

# Narrow endemism and conservation : the case of two ultramafic obligate species in New Caledonia

Guillaume Lannuzel<sup>1</sup>, Fanny Rambaud<sup>2</sup>, Marie Dubreuil<sup>1</sup>, PhD Laurent Bordez<sup>1</sup>, Pr Bruno Fogliani<sup>1</sup>

<sup>1</sup>Institut Agronomique Néo-calédonien, <sup>2</sup>Université Montpellier 2

New Caledonia is a tropical archipelago located in southwest Pacific, and recognized as a hotspot of biodiversity, where almost 1% of the world's flora is endemic. Within this exceptional flora (3389 species), about 20% have been recognized as narrow endemic species (NES). Locally, narrow endemism has been poorly studied, but is supposed to be linked with ultramafic soil, topography specificity, and climate diversity of the archipelago. Nevertheless, these species, more than others, are threatened by human-induced events, such as mining activity, bush fires, and alien species. In order to prioritize conservation actions for this huge amount of NES, we tried to highlight the reasons of the narrow distribution of two endangered ultramafic species belonging to the genus *Tristaniopsis* (Myrtaceae), *T. polyandra* and *T. yateensis*. Two approaches were developed. First, extensive field survey gave us actualized and exact data on the distribution and extent of subpopulations and allowed us to propose an actualization of their IUCN status. Secondly, vegetation plots were materialized to determine their ecological affinity, their regeneration dynamics and the local threats that they are facing. We will show how statistical analyses revealed the relationship between edaphic and ecological factors, and their influence upon species dynamic. Also results gave an original insight on the different patterns of narrow-endemism that can be found within a same genus, in the same kind of ecosystems. And how NES have to be considered as a special case of rare species, especially in an ultramafic island context. Finally, we will discuss the opportunity of adapted conservation actions and prioritization, assuming these differences.