

Biodiversity of Moon Moth (*actias selene* (hubner) from North Pune Western Ghats, Maharashtra (India).

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ABSTRACT: The Western Ghats are a chain of hills and hillocks. It stretching 1,440 km from the Tapti river north of Mumbai to the tip of the Indian peninsula at Kanyakumari sea shore. The Northern Western Ghats (known locally as the Sahyadris) begin in southern Gujarat and run south through Maharashtra to Goa. Western Ghats are one of important hot spot of world. Type of montane rain forest found in Western Ghats especially in Bhimashankar and Mahabaleshwar forests. This region receives high rainfall, which occurs primarily during the south-west monsoon. The Western Ghats are important catchment areas for nearby cities, towns and villages. The luxuriant green atmosphere of the Western Ghats is suitable for a wide variety of flora and fauna, therefore it is known for rich biodiversity of moths and butterflies. Insects are the major group in the world. Moths and butterflies are included in the order Lepidoptera. Major difference between moths and butterflies is that the antenna of butterflies is knobbed while in moths antennae are not knobbed; moths are nocturnal found attracted towards light. Butterflies occur day time but moths are nocturnal. Indian moon moth *Actias selene*, a wild silkworm is unable to reared in laboratory. Food plants of *Actias* silkworm and favorable climate for rearing this insect should be study and attention should be paid in India. Generally moon moths occur in dense forest where the climatic conditions are favorable and availability of food plants essential for its survival. We observe Luna moth in Manchar city which is 65km from Bhimashankar forest. Possibly due to global warming (climate change) and forest degradation Luna or moon moth *Actias selene* migrated to this region.

Key words: Western Ghats, moon moth, climate change biodiversity.

Introduction:

The Western Ghats are a chain of hills and hillocks. It stretching 1,440 km from the Tapti river north of Mumbai to the tip of the Indian peninsula at Kanyakumari sea shore. The Northern Western Ghats (known locally as the Sahyadris) begin in southern Gujarat and run south through Maharashtra to Goa. Western Ghats are one of important hot spot of world. Type of montane rain forest found in Western Ghats. This region receives high rainfall, which occurs primarily during the south-west monsoon. The Western Ghats are important catchment areas for nearby cities, towns and villages. The luxuriant green atmosphere of the Western Ghats is suitable for a wide variety of flora and fauna, therefore it is known for rich biodiversity of moths and butterflies. Insects are the major group in the world. Moths and butterflies are included in the order Lepidoptera. Insects are the major group in the world. Moths and butterflies are included in the order Lepidoptera. Major difference between moths and butterflies is that the antenna of butterflies is knobbed while in moths antennae are not knobbed; moths are nocturnal found attracted towards light. Butterflies occur day time. Indian moon moth *Actias selene* also called as Luna moth is a wild silkworm unable to reare in laboratory. Food plants of *Actias* silkworm and favorable climate for rearing this insect should be study and attention should be paid in India.

In moon moth (*Actias selene* Hubner) Head, Thorax and abdomen white, pulpy, pink prothorax with a dark pink band, legs pink, Fore wing very pale green, white at the base, a dark pink costal fascia, darkest along sub costal nervure, an outwardly oblique pale yellow antemedial line; two inwardly – oblique slightly curved sub marginal lines, a pale yellow marginal band, a dark red brown lunule at the end cell, with a grey line on it, bounding inwardly a round ochreous spot with pinkish center. Hind wing similar to the forewing. The central portion of the tail is pinkish.

The moon moth belongs to the family Saturniidae which has both the largest moth in the world as well as the largest moth in the Sri Lanka. The former is the Hercules moth and the Atlas moth the largest one in Sri Lanka that can grow up to 12 inches. Moths can be commonly seen in gardens and forest. Some of these may often be misidentified as butterflies. Moths usually have a thick and fuzzy body compared to the thin smooth body of butterflies. Moths hold their wings flat against their bodies when resting, but butterflies usually held their wings vertically. The ends of the antennae are thin or often feathery in moths while butterfly antenna ends with rounded clubs. The Tiger moth is a common and attractive day-flying moth in our gardens. Moth which has a camouflage suit with a Kfir (aircraft) like body. If you walk across the grass in the garden. They may possibly be micro moths. Also observe attracted to light. The Luna

moth is considered rare and Tharanga recalls his first sighting on a field excursion to Algama Ella while he was still a schoolboy. Moon Moth or Indian Luna Moth (*Actias selene* Hubner) typically a nocturnal insect. Moon Moth or Indian Luna Moth has squashy coloration with very pale green forewings with white at the base and radish purple outer marginal line. In male hind wing shows radish purple marking above tail. It has four eye spots on its wings, perhaps to confuse predators who would love to take the large insect as their meal. Moon Moths have an interesting life cycle. Female lays 180 to 200 eggs for 3 to 4 days. After next 3 days eggs hatch into tiny spiny caterpillars. The caterpillars feed on 29 species of food plants (Kavane R.P. and Sathe T.V., 2015). The Moon Moth/Luna Moths don't eat at their last stage when they transform into a winged insect. They don't even have a mouth and their sole purpose of living is to mate. The Mature Moon Moths only live for about a week (Tharanga 2010). The North Western Ghats popularly known as "Sahyadry" are chains of hills and hillocks. The northern Western Ghats begin in southern Gujarat and run south through

Maharashtra to Goa. This part of the range is generally drier than the southern part; at lower elevations it forms the Sahyadris moist deciduous forests. The Western Ghats are important catchment areas for nearby cities, towns and villages.

Methodology:

In moon moth (*Actias selene* Hubner) head, thorax and abdomen white, pulpy; pink prothorax with a darker pink band, legs pinkish. Fore wing mostly pale green, white at the base, a dark pink costal fascia, darkest along sub costal nervure, an on the outside oblique pale yellow antemedial line; two inwardly – oblique slightly curved sub marginal lines, a pale yellow marginal band, a dark red brown line at the end cell, with a grey line on it, bounding inwardly a round ochreous spot with pinkish center. Hind wing similar to the forewing. The central portion of the tail is pinkish. The moth was collected from college garden with insect collecting net. Wing span 5.6 inches. It was identified with the help of Identification key.



Fig 1 Moon moth (*Actias selene* Hubner)

Results and Discussion:

Typically moon moths occur in thick forest where the climatic conditions are favorable and availability of food plants necessary for its survival. Climate change causes disturbance in breeding of moths. Possibly due to global warming

(climate change) and forest degradation moon moth *Actias selene* migrated to this region. Moon Moth or Lunas and other giant silk moths had declined considerably. There is another reason loss of biodiversity of Lunas is distraction of male moths which attracts to mercury-vapor lights along highways and in parking places.

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