Diversity of mites on *Mabea fistulifera* Mart. (Euphorbiaceae) and efficiency of its pollen as food for phytoseiids (Acari, Phytoseiidae)

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Abstract

The diversity of mites on *Mabea fistulifera* from two fragments of Semideciduos forests (Bosque Municipal = BM; Sítio Santo Antônio = SA) and the suitability of its pollen as food for phytoseiid mites were studied. BM is in an urban area whereas SA is in a rural area, near São José do Rio Preto. Monthly samples were collected in 2001. In each area and sampling date, 60 leaves were taken from three different specimens of *M. fistulifera* (20 leaves per tree) at a maximum high of 7 meters. Whenever possible, inflorescences and fruits were also sampled. All mites found were mounted in microscopy slides using Hoyer's medium, identified and counted under phase contrast microscope. Species diversity and eveness were analysed using the Shannon Wiener and Pielou index, respectively. The Maximum Theoretical Diversity and Constancy index were also determined. Student t-test was applied to compare monthly abundances of phytophagous mites. Possible relationship between mite abundance and rainfall was investigated by Pearson correlation test. *Euseius citrifolius* Denmark & Muma was the species choosen to test the suitability of *M. fistulifera* pollen as food, because it was the most abundant and frequent phytoseiid on this plant. This test was performed in a rearing chamber at 25 $\pm$ 1°C, 60 $\pm$ 10 % UR e 12 h photophase. Pollen of *Typha angustifolia* L. and *Ricinus communis* L. were used for comparison, because of their known suitability to this predator. The suitability of those 3 types of pollen was evaluated when they were stored for different periods at 10°C. The suitability of each kind of food was determined based on the oviposition rate of *E. citrifolius* at 11 consecutive days. Thirty - six species belonging to 32 genus in 15 families, totalling 8655 mites were found in this study. In both sites, the diversity exceeded 50% of the maximum theoretical diversity. However, SA showed higher diversity. Both sites had abundant phytophagous mites. However, their number was higher in BM. Some predacious species showed high abundance in the flowering season [*Euseius citrifolius*, *E. concordis* (Chant) and *Galendromus annectens* (DeLeon)]. The only significant (negative) correlation was observed between rainfall and *E. citrifolius* population. The observed differences of acarofauna between the sampled areas is perhaps a result of higher stress on trees in the urban environment (BM), which creates favorable conditions for phyphagous mites to attack. Pollen of *M. fistulifera* can be used by some phytoseiid mites as alternative food source, contributing to their higher abundance during flowering. The results of this study indicated that *E. citrifolius* was negatively influenced by the rainfall, which could probably remove the mites from the leaves. Alternatively, the higher population of *E. citrifolius* on *M. fistulifera* in the dry season could be mostly due to the larger abundance of pollen in that period. The suitability of *M. fistulifera* pollen as food for *E. citrifolius* was comfirmed in laboratory, because the oviposition rate of females fed this pollen did not differ significantly from those fed pollen of *T. angustifolia*. Moreover, pollen of *M. fistulifera* showed the highest durability when stored at 10°C, for the females fed pollen stored until 41 days showed trends of positive correlation between oviposition rate and storage period. *M. fistulifera* may be na important plant in Pest Management Programs, serving as a reservoir of phytoseiids in the flowering season.

Key-words: Acarofauna, biological diversity, blooming, canudo de pito, pollen

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