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BROMELIACEAE JUSS. OF THE MUNICIPAL PARK OF ITAJURU, MURIAÉ, MINAS GERAIS, BRAZIL

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ABSTRACT: This work consists of an assessment of the family Bromeliaceae of the Itajuru Municipal Park in Muriaé—MG. A total of 27 species, 12 genera and three subfamilies were identified. *Billbergia vittata* Brong. is included in the Red List of Endangered Flora Species of Minas Gerais. The information contained in this work aims to expand the knowledge on Bromeliaceae in the areas of Atlantic Rainforest in Minas Gerais, Brazil.

RESUMO: O presente trabalho consiste no Levantamento Florístico das Bromeliaceae do Parque Municipal do Itajuru, Muriaé—MG. Foram identificadas 27 espécies, 12 gêneros e três subfamílias. *Billbergia vittata* Brong. encontra-se na Lista Vermelha das Espécies Ameaçadas de Extinção da Flora de Minas Gerais. As informações contidas neste trabalho visam a ampliar o conhecimento das Bromeliaceae nas áreas de Mata Atlântica em Minas Gerais, Brasil.

Key words: Bromeliaceae, Atlantic Rainforest, Minas Gerais, floristic

INTRODUCTION

Floristics surveys are very important for the preliminary knowledge of the vegetation of an area. Understanding the geographical distribution of each specie enables us to devise strategies for its preservation.

The Atlantic Rainforest occupies about 36,679.54 miles^2, going through 17 Brazilian states. In Minas Gerais it occurs in 1,125,108 ha ("Fundação SOS Mata Atlântica," 2000), which are totally fragmented. The remaining protected areas are "Parque Estadual do Rio Doce," "Parque Estadual da Serra do Brigadeiro," and "Parque Nacional do Caparaó." Species of bromeliads occur in the fragments as well as in the protected areas of Atlantic Rainforest.

The knowledge about bromeliads in the Atlantic Rainforest in Minas Gerais is still scarce; however, it is extremely important to understand the complexity of this ecosystem. Once they accumulate water, Bromeliaceae are considered as micro-environment compounds, sheltering several species of animals and plants (Juncá & Borges, 2002; Rocha et al., 2004), and creating the high biodiversity of this ecosystem.

In Minas Gerais, the main floristic studies about Bromeliaceae limited specifically to the Atlantic Rainforest include Paula, 1998; Paula and Guarçoni, 2003; Paula and Goldschmidt, 2003; and Paula et al., 2003; and those specifically about rupestrian areas include Forzza, 1997; and Coffani-Nunes, 1997.

Because of the intense degradation and fragmentation of the remaining Minas Gerais Atlantic Rainforest, and because of the sparse knowledge of the Bromeliaceae family's diversity in that ecosystem, the floristic study of that family was done in the Municipal Park of Itajuru, Muriaé—MG. The purpose of this work was to expand the knowledge of the bromeliad in Minas Gerais, as well as to supply data for the ecological zoning of the Municipal Park.

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TABLE 1. List of the species of Bromeliaceae distributed in subfamilies and their respective habits.

Taxon	Habit
Subfamily Pitcairnioideae	
Dyckia weddeliana Baker	Rupicolous
Pitcairnia deciduas L.B. Smith	Saxicolous and rupicolous
Pitcairnia flammea Lindley	Saxicolous and rupicolous
Subfamily Bromelioideae	
Ananas bracteatus (Lindley) Shultes	Terrestrial
Aechmea lamarchei Mez	Terrestrial and epiphytic
Aechmea nudicaulis (Linnaeus) Grisebach	Epiphytic and rupicolous
Aechmea ramosa Martius	Epiphytic
Billbergia amoena (Loddiges) Lindley	Saxicolous, terrestrial, and epiphytic
Billbergia horrida Regel	Epiphytic and rupicolous
Billbergia lymanii E. Pereira & Leme	Epiphytic and rupicolous
Billbergia vittata Brongniart ex Morel	Epiphytic
Neoregelia lymaniana R. Braga & D. Sucre B.	Epiphytic
Nidularium antoineanum Wawra	Epiphytic
Quesnelia blanda (Schott ex Beer) Mez	Saxicolous, terrestrial, and epiphytic
Wittrockia gigantea (Baker) Leme	Terrestrial and epiphytic
Subfamily Tillandsioideae	
Alcantarea extensa (L.B. Smith) J.R. Grant	Rupicolous
Tillandsia geminiflora Brongniart	Epiphytic
Tillandsia recurvata (Linnaeus) Linnaeus	Epiphytic
Tillandsia stricta Solander	Epiphytic
Tillandsia tenuifolia Linnaeus	Epiphytic
Tillandsia usneoides Linnaeus	Epiphytic
Vriesea bituminosa Wawra	Epiphytic
Vriesea ensiformis (Vellozo) Beer	Epiphytic
Vriesea guttata Linden & Andre	Epiphytic
Vriesea heterostachys (Baker) L.B. Smith	Epiphytic
Vriesea longicaulis (Baker) Mez	Epiphytic
Vriesea ruschii L.B. Smith subsp. *leonii* Leme	Epiphytic

MATERIAL AND METHODS

The Municipal Park of Itajuru is located in Belisário district, municipal district of Muriaé, Minas Gerais state, Brazil. It was created by the municipal ordinance 1586/91. The park is included in the Environmental Protection Area (Área de Proteção Ambiental-APA) of Itajuru; its 200 ha are within the Atlantic Rainforest environment.

Approximately 25% of the Municipal Park of Itajuru is still covered by the Atlantic Rainforest. The altitude is irregular, varying from 2723.10 to 5160.76 feet. Its highest point, which gave name to the Park, Itajuru Pike ("Stone of the Parrot"), is a granitic composition formed like the head of a parrot and is covered by clouds much of the year.

The climate is characterized like Cwb, for the Köppen classification, with two well defined stations. The temperature varies from 42.8°F to 98.6°F, with mean rainfall of 4.92 feet, and a dry period from July to September.

The present work was executed in 1998. The botanical materials, which were collected along pre-existing trails, were pressed, dried and mounted in the herbarium VIC—Herbarium of the Department of Vegetable Biology of UFV, where they were registered and incorporated. The identifications were based on consulting the basic bibliography (Smith & Downs 1974, 1977, 1979; Reitz 1983) and on examinations of herbarium material.

RESULTS AND DISCUSSION

In the Municipal Park of Itajuru were identified 27 species of Bromeliaceae distributed over 12 genera and three subfamilies: Pitcairnioideae, Bromelioideae, and Tillandsioideae. The subfamilies Tillandsioideae and Bromelioideae each have 12 species. The subfamily Pitcairnioideae has three species (TABLE 1).

Analysis of the 12 genera found in the park (FIGURE 1) reveals that *Vriesea* is the most representative, with 21% of the species; *Tillandsia* is next, with 18% of the species. The generas *Vriesea* and *Tillandsia* occur exclusively epiphytic, representing 50% of the epiphytic bromeliads found in the Park.

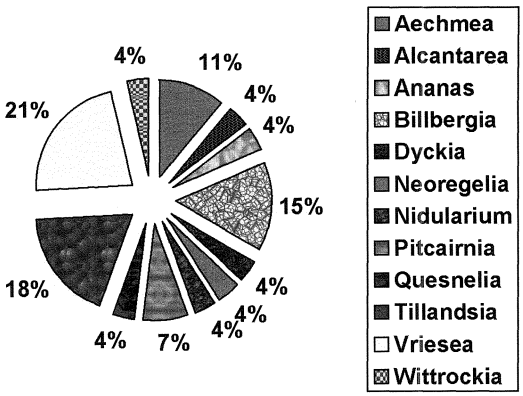

FIGURE 1. Representation of the genera of Bromeliaceae found in the Municipal Park of Itajuru, Muriaé—MG.

Of the 27 identified species, 15 species occur exclusively epiphytic; three species occur epiphytic, terrestrial and rupicolous habit; two are terrestrial and epiphytic; and two species are rupicolous and epiphytic. Therefore, 22 species, or 81.48% of the total species, can be found as epiphytic in the Municipal Park of Itajuru. That characteristic helps maintain the ornithological biodiversity in tropical forests (Pizo 1994).

In the Park, the bromeliad *Billbergia vittata* was identified. It is mentioned in the Red List of the Threatened Species Extinction of the Flora of Minas Gerais, in the category of Presumably Threatened Extinction, because there is not enough information to ascertain its threat status (Mendonça & Lins 2000).

The presence of the great diversity of Bromeliaceae indicates the good conservation measures in the area and also the need to maintain these preservation areas to ensure the survival of the native species. The biodiversity also indicates that the family Bromeliaceae is responsible in large part for the availability of food for the local fauna. New studies are needed to validate this fact, as well as to ascertain the stage of current preservation of the family Bromeliaceae in this Park.

In addition, campaigns of Environmental Education are necessary in order to make the whole local population aware of the need to preserve the flora and the fauna.

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