



SHELL-O-GRAM

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JACKSONVILLE SHELL CLUB, INC.

May-June, 2023

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Upcoming meetings

The Jacksonville Shell Club, Inc. (JSC) customarily meets on the **fourth** Thursday of each month except for November (a week earlier due to Thanksgiving) and December (traditional Xmas get-together) in Function Room D of the Southeast Branch, Jax Public Library <https://www.jaxpubliclibrary.org/locations/southeast-regional>. The main program on **May 25th** is titled "Clips of FUM XIII." Harry Lee will show a sampling of the 14



presentations that went down at the April 15, 2023 thirteenth nearly annual (none in 2021) Florida United Malacologists (FUM) meeting at the Florida Fish & Wildlife Conservation Commission's (FWC) Fish & Wildlife Research Institute (FWRI), in St. Petersburg, Florida [L]. The one-day gathering included presentations by researchers, collectors, citizen scientists, educators, and students covering a broad spectrum of topics, from seaslug pigmentation to science history to the chronicle of an invasion by an exotic Indo-Pacific cowry along with methodologies such as underwater sonography

(shell-crushing by predators) and magnetic image imaging (MRI) of the tunnels of shell-boring bivalves. Rick Edwards will present the shell-of-the-month, on the only constitutionally left-coiled conesnail, *Conus adversarius* (Conrad, 1840) [R; Jon Hendricks UV-complementary image]. Described from fossil material collected in NC, it is found in contemporary deposits in much of FL but became extinct about 1,000,000 years ago.



In **June** we'll reconvene on the **22nd** as usual. The shell-of-the-month will be given by Harry Lee on the genus *Pyraabinella* Faber, 2013. A newcomer to the Pyramidellidae taxonomically, the group seems to have existed since at least the Late Pliocene. Paul Jones will give the main program on the gastropods of the Panamic Province. As with the predecessor program on bivalves of tropical western America (TWA) given on April 27, he'll draw strongly from the collection of the late Jim Knight, who self-collected hundreds of species in the vicinity of Las Perlas Islands, Panama. As with the clams, we'll be able to appreciate the closeness (cognate taxa) and differences between the more familiar Caribbean fauna and Paul's TWA species consequent to their separation, about the time the first known *Pyraabinella*, with the closure of the Panamanian isthmus.

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The club customarily meets monthly at the Southeast Branch of the Jacksonville Public Library, 10599 Deerwood Park Blvd., Jacksonville, Florida <https://www.jaxpubliclibrary.org/locations/southeast-regional>.

Please address any correspondence to the club's address above. Annual membership dues are \$15.00 individual, \$20.00 family (domestic) and \$25.00 (overseas). Lifetime membership is available. Please remit payment for dues to the address below and make checks payable to the Jacksonville Shell Club. The club's newsletter and scientific journal, the *Shell-O-Gram* (ISSN 2472-2774) is issued bimonthly and mailed to an average of 15 regular members and friends by specific request and no less than ten scientific institutions with permanent libraries. An electronic (pdf) version, identical except for "live" URL's and color (vs. B&W) images, is issued about two days later and sent to about 200 individuals who have demonstrated an interest in malacological research and/or Florida mollusks. These pdf's (ISSN 2472-2782) have also been posted to <http://jaxshells.org/letters.htm> since November, 1998. We encourage members and other friends to submit articles for publication. Closing date for manuscript submission is two weeks before each month of publication. Articles appearing in the *Shell-O-Gram* may be republished provided credit is given the author and *Shell-O-Gram* Editor-in-Chief. As a courtesy, the editor should receive a copy of the republished version. Contents of the *Shell-O-Gram* are intended to enter the permanent scientific record. The club is a chartered corporation in the State of Florida and a non-profit educational organization under the provisions of Section 501(c)(3) of the US IRS Code.

Membership Dues are payable in **September** each year.

Many of you have complied, but if you're in arrears, please send in your dues:

Individual \$15.00; Family \$20.00, to

Harry G. Lee, Treasurer, JSC

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Jacksonville Shell Club's second 2023 shell potpourri party to be held on May 20

Once again The JSC will have a special event – another shell-cleaning, ID, swap, and give-away party hosted by member Paul Jones at his home at 3609 Crazy Horse Trail, St. Augustine, FL 32086 at 10:00 AM. From Jax take I-95 S to Exit 311 (SR 207); go E on 207 (toward St. Aug.) for about two miles, then turn R at the first stoplight you come to (Wildwood Drive). Follow Wildwood for about 1.5 miles, then look for the Prairie Creek

subdivision sign on the L. Turn into Prairie Creek, and, after stopping at the guard house, proceed thru the gate and up the hill, past the tennis courts, and take the first R - Crazy Horse Trail. Paul's house is the third on the R, first driveway past the speed bump. His phone is (904) 347-7254; email <jonesp0854@gmail.com>. Afterwards, we will adjourn to a local restaurant to enjoy a nice lunch together. Guests are welcome, too.

Florida Mollusca Exotica: Part 2: BIVALVIA **by Robert R. Fales¹**

The nine bivalve species below are all autobranchs in six families within five orders in two infraclasses.

Pteriomorphia, Mytilida, Mytilidae

***Mytella strigata* (Hanley, 1843)¹⁻³** (Charrua Mussel): marine/brackish – Native to the Pacific coast of Central and South America to Ecuador, and Atlantic coast of South America from Venezuela to Argentina. First identified in Jacksonville in 1986, then spottily down to the southeast coast. The Charrua Mussel apparently does best in estuarine salinities of 2‰-23‰. The mussel caused economic damage in Jacksonville by clogging the water intake systems of an electrical power plant. Mussels in Mosquito Lagoon were collected off a reef where they could compete with native organisms for food and habitat. One study found that found that native oyster spat survival and growth were reduced in the presence of Charrua Mussel.

***Perna viridis* (Linnaeus, 1758)⁴** (Asian Green Mussel): marine – Native to tropical marine and estuarine waters of the Indo-Pacific, from the Persian Gulf to the South China Sea. Found first in Tampa Bay in 1999; now occurs along both coasts of Florida. Green mussels are biofoulers of power plants in India and have already impacted several power plants in Florida by fouling the surface of intake condenser tunnels. They are also notorious for fouling navigation buoys in China where biomass has reached up to 72 kg/m². Potential negative impacts include competition with the oyster fishery, displacement of native mussels, and carriers of diseases and parasites harmful to native species.

Pteriomorphia, Ostreida, Margaritidae

***Pinctada margaritifera* (Linnaeus, 1758)⁵⁻⁷** (Black-lipped Pearl Oyster): marine – The oyster has a broad native distribution in the Indo-Pacific, from the Red Sea and Madagascar to southern Japan, Hawaii, northern Australia, and the Line and Pitcairn Islands. It also occurs on the tropical Pacific coast of North and South America, from Baja California to Peru. A single specimen was collected from a reef off Boynton Beach in 1992, and another off Boca Raton in 1993.

Pteriomorphia, Ostreida, Gryphaeidae

***Hyotissa hyotis* (Linnaeus, 1758)^{8,9}** (Giant Foam Oyster, Giant Coxcomb Oyster): marine – It has a wide native range in the Indian and Pacific oceans, spanning from the Red Sea and southern South Africa, to northern Australia, Hawaii, and the eastern Pacific from Mexico to Ecuador. Identified off West Palm Beach in 2001, and on submerged artificial reefs in the Florida Keys in 2003.

¹ Edison, NJ fales@verizon.net ;

Ed. Note: Part one of this series appeared in the Mar.-Apr., 2023 *Shell-O-Gram*, and future installments are expected bimonthly.

Heteroconchia, Unionida, Mycetopodidae

***Anodontites trapesialis* (Lamarck, 1819)¹⁰⁻¹²** (unnamed unionid mussel): fresh – The mussel is a giant species that occurs naturally in all South American basins east of the Andes Mountain Range; it exists in all large river basins and biomes. There was one record from a fish farm in Palm Beach County in 1980; failed to establish. The larvae (lasidia) are temporary ectoparasites of fish; whether this association is for transportation and dissemination or nutrition (or both) is unclear.

Heteroconchia, Unionida, Unionidae

***Utterbackia imbecillis* (Say, 1829)¹³⁻¹⁵** (Paper Pondshell): fresh – This medium-sized, thin-shelled mussel is native to the United States in the Great lakes and Mississippi River drainages, and was introduced into Florida (time and place unspecified) where it is now widespread, particularly in the Ochlockonee River system. It now also occurs in coastal drainages of Georgia and North and South Carolina. The glochidia larvae are temporary ectoparasites of fish, usually bluegill sunfish (*Lepomis macrochirus*) and related species, where they encyst in the gills or fin tissue and absorb blood and nutrients from the host until metamorphosing into juvenile mussels.

Heteroconchia, Sphaeriida, Sphaeriidae

***Pisidium punctiferum* (Guppy, 1867)^{16,17}** (Striate Peaclam): fresh – Native to Mexico, Central America, South America, and the neotropical Caribbean islands. First observed at an unidentified location (possibly in Hernando County) in Florida in 1999; little information available.

Heteroconchia, Venerida, Cyrenidae

***Corbicula* spp.¹⁸**

The genus *Corbicula* consists of moderately-sized freshwater clams native to the temperate/tropical regions of Asia, Africa, and Australia, and contains some of the most common and successful aquatic invasive species. Once established, they rapidly become the dominant benthic bivalve and often impede domestic and industrial water supply systems, alter nutrient regimes, and affect food web dynamics. The lack of taxonomic clarity, phylogenetic resolution, and presence of clonal lineages has resulted in considerable uncertainty in the literature regarding the number of distinct New World invading lineages and their respective taxonomic identities. Literature reports vary from an invasion of only a single species, *Corbicula fluminea*, to invasions of multiple species, identified variously as *C. fluminea*, *C. fluminalis*, *C. largillierti*, or *C. leana* (based upon a mitochondrial DNA sequence match). Two putative “species” of *Corbicula* have been reported in Florida: *C. fluminea*, the Asian Clam, and *C. largillierti*, without a common name.

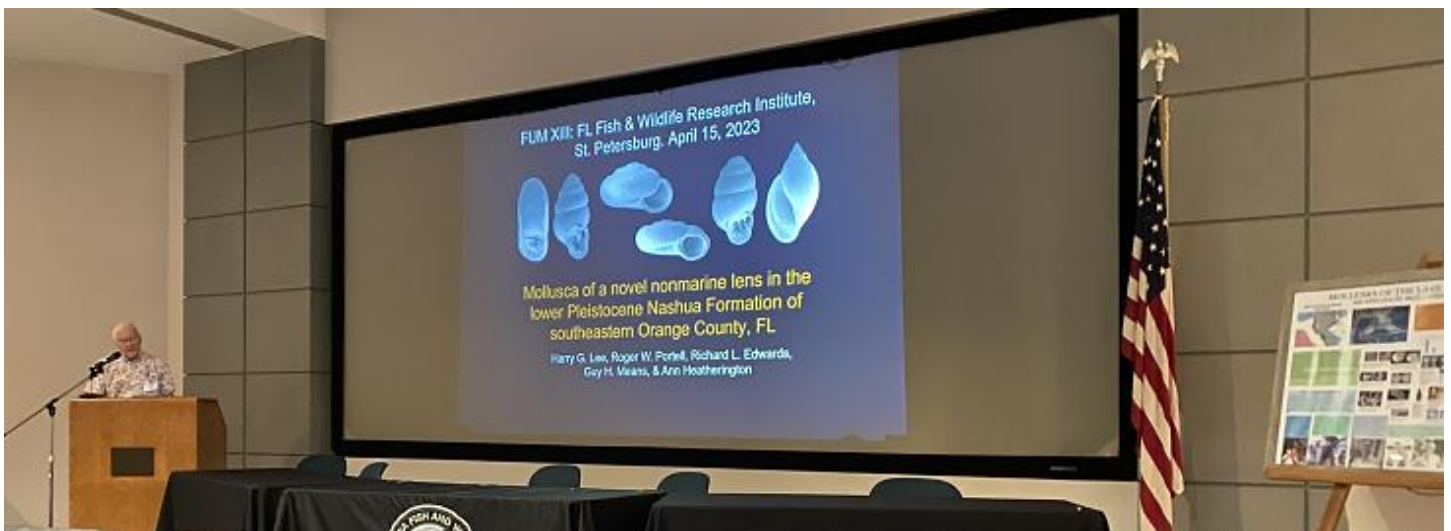
***Corbicula fluminea* (O. F. Müller, 1774)¹⁹**: fresh – First record in Florida is in Escambia County in 1960; now widespread.

***Corbicula largillierti* (R. A. Philippi, 1844)^{20,21}**: fresh – Single record in Florida for a retention pond in Palm City, Martin County, in 2014.

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Florida United Malacologists (FUM XIII) meeting on April 15, 2023

Local and regional records of mutant reverse-coiled gastropods

Field work by members of the Jacksonville Shell Club has been rather provident and impactful over the last several decades as attested by the over 800 species of marine and estuarine species chronicled in Lee (2009). Yet, there is another metric by which we have made our mark in the annals of malacology. The discovery of an exceedingly rare mutant snail (terrestrial, aquatic, marine, living or fossil) is a delight to most any shell collector anywhere, and this occurrence has befallen at least four of our number over the last half-century. The late Bill Frank, for years an active member of the club and even longer the founding webmaster of the website <http://jaxshells.org/>, now administered by the Conchologists of America, is the champion in this arena, having plucked six mutantly sinistral snails of four species in his career, which was focused on “urban shelling.” He clearly outpaced your editor/writer, who has been trying to gather such oddities since his teen years. Below we’ll look at this booty if nothing more than to celebrate the good works of our late colleague.

Within the city limits of Jacksonville (five species; six specimens):

Triodopsis hopetonensis (Shuttleworth, 1852) Magnolia Threetooth



Bill Frank found the above specimens in storm water wrack on the CSX Transportation railroad tracks at the northern end of Haines Street just west of Martin Luther King Jr. Parkway, downtown Jacksonville, Duval County, Florida August 6, 2017 (GPS: 30.202788N 081.381495W [WGS-84 Datum]). The sinistral specimen measures 9.5 mm. Including the sinistral specimen, a total of 51 empty shells were collected at this station. Shells were rather uniform in size with the smallest measuring 8.6 mm. and the largest measuring 11.6 mm.

Another sinistral specimen was collected by **Bill** in low vegetation along spur railroad line in forested area south of Heckscher Drive serving Marathon Petroleum Corporation, Jacksonville, Duval County, Florida, 5/28/2016 (9.1 mm.). GPS: 30.242375N 081.381179W [WGS-84 Datum]. See <http://www.jaxshells.org/52816.htm>.

Triodopsis messana Hubricht, 1952 Pinhole Three-tooth



Exposed in the roadside swale on the south side of Faye Road between the roadway and the CSX Transportation railroad tracks; GPS: 30.26142N 081.34496W [WGS-84 Datum], just west of the intersection of Alta Drive, Jacksonville, Duval County, Florida. The sinistral specimen is about 13 mm. in maximum diameter. Collected by **Bill Frank** on July 16, 2015. The species is treated at <http://www.jaxshells.org/messana.htm>.

***Ventridens cerinoideus* (Anthony, 1865) Wax Dome**



Collected alive by **Bill Frank** on February 14, 2005 near Fort Caroline National Monument, Jacksonville, FL. Sinistral specimen on R; about 7mm.

***Daedalochila avara* (Say, 1818) Florida Liptooth**



Found by the editor in his back yard, Ortega Forest, Jacksonville, FL in October, 1974. Low grassy area near the Ortega River. 6 mm.

***Vertigo rugosula* Sterki, 1890 Striate Vertigo [R]**

Found by the editor in his back yard, Ortega Forest, Jacksonville, FL in August, 1975. Low grassy area near the Ortega River; 2.3mm. Although there are some normally sinistral congeneric and confamilial species, this appears to be the only recorded instance of mutant chiral reversal in a member of the Vertiginidae.



If we cast a broader net to include the rest of **NE Florida**, we can capture not only two more land snail species (three specimens) but a Recent and fossil marine species to boot:

***Triodopsis* species Florida Scrub Threetooth**



Living sinistral specimen found beneath decomposing log in scrub habitat on the north side of Gas Line Road several hundred yards west of State Road 21, Keystone Heights, Clay County, Florida on August 21, 2020 by Bill Frank. The maximum diameter measured 13.8 mm.

A **second sinistral** specimen of this as yet formally un-named species was one of four empty shells collected by Bill just south of Fort Lauderdale Street between Avenues A and B at the Camp Blanding Joint Training Center, Clay County, Florida on December 14, 2013. It measured 14.61mm with digital calipers and is chronicled at <http://www.jaxshells.org/41913s.htm>.

***Polygyra cereolus* (Mühlfeld, 1818) Southern Flatcoil**



Waste ground, shoulder of FL 207 just SW of rampart of bridge over Deep Creek, Hastings, St. Johns Co., FL, 7.0mm. Collected by the editor on August 11, 2011 in the company of Bill Frank.



***Busycon carica* (Gmelin, 1791)
Knobbed Whelk**

Trawled by scallop boat, 35 mi E Fernandina Beach, Nassau Co., FL October, 1983, 95.3mm. Now in the Florida Museum of Natural History Invertebrate Zoology collection. Sometimes difficult to distinguish from the normally sinistral *Sinistrofulgur perversum laeostomum* Kent, 1984, with which it occurs on our part of the state's coast. Reversal of coil is relatively less rare in the superfamily Buccinoidea than in most marine gastropod families (Volutoidae and Marginelloidea excepted). Reversal of coil in *Sinistrofulgur perversum* (sinistral to dextral) appears to be more frequent based on an informal review of FL collections



***Neoterebra dislocata* (Say, 1822)
Eastern Auger**

Dextral and sinistral fossil specimens of this marine species on L - Recent specimen on R. Collected by the editor from an active borrow pit/spoil bank in Cracker Swamp, Hastings, St. Johns Co. FL in June, 1996. Sinistral specimen 27.9mm. This excavation exposed the Nashua Formation, which contains late Plio- through early Pleistocene biotic remains (~ 3,000,000 to 1,000,000 years old). This is the only known occurrence of mutant chiral reversal in the entire family Terebridae. The two fossil shells now repose in the Florida Museum (Gainesville) Invertebrate Paleontology collection under the directorship of Roger Portell, who was present at the time of its collection.

Ed. Note The reader may have noticed the lack of freshwater snails in this exalted inventory. Worry not; we've got them, but we'll have to travel outside of NE FL to localize the finds- a great project for the July-August, 2023 *Shell-O-Gram*, so stay tuned.