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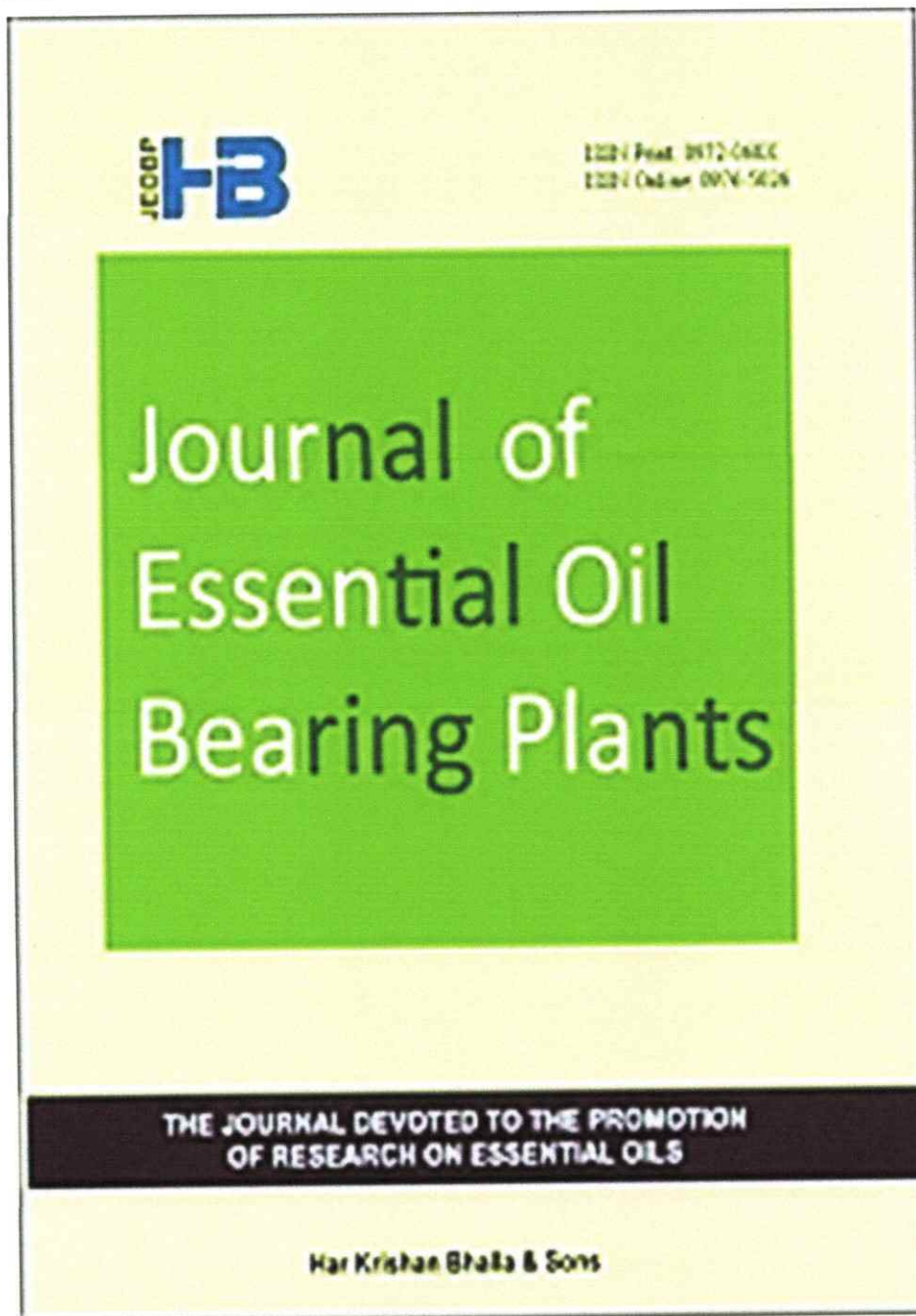



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GC-MS Analyses of Stem and Leaf Oil of *Aristolochia krisagathra*
Sivarajan and Pradeep-An Endemic of Western Ghats, India

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Abstract: *Aristolochia krisagathra*, a member of Aristolochiaceae is a twining herbaceous medicinal plant endemic to India. Hydrodistillation using Clevenger type apparatus was used for extraction of oil and further analysed by GC-MS. The essential oil content was found to vary depending on the plant part used for the study, but both stem and leaves showed the predominance of sesquiterpenoids among the total identified volatiles. The cadinane type of sesquiterpenoids was one of the major groups in both the stem and leaves. The major compound in leaf was δ -cadinene with 5.4 % and that of stem oil was spathulenol with 7.1 % among the volatiles identified.

Key words: *Aristolochia krisagathra*, essential oil, δ -cadinene, spathulenol, sesquiterpenoids.

Introduction

The genus *Aristolochia* L. belonging to the family Aristolochiaceae is an important genus represented by about 350 species. *Aristolochia krisagathra* Sivarajan and Pradeep is reported to be endemic to India and is found restricted to the southern part of Western Ghats in Kerala and Tamil Nadu¹. It is a herbaceous climber with slender habit, glabrous, oblong-lanceolate, long acuminate leaves, few flowered racemes, smaller fruits and smaller unwinged seeds². The plant is medicinally important; the juice of leaves and rhizome of *A. krisagathra* (Akaasha karudan, Udukamooli) are used in combination with other plants for the treatment of snakebite by the Kani tribes³. The essential oil composition of the leaves and stem of *A. krisagathra* have not been previously studied which led to the present investigation.

Materials and methods**Plant material**

Leaves and stem of *A. krisagathra* were

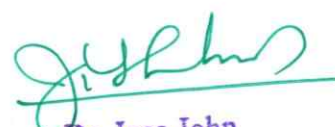
collected from Rosemala near Aryankavu of Kollam district of Kerala, India. The species was identified and the voucher specimens have been deposited at the herbarium of Sacred Heart College, Thevara. The fresh plant materials, both stem and leaves were shade dried, powdered (100 g each) and hydrodistilled using a Clevenger type apparatus for 4 hours and the distillate were stored in vials under refrigeration (4°C) prior to analysis.

Gas chromatography-Massspectroscopy

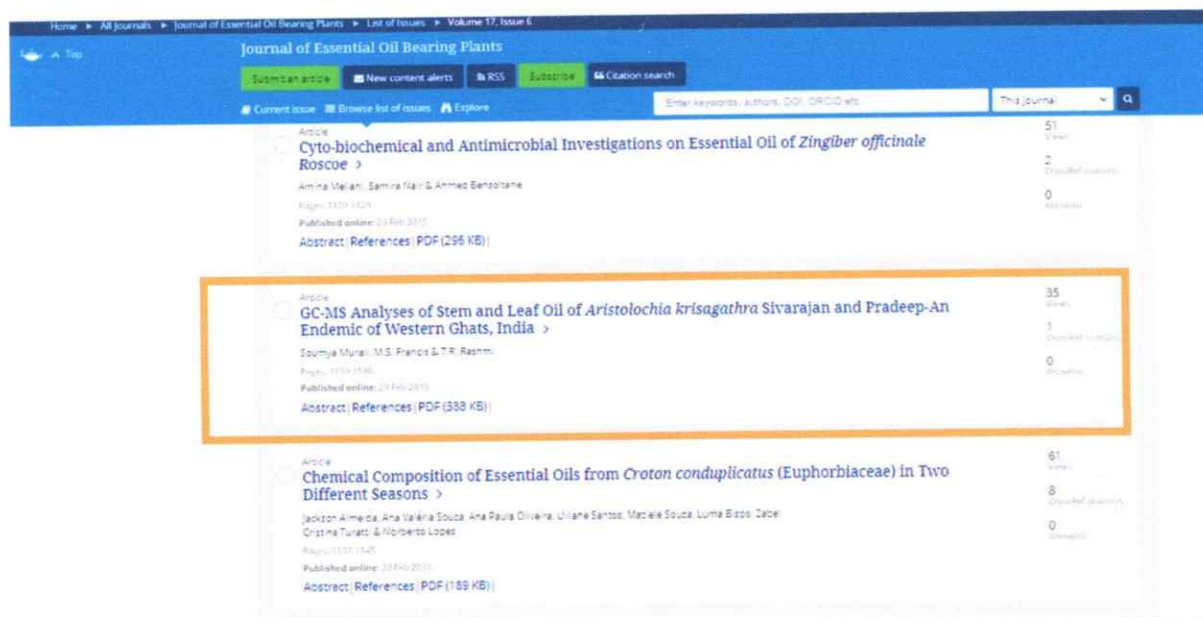
The composition of the volatile constituents was established by GC-MS analyses using GC-6850 Network GC system, Agilent Technologies with column type HP5MS 30.0 m x 250.00 μ m, film thickness 0.25 μ m. Split ratio 50:1; carrier gas He at a flow rate of 1.0 ml/min. Temperature was programmed from 60°C to 180°C at the rate of 2.5°C/m and then at the rate of 5°C at 230°C. Injection temperature was 200°C. For GC-MS 5975C VLMSD with Triple Axis Detector, Agilent Technologies was used.

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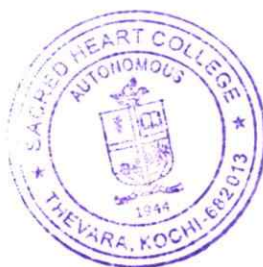
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