

SCIENTIFIC NOTES

**SALIENT FEATURES OF A TROPICAL
UNIVOLTINE RACE "BARPAT"****Ravindra Singh*, G. Vemananda Reddy,
K. L. Rajanna and V. Sivaprasad**

* Silkworm Seed Technology Laboratory, Kodathi, Bangalore - 560 035, Karnataka, INDIA.
E-Mail: kalarsingh@rediffmail.com

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There is one tropical univoltine silkworm race "Barpat" which is considered to be evolved in the region surrounding the confluence of China, Myanmar and India. It does not possess high quantitative characters like other univoltines but it has some important features like resistant to various silkworm diseases, tolerant to high temperature, non occurrence of double cocoons, silk free from lousiness ensuring best quality silk yielding among indigenous races and survival even in severe weather conditions. It was one time glory of Bengal sericulture and during 1776-1785, a quantity of 2.8 lakhs kgs of silk obtained from pure Barpat was exported to European countries from Bengal (Chowdhury, 2004 and 2005).

This univoltine is almost restricted to spring season and is being reared in a limited scale by some farmers specially in Majuli River Island in Jorhat district of Assam. It was thought that Barpat has been extinct but the race has been retrieved somehow. Farmers generally face the problem regarding the hatching percentage of Barpat. In fact no information is available on its seed technological aspects. Therefore, a detailed study pertaining to rearing, seed production, egg preservation, artificial hatching of eggs etc. is required for better exploitation of the race in order to facilitate the farmers for increased quality silk production.

The salient features of Barpat at different developmental stages are mentioned briefly as follows:

Fecundity ranges from 350-400 eggs. Freshly laid eggs are light yellow in colour and diapausing (Fig. 1). Newly hatched larvae are dark brown, majority of the larvae are plain with bluish tinge (Fig. 2). Some marked larvae have also been observed. Among the marked larvae, most of the larvae possess prominent crescent spots and star spots on second and fifth abdominal segments respectively and two round brownish spots on third thoracic segment (Fig. 3), few marked larvae with two prominent eye spots on second thoracic segments (Fig. 4). Larval period ranges between 22-25 days (Fig. 5). Majority of the cocoons are light greenish yellow and white, elongated oval, one end slightly pointed and flossy (Watt, 1890) (Fig. 6). Newly formed pupae are brown in colour (Fig. 7). The head, thorax and abdomen of the moths are grayish brown (Fig. 8).

Exploitation of the tropical univoltine Barpat possessing quality silk and hardiness character will improve the quality of silk and further will be useful for the enhancement of temperature tolerance and disease resistance in silkworm crops. There is an urgent need for detailed studies on egg preservation schedule of Barpat in order to supply silkworm eggs as and when required to get sustainable silkworm crops for the production of quality silk. As better response towards artificial parthenogenesis has been observed in Barpat as compared to bivoltines (Chowdhury, 1989), the race can also be utilized for the development of superior

homozygous silkworm breeds to obtain high hybrid vigour, combining ability and less phenotypic variability.

LITERATURE CITED

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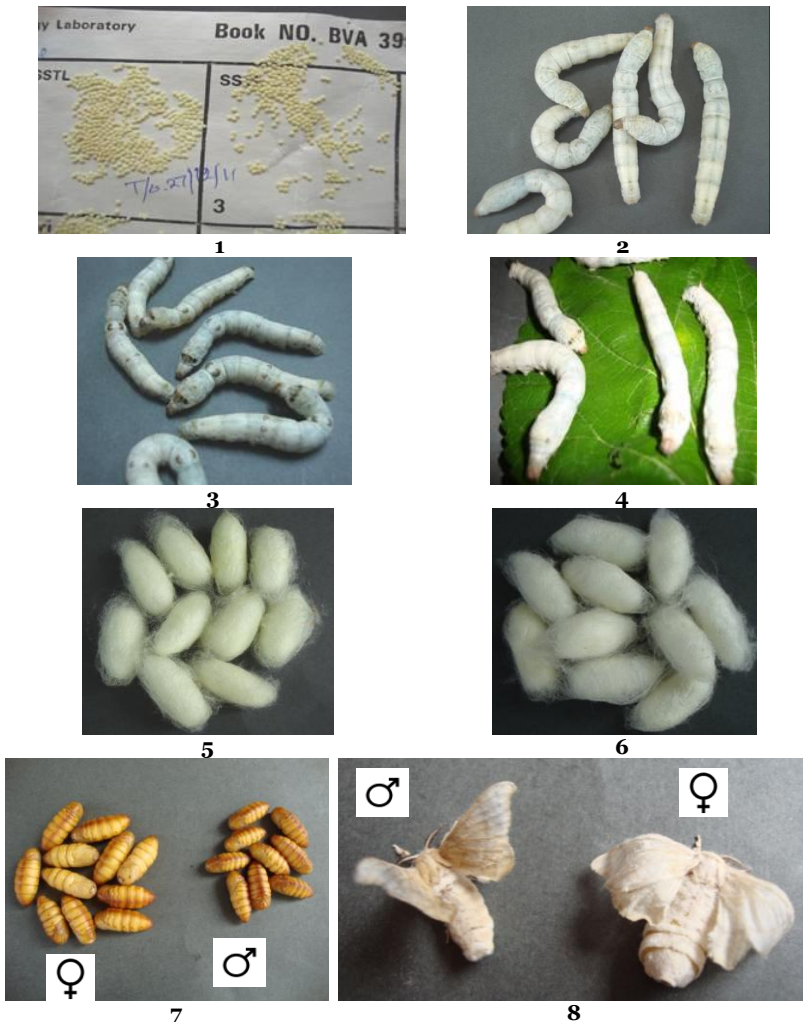


Plate I. Photographs at different developmental stages of Barpat. 1. Eggs, 2 - 4. Three types of larval markings, 5. Light greenish yellow cocoons, 6. White cocoons, 7. Male and female pupae, 8. Male and female moth.