

CHARACTERIZATION AND EVALUATION OF WILD SERICIGENOUS INSECTS OF MANIPUR: EXPLORATION FOR CONSERVATION

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ABSTRACT

While exploring the wild sericigenous insects from Manipur, we identified 17 species under nine genera (*Antheraea*, *Actias*, *Attacus*, *Bombyx*, *Samia*, *Cricula*, *Dendrolimus*, *Lebeda* and *Rhodinia*). The maximum species composition was noticed with Genus, *Antheraea*, Twenty host plants were noticed as fed by diverse sericigenous insects. Maximum rate of incidence was recorded on *Lithocarpus dealbata*, *Litsea polyantha* and *Ricinus communis*. Seasonal incidence showed maximum population with *Samia canningi* that occurred throughout the year. Alpha diversity (Shannon, Menhinc and Margalef index) were higher in the hilly region indicating more species richness and total individuals than valley region. *Attacus atlas* is the largest and *B. huttoni* is the smallest moth. The male cocoon weight (3.92 -6.71 g) is less than that of female (6.20-9.19 g) but the male shell percentage was higher indicating more of silk content. *A. frithi* has the highest shell percentage. Among reelable cocoons, the highest reelability was noticed for *A. frithi* (60.25 % \pm 4.27) and the lowest with *A. roylei* (20.75% \pm 4.03). The ghicha yarn revealed the longest filament with *A. helferi* (1323.3 cm) that is even more than those of the commercially exploited species, *A. proylei* (1278.67 cm) that is even more than those of the commercially exploited species, *A. proylei* (1278.67 cm). Characterization, evaluation and categorisation of wild sericigenous insects revealed that *A. frithi* and *S. canningi* would be the promising candidates for the region. The occurrence of *R. newara*, *D. grisea* and *A. helferi*, *A. roylei* and *A. compta* were reported for the first time from Manipur. The population level of a few species viz., *R. newara*, *A. helferi*, *A. roylei* and *A. compta* were low because of being rare and endemic. Therefore, it's high time that serious efforts are made for conservation and population enhancement of sericigenous species for wild silk production, primarily for the uplift of the tribals and to safeguard the rich biodiversity along with conservation of valuable genetic resources.

Key words: Characterization, conservation, evaluation, Manipur, Wild sericigenous insects.