Leucaena Psyllid
Heteropsylla cubana

NATURAL ENEMIES - NATURAL SOLUTIONS
Biological control of widespread weeds

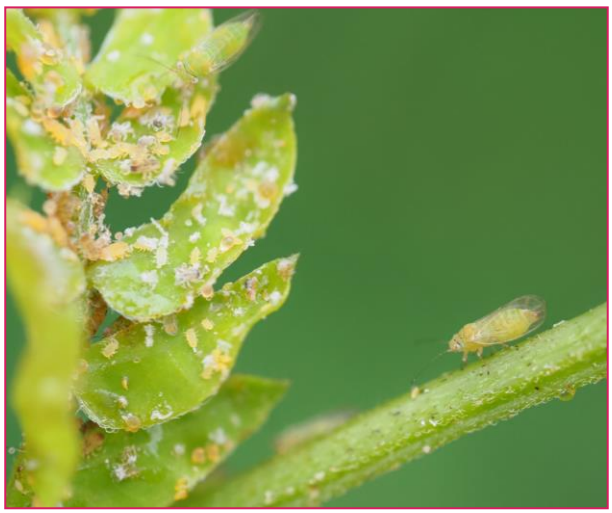
History in the Pacific

This leaf-feeding psyllid is native to tropical America but has become established throughout much of the Pacific following the spread of its host plant leucaena (*Leucaena leucocephala*). By 1984 the psyllid had reached Hawai'i and from there it rapidly colonised many other Pacific Islands. Leucaena is used in agroforestry but has also become an invasive weed in many countries. Due to leucaena's commercial value, the psyllid is also considered a pest and some varieties of leucaena have been bred specifically for resistance to it. The psyllid is being considered for release in some Pacific Islands, where it is not present and leucaena is a problem. It was released in Tuvalu in 2024.

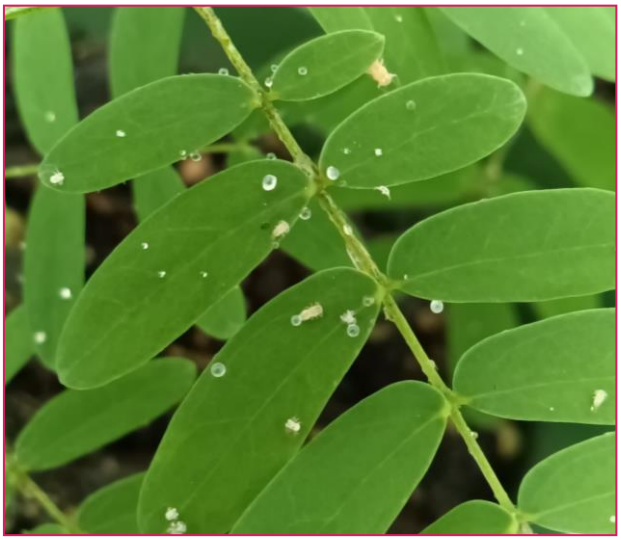
How would I recognise it and what is its lifecycle?

The psyllids develop through five wingless immature stages (instars) before becoming winged adults. The early instar larvae are pale yellow while older larvae develop black markings on the abdomen and head. The juvenile life stages are collectively known as nymphs. The adults are tiny (1-2 mm long) so can be hard to see. They will jump or fly off when provoked.

Plants infested with psyllids look like breadcrumbs have been sprinkled on the leaves. This is due to a mixture of all the life stages, white skins shed during moulting, and honeydew droplets produced by the psyllids during feeding.



■ Adult (right) and early instar nymphs (left).



■ Nymphs, old skins and honeydew droplets.

The eggs take around 2-5 days to hatch and the nymph stage lasts around 8 days. Females live for about a fortnight after reaching adulthood, with males a few days less. Each female can produce 300-500 eggs. The eggs will be hard to see as they are so small (0.3 mm long). But if you have a magnifying glass you may see small yellowish-white dots on the upper leaf surfaces and in unfurled leaves. Usually, 4-5 eggs are laid per leaflet but up to 16 eggs per leaflet can occur when population numbers are high.

How does it damage leucaena?

Both nymphs and adults feed on and damage the soft new growing tips. They insert their needle-like mouthparts into the leaf tissue and suck out the fluids which causes leaf shrivelling and defoliation. Nymphs initially feed together in the area where they hatch, later dispersing as they age

Will it attack other plants?

This psyllid only feeds on plants within the *Leucaena* genus.

How effective is it?

With susceptible leucaena the psyllids can rapidly kill seedlings. Repeated attacks lead to defoliation and occasionally the death of large plants. Flowering may also be prevented. The impact of the psyllid can be particularly severe when conditions are dry.

How can I get the most out of it?
If redistribution proves necessary, within a country, the psyllids can be shifted by collecting leaves infested with nymphs and tying them to the new growing tips of leucaena plants at new locations.

Are there other natural enemies for this weed?
The natural enemies of leucaena in its native range have not been well-studied. A seed-feeding beetle (*Acanthoscelides macrophthalmus*) was released in South Africa but does not damage enough seeds to have a useful impact. A moth (possibly *Labdia* sp.) commonly destroys many seeds inside leucaena pods in the Pacific, but not enough to provide sufficient control.

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■ Growing tip killed by psyllid attack.

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