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Studies on the propagation of *Vangueria madagascariensis* Gmel

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Vangueria is a tribe of flowering plant in the Rubiaceae family which contains about 600 species in 25 genera. Species of *Vangueria* are found in both extremely hot habitats, such as the very dry desert-like areas of the horn of Africa, the rain forests of tropical Africa and the southernmost part of Madagascar in the Sudan. Trees of *Vangueria* are grown near streams in water depressions in tall grass savanna in south Kassala, Blue Nile and Kordofan in Sudan. *Vangueria madagascariensis* has a medicinal value as well; an infusion of the roots and leaves has been used to treat malaria, chest ailments like pneumonia, as a purgative, to treat ringworms and for relief of toothache. Three approaches were followed to determine the best method of propagation: Propagation by seeds, vegetative propagation by stem cuttings and micro propagation using tissue culture techniques. Seed morphology, structure and viability were identified then germinated in vitro under aseptic conditions using Murashige and Skoog medium. The results showed that all the fruits are viable according to TTZ test, seeds were germinated very rapidly, normal seedlings were developed and the percentage of germination was 100%. The vegetative propagation showed that the stem cuttings of 1.0 cm diameter were better than larger ones. The tissue culture techniques showed that the high potentiality of the plant to produce callus was on MS medium supplemented with auxins 2,4-D (2 mg/L) combined with BAP (25 mg/L). The best method to propagate *Vangueria madagascariensis* is propagation by seeds.

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