



GC-MS ANALYSIS OF *URARIA PICTA* DESV. SEED OIL FOR IDENTIFICATION OF PHYTOCHEMICAL COMPOUNDS OF BIOLOGICAL SIGNIFICANCE

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ABSTRACT: In the present investigation, GC-MS analysis was carried out to identify the phytochemical compounds from *Uraria picta* seed oil. GC-MS determined eleven major phytochemicals in the seed oil identified as N - Hexadecanoic acid (RT-19.62, 9.60%), 9,12- Octadecadienoic acid methyl ester (RT-20.82, 1.63%), 9 - Octadecanoic acid methyl ester (RT-20.88, 1.46%), 9,12 - Octadecadienoic acid (RT-21.24, 8.55%), 9-Octadecenal (RT-21.30, 19.25%), Octadecanoic acid (RT-21.48, 2.61%), β -sitosterol acetate (RT-27.19, 5.84%), γ - Tocopherol (RT-29.53, 2.72%), β , β -Carotene, 5,6-dihydro, 5,6-dihydroxy (RT-32.59, 4.83%), Stigmastan-6, 22-diene, 3,5-dedihydro (RT-33.07, 11.56%) and β - sitosterol (RT-34.37, 28.08%). This study has been performed first time and investigated compounds have been found to contain pharmaceutical significance.

Keywords: GC-MS analysis, phytochemicals, seed oil, *Uraria picta*

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INTRODUCTION

Uraria picta Desv. (Syn. *Doodia picta* Roxb., *Hedysarum pictum* Jacq., Family- Fabaceae) is commonly known as Prishnaparni or Pithvan and widely distributed throughout India, Bangladesh, Sri Lanka, Tropical Africa, Malay Islands, Philippines, Australia, Africa and almost all parts of Asia (Yusuf *et al.*, 1994; Mohan *et al.*, 2020). It is one of the important constituents of "Dashmoolarista", a well-established ayurvedic drug of Indian system of medicine, prepared from the roots of 10 medicinal plants and used for treating general fatigue, oral sores and several gynecological disorders (Yadav *et al.*, 2009). Dashmool is also used as basic ingredient in manufacture of over 109 drug formulations (Pathak *et al.*, 2005). Traditionally, the plant is used as an antidote to the venom of a dangerous Indian snake, *Echis carinata* (Kirtikar and Basu, 1994). Its leaves are a good antiseptic and are used against gonorrhoea. Leaves of *U. picta* also showed anti-anxiety activity (Garg *et al.*, 2012). The fruits and pods are effective against oral sores in children, and roots are being used against cough, chills and fever (Kirtikar and Basu, 1994; Yusuf *et al.*, 1994). Though this plant is utilized in hundreds of Ayurvedic formulations and by folklores, the scientific validation in terms of its chemical examination for important phytochemicals is

scarce (Rahman *et al.*, 2007; Yadav *et al.*, 2009; Bhusare *et al.*, 2021). Hence, there is a need to investigate this species for identification of phytochemical compounds responsible for its remarkable ayurvedic potential. In our earlier studies, we have investigated five compounds in ethanolic and aqua-ethanolic extracts of stem and five in ethanolic and aqua-ethanolic root extracts of *U. picta* through GC-MS analysis (Mohan *et al.*, 2020; Mohan *et al.*, 2020). In the present study, seed oil of *U. picta* has been explored for identification of the phytochemical compounds of biological importance.

MATERIALS AND METHODS

Chemicals and reagents

AR grade chemical and solvents and distilled water were utilized in the experiments.

Collection of seeds

Seeds of the target species were collected as per the guidelines of good agricultural and collection practices (GACP) for medicinal plants (Anon, 2003) from the Chhindwara region of Madhya Pradesh during November - December month and dried in shade. Seeds were cleaned and grinded to get the powdered form which was used for extraction of oil.