

Minor Research Project

Title: Phytochemical and Ethnobotanical study of some plants from Jalgaon

Dist.(MS)

Executive Summary

The present study has been undertaken especially with a view to give a detail account of the ethnomedicinal plants For this present study jalgaon district is selected where tribal communities are residing in more numbers.

Jalgaon district is away from sea. Therefore, its climate is generally hot and dry. The northern part of the district is high and hilly. So it is cool even in summer.

Temperature- it ranges from 11.3°C to 47°C

Humidity- it ranges from 35 to 87%

The information of the plant species found useful in ethnobotanical value as well as for the other local uses of the plants occurring in Jalgaon districts. During this work all tribal localities adjoining forest areas and the plains of the districts were visited periodically. Routine method of botanical collection and technique of herbarium have been collected in flowering and fruiting conditions. Observation made of the plants species with respective their localities, habit, habitat and other field characters. The plant species were identified using district, regional and state floras (Flora of Dhule and Nandurbar districts, D.A.Patil (2003) Flora of Jalgaon district, Kshirsagar and D.A.Patil (2008) Flora of the State of the Bombay Presidency,(Repr.) vol I-III Cooke (1967). The voucher specimen and parts collected have been deposited in the herbarium Department of Botany, Bhusawal Arts, Science and P.O. Nahata Commerce College, Bhusawal. The information on medicinal properties and qualities of the various plant species have been gathered through personal interview with local inhabitants. Usually the information collected from vaidyas, medicine men, however occasionally the information is also received by housewives, rural old folk. The information regarding

plants or plant part used medicinally, their processing preparation, dosage and mode of administration etc. for various diseases.

There are forests in the hilly region of the satpudas in the northern part of jalgaon district. These forests lie in Chopada, Yawal and raver talukas.

Teak (*Tectona grandis*, Linn F.), Sisoo (*Dalbergia sisoo*, Roxb.), Dhavda (*Anigissus latifolia*, wall), Ain (*Terminalia tomentosa*, W&A). Palas (*Butea frondosa*, Konig), Khair (*Acacia catechu*, willd), Babul (*Acacia nilotica*, Linn.), Haldu (*Chloroxylon swietania*, DC), and Anjan (*Hardwekia binata*, Roxb.) are some of tree such as Mango (*Mangifera indica*, Linn.), Bor (*Zyzyphus jujuba*, Lam.) and Custerd apple (*Anona squamosa*, Linn.) Grass and bamboo also grow in some parts.

For phytochemical analysis of *Aristolochia bracteolata*, *Curculigo orchioides*, *Costus Speciosa*, *Curcuma pseudomontana* *Capparis sepiaria*, *Dolichandron falcata* plants are selected ,on the basis of ethnobotanical uses, a part of the plant was dried and made fine powder for analysis

The samples were collected from the medium sized authentically identified plant species from different localities of Jalgaon district . The roots stems and leaves were removed carefully by hand picking without damaging the plants. The materials were collected in polythene bags and brought to the laboratory within 2-5 hours. Some parts were preserved in 70% alcohol for their dermatology and anatomical work. These were initially dried in shade and later in oven at 60°C till constant weight, then made in to fine powder and stored in sealed plastic container for further analysis.

For solvent extraction 10 gm of powder was taken in 100 ml of organic solvent (methanol) in a conical flask, plugged with cotton wool and kept on a rotary shaker at 190-220 rpm for 24 hour. After that the supernant was collected and the solvent was evaporated to make the final volume one-fourth of the original volume (Parekh and Chandra 2006) and stored at 4°C.

4 gm of sample powder was extracted with 100 ml of methanol for 4 hour reflux at 60°C. The extract was centrifuge at 3000 rpm and then filtered through Whatman filter paper no.1 using high pressure vacuum pump. The sample is diluted to 1:10 with same solvent. The sample used for GC fingerprint study.

The morphological characters of the plant species selected were studied in detail and Fresh and dried parts were studied morphologically in the field as well as in the laboratory regarding their colour, texture etc. Various characters of plants were studied.

Qualitative analysis of the Phenol, Phenolic acids, Alkaloids, Anthraquinone, Iridoids, Saponins, Steroids, Tannins etc was carried out in the laboratory with the help of standard methods.

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