ANT-ATTRACTING PLANT STRUCTURES: FOOD BODIES OF SE ASIAN VITACEAE

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Food bodies are produced by a variety of tropical and subtropical plant species. They have long been hypothezised to attract ants and function as ant food although their collection has so far been directly observed only in a few plant species. Usually these are involved in highly specialized ant-plant associations where they perform an essential role in the maintenance of mutualisms. In contrast to another ant-related feature in ant-plant interactions - extrafloral nectaries - only little information exist on food bodies. Comparative investigations on their abundance, distribution and function are lacking.We have started studies on the occurrence of food bodies in the family Vitaceae in Malaysia. Here we compare 7 species: *Leea indica, Cayratia japonica, C. mollissima, Cissus repens, Tetrastigma pedunculare, T. lanceolarium and T. leucostaphylum* (all except *Leea* being climbers; second growth habitats are particularly prevalent). Food bodies were rarely found during field observations where insects continously had access to the plants but were obvious on plants grown in the greenhouse or when ants were excluded. All species studied produced food bodies on the lower surface of the leaves.Additionally, food bodies were located on other plant parts (such as petioles of leaves, flowers and fruits, buds, tendrils, also on fruits). The species differed in number, size and also shape of their food bodies. Preliminary tests for glucose, protein and lipids indicated differences in nutrient contents and concentrations. Two species, in addition, provide sugary secretions from extrafloral nectaries as a complementary energy source. All 7 plant species were visited by a number of different ant species. The actual collection of food bodies was observed in several species (incl. *Crematogaster* spp., *Diacamma rugosum*, *Polyrachis* spp.) . Presently we have started to take inventory of the herbivores and assess the possible protective role of the visiting ants (as was indicated in studies on non-myrmecophytic *Macaranga*-species providing food bodies).

References

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