



LECTURE - BIOLOGY OF GALLS

PSYLLID GALLERS (HEMIPTERA: PSYLLOIDEA) AS PLANT PESTS

Dalva Luiz De Queiroz (dalva.queiroz@embrapa.br)

Daniel Burckhardt (daniel.burckhardt@bs.ch)

Psyllids constitute one of the four superfamilies of Sternorrhyncha and can become pests in agriculture and forestry, as well as on ornamental plants. The damage inflicted to the plants is manifold. The feeding weakens the host or damages leaves and flowers. The secreted honeydew burns the leaves or provides a substrate for sooty mould. Toxin in the saliva may damage some organs. Economically by far the most devastating is the transmission of bacterial diseases as those transmitted by the citrus, pear, apple or tomato-potato psyllids. The induction of galls reduces the photosynthesis of the affected leaves and thereby reduced the plant vigour.

Economically relevant species are *Triozoida limbata* Enderlein (Triozidae) on guava. The pest probably originates from Central America and is now widespread in tropical America. The immature induce leaf roll galls. A recent study, modelling the potential distribution using climatic data, predicts good conditions for the pest in India, one of the most important guava producers worldwide. *Gyropsylla spegazziniana* (Lizer) (Aphalaridae) is a severe pest on erva-mate in Argentina and southern Brazil. The immatures induce blister galls affecting the entire leaf. Severe infestation can kill young plants. In northern India, Nepal and Bangladesh, the mango-shoot psyllid, *Apsylla cistella* (Buckton) (Aphalaridae) is a severe pest on mango. The reproductive and vegetative buds develop into galls, reducing or preventing fruit setting on the

affected plants. An example of psyllids damaging ornamental plants is *Trioza tabebuiae* Burckhardt & Queiroz (Triozidae) developing on several species of trumpet tree (*Handroanthus*, Bignoniaceae) in Brazil. The psyllids induce irregular leaf rolls. Heavily infested young plants can die.

Most of the psyllids inducing galls on crop plants are of local or temporal significance only, and the damage is difficult to assess. A very recent example is *Crucianus latipennis* Burckhardt & Lauterer (Aphalaridae) described from Malaysia. Nothing was known about this species until last year when it was discovered in French Guiana on *Spondias dulcis* (Anacardiaceae). The species induces leaf roll galls and is associated with witches' broom. The psyllid was probably only recently introduced into the New World along with the host. The damage inflicted by the psyllid appears massive and the species seems to be spreading rapidly.