

BOTANICAL STUDY, DNA FINGERPRINTING, NUTRITIONAL VALUES AND CERTAIN PROXIMATES OF ENTADA RHEEDII SPRENG

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Abstract

Entada rheedii Spreng. (Family Fabaceae) seeds are used in Egypt in folk medicine. Macro- and micro-morphological characters of *E. rheedii* Spreng. seeds imported from India together with that of roots, stems and leaves cultivated in Egypt were presented with the aim of their identification in entire and powdered forms. Cultivation in Egypt gave a climbing plant instead of the huge fruiting trees bordering the Indian Ocean. Plant materials were fixed, freehand sectioned and stained with Safranin. Leaves are compound, bipinnate; their blades exhibit rubiaceous and few ranunculaceous stomata, non-glandular trichomes and dorsiventral mesophyll. The stem upper part is cylindrical with six ridges. The stem has relatively wide pith surrounded by open collateral vascular bundles. Study of Deoxyribonucleic acid (DNA) fingerprinting, total seed protein profiling, nutritional value and certain proximates was carried out in order to contribute to the identification of the plant material. A total of 53 different fragments have been recorded in DNA fingerprinting, produced mainly by (A-19) primer, showing 15 bands ranging from 1.337 Kbp to 0.356 Kbp, Eight bands were recorded in seed total protein banding profile of *E. rheedii* Spreng seed with molecular weights ranging from 52 to 9 KDa. High levels of Glutamic acid and Phenyl alanine amino acids were determined. Moisture, carbohydrates and ash percentages were 7.35, 16.47 and 2.83 respectively. Evaluation of macroelements (Ca, Na, K and P); and microelement (Fe) revealed that potassium (K) and phosphorous (P) occupied the highest positions (1264 and 1240 mg/100 g seeds respectively) among the macroelements, whereas the micro element Iron (Fe) level was 3.3 mg/100 g seeds.

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