Conservation status of the endemic flora of French Polynesia: la maison brûle (the house is burning)!

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The primary vascular flora of French Polynesia, a French Overseas territory located in the South Pacific and formed by about 120 oceanic islands grouped in five archipelagos (namely the Austral, the Gambier, the Marquesas, the Society and the Tuamotu), comprises about 870 native plant species including 460 endemic species and 61 endemic subspecies and varieties, i.e. an endemism rate of about 60% (Figure 1).

Until recently, the IUCN Red List recognized only 47 threatened plant species for French Polynesia (www.iucnredlist.org). A revision was recently conducted between 2013 and 2015 by the French UICN committee in collaboration with French, foreign and local plant experts and coordinated by the French Polynesian government. This report reveals that 65% of the endemic flora (302 species) is considered threatened, including 119 critically endangered species (CR), 133 endangered species (EN) and 50 vulnerable species (VU), with 6 other endemic species now considered extinct (EX). The highest number of threatened species is found in the Marquesas (131 species) and the Society (110 archipelagoes) (UICN France, MNHN & DIREN Polynésie française (2015). La Liste rouge des espèces menacées en France - Chapitre Flore vasculaire endémique de Polynésie française. Paris).

The major threats to the native and endemic flora are forest destruction and fragmentation caused by increasing urbanization and fires, and invasive alien species (both plants and feral ungulates) which constitute a direct threat to half (65 species) of the most endangered species.

Because of geographic isolation, limited funding and human resources, poor infrastructures, and the paucity of protected terrestrial areas (with only ten sites covering about 8500 ha, i.e. 2% of the total land surface), a plant conservation strategy is needed in French Polynesia, and priorities should be urgently defined.

We recommend to protect the most critical and irreplaceable taxa (i.e. belonging to the 8 French Polynesian and 3 Southeastern Polynesian endemic genera) as well as threatened and unique habitats (e.g. semi-dry and mesic forests, high elevation plateaus and wetlands, subalpine vegetation) with the active management of invasive alien species.

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Figure 1: Distribution map of the endemic genera in Southeastern Polynesia and IUCN status of the endemic flora in the archipelagoes of French Polynesia

Figure 2: Number of native and endemic vascular plant species in the different archipelagoes of French Polynesia (Rapa separated from the other Austral islands) according to botanical databases (https://inpn.mnhn.fr/espece/inventaire/I220; http://botany.si.edu/pacificislandbiodiversity/marquesasflora/) and recently published scientific papers.