



Tidelines

March 2019

St. Petersburg Shell Club, Inc.

Web site: stpeteshellclub.org

Shell Club meetings are held on the first Friday of the month, except June, July and August, at the **Seminole Recreation Center, 9100 113th Street North, Seminole**. The doors open at 6:30p.m. and the meetings start at 7:00 p.m. The public is always invited.



George the tree snail (*Achatinella apexfulva*) died on January 1, 2019, at the age of 14. He was the last snail of his species, and is emblematic of the loss of native Hawaiian mollusks.

Photograph courtesy Aaron K. Yoshino, Honolulu Magazine

Continued on page 5

Lonely George the tree snail dies, and a species goes extinct

One famous snail's death highlights the plight faced by diverse Hawaiian snails, of which there were once hundreds of species.

By Christie Wilcox Published January 8, 2019 National Geographic Society

The World's Loneliest snail is no more.

George, a Hawaiian tree snail—and the last known member of the species *Achatinella apexfulva*—died on New Year's Day. He was 14, which is quite old for a snail of his kind.

George was born in a captive breeding facility at the University of Hawaii at Mānoa in the early 2000s, and soon after, the rest of his kin died. That's when he got his name—after Lonesome George, the Pinta Island tortoise who was also the last of his kind.

For over a decade, researchers searched in vain for another member of the species for George to mate with, to no avail. (Though these snails are hermaphrodites, two adults must mate to produce offspring, and researchers refer to George as a “he.”)

“I'm sad, but really, I'm more angry because this was such a special species, and so few people knew



A MESSAGE FROM THE DESK OF YOUR PRESIDENT

Hi all,
The incredible diversity of shells is what drives our interest towards the collecting of these treasures of the sea, land and freshwaters of the world. For many of us, our interest also goes beyond the shells towards the molluscs that are without shells. Octopuses, squids, cuttlefish, and nudibranchs are marvelous varieties of molluscs with varied shapes and colors. With somewhere in the neighborhood of 100,000 living species of molluscs, there is a lot to like in our hobby. Enjoy!

We say goodbye to our friend Marilyn Wall who passed away January 11th. She contributed much to our club. Her association with the annual Discover the Island event on Egmont Key inspired the club to have a booth there for several of the events.



The 2019 Shell Show has ended. We're still tabulating the admissions, etc, to see how well we did this year. The exhibits were fabulous, and our vendors had a wide variety of shells for sale. I was able to finally add a very rare cowrie from Hawai'i to my collection for a very reasonable price. Many thanks to all who helped in various ways to make the show what it was. I look forward to the 2020 show.

The 2019 COA convention on Captiva Island is approaching fast. Hope you decide to attend!

Be safe, and happy shelling!

John

Club Officers and Committees

President John Jacobs; Vice President Robert Gould; Recording Secretary Sandy Boddy; Treasurer Tamara Hein; Newsletter Editor Cheryl Jacobs; Directors at Large: Peggy Dill, Jane McKinney, Otis Taylor; COA Representative John Jacobs; Refreshments Bob Holzworth; Photographer John Jacobs; Field Trips Entire Board; Corresponding Secretary Pat Linn, Shell Show Cheryl Jacobs; Annual Picnic the Board; Raffle/Door Prizes Cheryl Jacobs & Peggy Dill; Facebook Cheryl Jacobs; Webmaster Cheryl Jacobs.

Tides are for Mullet Key Channel (Skyway). Other specific locations may be up to 2 hours later or earlier. Listings from saltwatertides.com .

Forecast Minus Tides

Mar

- 1 Fri 3:27AM -0.4
- 2 Sat 4:14AM -0.4
- 3 Sun 4:53AM -0.4
- 4 Mon 5:25AM -0.4
- 5 Tue 5:53AM -0.3
- 6 Wed 6:17AM -0.2
- 7 Thu 6:39AM -0.1
- 11 Mon 10:36PM -0.1
- 12 Tue 11:45PM -0.1
- 14 Thu 1:07AM -0.2
- 15 Fri 2:32AM -0.3
- 16 Sat 3:44AM -0.4
- 17 Sun 4:43AM -0.5
- 18 Mon 5:32AM -0.5
- 19 Tue 6:14AM -0.5
- 20 Wed 6:50AM -0.3
- 23 Sat 9:06PM -0.2
- 24 Sun 10:01PM -0.2
- 25 Mon 11:01PM -0.2
- 27 Wed 12:11AM -0.1
- 28 Thu 1:29 AM -0.1
- 29 Fri 2:43 AM -0.1
- 30 Sat 3:44AM -0.1
- 31 Sun 4:32AM -0.1

Apr

- 1 Mon 5:11AM -0.1
- 7 Sun 8:40PM -0.2
- 8 Mon 9:27PM -0.2
- 9 Tue 10:23PM -0.2
- 10 Wed 11:31PM -0.2
- 12 Fri 12:49AM -0.2
- 13 Sat 2:08AM -0.2
- 14 Sun 3:16AM -0.3
- 15 Mon 4:11AM -0.2
- 16 Tue 4:56AM -0.1
- 19 Fri 7:23PM -0.1
- 20 Sat 8:08PM -0.3
- 21 Sun 8:54PM -0.3
- 22 Mon 9:42PM -0.3
- 23 Tue 10:35PM -0.2
- 24 Wed 11:34PM -0.1

Upcoming Club Meetings

6:30pm Meet and Greet, 7pm Meeting

Mar 1 Regular Meeting Carolyn Petrikin will present "Shells In Our Aquarium"

Mar 5 Meeting of Suncoast Conchologists

Mar 6 Tampa Bay Fossil Club Meeting

Apr 2 Meeting of Suncoast Conchologists

Apr 5 Regular Meeting Nicole Seiden presents "Horse Conchs"

Apr 6 Tampa Bay Fossil Club Meeting

Apr 14 Annual Picnic, south Sunshine Skyway Bridge picnic area

May 3 Regular Meeting Dr Greg Herbert

UPCOMING SHELL SHOWS & RELATED EVENTS

March. 7-9 **82nd SANIBEL SHELL SHOW**, Sanibel Community Center, 2173 Periwinkle Way

March. 9-10 **TAMPA BAY FOSSIL CLUB FOSSIL FEST**, the largest fossil show in Florida, Florida State Fairgrounds, Tampa, FL

March. 14-16 **39th MARCO ISLAND SHELL SHOW**, United Church of Marco Island, 320 North Barfield, Marco Island

May. 31--June 2 **22nd GULF COAST SHELL SHOW**, Panama City Beach Senior Center, 423 Lyndell Lane, Panama City Beach

Jun 17-23 **Conchologists of America Convention**, Captiva Island, Florida. See conchologistsofamerica.org for registration forms.

Courtesy of Donald Dan and others

Picnic: April 14 at 2pm. Place: South Sunshine Skyway Bridge Picnic area. South end of Sunshine Skyway Bridge (I-275), just past the rest area. There is a toll for the bridge. The picnic area has tables and small shelters. Take the exit for the rest area and follow the signs, go thru the parking lot, pass the restrooms and you will see a road for the picnic area.

Sign up at the May meeting or contact Cheryl Jacobs at johncheryl@earthlink.net . We need to have a count so I can buy enough chicken. Club will supply chicken, you will need to bring your own drinks and a dish to share.

Example of dishes to share: Potato salad, fruit salad, other salads, beans, vegie plate, cut up watermelon, chips, desserts

We can go in the water, or play Crown (Shell bingo).



Broward Shell Show

by Pat Linn

The 54th Annual Broward Shell Show was held Jan 11-13, 2019. Pat and Bob Linn won the Neil Hepler Award for their "A Sampling of the Olividae Family" exhibit. Other awards won were 3rd place for her Cernina fluctuate (G.B. Sowerby, 1825) exhibit, a red ribbon for her wreath and the Exhibitor's Choice Award in the Scientific class.

The show was a success with so many outstanding exhibits. The Scientific Judges were Rich Goldberg and John Slapcinsky. The Artistic Judges were Phyllis Gray and Heather O'Keefe.





On Jan 21, 2019 we had planned a field trip to Sunshine Skyway Bridge South end. It was really cold and we cancelled the trip. Carolyn and Earl decided to go out anyway and did not see very many shells but did say the tide stayed out a very long time. The top picture was taken at 845am and the bottom at 1015am. Peak low tide was to be at 642am a -0.9. As you can see it was still out way later.



COA Convention 2019

Registration forms are on the website.
<http://www.conchologistsofamerica.org>
 Click on the 2019 convention, and all the forms come up;
 just print the ones you need. Don't miss it!

Conchologists of America

R. Tucker Abbott

1919 2019

Captiva 2019

South Seas Island Resort

Pre-Convention Field Trips
June 17 & 18

Programs June 19 - 21

Bourse June 22 & 23

THE SHELL COLLECTOR'S CODE OF ETHICS

I realize that molluscs are part of our precious national wildlife resources, therefore:
 I WILL make every effort to protect and preserve them not only for my own future enjoyment, but for the benefit of generations to come.
 I WILL always leave every shelling spot as undisturbed as possible.
 I WILL take only those specimens needed for my collection and for exchange at the time... Shells in a box cannot reproduce while I am waiting for a place to send them.
 I WILL leave behind the damaged and the young specimens so that they may live and multiply.
 I WILL NOT collect live egg cases unless they are to be used for study, and then, only in small quantities.
 I WILL NEVER "clean out a colony" of shells.
 I WILL practice and promote these conservation rules in every way possible.

about it,” says Rebecca Rundell, an evolutionary biologist with State University of New York who used to help care for George and his kin.

Throughout his life, George was a public face for the struggles facing Hawaiian land snails. His death highlights both the vast diversity of indigenous snails—and their desperate plight.

“I know it’s just a snail, but it represents a lot more,” says David Sischo, a wildlife biologist with the Hawaii Department of Land and Natural Resources and coordinator of the Snail Extinction Prevention Program.



Snails in the Achatinellinae family live on multiple Pacific islands, but are most diverse in Hawaii. Like many snails they face serious threats, particularly invasive predators, and hundreds of species have already gone extinct. Photographs courtesy David Sischo Hawaii Department of Land and Natural Resources

Silencing the forest

Snails were once incredibly numerous in Hawaii, and the loss of a species is a blow to the ecosystem. Records from the 19th century claim that 10,000 or more shells could be collected *in a single day*. “Anything that is abundant in the forest is an integral part of it,” says Michael Hadfield, an invertebrate biologist who ran the captive breeding program for rare native Hawaiian snails until the late 2000s.

And these creatures are incredibly diverse: There were once more than 750 species of land snail in Hawaii, including a little over 200 in the tree snail family.

When they arrived on the islands, the snails branched out and took on a variety of ecological roles. Some of these species came to function as decomposers—like earthworms, which are not native to the islands—and fulfill the essential ecological role of breaking down detritus.

The Hawaiian tree snails specialize on the gunk that grows on leaves. Upon feeding, they reduce the abundance of fungi on leaves while increasing fungal diversity—and because of that, they may have helped protect their host trees from diseases. Some biologists think healthy snail populations could have prevented the current outbreak of Rapid ‘Ōhi’a Death, a new fungal pathogen wiping out native trees.

In some ways, these snails are more like mammals or birds than other invertebrates: They regularly live well into their teens, take five or more years to reach sexual maturity, and give birth to less than ten offspring per year. They’re revered in Native Hawaiian legends which hold that tree snails can sing beautifully, and are known as the ‘voice of the forest’. (It’s not clear why since they aren’t known to make audible noises.)

Diverse but endangered

About a decade ago, it was commonly believed that over 90 percent of Hawaii’s snail species were gone. Researchers have re-discovered dozens of species that they thought were extinct, however, and found several new species.

The snails that remain in Hawaii are in serious trouble, though. Most are only found on a single ridge or valley, and in recent years, declines have accelerated as introduced predators have started invading their last refuges.

“We’ve had populations that have been monitored for over a decade, and they seemed stable... then, within the past two years they’ve completely disappeared,” says Sischo. “We’ve all broken down and cried in the field.”

These snails are likely to go extinct within months or a few years, Sischo says, unless they’re protected in the wild or brought into the lab.

Continued on page 6

And the same thing is happening around the world. Land snails and slugs represent about 40 percent of the known animal extinctions since 1500, more likely disappeared before becoming known to science, and many species are now on the edge. If there's any silver lining to George's death, it's that it might draw attention to this hidden extinction crisis hitting the globe's mollusks while there's still time to do something.

Rapid fall

The snails' decline can be blamed on invasive species, which are eating them to extinction. In particular, they're falling victim to the rosy wolfsnail (*Euglandina rosea*), a snail and slug specialist that was brought to the islands to eat *other* mollusks: giant African snails. It found the endemic snails to be much more palatable, and has been eating through entire species at an alarming rate since its introduction in 1955.

Researchers suspect increased rainfall and higher temperatures have allowed the rosy wolfsnails to venture up in altitude into the Hawaiian snails' last refuges. Also, the snails' long lives may have masked their declining health, as populations could persist long after they've stopped producing new generations.

The downfall has been swift. Melissa Price, a molecular ecologist with University of Hawaii at Mānoa who uses genetic methods to learn more about the animals' ecology and evolution, found out that her favorite species *A. lila*, went extinct in the wild last April. She helped count the last population three years ago, and at the time, there were about 300 left on ridge overlooking Punalu'u valley and Kāne'ohe Bay.

"It was just the most magical spot on Earth, and then you had these beautiful, rainbow-colored snails hanging from the trees," she recalls. But when scientists returned last year, they searched for 20 hours and only found a single individual.

The same thing is happening to other snails on the other islands. "Stuff is just blinking out," she laments. "This entire taxonomic group is about to fall off the face of the planet."

In the 1980s, the entire genus of Hawaiian tree snails was listed as endangered. This led Hadfield to establish a captive breeding facility in the hopes of saving the rarest species. "We knew we were seeing the last of those snails," he says.

What remains

And it was in that laboratory at the University of Hawaii at Mānoa that George was born in the early 2000s. George's parents, along with a handful of other members of the species, were collected from the last known population found in a few trees near Oahu's Poamoho trail in 1997.

Only a few offspring were produced, but they and their parents didn't make it long. By the mid 2000s, "all of the *Achatinella apexfulva* died, except for one juvenile snail, which was George," says Sischo.

It became a tradition amongst the snail researchers to stop at the spot where the last *A. apexfulva* were found and pull out binoculars to scan the trees. "We kept hoping we'd find more," says Hadfield. But they never saw another. Thus, though George became sexually mature in 2012, he never had a mate. The snail lived over a decade in a terrarium of his own, and then, on the first day of 2019, he died.

George's remains were preserved in ethanol and his shell will join the more than 2 million other Hawaiian land snail specimens in the Bernice Pauahi Bishop Museum's malacological collection. (Malacology is the study of mollusks.)

And back in 2017, a tiny piece of George's foot was carefully cut off and sent to scientists with the San Diego Zoo Institute for Conservation Research's "Frozen Zoo" to provide DNA should scientists ever desire to clone him—which isn't currently possible, but likely will be in the near future. Every animal that dies in the captive breeding program is preserved, and Hadfield notes that it's sometimes possible to get DNA from old shells as well, so there may be enough genetic diversity to bring the species back. But unless the forests they lived in are restored as well, and the invasive animals removed, there will be nowhere safe to put them.

The love shack

George spent the last two years inside a 12-foot by 44-foot modular trailer in Oahu which some have taken to calling "the love shack." In the captive breeding program, which was officially taken over by Sischo and the Snail Extinction Prevention Program in 2016, there are 30 species of Hawaiian snail that are either extinct in the wild or exceedingly rare. Several of those species are down to fewer than 50 individuals.

Taking care of 2,000 snails isn't easy. The animals housed in carefully designed terrariums that live inside six large environmental chambers with controlled lighting, temperature, and humidity. Roughly every other day, loads of freshly clipped branches from the snails' host plants are brought in so the snails can feed on the algae and fungi that naturally grow on the leaves. The team also cultures a native tree fungus to add to their diet.

Researchers hope these efforts keep more species from going extinct—and that in death, as in life, George will help raise awareness of the problem.

"The land snail extinction crisis hasn't gotten as much publicity," Rundell notes, even though "these

species are an important part of life on earth, and when they start going extinct, it means that something is really wrong with the environment that supports us.”

“As we are all mourning George, I hold tighter the thought that hope still does exist for these native snails,” says Norine Yeung, the malacology collection manager at the Bernice Pauahi Bishop Museum. “Please don't forget them.”

MEMBER NEWS

Marilyn Wall passed away on Jan 11. She will be sorely missed.

New Members:
Wendy Hayward
2098 Seminole Blvd
Apt 5402
Largo FL 33778

Cynthia Beck and
David Ward
6216 Iron Horse Pl
Lithia FL 33547

John Barr
18509 Burrell Rd
Odessa FL 33556

Send in any member news to Cheryl Jacobs
Email stpeteshellclub@gmail.com

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One Stop Sheller's Supermarket

Open 10 am to 5 pm

Monday thru Saturday

Happy Birthdays

Mar

8 - Betty Fearn

Apr

9 - Mildred Sides
15 - Dick Fearn

May

1 - Jerry Puigdomenech, Jr.
9 - Airy Callahan
13 - Kevin Swearingen
16 - Tina Murders
20 - Roger Smith
23 - Mary Ellen Akers



St. Petersburg Shell Club, Inc.
Founded 1936
Annual Dues: Individual \$15.00
Family \$20 (1 copy of TIDELINES per household)

Meetings are held on the 1st Friday of the month, except June, July and August, at the **Seminole Recreation Center, 9100 113th Street North, Seminole**. Meetings start at 7:00p.m. and include educational short programs, social times, opportunities to identify shells, and a main program on some aspect of the shell collecting hobby. The club publishes "**TIDELINES**" 5-6 times a year with a special edition at Shell Show time. The membership year begins Jan 1st and dues are delinquent after Apr 1st. Please make your check payable to the St. Petersburg Shell Club.

Return the application to the membership chairperson at the address below.

Please complete—Detach and Return

New Member: Individual _____ Family _____
 Renewal: Individual _____ Family _____

Name: _____ Phone: _____

Address: _____ Apt# _____

City, State, Zip: _____

E-mail: _____

Birthday: _____ Shell Interests: _____

If you use another address part of the year, please list where & when here:

Donation to the Awards and Ribbons Fund for the Shell Show

Print as you want to be listed.

Return to: Membership Chairperson
 P. O. Box 3472
 Seminole, FL 33775-3472

	Total Enclosed:
Membership	\$ _____
Awards and Ribbons Fund	\$ _____
Total	\$ _____

E-mail: stpeteshellclub@gmail.com
 Web site: stpeteshellclub.org
 Like us on Facebook

Show 'n Tell

Bring that special shell to the meeting and talk for a few minutes about it. What was it that appealed to you about that specimen? Was it the color, the family, the location it came from?

Do you have a question on the identification of a shell? Whatever the reason, Blow your horn, show it off.



HAVE I RENEWED ?



Our club membership runs from January to December. If you are not sure if you have renewed call or email us.

Contact Cheryl & John Jacobs
johncheryl@earthlink.net
 or 813-309-2608