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GC-MS analysis and conservation of ethnomedicinal aromatic plant *Anisomelis indica* (L)

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Abstract
Anisomeles indica (L) is a wild plant of family Lamiaceae. Commonly known as "Gopoli". The plant is used traditionally as an analgesic, antiinflammatory and in skin problems such as snakebit. Medicinally it has been proven to possess various pharmacological activities like antioxidant, antimicrobial, our knowledge of the intimate relationship between early man and plants has come to us mainly through tradition. Today, the field of ethnobotany requires variety of skills, because it is the study of relationship between plants and people. To search novel active compounds from plant origin and to access the valuable thereupatic properties with minimum side effects, application of advanced method like GC-MS computational techniques plays an important role in the development of drug of interest. 2 compounds were identified in aerial parts of *Anisomeles indica* these are Tetracosapentaene, 2, 6, 10, 15, 19, 23-hexamethyl-,22-Stigmasten-3-one. The coming generation should not miss the flora and fauna of our country. It is observed that *Anisomeles indica* is becoming rare, day by day in some region of Nagpur. The efforts of awareness in the society regarding its conservation should be made. Plantation of this species should be increased.

Keywords: Conservation, GC-MS, ethnobotany, compounds, *Anisomeles indica*

Introduction
The plant *Anisomeles indica*, commonly known as "Gopoli" belongs to the family Lamiaceae and is an ethonobotanically important medicinal plant. Almost all parts of this plant are being used in traditional medicines to treat various diseases. Medicinally it has been proven to possess various pharmacological activities like antioxidant, antimicrobial, our knowledge of the intimate relationship between early man and plants has come to us mainly through tradition. (Chatterjee A and Pakrashi SC, 1997) [1] Interest and support for the conservation and development of ethnomedicinal plant is increasing in all parts of the world. As per world Health organization (WHO) estimates almost 80% of the population of developing countries relies on traditional medicine mostly plant drugs for their primary health care needs.
The plant isused in folk medicine as a cure in gastric catarrh and intermittent fever and essential oil present in herb is used in uterine affection. (Kirtikar *et al.* 1999, Anonymous, 2003) [2, 3]. *A. indica* Linn. Is reported to have antipyretic, analgesic, anti-inflammatory activity and it also acts as natural herbicide in wheat fields (Dharmasiri *et al.* 2000 and 2003) [4, 5].

Methodology
The present work based on various sits survey made in Nagpur region. This plant was collected and their identification was authenticated at research laboratory of Institute of Science, Nagpur. Ethnomedicinal uses medicinal properties of the plants was collected during field trips. GC-MS analysis done by the help of shade dried powder of leaves.

GC-MS Analysis
The test plant extracts were subjected to GC-MS analysis at laboratory's (IIT Bombay) Sophisticated Analytical Instrument Facility (formerly RSIC), Indian Institute of Technology, Powai, Mumbai - 400076, India.

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Fig 1: View of *Anisomeles indica* Plant

Results and Observation

Ethno medicinal uses of *Anisomelis indica*

1) The plant isused in folk medicine as a cure in gastric-dysfunction
2) Essential oil present in herb isused in uterine affection. (Kirtikar *et al.* 1999, Anonymous, 2003) [2, 3]. *A indica* Linn.
3) The plant is used traditionally as an analgesic, antiinfla mmatory and in skin problems such as snakebites.
4) In 100 gm of leaves after processing the dried leaves powder found 6.33% aromatic oil.
5) Aromatic oil use in various joints pain.

There is need to develop alternative antibiotic drugs from plants.

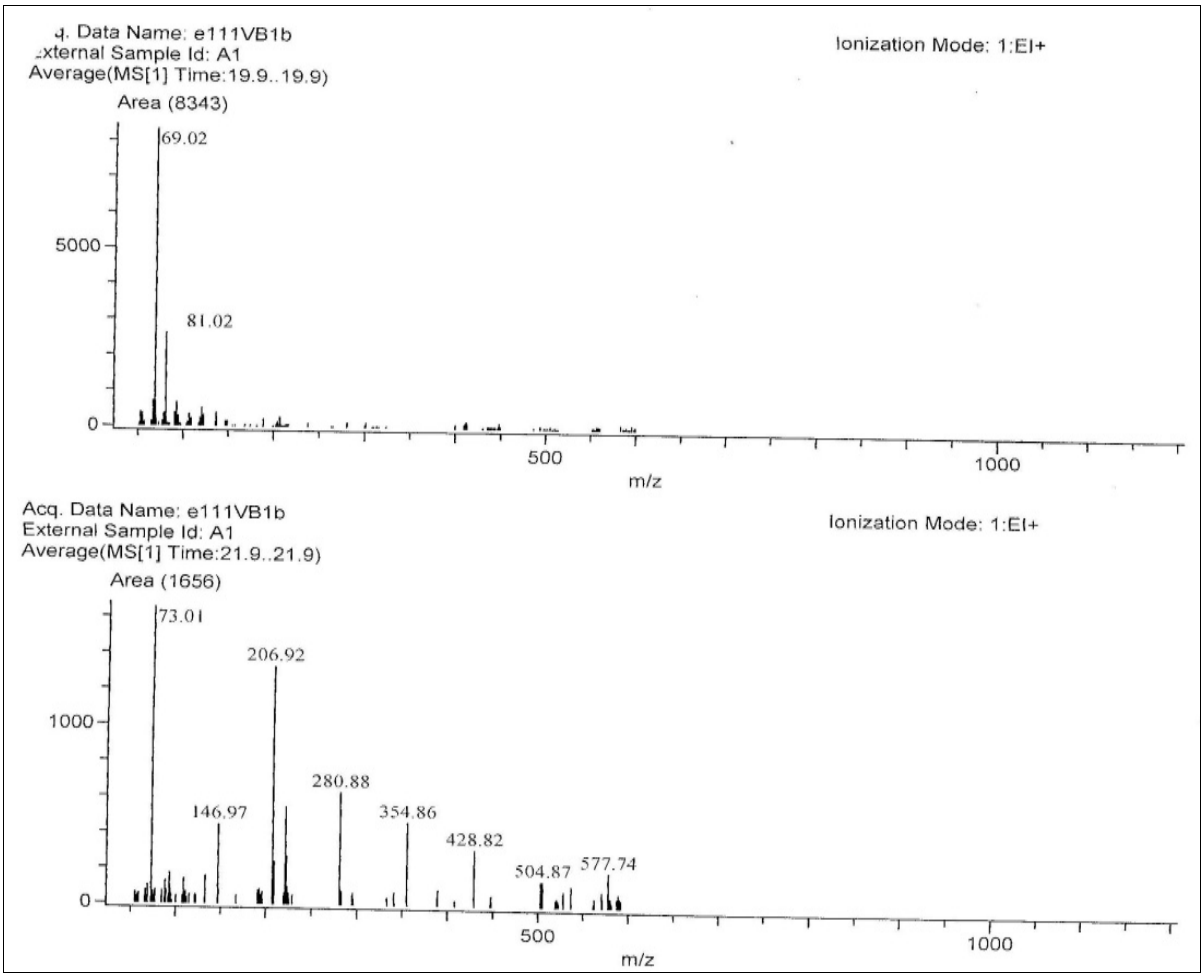
One approach is to screen local medicinal plants, which represent rich source of novel antimicrobial agents. The dried or fresh material is used as a wash for external afflictions, eczema, pruritis and skin problem. The plant is to act as a mosquito-repellent.

Table 1: The chemical composition *Anisomelis indica* (wild) Linn.

S. N.	R.T	Name of compound	Molecular formula	Mol. Weight	Peak Area
1	19.9	Tetracosapentaene,2,6,10,15,19,23-hexamethyl-	$C_{30}H_{52}$	412	57689
2	19.9	22-Stigmasten-3-one	$C_{29}H_{48}O$	412	57689

Table 2: Analysis of oil percentage in Leaves of studied plants

No. plant	Plant sample name	Empty flask weight	Empty flask oil weight	Oil percentage of leaf
1	*Anisomeles indica*	138.680 gm	138.870 gm	6.33%



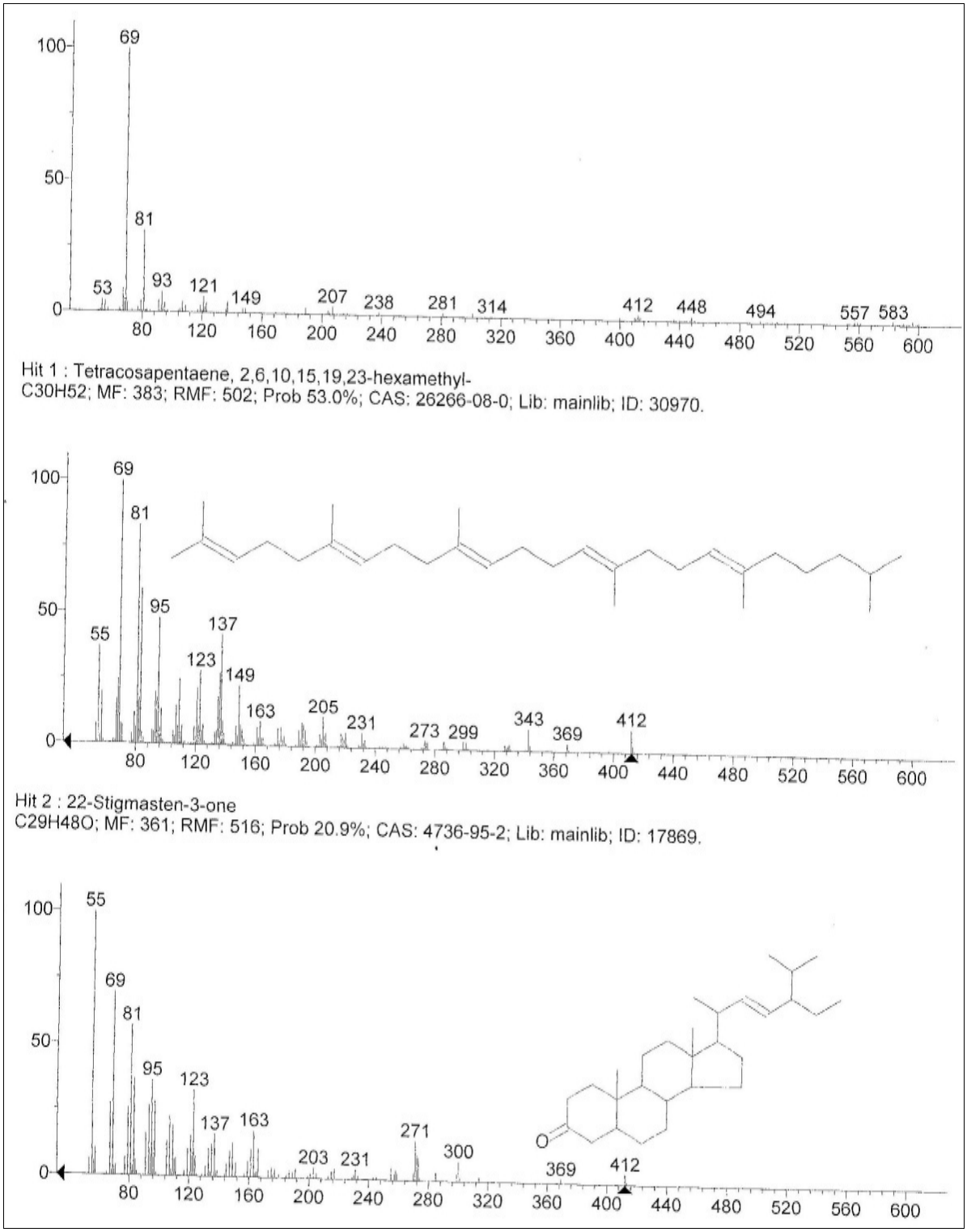


Fig 1: GC-MS chromatogram of *Anisomelis indica* plant

Conclusion

The present investigation was carried out on *Anisomelis indica* plant of Lamiaceae family to study the presence of medicinally active Phytochemical in the leaves. The chemical composition of the essential compounds from the leaves *Anisomelis indica* of collected from Gorewada forest and PDKV forest which experienced different climatic and geographic circumstances, were determined by GC-MS. The present investigations concluded that the leaf *Anisomelis indica* of contains chemical compounds. These chemicals are widely used in Ayurvedic traditional medicines. This study concludes and recommends further advanced study of these plants, so that it will help in preserving our traditional knowledge. The present GC-MS screening may serve as pavements for the researcher to select a group of plants having similar chemical constituents of particular class to isolate biologically active principles and future studies on family Lamiaceae.

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