

## **Moths and Moth watching**

**by Salik Miskat Borbora - Tuesday, September 30, 2014**

<https://gonitsora.com/moths-moth-watching/>

Amidst the humongous number of heavenly entities existing in the universe, planet Earth deserves special mention and interest as it is the only entity that harbours and sustains life. The hardcore exponents of astrobiology might frown upon my statement and shrug me off as a cynic; but nevertheless, they too would nod their heads in agreement that with the scientific evidence available at hand, it is only a reasonable and fair asseveration. In course of its history from being a piece of inhospitable mass to a breeding ground of millions of species, the blue planet has seen a gamut of organisms with different shapes and sizes in varied numbers and habitats. There has been a gradual trail of evolution that has time and again seen numerous animals coming to the fore while others were obliterated from the face of the earth. Naturalists have witnessed large animals like the dinosaurs being wiped out completely while they have also been curious onlookers to the survival strategies of various smaller organisms. Having understood the diverse facets of evolution, evolutionists across different lines of thought agree that survival of an individual species has always been inextricably linked with the flexibility in the adaptive capacities of the species.

Going by the paleontological accounts, arthropods provide the earliest identifiable fossils of land animals. Insects that belong to Arthropoda, are arguably the first animals that developed the means of flight. By adopting aerial habitats, insects added another dimension to their adaptive capabilities, thereby making them more suitable to withstand the forces of natural selection and concurrently evolution. Today, insects constitute one of the major groups of animals conspicuously present in all kinds of environments. They include butterflies, moths, weevils, wasps, bees, bugs etc.

Moths are one of the most ubiquitous groups of aerial insects present on the planet. Closely related to the butterflies; moths, contrary to usual perception outnumber butterflies with respect to their number and diversity. Moths are winged arthropods and are characterized by patterns and colours on their wings. They are important facilitators of pollination and have attracted the attention of nature lovers owing to their dazzling patterns, camouflage practices etc. Mostly nocturnal, certain species of moths can be seen in the day light hours also. Besides, a number of crepuscular moths such as the ones belonging to the family *Castiniidae* and *Tortricidae* have been reported which are active during the twilight hours of the day. Moths are indeed fascinating creatures that provoke a great deal of curiosity. As Dr. Sanjay P. Sane (*A scientist working on the physics, neurobiology and ecophysiology of insect flights at NCBS, Bangalore*) candidly states, “*I particularly love moths because they largely operate in the dark, fly beautifully over flowers, and yet are able to find their way around.*” Dr. Sane adds that studying moths could be helpful as it might shed light into how “*their (moths) brain controls their body, and how does it allow them to make decisions, store memory, fly and react very rapidly to dangers such as predatory birds or humans with fly swatters.*”

Apart from being facilitators of pollination, moths also hold special economic importance owing to their contributions towards the silk industry. A certain number of moth species' are cultivated in different parts

of the world for the silk that is produced in the cocoons during different phases of their complicated life cycle. In the North Eastern state of Assam, a lucrative industry thrives on the silk produced in the cocoons of Assam Silkmoth (*Antheraea assamensis*) that is used for the manufacture of Muga - the unique golden-yellow silk of Assam. It is noteworthy to mention that the Muga silk was accorded Geographical Indication (GI) registration in the year 2007. Another important moth that is cultivated for its silk is the *Bombyx mori*. A sizeable population of moths (mostly in their caterpillar stage) is however, harmful to the economy as pests to various agricultural crops and grains.

Off late, a new breed of nature watchers has taken keen interest in the pursuit of moth watching. A popular practice in Western countries, moth watching or mothing (as it is often called) generally involves watching and documenting different species of moths over a particular locality. The major tools that are necessary for observing moths include a light source to attract the moths and a camera to capture the pictures. One could observe moths in almost any place. It could be an urban dwelling, a village, a hill side cottage or somewhere in the edge of a forest. Since a few years, naturalists and moth watchers have been observing the last week of the month of July as National Moth Week or Moth watching week. This year too, National Moth Week was observed across the world in the last week of July. A commendable 500 registrations from a whopping 42 countries were recorded during the 2014 event ([www.nationalmothweek.org](http://www.nationalmothweek.org)). The organisers of the National Moth Week emphasizes on their website that “*Mid-summer is a good time for finding moths in most of the northern hemisphere. We decided to keep the date constant from year to year to help organizations who plan their activities in advance.*” Thus, the last week of July was chosen as the time period where everyone could get together and indulge in a common pursuit- moth watching. But, that does not mean one is discouraged from taking up moth watching at any other time of the year.

In India too, people have slowly taken to moth watching. Although the numbers are small, people from diverse fields are gently trickling in. Take for example, Mr. Shital Pradhan, a teacher from Sikkim who actively observes moths in his locality. An admirer of biodiversity, Mr. Pradhan in reply to one of our queries (via e-mail) speaks enthusiastically, “*My residence is near the river and I usually come across different moths and other insects moving around bulbs and CFL. I look for clicking different varieties of moths every night*”. He further adds that the Golden Emperor moth had fascinated him the most in recent times with its lovely colour and eyes.

Mr. Rachit P. Singh (a class XI student from Army Public School, Mathura Cantt.) is also an avid moth watcher. Mr Singh replied to us via e-mail that he has submitted details about his moth sightings from Tenga Valley of Arunachal Pradesh in various web forums. Rachit elaborates about his interests in insects stating “*I got interested in insects and all sorts of wildlife when I attended a camp at Eaglenest Wildlife Sanctuary in September 2012*”. There are numerous other examples of enthusiastic people who are engaged in documenting or watching moths in India.

Moths are important bio indicators. Greater the diversity of moths, greater is the diversity of plant and other animal species in that area. A 2013 article in the BBC by Mark Kinver reported “*Two-thirds of Britain's 337 species of common larger moths have experienced a substantial decline over the past four decades*”. When enquired about a similar predicament in the Indian scenario, Dr. Sane states, “*We know next to nothing about moths in India - there is not even a proper functional key for moths. If they are dwindling in numbers, we wouldn't know because we don't know how many and how distributed they are in the first place. This is a real shame for a country with such tropical richness as ours. We need as many*

*people to get interested in moths as possible.”*

However, with more people taking into documenting moths, the situation is set to change for the better. A recent report in the leading news portals of the country reported the presence of Attacus Atlas moth-the world's largest moth in the Western Ghats at Kolhapur, Maharashtra. A Council of Scientific & Industrial Research (CSIR) team headed by Dr. A.D. Jadhav of Kolhapur's Shivaji University is behind this significant finding as reported by the IANS.

With increasing interest on insects and moths, unknown treasure trove of wisdom on evolution and biodiversity could be revealed in the near future. Now, more and more people are taking interest in knowing how different systems work in these curious creatures. Stating an anecdote from a Moth Day exhibition organized in Bangalore recently, Dr. Sane quips, *“A colleague's 4 year old has been pestering his poor parents to explain life cycles. Who knows, he'll be my student oneday!”*

- Salik Miskat Borbora.

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