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Ethnobotanical survey of some important medicinal plants of Malshiras Tehsil of Solapur district (MS) India

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Abstract
The present study is a part of survey being directed for ethnobotanical studies of Malshiras tehsil. Investigation was under taken from last three years *i.e*., 2018 to 2021. It was constantly screened and documented the usage of medicinal plants. During survey of the rural and urban regions, authors came across a number of medicinal plant species. In this assessment 50 different species of ethnomedicinal plants were being discussed having vast significance concern with the medicines. Which help to cure various diseases in local peoples such as Cough, Jaundice, Dysentery, Acidity, Common Cold, Toothache, Asthma, Diabetes, Wounds, Rheumatism, Fever and various skin infections like fungal and bacterial etc. All the plant species were arranged with botanical name, family, local name, habit, part used and information on ethnic uses. All species are being reported for the very first time as ethnomedicinal plants from this region.

Keywords: ethnobotanical survey, malshiras, various diseases, *Tinospora cordifolia*, *Boerhavia diffusa*

Introduction
Ethnobotany encompasses the total, natural and traditional man-plant relationships. It recognizes the important role of the ambient vegetation in the economic life of people. Ethnobotany has now contributions to an understanding of man-plant association as well as for the practical applications of the biological knowledge of aboriginal people in medicine, health, agriculture and industry (Pawar *et al*., 2008) [10]. The tribal and indigenous communities of India were found to be using more than 10,000 species of wild plants for various purposes which includes about 8,000 species for medicinal uses (Pushpangadan *et al*., 2010) [11].
Throughout world, plants have been in continuous use in treatment of various diseases. This practice is deep rooted in India and the herbal medicine knowledge has been acquired through long tradition and experience. Medicinal plants play a central role, not only as traditional medicines used in many countries, but also as trade commodities which meet the demand of distant market (Schippmann *et al*., 2006) [12]. According to World Health Organization estimate, approximately 80% indigenous populations in developing countries depend on traditional medicine for their primary health care by use of medicinal plants (Bennerman *et al* 1983) [1]. Nearly 90% of the plant species used in industries, collected from wild habitat, mainly includes forests, waste land, cultivated land and home garden (Kamboj, 2000 and Srivastava, 2000) [14]. In India several groups of studies reported that traditional healer use 3000-3500 plant species and 100 species serves as regular source of medicine (Ganeshan *et al*.,2006, Pei, 2001 and Vidhyarthy *et al*.,2004) [4, 8, 16].
The current research work is an aimed to highlight ethnomedicinal plants species belonging to various families with their availability and their enormous ethnic usage.

Materials and methods
In the present work field survey were conducted during 2018 to 2021 in different rural and urban area of Malshiras tehsil. This field survey appointments were organized at regular intervals in flowering seasons. The present data was gathered from knowledgeable Local elder peoples, Dhangars, Medicinal Practitioners, Guravas and Farmers through interviews, the local names and doses of administration have been documented.

Identification of plants specimen
The plant specimen of the present study was collected from the study area. In different seasons efforts were made to collect the plant materials in flowering and fruiting conditions for the correct botanical identification. They have been authentified with the help of Flora of Presidency of Bombay (Cooke, 1958), Flora of Maharashtra state (Monocotyledons) (Sharma *et al*. 1996) [13], Flora of Kolhapur District (Yadav and Sardesai, 2002) [17], Flora of Solapur District (Gaikwad and Garad, 2016) [5].

Study area
Malshiras tehsil distribution lies to north-west of Solapur district. It covers approximately between latitudes 17° 36' North and 18° 2' north and between longitudes 74° 41' east and 76° 18' east. Malshiras tehsil is situated on the east by Pandharpur tehsil, on south by Sangola, on west by Man tehsil (Satara district) and north-west side Phaltan (Satara district) and north by Indapur tehsil (Pune district) on the north-east Madha tehsil. Maximum area of tehsil covered by xeric and shrubbed diversity plant species, which signifies plant species were highly economic, medicinal potential, some of them which are used as an ethnomedicinal purposes.

Result and Discussion

For the study of ethnomedicinal plants, present work contains total 50 various species have been taken belonging to 29 families of which 18 herbs, 11 shrubs, 4 climbers and 17 trees. Which have massive use in concern with medicinal values to cure the various ailment and diseases. All the plant species commonly found in both rural and urban areas of tehsil Malshiras. Every plant discussed with respect to their Botanical name, family, local name, habit, and Ethnomedicinal uses (Table No.1). The most abundant medicinal plant species are *Abutilon hirtum*, *Boerhavia diffusa*, *Calotropis procera*, *Capparis decidua*, *Prosopis juliflora*, *Tribulus terrestris*, *Coccinia grandis*, *Tephrosia purpurea*, *Chenopodium album*, *Abutilon indicum*, *Tinospora cordifolia*, *Datura metal*, *Martynia annua*, *Ipomoea carnea*, *Argemone Mexicana.* From the enlisted data of study area, *Tinospora cordifolia*, *Boerhavia diffusa*, *Clitoria ternatea*, *Centella asiatica*, *Datura stramonium*, *Withania somnifera*, *Azadirachata indica*, *Santalum album*, *Phyllanthus emblica*, *Syzygium cumini* are identified as demanding plant species for the formulation of various ayurvedic medicines in India.

Table 1: List of Botanical names, Families, Local name, Uses, Habit, and Part used in Ethnomedicine in Malshiras region.

Sr. No	Botanical name	Family	Local name	Habit	Parts used	Use in Ethnomedicine
1	*Abutilon hirtum* (Lam.) Sweet	Malvaceae	Bankhangi	Herb	Leaves, Stem	Toothache, Hyper urea, Headache
2	*Acacia catechu* (Arn).	Fabaceae	Khair	Tree	Bark, Stem	Anti-leprosy activity, Refrigerant, Wound healing
3	*Achyranthes aspera* L.	Amaranthaceae	Aghada	Herb	Leaves, Stem	Anti-venom, to cure mineral deficiency
4	*Aegle marmelos* L. Correa	Rutaceae	Bel	Tree	Fruits, Leaves, Bark	Common cold and Cough
5	*Amaranthus spinosus* L.	Amaranthaceae	Kathemath	Herb	Leaves, Stem	Urine disease, Pain killer
6	*Annona reticulata* L.	Annonaceae	Ramphal	Tree	Bark, Fruits	Astringent, Diarrhea
7	*Argemone mexicana* L.	Papaveraceae	Piwla dhotra	Herb	Root	Cough and cold, Urino-genital diseases, Ear ache, kidney stones
8	*Asparagus racemosus* Willd.	Liliaceae	Shatavari	Climber	Stem, Roots	Stomach pain, Acidity, Inflammation, Urinary disorders, Headache
9	*Azadirachata indica* A. Juss.	Meliaceae	Kadunimb	Tree	Root, Stem, Leaves, Fruits	Insecticidal, Liver tonic and Urinary astringent, Leprosy, Skin diseases, Leukoderma, Dyspepsia, Ulcers, Tuberculosis
10	*Bauhinia purpurea* L.	Fabaceae	Rakta kanchan	Tree	Roots, Pods	Antifungal, Antidiarrheal
11	*Boerhavia diffusa* L.	Nyctaginaceae	Punarnava	Herb	Root, Leaves	Boils, Healing wounds, Jaundice
12	*Calotropis procera* (Aiton) W.T.Aiton	Apocynaceae	Rui	Shrub	Leaves, Stem	Dysentery, Boils, Stomach disorder
13	*Cannabis indica* Lam.	Cannabaceae	Ganja	Shrub	Leaves, Stem, Seeds	Pain killer, Sexual stimulant
14	*Capparis decidua* (Forsk.) Edgew.	Capparaceae	Nepati	Shrub	Fruits, Stem	Gastric trouble, Cough, Common cold, Swelling
15	*Capparis divaricata* Lam.	Capparaceae	Pachunda	Shrub	Leaves, Fruit	Anti-rheumatic, Tonic
16	*Carthamus tinctorium* L	Asteraceae	Kardai	Herb	Leaves, Stem	Common cold, Jaundice, Rheumatism, Stomach pain
17	*Celosia argentea* L.	Amaranthaceae	Kurdu	Herb	Leaves, Stem	Sexual stimulant, Urino-genital diseases
18	*Centella asiatica* (L.) Urban	Apiaceae	Bramhi	Herb	Leaves	Headache, Fever, Hyper tension, Enhancing memory in child
19	*Chenopodium album* L.	Amaranthaceae	Chakhvat	Herb	Leaves, Stem	Dysentery, Skin heating, Stomach pain
20	*Citrullus colocynthis* L. Schrad	Cucurbitaceae	Indrvan	Climber	Stem, Leaves, Fruit	Rheumatism, Chest inflammation
21	*Cleome viscosa* L.	Cleomaceae	Piwalya	Herb	Leaves	Wound healing, Headache, Ear pain, Toothache, Fever, Inflammation
22	*Clitoria ternatea* L.	Fabaceae	Gokarn	Herb	Seeds, Leaves	Memory disorder, Menstrual disorders, Sexual stimulant
23	*Coccinia grandis* (L.) vigot	Cucurbitaceae	Tondali	Climber	Leaves, Stem	Blood anti-clotting, Asthma, Urino-genital disease, To control blood sugar level
24	*Dalbergia sissoo* Roxb.	Fabaceae	Shisam	Tree	Leaves, Bark, Roots	Leprosy, Scabies
25	*Datura metal* L.	Solanaceae	Dhotra	Herb	Fruits, Leaves	Relief body pain
26	*Datura stramonium* L.	Solanaceae	Kala Dhotra	Herb	Stem, Leaves, Fruits	Respiratory problem, Fever, Inflammation, Cough
27	*Delonix regia* (Boj. ex Hook.) Raf.	Fabaceae	Gulmohar	Tree	Seeds, Leaves	Constipation Inflammation
28	*Ephorbia triucalli* L.	Euphobiaceae	Sher	Shrub	Latex, Leaves	Skin disease, Wart, Rheumatic
29	*Ficus benghalensis* L.	Moraceae	Vad	Tree	Leaves	To cure wounds, Inflammation
30	*Ficus religiosa* Linn.	Moraceae	Pimpal	Tree	Leaves, Stem, Fruits	Gonorrhea, Scabies, Anti-venom.
31	*Ipomoea carnea* Jacq.	Convolvulaceae	Besharam	Shrub	Leaves	Pile, Fever, Antiseptic
32	*Martynia annua* L.	Martyniaceae	Waghnakhya	Herb	Leaves, Roots	Urino-genital disease, Ulcers
33	*Monoon longifolium* Sonn. B. Xue & R.M.K. Saunde	Annonaceae	Ashok	Tree	Flower	Diabetes, Antiseptic, Skin diseases
34	*Ocimum sanctum* Linn.	Lamiaceae	Tulsi	Herb	Leaves, Stem	Cough, Common cold, Antiseptic
35	*Phyllanthus emblica* L.	Phyllanthaceae	Awala	Tree	Fruits, Leaves	Sore throat, Vomiting, Chest relief, blood purifier
36	*Plumeria rubra* (Lim.)	Apocynaceae	Chapha	Tree	Bark	Wound healing, Rheumatism.
37	*Prosopis juliflora* (Swarts) DC.	Fabaceae	Vilayati babhul	Shrub	Leaves, Stem	Boil, Fungal & Bacterial infections.
38	*Ricinus communis* L.	Euphobiaceae	Arandi	Shrub	Leaves	Jaundice, Fungal and Bacterial infection.
39	*Santalum album* Linn.	Santalaceae	Chandan	Tree	Seeds, Bark, leaves	Burns, Headache, Gonorrhea disease, Skin diseases
40	*Senna auriculata* L.	Fabaceae	Tarvad	Shrub	Leaves, Stem	Common cold, treat foot-and-mouth disease
41	*Senna tora* (L.) Roxb.	Fabaceae	Takala	Herb	Leaves	Skin diseases.
42	*Syzygium cumini* L. Skeels.	Myrtaceae	Jambhul	Tree	Fruit	Dysentery, Stomach, Cramps, Diabetes.
43	*Tamarindus indica* L.	Fabaceae	Chinch	Tree	Fruits, Leaves	To cure eye infection, Ulcer.
44	*Tephrosia purpurea* L. Pers.	Fabaceae	Unhali	Herb	Roots, Bark, Leaves	Fungal disease, Acidity, Anti-venom.
45	*Terminalia arjuna* (Roxb.) Wight &	Combretaceae	Arjun	Tree	Fruits, Bark, Leaves	Headache, Wound healing, Burns.

	Arn.					
46	*Terminalia catappa* L.	Combretaceae	Deshi badam	Tree	Fruits, Leaves	Acidity, Headache, Urino- genital disease
47	*Tinospora cordifolia* (Thunb.) Miers	Menispermaceae	Gulvel	Climber	Stem, Fruits, Leaves	Diabetes and Rheumatic weakness, Sore throat, Cardiac diseases
48	*Tribulus terrestris* L.	Zygophyllaceae	Sarata	Herb	Fruit, Leaves, Stem, Bark	Urinary disorders, Wound healing
49	*Withania somnifera* L. Dunal	Solanaceae	Ashwagandha	Shrub	Roots, Leaves	Ulcer, Fever, Cough, Leukoderma.
50	*Zizyphus mauritiana* Lamk.	Rhamnaceae	Chitter bor	Shrub	Fruits	Cold and Cough, Chest relief.

Fig 1: Some medicinal plants species recorded in Malshiras tehsil of Solapur district

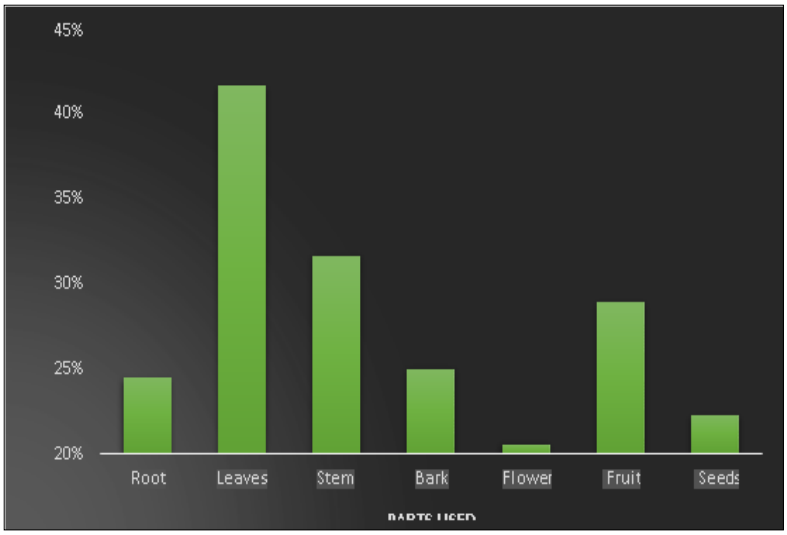

Fig 2

Conclusions

The above data of ethnomedicinally important plants helps to cure various diseases. This process is experienced over hundreds of years by local elder peoples and different tribal communities to use plants as medicinal source. It can play very important role to transfer such significant ethnic knowledge to the future generations. Thus, conservation and sustainable use of ethnomedicinal plants by local communities is dynamic to avoid more loss of plant sources. Contemporary documentation also gives a fruitful platform to researchers for the further investigation of phytochemicals, bio-molecules and nano particles on the treatment of harmful disorders of modern era.

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