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Organoleptic and phytochemical evaluation of different extracts of *Vernonia cinerea* (L.) Less. whole plant of Cambodia

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INTRODUCTION

Vernonia cinerea (L.) Less. (Family: Asteraceae) (Local name: *Smau Ruy*) has been used as therapeutic agents exerting the effects of anti-inflammatory, anti-oxidant and anti-microbial activities, and for the treatment of various illnesses including malaria, cancers, gastrointestinal disorders, asthma and liver diseases.

OBJECTIVES

The study aims at evaluating the organoleptic features and phytoconstituents of *Vernonia cinerea* (L.) Less. native to Cambodia.

MATERIALS AND METHODS

Dried whole plant of *Vernonia cinerea* (L.) Less. was collected from the local plant drugstore and authenticated by University of Puthisastra (UP)-Herbarium (UPFPH-050011). Organoleptic evaluation was done by mean of the sense organs including color, odour, taste and texture parameters. The dried plant was extracted with five solvents including distilled water, methanol, ethanol, ethyl acetate and chloroform. Each plant was extracted for 30 min at room temperature by Ultrasonication-Assisted Extraction (UAE) method. The extracting yields were subjected to the evaluation of phytoconstituents covering alkaloids, phenolic compounds, tannins, flavonoids, steroids, triterpenoids, cardiac-glycosides, essential oils, saponins, quinones, poly-peptides and resins.

RESULTS

Organoleptic features of the dried *Vernonia cinerea* (L.) Less. showed that the flowers were whitish, stems and leaves were greenish; the odour was characteristic; the taste was somewhat bitter; the texture of stems were smooth, of flowers were fine and star shaped, and of leaves were slightly rough. The extracting yields of *Vernonia cinerea* (L.) Less. whole plant with different solvents gave the values of 1.47% (aqueous extract), 1.60% (methanol extract), 1.82% (ethanol extract), 1.15% (ethyl acetate extract), 1.52% (chloroform extract). The qualitative phytochemical screening indicated the positive tests of tannins, flavonoids and polypeptides in aqueous, methanol, ethanol, ethyl acetate and chloroform extracts of *Vernonia cinerea* (L.) Less. whole plant.

CONCLUSION

This study provides the scientific data for the proper organoleptic and phytochemical standardization of Cambodian *Vernonia cinerea* (L.) Less., which is very helpful for the plant identity and for the assessment of the purity of raw materials.

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