

## Occurrence of natural food plants of Indian moon moth *Actias selene* (Hubner) silkworm from India

Kavane R. P

Department of Zoology, Y.C.W.M.waranangar, Kolhapur, INDIA, 416113

Email: [k.rangrao@rediffmail.com](mailto:k.rangrao@rediffmail.com)

### ABSTRACT

Indian moon moth *Actias selene*, a wild silkworm is not reared in laboratory .in spite of rich diversity of host food plants of *Actias* silkworm and conducive climate for rearing this worm, very little attention is paid from India. Therefore, boosting of Indian moon moth culture business, biodiversity of host food plants of *A. selene* have been studied in all, 29 species of host food plants have been reported from different geographical parts of India. The important species refers to *Rhizophora sp.*, *Terminalia arjuna*, *T. tomentosa*, *Hibiscus sp* and *Prunus amygdalus*, etc.

**Key words:** Indian moon moth, *Actias selene*, food plants, wild sericulture, India.

### INTRODUCTION

Indian moon moth a wild serigenous insect is widely distributed in western Maharashtra. It is also reported from Chandrapur, Bhandara, Gadcharoli, Nagpur district of vidherbha region numerous food plants are available in the forest region. . Indian moon moth silkworm is not reared in indoor rearing condition, inspite of good rearing potential and conducive climate of western Maharashtra, moon moth culture business is neglected totally from western Maharashtra. Therefore, for popularising in better way natural food of *Actias selene* silkworm have investigated from India.

Several workers (Arora and Gupta, 1979; Nissig and Peigler, 1984; Rajadurai and Thangavellu 1998;

Kavane, 2010; Kavane and Sathe 2011, etc) have attempted the work related to Indian moon moth silkworm in India.

### MATERIAL AND METHODS

Survey of natural food plants of Indian moon moth silkworm, *A. selene* have been carried out from different parts of India and visiting various places. The cocoons of *A. selene* have been collected from different food plants from western Maharashtra, konkan region have brought laboratory for further rearing and identification of the species.

The twigs of host plants have also been collected for detail taxonomical studies and confirmation of their identification.

### RESULTS

The results recorded in [table -1](#) indicates that in all, 29 species of host food plants have reported from India. The most dominant species of *A. selene* food plants were *Rhizophora sp.*, *Terminalia arjuna*, *T. tomentosa*, *Hibiscus sp* and *Prunus amygdalus*, etc.

#### How to cite this article:

Kavane R. P (2015). Occurrence of natural food plants of Indian moon moth *Actias selene* (Hubner) silkworm from India. *Biolife*, 3(2), pp 496-498.

**Table-1. List of natural food plants of Indian moon moth silkworm *A. selene* from India**

S.No.	Host Plants
1	<i>Andromeda ovalifolia</i>
2	<i>Terminalia arjuna</i>
3	<i>Azadirachta indica</i>
4	<i>Cedrela paniculata</i>
5	<i>Cariaria nepalensis</i>
6	<i>Corylus colurna</i>
7	<i>Crataegus sp.</i>
8	<i>Hibiscus sp.</i>
9	<i>Juglans regia</i>
10	<i>Lannea coromandelica</i>
11	<i>Lowsonia alba</i>
12	<i>Lingustrum robustum</i>
13	<i>Moringa olifera</i>
14	<i>Prunus amygdalus</i>
15	<i>Prunus cerasus</i>
16	<i>Prunus domestica</i>
17	<i>Prunus padus</i>
18	<i>Prunus puddum</i>
19	<i>Pyrus communis</i>
20	<i>Pyrus malus</i>
21	<i>Quercus sp.</i>
22	<i>Rhamnus frangula</i>
23	<i>Salix babylonica</i>
24	<i>Salix elegans</i>
25	<i>Zanthoxylum acanthopodium</i>
26	<i>Zanthoxylum alatum</i>
27	<i>Terminalia tomentosa</i>
28	<i>Rhizophora sp.</i>
29	<i>Zizypus mauritiana</i>

## DISCUSSION

Indian moon moth *A. selene* rearing is difficult in indoor condition, since very severe mortality is noticed in silkworms. Therefore, it is extremely essential to develop indoor rearing method for *A. selene*. We could succeed upto certain extent to rear *A. selene* on *Terminalia arjuna* & *Zizyphus mauritiana* in indoor rearing condition. Exploiting other food plants in indoor rearing of *A. selene* would be worth in solving the problem of rearing.

Arora and Gupta (1979) reported over 25 plant species belongs to 15 genera in 11 families as host plants for *Actias* spp. Mohanraj and Veenakumari (1993) and K. Srivastava and V.B. Upadhyay (2013) studied the host plant and pre- imaginal stages of *Actias callandra* (Saturniidae) from the Andaman islands.

Peigler (1989) reported over 100 plant species belonging to 90 genera in 48 families as host plants

for *Attacus* spp. Villiard (1969) was of the opinion that greater success on the rearing of *Attacus* larvae particularly the later instars could be achieved by feeding them on a mixed diet of above said plants.

Rajadurai and Thangavellu (1998) studied the life cycle of *Actias selene* and reported that *A. selene* was distributed widely all along the mixed forests plants such *Terminalia arjuna*, *T. tomentosa* and *Zizipus spp.*

Nissig and Peigler (1984) stated that Anacardiaceae is well known to be used by *Actias* as a host plant. Kavane (2010) reported rearing technique for *A. selene* silkworm. Their result indicated that the rearing success of *A. selene* on *T. tomentosa* under laboratory conditions. Kavane and Sathe (2011); Purnima Pandey and V. B. Upadhyay. (2014) reported rearing technique for fagara silkworm *A. atlas*.

Kavane (2014) newly reported *T. catappa* a potential food for fagara silkworm *A. atlas* under indoor rearing condition. Kavane and Sathe (2014 a,c) developed a preliminary a new technology for wild silkworm rearing under indoor condition. Kavane and Sathe (2014 b) recently reported a new technology for *A. selene* silkworm rearing. Future Scope of this study must be provided in such a way that upcoming researchers can improvise on this study.

## Acknowledgement

Authors is thankful to Principal, Y.C.W.M. Warananagar, Kolhapur, INDIA, for providing facilities.

## Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

## References

1. Arora, G.S. and Gupta I. J. 1979. Taxonomic studies on some of the Indian non mulberry silkmoths (Lepidoptera : Saturniidae ), memories of the zoological survey of India. Calcutta. Vol.16 (I).pp.1-63.
2. Villard, P.1969. Moths and how to rear them. Funk & Wagnalls, New york. Pp.13-242.
3. Peiglar, R.S. 1989. A revision of the Indo-Australian genus-*Attacus* .Lepidoptera research foundation, Beverly Hills, California. pp 11-167.

4. Rajadurai, S and Thangavelu. K., 1998. Biology of Moon Moth *Actias Selene* Hubner (Lepidoptera : Saturniidae) present in Bhandara forest, Maharashtra. *Proc. III<sup>rd</sup> Int. Conf. on wild silkmoth*, pp. 362-366.
5. Nassig W.A. and Peigler R.S., 1984. The life history of *Actias maenas* (Saturniidae). *J.Lepid.Soc.*38: 114-123.
6. Mohanraj.P., K.Veenakumari and R.S.Peigler.1993. the host plant and pre-imaginal stages of *Actias callandra* from the Andaman islands , india. *Journal of research on the Lepidoptera.* 32: pp.16-25.
7. Kavane , R.P., (2014). *Terminalia catappa* – a potential new host of fagara silkmoth *Attacus atlas* linn.(Lepidoptera – Saturniidae) from western maharashtra. *JEZS.*2(6) : pp.179-182.
8. Kavane , R.P., and Sathe T.V.,(2014a). Biology of *Attacus atlas* (Lepidoptera: Saturniidae) A wild silkworm of India. *Int. Jou. of scientific research.*3 (10).pp1-4.
9. Kavane , R.P., and Sathe T.V.,(2014b). Rearing technique for a wild silkworm *Actias selene* (Lepidoptera: Saturniidae). *Biolife.* 3(1).pp 1-6.
10. Kavane R.P., and Sathe T.V.,(2014c). Preliminary rearing technique for *Attacus atlas* (Lepidoptera: Saturniidae). A wild silkworm of India *Biolife.* 2(4).pp 1305-1309.
11. Kavane , R.P.(2010). Biosystematics of wild silkmoths from western Maharashtra.. Ph.D. thesis , Shivaji University, Kolhapur.1-236.
12. Kavane , R.P., and Sathe T.V.,(2011). Wild silk technology. D.P.H, Newdelhi.1-236.
13. K. Srivastava and V.B. Upadhyay (2013). Effect of phytoecdysteroid on fecundity of multivoltine mulberry silkworm *Bombyx mori* Linn. *Biolife.* 1(2), 78-83..
14. Purnima Pandey and V. B. Upadhyay. (2014) nfluence of phytoecdysteroid treatment on the spinning Duration of multivoltine mulberry silkworm *Bombyx mori*. LINN. *Biolife.* 2(1), 370-376.

DOI: <https://dx.doi.org/10.5281/zenodo.7269810>

Received: 6 April 2015;

Accepted; 12 May 2015;

Available online : 5 June 2015

\*\*\*\*\*