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**Study on communities (Araneae: Arachnida) of natural treefall gaps and mature forest in the Atlantic Rainforest - Parque Estadual de Dois Irmãos (Recife - Pernambuco - Brasil)**

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**Abstract**

Disturbances are widely known as an important factor in determining the structure of biological communities. In forest environments, the most common kind of disturbance is the formation of treefall gaps. The environment of treefall gaps differs in several ways from the one under mature forest, leading to differences in structure and composition of vegetation. Studies with plants and birds indicated that biological communities of treefall gaps and mature forests differ significantly. However, this pattern must be evaluated with other groups of organisms. This dissertation seeks to compare species richness, composition, guild distribution and seasonality of two groups of spiders (web-building spiders and e hunting spiders) found in treefall gaps and mature forests of a patch of Atlantic Forest in northeastern Brazil. This study was carried out at the Parque Estadual de Dois Irmãos (Recife, Pernambuco, Brazil), a remnant of Atlantic Forest that even though having only 387.4 ha, was ranked as of extreme biological importance. From June to November 2000, spider communities were sampled in 20 points (10 of treefall gaps and 10 of mature forest) by using two methods: pitfall traps and hand collecting. In addition, some environmental measurements were taken: temperature, litter structure and foliage density in different heights. Species richness was estimated by using the computer program EstimateS 5.0.1. The Jackknife 1 estimator was selected because its performance. A total of 3.926 spiders was collected, including 1.996 adults. A total of 970 adults was collected in treefall gaps, representing 112 species, distributed in 29 families. A total of 1026 individuals was collected in mature forest, representing 120 species distributed in 31 families. Mature forest and treefall gaps shared 79 species. Although treefall gaps and mature forests differ significantly in several environmental parameters, no significant difference was found between in composition, structure and seasonality of spider communities of these two major habitat types. Lack of differences between spider communities of mature forest and treefall gaps is a consequence of impoverishment of the primitive forest spider community due to isolation and changes in the forest structure of the Parque Estadual de Dois Irmãos.

**Key-words:** Atlantic Forest, communities, habitat selection, Neotropics, spiders, Brazil, ecology

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1. Araneae 2. Clareira 3. Floresta madura.