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Title: GAMMA DIVERSITY OF ANGIOSPERM AND CONIFEROPHYTA FLORA IN MIXED OMBROPHYLOUS FORESTS WITH ARAUCARIA ANGUSTIFOLIA IN SANTA CATARINA STATE, SOUTHERN BRAZIL

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Thema: 1. Forests and biodiversity

Subtheme: 1.2 Deforestation and forest fragmentation

Abstract of the paper: The Mata Atlântica biome in Brazil is highly fragmented and under permanent anthropic pressure. The aim of this work is to investigate floristic composition of Angiosperm and Coniferophyta of subtropical mixed ombrophylous forests (SMOF) with *Araucaria angustifolia* (Bertol.) Kuntze. The study is based on the first data set collected by the Floristic and Forest Inventory of Santa Catarina (IFFSC), program under construction since 2007 in order to evaluate forest resources, species composition and structure of forest remnants and to construct forest conservation and land use policy in the southern Brazilian state of Santa Catarina (95,000km²). The inventory applies a systematic sampling, using a total number of 440 clusters of four crosswise 1,000m² plots (20mx50m), located on a 10kmx10km grid, covering the entire state. This study evaluates 96 clusters measured in 2008 within an area of 44,36 km² of the located SMOF in the Santa Catarina high plateau (500 to 1560m above sea level at 26°00'-28°30'S; 49°13'-51°23'W). Within the sample units all woody individuals of the main stratum with DBH =10cm are measured and collected (fertile and sterile). Regeneration (with height 1,50m and DBH 10cm) are registered in 100m² in each sample unit. All fertile trees, shrubs and herbs within the sample unit and in its surroundings are collected. There were identified 658 species of Angiosperms and three of Coniferophyta, from 105 families and 340 genera. The families with major richness are: Asteraceae (74 species), Myrtaceae (73), Fabaceae (40), Solanaceae (34), Lauraceae (28), Rubiaceae (27) and Melastomataceae (27). The most diverse genera are *Solanum* (22 species), *Myrcia*, *Eugenia*, *Myrceugenia* (18 species each), *Baccharis* and *Ocotea* (13) and *Leandra* (11). Within the sample units 315 tree species were found in the arboreous stratum, 243 species in the regeneration stratum and 69 herbs. It is notable that another 215 species were collected outside the established inclusion criteria within and in the immediate surroundings of the sample unit. Red list species found are *Araucaria angustifolia*, *Ocotea porosa* (Nees & C. Mart.) Barroso and *Ocotea odorifera* (Vell.) Rohwer. Within the sample units were detected seven cultivated species, some of them invasive. The increasing number of Fabaceae species possibly can be caused by fragmentation and anthropic pressure on forest remnants. Conservation of the remnants of mixed ombrophylous forests with *Araucaria* is important because of their yet remaining but threatened diversity and because of large diversity differences between fragments.

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