



Phytoecological markers of the Mpoh forest in the northern sector of the Léfini reserve, Congo

Ghislain BILERI-BAKALA^{1,3}, Victor KIMPOUNI^{1,2,3}, Josérald Chaïph MAMBOUENI^{1,3}, Beldin DIAMBOU², Oracle Clément TONDO BAFOUIRI NTSONI^{1,3}

¹Biodiversity, Ecosystem and Environmental Management Laboratory (LBGE), Faculty of Sciences and Technologies (FST), Marien Ngouabi University, Brazzaville, Republic of Congo

²Higher Teacher Training College (ENS), Marien Ngouabi University, Brazzaville, Republic of Congo

³National Forestry Research Institute (IRF), Brazzaville, Republic of Congo

Corresponding author: ghislainbileri@gmail.com

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ABSTRACT.

Objectives: The study aims to improve knowledge of the flora and structural parameters of the Mpoh forest in the northern sector of the Léfini reserve. This forest is subject to anthropogenic activities, the corollaries of which are the regression of woody stands and the expansion of those that adapt, as well as the rarity and even disappearance of certain species.

Methodology and results: The methodology involves three disjointed surveys of one hectare, positioned at random. Floristic data was collected on woody plants with dbh ≥ 10 cm. The 781 trees inventoried correspond to 53 species, 45 genera and 27 families. The biodiversity indices reveal *Heisteria parvifolia* as the marker of the environment, ahead of *Pentaclethra eetveldeana*, *Petersianthus macrocarpus* and *Pancovia laurentii*. The dominance of the endemic Guinean-Congolese element is evidence of a minor influence from neighbouring floristic regions, albeit within the Sangha River corridor. The majority of species are rare or even threatened with extinction according to the rarefaction index. In contrast, preferential species account for only 30.12% of the inventory, making this ecosystem less resilient. The structural parameters highlight a pauciflorous and paucispecific woody formation with a mesophilic and tropophilic affinity. The erratic pattern of the diameter structure is evidence of the impact of human activity on the environment. The high proportion of sarcochores, a sign of the high level of maturity reached by this ecosystem, marks the evolutionary duality of the trees and the agents of dissemination. Zoochory, and in particular endozoochory, which is closely linked to sarcochores, makes sarcochory the main means of dissemination.

Conclusion and application of finding: Despite recurrent human activities, the flora of the Mpoh forest is naturally little influenced by the intrusion of non-native species from the Guinean-Congolese centre of endemism, although they do evolve in the Sangha River corridor. The Mpoh forest, in the northern sector of the Léfini reserve, is a mesophilic tropophilic formation. This atypical ecosystem is particular facies within the dense rainforests of Central Africa.

Keywords: Congo, Léfini reserve, phytodiversity, structural markers, biodiversity index, forest stand.