SHELL·O·GRAM

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JACKSONVILLE SHELL CLUB, INC.

September-October, 2002 **Volume 43(5)**

September Meeting

The Thursday, September 26th meeting of the Jacksonville Shell Club will be held at the Southeast Branch Public Library at 7:00 PM.

The nominating committee will present their recommended slate of officers for the upcoming fiscal year, and after any nominations from the floor, the election will be held.

No formal educational program will be presented. Instead, each member is asked to bring a special shell or shell related item and give a brief presentation elaborating on why it's special to you (ie. rarity, method of collection, sentimental value, etc.).

October Meeting

The Thursday, October 24th meeting of the Jacksonville Shell Club will be held at the usual time and place.

Harry Lee and by Bill Frank will give a presentation on the *Epitonium* (Wentletraps) of Northeast Florida – of which twenty-three species have thus far been identified. Members are encouraged to bring any "mystery specimens" that they have collected for identification.

Harry will present the Shell-Of-The-Month on the Precious Wentletrap - *Epitonium scalare* (Linnaeus, 1758) – an Indo-Pacific species with an amazing history.

Mass Stranding Of Squid In Southern California

In late July, a mass stranding of squid took place at La Jolla Cove just north of San Diego in Southern California. The mollusks [*Dosidicus gigas* (D'Orbigny, 1835)], commonly known as jumbo flying squid, probably appeared there as a result of warm currents being fueled by El Niño. Clusters of the 20-inch-long squid had been noticed by beachgoers from Imperial Beach near the U.S.-Mexico border to Huntington Beach in Orange County. Scientists say their deaths are natural and not the result of any pollution or toxin in the ocean.

The mass stranding in La Jolla could be the largest observed in nearly 100 years, said Eric Hochberg, a scientist with the Santa Barbara Natural History Museum. He believed that the squid in La Jolla were chasing a school of grunion, a smelt-like fish that spawns on the sand at high tide, when they came ashore in massive numbers. "They're just getting tumbled by the surf and washed ashore," he said. Science hasn't been able to fully understand the connection between the squid and the warm-water phenomenon that causes extreme weather patterns, but the last time large numbers of the mollusks were in Southern California waters was during the last El Niño event of 1997-98, he said.

From July 26-27th, city work crews removed approximately 30 tons of dead squid from the cove and hauled them to a landfill. Now that's a lot of calamari!

Jacksonville Shell Club, Inc.
1865 Debutante Dr.
Jacksonville, FL 32246-8645
E-mail: Strombus@jaxshells.org

www.jaxshells.org

The Shell-O-Gram is issued bimonthly and mailed to all regular members. Annual membership dues are $12.50 individual and $15.00 family (domestic), and $20.00 (foreign). Lifetime membership is available.

Send dues to: Teresa St. John, Treasurer
2605 Emily Court
Jacksonville, FL 32216-5101

The club meets each month, excluding December, at the Southeast Branch Public Library, 10599 Deerwood Park Blvd., Jacksonville Florida. Please address any correspondence to the club's address shown above.

Closing date for article submission is two weeks prior to the first of each month of publication. Articles may be republished provided full credit is given the author and this newsletter and one copy of the complete publication in which the article appears is mailed to Editor at the above address.

Welcome New Member

Cathy Smith
5108 Robert Scott Dr. South,
Jacksonville, FL 32207
Phone: 731-9645

It's That Time Again
Membership Dues Are Now Due

Jacksonville Shell Club membership dues for club fiscal year 2003 were due for a vast majority of club members on September 1st.

You can determine when your membership expires (or when it expired) by checking the numerical entry that appears before your name on your newsletter mailing label. An entry of "8/02" would indicate that your membership expired on the last day of August, 2002.

Don't delay – mail your check to the Club Treasurer, Teresa St. John, whose address appears on this page.

Meeting Notes

At the August 22nd regular general membership meeting, the club membership selected the trio of Harry Lee, Charlotte Lloyd, and Mary Reynolds as the nominating committee to provide a slate of proposed Board of Directors for the upcoming club fiscal year.

The nominating committee will submit their proposed slate to the membership at the September meeting. Additional nominations will also be accepted from the floor. Following this action, the membership will vote on the new Board of Directors for the 2003 fiscal year, that began on September 1st.

Albino Mollusks

During a recent discussion of albino mollusks on the Conchologists of America Listserver (Conch-L), subscriber Paul Monfils summed up the phenomenon quite succinctly by stating:

"A mollusk shell is made of essentially white material - calcium carbonate - the same compound chalk and Tums are made of. The colors and patterns of shells are due to pigments produced by the animal (or in some cases, extracted from the animal's food), which are incorporated into the calcium carbonate matrix at the time it is secreted by the animal's mantle. Albinism is a genetic inability to produce pigments. Therefore the shell ends up made of uncolored calcium carbonate, which is white. Incidentally, "albino" is technically a noun, even though we commonly use it as an adjective. The associated adjective is "albinistic". Technically, it is correct to say, "That specimen is an albino", or "That is an albinistic specimen", but not "That is an albino specimen"."

Your Tax Dollars At Work

On August 14th, the U.S. Fish and Wildlife Service added the Tumbling Creek Cave Snail [*Antrobia culveri* (Hubricht, 1971)] to the Federal list of threatened and endangered species thus extending the snail the formal protection of the Endangered Species Act.

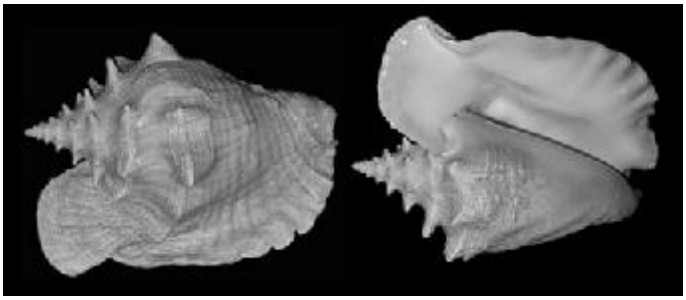
The species lives only in an underground stream that flows through Tumbling Creek Cave in southwestern Missouri's Taney County and measures about one tenth of an inch in length. The snail has a white body, a pale yellow shell, and as is typical of cave snails, blind.

Monitoring of the snails population over a six-year period revealed a continued and accelerated decline. A thorough March 2001 survey of all available and

accessible habitat yielded only 40 individuals. Surveys conducted from May 2001 through May 2002 found no snails in the established survey area and only a few individuals in a location upstream from the main survey area. This population decline may be the result of declining water quality.

This latest action brings the number of terrestrial/aquatic snails listed by the federal government as endangered to a total of 22.

Forty Carats In A Conch



A north Florida elementary school teacher who sometimes works as a treasure salvor found a 40.2 carat Brazilian emerald inside a Queen Conch shell [*Strombus gigas* Linnaeus, 1758] he took from the site of a wrecked Spanish treasure ship off the Florida Keys on September 4th. The teacher was working as a part-time salvage diver for Amelia Research & Recovery of Amelia Island on the wreck site of the 17th century galleon Santa Margarita about 30 miles off Key West.

While looking for treasure, he collected several shells for his students, and took the shells back to north Florida. As the teacher was cleaning the shells out at his school, he said the raw emerald rolled out of the conch.

"He called our onsite guy and said, 'I was cleaning this shell and this little rock fell out, but I don't want to get carried away,'" said Amelia President Doug Pope. "He wasn't sure what it was. He thought it might be a piece of a Heineken bottle. So he brought it over here, and we looked it over. I knew it was an emerald."

They haven't yet put a dollar value on the emerald but the Queen Conch shell in which the emerald was found is on display at the Aqua Explorers dive shop in Fernandina Beach.

- "Ft. Myers News-Press" - Published: Sep.11, 2002 and the Florida "Times Union" - Published Sep. 14, 2002 .

Can Queen Conchs Make A Comeback In The Keys?

Nearshore water quality may be the key to restoring Queen Conchs [*Strombus gigas* Linnaeus, 1758] to Florida Keys waters, according to a research scientist who doesn't rule out the possibility of once again fishing for the mollusk that gave Florida Keys locals their nickname.

Queen Conchs once constituted significant commercial and recreational fisheries in the Keys. In 1975, the commercial fishery was closed due to over-fishing, and the ban was extended to the recreation fishery in state waters in 1985, and to all federal waters in 1986.

In 1986, Florida began a research program designed to monitor the recovery of the conch stock, and to determine how best to rehabilitate the depleted population.

This Queen Conch program has taken a community-based approach, and most of the laboratory and field studies have been conducted under partnerships involving the state, the U.S. Fish and Wildlife Service, the Nature Conservancy, and an extensive base of community volunteers.

In 1973, the conch catch reported in Key West was about 200,000 adults. Federal inspectors didn't differentiate between those harvested in the Bahamas from those caught in domestic waters.

Robert Glazer, a research scientist for the Florida Marine Research Laboratory in Marathon, says that observations now show that about 27,000 adult conchs are spawning within the several breeding areas identified in the Keys, and that number is up from about 6,000 reported in 1992.

Glazer said that the laboratory conducted a series of field and laboratory experiments to evaluate the effectiveness of using hatchery-raised young conchs to supplement the wild spawning stock. Florida Marine Research scientists began farming conchs in their research-sized conch hatchery on Long Key. They discovered that a 4-inch conch released in the fall surviving to 6 inches costs about $9 per individual. Cost-effective the program isn't.

In contrast, commercial conch hatcheries in the Turks and Caicos Islands are able to produce more than 40 times the numbers produced in the hatchery on Long Key. After observing and testing the nearshore waters of the Turks and Caicos commercial hatcheries, researchers determined that a depletion of the oxygen supply, and the declining water quality associated with "nutrification" in Florida waters might reduce the overall fitness of larval conchs. "This observation has widespread implications for the effects of nearshore

coastal development on Florida's conch stock," Glazer said.

Extensive surveys, according to Glazer, indicated that conch do not reproduce or spawn in nearshore waters of the Keys. In fact male Queen Conchs believed to have grown up in nearshore waters do not develop sex organs. Yet when these same "monk" conchs are transplanted to offshore waters, they develop the necessary equipment to spawn.

Natural enemies of the Queen Conch, besides humans, are loggerhead turtles, puffer fish, lobster, crabs and bonefish. Glazer notes that "after the lobster season ends in the fall, there is an increased survival rate for the conch larvae near the reefs." He believes this is because the lobster population is greatly reduced by the commercial lobster industry near the end of the season.

Glazer said that he "sees a light at the end of the tunnel. If the strategies we have developed continue to be successful, down the road, a few more years, a recreational conch fishery might once again be a part of Key's life."

- From "keysnews.com" – Published: Aug. 17, 2002.

A Must Have Book For Your Library

Shell books may exploit any number of themes, but the most often-employed paradigms are the monography of a single taxonomic group or the treatment of a regional fauna. Bahamian seashells a thousand species from Abaco, Bahamas. (i)-ix +1-280 + 124 plates (18 in color), Bahamianseashells.com, Inc., Boca Raton, Florida. 8.5 by 11 in.; paperback falls into the latter category.

This work by Colin Redfern is a testimony to the dedication and abilities of an amateur naturalist and his exploitation of computer-age technology. Mr. Redfern, who is a musician, has obviously put in no less than 37 years poring over material he collected over two decades, most of which he was in residence on the island group. He has succeeded in working out the identities of an almost incredible number of mollusks and, equally importantly, depicting them clearly. Many of us are greatly daunted by micro's, yet Colin has tackled this group with a zeal and indefatigable skill and energy. This most speciose of all marine gastropod elements is captured in such intelligent and comprehensible manner that there will be countless new recruits to this heretofore arcane and murky sector of W. Atlantic malacology.

The book is available from the publisher at Bahamianseashells.com, Inc., 21218 St. Andrews Blvd., #647, Boca Raton, FL 33433 or on the Internet at **http://www.bahamianseashells.com/**. The book is also available from the Bailey-Matthews Shell Museum on Sanibel Island (**http://www.shellmuseum.org/**). The cost is $114.00 plus postage, handling, and tax.

So What Is A Diatom?

Diatoms are microscopic single-celled algae, which have a cell wall composed of silica. They are an important food source for many browsing types of snails, both in fresh water and marine habitats. Snails which live on seaweeds for example, like *Littorina* and *Lacuna*, as well as snails which live on lily pads and other fresh water plants, do not usually eat the seaweed or plant itself, but rather browse on the diatoms and other unicellular algae which live in the slimy secretions on the surface of the larger organism. The cell wall, or "shell" of a diatom is made in two halves which fit together like the top and bottom of a friction-fit plastic box, one half overlapping the other.

As with mollusks, the scientific community is unsure exactly how many species of diatoms exist. However, it is believed to be in the tens of thousands.

The silica walls are inscribed with extremely fine striations, the spacing of which is extremely constant in a given species. The ability to visually distinguish these striations is used as a measure of the resolving power of various microscopes and other optical instruments. In some parts of the oceans, the sediment is composed largely of empty diatom shells. The silica does not biodegrade, and is chemically inert, so they tend to remain virtually forever, and are common as fossils.

Ordinarily, organisms the size of diatoms, which can be readily seen with a standard student microscope, would not be measured in angstroms, but in microns (=micrometers). A micron is one thousandth of a millimeter (or a millionth of a meter). An angstrom is one ten-thousandth of a micron, or one ten-millionth of a millimeter, a distance which is too small to be useful in light microscopy, as well as for measuring wavelengths of electromagnetic radiation. To put this in perspective, the world's smallest snail shell, *Ammonicera minortalis* Rolán, 1992 measures a whopping 4 MILLION angstroms, while the world's largest gastropod, *Syrinx aruanus* (Linnaeus, 1758), can reach a length of 7,500,000,000 angstroms!