10th Brazilian Conference on Natural Products
XXXVI RESEM
4-7 November 2025, Belo Horizonte, MG, Brazil

Section: 05

DETECTION OF NAPHTHOQUINONES IN DIFERENT BULB EXTRACT OF Eleutherine bulbosa

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Eleutherine bulbosa, popularly known as marupazinho, is a native species of the Amazon region, traditionally used in teas prepared from its bulbs to treat gastrointestinal disorders, amebiasis, irregular menstruation, hemorrhoids, strokes, and gastric ulcers. Scientific interest in this species has focused mainly on the presence of eleutherol, a naphthoquinone metabolite associated with potential biological activities. However, little is known about how different extraction conditions influence the detection of this bioactive compound. This work aimed to investigate the presence of eleutherol in *E. bulbosa* bulb extracts obtained with solvents of different polarities, in order to understand how extraction affects its chemical availability. Bulbs were collected from the experimental area of the Federal University of Amazonas (UFAM), cut into 2 × 2 mm pieces, and subjected to ultrasound-assisted maceration for 20 minutes, using a proportion of 1 g of fresh bulb per 1 mL of solvent. A total of 27 extracts were prepared, filtered, and analyzed by tandem mass spectrometry (MS/MS). Mass spectrometry proved to be an efficient and accessible tool for eleutherol detection, allowing not only the identification of its presence in different extracts but also the assessment of variations in intensity according to solvent polarity. The compound was detected in almost all extracts, except in methanol/water (8:2), being the major component in TBME and n-butanol extracts, and the second major component in solvents such as hexane, acetonitrile, ethanol/water (7:3), and ethanol/water (1:1). In contrast, methanol-based solvents showed only low levels of eleutherol. The results demonstrate that solvents of intermediate polarity favored eleutherol extraction, highlighting the importance of methodological choices in phytochemical studies. Moreover, the direct application of mass spectrometry, due to its speed and sensitivity, proved to be a promising strategy for the prospection of bioactive metabolites in medicinal plants, providing new insights into the actual chemical composition of traditional E. bulbosa preparations. The authors acknowledge the support of CAPES, the Graduate Program in Biotechnology and Natural Resources of the Amazon (UFAM), and FAPEAM for funding.

Keywords: *Eleuterol, MS/MS Solvent polarity, Eleutherine Bulbosa.*