Insect Environment, Vol. 20(2), July-September2014
(a supplement of Current Biotica with free downloads)

A report of spittlebug, *Clovia* sp. (Aphrophoridae:Homoptera) infesting teak in Gujarat

Sushil Kumar, S. M. Chavan and K. H. Kabade,
Department of Entomology, ASPEE College of Horticulture and Forestry,
Navsari Agricultural University, Navsari (Gujarat), India
Email-sachinento@gmail.com

Gujarat offers a variety of agro-ecological regions ranging from arid areas of Kutch to the tropical forest regions of south Gujarat. The recorded forest area is 18,962 sq. km, which constitutes 9.67% of the geographic area of the state. Dangs, Surat, Valsad, Narmada and Bharuch which are the southern districts of the state have an area of 5041 sq. km under forest. Teak *(Tectona grandis* L.) is one of the most favoured timber species all over the world, since it has been used for a range of products and services in many countries. It is known for its strength, durability and maintaining attractive appearance. Obviously, it constitutes high class timber in the international market. The ever increasing need for teak timber has resulted in to large scale plantations both within and outside its range of natural distribution. Teak is a species of significant ecological and socio-economic importance throughout the tropics.

About 187 insect species have been found feeding on teak in India (Mathur and Singh, 1961; Hutacharern and Tubtim, 1995). A majority of these insects are leaf feeders, with a smaller number of sap feeders, stem borers, inflorescence and fruit feeders and root feeders. The occurrence of spittlebugs was noticed during summer and rainy seasons (2009-11) in forest areas of Dangs district under south Gujarat. Subsequently, the spittlebug was identified as *Clovia* sp. (Aphrophoridae:Homoptera) and is the first report of the insect pest on teak in the state of Gujarat.

The study reveals that the pest attained peak population during wet summers, as the prevailing high humidity in this region may be one the important predisposing factors. The succulent leaves and tender shoots of teak are a good source of food and the adults feeds on tender parts of the teak plant thus causing rapid spread of the pest populations. Nymphs and adults principally feeds on actively growing parts of the teak plant specially on new flushes and tender stems. By careful observation on the behaviour of this insect pest on teak it was revealed

that nymphs were aggregate at the ventral side of the leaves and tender growing portions of the shoot and manifests damage through their piercing and sucking mouth parts. When large numbers of the nymphs are crowded in a single feeding site the leaves eventually crinkle and become malformed. The infested plants are characterized by the presence of frothy spittle masses on the growing shoots. Nymphs produce protective frothy spittle about 1-3 cm or more in diameter (based on aggregation of nymphs) and they remain inside it until they metamorphose into adults. These spittle masses is the secretory product of Malpighian tubules in spittle bugs.

Adult spittlebugs are heavy-bodied, wedge shaped insect resembling leafhoppers; Wings held tent like over the body measuring about 6-7mm long. The adults are prevalent on vegetation from late May or early June until winter starts. The spittle bugs are active xylem feeders (1978), the amount of excrement produced per unit body weight is much higher than the common phloem feeding insect like whitefly and aphids. Recently, Lalitha *et al*. (2011) reported that *Clovia* sp. is an emerging pest of Mulbery at Central Sericulture Research and Training Institute, Berhampore, West Bengal (India).

The authors acknowledge the help by Dr. C. A. Viraktamath (Project In charge), Network Project of Insect Biosystematics, Department of Entomology, G.K.V.K., Bangalore (Karnataka) for identification of pest.

References:

Horsfield, D. (1978). *Entomologia Experimentalis et Applicata* **24**: 95-99.

Hutacharern, C. And Tubtim, N. (1995). *Check list of Forest insect in Thailand.* Office of the environmental policy and planning Bangkok, Thailand, p 392.

Lalitha, N.; Banerjee, R.; Saha, A.K. and Santha Kumar, M.V. (2011). *Insect Environment*, **16**(4): 153-155.

Mathur, R.N. And Singh, B. (1961) *Indian Forest Bulletin*, **171:** 10-20.

Insect Environment, Vol. 20(2), July-September2014
(a supplement of Current Biotica with free downloads)

Spittle secretion by the nymphs

Wedge shaped Adults aggregated on growing shoots for feeding

Adults on ventral side of leaf

Nymph with its cast skin

Emerged adult from the spittle secretions