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RESUMENES DE TESIS

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In this study I tested three hypotheses on the patterns in the distribution of chewing and sucking insects in an altitudinal gradient in the Serra do Cipó, Brazil. Vegetations types with sclerophyllous plant species predominance occurs along this altitudinal gradiente. I also tested five hypotheses on the role of foliar polyphenol concentrations of Melastomataceae species varied between mesic and xeric habitats.

Three sample sites were taken in xeric and mesic habitats, at every elevation (100 to 100 meters), from 800 to 1500 meters above sea level. Hence, I sample 24 xeric sites (five sites on te savanna vegetation, eight on rocky slopes, ten on altitudinal fields), and 20 in mesic habitats. The insects were sampled with a sweep net in the wet and dry seasons in 1991.

The Melastomataceae were *Tibouchina semidecandra* Cogn, *T. multiflora* (Gardn.) Cogn e *Lavoisiera imbricata* Cogn in the altitudinal fields (1400 meters) and *Miconia macrothyrsa* Benth, *M. ferruginata* DC e *M. albicans* (Sw.) *triana* in the savanna (800-900 meters).

The following hypotheses about insect distribution were tested: the altitudinal gradient hypotheses (as altitude increase insect richness and abundance decline), habitat effect hypothesis (quartzitic rocky slopes shows different patterns ininsect richness and abundance compared with savannas and altitudinal fields), and favorable condition hypothesis (mesic habitats show higher richness and abundance than xeric habitats). Chewing insect richness and abundance decreased with increasing altitude in xeric habitats only in the wet season. There was a decrease in chewing insect species richness and abundance compared with wet season. On the other hand, sucking insect species richness and abundance did not change with increasing altitude in xeric habitats. There was no variance in chewing species richness and abundance within rocky slopes (900 to 1200 meters). When the sites on rocky slopes were eliminated, the regression models with altitude explained more of the variation in chewing species richness and abundance. Sucking insect richness and abundance were lower on rocky slope habitat than on savanna and altitudinal fields. There was no difference inchewing and sucking species richness and abundance between xeric and mesic habitats in both seasons.

Only habitat effect hypothesis was corroborated by this work. The sclerophylly effect hypothesis (the plant sclerophyllous traits, which occurs widely in the plants of Serra do Cipó, determine the low insect herbivore species richness and abundance) was proposed as an alternative explanation.

The following hypotheses about patterns of concentration of plant polyphenols were tested: sclerophylly effect hypothesis (which could be analyzed as there is no difference in polyphenols concentration between plants of the savanna and altitudinal field), the resource availability hypothesis (polyphenol concentrations are higher in plants inxeric habitats than in mesic habitat), the functional allocation hypothesis (polyphenols are transported to external tissues as defense), and protection against herbivore hypothesis (insect herbivore species richness and abundance decrease with increasing polyphenol concentration).

The sclerophylly effect hypothesis and functional allocation hypothesis were corroborated by this work. Plant polyphenol concentrations were equal in the savannas and altitudinal field. On the other and, there was no differences in poliphenol concentrations between *M. macrothyrsa* and *L. imbricata* individuals in xeric and mesic habitats, neither between *T. semidecandra* (mesic habitats) and *T. multiflora* (xeric habitats). Phenolic compounds were found in leaf epidermis of all species, except for *M. ferruginata*. Nevertheless, trichomes of *T. multiflora* e *E. ferruginata* showed phenolic compounds. No relation was found between poliphenol concentration (tannins) and insect herbivore richness and abundance.