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“Bridging the gap between increasing knowledge and decreasing resources”

## Role of Local Knowledge in the Use of Medicinal Plants in SW-Madagascar

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### Abstract

Utilisation of medicinal plants (MPs) is the main source of health care for the local population on the Mahafaly plateau in SW-Madagascar, but little is known about the species involved. This study therefore aimed at determining the MPs used, recording the traditional knowledge on MPs uses and comparing MPs utilisation across the surveyed villages in this semi-arid region.

Semi-structured and households socioeconomic interviews were conducted in five village surrounding the Tsimanampetsotsa National Park. The usage and knowledge of MPs were compared based on the number of plants used, the number of medicinal uses and ethnobotanical indices that expressed the knowledge on plants. One way ANOVA was performed to determine knowledge and use differences among villages. The Generalized Linear Model (GLM) approach was applied to determine which variables most influenced the use and knowledge on medicinal plants.

A total of 214 identified plant species, belonging to 68 plant families and 162 genera, are used by the local people on the Mahafaly plateau to treat 46 ailments of human and livestock. The majority of the recorded medicinal plants was found on the calcareous Mahafaly plateau (95.4 %) itself and mostly collected from forest areas (81.8 %). The number of species used and the uses per plant differed significantly ( $p < 0.01$ ) among villages. Knowledge about MPs was particularly large in people living near forests. Results of the GLM analysis indicated that the socio-cultural variables had a stronger influence on the use of MPs than socio-economic ones. We conclude that there is specific knowledge about MPs and their multiple uses merits preservation among the community groups on the Mahafaly Plateau. It may also be exploited in eco-tourism projects as part of local development efforts.

**Keywords:** Local knowledge, Mahafaly plateau, medicinal plants, use of traditional resources