Morphological and biochemical characteristics of a cecidomyiid leaf gall of *Machilus bombycina* – a silkworm host plant

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Introduction: Leaves of *Machilus bombycina,* the primary host plant of silkworm species, *Antheraea assama* are heavily infested by gall midges of the genus *Daphnephila* (Diptera: Cecidomyiidae). Attempts have been initiated to understand the bioecology of the insect and nutritional quality of its leaf galls.

Methods: A survey has been carried out in order to understand the morphology and distribution of the galls which are pest on the leaves of *M. bombycina*. Biochemical analyses of the galls were conducted using standard protocol.

Results: More galls were found on the basal half rather than on the distal half of individual leaves while peripheral sections of plants had greater no of galls than other parts. On average, 10.77 galls were observed per leaf, which were 0.6 mm apart. Mature galls had 11.08 x 3.69 mm diameters, while their larval chamber were 8.22 x 1.31 mm in size. Galls were found to markedly deplete the nutrient contents of adjacent areas of infested leaves and store these nutrients in the galls in addition to the nutritional layer. Higher gall infestations resulted in greater nutritional content of leaves (including the gall tissues), except for carbohydrates, for which a reverse trend was observed.

Conclusion: Galls infesting silkworm host plant, *M. bombycina* were found to bear distinct morphological characters and play marked role on nutritional physiology of the host plant.