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Isolation and characterization of alkaloids in *Erythrina verna* barks

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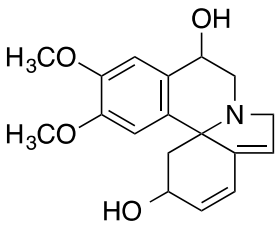
Erythrina verna Vell., Fabaceae, popularly known as mulungu, is distributed predominantly in areas of the Atlantic Forest biome. Among the biological activities described for the genus, we highlight gastroprotective, antioxidant, antimalarial, anticancer, antibacterial, anti-HIV and anti-inflammatory activities. *E. verna* is used in folk medicine for neurovegetative dystonias and pharmacological studies indicate anxiolytic activity. In order to identify chemical markers for quality control of the species, the present work aimed the isolation and structural elucidation of compounds at *E. verna* barks. The fraction of total alkaloids (FTA) was prepared by acid-base extraction using hexane-ethyl acetate (1:1 v/v) as the deffating solvent and dichloromethane as the extractive solvent. Isolation was performed by high-performance liquid chromatography (Waters Alliance 2690), coupled to a photodiode array detector (HPLC/PDA), operating at a flow rate of 1.6 ml/min in semi-preparative column 5 µm X-Bridge C18 (10 x 250 nm). Using as mobile phases: A) water-trifluoroacetic acid (100: 0.06%) and B) acetonitrile; In linear gradient: time 0 min: % B → 2 min: 88% B → 15 min: 14% B →25 min: 20% B → 40 min: 20% B → 45 min: 100% B → 50 min: 100% B. After isolation, the fractions were analyzed in a (GC-MS) Agilent 7890 with a DB-5MS (30m x 0.25mm x 0.25µm) column using helium as the carrier gas, at a constant flow of 1.10 ml/min, splitless and with injected volume of 1 µl. Using the following temperature program: from 100 to 220 °C at 6 ° C/min, 220 ° C for 10 min, from 220 to 290 °C at 6 °C/min and 290 °C for 11 min. Based on the fragmentation profile of mass spectrum and comparing with literature data, we can suggest as compounds present in the FTA of *E. verna* barks: 11-hydroxy-erythravin (**1**), 11-hydroxy-erythratidinone (**2**), 3-demethoxy-erythratidinone (**3**) and erythratidinone (**4**). In summary, these results are important for quality control of *E.* verna, since the sum of peak areas will be employed for the quantification of the alkaloids.

Keywords: *Erythrina*, isolation, chemical characterization.



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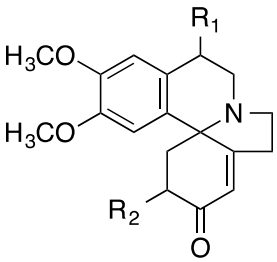

2 R_1=OH, R_2=OCH_3
3 R_1=H, R_2=H
4 R_1=H, R_2=OCH_3