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## AN UNREPORTED GALL-PRODUCING LACEBUG IN NEW GUINEA (PAPUA) (Hemiptera: Tingidae)

By Carl J. Drake<sup>1</sup> and A. Catley<sup>2</sup>

*Abstract:* Galls on *Clerodendron populneum* Beer & Lam produced by the lacebug *Paracopium albofasciatum* Hacker are described and illustrated.

This paper records the finding of gallicolous lacebug, *Paracopium albofasciatum* Hacker (fig. 1) on the inflorescence of the verbenaceous tree, *Clerodendron populneum* Beer and Lam in the vicinity of Port Moresby, Papua. At that time, cecidogenous lacebugs were unknown on the island.

Only members of 2 genera of Tingidae, *Copium* Thunberg and *Paracopium* Distant are producers and inhabitants of closed, monothalamous galls. All the species of these genera are anthophagous and bring about most profound reactions on the unopened floral buds they affect, especially the corolla in which the eggs are thrust.

The excrescences or abnormal outgrowths of the floral buds begin after egg-deposition and are known as cecidia or galls (fig. 2). Each cecidium contains a moderately large, closed cell, within which the offspring (1 each in *Copium*) or offsprings (several each in *Paracopium*) are confined (imprisoned) from hatching until reaching the adult stage. At that time the gall itself has likewise grown to full maturity and bursts open by dehiscence at the tip, thuswise liberating its haustellate inmates. From then on, the adult lacebugs are free-living for the rest of their lives. Little is recorded about the habits of the adults after being set free from confinement. However, *P. albofasciatum* has been taken in numbers feeding on the flowers of its host plant in Papua.

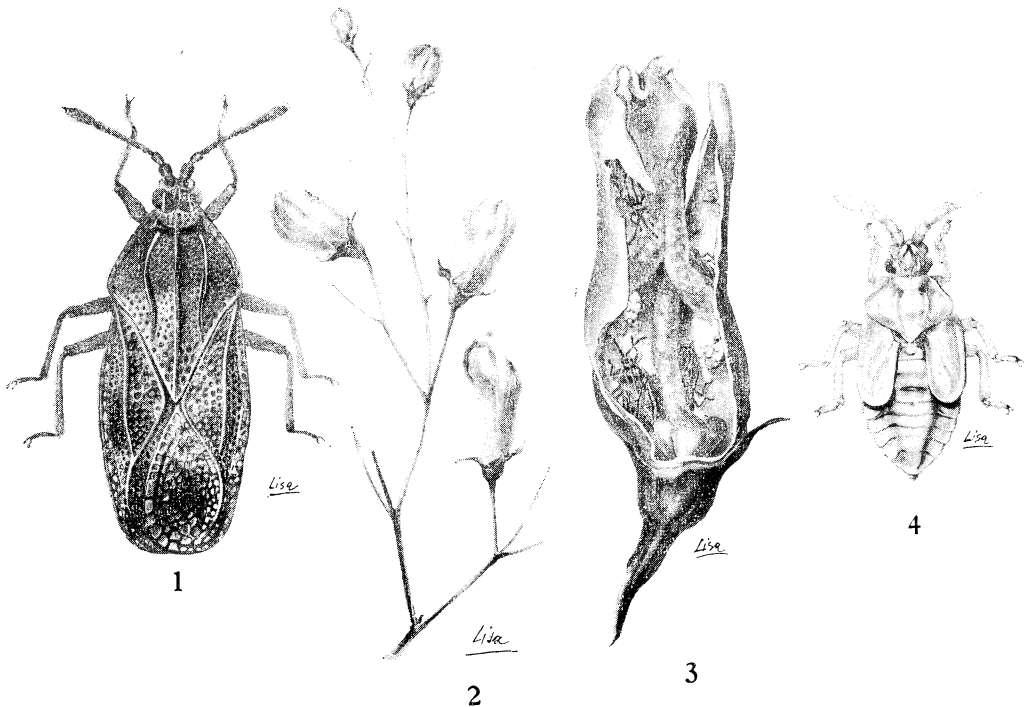
No egg-laying or reproduction takes place by the offspring during confinement inside the gall. After escaping therefrom by dehiscence and reaching sexual maturity, the ♀♀ begin to lay eggs in the new flower buds, thus starting another crop of bud-galls and the next generation of lacebugs.

To census the lacebug population of the galls of *P. albofasciatum*, 50 nearly mature cecidia were picked from the inflorescence of the host tree, taken to the laboratory, and then, one by one, the side on top was cut away so as to expose and count the inmates.

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1. Smithsonian Institution, Washington, D. C.

2. Dept. of Agriculture, Stock and Fisheries, Port Moresby, Papua.



Figs 1-4. 1, *Paracopium albofasciatum* Hacker, adult ♀; 2, nearly mature galls of *P. albofasciatum* on flower stem of host plant, *Clerodendron populneum*; 3, gall of *P. albofasciatum* Hack., with one side cutaway to show inmates inside of gall; 4, *P. albofasciatum*, 5th instar nymph.

At all times, care was taken to exclude cecidia which showed any outward evidence of dehiscence.

At the time of dissection, the inmates in the cecidia (fig. 3) consisted mostly of newly moulted adults plus some nymphs in 4th and 5th instars. Both nymphs and adults were censused. The population count per cecidium numbered as follows: 3 cecidia with 1 lacebug each; 1 cecidium with 2 lacebugs; 4 cecidia with 3 lacebugs each; 1 cecidium with 4 lacebugs; 3 cecidia with 5 lacebugs each; 7 cecidia with 6 lacebugs each; 11 cecidia with 7 lacebugs each; 6 cecidia with 8 lacebugs each; 7 cecidia with 9 lacebugs each; 1 cecidium with 10 lacebugs; 1 cecidium with 11 lacebugs; 2 cecidia with 12 lacebugs; 1 cecidium with 13 lacebugs; 1 cecidium with 14 lacebugs; and 1 cecidium with 15 lacebugs.

To summarize the above, the gross total of adults and nymphs dwelling in 50 closed galls totaled 353 individuals, an average of 7.06 tingids per cecidium. The population ranged from 1 to 15 tingids per gall-chamber.

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