

The burmese python
is known to survive



**ASSIGN
BUSTER**

The Impact Of Burmese Pythons On Florida's Native Biodiversity

Python molurus is among the world's six largest snakes and it is capable of growing to a length of more than 9.15 meters. By the time it is approximately 2.6 meters, the species will normally have attained maturity. It belongs to the family Boidae and the subfamily Pythonidae and is distributed across South East Asia from Pakistan to Indonesia to South China.

It is subdivided into two subspecies namely, *P. m. molurus* and *P. m.*

bivittatus. *P. m. molurus* is the Indian python found in Pakistan, India, Bangladesh, Nepal, and Sri Lanka while *P. m. bivittatus*, which is also known as the Burmese python, lives in Burma, Laos, Vietnam, Thailand, Peninsula Malaysia, Cambodia, Indonesia, and South China (Evans 2003). The Burmese python is of particular interest to scientists and everyone living in South Florida.

In 2010, the Burmese python was identified as one of the top ten invasive species. The Burmese python is a highly sought after species on account of its physical beauty. Consequently, it finds use in the making of leather items and as a pet. Unlike other snake species, the Burmese python is docile but like the other snakes in its family, it kills by constriction and suffocation. This python seizes the prey with its teeth, wraps itself around the prey, and tightens itself every time the prey breathes out.

This leads to suffocation of the prey. Its skull is highly ossified with dense bones and complex sutures and this allows it to swallow a prey that is 4-5

times the diameter of its own head (Evans 2003). Its preferred habitat is the forests near water bodies, swamps, marshes, and grasslands.

It moves easily among trees and is also an excellent swimmer. Although large constricting snakes usually live in the tropical climate, the Burmese python is known to survive in temperate regions like Southern Florida. The presence of the Burmese python in South Florida is a recent development.

Since the mid 1990s, the Burmese python has established itself in southern Florida and at the moment, it inhabits over 5, 180 square kilometers of largely inaccessible habitat (Snow et al. 2007). Its appearance in Florida came about due to the desire to have snake pets in the 90s. Each year, the United States breeds thousands of pythons in captivity and thereafter, they are sold as pets.

In earlier times when these pets became too big for the owners to handle, they would release them into the wild. Unlike other pets that die when released into the wild, the Burmese python thrived in South Florida. Before its release, it was simply classified as an exotic species but thereafter, it also turned into an invasive species. This paper covers the impact of the Burmese python on Florida's native diversity, the factors that have led to its rapid increase and why it poses a great danger to the natural habitat of South Florida. The Burmese python has had a big impact on Florida's native diversity.

Its presence is a threat to the ecological balance in South Florida. It feeds on a great variety of animals. Burmese pythons have been documented in the Everglades National Park, South Florida. They consume American Alligators

<https://assignbuster.com/the-burmese-python-is-known-to-survive/>

and a wide variety of avian and mammalian prey, including wading birds, bobcats, and white tailed deer (Snow et al 2007).

The extent of their destruction is not very clear and as a result, studies have been done to quantify the impact of this python on the native diversity and to give authorities a tangible figure. According to a study by Sementelli et al, a single successful python feeding results in a cost of 3, 495. 50 dollars. This translates to \$ 83, 892 per year for a single Burmese python (2007).

Records of the type of animals that these pythons used as prey were obtained from the animals' stomach contents. From these contents, they were able to calculate the cost per animal (Harvey et al 2008). There are social and economic impacts felt due to introduction of exotic amphibians and reptiles in any given environment. Numerous costs are incurred through trapping, removal and predation of other common pets as these pythons invade urban areas (Sementelli et al.

2007). There is a danger posed to tourists and tourism itself if these snakes continue to reduce the numbers of other species. The reason why tourists visit the Everglades is to see the different species that inhabit it. The presence of Burmese pythons can also affect the operations of state and local government through emergency calls, service interruptions and encroachment in recreation parks. The Burmese pythons were first spotted in south Florida in the early 90s and since then, the region has seen a sharp increase in this invasive species.

There are many factors that have led to the rapid increase of the Burmese python in South Florida. These include diverse habitat use, the species'

<https://assignbuster.com/the-burmese-python-is-known-to-survive/>

broad dietary preferences, a long lifespan, its high reproductive output, and its ability to move tirelessly for long distances. (Harvey et al 2008). Burmese pythons are very high on the food chain and therefore animals that prey on Burmese pythons are also very few. These factors are feared to be responsible for the eventual reduction in biodiversity in south Florida due to the increase in the Burmese python population.

Rapid reproduction and long lifespan has kept the number of the Burmese python relatively high. A Burmese python is known to lay lots of eggs in one season. On May 17, 2006, scientist in South Florida discovered the first python nest and this acted as a confirmation to them that indeed, the Burmese pythons were breeding wildly.

Mating in the Everglades usually occurs between the months of December and April. During the mating season, females usually secrete pheromones and this enables the males to locate them. Between May and June, the females will have laid their eggs but they remain they have to be coiled around the clutch in readiness for hatching. The hatching of the eggs occurs between July and August. Some eight samples that were discovered in South Florida showed that on average, a clutch is made up of 36 eggs (Harvey et al, 2008). Their high reproductive rate, coupled with the fact that they live for between 15 and 25 years, is a major factor in their rapid increase in population.

The climate of Southern Florida is also another factor in favor of the rapid increase in the number of Burmese pythons in the region. The weather in Florida is warm almost all year round. The python has managed to increase

in population thanks to the availability of a vast and undisturbed habitat, as well as the presence of subtropical climate in the Everglades (Harvey et al 2008). Many studies show that colder temperatures adversely affect these pythons. In a study conducted by Dorcas and colleagues, it was discovered that Burmese pythons that had been exposed to cold temperatures died due to poor thermoregulatory conditions, such as failing to take shelter or basking in the cold environments (Dorcas, Willson & Gibbons, 2010). The Burmese python's feeding habits have also played a major role in its rapid increase. The Burmese python is a nocturnal hunter with special heat receptors to locate warm prey (Evans, 2003). It also has an advantage over other snakes occupying the same habitat.

The Burmese python is heavier and longer in comparison with the native snakes found in Florida. The largest python found in the everglades was 4.9 meters long and weighed 68.9 kilograms (Harvey et al. 2008). Its size allows it to go for bigger preys like crocodiles, leopards, and American alligators. Hatchling crocodiles are at a much higher risk of predation as they are not protected by nesting females in the early stages of their life (Sementelli et al.

2007). This is unlike the American alligator adults which protects its young ones. Burmese pythons have managed to survive in tropical as well as temperate regions of the world. They have spread to vulnerable areas like the Florida Keys where they have been spotted in Key Largo and are feeding on endangered species there (Harvey et al. 2008). Burmese pythons have been known to change habitats depending on the season.

According to a study done by Mazzotti (2008), Burmese pythons use predominantly aquatic habitats and hide in terrestrial brush piles between June and July. In August, they use arboreal habitats, at times climbing more than 20 meters on tall pine trees. Most snakes remained in the water and were seldom visible between August and late October. In mid October, when temperatures dropped, the snakes left the water and moved to land. In December and January, they took refuge underground to avoid the extremely cold temperatures. The presence of the Burmese python in South Florida is of great concern because it poses a danger to the natural habitat of this region. For example, it has threatened to eliminate most of the diverse species in this region. This species has spread widely in South Florida.

Already, three locations have been identified within the Everglades National Park where the Burmese pythons are thought to inhabit. These locations include the mangroves between Flamingo and pay-hay-okee, in the freshwater glades and saline along the main park, along the Tamiami trail in the great shark valley, and in the greater Long Pine Key area. From 2002 when the numbers began to climb, to 2005, 201 pythons were captured and removed or found dead. By 2007, the number of Burmese pythons in the region had nearly doubled (Harvey et al 2008).

The danger of exotic invasive species is that they do not co-evolve with their prey. This means that the prey has not developed a system of defense against the predator. The few animals that resist and even prey on Burmese pythons are American alligators, minks, and other medium sized mammals that prey on young pythons (Sementelli et al 2007). One factor that also works against the prey is that the Burmese python is a generalist predator.

<https://assignbuster.com/the-burmese-python-is-known-to-survive/>

Its dietary habits are diverse and include state and federally endangered or threatened species like the Florida panther, mangrove squirrel, Key Largo cotton mouse, Woodstock, Cape Sable seaside sparrow and American crocodile. Other endangered species found in the Florida Keys are the Key Largo woodrat, the limpkin and the white ibis (Harvey et al 2008).

The Burmese python would be considered extremely dangerous if it expanded into the range that it covers or if its population keeps on increasing. Although studies indicate that the *P. m. molurus* species can survive throughout Southern United States, these snakes have not left Southern Florida indicating that water bodies is a limiting factor in their expansion. What is particularly worrying is that studies show that the pythons are able to seek refuge during cold weathers. This may lead to an evolutionary selection for the best to survive and to survive in different ranges of climates leading to a move to another habitat.

There species poses a danger to humans and to other predators too. These pythons like to lie on roads and may cause accidents to motorists. They can also attack children who visit parks where they have invaded. Other predators like the federally threatened indigo snake may be facing a fierce and more skilled competitor. The Burmese pythons being excellent swimmers, able to travel long distances, allows them to maneuver their way around the Florida Keys in a much easier way than native snakes (Harvey et al. 2008).

The Burmese python has led to the decline of most species and endangered others in South Florida. The rapid increase in the Burmese python has been

due to its highly prolific nature and long lifespan, its competitive advantage and its diverse habitat use, its ability to move long distances and swim well and the favorable climate of South Florida. It is posing a danger to the native habitat of south Florida as it is an indiscriminate predator and it feeds a lot. It is also likely that it may at one point move into other habitats. It is unusual for a species of snake that lives in Asia to appear naturally in North America. The problem of the Burmese python is therefore manmade and as such, a manmade solution has to be found. Part of the solution involves fining anyone who is discovered to have released these snakes into the wild or even having lost them.

The current Florida policy can fine individuals caught releasing the exotic invasive herpetofauna into the wild \$500 with the potential for additional fines and court fees begins at roughly \$300 (Sementelli et al 2007). Some feel that this is not enough to combat the problem this way and that more needs to be done. Scientists aim to control or even eradicate these invasive snakes.

Moreover, the most feasible strategy is to eradicate the species. This can be especially effective in case intervention is undertaken early, and if the area is isolated, small, and accessible. The eradication plans for the Burmese python should give priority to the Florida Keys owing to their ecological vulnerability (Harvey et al). Individuals who keep the Burmese python as pets can also assist by having their pets euthanized if they are too big to keep or by donating them to those who are capable of having them as pets.

Reference List

Dorcas, M.

E., Willson, J. D.

, & Gibbons, W. (2010). Can invasive Burmese pythons inhabit of the southeastern United States? Retrieved December 13, 2011, from <http://www.bio.davidson.edu/people/midorcas/research/Reprints/Dorcas%20et%20al%20-%202010%20%20Can%20invasive%20pythons%20inhabit%20temperate%20regions%20-%20Biollnvs.pdf> Evans, S. (2003).

Python molurus, Burmese Python. The deep scaly project. Digital morphology. Retrieved December 13, 2011, from http://digimorph.org/specimens/python_molurus Harvey, R. G., Brien, M. L.

, Cherkiss, M. S., Dorcas, M., Rochford, M., Snow, R. W., & Mazzotti, F. J.

(2008). Burmese pythons in South Florida: scientific support for invasive species management. Retrieved November 04, 2011, from University of Florida Institute of Food and Agricultural Sciences website: <http://edis.ifas.ufl.edu/uw286>.

Sementelli, W. E., Meshaka, E., & Engeman, R.

M. (2007). Reptilian Pathogens of the Florida Everglades: The Associated Costs of Burmese Pythons. Retrieved December 13, 2011, from Florida Dept. of Environmental Protection website: http://www.aphis.usda.gov/wildlife_damage/nwrc/publications/07pubs/engeman0712.pdf

Snow, R.

<https://assignbuster.com/the-burmese-python-is-known-to-survive/>

W., Brien, M. L., Cherkiss, M. S., Wilkins, L.

, & Mazzotti, F. J. (2007). Dietary habits of Burmese python, *Python molurus bivittatus*, from Everglades National Park, Florida. *Herpetological Bulletin*, 101, 5-7.