state (Roginskaya, 1969 op. cit.).

As I had already shown on the material from the Sea of Okhotsk and from the Bering Sea (Roginskaya, 1969 op. cit.), the radular teeth of so-called Coryphella fusca O'Donoghue are most variable within one animal as well as among several specimens. But almost invariably I could find 1-2 typical rows of teeth (throughout each radula), identical with the teeth of Coryphella trophina (Bergh, 1894) and with Coryphella sp. Bergh, 1879, while the other rows sometimes demonstrated the high degree of obliteration. It is a pity that Robilliard (1974 op. cit.) doesn't discuss the radulas of his specimens.

And if we assume Coryphella fusca O'Donoghue to be a junior synonym of Coryphella trophina (Bergh), it would seem quite natural to expect the numerous specimens of this species at the coast of Alaska (Robilliard, 1974 op. cit.), as the type locality of the latter is exactly Alaska (Bergh, 1894 op. cit.). And if moreover we agree that Coryphella sp. Bergh, 1879, as well as the specimens of so-called Coryphella fusca O'Donoghue from the Far East of the USSR belong to Coryphella trophina (Bergh), we can put together the distributional range of a typical Pacific boreal species, widely distributed throughout the northern part of the Pacific Ocean. His range extends along the north-western coastline of North America from Alaska (Bergh, 1894 op. cit.; Robilliard, 1974 op. cit.) up to Oregon (Sphon, 1972a op. cit., 1972b op. cit.). The species is reported from the Aleutian Islands (Bergh, 1879 op. cit.) and from the eastern coast of the Pacific Ocean: in the Bering Sea (near Kamchatka) (Volodchenko, 1941op. cit.; Roginskaya, 1969 op. cit.) and in the Sea of Okhotsk (Roginskaya, 1964 op. cit., 1969 op. cit.).

It is interesting to mention one observation of Bergh in connection with this species. Bergh had found in the mouth of the bulbus pharyngeus of Coryphella sp. from Aleutian Islands (1879, op. cit. p.78) "half hanging out ... a fine Caprella, the body having the length of 6mm." (The whole length of this bulbus pharyngeus was 5mm.) The specimens from my material do not yield to Aleutian animal in voracity. The stomachs of two specimens from the Sea of Okhotsk also contained the food-objects most unusual to Coryphella species, known mainly as coelenterate-feeders: the pharyngeal bulbs of small sized Nudibranchia (CUTHONIDAE and CORYPHELLIDAE) (Roginskaya, 1964 op. cit.) In one stomach (the body length of the specimen = 25.5mm) the pharyngeal bulbs of

swallowed nudibranchs numbered as much as ten! The usual foodobjects — hydroids, were also present in the stomachs of these cannibalistic *Coryphella trophina* (Bergh, 1894).

The dentition of radular teeth of the specimens of the Far East of the USSR demonstrated the high degree of splitting and obliteration — apparently the result of contacts of radular teeth with hard parts of the swallowed prey. The similar variability of teeth was reported for *Coryphella stimpsoni* (Verrill, 1879), from Maine (Morse, 1971) and from the deep-sea basins of the Sea of Japan (Roginskaya, 1978), feeding on hard-skinned burrowing seanemones.

What do you think about it all? Perhaps somebody had already synonymized Coryphella trophina (Bergh, 1894) and Coryphella fusca O'Donoghue, 1921? Or there exists the opposite opinion defending the validity of both species? But, to my regret, this literature had completely escaped from me.

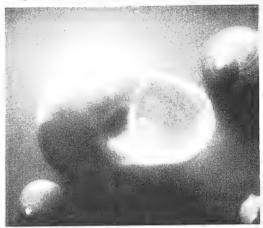
I want to add that in my six specimens of Coryphella trophina (Bergh, 1894) two types of spermatozoa were present in the hermaphrodite gland. The sperm dimorphism in my opinion is a very perspective diagnostic feature of Coryphella (Roginskaya, 1963). It would be interesting to know if Alaskan specimens of Robilliard (1974 op. cit.) and the specimens of so-called Coryphella fusca O'Donoghue, 1921 from the other parts of the coast of North America demonstrate the two types of spermatozoa? For instance, perhaps, Dr. Sandra Crane, who, according to ON, 1975, vol. 7, no. 3, p.9,had collected in 1975 some Coryphella fusca in the Vancouver region, had already studied the histology of hermaphrodite glands of her specimens and can answer?

Note: In the first isse of "Shells and Sea Life" for 1985 just arrived, the two species: Coryphella fusca and Coryphella trophina are also placed separately in the same list! And the common name of C. fusca "predatorious aeolid" — isn't it the hint on the voracious and carnivorous habits of this species, first noted by Bergh for Coryphella sp. Bergh, 1879, then for the specimens from our Far East (Roginskaya, 1964 op. cit., 1969 op. cit.).

And here is the list of citations I used in the letter: 1. D. Behrens & S. Long 1981. ON, 13(7):27-38; 2. Bergh, R. 1879. Sci. Res. Expl. Alaska, 1(1):127-188; 3. Bergh, R. 1890. Zool. Jahrb. Abt. Syst., Band 5, Heft 1, s.1-75; 4. Bergh, R. 1894. "Albatross". Bull. Mus. Comp. Zool. Harv., 25(10):125-233, pl. 1-12; 5. Bergh, R. 1899, Den Dansk. Ingolf-Exped., Bind 2, no.3:1-46, taf. 1-5; 6. Bergh, R. 1900. The Danish Ingolf Exped., 2(3):1-49, pl. 1-5; 7. Bernard, F. 1970. Syesis, 3:75-94; 8. Gosliner, T. & R. Griffiths 1981. Ann. S. Afr. Mus., 84(2):105-150; 9. Hurst, A. 1967. Veliger, 9(3):255-288; 10. Marcus, Er. 1961. Veliger, 3(suppl.):1-85; 11. Marcus, Ev. & Er. Marcus 1967. Stud. Trop. Oceanogr. Miami, 6:vii+256p.; 12. Morse, M.P. 1971. Biol. Bull. 140(1):84-94; 13. O'Donoghue, C. 1921. Trans. Roy. Can. Inst. 13(1):147-209; 14. O'Donoghue, C. 1923. Ibid. 14(1):123-131; 15. O'Donoghue, C. 1926. Ibid. 15, pt. 2(34):199-247; 16. Robilliard, G. 1974. Can. J. Zool., 52(8):989-992; 17. Roginskaya, I. 1963. Dokl. Akad. Nauk, SSSR, Biol. Sci., 152(5):1256-1259; 18. Roginskaya, I. 1964. Zoologicheskii Zhurnal, 43(11):1717-1719; 19. 1971. Index Nudibranchia. Del. Mus. Nat. Hist., 141p., 21. Sphon, G. 1972a. Veliger, 15(2):153-157; 22. Sphon, G. 1972b. O.N., 4(10-11):53-79; 23. Steinberg, J. 1963. Veliger, 6(2):68-73; 24. Thiele, J. 1931. Handb. Syst. Weichtierekunde. Teil 2, s. 377-778; 25. Volodchenko, N. 1941. Explor. des Mers de l'Orient Extreme de l'URSS, 1:53-68. - Dr. I.S. Roginskaya, P.P. Shirshov Institute of Oceanology, Academy of Sciences of the USSR, 23, Krasikova St., Moscow, USSR, 117218

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## The Beautiful Norrisia norrisii (Sowerby, 1838) Stephanie Prince, 24242 Via Aquara, Laguna Niguel, CA 92677



Subfamily Gibbulinae Genus Norrisia (Bay 1880) Norrisia norrisii (Sowerby, 1838)

This is the only species in the Genus *Norrisia* on the West Coast. It can be found from Monterey, California to Baja California, from shore to 13m, living on kelp and other brown algae in the kelp beds.

Norrisia norrisii is a heavy, solid shell orbicular in shape, and reaching a diameter of from 35 to 50mm and 25mm high. The umbilicus is ovate and quite wide and deep, and ont the columellar side it is tinged with light green; in great contrast to the glossy black-brown coloring of the shell. Immediately encircling the umbilicus the shell is black. The top part of the shell iss generally not as glossy as the underside, and its coloring is more of a faded chestnut brown, particularly in the larger specimens (50mm diameter). Sun bleached specimens turn an orange-tan color, and they are quite attractive.

The interior of the aperture in my younger specimens is pearly, but the older and larger specimens have a rust color in the aperture. The outer lip is bordered by a thin margin of brown and the lip itself is quite sharp and thin. The operculum is round and the outer side is covered with spiral rows of bristles. The inner side is a glossy and smooth black-brown color.

I observed two live 50mm Norrisia norrisii on some shoreline rocks at a very low tide in Laguna Beach last winter. They were in a tide pool attached together on the side at the bottom of a pool where there was a clump of brown kelp. The snails were bright red with a cream colored foot. They looked much like our common garden snails, except that their color was red, and they had four evenly spaced tentacle-like hairs on the sides of their bodies.

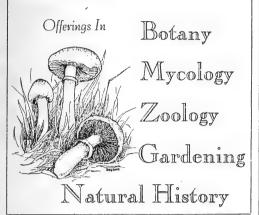
The juvenile shells (my specimens being 4 to 10mm diameter) are dark brown with white dots starting at the apex and going around the sutures eventually fading into brown on the body whorl. The aperture, again, is pearly and the umbilicus has a hole as do the adult shells. They were found dead, stuck to a sea anemone on the shoreline rocks.

This shell was formerly quite abundant, but it is not so commonly found now because of the disappearance of the kelp beds from large areas along the Pacific Coast of Southern California.





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#### MUSHROOMS TO GENUS II:

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Gives a complete description of the macroscopic features used to recognize each Friestan genus of mustrooms in the field, as well as those segregate genera which can be recognized by their macroscopic features. Enables one to identify mustrooms without using a key. Companion to Volume I.

"Both of these books (vols.1and.ll) are excellent field guide compan-ions. It is almost like having your own specialist along to clarily and explain the details of identification. Recommended?" Collistoor

32 pages 51/2x81/2 \$3.95

#### How to Identify MUSHROOMS TO GENUS III:

Microscopic Features
by David L. Largent, David Johnson, and Roy Watting

A thorough treatment of microscopic features of mishrooms and boletes, organized into chapters on hyphae, trama, cystidia, basidium, and basidiospores. Includes chapters on techniques and materials. Illustrated with photomicrographs and line drawings. Bibliography, glossary, index.

Assembles what was previously available only as a collection of scattered journal articles and expensive references.

13

How to Identify MUSHROOMS TO GENUS IV:

Keys to Families and Genera by Daniel E. Stuntz

Two previously unpublished keys. The first, unique in the English language, relates the Friesian genera to the genera recognized by Singer in the third edition of Agaricales in Mcdem Taxonomy. The second key is to the families, tribes, and genera recognized in the same publication. Both keys use macroscopic and microscopic features.

"The two keys to families and genere, a monumental accomplishment by Dr. Stuntz, will be a valuable tool for students of agancology for a long time."

Joy Spurr, Pacilic Search

How to Identify MUSHROOMS TO GENUS V: Cultural and Developmental Features by Roy Walling

A guide to culturing mushrooms in the laboratory, Covers methods of obtaining pure cultures, recipes and instructions for preparing culture media, characteristics of against in culture, and how to perform chemical tests and genetic studies.

Also includes suggested laboratory experiments, ecological exercises, staining procedures, and notes on how to collect specimens for laboratory culture and how to preserve voucher material, illustrated with line drawings and photographs. Glossary, bibliography, index.

"Numerous cross references are an added bonus. Dr. Watling should be commended for bringing together important information and techniques from a diverse literature... for those who are interested as per imental appects of against basonomy, this booklet will be a useful.

Roy E. Helling Boston Mycological Club Bulletin

169 pages 7x81/9 \$8.95

A Literature Guide for Identifying

#### **\*** MUSHROOMS

by Roy and Ann Elizabeth Walling

by Roy and Ann Elizabeth Wa!fing
This much-needed guide preserts a brief aummany often contents of articles and Looks
dealing with mushroom Identification and gives comments on their uscluliness. The
Wattings include works published from the sea and before to 1979. Listings are by
genus within families and by geografic and before to 1979. Listings are by
and the contains its of imposinguish societies with addresses, nycological journals with
Also contains its of imposinguish societies with addresses, nycological journals with
articles, and species illustrated in the Alfas de la Société Mycologique de France together
with their plate numbers.

"... a welcome and much needed supplement to our mycological illerature... As a source book it should be added to your list of best buys."

Herb Saylor, Mycena News

How to Use

\*\*MUSHROOMS FOR COLOR

by Milliam C, Rice; Illustrated by Dorothy Beebee

A comprehensive manual on how to use mushrooms for dyinig cloth: The book is concerned with dyinig techniques, the colors obtainable from mushrooms, and with the identification of mushrooms useful for dyinig.

Special features are the five colored plates showing the surprisingly wide range of colors possible, and the extended table giving the mushroom society syliding each color with particular mordents and other factors necessary. Also useful are the attractive drawings and descriptions of dye mushrooms, and the discussion of how to identify mushrooms.

The user needs no print experience the

The user needs no prior experience in using dyes or in identifying mushrooms

The well-organized text, the charts, the color plates, and the skillful drawings make this book a very important manual on (the use of mushrooms) as dyeplants."

Clolide Barret
The Weaver's Journal

#### THE AGARICALES OF CALIFORNIA I: The Genus Amanita by Harry D. Thiers

by Harry U. Thers

The first in a series of books to be published over the next ten years which will eventually include the complete mushroom flora of California.

Contains dichotomous and synoptic keys, and descriptions. All 29 species of Amenita which have been collected in California and which have voucher specimens in a valid herbarium up to date of publication are included. Excellent

53 pages color photographs of 7 species accompany the text.

#### THREE-RING BINDER for Agaricales of California

Sturdy vinyl-covered cardboard, deep blus, 8 x 9" by 2¾" thick. Title imprinted in silver, Large enough to contain entire series.

#### THE MUSHROOM CULTIVATOR

A Practical Guide to Growing Mushrooms at Home by Paul Stamets and J.S. Chilton

by Paul Stamets and J.S. Chilton
This well-illustrated, clearly written, and detailed guide to growing mushrooms at home
will be much welcomed by mushroom enthusiasts.
It contains detailed information on steelie technique and agar culture, preparation of
grain spawn and compost and other substrates, the important features of a growing room,
toubie-she-ping problems in cultivation, identification and control of containinants and
pests, how to grow sixteen species of important edible and psychoactive mushrooms, and
many other things one needs to know to grow mushrooms successfully, includes detailed
appendices and a thirrough up-to-date bibliography.
Abundantly flustrated with 222 black and white photographs, line drawings, graphs,
and diagrams, along with scanning electron micrographs and 23 color photographs.

"For the first time information previously unavailable to the general public is presented in a clear and easy to understand fashion."

#### OFFERING WILD AND EXOTIC MUSHROOM CULTIVATION IN NORTH AMERICA A Grower's and Gourmet's Guide to the New Edible Species by Geraldine C. Keye

by Geraldine C. Kaye. This shoulet was compiled by a reference librarian to a stay thermany requests she had been getting for knorces of information on growing mushrooms. It includes dealers in snawn and contract on equipment, commercial growers and retailers of popular mushroom species, descriptions of mycological and citiwation-related organizations, book-ectiens, and an annotated bibliography, Information is provided for over 20 kinds of ecible mushrooms now being grown or officed on the market.

The guide will be especially useful to amateurs interested in raising wild mushrooms or species which have been cultivated in Europe and Asia for many years. It will also prove useful to commercial growers of these unconventional mushrooms.

excellent companion to The Mushroom vator and Mushrooms in the Garden (see p. 3).

32 pages, soft cover The Farlow Reference Library, Harvard University, 1984 \$4 00

**T**MUSHROOMS

TMUSHROOMS
and other fungi of Great Britain and Europe
by Roger Phillips

This beautiful book is composed of high-quality color photographs and descriptions of
14 spacies of lungi. The mushrooms were photographed in the studio on plain pastelcolored backgrounds to show their identifying features and variations among individuals.

The concise descriptions also include information on season, habitia, and ediblity. The bury covered are
spaces, Compridences, characteristic bottless, polypores, to to be full on the control of th

#### TKEYS TO AGARICS AND BOLETI

I REYS TO AGARICS AND BOLETI by Meinhard Moser

English Translation by G. Kibby and R. Rayner of Meline Kryptogamenitors Band (8b/2, fith edition, 1982 Die Röhnling und Billsterpilze

Dr. Moser's book is a series of keys to 3153 opecies of polypores, boletes, and agarics of Europa. It is the only comprehensive book covering this wide geographical srca. Also included for each appelse are short descriptions, references to published tilustrations, edibility, habitat, and season of appearance. Contains a glossary, 13 pages of line drawings of basinfocarps and microscopic features, a color chart, and index to genera and species.

This translation will be much welcomed by English-speaking mycologists.

15 TOO PILZE IN FARBFOTOS
by Rose Marie Dähncke and Sabine Marie Dähncke (in German)
A companion volume to Dr. Moser's books on ascomyceles and basidiomycotes, which lack photographs. This book is composed of outstanding color photographs accompanied by descriptions of European fungl. The authors follow Moser's species order and nomenclature, providing page references to his books for each species. Included are: boletes, agartes, polypores, putflast, chanterelles, toothed fungl, coral fungl, jelly fungismuts, and ascomycetes.

Even if you do not read German, the beauty and utility of the photographs are worth the price of the

686 pages 81/x61/2, hard cover

#### TFUNGI IN FOLKLORE,

Fact and Fiction by W.P.K. Findley

This unusual book brings a large amount of scattered information about beliefs and practices concerning fungl into one place. The only similar book is *The Romance of the Fungus World* by Rolle and Rolle, written in 1928.

Fungus World by Rolfe and Rolfe, written in 1928.

Full of fascinating and filler-known facts, Findlay's book includes chapters on fungus-lore of the Greek and Romans, fairy rings, witches, and sporstly lights, ergoism and the vegerable fly, lingl and ser, used of fungit services of the 9 spatic in the aux Lenging one was policions, use a halloclinopiem, and mystic use of the 9 spatic in the aux Lenging one was policions, use a halloclinopiem, and mystic use of the 9 spatic in the aux Lenging one with the many control of the spatic in the spa

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#### OFFERING PLANT **GROWTH SUBSTANCES** Chemistry and Physiology by L. J. Audus

Written for the advanced student, this book deals with the chemistry, metabolism, general physiology, and mode of action of substances which regulate plant growth, both natural and synthetic.

natural and synthetic.

Its main emphasis is on the four major groups of regulators—the auxins, gibberellins, cytokinins, and the natural inhibitors—but it deals also with ethylene, synthetic growth retardants and inhibitors, erroductive hormones, allelopathic substances, and soil growth factors, among other topics. The control of growth by regulating natural hormone levels, and theories of the mechanism of growth regulators are also discussed.

Also included are figures, tables, a glossary, extensive bibliography, and index.

hard cover Richmond Publishing Co., Ltd., 1972 - .\$46.95

#### THE BULB BOOK

THE BULB BOOK

A Photographic Guide to over 800 Hardy Bulbs
by Martyn Rix and Roger Phillips
In this lovely and informative book species from all over the world, including North
Anorica, ore shown. Plants with oorms, tubers, and rhizomes, as well as true bulbs, are
included, both monocots and dicots.

An exclining leature of the book is mumerous outstanding and informative shots of
wid species in their native habitate, especially fascinating to the pardener who has only
seen the plants in cultivation. Most of ore other photogrounds in the studio. Important
including underground parts, and plants backgrounds in the studio. Important
books the emphasis is on natural species.
Written for both the gardener and the wild-flower enthusiast.

"". maps Phiquapility photos." a wer good value and worth waddings.

"... many high-quality photos \_ a very good value and worthy addition to any bulb-fancier's library."

Merti Gerdes The Bulletin, Bend, Oregon \$14.95

19 WILD FLOWERS OF BRITIAN
by Roger Phillips
This book, the first in the scries of natural history books, set the stage for the quality of design and production of the others in it the author provides outstanding photographs of over 1000 species of llowering plants, including trees, and strubs. The majority of photographs show plants arranged on a plant tackground in the studio. However, many were taken in nature.

were taken in nature.
The species are arranged in order of flowering instead of by family, as an aid to people unfamiliar with families. The family of each species is given, along with information on distribution, habitat, abundance, season of flowering, size, and notes on folkiore and uses. Also included are indexes to the plants by family, common name, and scientific name.

192 pages, 8/8/x113\*

Pan Books, Ltd., 1977 \$14.95



20 VASCULAR PLANT FAMILIES

by James P. Smith, Jr.

A textbook for students in plant taxonomy Treats the vascular plants of North America, with emphasis on the flora of the United States. All families with native species are included, plus some selected excite families of economic or ornamental importance Summarizes recognition characters for each family. Tables and charts-compare important fautures of different families.

Tures of different similies.

Robdes introductory chapter on the taxonomic hierarchy and scientific names, an illustrated survey of monitoring an antinuare list of regional floras and specialized freatments, notes on how to collect and pare speciments, glossary, index. Profusely flustrated with 109 plates of line drawings by Kainryn.

Used as a text by over 100 colleges and universities.

320 pages, 7x8% \$10.95

Keys to the Families and Genera of VASCULAR PLANTS

VASCULAR PLANTS
In Northwest California
by James P. Smith, Jr. and John O. Sawyer, Jr.

Covers the area from Oregon to the southern border of Mendocino County, and from the coast eastward to Redding Includes not only all nature genera, but introduced ones. Includes keys based on reproductive characters, as well as keys to confets and borolakeved woods prices and analyseed plants of the region, an appendix infustrating come basic bolancial termodry, and analyseed plants of the region, an appendix infustrating come basic bolancial termodry, and the production of the region of the regio

#### A Key to the Genera of GRASSES -

of the Conterminous United States by James P. Smith, Jr.

by James P. Smith, Jr.

Covers all genera in the 48 states. Includes section on structure of the grass plant, references to Hitchcock and Chase's *Manual of the Grasses of the United States* for each genus, illustrations, glossary, and references to the taxonomic literature arranged by state. Useful for college courses in plant taxonomy.

81 pages, 5/9/28/b.

85 955-85/89 81 pages, 51/2x81/5 \$8.95

#### GRASSES, FERNS, MOSSES & LICHENS

A companion volume to Wildhowers (see p. 8), this book contains the plants which the author could not include their: 162 species of grasses, sedges, and rushes, 58 species of terras, horsetails, clubmosses, and quillworts, 140 species of mosses and liverworts, and 96 species of inchess.

toktore and uses.

A most unusual and useful feature of the book is its inclusion of representatives of the little-photographed mosses and lichens. It will contribute greatly to making these besulful and often overclooked plants better known to nature lovers.

191 pages, 81/x111/4, soft cover Pan Books, Ltd., 1980, \$14.95

#### LIVING WITH PLANTS

A Gardener's Guide to Practical Botany by Donna N. Schumann



rise bezuly and usuity of the book.
Reader needs no previous course work in bolany or horticulture. The book begins with
essensia's of plant structure, function, and ecology, and builds on these to explain the why
of gardening methods. White designed for the beginner, the book contains much detailed
and specific information which would be of use even to experienced gardener.

"The author has done an excellent job of presenting the back-ground of botany and horticulture which should be part of the basic knowledge of any good garderer."

Gilbert 5 Dome's
American Horticulturist

325 pages

#### The Biology of the BROMELIADS

A comprehensive treatment of the structure, function, and ecclogy of bromelads, including techniques for growing them. The author assumes only a rudimentary knowledge of chemistry and basic biology. Technical words are defined where they hirst appear in the text and in the glossary.

The intent of the book is to bridge the gap between the highly technical literature on bromelads (most taxonomic) for the specialist, and the mass of symple publications (mostly horizouttural) for the layman. The colonist of deep field of the service but oncoprehensing grower, and the bolants. Limited he for information provided here are sevential to the service with the season shall be destructed and any art is based on a fine-growing grower in the season shall be destructed or any art is based on a

305 pages 7x8%



### **BROMELIADS**

BROMELIADS

for Home, Garden and Greenhouse
by Werner Rauh
Engish translation of Exromation by Peter
Temple and Harvey L Kendall.

A standard reference work divide two parts. The first covers the biology of prometiads, including their native hierarchy long and life cycle, and methods of cultivation. The second treats the classification prometiads and includes keys to genera and to secrets of Trillandsia, along with descriptions of genera and important species.

Benutifully produced Bromeliads includes 134 color photographs, 315 black and white photographs, and 90 quality line drawings.

We are clearing our stock of the classic out-of-print work. Order now while supply lasts. An excellent bargain!

9x6½ hard cover Blandford Press, 1979 \$18.95

#### **BUTTERFLIES & MOTHS**



BUTTERFLIES & MOTHS
in Britain and Europe
by David Carter
degned by Roger Phillips

This beautiful volume is truly a work of art, as well as being a comprehensive guide to
over 300 species of Lep digner. Here resemblives of each species are shown both in the
natural habitat and spriese and the present of the species are shown both in the
natural habitat and spriese. The present of the species are shown both in the
natural habitat and spriese and the species of the species are shown both in the
natural habitat shots, striking for thuir beauty and cushly, include the larvar, pupas,
Also included is a long introductory section on structure, life cycle, castsication,
behavior, food, halvtats, collecting and studying, and other topics. The species entities
include information on distribution, habitat abundance, life cycle, and the food and
appearance of the catarpillars. An index of food plants is also included.

#### BIRDS

of Britain and Europe
by Nicholas Hammond and Michael Everett
designed by Roger Phillips

All the photographs are of birds in their natural habitats and often include both sexes,
the young, and nests. An unusual leature of this volume is the striking photographs of the
various habitats of the birds included.

Each species entry includes (in addition to the photographs) a distribution map, a inducte of the bird, and information on identification, voice, nabital, food, and breeding

A lascinating book for bird and wildlife enthusiasts in North America who have heard of many of these birds, but have never seen them.

256 pages, 8½x11½ soft cover Pan Books, Ltd., 1980 \$14.95

#### WILD FOOD

A Unique Photographic Guide to Finding, Cooking and Eating Wild Plants, Mushrooms and Seaweed by Roger Phillips

by Roger Phillips

This imaginative and unusual book is not only a guide to the common edible British plants and traditional folk recipes for preparing them, but also a guide to the more rarely saten plants including the delicious and nutritious mushrooms and seaweeds.

The book is primarily composed of beautiful photographs of the plants and some of the prepared dishes placed in nature among the wild-growing plants in very artistic and mouth-watering arrangements. Accompanying the photographs are the recipes and commentary, history, distribution and time of appearance of the plants, and fascinating obtasts of information. This book is not meant to be an identification guide, and so would make a good companion to the mushroom and wild flower books (see pp. 7 and 8).

159 pages 8½x11½ soft cover Pan Books Ltd., 1983 \$14.95

NEMING 30 JARROLD NATURE SERIES

We are offering a package of four booklets in this British series. They contain interesting infloductory material plus color illustrations of selected species along with commentary. British Fungl (book 1), by E. A. Ellis, includes 65 species of agarics, bottles, polypores, tooth fungl, jelly fungl, and fairy clubs, and shows several rare or little-known species in color for the first time.

color for first time.

Ritlah Fung (book 2), by E. A. Ellis, includes 50 species of gasteromyceles, rusts, smuts, asconiyceles, a few motes, and a slime mote.

Common Britlah Lichens, by Frank S. Obson, includes 45 species of lichens. This would no-cly supplement Obson's Lichens (see below).

Ediks and Medicinal Plants, by Frank S. Obson, contains 46 species of (mostly) llowering plants with interesting facts on their use, past and present. This would make a good companion Norwich, 1976–1979 for Villd Food (see p. 11).

#### OFFERINGS IN LICHENOLOGY

(all published by Richmond Publishing Co., Ltd., Surrey, England)

31 LICHENS An Illustrated Guide, second edition, 1981
by Frank Dobson
Written by a well-known British lichenologist, this work deals with about 450 British
lichens, Including the ches most likely to be found there and a selection of rarer ones. Most
of the book is devoted to the species entries, which consist of a description, notes on
abstatal and leterance of politicity, and a distribution map. A special relature is the black and
white photographs which, along with the time drawlings of microscopic leatures, accomAnd provided are an influshed guide to the basic halon forms and a babulated guide to the generic of the
time, key to species of leach general, glorany, and 4 color plate of 24 species

. ay a species of each (entits) glossary, and a Comp (see to 2) and .

" "nes a long way toward filling the yould between the small .

Sasic books and the inore advanced texts... an excellent and most welcome uddition to books on lichen lifeshiffication."

B.W. Ferry, (Intiah Book News

soft cover, waterp 514x8%, \$25.25

#### Introduction to BRITISH LICHENS

by Urula K. Duncan, assisted by P.W. James
This book contains keys and descriptions for the identification of the great majority of lichens a person will encounter in Britain. An essential work of reference for the student and advanced worker, this book will also be of great value to the amatteur.
Comients include: the student of lichens, classification, collection, and preservation of specimens, ecology and species stat related to habital, identification techniques, keys to genera and species, descriptions of the process with characteristics usually find identification, comments on habitat globacy, estimated to be process. The process with characteristics usually in faul disabilication, comments on habitat globacy, estimated to be process.

#### LICHENS by A.L. Smith

This is a reprint of one of the most outstanding works on lichens ever to have appeared. First published by Cambridge in 1921, It remains the only work in English providing a comprehensive account of all aspects of lichendiogy, and thus it retains its importance for the English-speaking world. Of particular value are the detailed accounts of the history of the English-speaking world. Of particular value are the detailed accounts of the history of the English-speaking world. Of particular value are the detailed accounts of the history of the English on the world sinchen and the taxonomic section, which is the only key in English to the world's lichen lamilies and genera. It is also an invaluable reference to the literature on inchess.

To bring this reprint up to daip. Dr. D. Hawksworth added lists of further reading, a introduction, and a supplementary index with changes in nomenclature since 1921. The reappearance of this title makes available as a work essential to all who are interested in lichens.

about 500 pages, \$3

LICHENOLOGY IN THE BRITISH ISLES 1568-1975 A Historical and Bibliographical Survey by D.L. Hawksworth and M.R.O. Seaward

A comprehensive account of the development of lichendopy in the British Isles from the earliest records to the present illustrated by facsimiles of selected dile pages, portraits, etc. Alphabencal billiographic Island of all known works which include British Islands. Side approximately 2,700 biles with their full bibliographic clations. A standard work of reference for the history and bibliography of British Inchens.

about 240 pages, \$65.95

NOVA PLANTARUM GENERA IUXTA

NOVA PLANTARUM GENERA IUXTA TOURNEFORTI METHODUM DISPOSITA

A limited facsmille addition of 200 copy P.A. Mitchell

A limited facsmille addition of 200 copy p.A. Mitchell

about the copy of the copy

36 LICHENOGRAPHIA UNIVERSUS

by E. Acharlus

A limited fassinel edulino of 1757-1819) lad the floundations for the scientific study of tichens. 
Lichengraphia Universalis was his major work, in which he described his tarri inology in detail 
and presented a comprehensive taxonomic treatment (including notes on ecology and 
distribution) of the tichens then known throughout the world. In constant use by Inchen taxonomists, this book has become extremely rare and difficult to obtain. Available introviction to the 
reprint is provided by Mr. O. Vitikainen, University of Helanki.

about 720 pages, \$104.95

#### SYNOPSIS METHODICA LICHENUM

7 SYNOPSIS METHODICA LICEROM.

A limited faceunite edition of 200 mby E. Acharius

A limited faceunite edition of 200 mby E. Acharius

A limited faceunite edition of 200 mby E. Acharius

Dubblandu in 1814. Comprises despite a base a packet sheet shown from throughout
the world. Many are described for the list time in this book, including some from N. America.

Includes a portrait of Acharius and a short introduction by Dr. D.L. Hawksworth

about 424 pages, \$89.95

#### 38 SPECIMEN OF A LICHENOGRAPHIA BRITANNICA

DECURIENCE OF A LICENSCAPATHA BOTTARTIA DELIVERS by Dawson Turner and William Borrer

A limited facsimile edition of 200 numbered copies of an important work on British inchora, published in 1839. Although incomplete, this book is important in Including some of the most state descriptions and comments on cruetose license and the Calcides to appear at that time, and is incorporating descriptions of many new species and varieties not previously recognized in Europe. Includes an important new introduction by Dr. D.L. Hawksworth and Di. M.P.D. Seaward.

#### 39 PLANTARUM CRYPTOGAMICARUM BRITANNIAE

39 PLANTARUM CRYPTOGAMICANOIN DITIONAL AND A limited facsimile edition of 175 numbered copies of a classical work first issued in four faccicles in 1785-1801. Many new lichens, mosass, and fungl were described and illustrated for the lirst time in this work, which have remained conclusing importance to those concerned with the faxonomy of these groups today. Illustrated by fine engrevings from paintings by Junes Sowerby, well-known illustrator of English Botany (1790-1814) and Colouzed Figures of English Fungi (1798-1815). Includes a short introduction by Dr. D.L. Hawksworth.

about 160 pages, \$67.25



#### THE OUTER SHORES 1. Ed Ricketts and John Steinbeck Explore the Pacific Coast edited by Joel W. Hedgpeth

The first of two volumes of selected writings of Ed "Doc" Ricketts concerning his studies in marine biology and his friendship with John Steinbeck. Discusses their biological and interary collaborations. Describes their planned venture to the shores of British Columbia and Alaska and includes Ricketts' travelogue of his 1947 cruise to these coasts. Hedgepth's introduction describes their lives in Pacific Grove before and after publication of Sea of Cortez and Cannery Row. Illustrated with maps and photos from Ricketts' personal

"...tho work will be welcomed by those who want to read about good science and good Bierature. We have here a delightful and most unusual book about hwo great men." Michael T. Ghiselin, Science

#### THE OUTER SHORES

2. Breaking Through edited by Joel W. Hedgpeth

Selections from journals of Ed Ricketts. The best years of his friendship with John Steinbeck (1939-1942), from the journey to the Sea of Cortez to the writing of Cannery Row. Includes Rickett's serious essays on marine biology and his philosophy of "breaking through" Letters from Ricketts described. Hedgeoth examines Steinbeck's reaction to Ricketts' death.

"You have just caught the quality of Ed's manner of life and of Ed himself...It's a lovely book."

Joseph Campball New York, N.Y.

Handbook to the Orders and Families of

LIVING MAMMALS by Timothy E. Lawlor

New entarged edition. An illustrated manual for laboratory and museum, with keys and diagnoses for all orders and families. Distinguishing characteristics of orders and families arranged in outline form, with characters unique to the taxon set off from the others. Easy cross-referencing to same characters in other families.

Includes introductory chapter on the mamma's a seletion, brief notes on the ecology, natural history, and distribution of orders and families, giossary, bibliography, and index to families, flustrations of all families by Kathry's Simpson.

"... (the) descriptions of the orders and families, and (the) family keys, are uniformly excellent and well researched. Of particular use to the student is the tabulation of recognition characters. The fechnical fillustrations of bones and skulls are... of uniformly high quality."

Bryan P. Glass, Quarterly Review of Biology

327 pages 7x81/2 \$12.95

A Field Guide to PACIFIC COAST FISHES

of North America (in the Peterson Field Guide Series)
by William N. Eschmeyer and Earl S. Herald, illustrated by Howard Hammann
Finalty a long-awaited comprehensive guide to the marine fishes of the Paclific Coast.
600 species are leated, including all living in water shallower than 200 meters, plus
many deep-sea fishes. 498 species are illustrated in 49 plates, of which 22 are in color.
The guide covers the area from the Guil of Alaska to Baja California.

The guide covers the area from the Gulf of Alaska to Baja California.

The species accounts include dentifying features, which key features highlyhebd in fallics, range in comparison with similar species, and notes on natural history. As in other Peit. "... in Feld Guides, identified the stress are included by turnows on the plates. Also includes Introductory material, glossary, se references, under.

The book is intended for laymen—fishermen, divers, nature-lovers—as well as professionals, and is designed for use in the field.

Houghton Mifflin Co., Boston, S.

A Naturalist's



A Naturalist's

SEASHORE GUIDE
by Gary J, Brusca and Richard C. Brusca

A guidebook to the common animals and plants tound along the Pacific seashore:
mphasizes northern California, but useful from Point Conception to British Columbia.
Includes chapter on assabre habitals, ecology, lwsy to mitter or major groups of interdical tiendrebates and to
momon species, glossary, and selected references. Extensively ribustrated with beautiful fine drawings.

Micros Cost had because of an along the control of the control of the cost of the

Common species, glossary, and selected references, extensively illustry. Written for the interested layman as well as students of marine biology. Attractive and useful book for courses in natural history of the seashore.

Introduction to FRESHWATER ALGAE

OFF.

At last a book which bridges the gap between the small handbook and the technical work on identification, it contains keys and drawings of nearly 500 species of atgae, selected to include a wider ange of the most common species in the British isles. Since most freshwater algae are compopolitan, this book will also be very useful in North America.

Amplica.

\*\*Concluded are chapters on equipment, mathods of examination, keys to classes, accounts of the classes, biolography glorawy, and index. Also included is an interesting and helpful section on where to look.

\*\*The book is written for students of bottamy, marchibolicity, and environmental studies, as well as researchers and hydrobiologistis. We hope that it will also stimulate the ambitions of the control of the c



DIATOMS



A key to the genera of diatoms of tresh, brackish, and marine waters of temperate North America, by William C. Vinyard

A key to the genera of diatoms of fresh, brackish, and marine waters of temperate North America. Includes a description of each genus, as well as a chapter on the biology of diatoms, collection techniques, Greek and Laut derivations of generic names, glossary, and references. Illustrated.

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#### Anatomical information on Placida sp. = Hermaea dendritica of Baba, 1937 and 1955. from Japan.

Kikutaro Baba, Shigigaoka 35, Minami-ll-jyo, Sango-cho, Ikoma-gun, Nara-ken,

Placida sp. cf. P. dendritica (Alder & Hancock, 1843; Calliopaea); Midori-amamo-umiushi (Japanese name) Pls. I-II; Text-fig. 1.

Placida babai Marcus, 1982: 25, f. 32 (n.n. for Hermaea dendritica

of Baba, 1955).

Hermaea dendritica. Baba, 1937: 223-224, pl. 4, f. 8, tf. 9. Tomioka, Amakusa; Baba & Hamatani, 1952: 89, f. 3, pl. 7, f. 3-7.
- Sugashima, Shima (spawn); Baba, 1955: 10-11, 41, pl. 3, f. 9, tf.
9. - Sagami Bay. See also Marcus, 1982: 25, comment on
Hermaea (Placida) dendritica of Thompson, 1973: 243-244 from Australia; Burn, 1966: 105, comment on H. dendritica of Baba, 1955: 10-11, 41 from Sagami Bay, Japan; Gascoigne, 1976a: 160, f. 4, anatomy of H. dendritica from Australia; Gascoigne, 1976b: 537-539, anatomy of H. dendritica from England.

#### Material:

Sp. No. A. Kasajima near Tamano, the Inland Sea of Seto, IV-2901957, 7mm (dorsal view).
Sp. No. B. Tannowa, Osaka Bay, VI-6-1962, 6mm (ventral view and

a branchial papilla in fresh).

Sp. No. C. Tannowa, II-18-1961 (anatomy of the vessel system,

radula and nerve center).

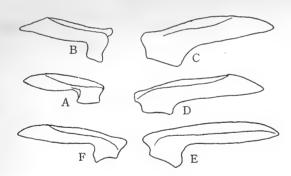
Sp. Nos. 1-3 (H.S.). Tannowa, VI-6-1962, 4-5mm.

Sp. No. 4 (L.S.). Tannowa, VI-6-1962, 5mm.

Sp. Nos. 7-8 (T.S.). Tannowa, VI-6-1962.

The animals were usually found living Codium.

The ground color of body yellowish-green, the grass-green liver system and its tributaries show through the integument of the branchial papillae, dorsum, head and rhinophores. Additional Additional opaque white dots occur on the rhinophores, branchial papillae and tail. Sole colorless. The general grass-green tint of the body may slightly vary according to specimens.



Text-fig. 1. Radular teeth in Placids. A-C. P. dendritica; D-F. P. sp. A. From Thompson, 1976, f. 98d; B. from Gascoigne, 1976b, f. 1C; C. from Schmekel & Portmann, 1982, Taf. 29, f. 6; D. from Baba, 1937, tf. 9 (Tomioka, Amakusa, II-1935); E. from Baba, 1955, ft, 9B (Kasajima, Sagami Bay, IV-25-1951): F. this paper (Tannowa, Osaka Bay, II-18-1961).

The radular formula 9+30x0.1.0; the teeth blade-like rather than chisel-shaped. The visceral loop consisting of a supraintestinal ganglion and a visceral (= abdominal) ganglion, see Gascoigne, 1980: 28, f. 8E; 1985: 12 and 16.

Genital system nearly as in Ercolania boodleae (Baba, 1938; Stiliger); see Baba & Hamatani, 1970: 218-219, pl. 7, f. 1-7; see also Schmekel & Portmann, 1982: 302-304, Abb. 7. 100b and Taf. 36-10 for Placida dendritica (Alder & Hancock, 1843; Calliopaea; Sanders-Esser, 1984: 205, Abb. 13a for P. dendritica. The vagina is closed in order to receive foreign sperm hypodermically. is closed in order to receive foreign sperm hypodermically

The membrane gland (= capsule gland, see Gascoigne, 1980, f 7B; 1985: 20, f. 9B) is in the center of the fertilization region. is laden with sperm conducted at the proximal end (x) from the vaginal vestibulum (= vagina + spermatocyst). The fertilized and encapsulated eggs presumably pass forward at the distal end (y) into the mucous gland. Also, the membrane gland is associated with a number of different structures. The branches of the albumen gland are contained in the branchial papillae.

The prostate gland of the vas deferns is single, not divided into 4 parts as in Placida dendritica from the Mediterranean Sea (cf. Schmekel & Portmann, 1982; 303, Abb. 13a). Penis with a short stylet as usual in *Placida* (and the STILIGERIDAE, see Gascoigne, 1985: 13 and 19).

The Japanese specimens of *Placida* most closely resemble the English *P. dendritica* in the external form and coloration of the body (see especially Thompson, 1976: 174-176, pl. 8) to which they were formerly referred. However, Marcus, 1982:25 considered that our specimens differed from the European (English) species, Placida dendritica, by reason of having a different shape of the radular teeth (that is, these are not so apparently chisel-shaped as in the latter species, see Thompson, 1976, f. 98d; Gascoigne, 1976b, f. 1C; and Schmekel & Portmann, 1982, Taf. 29, f. 6).
Our specimens differ also from the Mediterranean dendritica in

the simple formation of the prostate gland as mentioned above. More discussion seems necessary for identifying our specimens exactly with Placida dendritica, the type locality of which occurs

in Torbay, England.

(P.S.) Lately, Dr. Eveline Marcus, Brazil, doubted the validity of Placida babai owing to the variability of the radular teeth in the European and Mediterranean dendritica in literature (personal communication).

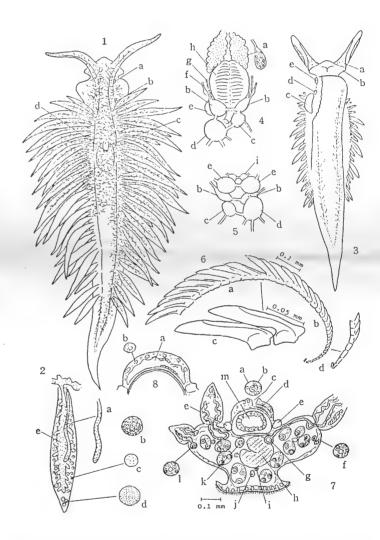


Plate I. Placida sp. cf. P. dendritica (Alder & Hancock, 1843).

Fig. 1. Live animal from above, 7mm (Sp. No. A). a. penial orifice, b. oviducal orifice,

Fig. 1. Live animal from above, 7mm (Sp. No. A). a. penial orifice, b. oviducal orifice, c. pore of melanin black vesicle, d. anus.

Fig. 2. A branchial papilla (Sp. No. B). a. albumen gland, b. liver cell with yellowish green granules, c. mucous gland cell, d. opaque white cell, e. liver diverticulum.

Fig. 3. Live animal from below, 6mm (Sp. No. B). a. rhinophoral lobe, b. oral lobe, c. vaginal ridge, d. oviducal orifice, e. penial orifice.

Fig. 4-5. Central nervous system from above and below (Sp. No. C). a. oral (= buccal) gland, b. cerebral ganglion, c. supra-intestinal ganglion, d. visceral (= abdominal) ganglion, e. pedal ganglion, f. rhinophoral nerve, g. optic nerve, h. pharynx, i. buccal ganglion. buccal ganglion. Fig. 6. A radular ribbon from the right side. a. ascending series, b. descending series,

c. teeth in row, d. teeth in the ascus.

Fig. 7. Transverse section of the body passing through the nephroproct (c). a. anal papilla, b. rectum, d. kidney, e. sinus, f. right main duct of the albumen gland, g. main canal of the right liver, h. mucous gland, i. hermaphrodite duct, j. salivary gland, k. main canal of the left liver, l. left main duct of the albumen gland, m. ventricle. Fig. 8. Transverse section of the pericardial prominence. a. kidney, b. liver tributaries

in the ingegument.

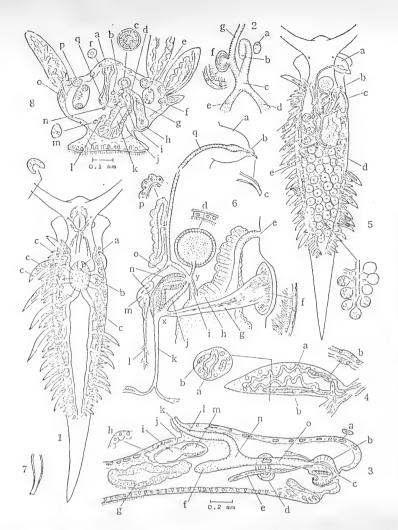


Plate II. Placida sp. cf. P. dendritica (Alder & Hancock, 1843).

Fig. 1. Dorsal vessel system (Sp. No. C). a. melanin black vesicle, b. anus, c. vessels (=

Fig. 2. Part of the digestive system from above (Sp. No. 3). a melanin black vesicle, b. rectum, c. stomach, d. right liver, e. left liver, f. oesophageal diverticulum, g. oesophagus. Fig. 3. Median longitudinal section of the body (Sp. No. 4). a. liver tributaries, b. pharynx, c. mouth, d. oesophageal diverticulum, e. salivary gland, f. right liver, g. mucous gland, h. kidney, i. auricle, j. nephroproct, k. anus, l. rectum, m. ventricle, n. stomach, o. oesophagus.

Fig. 4. Longitudinal section of a branchial papilla (Sp. No. 4). a. liver diverticulum, b.

branches of the albumen gland.

Fig. 5. Genital system, diagrammatic (Sp. Nos. 1-3). a. produced penis, b. oviducal orifice, c. vaginal ridge, d. right main duct of the albumen gland, e. left main duct of the albumen gland.

Fig. 6. Main part of the genital system from above, reconstructed (Sp. Nos. 1-3). a. everted penial sac, b. penis proper, c. stylet, d. spermatheca, e. oviducal orifice, f. vaginal duct, h. mucous gland, i. connection between the membrane gland and mucous gland, j. loop, k. common duct of the albumen gland, l. hermaphrodite duct (1), m. ampulla, n. membrane gland, o. hermaphrodite duct (2), p. prostate gland, q. vas deference.

Fig. 7. Penial stylet (Sp. No. 2).

Fig. 8. Transverse section of body passing through the vaginal ridge (Sp. No. 8). a. base of the anal papilla, b. hermaphrodite duct (2), c. membrane gland at the point x, d. vaginal duct, e. main canal of the right liver, f. right main duct of the albumen gland, g. connection between the membrane gland and the mucous gland, h. vaginal vestibulum, i. loop, j. prostate, k. mucous gland, l. ampulla, m. left salivary gland, n. right salivary gland, o. left main duct of the albumen gland, p. main canal of the left liver, q. stomach, r. liver tributaries.

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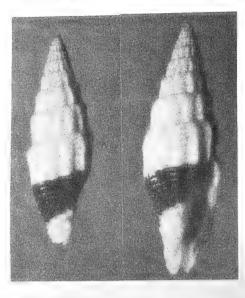
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Terminology: loop = small oviduct; membrane (= capsule) gland; mucous gland = large oviduct; oesophageal diverticulum (= pouch); vaginal ridge = copulation pad.

ON THE REEF WITH BOB PURTYMUN: Terebra & Vexillum

Bob Purtymun, P.O. Box 643, West Point, CA 95255



Vexillum militaris (Reeve, 1845), 23mm, Grubb Reef, Great Barrier Reef, Australia. Photos by Bob Purtymun.

Current is always a concern of the diver-collector. It can be like the Molokai Express, the current that flows generally southwestward between Molokai and Oahu. This current varies with wind and tidal conditions. Sometimes running at speeds too fast to swim against, again it can be flat, and on rare occasions it will reverse itself. If you are caught down stream of the boat when this current starts to run, take heart in the fact that Hawaii has an excellent helicopter rescue service.

My query to our skipper around our next dive site, Grubb Reef (Great Barrier Reef, December, 1983), was nonchalantly answered with, "oh, just a gentle northward drift, nothing to worry about." Later, near the bottom about 75 feet deep I found this to be true.

On the northern side of the large coral heads that were scattered over the sandy bottom I found long cometilike tails of fine silty sand. This condition occurs when the current always flows in one direction. Often, I have found that some mollusks prefer this habitat to the coarser and of the core better. prefer this habitat to the coarser sand of the open bottom.

I picked a big comet-tail behind a 10 foot diameter coral "bommie" and started to systematical fan the sand to a depth of 2 to 3 inches, planning to cover the whole "tail". Two Terebra affinis Gray, 1834, a small T. crenulata (Linnaeus, 1758), and a Vexillum exasperatum (Gmelin, 1791) were found.

Later while still fanning away, out rolled a sight for sore eyes -- a Vexillum militaris (Reeve, 1845). This species is not large for VEXILLIDAE but few are as spectacular. The shell is pure white with a dark red band on the body whorl. My find was 23 mm long. It may be a range extension, as I cannot find any record of this shell being collected on the Great Barrier Reef.

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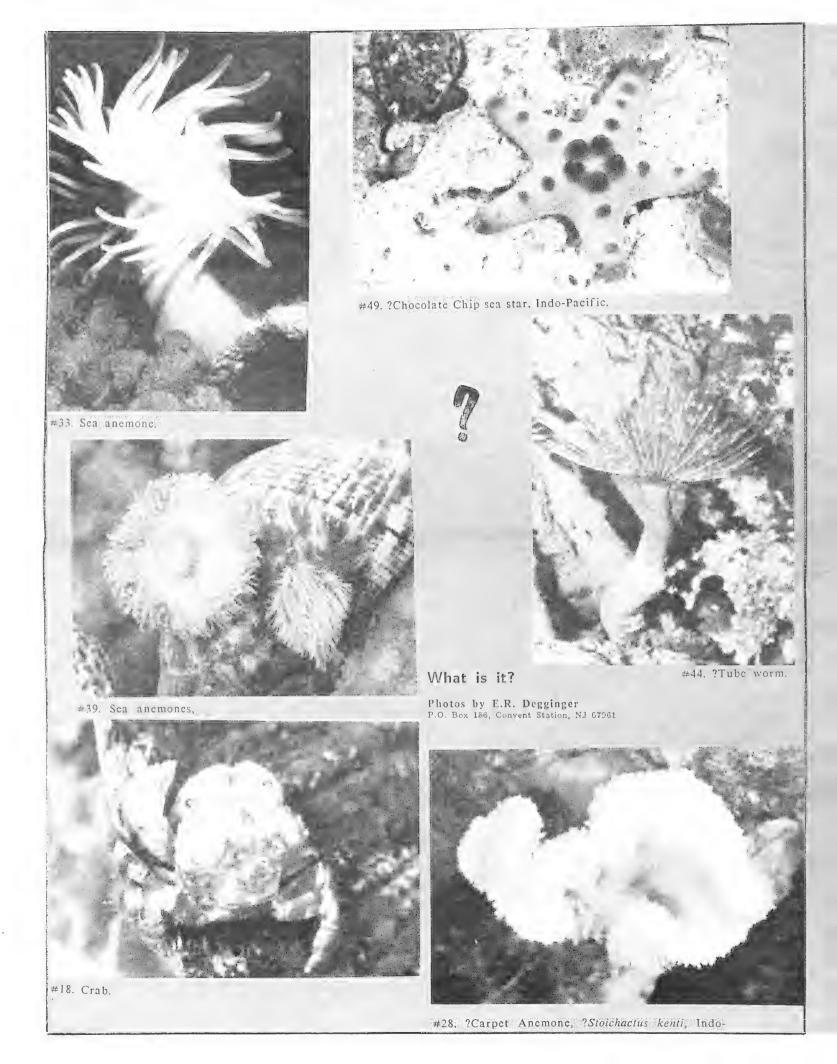
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#### EDITOR'S NOTES

It is hard to believe that we have published 200 issues of Shells and Sea Life since the first 4-page newsletter in 1969. There are at least a couple of dozen of you out there who subscribed to that first issue in ditto format and many hundred who have joined us as we worked. Thanks to all of you! After several months struggle we are finally close to the publication schedule we have wanted all along. This issue will be mailed near the middle of February and coming issues should be mailed so that they are received by most of you near the first of each month.

We need an angel (or several angels) among you out there. We have been able to add a lot of new software and hardware to improve this publication during the past few years and have always done it on our own. Now we want to add one more piece of equipment which will cost \$5,000.00. Please consider donating to this need. We will be able to increase the size of the titles, add several more type styles, and more foreign language accent characters. We know the result will be worthwhile. I would be happy to trade typesetting for the money if someone has a book they want to publish.

For the first few years I could edit, type, print, fold, label, stamp and mail the entire issue in one long day and all by myself. With close to 5,000 copies going out each month things have changed. Simply sorting and printing out the mailing labels takes a couple of days along with day or two for preparing the foreign mail copies. I haven't counted how many countries receive S&SL lately but I know that several countries receive one or more postal BAGS of issues now.

We will print information in a timely manner. Notes and information on shows and meetings should reach us at least 60 days prior to the meeting to be included in Shells and Sea Life. If your club or organization is hosting a show or meeting please notify us at least 60 days in advance with an estimate of attendance. We will be pleased to provide you with quantities of Shells and Sea Life for distribution at your gathering.

INFORMATION is the primary service of Shells and Sea Life. We want you to know where you can find any information on mollusks and associated marine life. The current format of S&SL is the only possible way to provide all of the information you need. This format allows directories, articles, booklists, show calendars, personal notes, reader forum and our many other features to be included monthly.

Every publication fills a need - or it eventually fails. Some club publications are simply meeting notices. Others include articles, and still others are complete technical journals. Technical journals often take 12 to 18 months to edit and print an article and cannot think of allocating space for novice questions and shell show notices. Club publications are regional interest at best and very limited in space for general interest or scientific articles. The printing and mailing costs are horrible and rising all the time.

Our format provides space for almost anything you can imagine needing. We will not print new species descriptions they belong in a major scientific journal (e.g., The Nautilus, The they belong in a major scientific journal (e.g., Ine Ivaulius, Ine Veliger, Journal of Conchology, Zoological Journal of the Linnean Society, etc.) We are appalled to see new taxa described in popular publications and especially in club publications. If the taxon cannot stand the scientific peer review process and justify publication in a pure scientific journal, it should not be named.

We seldom reprint from other publications; we would rather tell you where to find the information. Your local shell club is hard to beat for most of your needs. We want to make you aware of what is going on with other clubs and people around the world.

Our publication directory will give you information on content, cost and mailing address for all shell interest publications in the world. The list will be updated during the year as we get new information and listings. Thereafter, annually, we will do a complete directory in one issue. Other directories (Clubs, Dealers, Diving Tours, Shelling Tours, etc.) are planned. We are already listing most of the shell publications of the world through Seashell Treasures Books and will continue to make that list more complete as we can. If you have ideas for other directories, please write to me.

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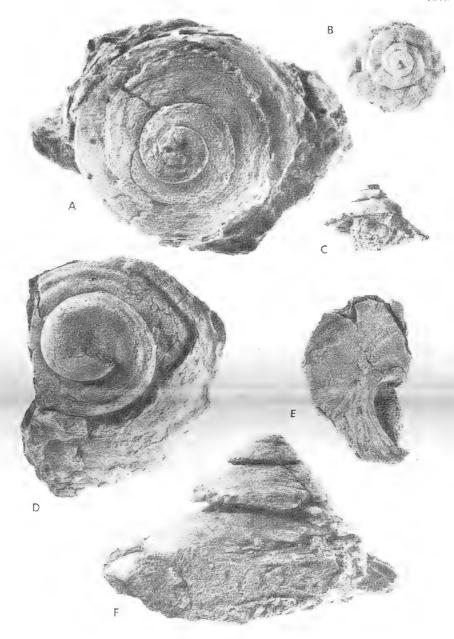
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# Fossil Xenophora of Baja and Alta California

Kate St. Jean, Longview, Washington

CRETACEOUS-GASTROPODS FROM MEXICO

1093



Xenophora willisi Webster, 1983 (From Jour. Paleontology 57(5))

The northwest coast of Baja California is desolate and rugged, with steep coastal slopes and numerous high cliffs eroding into the sea. Between these areas are arroyos and stretches of pebbly or sandy beaches. The origin of the landscape is primarily volcanic and ancient sea floor deposition.

Below one of the steep cliffs, a beautiful and unique specimen of Xenophora was found by Brad Riney of San Diego, California. This is significant because it represents only the third known fossil Xenophora species from the Baja California peninsula. Five species are known from "Alta" California. Mr. Riney's find prompted me to survey the fossil species of Xenophora reported from the three Californias.

#### Baja California Sur, Mexico

Xenophora sp. A
Beal (1948: 50) reported the first fossil Xenophora from Baja
California peninsula. The specimen was collected from an Eocene
or Paleocene formation north of San Ignacio Lagoon (Baja
California Sur), and identified as X. zitteli Weaver, 1905. However,
X. zitteli was named from Paleocene specimens collected in Contra
Costa County, California. This unfigured and undescribed San
Ignacio specimen needs further study before it can be assigned
accurately to a species.

Xenophora willisi Webster, 1983 Mexico

Melvin Webster, formerly a research associate of the Los Angeles County Museum of Natural History (LACM), collected specimens of a fossil Xenophora. His description of this species was published posthumously (Webster, 1983) with the following preface by Dr. Edward Wilson, Curator of Invertebrate Paleontology at LACM: "When Melvin L. Webster died he left a manuscript concerning the Upper Cretaceous gastropod fauna at Arroyo Santa Catarina. At the request of his widow, I extracted the accompanying paper from his manuscript, making minor additions for unification."

The fossil was found over 200 miles south of the U.S.-Mexican border, 5 miles inland from Santa Catarina landing, along the banks of an arroyo, in the Upper Cretaceous Rosario formation. The species was named Xenophora willisi in honor of Willis Parkinson Popenoe "in recognition of his contributions to the study of the Cretaceous of the west coast of North America."

The shell is large for the genus. Attaining a diameter as large as 110mm, it exceeds any other known Cretaceous Xenophora. Broadly conical, the shell has 5 to 7 low, flat-sided whorls. The shell surface is lamellose, with low axial folds curving convexly to the aperture. The base is broad and concave, and the umbilicus is completely closed. The ovate aperture is about 4 times wider than high, and is inclined at about 115° from the shell axis.

"Xenophora willisi is the most common large gastropod in the study area, but was collected only from beds on the west side of Arroyo Santa Catarina. Of the more than fifty specimens collected, most are fragements of natural casts, consisting of one to three whorls. The shell surface is poorly preserved and sculptural details have been lost .... Many shells are bored by unknown organisms and a few are encrusted with large serpulid (?) worm tubes. A small specimen of Gyrodes was the only possible accreted object noted on any of the shells, but the embayed whorl margins of the body whorl and deep cicatrices in the early whorls are suggestive of typical xenophorid agglutinating habits" (Webster, 1983: 1092).

Xenophora willisi is the first report of the genus in the Cretaceous of North America.

Xenophora sp. B

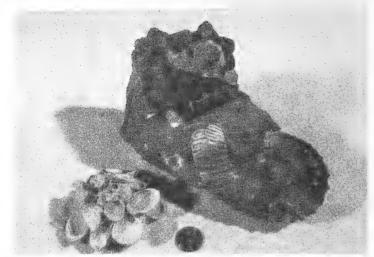
This Xenophora was collected by Brad Riney from a boulder beach 2 1/2 miles south of Salsipuedes, B.C., about 40 miles south of the international border. The beach is accessible by a very steep, dirt construction road. While he was opening a boulder from above the high tide line, it split open and numerous black pebbles fell out, revealing the Xenophora.



Xenophora sp. nov., Salsipuedes, Mexico, Photo by George St. Jean)

The matrix in which the fossil is implanted is composed of quartz and feldspar grains. The large pebbles are the only attachments. They are the same material as the matrix, and are black or dark gray with flecks of other materials. The attachments cover most of the shell, but an occasional space reveals a break in the calcareous material of the shell, showing granitic material filling the cavities. The shell measures 46mm in diameter and 44mm in height. This is the only known specimen from this location, but in a letter Mr. Riney stated, "If someone were to study the area in detail another Xenophora just might pop up." The shell is in the private collection of George Lee, Jr., of Costa Mesa, California.

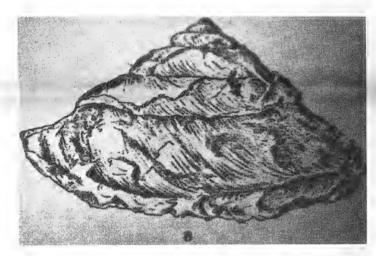
In association with the Xenophora was found the uncoiled ammonite Nostoceras sternbergi Anderson & Hanna, 1935.



Xenophora sp. nov., Salsipuedes, Mexico (Photo by George St. Jean)

California, U.S.A.

Xenophora zitteli Weaver, 1905
The original material consisted of 3 specimens. The larges has 7 flat whorls, a low spire, and a nearly flat base. The whorls are covered with extraneous objects which appear to be pebbles of quartz, ranging up to 13mm in diameter. The holotype is in the Museum of Paleontology, University of California, Berkeley. It measures 87mm in diameter and 57mm in height. The shells were collected southwest of Martinez, Contra Costa County, California, on the west side of the Del Hambre canyon road. The species was found in the lower beds of the Martinez formation, Eocene period.



Xenophora zitelli Weaver, 1905 (From U.C. Publ. Dept. Geol., Photo by George St. Jean)

Xenophora stocki Dickerson, 1916

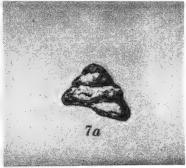
"Shell, low trochiform with six whorls; shell substance thin. Whorls are medially shouldered, with steep slope from a wavy, linear suture to the shoulder. The space between the shoulder and the next whorl is parallel to the axis of the shell. This space is further decorated by about seven roughened nodes whose apices are at the shoulder. The shell surface is pitted in several places. These round pits were once occupied by pebbles which the animal had agglutinized to its shell. Only the type specimen and a fragment are known" (Dickerson, 1916: 502-503). The specimens were collected in the Eocene Tejon formation, Rose Canyon, La Jolla (San Diego County), California.



Xenophora stocki Dickerson, 1916 (From U.C. Publ. Dept. Geol., Photo by George St. Jean)

Xenophora simiensis Nelson, 1925

This is another rare fossil xenophorid. The known specimen was collected from the Eocene Martinez formation, near Santa Susana, Ventura County, California. "Shell small; number of whorls, 6; suture depressed. Whorls strongly convex near the base, slightly convex and sloping inward at a low angle above. Sides of whorls irregularly flattened giving spire a rude polygonal pyramidal appearance; flattening dissapears on body whorl. Base of body whorl making a rather sharp angle with side, flattened at the margins, convex and sunken toward center. Surface of shell smooth except for fine growth lines. On side of body whorl these lines slope backward at a very low angle from the suture. Growth lines slope backward at a very low angle from the suture. Growth lines of base semicircular, parallel to the margins of aperture. Aperture broad, oval. Height of type specimen, 11mm; diameter at base of body whorl, 15mm; apical angle, about 78°" (Nelson, 1925: 422).



Xenophora simiensis Nelson, 1925 (From U.C. Publ. Dept. Geol., Photo by George St. Jean)

Xenophora hawleyi Loel & Carey, 1932 This species has been found in abundance in the western Santa Ynez mountains of Santa Barbara County and in Corral de Piedra Creek, San Luis Obispo County, California. It occurs in Lower Miocene deposits, near the base of the Vaqueros horizon. At the type locality (2.5 miles southwest of Buellton) it is in association with Tivela inezana, Turritella inezana, and Olivella pedroana.



Xenophora hawleyi Loel & Carey, 1932 (From U.C. Publ. Dept. Geol., Photo by George St. Jean)

The medium-sized shell is trochid and wider than high. There are eight low whorls, with the upper five moderately convex and ornamented by faint vertical costae. The last four whorls are very irregular because of the impression of small shells, pebbles, and other particles. The base is moderately concave, and is sculptured by many fine, uneven threads which are parallel to the lip. The holotype is 33mm high and about 40mm wide.

Xenophora sp. C ("Xenophora new species Vokes, 1939")
Small, probably immature specimens of a Xenophora were collected from the Eocene Domengine formation of Fresno and Kings County, California (north of Coalinga and south of Avenal). The portions of the shells found suggest that the animal attached shell fragments only. Dr. Harold Vokes wrote that "They differ from X. stocki Dickerson in lacking the median shoulder on the whorl, and there is no evidence of nodes ornamenting the shell" (Vokes, 1939: 167).

**Discussion** How many species of fossil Xenophora have there been in the Californias? It may be fewer than mentioned in this article! A recent statement by Winston Ponder (1983: 22) suggests that speciation in Xenophora may not be as rapid nor as extensive as in other taxa: "Comparison of the shells of east and west coast [of Central America] specimens [of X. conchyliophora] does not reveal any significant differences. This is not particularly surprising as both populations were probably continuous as recently as late Poliocene because of the sea connection that existed up to that time. Insufficient time has elapsed to enable morphological differentiation to occur, as X. conchyliophora, like most species of Xenophora, is apparently very conservative. Woodring reduced [the eastern Pacific] X. robusta to subspecific status.

"Xenophora conchyliophora has been recorded as a fossil from several localities in the central American region and in the southeastern United States, perhaps dating back as far as the Eocene. Xenophora zitteli Weaver from the Martinez Group, California (Upper Paleocene) is poorly described and figured but appears to have a general similarity with X. conchyliophora as has X. stocki Dickerson from Rose Canyon, California (Upper Eocene) and X. hawleyi Loel and Corey from the Vaqueros Formation, California (Lower Miocene)."

There is still much research needed to clearly understand the evolutionary relationships and history of fossil Xenophora from Baja and Alta California.

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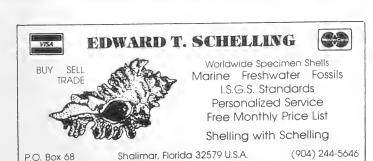
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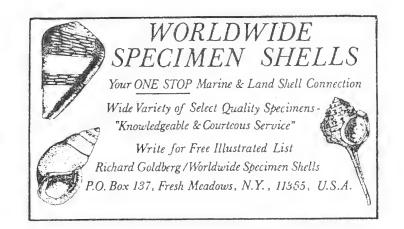
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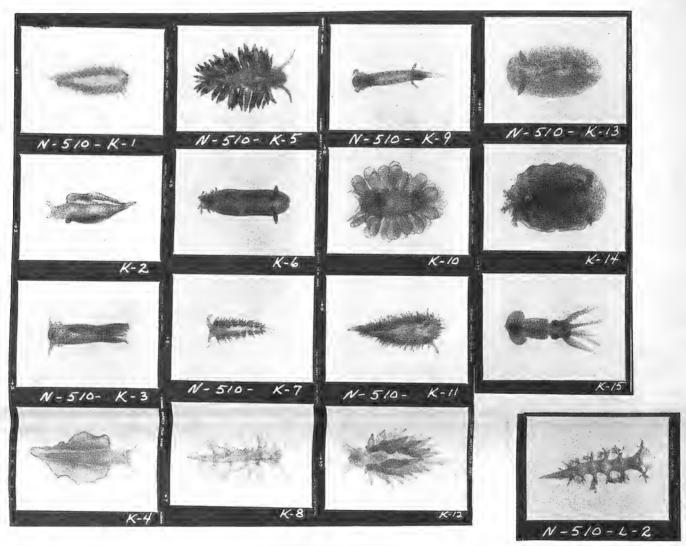
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# Milwaukee Public Museum Blaschka glass models, per Ward's "Catalogue..." of 1888

Joan P. Jass, Assistant Curator, Invertebrate Zoology Milwaukee Public Museum, Milwaukee, WI 53233



#### PHOTO CAPTIONS

N-510-K-2 Pterogasteron nigropunctatus (Ward's #477)

N-510-K-3 Placobranchus variegtus (Ward's #470)

N-510-K-4 Elysia grandis (Ward's #433)

N-510-K-5 Stiliger ornatus (Ward's #481)

N-510-K-6 Montaguia picta (Ward's #463)

N-510-K-7 Facelina coronata (Ward's #441)

N-510-K-8 Embletonia pallida (Ward's #436)

N-510-K-9 Caecinella luctuosa (Ward's #377)

N-510-K-10 Cyerce elegans (Ward's #393)

N-510-K-11 Janus sanguineus (Ward's #456)

N-510-K-12 Actinodoris australis (Ward's #361)

N-510-K-13 Doris pardalis (Ward's #424)

N-510-K-14 Doris elliotii (Ward's #413)

N-510-K-15 Loligo meneghini (Ward's #562)

N-510-J-1 Loligo bianconii (Ward's #561)

N-510-J-2 Onychia platyptera (Ward's #582)

N-510-J-3 Onychoteuthis krohnii (Ward's #584)

N-510-J-4 Verania sicula (Ward's #594)

N-510-J-5 Loligopsis zygaena (Ward's #566)

N-510-J-6 Aeolis militaris (Ward's #368)

N-510-J-7 Aeolis diversa (Ward's #364)

N-510-J-8 Doriopsis clavulata (Ward's #398)

N-510-J-9 Sycllaea marmorata (Ward's #478)

N-510-J-10 Melibe australis (Ward's #461)

N-510-J-11 Doris concinna (Ward's #409)

N-510-J-12 Chirodota purpurea (Ward's #265)

N-510-J-13 Corallium rubrum (Ward's #5)

N-510-J-14 Sepia bisserialis (Ward's #591)

N-510-J-15 Rossia macrosoma (Ward's #588)

N-510-L-2 Bornella digitata (Ward's #375)

N-510-L-3 Flabellina newcombi (Ward's #444)

The Milwaukee Public Museum owns glass models of seventy invertebrates which were created by Leopold Blaschka and his son Rudolph in the late 1800's. These were offered for sale in the United States through Ward's Natural Science Establishment, Inc., and it was from Ward's that the Museum acquired these models. The MPM Conservators have recently discussed cleaning and repair of the models with the staff who curate the Ware Collection of Glass Models of Plants, also created by the Blaschkas, at Harvard University. Unfortunately, the chemical nature of surface materials applied to the glass is unknown and seems to vary somewhat from piece to piece, so that no safe formula for cleaning the delicate models has been found. Therefore, it has been decided to forgo any refurbishing and simply display to the public a to forgo any refurbishing and simply display to the public a selection of those models presently in the best condition. The occasion for this temporary exhibit is the simultaneous showing of a Smithsonian Institution Traveling Exhibition "Unfamiliar Fauna of the Open Sea," a series of photographs of planktonic, pelagic animals taken by Jonathan Trent of the Scripps Institute of Oceanography and his colleagues. Since it was the glass-like nature of such members of the plankton which first inspired Leopold Blaschka, while on a sea voyage to America, to attempt the reproduction of these creatures (Kessler & Russell, 1978), the Museum has decided that it is appropriate to bring together these two most zoologically faithful means for capturing the morphological features of fragile marine invertebrates: the historically unique glass models of the Blaschkas and modern photography. Many of the species names as listed in Ward's catalog are no doubt now long out-of-date and I therefore hope to be aided in my attempts to write labels for our upcoming Blaschka exhibit by specialists who may be able to offer some information on current synonyms and life habits of these species.

REFERENCE

Kessler, C.G. & H.D. Russell 1978. Leopold and Rudolph Blaschka's Nudibranch Glass Models. Nautilus, 92(4):167-172.

Milwaukee Public Museum Blaschka glass models per Ward's "Catalogue..." of 1888

TYPE -- COELENTERATA

Class - Anthozoa

Order - Alcyonaria

1. Corallium rubrum Lamarck Order - Zoantharia - Actiniaria

2. Anthea cereus var. alabastrina, Gosse

3. Sagartia ornata Holdsworth 4. Tealia gemma Drayton

Class - Hydromedusae

Order - Hydroidea

5. Clava squamata (O.F. Mull.) Allman 6. Heterocordyle bonybearei Allman

7. Obelia sphaerulina Per. (medusa) 8. Syncoryne frutescens Allman

Order - Siphonophorae

9. Diphyes sieboldii Kolliker 10. Halistemma rubrum Vogt

11. Rhizophysa eysenhardti Gegenbr.

TYPE -- ECHINODERMATA

Class - Asteroidea

Order - Ophiuridea

12. Ophiocoma nigra O.F. Mull.
13. Ophiomastix annulosa Lam.

Class - Holothurioidea

14. Chirodota purpurea Lesson

15. Holothuria immobilis Semp.16. Sporadipus tremula Gunn. (Holothuria elegans, M.)

17. Synapta (Chirdota) lumbricoides Esch.

TYPE -- VERMES

Class - Platyhelminthes

Order - Turbellaria - Rhabdocoel

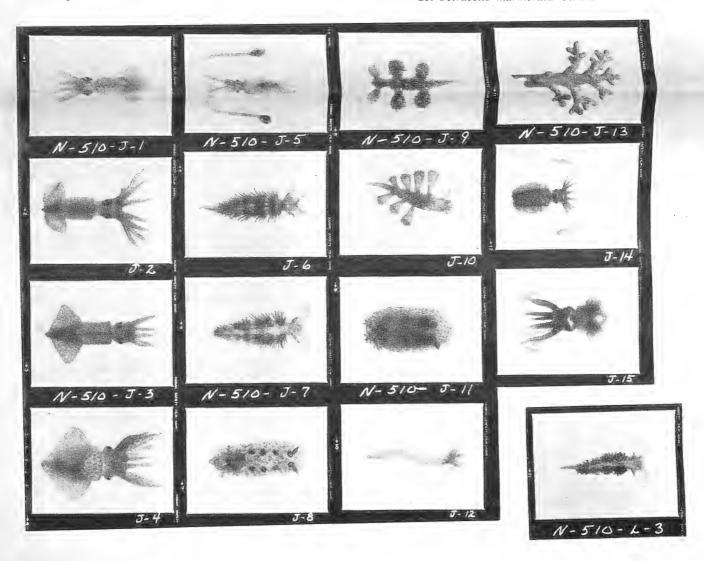
18. Typhloplana fulva O.F. Muller Order - Turbellaria - Dendrocoela

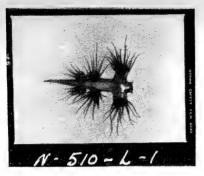
19. Eurylepta auriculata O.F.M.

20. Polycelis microsora Schm.

21. Proceros latissimus Schm. 22. Proceros viridis Schm.

23. Tetracelis marmorata O.F.M.





N-510-L-1 Glaucilla briareus (Ward's #446)

TYPE -- MOLLUSCA Class - Gasteropoda

Subclass - Opisthobranchia

Order - Elysiidae

24. Elysia grandis Bergh
25. Placobranchus variegatus Pease

26. Pterogasteron nigropunctatus Pease

Order - Aeolididae 27. Aeolis diversa Couthouy

28. Aeolis militaris Alder & Hancock 29. Coryphella salmonacea Couthouy

30. Embletonia pallida Ald. & Hanc. 31. Facelina coronata Forbes

32. Flabellina newcombi Angas

33. Montaguia picta A. & H.

34. Stiliger ornatus Ehrenberg

Order - Glaucidae

35. Glaucilla briareus Reinhardt Order - Proctonotidae

36. Janus sanguineus Angas

Order - Nelibaeidae & Tritonidae

38. Bornella digitata Ald. & Hanc. 39. Caecinella luctuosa Bergh

40. Doto coronata Alder & Hanc. 41. Melibe australis Angas

42. Scyllaea marmorata A. & H.

Order - Dorididae

43. Actinodoris australis Angas 44. Ceratostoma gracillimum Semper

45. Doriopsis clavulata A. & H.

43. Doriopsis ciavulata A. & H.
46. Doriopsis tuberculosa Quoy & Gaymard
47. Doris concinna Ald. & Hanc.
48. Doris elliotii Ald. & Hanc.
49. Doris pardalis Ald. & Hanc.

Class - Cephalopoda

50. Enoploteuthis owenii Verany 51. Enoploteuthis veranii Ruppell

52. Histioteuthis bonelliana Ferussac

53. Loligo bianconii Ver. 54. Loligo meneghini Ver

55. Loligopsis zygaena Ver.

56. Octopus macropus Risso 57. Octopus tetracirrhus D. Ch. 58. Octopus tuberculatus Blainv.

58. Octopus tuberculatus Bianiv.
59. Octopus vulgaris Lam.
60. Ommastrephes acquipodus Rupp.
61. Ommastrephes sagittatus Lam.
62. Onychia platyptera D'Orbigny
63. Onychoteuthis krohnii Verany

64. Philonexis catenulatus Fer.

65. Rossia macrosoma D. Ch.

66. Sepia bisserialis Montf.

67. Sepioteuthis sicula Rupp. 68. Tremoctopus velifer Fer. 69. Tremoctopus violaceus D. Ch.

70. Verania sicula Krohn.

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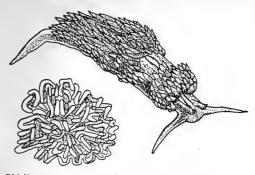
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#### READER FORUM



Phidiana crassicornis (Eschscholtz, 1831) Animal & egg mass. Drawing by Scooter Beers

From I.S. Roginskaya: G.R. McDonald has recently (1983) summarized the wide-spread north Pacific distribution of *Phidiana crassi*cornis (Eschscholtz, 1831) (formerly Hermissenda crassicornis). According to Mc-Donald, P. crassicornis is reported along the Pacific coast of North America from Sitka (Alaska) up to Point Eugenia (lower California, Mexico), and from Japan (Baba, 1937, Niigata, Sea of Japan). The author doesn't mention the presence of this species in the seas of the Soviet Far East. However, in the most quoted works of Soviet malacologist Nina Volodchenko (Volodchenko, 1941) (provided with the detailed English summary), Hermissenda crassicornis was included in the general list (unfortunately not translated into English) of the Nudibranchs of the Far East of the U.S.S.R. Though we cannot consider this citation of full value, as in the list not only the references on the exact localities were omitted but also the indication of the

concrete sea of the Far East were absent.

At the end of September, 1969, while conducting subtidal studies of the benthic Nudibranchia of the south Primorsk (Sea of Japan) I got at my disposal one living specimen of *P. crassicornis* collected by diving method in the Possjet Bay of the Sea of Japan

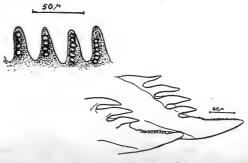
(Troitsa Cove).

When fully extended the animal was 31.5mm, the long tapering tail (1=9.4mm) almost tentacular in appearance (serving the animal in captivity for grasping the twigs of Ahnfeltia [sp.?] and swinging on it, monkeylike). Anterior angles of the foot - produced into sharp tentacular lobes. Oral tentacles --long (about 9.4mm), strong, tapering about twice as long as the perfoliate rhinophores (l=4.1mm), bearing some 13 transparent rings. The color pattern typical for the species (characteristic bluish, almost fluorescent parallel lines on the rhinophores, on the middle part of the back, on the tail, on the oral and propodial tentacles, on the flanks of the foot; the bright orange-red median stripe, beginning near the frontal margin of the head, narrowing between the rhinophores, expanding to the spindle-form area up to the beginning of the cerata of the first group, disappearing and once again reappearing on the back between the first and the second groups of papillae.) The bright orange cerata with brick-orange cores and opaque white tips, rather long (the longest equal to the length of the rhinophores, tapering, cylindro-conical, are in constant fast movement, especially when the overturned animal attempts to restore the normal position. The cerata arranged in 6 groups, were easily autotomized, and after preservation in 70% alcohol were completely detatched from the body (in tufts). The white ovotestis was visible through the semitransparent integu-The dorsal anus was situated between the second and the third group (nearer to the third). The genital opening -- on the right side below the first group of dorsal papillae. Mandibles yellowish-brown, elongate-oval, concave (narrower than those figured by MacFarland, 1966, pl. 71, fig. 1). Masticatory

processes well developed, bearing about 52 denticles, each with 4-6 round tubercles on the inner face. The uniseriate radula with 24 rows of transparent yelowish teeth, with horseshoe shaped base, strong, long, rather blunt median cusp (serrulated on its inferior face) and 4 finger-like lateral denticles on each side of it.

The histological study of the ovotestis disclosed almost empty male follicles with a fringe of spermatids and spermatozoa at the wall of acini, and the female follicles filled with yolky ovocytes. No sperm dimorphism, similar to that of Coryphella (Roginskaya,

The animal lived in captivity for 10 days, crawling on the twigs of Ahnfeltia [sp.?] The form of the single egg mass, deposited September 30, 1969, on the wall of the the aquarium, was typical for the species (Hurst, addition, was typical for the species (Figure 1967): the white cord, twisted in scallped spiral coil, with closely packed white eggs. Not having seen, the data that permitted Volodchenko (1941) to make her allegation, I dare not speak about the range extension, but about the more precise definition of distribution of this amphipacific species, and all the same about the confirmation of her forgotten statements.



Phidiana crassicornis side view of 2 radular teeth (11th & 12th from the old end) along with masticatory process detail. Drawing by I.S. Roginskaya

Two pictures of the details of proc. mast. and two radular teeth are included to prove that my species is really P. crassicornis. I.S. Roginskaya, P.P. Shirshov Institute of Oceanology, Academy of Sciences of the U.S.S.R., 23, Krasikova St., Moscow, USSR 117218

\* \* \* \* \*

From Dave Montgomery (Western Society of Naturalists): If you didn't go you missed a GOOD one! The 1985 meeting in Monterey was the largest (over 900 attendees), the best (quality of papers) and the smoothest (no projectors blew up) in the history of the current Secretary (1966-1986). Besides the Symposia and the Contributed Papers, the lighting were the AAH of the Montroes Papers. highlights were the AAH at the Monterey Bay Aquarium, the field trip to Elkhorn Slough and the memorable Presidential Dinner. Presentations of the marine facilities within California added to the excellence of the gathering...

The Outstanding Paper Awards: CATHERINE AGEGIAN, University of Hawaii. The Biogeochemical Ecology of the Coralline alga Porolithon gardneri (Foselle). TED CRANFORD, University of California, Santa Cruz, Quantitative Morphology of the Dolphin Head. MATHEW GROBER, University of California, Los Angeles. Luminesence in Opihopsila risel: a Test of Possible Functions. STEVE NORTON, University of California, Santa Barbara. Factors Influencing Dies in a Sculpin Community. (This paper was awarded the Atlantic-Richfield Environmental Award for the best paper dealing with the environment.) STEVE RUMRILL, University of Alberta, Canada. Recruitment of Pateria miniata: A Assessment of Larval Predation, Settlement and Post-larval Motility. MICHAEL RUSSELL, University of California, Berkeley. Gastropod Larval Ecology: To Feed or Not To Feed, That is Not the Question.

Our congratulations to these rising young scientists. We sincerely hope they continue in their graduate careers and the Young scientists deemed worthy of HONORABLE Society. Young scientists deemed worthy of HONORABLE MENTION in the Outstanding Awards are: KIRK APT, University of California, Santa Barbara. KENNETH CLIFTON, University of California, Santa Barbara. LEE W. COOPER, University of Alaska, Fairbanks. ANNETTE OLSON, Oregon

State University. JANET VOLTZOW, University of Washington. SALLY WALKER, University of California, Berkeley. DEENA DEUTSCH, Cuesta College and Cal Poly, San Luis Obispo. -- David H. Montgomery, Secretary, The Western Society of Naturalists, Department of Biological Sciences, California Polytechnic State University, San Luis Obispo, CA 93407.

\* \* \* \* \* From Vi Hertweck: The Sarasota Shell Club began in March, 1963 with a meeting at the Palmer Bank Building. Twenty-two people had responded to an ad placed in the Sarasota Herald Tribune. Jack and Helen Oberle had placed that ad to see if anyone

was interested in organizing a shell club.

A month later on April 12, 1963, the first meeting was held at the home of Mrs. June Hamilton, 2918 Gulf of Mexico Drive, Longboat Key, Florida. At that time Jack Oberle was elected President; John Stone, Treasurer and Winifred Leonard, Secretary. Dues were \$1.00 and the meetings were held in the afternoon, in members' homes.

The first show was held the following year,

in April at the Lido Beach Casino. Since the expense for that first endeavor was \$119.64, the dues were raised to \$2.00 to cover them. However, we realized a profit of \$199.71 and we were off to the start of something big. The shell of the show that year was a Golden Cowrie, Cypraea aurantium Gmelin, 1791.

Cowrie, Cypraea aurantium Gmelin, 1791.
Our presidents through the years have been: Jack Oberle, 1963-65; Louise Danforth, 1965-67; Bliss Rink, 1967-68; Jack Oberle, 1968-69; Thomas Robertson, 1969-1970; Evelyn Bradley, 1970-72; Jack Oberle, 1972-74; Charles Hertweck, 1974-80; Peggy Williams, 1980-82; Vi Hertweck, 1982-84; Dick Forbush, 1984-85 and June Bailey, 1985-86. The club was incoroporated March 28, 1975, with the late Mr. Al. Avellant heading that committee. When the late Jim Moore was dredging in the Gulf of Mexico in the early sixties, a rare

the Gulf of Mexico in the early sixties, a rare and beautiful shell, Murex beauii (Fischer & Bernordi, 1857) was receiving much attention.

IT was adopted as our logo. One of our charter members, Ree Rathburn, designed it. However we have changed, still the beauit, but a drawing by the late Neil Helper, of a beautiful webbed specimen.



We have one hundred seventy-six members, from all walks of life. World travelers to armchair collectors, consisting of beginning amateurs, advanced collectors and profession-

Anyone interested in shell or shell art is welcome to attend our meetings and join our club. Meetings are held the 2nd Thursday of each month, September thru May, at 7:30 pm at the Mote Marine Science Center. Programs are varied to cover all interests.

We sponsor a shell show each year the 3rd week-end in February, at the Sarasota Exhibition Hall, which includes both artistic and scientific exhibits. Proceeds are donated to schools, libraries and museums. Since 1978 we have donated nearly fourteen thousand dollars. -- Mrs. Charles Hertweck, 637 Sheridan Drive, Venice, FL 33595.

The Editor Goofed - Again!
Santa Barbara Shell Show, 1985, Class K
(Amateur, small exhibit), 1st Place, Jack
Gilbody. "The Six Classes of the Phylum Gilbody. "The Six Classes of the Phylum Mollusca" photo in the January issue did not acknowledge Jack Brookshire again for the photograph. You may recall that I forgot to acknowledge Jack's photos in the November

Shells and Sea Life, 18(2):9



From Miriam L. Cooke: Hope the photo of my shell will reproduce clearly enough for someone to be able to give me some information regarding age, origin and/or carvers.

Based on information available the number of figures and the delicate carving indicates it was possibly carved by cameo carvers about the mid 19th century. However, it was suggested that it might have been carved by an Israelite. Does someone have any information or knowledge regarding this?

It was purchased at a flea market from a man who said it was part of an estate that he had purchased. He further stated that it was carved by the "Cameo Carvers" but maybe that was just a selling point.

If any readers have any knowledge of the above or know where it is available please write. - Miriam L. Cooke, 13330 3rd N.E., Seattle, WA 98125

ERRATUM.

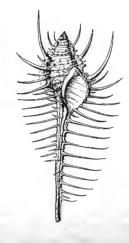
In the January issue, Page 3 (H.K. Mienis), the bottom portion of this section became separated from the remainder of the article. Our apologies to the author and our readers

Neritina spinosa Wood, 1828 — fig. 2.

This is actually the species figured by Boorman (1979). It is a junior synonym of the rather polymorphic Clithon (Clithon) coronata (Linnaeus, 1758).

This species is characterized by having a shell with an inflated last whorl. Its basic color is usually dull yellowish, greenish or sometimes violet, often with darker spiral bands and irregular triangular spots or zigzag lines. The shell is coarsely sculptured by axial wrinkles. Spines are usually present on the shoulder

wrinkles. Spines are usually present on the shoulder. The type locality of Wood's Neritina spinosa is unknown. The species has a very large distribution from the Nicobar Islands in the west to Fiji in the east (van Benthem Jutting, 1956; Starmuehlner, 1976).



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#### Schedule Shows & Conventions

1986

Sanibel Shell Fair March 6-9, Sanibel, Florida. Contact: Dorothy Putnam, Sanibel Community Center P.O. Box 72, Sanibel, FL 33957, or call 813-472-2155

Marco Island Shell Show March 12-13, Marco Island, Florida. Contact: Vera Wooley, 930 Montego Court, Marco Island, FL 33937, or call 813-394-1098

National Science Teacher's Association National Convention, March 25-30, San Francisco, California. Contact: Marjorie Gardner, Program Chairman, San Francisco National Convention, National Sciences Teachers Association, 1742 Connecticut Ave. N.W., Washington, DC 20009, or call 202-328-5800

Palm Beach Shell Show April 3-6, West Palm Beach, Florida. Contact: Phyllis Diegel, 143 Alcazar St., Royal Palm Beach, FL 33411, or call 305-798-5351

Georgia Shell Show April 11-13, Atlanta, Georgia. Contact: Carl & Rene Beeler, 1868 Gainsborough Dr., Chamblee, GA 30341, or call 404-451-2221

St. Louis Shell Show April 18-20, St. Louis, Missouri. Contact: Alan Gettleman, 4045 Central Lane, Granite City, IL 62040, or call 618-931-1312

Southern California Academy of Sciences, May 2-3, California State University, San Bernardino, California. Contact: Program Chairman, Southern California Academy of Sciences, 900 Exposition Blvd., Los Angeles, CA 90007, or call 213-744-3384

2nd International Symposium on Indo-Pacific Marine Biology Guam, Truk & Ponape, Sponsored by the Western Society of Naturalists, June 22 - July 9. Contact: David H. Montgomery, WSN Secretary, Biological Sciences Dept., California State Polytechnic University, San Luis Obispo, CA 93407.

American Malacological Union Western Society of Malacologists Joint Meeting, July 2-7, Monterey, California. Contact: Paula Mikkelsen or Margaret S. Mulliner

Conchologists of America Convention July 15-19, Fort Lauderdale, Florida. We will provide more information as we get it.

National Marine Education Association, 1986 Annual Conference, August 4-9, John Carroll University, Cleveland, Ohio. Contact: Ohio Sea Grant Education Program, The Ohio State University, 059 Ramseyer Hall, Columbus, OH 43210, or call: 614-422-

North American Paleontological Convention August 12-15, Boulder, Colorado, Field trips are planned for Aug. 4-11 and Aug. 16-17, along with workshops and access to collections. Contact: Norman L. Gilinsky, Dept. of Geological Sciences, VPI and SU, Blacksburg, VA 24061

Unitas Malacologica Ninth International Malacological Congress, August 31-September 6, Edinburgh, Scotland. Contact: Congress Office, Royal Scotlish Museum, Edinburgh, Scotland EH1 1JF

Western Society of Naturalists, December 27-30, University of Hawaii at Hilo. Dr. John Chan will be the local chairman.

#### 1987

Western Society of Naturalists, December 27-30, California State University, Long Beach, California. Dr. Don Reish will be the local chairman. \* \* \* \* \*

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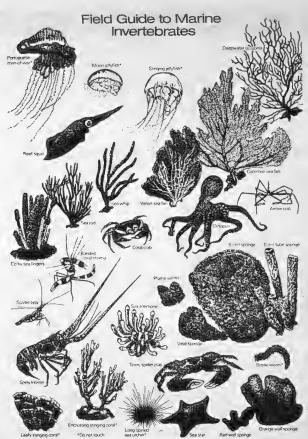
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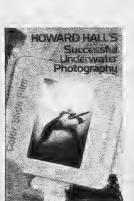
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- 7020 ABBOTT, R.T. 1973. American Malacologists. First edition. 494p. HB. 1975 Supplement. p.495-609 SB. Information indicates that the new editions will not include the early malacologists. Set of two books now out of print. \$18
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- 2009 Annales du Musee d'Histoire Naturelle de Marseille, 1903. Tome 8 includes biographical notices for A. Kowalewsky, H. Gaudion & P. Gourret, along with 3 Memoires. 1. Pallary, P., Addition a la faune conchyliogique de la mediterranee. 2. Couturier, M., Catalogue des coquilles paleartiques terrestres et fluviatiles de la collection du Dr. Hagenmuller. 3. Vayssiere, A., Recherches zoologiques et anatomiques sur les Mollusques Opistobranches du golfe de Marseille Supplement. 3 plates and several figures. 12x9" mostly uncut pages, fraying at edges \$34
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# Mollusks on Stamps

Tom Rice, P.O. Box 219, Port Gamble, WA 98364

To commemorate the 125th Anniversary of their first stamps, the Bahamas issue, on February 22, 1984, two shells-on-stamps issues, the 5-cent showing the 1861 4-penny stamp and the \$1, the 1849 ld stamp. Both these old stamps have a small conch in the border.

Greenland, on March 19, 1984, issued a set of stamps, one of which -- the 2,70 kroner -- shows pearls and whales.

The South American country of Surinam issued a set of shell stamps on February 22, 1984. Included are Arca zebra on the 40cent stamp, Trachycardium egmontianum on the 65-cent stamp, Tellina radiata on the 70-cent issue and Vermicularia knorri on the 80-cent stamp.

The Faroe Islands, in Europe, issued a set of stamps January 30, 1984. The 300 ore stamp features a shield with crossed keys above St. Jacob with a pilgrim's staff and hat, on the hat is a Pecten jacobeus, the Saint's symbol.

Dibouti continues to issue stamps with Djbouti continues to issue stamps with mollusks as their theme. A set issued on December 20, 1983, shows Marginella obtusa on the 15fr, Conus jickelli on the 30fr, Cypraea macandrewi on the 55fr, Conus cuvieri on the 80fr and Turbo petholatus on the 100fr. All of the photographs were taken by our subscriber, Henry Roussy. He has recently moved back to France and will be moving again soon, to Thailand soon, to Thailand

## MARGINELLA OBTUSA (SOWERBY 1846):

Pratiquement seule représentante de cette famille en Mer Rouge. Couleurs variables du vert clair au brun, lignes longitudinales en pointillés et deux bandes de couleur plus soutenue. Trouvée dans sable ou vase entre 20/80 cm.

## MARGINELLA OBTUSA (SOWERBY 1846)

Practically the only representative of this family in the Red Sea. Variable colouring from light green to brown with longitudinal dotted lines and two bands of darker colour. Found in sand or mud at 20/80 cm.



## CONUS JICKELLI (WEINKAUFF 1873) :

(WEINKAUFF 1873):

Zone d'habitation Est Océan Indien, mais plus particulièrement Mer Rouge, depuis DAHALAC au Golfe d'ADEN. Léger, de 30/40 mm, conique, avec spire pointue. Blanc parfait, ou crême très clair. Lignes pointillées avec tâches brunes parfois inexistantes.

CONUS JICKELLI (WEINKAUFF 1871): Zone of habitation, Fast of Indian Ocean but more particularly the RedSea from DAHALAC to the GULF OF ADEN, Light, 30/40 mm. Conical with a pointed spire. Perfect white or very light cream. Dotted lines of brown markings are sometimes absent.

## CYPRAEA MACANDREWI (SOWERBY 1870):

CYPRAEA MACANDREWI (SOWERBY 1870):

9 à 25 mm, sans parenté reconnue, spécifiquement de Mer Rouge. Cylindrique, avec points marrons et plus petits blancs sur le dos. Dents exterieures soulignees de marron, dents de l'èvre intérieure pratiquement non apparentes. Assez rare.

55f

D. 30/50 mm. pratiquement non apparentes. Assez rare

## CYPRAEA MACANDREWI (SOWERBY 1870):

(SOWERD) 1020).

9 to 25 mm. No known relatives. Specific to the Red Sea. Cylindrical with brown spots and waller white spots on the back. Exterior tech underlined in brown. Teeth on inner lip practically undetectable. Quite rare.



CONUS CUVIERI (CROSSE 1858): Cone "roule" très lèger et fin, de 25/45 mm. Mélange de couleurs nébuleuses de blanc à marron bleutés. Ouverture très large. En eau peu profonde, mais seulement Mer rouge. Peu commun.

#### CONUS CUVIERI (CROSSE 1858) :

A very light and delicate rounded cone of 25/45 mm. A mixture of cloudy colours from white to bluish brown. Very wide aperture, Shallow water, in the Red Sca only. Uncommon.

#### TURBO PETHOLATUS (LINNE 1758)

Commun dans Pacifique et Océan Indien. Reste de taille moyenne en Mer Rouge (30/50 mm). Généralement brun, vert foncé avec lignes spiralées sombres et marques blanches. Assez brillant, intérieur nacré. Opercule "OEIL DE TIGRE".

## TURBO PETHOLATUS (LINNAEUS 1758) :

Common in the Pacific and Indian Oceans. Reaches only medium size in the Red Sca (30/50 mm). Generally brown or dark green with spiral lines of dark and white markings. Quite shiny, pearly interior. "TIGER'S EVE" operculum.

A second set of Djbouti stamps, issued July 15, 1985, shows Cypraea nebrites on

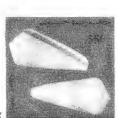
the 10fr, Cypraea turdus on the 15fr, Conus acuminatus on the 30fr, Cypraea camelopardalis on the 40fr, and Conus terebra on the 55fr. There are also color post cards with



# CONUS TEREBRA (BORN 1780) Plage Arta - Commune - Forme allongée, fond pâle avec deux bandes. Couleur soit bleutée surtout jeune, soit jaune pâle. Periostracum toujours important. D. 50/70 mm.

## CONUS TEREBRA (BORN 1780)

Arta beach - common species - Oblong form, inside pale with two stripes. Colour either bluish, when young, either pale yellow. Periostracum always important. D. 50/70 mm.



CYPRAEA CAMELOPARDALIS (PERRY 1811) Obook - Relativement rare - Couleur

blanc crème avec points blancs. Dorsalement très souvent striée par croissance irrégulière.

D. 40/60 mm.

CYPRAEA CAMELOPARDALIS

(PERRY 1811)

Obock - rather rare - Colour cream white whit white spots. Back very often streaked due to irregular

D. 40/60 mm.

West Africa's Cape Verde Islands issued, on November 30, 1983, a shell stamp set featuring Conus alteralbus on the 50 centavos, Conus decoratus on the 1 escudo, Conus salreiensis on the 3 escudo, Conus verdensis on the 10 escudo and Conus coneolus on the 50 escudo issue.

growing.

Belize, in Central America, issued a set of marine life stamps on February 27, 1984. One mollusk, the Common Lettuce Slug, Tradachia crispata, appears on the \$2 issue of the 16 stamp set. The 6-cent stamp shows the 16 stamp set. The 6-cent stamp shows the hermit crab, *Dardanus venosus*, in a dead *Cymatium* sp. shell. Other stamps in the set show corals, sponges, crabs and fish.

Information taken from:

Belize Philatelic Buresu Office des Postes et Telecommunications, Dibouti Inter-Governmental Philatelic Corporation Linn's Stamp News

#### CYPRAEA NEBRITES (MELVILLE 1888)

each of the shells.

Doralé beach - common species -Cream base with lines of jags of labial form, coloured with reddish brown. Brown spots on each dorsal side. D 30/35 mm.



## CYPREA TURDUS

(LAMARCK 1810) Ile de Maskali - Assez commune -Baseblanche avecdents très marquées. Dos déprimé fond vert clair avec nombreuses tâches vert olive et brun. D. 20/30mm.



Island of Maskali - rather common -White base with very apparent jags. Low back. Background light green along with a lot of olive green and and brown spots. D. 20/30 mm.

## CONUS ACUMINATUS (AWASS 1792)

Doralé beach - rather common in this arca - Very regular whorl. Clear stripe on black background with small white triangles limited by light brown line. D. 30/50 mm.



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# Squid

### Cleaning Squid



Cut off the tentacles just above the eye. Save them.



Squeeze out the beak, the squid's mouth, which looks like a garbanzo bean. Discard it.



Holding the blade of a chef's knife almost flat, scrape along the body from the tail to the opening. Press down hard to squeeze out the

entrails, but be careful not to break the skin. Don't worry about removing the skin, which is edible.

## The First Step is the Hardest

#### By Bernice Kagan

Not being particularly adept with kitchen knives, I wondered at the wisdom of featuring squid as a low cost main dish. But the recipes looked good, friends assured me cleaning squid was easy and at \$1.49 a pound, the price was right. Still, I was feeling apprehensive when I arrived home with several pounds of squid. Could I transform these slimy mollusks into a palatable dinner?

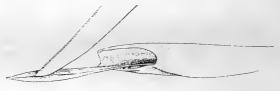
Working with squid is like being in high school biology. Step one: "Cut off the tentacles just above the eyes." This assumes you've taken the real first step: touching the squid. Whack! Tentacles cut. Oops, I failed to assess which end was which and cut below the eyes. Squid eyes are quite soulful. The tentacles are in front. Steps 2 and 3 were quite easy. The transparent quills (Step 4) in my squid were so small, I had to slit the bodies to find them. They came out easily once located. I never did find an ink sac although I examined everything I found with interest. I gave all these interesting entrails to

my cats. (No cats? Just leave the stuff in a bowl by your back door. A cat will find it within five minutes.) It's easy to imagine throwing out the tentacles, but most recipes suggest chopping them and adding them to the sauce or stuffing. In small pieces they look edible.

Next, taking no chances that my squid might be tough, I pounded the meat with a wooden mallet.

Squid cooks very quickly, about a minute or two seems sufficient. it toughens with longer cooking, a fact easily demonstrated in my kitchen. Dipped in egg and bread crumbs and quickly sauteed, the squid meat was white and tender with a flavor resembling abalone, although not quite as delicate. From start to finish, the whole process took no longer than making a salad.

With its mild flavor, squid is versatile and can be added to sauces for pasta, stir fried (add at the last minute), stuffed or fried. Tackling squid made me feel brave and confident in my kitchen.



With the point of the knife, stab the transparent quill which protrudes from the body and hold it fast. Pull the body away. The quill should remain under the knife.

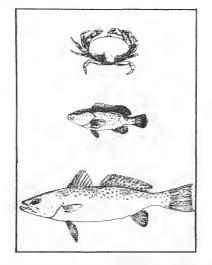
Discard the quill. The squid is now ready for stuffing. If you want to cook smaller pieces, cut rings crosswise ½ to 1 inch wide.

#### Cookbook Review

## Looks Like a Great Book

The California Seafood Cookbook, Isaac Cronin, Jay Harlow and Paul Johnson, Aris Books.

Order No. 602-90 - \$12.95



#### by Bernice Kagan

Thumbing through *The California Seafood Cookbook*, is a frustrating treat on a day when winter weather prevents a selection of fresh fish. Subtitled, "A Cook's Guide to the Fish and Shellfish of California, the Pacific and Beyond," this well illustrated encyclopedia of seafood is divided into three sections:

Part I, a cook's introduction to seafood which covers purchasing fish, cleaning and cutting fish, cooking methods and explanations of special ingredients.

Part II, the body of the book is the wonderful alphabetical encyclopedia with recipes and cooking ideas for each fish.

Part III, a miscellany, contains a portrait of a fishmonger, information about wines, California oysters and the health risks of fish and seafood.

But of course, it is the recipes that shine. If most of your fish has come out of a can or the deep fryer, you can learn a lot from this book.

#### Fried Squid

from James Beard's New Fish Cookery

Cut the tentacles into small pieces, dust them with flour, and dip in beaten egg and crumbs or in batter. Fry quickly in oil heated to 375 degrees. Drain on absorbent paper and salt and pepper to taste. Serve with tartar sauce.

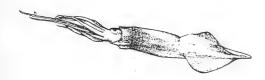
These are excellent as part of a "mixed fry" in the Italian style. Use a selection of small bits of fish, all fried and served with a highly seasoned sauce.

#### Fried Squid II

from James Beard's New Fish Cookery

Cut the tentacles into small pieces and dust well with flour. Saute in plenty of oilve oil. It's wise to cover the pan. Salt and pepper to taste.

## Squid



#### Squid with Black Rice

from
The California Seafood Cookbook
Serves 4

- 2 pounds squid, cleaned, bodies cut into rings, with tentacles and ink sacs reserved
- 2 Tablespoons olive oil
- ¼ cup chopped yellow onion
- 1 Tablespoon chopped garlic
- 1 cup white rice
- 1 teaspoon fresh thyme or oregano, or ¼ teaspoon dried
- 1 bay leaf Salt to taste
- 1 cup chicken stock and 1 cup water (if using canned chicken broth, decrease salt)

In a sieve placed over a bowl, crush the ink sacs with the back of a spoon. Pour the stock and water through the sieve to extract the rest of the ink

In a medium-sized casserole, saute the onion and garlic in the olive oil over medium heat; do not brown. Add the rice, stir and saute a few minutes longer until the rice just begins to color. Add the seasonings and the stock. Cover, bring to a boil, reduce heat and simmer

for 15 minutes or until most of the liquid has been absorbed. Taste for seasoning. Add the squid and cook 5 minutes more or until squid is opaque and rice has absorbed the remaining liquid.

Serve from the casserole or transfer to a serving dish, arranging the squid on top. Serve with an assortment of colorful vegetables.



#### Squid Stuffed with Spinach

from

The California Seafood Cookbook Serves 4

- 2 pounds large squid, cleaned for stuffing
- 2 Tablespoons olive oil 1 medium yellow onion.
- l medium yellow onion, chopped ½ pound spinach, washed,
- drained, stems removed and leaves chopped 4 cup bread crumbs
- 1½ ounces Pernod or other anise liqueur
  - Salt and pepper to taste 2 Tablespoons olive oil
- 1 cup cream

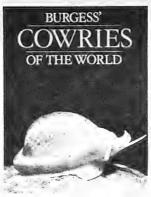
Chop the tentacles and set aside.

Saute the onions in olive oil until soft. Add the spinach and cook until wilted. Add the tentacles and bread crumbs. Saute for 2 minutes. Add half the Pernod and remove from the heat. (It is best to let the stuffing cool to room temperature before adding it to the squid. If this is impossible, make the stuffing and stuff the squid immediately before cooking.) Stuff the squid loosely with the spinach mixture, using a pastry bag, small spoon or your fingers. Seal each with a toothpick.

Heat 2 tablespoons of olive oil in a skillet large enough to hold all the squid in one layer. Add the squid and saute until the bodies are opaque, about 4 minutes. Remove to a heated serving dish. Deglaze the pan with the remaining Pernod. Add the cream, turn up the heat, and reduce by two-thirds. Return the squid to the skillet to reheat.

Arrange the squid on a warm platter, removing the toothpicks in the kitchen if desired. Pour the sauce over and serve.

Thanks to Kathy Ehnebuske & Bernice Kagan, Co-op, 811 "I" Street, Arcata, CA 95521, for the squid recipes and book review on pages 20 and 21.



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The cowrie animal and its habits, as well as the shells, is the subject of this book by the author of The Living Cowries, C.M. Burgess. Over 200 are discussed — species, distribution and synonymy all are illustrated in full colour of which over 150 show the living animal. In addition, there are 18 plates showing significant variations within a species, two plates showing species described since 1970, and schematic drawings of conchological and anatomical characters of the cowries.

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*MUREX octogonus QSG, w/o, brown or tan, New Zeeland	34mm+		17.00
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" fueus L, w/o, fantestic siphons, Philippines 2	45mm+	F	6.50
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## Southwest Florida Conchologist Society



From William Shaw, Recording Secretary, The Southwest Florida Conchologist Society, Inc.: Dear Mr. Long:

Attached is a summary of the categories and winners in our club's Shell Show held on January 17, 18 and 19 at the Fort Myers Exhibition Hall.

Exhibition Hall...

The judges for the scientific divisions of the show were R. Tucker Abbott and William Lyons. The judges for the artistic divisions were Cecelia Abbott and Anne Joffee.

We had an excellent show this year and the overall quality of the exhibits was unusually high. The three entries in Category C, One Large Family, of Division III, World-wide Marine Shells, were of special interest because the judges agreed that all three were of such outstanding quality that it was difficult to choose a winner.

outstanding quality that it was difficult to choose a winner.

Division X, S.W.F.C.S. Masters Division, is unique, I believe, among U.S. shell shows. Only exhibits which have previously won any one of the top three shell show awards (C.O.A., DuPont, and the Smithsonian) in any U.S. shell show are eligible for entry in this division. The three entries in this division were also of outstanding quality. ...

List of categories, entries, and award winners in the 19th annual shell show of the Southwest Florida Conchologist Society at the Exhibition Hall, Fort Myers, Florida, January 17, 18 and 19, 1986.

Division I. Educational. One entry: Charles and Vi Hertweck, 'Do You Know'

The theme of each of 16 cases was to ask the viewer if he knows the theme of each of 16 cases was to ask the viewer if he knows some interesting fact about mollusk life that is not known generally, and illustrates the answer with actual specimens of mollusks and with pictures. For example, in one case the question is "Do you know that the Sea Hare is a mollusk?" Color photographs of live Sea Hares (Aplysia) are shown beside actual specimens of the small internal "shell" that looks more like a large fish-scale than a shell, along with printed information about the species. Awarded the DuPont trophy

Division II. Marine Shells (Florid & Caribbean)

trophy.

Division II. Marine Shells (Florid & Caribbean)
Category A. One region, self-collected. Two entries.
Entry #1. Don Moody. 12 cases entitled "Down in the Dumps: Shelling at the Scallop Dumps of Cape Canaveral."
Included specimens of 42 of the more interesting of the mollusk species found at the great dumps near Cape Canaveral where are discarded the shells left after processing by the scallop fleet that operates out of Port Canaveral. The exhibit included interesting printed information about the dumps and the shells to be found there. Awarded the Shell Factory Trophy, for the outstanding exhibit of marine shells of the Florida & Caribbean area. Entry #2. Betty & Al Karius. 4 cases of Florid shells. Awarded second place. Category B. One region, any source. One entry: Betty Hamilton. 6 cases of Florida shells entitled "Evolution of an Exhibitor, 1981-1985," showing the progress as a collector and exhibitor from a non-winning exhibitor to a trophywinner. Awarded a blue ribbon.
Category C. One family. No entries.
Category D. One genus. No entries.
Category E. One species. One entry: Barbara & Rob Masino. 3 cases of beautiful specimens of the Lion's Paw, Lyropecten nodosus. Awarded a blue ribbon and a Special Merit Award (Green Rosette). Also awarded a Purple Rosette for Shell of the Show for a large yellow pair of Lion's Paws in the exhibit. Category F. Miniatures. No entries.
Category B. One region (other than Florida & Caribbean). No entries.
Category B. One region (other than Florida & Caribbean). No entries.

entries.

Category C. One large family. Three entries:

Entry #1. Al Bergman. 19 cases entitled "Around the World in Cones." Included 1456 specimens of 457 species, subspecies and forms of CONIDAE, including almost all of those accepted as valid, and most of the rare species. The exhibit included detailed data on each species and information about each of the regions into which the exhibit was divided. Awarded a blue ribbon and the C.O.A. trophy.

Entry #2. John & Barbara Vaughan. 15 cases of STROMBIDAE containing 465 specimens of 107 species, sub-species and forms, with detailed data. (The judges agreed that the exhibit represented as complete coverage of the family as is possible.) Awarded second place. Entry #3. Chip & Edie Chippeaux. 18 cases of CYMATIDAE, with 403 specimens of 140 species, representing about 80% of the valid species. Awarded third place. Also won a Special Merit Award (Green Rosette). Category D. One small family. One entry: George Runkle. 2 cases of OLIVIDAE. Awarded third place. (No first or second.)

cases of OLIVIDAE. Awarded vind processes of Chicoreus. Awarded the blue ribbon.

Category F. One species. One entry: Janet & Bill Paddison.

Category F. One species. One entry: Janet & Bill Paddison.

One case of 5 specimens of a Volute, Amoria grayi. Awarded

one case of a specimens of a Volute, Amoria grayi. Awarded a blue ribbon.

Category G. Miniatures. No entries.

Category H. Beautiful shells, any source. Two entries.

Entry #1. Virginia Lee. 8 cases of gem specimens of beautiful shells. Awarded first bloes.

Entry #1. Virginia Lee. 8 cases of gem specimens of beautiful shells. Awarded first place.

Entry #2. Joy Nilson. One case of "The True Heart Cockle,"

Corculum cardissa, showing variations in color & pattern of 23 specimens. Awarded third place. (No second place.)

Category I. Self-collected, except Florida & Caribbean. One entry: Anna Marie & George Nyquist, 4 cases, "Shelling in Fiji." Awarded a blue ribbon.

Category J. Shell stamps with mollusks. One entry: Joy Nilson. 3 cases of the shell stamps such by the ILS Poetal Service in

3 cases of the shell stamps issued by the U.S. Postal Service in 1985, alongside the specimens of the shells. An outstanding feature of the exhibit was a series of 24 fine specimens of the Frilled Dogwinkle, showing the great variation in form & color of the species. Awarded a blue ribbon.

Division IV. Land and Freshwater Shells.

Division IV. Land and Freshwater Shells.

Category A. World-wide, any source. One entry: Joy Nilson. 5 cases of U.S. freshwater bivalves, with examples of buttons made from certain species when the shell-button industry thrived in the U.S., before the advent of plastic buttons. Awarded a blue ribbon.

Category B. One region, any source. No entries.
Category C. One family, any source. No entries.
Category D. Self-collected, any area. No entries.
Division V. Fossil Shells.
Category A. World-wide. One entry: Helen Asher. 8 cases of fossils, with explanatory printed data. Awarded a red ribbon. (No blue ribbon).
Category B. Florida. One entry: Betty Lawson. 4 cases of fossil shells from the large Macasphalt quarry near Sarasota.

Category B. Florida. One entry: Betty Lawson. 4 cases of fossil shells from the large Macasphalt quarry near Sarasota. Awarded the blue ribbon. Division VI. Adult beginners.
Category A. World-wide marine, any source. No entries. Category B. Florida marine, any source. No entries. Category C. Florida marine, self-collected. No entries. Category D. Land and freshwater shells, any area, any source. No entries

No entries

No entries.

Division VII. Students (Florida Shells). No entries.

Division VIII. Marine Fauna (other than Mollusca). Two entries.

Entry #1. LaVerne Runkle. 7 cases of Sharks' Teeth selfcollected at the famous Sharks' Teeth Beach at Venice,
Florida. Awarded first place.

Entry #2. Joy Nilson. One small case of a Long-clawed Hermit
Crab, Pagurus longicarpus, in a Philippi's Nutmeg
Trigonostoma tenerum. Awarded third place. (No second
place.)

Trigonostoma tenerum. Awarded third place. (No second place.)

Division IX. Popourri. 3 entries.

Entry #1. Mary & Bart Zanarini. Two cases of albino gastropods. Awarded first place.

Entry #2. Ruth Love. A large Strombus gigas covered with fire coral caught on a fishing pole at Marathon Key in the Florida Keys. Awarded second place.

Entry #3. Joy Nilson. A tiny Cuban gastropod, Blaesospira echinus. Awarded third place.

Entry #3. Joy Nilson. A tiny Cuban gastropod, Blaesospira echinus. Awarded third place.

Division X. Masters Trophy, Scientific Divisions. Three entries. Entry #1. Sue & Bill Vaughan. "Living Mollusks from Around the World." 8 cases of shells, plus a large simulated aquarium showing shells in their "natural" habitats at various ocean depths, along with large display panels of color photographs of living shells, and a video cassette with a slide program of color photos of living shells running continuously throughout the show, with audio commentary on each shell by Bill Vaughan. Awarded the Masters Trophy.

Entry #2. Maryellen and Olin Bell. "Marine Mollusca - The Animal/Shell/Taxonomy," 50 linear feet of display with specimens of 195 shell families, showing details of the anatomy, construction, development, etc., of mollusks, with the actual specimens. This exhibit won the DuPont Trophy at the S.W.F.C.S. Shell Show in January, 1985, and the C.O.A. Trophy at the Sarasota Shell Show in February, 1985. Entry #3. Edith Ochsner. 3 cases of shells and descriptive material in the sub-family Simniinae. This exhibit won the C.O.A. trophy in the Marco Island, Florida, Shell Show in 1984.

C.O.A. trophy in the Marco Island, Florida, Shell Show in

William Shaw, 3900 Villmoor Lane, S.W., Fort Myers, Florida 33907

\* \* \* \* \*

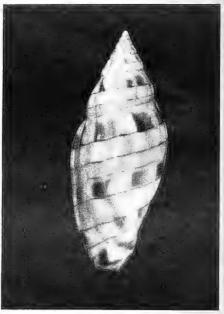
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Lyria leonardi Emerson, 1985 Photo by Marty Gill



Lyria russ jenseni Emerson, 1985 Photo by Marty Gill



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From Stu Lillico: Have been meaning to write you for some time. As an editor, you will recognize my explanation that I never seem to have time for personal correspondence.

About 10 years ago, the H[awaiian] M[alacological] S[ociety] Directors adopted a policy of not exchanging (for other publications). In the case of S&SL, of course we want to receive it, and a subscription check is somewhere in the pipeline. I already have a personal subscription, which I plan to continue.

We have been following your ups and

downs with interest. I imagine you will be getting out of newsprint in due course. I find it a bit offputting. A glossy (or at least white) paper would look more impressive. The format rather appeals to me. S&SL can't easily be mistaken for any other shell paper -- and that's good. As one editor to another (here I go again), I suggest a bolder headline style. Can your computer produce? With the present gray newsprint, the pages really don't have the contrast that the contents deserve.

I hope to attend the AMU meeting in Monterey. If I make it, perhaps I can make a quick visit to Bayside for a chance to talk shop. My wife and I are planning to visit Australia and New Zealand in April, on what I laughingly call a business trip. - Stu Lillico, Editor, Hawaiian Shell News, P.O. Box 10391, Honolulu, HI 96816

From Peter L. Haaker: "I received a call from Jack Engle, Director of the Channel Islands Research Program at the Catalina Marine Science Center. He has come up with an answer to my "What is it?" photo that appeared in the Volume 17,

Number 4 Shells and Sea Life.

Jack is 95 percent certain that the goblet shaped object is an egg capsule of Fusinus kobelti, which occurs relatively commonly in southern California.

On another matter... the new format for Shells and Sea Life. I understand that the old format was expensive, and I can sympathize with you wanting to get back on schedule. But I believe you are going to lose articles and papers of a serious nature because of your new newsprint format. The new format does not convey the feeling of seriousness, or permanence that should be striven for in even quasiscientific journals. Nor does the new format store well. I hope you will soon consider going back to the Volume 17 type format, even if you must cut back on much of the color. [ed. - I will return to the volume 17 type format as soon as a minimum of 2,500 subscribers agree to pay a minimum of \$75 per year for subscriptions. Any lesser amount would be unable to support the costs involved with ANY color. I need additional equipment to keep improving this format and will appreciate any donations toward that end. The first step, after we are on schedule and have many more subscribers, will be to improve the whiteness and durability of the paper we use for printing.] - Peter L. Haaker, Marine Biologist, California State Fisheries Laboratory, 1301 W. 12th Street, Long Beach, CA 90813.

From Tom Shepherd: Here is the information gleaned from the questionaire. ... 58% of respondents belong to a shell club. The number of shells in the average collection was 1,522. The low number was 44. Two respondents in the United States have 7,000 or more shells in their collection. One European has 10,000 shells in his collection.

The groups collected in order of popularity: Cypraea, Conus, Pecten, Strombus, Murex, Voluta, Oliva, fossils, then Epitonium, Harpa, Lambis, and Spondylus listed equally, then Marginella, miters and Cymatium listed equally, then HALIOT-IDAE, Xenophorae, Cassis and Bursa, followed by everything else.

Fifty-three percent expressed an interest in freaks, 64% expressed an interest in shells from unusual locations. ... I don't know if the information would hold true for the majority or not. My gut feeling is that it would.... - Tom Shepherd, Specimen Shell Dealer, 2222 Beech St., Virginia Beach, VA 23451

From R. C. Willan: I'm coming to the Opisthobranch Symposium in [A.M.U.], so hope to meet you there. P.S. I was elected President of the Malacological Society [of Australia] in July last year. Only now I realize how much time is omy now I realize now intentitime is required to run a large society. - Dr. R.C. Willan, Zoology Department, University of Queensland, St. Lucia, Brisbane, Queensland, Australia 4067

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## Directory of Publications

We will list currently published periodicals of interest to our readers here as time and space permit. Where we have information on subscription rates and order addresses we will give it but, please verify with the publishers as rates are subject to frequent changes. Publications received by the editor will be reviewed for inclusion in this section and in the annual directory.

AMU News published by the American Malacological Union, Corresponding Secretary, Paula M. Mikkelsen, Harbor Branch Foundation, Inc., RR 1, Box 196, Fort Pierce, FL 33450. Published quarterly along with the Bulletin and available with membership. Rates: Regular \$20; Corresponding (outside Western Hemisphere) \$23 surface, \$26 air; Student \$15, Affiliate (institutional) \$22 - \$28. Format: 215 x 280 mm, about 16 pages per issue, corner-stapled.

Argonala, The International Journal of Malacology. Published by Associazione Malacologica Internazionale (A.M.I.), Editor, Roberto Ubaldi. English and Italian parallel edition. Published in 6 numbers per year starting, 1985. Number 1, separate, and Nos. 2-3 together. 60 pages in the first 3 numbers with excellent color. Format 210 x 295 mm, saddlestitched. Rates: Seamail \$16; Airmail: Europe, Americas, Asia, Africa \$20; Australia & Pacific \$23 per 6 numbers.

Australian Shell News. Published quarterly by the Malacological Society of Australia. Format: 190 x 255 mm, 8-12 pages per issue. Provided along with the annual Journal of the Malacological Society of Australia for the annual membership fee of A\$13.

Gloria Maris tijdschrift uitgegeven door de Belgische Vereniging voor Conchyliologie V.Z.W., published bimonthly, by the Belgian society for conchology. Format: 150 x 215mm, about 28 pages per issue. Subscription \$12 US to the Belgian Society for Conchology, 610-4465950-64 Handelsbank, Antwerp, Belgium. Bank costs must be paid by the applicant. If preferred, you may simply send \$12 to S&SL and we will handle the subscription. Allow at least 8 weeks for the subscription to start.

Hawaiian Shell News, An educational publication of the Hawaiian Malacological Society, P.O. Box 10391, Honolulu, HI 96816. Published monthly, 8-16 pages per issue with color 2-3 times per year. Format 215 x 280 mm, loose. Rates: First Class \$20; Airmail \$24.50 to 29; Bulk mail to US Zip codes \$16.

Iberus, Revista de la Sociedad Espanola de Malacologia.

Annual volume published by the Sociedad Espanola de Malacologia, c/o Museo Nacional de Ciencias Naturales, P<sup>o</sup> de la Castellana, 80 Madrid 6, Spain.

Format: 170 x 242 mm, volume 4 (1984) 136 pages, perfectbound. At last word, the volume was available by airmail for \$20 per year.

Informativo SBM. Published by the Sociedade Brasileira de Malacologia, Departamento de Zoologia, Instituto de Biociencias, U.S.P., C.P. 20.520, CEP 01000, Sac Paulo-SP, Bratil. Published monthly. Editor Kaoru Hiroki. Portugese language. Format 150 x 210 mm, about 20 pages per issue, 1 color plate. No pricing information available.

Journal of the Malacological Society of Australia. Published by the Malacological Society of Australia, c/o Queensland Museum, Gregory Terrace, Fortitude Valley, Queensland 4006, Australia. Format: 175 x 245 mm, side-stitched and wrap cover, about 96p. per issue and 4 issues per

Journal of the Malacological Society of Australia. Published by the Malacological Society of Australia, c/o Queensland Museum, Gregory Terrace, Fortitude Valley, Queensland 4006, Australia. Format: 175 x 245 mm, side-stitched and wrap cover, about 96p. per issue and 4 issues per volume. Each year includes 4 issues (usually over a two-year period). Rates: A\$13 per year which includes the Journal and Australian Shell News. Shells and Sea Life is a subscription agent.

Keppel Bay Tidings, Published by the Keppel Bay Shell Club, P.O. Box 5166, Rockhampton Mail Centre, Queensland, 4702. Quarterly available with membership in the Kepple Bay Shell Club. A\$15 per year, airmail also available. Format 220 x 280 mm, 8 pages per issue. Excellent halftone illustrations.

La Conchiglia, The Shell. Published by Mrs. Kety Nicolay, Via C. Federici, 1, 00147 ROMA (Italy). English or Italian editions. Originally a monthly publication, two numbers included in each issue. Normally 6 issues per year, each 32 pages with excellent color. Format 210 x 300 mm, saddlestitched. Rates: Seamail: US \$17 anywhere in the world; Airmail: N. & S. America, Africa & Asia \$20, Australia & Polynesia \$27 per year. Shells and Sea Life acts as subscription agent.

Las Conchas, Meeting Notice and Newsletter of Pacific Shell Club. Monthly publication edited by John T. Boyd, 11813 Morning Ave., Downey, CA 90241. Available with club membership. No rates available. Format: 215 x 280 mm, about 8 pages per month.

Rossiniana, Bulletin de l'Association Conchyliologique de Nouvelle-Caledonie, B.P. 146, 18, rue Henri-Bonneaud, Noumea, New Caledonia. French and English text. Quarterly, 32 pages per issue, color in part. Format 210 x 300 mm, saddle-stitched. Rates: Airmail \$20 or 110 FrF. Checks not on New Caledonian bank in francs must add \$8. Shells and Sea Life is a subscription agent.

Southwestern Malacological Society, Monthly Meeting Notice and Newsletter. Published about 10 times per year, Editor, Nancy Decker, c/o 3846 E. Highland Ave., Phoenix, AZ 85018. Rates: \$3 per year with club membership. Format: 215 x 280 mm, 4 pages per month. Suncoast Shorelines. Published bi-monthly by the Suncoast Conchologists, Editor Bob Pierson, P.O. Box 1564, Palm Harbor, FL 34273-1564. format 215 x 280 mm, about 12 pages per issue. Rates: \$10 with membership.

The Connoisseur of seashells. Published by Dr. Luigi Raybaudi Massilia, P.O. Box 561, ROMA (00187) Italy. English and Italian parallel edition. Published bimonthly, 6 numbers per year. Issue no. 5 (September, 1985) is 36 pages with excellent color. Format 200 x 265 mm, saddle-stitched. Rates: Surface \$18; Airmail \$24; Sample copy \$4; Backnumber \$5. The Connoisseur is primarily a sales catalog for specimen seashells.

The Festivus. Publication of the San Diego Shell Club, Editor, Carole M. Herts, 3883 Mt. Blackburn Ave., San Diego, CA 92111. Issued monthly except December. Format: 215 x 280 mm, 8-16 pages per issue. Membership and subscription \$7 in US; \$10 overseas surface mail. Loose sheets, corner stapled. Halftone illustrations.

The Nautilus, published by American Malacologists, Inc., P.O. Box 2255, Melbourne, FL 32902. Editor: R. Tucker Abbott. Quarterly publication. Rates: \$15 US; \$18 foreign; \$20 institutional. Format: 215 x 265 mm, 36-48 pages per issue, Saddle-stitched with heavy cover. Includes halftones and occasionally color.

The Slit Shell. Newsletter of the Indianapolis Shell Club, Paula D. Knoebel, Editor, 3846 Woodridge Court, Plainfield, IN 46168. Publication sent to members of the club.

Tide-ings, The newsletter of the Crown Point Shell Collectors Study Group, Inc. Newsletter editor, Carol Bodine, Box 462, Crown Point, IN 46307. 212 numbers per year with club membership. Format: 215 x 280 mm, 6 pages, corner stapled.

Underwater The Diver's Journal. Published by Neville Coleman's Sea Australia Productions Pty. Ltd., P.O. Box 419, Caringbah, NSW 2229, Australia. English language quarterly. Issue No. 14 (3rd Quarter 1985) is 84 pages with the finest color I have seen anywhere. Includes a lot of good articles and photos on the marine life of Australian waters. Subscriptions: in Australia A\$18; elsewhere A\$25 per year.

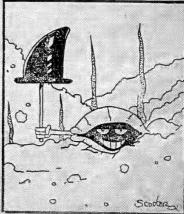
The Veliger. ISSN 0042-3211, A quarterly published by the California Malacozoological Society, Inc., c/o Department of Zoology, University of California, Berkeley, California 94720. Format 215 x 280mm, Subscription rates for volume 28 are \$22 for affiliate members and \$44 for institutions and non-members. Overseas postage is \$3 additional.

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