

Host specificity and species richness of leaf chewing herbivores on some rainforest trees around Madang (Papua New Guinea).

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ABSTRACT

We studied leaf-chewing insects feeding on leaves of 62 shrubs and trees in a lowland rainforest in Madang. Altogether, we collected more than 70,000 feeding insects from more than 1,000 species. They were mostly beetles, grasshoppers, stick insects and caterpillars. We tested all these groups for feeding on the leaves of the studied trees and reared caterpillars to adults. All insect species were photographed by a digital camera and included in a computer database, and their pictures were also made available on our Internet site. The ton tree, *Pometia pinnata*, was most species rich from all the trees we studied, with 139 leaf-chewing species feeding on it, including 75 species of caterpillars (Lepidoptera). Most herbivorous insects were feeding only on one plant genus, but often on many plant species from the same genus. This pattern was documented for three large plant genera, *Ficus*, *Macaranga* and *Psychotria*, which we studied in detail.

