

Comparative studies on autecology of four species of *Miconia* (Melastomataceae)

Ronaldo Ribeiro de Morais * and Helmut Preisinger #

* Centro de Pesquisas Agrofloreais da Amazônia Ocidental / EMBRAPA-CPAA

University of Hamburg

This study concerns an approximately 11-year-old secondary forest containing some 184 species from 54 families. The *Melastomataceae* family, in particular the genus *Miconia* has a very significant place in the floristic composition of the vegetation. It is represented by many treelets, small and medium trees, representing different positions in the succession sequence. To accumulate knowledge of autecological behaviour of secondary forest species, a selection of four trees, showing marked differences in terms of habitus and leaf size, was selected for the study : *Miconia alata*, *M. phanerostila*, *M. pyrifolia* and *M. tomentosa*.

The biomass of the plants and their organs, morphology and leaf anatomy were studied. The morphological parameters measured were length, breadth, weight, leaf area and herbivore index. For the anatomical study, the number of stomata per mm², length and thickness of the stomata, thickness of the epidermis and cuticle (abaxial and adaxial) were analysed. *Miconia tomentosa* is the species with the largest leaf and hence the largest leaf area, as well as the highest herbivore index (5.04%). *Miconia pyrifolia* has the smallest leaves and a hairless epidermis, whereas the others are pilose (asterisk and papilose hairs, except of *M. alata*). As regards their anatomical characteristics, all the species have diacetic stomata, exclusively on the abaxial side of the leaf. *Miconia phanerostila* and *Miconia tomentosa* have the most such stomata per mm². The size and thickness of the stomata were greatest in *Miconia alata*. There were no significant differences between the species as regards thickness of the epidermis and cuticle.

The poster presents a description of the morphological and anatomical traits mentioned and discusses their possible functions for the ecological behaviour of the species in the successional sequence.