CHAPTER I

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The plant wealth has influenced the life of human being from time immemorial; it has been the part and parcel of life of an organism. Plants have adopted to the diverse habitats of the world through physical and biochemical modifications, whereas human populations have adapted through the generation and application of knowledge. It is beyond doubt that there exists an inextricable link between indigenous cultural and biological diversity (Sinha, 1996). The ancient literature on medicine reveals that primitive people of antiquity have been using several kinds of medicinal plants for treating various diseases. The evidences clearly indicates that the ancient people like the descendants of sumerians used Dadly Nightshade (*Atropa belladona* auct. non L.) and Henbane (*Hyoscymus niger* L.) against pain and sickness. The assyrians around 4000 B.C. made crude preparation from the fungus *Claviceps purpurea* for controlling bleeding after child birth. The Egyptians around 2500 B.C. recorded the medicinal properties of *Cassia angustifolia* Vahl. for bowel movement. The Chinese around 2000 B.C. made use of "M Huang" from *Ephedra* Wall.ex Stap f. against respiratory disorders and resin from *Cannabis sativa* L. for controlling pains.

In India, reference of medicinal plants can be traced back to the vedic period roughly between 3500 B.C. to 2000 B.C. During these period legendary physicians and herbalists like Atreya, Nagarjuna, Patanjali, Vagbhatta, Sushruta and Charak, recorded the use of medicinal plants in Sanskrit language. The compilation of herbal medicinal plants by Parashara in "Vrikshayurveda"; a part of Atharvaveda forms the basis of medical science in ancient India, particularly Ayurveda system of medicine. The most important of the compilations are "Charak Samhita" and
"Sushrut Samhita" which appeared between 400 A.D. to 500 A.D. They first recognized the importance of layman and tribal people in the discovery of the medicinal plants. The further work on Sushruta's line was carried out by Nagarjuna between 200 B.C. to 642 A.D. After the vedic period there seems to be a wide gap in the development of this science in India for about 1000 years (Jain, 1968).

Later on, till few years ago only allopathic treatment was considered scientific over the other systems of medicine because of its quick and symptomatic relief. Many new synthetic medicines have come to the market. These allopathic medicines through their extensive applications proved to be causing many side effects. In recent years, there has been a revival of interest in the herbal medicines and it has come up as an alternative medicines which are forming an important component of health care systems. This changing perception has given an impetus to work on the wild plants as a source of herbal medicines. These medicinal plants finds regular utilization in the crude form among the tribals. There are local practitioners, who specifically advise the formulations for common as well as chronic ailments. However, these tribal practitioners are not aware of the technical identification of plants. It is most essential that the knowledge of such medicinal plants be documented properly, the plants that are used be identified correctly so that further investigations can be carried out. It is with this intention that the present work has been undertaken.

Ethnomedicine is the study of the belief and practices concerning illness in different human populations (Genest, 1978). It observes and describes hygienic, preventive and healing practices prevalent among these populations also taking into account temporal and spatial references (Guerci, 1995).
The study of ethno-medicinal plants mainly comprises four major phases.

A. 1. The first important phase is the exploration, collection, identification and documentation of ethnomedicinal plants from specific locations in the region.
2. Preparation of laboratory specimens, herbarium sheets, voucher specimens.
3. To work out the ethnomedicinal significance by repeated visits to the field, establishing rapport with local practitioners,
4. To authenticate the information provided by herbal practitioners by carrying out detailed investigation and chemical analysis.

B. The study is significant to provide measures for conservation of ethnomedicinal germplasm by bringing these plants under cultivation practices, among the tribes and also conserve the plants ex-situ in Botanic Gardens, further, it is also helpful in developing nursery of these ethnomedicinally important plants.

C. One of the aspect of the study is also to scrutinize the important plants for their propagation through tissue culture techniques in order to carry out further researches in developing the desired qualities.

D. The ethnomedicinal plants are usually concerned with the socio-cultural practices, among the tribes, with a view to understand cultural and biological diversity.

Study Area:

Amravati District:

The work presented here is an outcome of an attempt made to document the traditional knowledge on medicinal plants and their uses by the local communities inhabiting the foothills of Satpudas in Amravati District, Maharashtra State.

The Amravati District is situated right in the centre of the northern border of the Maharashtra State. The name Amravati is derived from the famous temple of
Ambadevi of this place. It also means the abode of immortality or the eternal city. It is said that the place "Kaundanyapur", was concerned with Lord Krishna and Rukmini and is about 40 Km from Amravati.

Amravati District is bounded on the north by Madhya Pradesh, for the greater part by Betul district, Nimar and Chhindwada on the north-west and north-east having a lesser extent of common boundries with the district. It is bounded on the east by the Nagpur and Wardha districts and on the south and south-west by Yeotmal, Akola and Buldhana districts. Amravati district lies between 20°32' and 21°46' north latitude and 76°37' and 78°27' east longitude and occupies an area of about 12,449.7 sq. Kms. It is clearly divided into two different tracts. The first an expanse of the undulating plains of the black soil of fertile type forming a major part of the district and second a stretch of the mountainous tract extending along the whole of the northern boundry of the district. There is also a low line of trap hills rising in the vicinity of Amravati and extending eastward to some distance.

The large Melghat tract is a hilly terrain of Satpuda ranges, which is highly forested and occupies an area of about 4000 Sq Kms. The crest of the ranges attains an elevation of 3400 feet. This Melghat region is entirely different from the rest of the districts from climatological, agronomical and floristic point of view.

The second geographical region, the plain area may be further sub-divided into following sub-regions.

1. The piedmont belt of light and medium black soils with abundant ground water supplies sloping away from the Satpudas, 2) The region of deep and fertile
soils of south-west where the subsoil water is often saline, 3) The region of light red and medium black soils of Chandur and eastern Amravati and, 4) Stretches of fertile black soils adjoining the Wardha in southern Morshi and south-eastern Chandur tahsils.

The zone sloping away from the Satpudas and traversed by innumerable subparallel streams flowing southwards from the hills, comprises the Morshi tahsil, excluding the strip in the south-east adjoining the Wardha, the Achalpur tahsil excluding the southern third of it and the northern part of Daryapur tahsil. Near the foot of the hills, the soils are coarse and reddish in colour, being derived from the debris washed from above (Amravati State Gazetteer).

There are thirteen taluka places in Amravati district namely, Amravati, Morshi, Warud, Tiwsa, Chandur Rly, Nandgaon (Khandeshwar), Bhatkuli, Daryapur, Anjangaon, Dharni, Chikhaldara, Achalpur and Chandur Bazar. The taluka places viz., Morshi, Warud, Dharni, Chikhaldara, Achalpur comprises about 800 villages, inhabited by tribal population. The chief tribes of the region are Gond, Korku and caste Balai, In low percentage Gawali are also present in the area.

The tribal people in India constitute about 8% of total Indian population. There are over 200 tribes of aborigines exceeding 30 million in population. Even today, some of the tribal communities have retained their rich traditions of indigenous health care knowledge in practice. These communities mostly occupy remote areas of the villages conserving their own traditional culture and conventions from time immemorial. They adopt the life-styles maintaining harmony with the nature. An extensive and indepth field investigations of tribal villages adjoining, Satpuda hills in Amravati district have brought to light that the tribal
doctors commonly use the locally available herbal plants for the treatment of several common diseases. The most common diseases like fever, bronchitis, muscular pains, arthritis, wounds, warts and scorpion stings etc. are treated satisfactorily by these local practitioners. There are certain diseases which does not respond to modern medicines are also sometimes cured by herbs provided by local doctors/vaidyas, as claimed by them. During investigations, it was found that these tribal vaidus do not yield the information unless and until the confidence is developed in them. This hidden information and knowledge of wild herbal medicinal plants is of utmost importance as far as pharmaceutical industry is concerned. Now-a-days, there are various new organizations coming forward for documentation of this traditional knowledge of health care practised by various tribal communities. It is also a fact that herbal medicines are gaining overwhelming popularity. Many of the NGOs are also involved in making the medicinal products of the herbs and practising in villages. The present study is also important from the point of view of multifaceted significance of ethnomedico-botanical knowledge particularly in improving the awareness among tribal population about their own natural resources on one hand and providing genuine medicinal plant material for various formulations on the other.

Floristic work:

The floristic studies of Amravati district were pioneered by late Prof. M.V. Mirashi. He devoted himself to the study of vegetation surrounding an area around Nagpur. Further floristic investigations mostly concentrated on the forests of Chikhaldara (Dhore, 1985). He reported mostly the tree species of the area. The systematic exploration by Bhogaokar et al. (1999) also reported the new records of plant taxa from Amravati district. The ethnobotanical study of Korku tribes from Melghat has been undertaken by Padhye for the first time and stressed the
need of detailed investigations and phytochemical analysis of the indigenous wild medicinal plants (Padhye et al., 1991). The preliminary ethnopharmacognostic work carried out by Gadge (1984) reported 30 wild edible, 37 medicinal and 3 plant used in the preparation of beverages. The present work mainly covers the tribal villages situated at the foothills of Satpudas which are inhabited by Gond, Korku tribes and Balai caste. They have their own traditionally self management system of folk medicine. These tribes also believe that diseases are due to the evil spirits and indulge in magico-religious practices. However, they have perfected themselves through the application of these folk medicines from generation to generation.

During investigation the tribal areas at the foothills of Satpudas were covered which includes the following villages.

**Achalpur taluka**: Belkheda, Buradghat, Borgaon peth.

**Morshi**

: Dhanora, Ganeshpur, Bhivkund, Malinpur, Samdapur, Sayawada, Belona, Taroda, Deothana, Jamthi, Salbardi, Tembhi, Bopalwadi, and Hirapur.

**Chikhaldara**

: Chikhaldara, Ghatang, Baglinga, Chunkhedi, Behali, Biba, Bhulori, Makhala, Semadoh, Bela, Gaulkheda, Bhiroja, Keli, Salona, and Chikhali.

**Dharni**

: Ratnapur.

In four taluka of Amravati district, the tribal population corresponds to 1,75,556 which is about 27.24% of total population (Census, 1991, Directorate of Statistics, Amravati- 1997-98).
The diversified plant taxa are being utilized as ethno-medicinal plants. The present study gives an exhaustive account of the pertinent information collected through frequent visits to the localities. These have been identified by consulting the various floras. Also the ethnomedicinal information disclosed by the local vaidus, herbal practitioners crosschecked with the literature. The selected and medicinally important plant parts are subjected to phytochemical analysis, in order to know the chemical constituents. The study of cultural diversity in relation to biological diversity also constitutes an important aspect of present study.
MAP - 1: Showing position of Amravati district in Maharashtra State
1 Buldhana district
2 Akola district
3 Yavatmal district
4 Wardha district
5 Nagpur district
6 Betul district (M.P.)
7 Khandwa district

MAP - 2 : showing position of Amravati district, Vidarbha region and neighbouring districts
MAP - 3: Amravati district showing tahsil places and Melghat area
MAP- 4: Showing positions of villages in Achalpur Tahsil
MAP- 5: Showing position of villages in Morshi Tahsil
MAP- 6 : showing position of village in Dharni Tahsil
MAP - 7: Showing position of villages in Chikhaldara Tahsil.