

Highlights:

- ◆ Welcome!
- ◆ Exotic Pet Amnesty Day in Tampa a Success!
- ◆ Hunting pythons in the Everglades
- ◆ FWC Rule Change: Pet Reptiles of Concern

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Welcome to the Inaugural Issue!

The Invader Updater is a quarterly newsletter focused on providing information on invasive vertebrate animals in Florida and the southeastern U.S. Each issue will highlight species of special interest to Extension clientele, and provide information on management efforts, relevant legislation, and more.

The Invader Updater webpage (see url at the bottom



Steve Johnson & Monica McGarrity study invasive amphibians and reptiles

of this page) will provide pertinent links that relate to the stories in the current issue and provide additional information on each newsletter topic. The webpage will also provide links to news articles and other

invasive species resources. To access the webpage while reading the newsletter, simply click "[Learn More...](#)" at the end of any story.

The Invader Updater is produced by Dr. Steve A. Johnson and Monica E. McGarrity (see Pg. 4). We would love to hear your comments, suggestions, and ideas – please email feedback to monicaem@ufl.edu.

Focal Species: Burmese Python

Scientific name:

Python molurus

Size:

2–18 feet long

Native range:

Southeastern Asia

Notes:

Often found near water
Could be confused with Cottonmouths

Burmese pythons are extremely large constrictors that have become very popular in the pet trade, and are often offered for

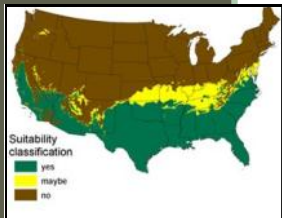
sale at hatchling size (~2 ft.). Unfortunately, many pet owners underestimate the cost and space required to care for a full-grown Burmese python. As a result, many large pythons are released by owners no longer able to care for them. Burmese pythons were first seen in Florida in the Everglades in the 1980s. They are now considered established and breeding in the extreme southern peninsula. More than 1,270 pythons have been removed to date, but they are difficult to locate and capture and

many more remain in the wild. They are usually found near water, but may be seen crossing roads. In Florida, they breed from Jan-Apr; females lay eggs and guard them until they hatch. The largest snake found in the Everglades was 16 ft long and weighed over 100 lbs! [Learn More...](#)



Photo: Skip Snow, National Park Service

Science: Potential Python Range



The USGS (Rodda et al. 2009) predicted that pythons could eventually live in much of the southern U.S. (in green).



Pyron et al. (2008) gave a more conservative estimate (red) of habitat that will be suitable for pythons.

Now that Burmese pythons are considered an established, invasive species and are breeding in the Everglades, scientists are investigating just how far they could spread in the U.S. These predictions must be based on the known habitat and climate requirements of the species in its native range. If little is known of their specific requirements, or of climate extremes that the species can survive, this must be estimated. Also, scientists must now take global warming into consideration – an area that isn't suitable now might be perfect for pythons in 2050. Of course, these predictions

are only estimates, and different models often produce very different results.

Scientists at the U.S. Geological Survey (Rodda et al. 2009) created a model to estimate the areas of the U.S. that might be suitable habitat for pythons by the year 2100. This estimate was based on temperature and rainfall, and took into account the effects of global warming. They found that virtually the entire southern U.S. would eventually be suitable (in green at left), and that more northern areas might be too

cold, and more western areas too dry for pythons.

However, researchers at The City University of New York (Pyron et al. 2008) felt that this estimate was excessive. They used ecological niche modeling based on the climate of specific areas where pythons are found within their native range, and the same climate data used by USGS, to create a more conservative estimate. They found that invasive pythons were unlikely to expand their range beyond southern Florida.

[Learn More...](#)

Legislation: Pet Reptiles of Concern

Burmese, African rock, reticulated, and amethystine pythons are now classified as "Reptiles of Concern" (ROCs) by the FWC, as are green anacondas and Nile monitor lizards.

In order to own a ROC, pet owners must complete an application and a questionnaire that requires basic knowledge of proper care, feeding, and housing of the species of interest.

The ROC permit requires a \$100 annual fee; ROC owners must submit annual re-

ports and notify FWC of any new acquisitions or escapes.

Any snake greater than 2" in diameter considered a ROC (and all Nile monitors) must be permanently identified with an implanted passive integrated transponder (PIT) tag in the tail. Most veterinarians will microchip pets for a small fee.

Failure to obtain and maintain the appropriate license for ROCs is a second-degree misdemeanor and may result in a \$500 fine and up to 60 days in jail.

These regulations are now fully in effect – all ROCs, regardless of when they were purchased, now require a permit, reporting, and tagging. Snakes less than 2" in diameter must be tagged when they reach this size.

For more information, refer clients to FWC's website – see the links under "Legislation" on the Invader Updater webpage.

[Learn More...](#)

Innovations: Hunt for Science's Sake



Photo: Bob DeGross, NPS

Burmese python populations in the Everglades National Park have grown exponentially; experts believe there may be 200,000 wild pythons. They are difficult to find, capture, and kill, especially with

limited resources and manpower. This year, FWC instituted a permit program allowing hunters to take pythons. Python hunters must hold a valid ROC license and be screened by FWC. Hunting was allowed from 17 Jul – 31 Oct 2009 in designated areas, and hunters were not permitted to use firearms or certain types of traps. Hunters reported the GPS location of each snake captured and took

a digital photo of the snake. The python hunting program had no incentives, but hunters could take the carcass for the skin. High mercury levels have been reported in pythons from the Everglades, so meat may not be safe to eat. This year, 13 permit holders removed 37 pythons. The FWC is now evaluating the success of this program, which will continue next year.

[Learn More...](#)

“The FWC hopes the information collected will lead to an expansion of this initial step to help eradicate Burmese pythons in Florida.” - FWC

News to Know

NEW PYTHONS – A new, potentially established species of python has been found in Florida – the African rock python. These snakes are generally more aggressive than Burmese pythons. The two could possibly interbreed, with unknown consequences. Educate clients on how to recognize and report pythons.

LIONFISH INVASION – this may be the most rapid finfish invasion on record. First seen along the Atlantic Coast of Florida in the early 90s, these venomous, predatory fish are now found south to the Keys, north along the entire southeastern Atlantic Coast, off the coast of New England, and across the Caribbean. They

have not yet been sighted along the Gulf Coast of Florida, and clients should be educated on how to report sightings.

FOR MORE NEWS – visit the Invader Updater webpage to read these news stories and related resources.

[Learn More...](#)



Noteworthy: Nonnative Pet Amnesty Day

Many non-native pets unfortunately are often released by owners no longer able to care for them. Most of these animals die, but some survive and become invasive. By educating Floridians on responsible pet ownership, you can help to prevent the release of the next invasive “exotic.”

The FWC held its fifth Amnesty Day event at Busch Gardens in Tampa on November 7, 2009. Pet owners surrendered over 100 exotic pets without penalty. Pet lovers who had registered with the FWC were able to adopt many of these animals. **The FWC will hold the next**

Amnesty Day event at the Miami Metro Zoo on February 6, 2010. For more information, refer clients to FWC’s website – see the links under “Noteworthy” on the Invader Updater webpage. [Learn More...](#)



Any exotic pet can be surrendered at Amnesty Day events, not only reptiles. (Photo: Lynn Proenza)



In Focus...

Each month, this section will showcase a photo submitted by an Extension agent, client, or UF faculty and staff. This photo, taken by Andrea Walker, shows a plague of metamorphosing Cuban Tree-frogs emerging from an abandoned swimming pool. Can you spot the native Leopard frog? *Hint: only the Leopard frog's head is visible.*

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Do you have questions, comments, suggestions, or have an In Focus photo to submit? Email Monica at monicaem@ufl.edu



Photo © Andrea Walker, 2009

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Resources

◆ The [Nonindigenous Aquatic Species \(NAS\) information resource](#) for the US Geological Survey is located at the Florida Integrated Science Center and was established as a central repository for spatially-referenced biogeographic accounts of nonindigenous aquatic species.

◆ The [Global Invasive Species Database \(GISD\)](#) aims to increase awareness about invasive alien species and to facilitate effective prevention and management activities. It is managed by the Invasive Species Specialist Group (ISSG) of the Species Survival Commission of the IUCN-World Conservation Union.

◆ [Invasive.org](#) was created by the University of Georgia Center for Invasive Species and Ecosystem Health to provide an accessible and easily used archive of high quality images and information related to invasive and exotic species, with particular emphasis on educational applications.

◆ The [National Biological Information Infrastructure \(NBII\)](#) is a broad, collaborative program to provide increased access to data and information on the nation's biological resources.

◆ The [Florida Fish and Wildlife Conservation Commission's Nonnative Species website](#) seeks to provide information and minimize the impacts nonnative species have on Florida's native fish, wildlife and marine life..

◆ The [Florida Invasive Species Partnership](#) website is an online source of information and management tools for invasive species..

◆ [EDDMapS](#) is an online mapping tool for viewing and creating invasive species reports.

◆ Know of an important resource not listed here or in the archives on the Invader Updater webpage? Let us know – email a description and URL to monicaem@ufl.edu