CHAPTER - II

REVIEW OF LITERATURE
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Review of literature indicated that out of four varieties of silkworms viz, B.mori, A.mylitta, A. assama and P.ricini the literature is upto date on B.mori, quite sound on Muga and Eri but, so far as tasar (A. mylitta) is considered, the reports are haphazard, unsystematic, discontinuous and inconsistent because of its wild cultivation by the tribal people. More significantly, a systematic, scientific and molecular approach is given to the discipline of mulberry sericulture but, the literature on tasar is regrettably inadequate though some preliminary and baseline studies are carried out on semi- domesticated varieties viz, A. mylitta and A. paphia L.

Biodiversity of moths have been scarcely attended (Hubner, 1819; Westwood, 1848; Hampson, 1876; Moore, 1877) at Global Scenario. Cotes (1891-1893) studied the wild silk insects of India. Jordan (1911) described a new Saturniidae moth. Similarly, Watson (1911) studied the wild silkmoths of the world with special references to the family Saturniidae. Potter (1941) reported the chinease moon moth A. selene. Collins and Weast (1961) studied Saturniidae wild silkmoths of United States. Sen and Jolly (1971) studied the genitalia of tasar silkmoth, A. mylitta. Jolly (1976) reviewed taxonomic hybrids related to A. proyeli. Barlow (1982) provided an introduction to moths of south East Asia. Thangavelu (1992) opined that there is a need for conservation of wild sericigenous insects of India. Thangavelu (1992) enlightened recent studies in Indian tasar and other wild silkmoths. Species diversity in tasar silkmoths, hammock formation and mortality of tasar silkmoth along with some tribal belief have been reported by Mohanty et al., (1995, 1996, and 1997). Narasimhanna (1998) described biodiversity of wild silkworms in India.

India’s wild silkmoth biodiversity consists of 47 species, 15 genera, 3 tribes and 2 sub- families of the family Saturniidae (Chaoba singh and Suryanarayanna, 2005). Sahu and Bindroo (2007) described wild silkmoth biodiversity in the North eastern region of India and stated the need for conservation of Tasar silkmoths.

Taxonomical details of wild silkmoths are very scanty in Indian subcontinent and oriental region. Taxonomical work of wild silkmoth refers to Linneous (1766), Leach (1815), Hubner (1818), Helfer (1854), Moore (1859, 1872, 1877, 1888, 1890), Hampson (1892), Westwood (1959), Walkar (1886), Seitz (1913) Tutt (1899-1909) FAO (1987), Sathe et al., (1997, 2002, 2004) etc. Hampson (1976) described 7 species from India. Nayak and Dash (1986) reported the sex association in double cocoons of A.mylitta. Nayak et al., (1987) for the first time classified the tasar cocoons on the basis of pupa, shell, peduncle and loop.
Sathe (2007) described 12 species of wild silkmoth from Western Maharashtra. No taxonomical work is reported in recent years on wild tasar moths except the work of Sathe (2007) and Kavane & Sathe (2009).


Saxena et al., (1997) studied the impact of a biotic factors and microclimates on cocoon and seed productivity of *A. mylitta*. Shamitha and Purushotham (2002) added on comparison between out door and total indoor


Chakrovoty and Das (1979) studied the diseases of tasar food plants and their control measures. The sex association in bishellate cocoons of tasar silkworm has also been reported by Nayak et al., (1988). Tawari (1997) opined that the arjun plantation under social forestry is highly effective for the larval growth of tasar. Recently, various aspects like biodiversity and sustainable development, egg laying behaviour and certified egg production, sustainable utilization and development through tasar biodiversity, bio-types of tasar cocoons, conservation of modal ecoraces including tasar culture and eco-friendly attributes have been accounted in detail (Mohanty and Dhal 1997, Mohanty and Mohanty 1997, Mohanty et al., 1997 b, Mohanty and Behara 1997, Mohanty et al., 1998, Mohanty and Behara 1998, Mohanty 2002).

Various abnormalities in cocoons, particularly double cocoons and its classification have been studied in *A.mylitta* and *A. assama* by Rao and Rao (1961), Kumarraj (1968), Saxena et al., (1969), Siddique (1989) and Nayaran-


