

Pokon, Rapo* and Gregory P. Setliff. **Host specificity of leaf beetle larvae (*Chrysomelidae*) feeding on the roots of trees in the lowland rainforest in Madang, Papua New Guinea.** Parataxonomist Training Center, PO Box 604, Nagada, Madang Province, Papua New Guinea. Email: binatangi@datec.com.pg

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Virtually all studies of beetle host specificity in rainforests concern adults, while little is known about the host specificity and feeding habits of the larvae. This is true for *Chrysomelidae*, which represents a significant portion of beetle herbivore communities in the tropics. Many adult leaf beetles have larvae that feed internally on roots. Not knowing the biology of the larval stages of these beetles has been an impediment in understanding their ecology and taxonomy.

Our study focused on determining the host range and host associations of chrysomelid larva on 9 tree species from Moraceae (3 species), Euphorbiaceae (3 species), Rubiaceae (1 species), Sterculiaceae (1 species), and Urticaceae (1 species) in lowland rainforest in Madang Province. Traps were used to collect adult beetles emerging from the soil in the vicinity of the root mass of target trees (the surrounding vegetation being previously removed). In seven months of sampling, 796 specimens have been collected from 68 species belonging to 6 sub-families. Comparisons between our larval data and those from adult leaf beetle studies conducted at the same study sites on the same host plants showed that *Eumolpinae* and *Galerucinae* dominate species abundance and richness in both communities. Like the adults, overall host specificity for larvae was low. On average, the majority of species fed on three hosts. In many cases larvae showed a preference for different hosts than adults of the same species. No species was strictly monophagous, but no species was found to feed on all 9 trees either.



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