

Nickel Hyperaccumulating Plants Native in Palawan

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ABSTRACT

Metallophytes or plants that are highly evolved to adapt in metal-rich habitats are native in ultramafic forests. A rare group of metallophytes called nickel hyper accumulators can uptake > 0.1% nickel in the aboveground tissues and have good potentials in green technologies such as phyto stabilization, phytoremediation, and phytomining. However, these group of plants are threatened by anthropogenic activities. Botanical explorations in ultramafic forests in Puerto Princesa, Narra, and Urduja, Palawan were done to locate and discover nickel hyper accumulators, document phenology, and collect propagules. *Phyllanthusbalgooyi* and *Brackenridgea palustris*ssp. *foxworthyi* were located in Puerto Princesa and Narra while *Rinorea bengalensis* was found in Urduja. Two unidentified nickel hyper accumulators, one each in Puerto Princesa and Urduja, were discovered. Quantification of nickel in the dried plant tissues and rhizospheric soil was measured using Atomic Absorption Spectrophotometer. The five species accumulated 0.6-2% nickel in the leaves and 0.1-0.8% nickel in the roots. Nodal cuttings of *P. balgooyi* rooted in 200 mg^l Indolebutyric acid. Pure stand of mature *P. balgooyi* composed of more than four meters tall individuals in Puerto Princesa should be conserved. More botanical explorations in ultramafic forests of Palawan coupled with a conservation program on the nickel hyper accumulators should be implemented.

Keywords: *Brackenridgea*, *Phyllanthusbalgooyi*, *Rinorea bengalensis*, vegetative propagation, green technology