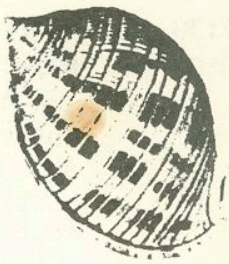
NORTH CAROLINA SHELL CLUB

Scotch Bonnet



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WELCOME TO 1990 - SHELL CLUB'S 34th YEAR

Atlantic Beach/Pine Knoll Shores NC **FALL MEETING** September 14th/15th, 1990

Meeting place: NC State Aquarium at Pine Knoll Shores, Salter Path Road (NC Hwy 58) (from US Hwy 70, follow signs for Atlantic Beach, crossing high bridge over Intercoastal Waterway to the traffic light where NC Hwy 58 turns right and proceed about 6 miles to the sign on right for the Aquarium)

Friday, 14 September 1990

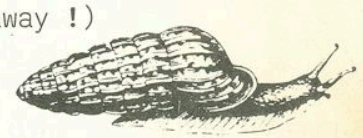
7:30 pm Registration; turn in meeting location quiz; refreshments; socializing; etc

8:00 pm **Comments** from President Wenzel

8:15 pm Have you outgrown your living quarters ? Are you looking for more space ? Consider the plight of the hermit crab ! And, find out more from . . . **Dan Rittschof**, PhD, Asst Professor of Zoology at the Duke University Marine Lab on Pivers Island, and a chemical ecologist. He works on a variety of topics that include the development of "tasty" fish food and fish lures; non-toxic anti-fouling coatings; and studies of chemicals that control animal behavior. But, this evening, his presentation to us will be on . . . **The Location and Reuse of Recently-Vacated Shells by Hermit Crabs**. Should be fun and informative (unless you chose reincarnation into this life from being a hermit crab).

Coffee/soda pop break (with thanks again to the Uzzells and helpful others)

9:30 pm **Short Business Meeting** chaired by the Prez; followed by information and discussion of Saturday's shelling activities; door prizes (what did **YOU** bring to add to these surprise pleasures?); reminder of the need for exhibits for the Wilmington Shell Show in October (it's now **only** 5 weeks away !)



Saturday, 15 September 1990

all day shelling from Fort Macon to Emerald Isle and elsewhere

11:00 am **Film "Continents Adrift"** at the Aquarium; shown again at 1:00 pm

1:00 pm **Bogue Sound Shelling Safari** led by Bwana Wenzel and Mrs Bwana; meet at Aquarium and dress for shallow wading (get those old tennis shoes from the garage or the back porch); the Bwana advises that the nature of the trip requires limiting the number of hunters, but this will be discussed Friday evening

continued . . . .

Saturday, 15 September 1990 (continued)

7:30 pm Registration; refreshments; "find-of-the-day" award; socializing; whatever !

8:00 pm **More comments** from President Wenzel

The Auction, called by the inimitable **Van VanLandingham** (Christie's or Sotheby's should have it so good) and assisted by the indispensable **Carl Truckner** and scorekeeper **Alta;** let's hope y'all have made this one the biggest and best ever with carloads of contributions (let's challenge Van, Carl and Alta); to the spectators: "bring money" and help the Club prosper while enriching your shell-related holdings

Adjournment and parting shots of "See you at the Shell Show" and "See you at the Banquet"

Thanks for coming to the meetings . . . we needed **you !**

A FEW PLACES TO STAY (Unless shown otherwise, all are on Salter Path Rd, NC Hwy 58, in Atlantic Beach [AB] or Pine Knoll Shores [PKS], both Zip 28512; all rates for 2 persons/2 dble beds; all rates plus NC tax; the Editor has checked each of these rates but, if you are concerned after the mixup at Topsail in March, please verify your room rate)

Atlantis Lodge, PO Box 310, PKS; tel 1-800/682-7057; $49 (efficiencies $59)

Holiday Inn, Box 280, AB; tel 1-919/726-2544; $79 (oceanfront $99)

John Yancey Motor Hotel, Box 790, AB; tel 1-800/682-3700; $50 ($36 if you stay 3 nights) (efficiencies $65, $55 if you stay 3 nights)

Ramada Inn, Box 846, AB; tel 1-919/247-4155; $58

Seahawk Motor Lodge, Box 177, AB; tel 1-919/726-4146; $56

Whaler Inn Beach Club, Box 220, AB; tel 1-919/247-4169; $59 (efficiencies $73)

Windjammer Inn, Salter Path Rd, AB; tel 1-919/247-7123; $58

Beaufort Inn, 101 Ann St, Beaufort 28516; tel 1-919/728-2600; $89 incl breakfast

Buccaneer Motor Lodge, 2806 Arendell St, Morehead City 28557; tel 1-800/682-4982; $56

Comfort Inn, 3012 Arendell St, Morehead City 28557; tel 1-919/247-3434; $51

IN MEMORIAM We deeply regret having to report that **Lallah P Wadsworth** (Mrs James E) passed away on 31 December 1988

ADDRESS CHANGES **Mrs Margaret H Fisher,** to: 3441 Leonard Street, Raleigh NC 27607

Mr Herman Lindsey, to: 704 Williams Street, Jacksonville NC 28540

TRADING WANTED The Club has received a request, for trading shells, from . . . **Sr Antonio Tarruella Ruestes,** C/Grassot, 26 1º 2ª, Barcelona, España; he advises that he is an "amateur collector of sea and ground shells all over the world" and offers "Mediterranean shells and micro-shells"; he also offers to buy shells; if you are interested, it is suggested that you write to him first to be sure of the "trading ground rules".

NEW NEIGHBOR There is now **The Grand Strand Shell Club,** meeting at the Surfside Beach (SC) Civic Center (reportedly) on the 3rd Wednesday evening from September thru June. But, check first if you are thinking of visiting (meeting times may not be firm yet). The driving force is Bud Lanning, formerly of the Long Island (NY) Shell Club.

EVERY LITTLE BIT HELPS Anyone shopping at one of the 3 NC State Aquaria (...ums?) can obtain a **10% discount** by mentioning the Club's Membership #**9104034;** the Club became a Patron of the North Carolina Aquarium Society with a gift of $500, approved by the membership. Besides the one at our September meeting place, the others are at Fort Fisher and at Manteo.

SPEAKING OF AQUARIUMS (...A?) Anyone visiting in South Texas should certainly spend some time at the brand new **Texas State Aquarium** in Corpus Christi (the Tomlinsons' old hometown); it is a beauty and just opened in July 1990.

MEMBER PROFILE: ALTA VAN LANDINGHAM by Dean Weber

Alta has been in the club for eighteen years and has given outstanding service. Her main characteristic is generosity. She is always willing to help with identification, loan books, make labels, or do anything at all to help someone else or the club itself. She has donated a great deal of her time in conducting workshops, preparing quizzes and programs, contributing to newsletters, and planning our shell shows.

She began collecting shells when she was three years old and got quite serious about it in 1970 and 1971. In fact, she gathered so many shells in those two years that Van finally asked what on earth she planned to do with them all.

When she said that she would like to open a little shell shop, Van thought that was the most ridiculous idea he ever heard. But he indulged her and said that he would build her a little shop if she made a certain quota in the first year.

Alta moved all the furniture out of Grandmother's "front parlor", opened the shop, and made Van's quota the first month. He began work on the shop right then and enlarged it each year at Ocracoke. Alta and Van also got into the mail order business at a time when there weren't many mail order dealers. Later the shop moved to the Wilmington area in two locations.

In 1986, Alta became more interested in conducting shell tours, began to sell the inventory, and left the business after almost sixteen years. The tours have been to five places around the world: Egypt, Eleuthera in the Bahamas, Palau in Micronesia, Grenada, and Belize. The Red Sea in Egypt is her favorite collecting place and she has been there six times. About 240 people from various parts of the United States have been on the tours, including 42 from our club and one couple from Switzerland.

Born at Hatteras, North Carolina, Alta made stops in Florida, South Carolina, Virginia, New Hampshire, and California before returning to Ocracoke in 1970. During that time, she was a clerk, a private secretary, a CPA, and an office manager. She worked a number of years for Art and Jack Linkletter, first as a payroll clerk and then as head bookkeeper.

Another earlier occupation for many years was running a shop for exotic birds, specializing in breeding them. At one time, there were in excess of 200, many requiring hand feeding. She presently has a young African Gray Parrot with an amazing capacity for long phrases, which include "Peter Piper picked a peck of pickled peppers" and "Fourscore and seven years ago, our forefathers brought forth on this continent a new nation". She also helps out with the feeding of about two dozen raccoons in the back yard, with a few opossums added in.

After shells, her main interest is reading. She averages four books a week and still makes time to read no matter how busy she may be with other things. She also collects old bottles and glass insulators.

She has augmented her self-collected shells with purchases and trades over the years, and her favorite genus is Busycon.

GUIDELINES FOR LIFE MEMBERSHIP

Since the North Carolina Shell Club began in 1957, there have been less than ten members honored in becoming **"Life Members".** Of those few, only **three** are still living. We now have, as **Life Members, Dr John Ferguson, Lucy Piper** and **Hugh Porter.**

So far, this honor has been bestowed only on people who have contributed very much to our shell club. **Dr Ferguson** has been a guiding light since very early in the club, with his programs on various shell families. In recent years, he has regretfully had to "slack off", due to his own and his wife's health problems.

Lucy Piper was another contributor .... Lucy for many years shared her home, her boats, her collection, her knowledge of North Carolina shells with the entire club. Lucy has donated so many shells to our auctions and as door prizes through the years. At present, her health is not so good, and she is quite elderly; it has been at least three years since she has been able to attend a meeting.

Hugh Porter is our latest and most recent Life Member and, of course, Hugh is still active in the club. Hugh is, in fact, a **Charter Member**, in that he and Pinky were present at the **very first meeting** of the North Carolina Shell Club. And, since that date in 1957, Hugh has presented many programs, helped us identify shells, guided us on many field trips for our collecting and, in general, has been a very dedicated contributor to our club.

After interviewing many of our members, we have agreed on recommending some guidelines to bestowing this Life Membership. To begin with, and explain a Life Membership, there will be no change to a member's remaining a voting member of the club, with all privileges. The only difference is that a Life Member will no longer pay dues.

We feel that it is not necessary that such a person must have held an office; there are some persons who do not "feel up to" holding an office in the club. Yet, they contribute in so many other ways.

It is thought that a Life Member must have belonged to the club for at least ten years, as a paying member . . . ten consecutive years of paying dues (it is felt that persons who belong intermittently should be counted only for the time that they have paid dues for a consecutive ten-year period).

And, these persons must have contributed time and energy into making the club "go". There are many ways a person contributes to the club with time and energy . . . . giving time to members to help identify shells, to help with craft work, to organize field trips, to give programs, to donate material to the auctions, to give items to be used as "door prizes", to greeting and making new members welcome, to writing for the newsletter, to prepare exhibits for the annual shell show and/or helping to put the show together and to suggest and help establish new policies that will benefit the club. In short, any number of things that people do to help the club get better and to increase in size.

We feel that the fact that a member is "elderly" does not necessarily constitute a Life Membership. And, the fact that a person has collected for over, say, fifty years or has entered shellcraft exhibits in other shows does not constitute a Life Membership in the North Carolina Shell Club.

A **Life Membership** is to be a **very honored** designation and, to be eligible for this in our club, the nominated person must have done all of the above things in our club and have been a paying member for at least ten continuous years.

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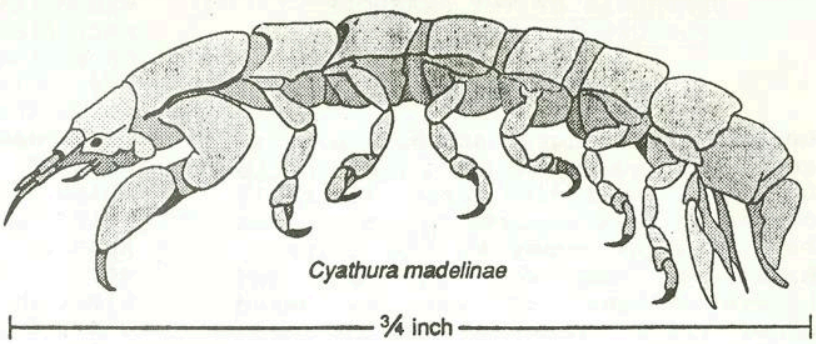
Please read, carefully, these **"Guidelines"** before the September Meeting. President Wenzel will ask for discussion, preparatory to having the membership vote on having these "Guidelines for Life Membership" included the Constitution of the NCSC. There are no such formal guidelines now and it has been, properly, suggested that this absence be corrected for any future action on worthy members. Thank you. The Editor.

The News and Observer, Raleigh, N.C., Wednesday, March 21, 1990

Biologists unearth new species

Coastal couple's find now official



By TOM MATHER
Staff writer

Two coastal biologists have discovered a new species of crustacean in the tidal marshes of New Hanover County. The creature, about three-quarters of an inch long, is a marine isopod named Cyathura madelinae.

"The kind of isopod that people would be most familiar with are the pill bugs, the tiny roly-pollies that occur in their gardens," said Courtney T. Hackney, a biology professor at the University of North Carolina at Wilmington.

Dr. Hackney co-discovered the species with his wife, Rosemarie F. Ganucheau. They first identified the creature two years ago, but it wasn't officially recognized as a new species until a full description was published recently in the scientific journal "Crustaceana."

The couple found the new species by accident, he said, while collecting samples of animals in the black needlerush marshes along Bradley Creek near Wrightsville Beach. No other locations are known.

"It's not something that happens every day," he said of the find. "But it's not something that most people go out looking to do.

"A lot of people have the notion that all the undiscovered species are found in the deepest, darkest jungles of the Amazon, and that's not true at all. . . . There are probably lots of new species all around us, but there are not enough scientists around to describe them. And a lot of them probably will become extinct before we ever discover them."

Dr. Hackney, who fills the marine ecology post on the state Coastal Resources Commission, said he was concerned that runoff from nearby development could alter the creatures' habitat and kill them off.

But for now, he said, the creatures appear to be thriving — despite an unusual life cycle.

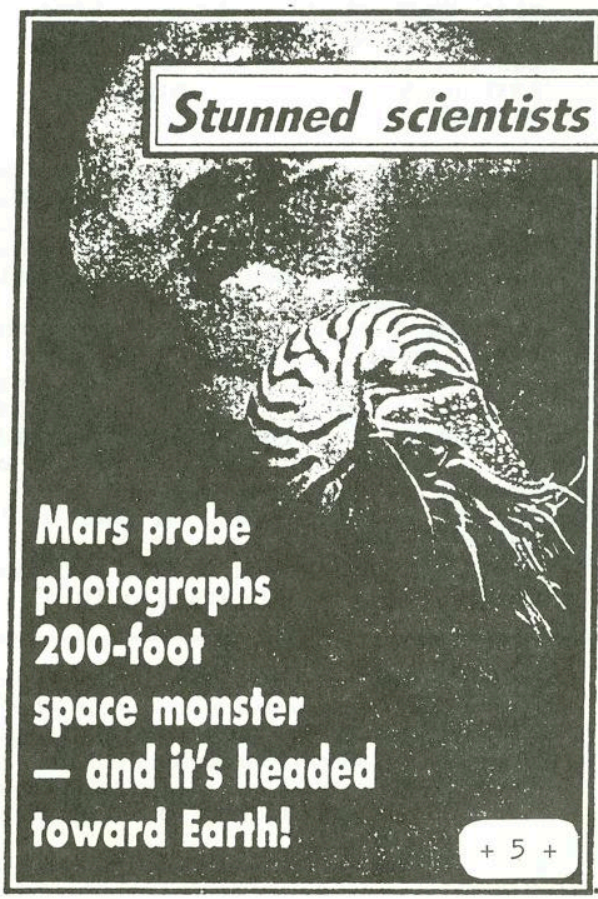
"We have collected hundreds of specimens, male and female, at all seasons," he said. "They are very abundant at this habitat.

"They live two years. The first year they are females. Some time in their second year they become males for a short time. And then they die."

(Reprinted by permissio

From the "Oh, Brother!" Department

WEEKLY WORLD NEWS November 8, 1988



Stunned scientists can hardly believe their eyes!

By RAGAN DUNN

A Swiss scientist claims to have photographed a gigantic extraterrestrial monster drifting through space — and he now fears that it might be headed for Earth!

The incredible pictures were filmed through a high-powered telescope aimed at Mars. Some experts are already calling them the most important scientific photographs ever made.

"This is the biggest breakthrough in space since man landed on the moon," astronomer Erben Basel told reporters in Geneva: "It had to be a billion-to-one chance that we would see anything — so this is a little short of a miracle. Judging from the shape, depth and proportion, I would say the monster is at least 200 feet long and 50 feet wide.

"At times it appears to have the saucer shape of a classic UFO.

"But the picture series we have also indicates that it can change form.

"In some photos it actually looks like a giant one-eyed sea snail propelling itself through space."

Dr. Basel refused to say how fast the alien object is moving and would not speculate about its estimated time of arrival on Earth.

But he did say: "Scientists around the world are studying the Swiss photographs and tracking the creature as it approaches Earth to determine if it is indeed a threat." Experts are also said to be considering what impact it might have if it crashes or lands on our planet.

Dr. Richter C. Pretet, the French biologist, said that a living creature the size of the object Dr. Basel photographed could alter life as we know it if it was able to survive in Earth's atmosphere.

"It's too early to say what we are dealing with but not too soon to think about it," he said. "We should be prepared for any possibility. We cannot face this crisis from a position of ignorance."

Soviet and American space officials were very tight-lipped about the Swiss photographs and would neither confirm nor deny reports that they are secretly sharing vital information about them.

Dr. Basel did say that the Swiss government discussed the photos with both countries — and subsequently warned him not to talk with the press, but he ignored the warning.

"I'm jeopardizing my career but something of this magnitude must be a part of the public record," said the scientist.

"I can only hope that the superpowers can and will attempt to deal with it. It's out of my hands now."

History-making Intergalactic EXCLUSIVE!

8/90

TALES OF COLLECTING SEASHELLS BY THE SEASHORE FOR USE AS LEGAL TENDER

by Jed Stevenson

One of the strangest and most popular coins munches coral and algae on the bottom of the Indian Ocean. The shell of the Maldive cowrie, Cypraea moneta, has been used as money by the Chinese, Hawaiians, the West Africans and Ojibwa Indians. It was considered money 4,300 years ago and is still used today.

Even when the cowrie is not money it makes a popular ornament and a potent fertility talisman. The cowrie filled a need for small change among the poorest people of the world. In Nigeria, for example, an English penny was worth 120 cowries.

The cowrie shell first surfaced as money in China in the 24th century B.C. The Chinese character pei "sea creature living in a shell," is still a part of many Chinese words associated with money. The cowries could not be counterfeited or defaced. The Chinese Emperor Wang Mang decreed that cowries would be the coins of the realm since copper coins were prey to clipping. Marco Polo noted the existence of cowries as money in Yunan and called them porcellani, a diminutive of porco, Italian for pig. The shells became the origin of the word porcelain.

The people of the Maldives traded the cowrie for rice in Bengal, where 15 cowries bought a pound of rice. Later the cowrie was brought to Africa by Arab slave dealers and was in use in the Mali Empire 500 years ago.

King Gezo of Dahomey found the cowries the perfect coin - they could not be counterfeited and any worthwhile amount of them could not be hid from the royal tax collector. Popularity of the cowrie became spectacular when it was used by Dutch and English in the West African slave trade.

The English and Dutch competed for the Maldive cowrie, each seeking to find favor with the king and queen of the Maldives. There the cowrie trade was a royal monopoly. Palm branches were floated on the ocean and removed once cowries started eating the leaves. Live cowries were placed in pits, then removed weeks later. They were washed, sorted and loaded as ballast aboard English and Dutch ships bound for London and Amsterdam. There the cowries were sold to the West African slave dealers. In the early sixteenth century an English slave dealer could purchase an adult slave for 16 pounds of cowries, about 6,400 shells.

By 1667 a slave cost 100 pounds of cowries and by 1772, 450 pounds. The reason for the inflation is found in the two species of cowries residing in the Indian Ocean. Another cowrie, Cypraea annulus or ring cowrie is more numerous than the money cowrie, Cypraea moneta.

Only in the Maldives are the money cowries numerous enough to be culled profitably. On the shore of East Africa, the ring cowrie can be picked off the beach, which is exactly what the British did. When the ring cowries - they have a small reddish-orange circle on top of the shell - were introduced into the slave trade, they debased the other currency, the money cowries.

In the early twentieth century the cowries began to disappear from international trade. Colonial authorities decreed that cowries would no longer be imported or be accepted as tax payments. And finally, coins of extremely small denomination were minted.

The cowries are still in use in some remote areas of Ghana and Nigeria, especially in places where national boundaries cross tribal areas. There the cowries, without national insignia are used for small transactions and the legend of the Cowrie Mother still exists. Living in the bush covered in cowries, she'll bring riches to the person who catches her. In Ghana, the modern coin, the cedi, is a direct descendant of the old cowrie, called a sedie.
In the southern part of the United States, some houses still have a cowrie or two, their owners oblivious to the cowries' monetary origin.

A STUDY of the manner in which triton shells are prepared as a horn among various cultures was once made by Harvard conchologist, Edward S. Morse. He found that half of the world filed off the narrow apex end to form a blow hole, while the rest of the world, including the people in the West Indies, Africa and the South Seas, cut a round hole in the side of the spire.

from R. Tucker Abbott's new book, **Shells**.

CURIOUSLY, Triton's Trumpet. . . appears on coins and now postage stamps of South Seas Countries because of the belief that this gastropod is capable of eating and controlling the population of the coral-destroying Crown-of-Thorns starfish. In actuality, triton shells normally feed on the smooth, blue or gray, Linckia starfish.

from R. Tucker Abbott's new book, **Shells**.

WHAT'S EATING MY SHELLS?

by F. R. E. Davies

(This article was taken from the June 1987 isse of the American Conchologist.)

No doubt most readers of the COA Bulletin observed, in the December 1986 issue, the short note from the Bishop Museum Department of Zoology regarding deterioration of the polished surface of many shells, known as Byne's Disease. This condition was drawn to my attention by Mrs. Thora Whitehead of Brisbane, Australia, during our continuing correspondence.

Thora has supplied the following information, together with a number of eroded specimens:

1. She has no problems with shells stored in metal cabinets.

2. Cabinets which incorporate "chipboard," made with a ligninbase glue, are worse than her solid wood cabinets.

3. Some glossy shells showed noticeable dullness as early as the fifth month. Some cowries left undisturbed for 20 years were chalk white.

4. In her wooden cabinets the shells never occupied more than one-third the volume; i.e. there was a large head space. (This confirmed a theory of mine - that the etching would be greatest on the upper horizontal exposed surfaces, but with observable damage on surfaces within a mass of shells left undisturbed over a long time.)

5. There is a vast range of susceptibility to Byne's Disease amongst the various mollusks. Almost every specimen of the Bullidae and Marginellidae was affected, while her bivalves showed no visible effect.

Byne's first paper was published in 1899 under the title "The Corrosion of Shells in Cabinets." He concluded that the problem was caused by living organisms, hence the use of the word "disease," and he declared that the etching was caused by butyric acid from the cabinet wood acting on the calcium carbonate of the shells. In 1985, N.H. Tennent and T. Baird published a detailed paper on the subject, and their extensive and thorough analyses determined that most of the efflorescence was produced by the volatile acetic and formic acids generated from the oak cabinet wood. Their investigation deals only with molluscan storage in oak cabinets in the temperate climate of northwestern Europe. This article addresses the long-term storage of collections where annual cycles of seasonally hot, humid weather prevail. These are the typical monsoon and trade winds areas of the tropics and subtropics - northeast Australia, the middle American coast from Chesapeake Bay to the Caribbean, Southeast Asia, and many micro-zones such as the windward side of the larger Pacific islands - Hawaii for instance.

Since the etching is a problem only in containers made of wood or wood products (cardboard or paper), we must consider the derivatives of wood as possible culprits.

1. LIGNIN - This complex substance could be called the connective tissue of trees. Although commercially important, it is nonvolatile and has no direct effect on stored shells. However, in the manufacture of bleached wood pulp, the lignin is removed by the use of sulfite; thus cardboard, paper, even tissue paper, may carry residual traces of sulfurous acid. This acid is very volatile and could be a minor source of etching, especially in a warm, damp atmosphere.

2. ROSIN and ROSIN OIL - Some is present in all coniferous lumber. Since rosin and rosin oil are constituents of most wood finishes - stains and varnishes for example - and rosin oil is an essential ingredient in paint dryers, most printers' inks, glues and plaster sizes, this could be another trace source of trouble. (See next two items.)

3. ABIETIC ACID - This may be considered purified rosin, with the same minor effects possible. But it can also act as a substrate (food) for the growth of lactic and butyric acid producing bacteria. In warm, damp atmospheres it is possible to have traces of these acids formed; both are strong enough to etch mollusk shells. Actually, this suggests that Byne's conclusions may, in part, be correct for the specimens he investigated!

4. SUCCINIC ACID - This acid occurs in some fossils and resinous woods, and it is produced by microscopic fungi and lichens. It is one of the stronger organic acids, and even in minute concentration could cause trouble.

continued over . . . .

5. ACETIC ACID - After reading the Tennent-Baird paper (see paragraph 3 of this article), it seems clear that oak wood near shells creates a potential problem, but read on. In diluted form, acetic acid becomes vinegar, which is used in every household. It boils at about the same temperature as water and has similar vapor tensions to water. In an atmosphere of high humidity, even minute traces of acetic acid will eat up your shells! It is advisable to keep all substances which contain or could generate acetic acid in a spot remote from your shells: foods such as pickles, sauces and dressings, many drugs (aspirin and similar remedies) paint solvents and stripping mixtures, etc. If you think this is nitpicking, remember that we are talking about minute concentrations of chemically active substances, elevated temperatures and long spans of time.

Beyond any doubt the real "devil" is CARBON DIOXIDE, in combination with high humidity and a cycle of warm days and cool nights. To understand this, we must first consider some basic facts about carbon dioxide (CO_2) and water (H_2O)

Although it constitutes only 0.3% of air, at 20 degrees C. it is about thirty times as soluble in water as oxygen. The significance of this observation is that when humid air cools and the vapor condenses to drops of water--rain or dew--the CO_2 is leached out of the air. Even more important is the fact that when CO_2 dissolves in water, each molecule combines chemically with one molecule of water (H_2O to form carbonic acid (H_2CO_3). This acid is strong enough to react with calcium carbonate, the major component of mollusk shells, and induce a reaction known as the carbonate-bicarbonate cycle.

Now for the curve ball! The free carbonic acid attacks the calcium carbonate to form calcium bicarbonate, which is soluble in the carbonic acid contained in dew. When a droplet of "dew" evaporates, the calcium bicarbonate reverts to a speck of calcium carbonate, now removed from its original location in the shell. During this reaction, all the CO_2 is regenerated into the closed system when the atmosphere warms up again during the day, thus completing the cycle.

It must be realized that this condensation or dew forms on the fastest cooling surfaces in the system, those that are the better heat conductors. In descending order these are metal, shells and wood. Clearly, in a metal container, the shells do not attract this carbonated dew, but in a wooden or cardboard container, they do.

Although this scenario implies a modicum of etching daily during a long rainy season, the layer of condensation is only a few molecules thick, and in each cycle, the effect last for only a few seconds, until the bicarbonate is exhausted. Each time this happens, the CO_2 is recycled, so, in theory, it stays in the system indefinitely. As the Scots express it, "Many a mickle makes a muckle," and over a period of years the deterioration can develop into a disaster.

Clearly the degree of erosion is dependent on the type of surface of each species, together with the variable sparing nature of the chitinous matrix in which the calcium carbonate crystals of the shell are embedded. Further,in nature, calcium carbonate exists in two mineral forms. Most mollusks and corals lay down the harder form, aragonite, which over a long span tends to convert to the softer calcite. Put in simple terms, the longer shells are stored, the more susceptible they become to erosion and other damage.

We are faced with the knowledge that Byne's Disease is not a single entity, but rather a host of factors whose one common characteristic is the slow deterioration of your shell collection. Soon I hope to offer some recommendations for slowing this insidious destruction. This in itself could develop into a formidable task, and will require considerable investigation. Meanwhile, if your grandmother's pearls have been left neglected for the past thirty years, perhaps you should take a look-see.

(Ted Davies is a retired organic chemist from Vancouver, British Columbia who has worked in food and drugs, fisheries and oceanography on every continent. He is editor of the Vancouver and District Shell Club newsletter, Shellnews from Vancouver.)

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Norman H. Tennent and Thomas Baird. 1984. The deterioration of Mollusca Collections: Identification of Shell Efflorescence. Studies in conservation V. 30 (1985), pp. 73-85.

TODAY'S LESSON ON CRUSTACEANS

STONE CRAB A true gourmet food. The claw meat of the stone crab is rich, sweet and firm in texture. In years past it was popularly known as the "Morro Crab" of Cuba. However, the most important sources of stone crabs today are Miami and Key West, Florida, and to a lesser extent Beaufort, North Carolina, and Charleston, South Carolina. Although expensive and often in short supply, these crabs are shipped by air all over the world by Miami-based firms. *Menippe mercenaria* and another lesser known species, *Lithodes maja*, related to the King crab, are both called "stone crabs."

The stone crab is a member of the mud-crab family (Xanthidae), characterized by a hard and heavy shell which is oval in shape. The large claws have black tips, and the body grades from purplish to dark brown or reddish brown, with brownish mottlings. The legs, which are fringed with hair, have red and yellow bands and sharp points, and are not adapted for swimming as in the blue crab. The stone crab grows to about 5 inches between tips of the shell, and about 2 inches deep, giving it a more bulky appearance than most crabs. Stone crabs live for 8 to 10 years. Found from North Carolina to Texas, this crab reaches its peak of abundance and size in southern Florida, although nowhere is it as abundant as the blue crab. It is a burrower, living in deep holes of mud and sandy mud, near creeks and estuaries, as well as under rocks and among mangrove roots. In the commercial fishery stone crabs are caught with traps. Nearly all of its edible meat is in the claws and thus the Florida population, at least, has become self-perpetuating as the fishermen simply twist the claws off and release the crab to grow new ones, a process which takes about 18 months; these are called "retreads." However, retreads will never grow to the same size as they were originally. The lack of claws does not inhibit the crab's feeding as these powerful pincers are defensive weapons only, as many a careless hand can testify.

Stone crab claws are cooked by the commercial fishermen immediately after trapping, then chilled for local delivery or frozen. The "green" or uncooked claws cannot be frozen directly after capture as this causes the meat to adhere to the shell. Essentially, it is marketed as a precooked product.

Stone crab is usually served with the first and second knuckle already cracked because of the extreme density of the shell. The knuckle meat is easy to pry out with a small fork and the claw meat readily slides off the flat cartilage. Serve hot or cold with melted butter or mustard sauce.

Seashells on postage stamps

The tongue twister says, "She sells seashells by the seashore." It's a lot more fun, though, to pick them up yourself.

A walk along any beach will yield a bounty of shells in a wide variety of shapes and sizes.

If you don't live near a beach, you can still collect seashells on stamps.

Seashells appear on many postage stamps. Sometimes they are identified by their scientific names and sometimes by their common names.

The common names of 25 seashells are hidden in the puzzle.

The object is to find and circle each one. They may appear forward, backward, up, down or diagonally.

Names are capitalized as they appear in the puzzle.

The country and Scott number of a stamp picturing each seashell is given.

APPLE MUREX (Dominica 520), CALICO (scallop) (United States 2120), (Caribbean) VASE (Dominica 516), COMMON SUNDIAL (Dominica 513), FLAME (helmet) (Dominica 514), (giant) CLAM (Palau 43), (frilled) DOGWINKLE (United States 2117), HAWKWING (conch) (Antigua 291), HORNED HELMET (Palau 42), LACINIATE CONCH (Palau 44), LIGHTNING WHELK (United States 2121),

A frilled dogwinkle appears on United States Scott 2117. It was part of a booklet pane of five different designs.

LONG-SPINED STAR (shell) (Dominica 519), (Magellanic) VOLUTE (Falkland Islands 438), (measled) COWRIE (Antigua 289), MOUSE CONE (Dominica 515), (New England) NEPTUNE (United States 2119), (painted keyhole) LIMPET (Falkland Islands 437), QUEEN CONCH SHELL (Barbados 279), RETICULATED (helmet) (United States 2118), ROYAL (cloak scallop) (Palau 45), (short) CORAL (shell) (Dominica 518), TRITON'S (trumpet) (Marshall Islands 110), (turban and) STAR (shells) (Anguilla 74), WEST (Indian fighting conch) (Antigua 290), (West Indian) TOP (shell) (Anguilla 745).

Puzzle

By D.E. Rubin

L H S H E M A L F O E L L S Q
E O B D M D R I N C A S R U A
C R N O O L O G E I A W E C P
O N E G U I Y H I L H E T O P
M E C W S M A T R A N S I O L
M D S I E P L N W C L T C E E
O H N N C E I I O L E L U N M
N E O K O T I N C T A C L U U
S L T L N N C G E M G A A T R
U M I E E H G W I D R B T P E
N E R S S R M H A O S L E E X
D T T H A R B E C X L T D N E
I O E T E T U L O V W N A W S
A L S T H A W K W I N G H R A
L A C I N I A T E C O N C H V

ASK YOURSELF: "WHAT WILL I BRING TO THE MEETING FOR A DOOR PRIZE?"

Shell Show — October 19th, 20th and 21st 1990 — Wilmington NC

Sent 10/9

The Club will again avail itself of the generous hospitality of the Independence Mall, 3500 Oleander Drive (US76), Wilmington. What will **you** show ???

Dinner Meeting — November 17th 1990 (Saturday night) — Morehead City NC

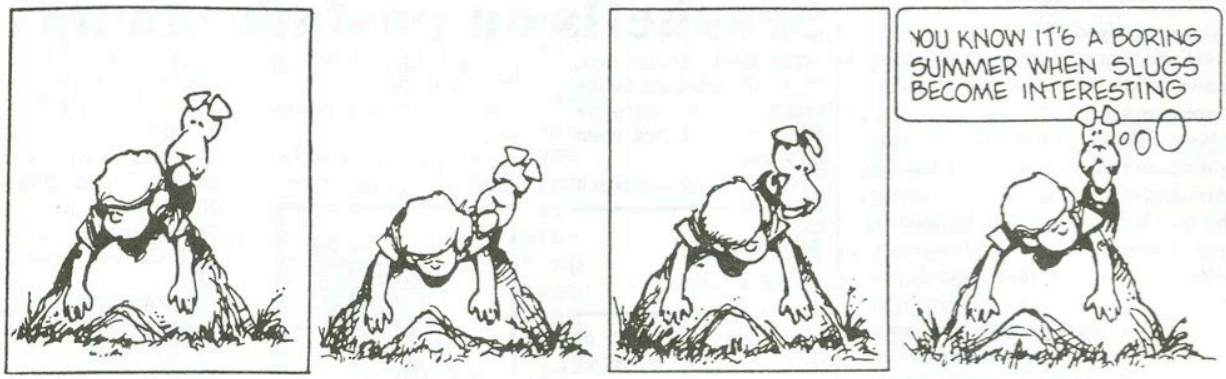
@ 7:00 PM ck to Wenzel

Mark your calendar **now** for this big evening . . . dinner at the Galley Stack Restaurant at Spooners Creek, at the west edge of Morehead City, and a fascinating program by Dr William M Kier of UNC (ex-Duke) on the surprising squid.

1991 Forecast

The Club will try to arrange one of the 1991 meetings for Ocracoke Island, whenever the only suitable meeting place, at the School, would be available.

FENTON



NEW MEMBERSHIP ROSTER — **Is the name and address on this Newsletter envelope correct ???** If not, notify the Secretary or Editor. The next Newsletter will include a new membership roster and we want you properly listed !

NEW STATE SHELL — Please add to your list of **State Shells:**
Alabama **Scaphella junonia johnstonei (Clench 1953) 19 Apr 1990**
(a darker, more golden form of the regular junonia)

UPCOMING 1990 SHOWS

October 5-7	Bone Valley Fossil Fair, Winter Haven FL
October 6-7	Gulf Coast Shell Show, Panama City FL c/o Bob Granda, 925 Rosemont Dr, PC 904/769-2876
October 19-21	**Us** (who else?), Wilmington NC c/o Dean Weber, 510 Baytree Rd, Wilm 919/799-3125
October 27	British National Shell Show, London, Merry Old
Novemb 10-11	Philadelphia Shell Show, Phila PA; c/o Al Schilling, 419 Linden Ave, Glenside PA 215/886-5807

MEETING LOCATION QUIZ — Each year, at the January Planning Meeting of the Officers, there is always **considerable** discussion as to the meeting locations for the coming year. There are really not that many choices along the NC Coast. BUT, making the choices creates a perennial quandary. This quandary was triggered again with the noticeable dropoff in attendance at the Fort Fisher meeting in May.

We ask that **each member** indicate his/her choices for meeting locations . . . preferably in the **order each prefers**, for whatever unnamed reasons. Please indicate your choices in the spaces below, cut off (or make a photocopy), bring to the September meeting and leave with Neal Schey, our all-doing receptionist. It will be up to Neal if she decides that "no tickee, no washee" (translated: "no location choice list, no door prize ticket"). If you know that you cannot attend the September meeting, please drop this list in the mail to the Editor. **Many thanks** for your much needed help !

To the NCSC Officers: Please consider the following locations for the 1991 (and later) Shell Club meetings . . . . .

1 Atlantic Beach in September! ← Sorry we will miss this year (1990)

2 Beaufort/Morehead in November!

3

Additional comments (including "fire the Editor") Former junior member (1967-1975) Cynthia Wolfe just graduated from Colorado State University (fine art) and is getting married (in Colorado) Sept 8 (We won't be back in time for the mtg.)

+++++ 10 +++++ 8/90