

Adaptive Dynasty of Burmese Python

Palak*, Aditi Bhushan**

* Grade Seven Student, Resonance International School

** Faculty of Science, Resonance International School

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Abstract- Burmese Python scientifically called *Python Bivittatus* is a growing reptilian species of Everglades, South Florida. These snakes are rapidly increasing in number, huge and even capable of eating birds, mammals and reptiles. They have come out as a grave danger for Floridian Wildlife and Human Being. The Government is trying to stop them by employing various legal policies.

Index Terms- Ecosystem, Environment, Imbalanced Food Chain, Burmese Python, Florida, Snakes, Habitats

I. INTRODUCTION

Burmese pythons (*Python Bivittatus*) is one of the nine species of constrictor snakes which are mostly popular as pets. These are yellow-brown, gray, pale or tan in colour^[1]. As per U.S Fish and Wildlife Service^[2] and National Geography website^[3], they are typically the largest known snake found mostly in Southeast Asia. They can grow to length of 6 meters or approximately 20 feet. However, they have now established breeding population in South Florida. These snakes feed upon birds, mammals, and crocodiles and are not poisonous. Florida Government has found out the massive declinations in species of mammals along with proliferation of pythons alarming the posed devastating effects upon native animals^[3]. As per research, the range was from thirty thousands to three lakhs^{[3][4]}, which is continuously found to be growing^[5] in Everglades National Park.

II. ADAPTATION

The rapid spread of Burmese python population in Florida has become a major issue. This could be due to the extreme adaption formed as a matter of evolution in last three decades. These snakes were not originally from Florida, but around three decades ago they were left in wilderness at Everglades National Park of Florida. Since then their population has shown up a rapid increase curve. As per a source^[6] it is known that reptiles are cold blooded animals and could not sustain life in harsh cold climatic conditions. Nevertheless, it was found out that even after exposing them with artificially induced cold climate, these snakes were able to sustain life. This was due to their ability of specialized adaptations shown up by their genes. It was surprising to see that how they are able to enlarge their organs after swallowing their prey^[7]. The severe cold of January 2010 has provided an insight about the largely increasing python's population and unfolded how this species has now become genetically adapted in much lesser time evolution^[7].

III. REPRODUCTION

They have remarkably high reproductive potential. In addition, they attain sexual maturity at very low age. Moreover, the uncontrollable increase in population is credited to their longevity. As per Amore, Christine Dell'. "Biggest Burmese Python Found in Florida—17.7 Feet, 87 Eggs." Python Facts. National Geography News, 15 Aug. 2012. Web. The largest female known until now was found with 87 eggs. Interestingly, female breeds every year on an average of 20-50 eggs, and have life of more than 20 years.^[16]

IV. IMPACT ON WILDLIFE

In the studies made by Dorcas and colleagues, where they surveyed live and dead animals on roads for the year 2003-2011 with that of similar data collected by scientists during 1996-1997, made a startling revelations^[13] about "severe declines". Before 2000 it was common to see mammals such as foxes, rabbits, opossums, raccoons, and deer on roadways after dark, the team says. According to the study, published in the journal *Proceedings of the National Academy of Sciences*, there were drastic declination in numbers. Robert Robert A. McCleery and Adia Sovie from the Department of Wildlife Ecology and Conservation at the University of Florida released the following data of *Figure 1*.



Figure 1: Severe Declinations^[17]

A. Spatial Ecology

To understand the spatial ecology of Burmese Pythons, researchers have used several techniques like capture analysis and radio-telemetry studies. In capture analysis, the gut analyses revealed the swallow up of birds, rodents and crocodiles as food by these pythons^[9]. In the radio-telemetry technique where pythons were implanted with radio transmitters to track the movement patterns, shows the homing nature of these snakes.

B. Invasive Impact

They are classified as an invasive species in Florida. Invasive species disrupts the ecosystem by preying on native species. The female snakes breeds almost every year producing around twenty to fifty eggs and can even live for more twenty years^[10]. They have very flexible dietary requirements namely; they can survive for long periods even without food independent of type of prey. However, if prey is readily available, they can eat it regularly. As a result, they pose a great threat to wildlife, especially mid-sized mammals. Severe declines during the year of 2003-2011 has been observed in populations of bobcat, fox, raccoon, rabbit, opossum, and other species sightings. These declines were concordant with the spatial geography of python spread^[11].

V. CONTROL AND REGULATIONS

Many methods were implemented to control the thriving Burmese python population in Florida as the python-occupied areas has become inaccessible to humans. Florida legislators have also put into place provisions targeted at the release of exotic snakes into the wild. The Florida Government has allotted one such dog search team^[12]. The PIT Tags were implanted in those snakes having diameter more than 2 meters by the Florida Fish and Wildlife Commission for regulations. It was done to stop the entry of these snakes to any other regions^{[13][9]}.

VI. CONCLUSION

The Burmese Pythons have shown a very rapid evolutionary feature in terms of survivorship. Here we have seen that how the uncontrolled growth in population of these snakes has resulted in declination of other species and has proved as threat to the ecosystem. Hence, we can exemplify the impacts of imbalanced food chain in nature. Moreover, with this environmental research we can understand the food chain, biodiversity and biological evolutions with time constraints and as per natural conditions. This example shows the flexibility of an organism for survivorship and as per need.

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AUTHORS



First Author – Palak, Student, Grade 7, Resonance International School, Khabra, Muzaffarpur, Bihar, India.

Palak is a grade seven student of Resonance International School, Muzaffarpur, Bihar, India. She has born on February 19, 2006 and daughter of Mr. Vagish Sharma, a maths teacher. She has submitted this argumentative research work as her science project, as inspiration from Ecosystem and Food Chain.



Second Author – Aditi Bhushan, MSc(CA), Certified and Trained Educator, adipriya5@gmail.com, Resonance International School, Khabra, Muzaffarpur, Bihar, India.

Aditi Bhushan is working as an educator, and encourages her student to work on research based projects. She has published her paper on E-Assessment with Moodle and other platforms. She is a certified trainer, and holding certifications in Classroom Management from The University of Pennsylvania (PennX).



Correspondence Author – Priya Ranjan Kumar, priyaranjanmail@gmail.com, Managing Director of Parko Technology, New Delhi, Delhi, India.

Mr. Priya Ranjan Kumar is holding a post graduate degree in Electronics with specialization in Telecommunication. He is holding HNTC (Industrial Electronics), DGE&T from Ministry of Labour, and actively handling electronics and mechanics based engineering projects. He has reviewed many research papers. He is an environmentalist and serving as active member of Tarumitra. Apart from this, he possess immense love for eco-system and continuously working towards it. This year he has planted 2000 trees at Muzaffarpur as a contribution towards green environment.