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Ethnobotanical and Ethnomedicinal Survey of Nagzira Wild Life Sanctuary, District Gondia (M.S.) India- Part I

D. K. Koche, R. P. Shirsat, Syed Imran, Mohd. Nafees, A. K. Zingare* and K. A. Donode*

Department of Botany Shri Shivaji College, Akola-444 005
Department of Botany, M. B. Patel College, Sakoli- 440 802
Corresponding author: D. K. Koche (dipakkoche43@gmail.com)

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ABSTRACT

The purpose of this study was to document the indigenous folk knowledge of the inhabitants of the Nagzira Wild Life Sanctuary in eastern Maharashtra, a region of the Indian subcontinent long known for its extraordinary beauty and biodiversity. One important result of the survey that was conducted of the inhabitants of this rugged hill country is that it revealed a total of 70 different plant species having ethnobotanical and ethnomedicinal uses. Taxonomically, the plants used by the villagers of this area were classified under 32 families of angiosperms.

INTRODUCTION

Recent research in plant science has focused mainly on ethnobotanical and ethnomedicinal investigations to fulfill the increasing demand of herbal products. Within the very rich, diverse flora of the Indian subcontinent are to be found many plants having ethnobotanical or ethnomedicinal importance. It has been reported that about 20,000 plant species are found in Indian flora, nearly all with different properties, of which about 7% are on the verge of extinction. Therefore it is essential to investigate such plants from core areas and unexplored regions and collect the indigenous knowledge regarding their utilities.

Nagzira (21°10' N latitude and 17°12'E longitude) is one of the most popular sanctuaries of Maharashtra. It is well known for its beautiful landscapes and natural diverse flora and fauna. It comes under Tirora range of Gondia forest Division, Maharashtra, and covers about 152.810 square kilometers.

The natural vegetation of Nagzira sanctuary includes a variety of plant species having economic importance. It yields timber, gum and resinous plants, food and fodder

plants, and plants having medicinal value. Some tribal communities (Gond, Gawali, Halbi and Pradhan) are native to the nearby sanctuary area. These tribals are largely dependent on forest products for their livelihood. They are knowledgeable about the utility of the majority of these plants. They collect gum, resin, fodder, timber and fuel wood from the sanctuary area and offer it for sale in the nearby town. Therefore, most of the plant species are either becoming less abundant or on the verge of extinction.

Several workers like Jain, 1963; Bhatnagar *et al.*, 1973; Bhalla *et al.*, 1992; Bajpai and Mitra, 1997 and Dubey *et al.*, 2001, have been investigating the ethnobotany of northern, southern and central India. Similarly Kamble and Pradhan, 1980; Naik, 1998; Rothe *et al.*, 2004 and Rothe, 2005, investigated the ethnomedicinal plants from Sahyadri- Satpuda ranges and remote tribal area of Melghat. However, the eastern part of Maharashtra remains neglected, even though the vegetation may be of ethnobotanical interest.

MATERIAL AND METHODS

Extensive surveys of the sanctuary were carried out in three different phases. First, from July 2003 to Sept. 2003, secondly from Oct. 2003 to Dec. 2003, and thirdly from Jan 2004 to March 2004. Later on, collections and ethnobotanical and ethnomedicinal information was obtained from Vaidus, Mukhiya, and Pradhan villagers. In all, the tribals of nine different villages (Nagzira, Chorkhambara, Bodalksa, Rengepar, Murpar, Lendezari, Malutola, Talezari, Balapur) were interviewed. A total of 70 different plant species were surveyed and collected. The collected material is deposited in the Department of Botany, Manoharbai Patel College, Sakoli in the form of herbarium sheets and photographs. Ethnobotanical and ethnomedicinal uses of the collected plants are described below.

Note: Species uses marked with an asterisk are reported here for the first time.

1. *Acacia nilotica* (L.) Willd

Family: Mimosaceae

Local name: Babool

Habit: Small tree

Part used: Leaves, Wood, Gum and Bark

Ethnobotanical use: The leaves are used as fodder for goats. The stem wood is hard and used in the making of furniture, agricultural tools and houses. It is also used for household fuel.

Ethnomedicinal use: The raw gum obtained from the stem of this medicinal species has long been known for its cooling, healing and astringent properties. It is used in the treatment of diarrhea, dysentery and diabetes. The bark is mixed with honey and applied to the eyes to relieve conjunctivitis and to stop lacrimination.

2. *Acacia catechu* L.

Family: Mimosaceae

Local name: Khair

Habit: Tree

Part used: Wood and Leaves

Ethnobotanical uses: The wood of this species is used for the making of agricultural tools and furniture. It is also used for household fuel, and the leaves of this tree are used as fodder for goats.

3. *Acacia leucophloea* L.

Family: Mimosaceae

Local name: Hiwar

Habit: Tree

Part used: Wood and Leaves

Ethnobotanical uses: The wood of this species is used for the making of agricultural tools. It is also used as a household fuel.

Ethnomedicinal use: The fresh leaf juice of this species is used in the treatment of scorpion bites.

4. *Adathoda vasica* Nees.

Family: Acanthaceae

Habit: Perennial herb or under shrub

Part used: Leaves

Ethnomedicinal uses: An extract of the dried leaves of this species is used as an expectorant. Juice from the fresh leaves is given to relieve the symptoms of cough and cold. It also contains a component of glycodin, vasaka-a.

5. *Asparagus adscendens* L.

Family: Liliaceae

Local name: Satawari/ Marbat

Habit: Climber

Part used: Rhizome

Ethnomedicinal uses: The rhizome of this plant is used to treat digestive problems, jaundice and liver ailments. A tonic made from the rhizome of this species is also used as a sexual stimulant.

6. *Argemone mexicana* L.

Family: Papaveraceae

Local name: Piwala Dhotra

Habit: Annual herb

Part used: Seeds

Ethnomedicinal uses: The powdered seed of this species, mixed with coconut oil (1:5, W/V), is used to treat fungal infection.

7. *Aegle marmelos* Correa.

Family: Rutaceae

Local name: Bel

Habit: Tree

Part used: Leaves, Root and Fruit

Ethnobotanical uses: Tribals and local people use the fruits of this tree for the making of

pickles.

Ethnomedicinal uses: The fruits of this species are used to treat dysentery, diarrhea and piles. They are also used as a brain tonic. The pulp of the ripe fruit is used as a cooling agent. The roots are used to check vomiting, and the leaves are good for diabetes.

8. *Achyranthus aspera* L.

Family: Amaranthaceae

Local name: Kutri

Habit: Annual herb

Part used: Entire plant

Ethnomedicinal uses: An aqueous extract of this plant is used in the treatment of eye disorders, and for the treatment of cough and indigestion. It is also used to counter snake bites and piles*.

9. *Amaranthus viridis* L.

Family: Amaranthaceae

Local name: Chaulee

Habit: Annual herb

Part used: Leaves

Ethnomedicinal uses: This species is said to be a good blood purifier. It is also used in the treatment of piles, and can be taken as a digestive agent.

10. *Azadirachta indica* A. Juss.

Family: Meliaceae

Local name: Neem

Habit: Tree

Part used: Leaves, Bark, Seed and Root

Ethnobotanical uses: The wood is used for making furniture and building materials.

Ethnomedicinal uses: The leaves and root extract of this species is used in the treatment of leprosy and leucoderma. A leaf extract is also given for snake bites and scorpion sting. The roots are used to relieve jaundice and skin diseases. The bark, having antifungal properties, is used to treat eczema and boils.

11. *Albizia lebbek* (L.) Bth.

Family: Mimosaceae

Local name: Sirish

Habit: Tree

Part used: Wood

Ethnobotanical uses: The wood of this tree is used in the construction of houses and furniture.

12. *Ageratum conyzoides* L.

Family: Asteraceae

Local name: Mukhra

Habit: Annual herb

Part used: Entire plant

Ethnomedicinal uses: This plant is used to counter stomach disorders. Also, an extract of the entire plant is taken as a tonic.

13. *Aloe barbadensis* Mill.

Family: Liliaceae

Local name: Korphad

Habit: Perennial shrub

Part used: Leaves

Ethnomedicinal uses: The leaf juice of this species is used against liver problems, piles, jaundice and rheumatism. The juice of the roasted leaf is given for cold, cough and fever. The leaf itself is used for skin diseases and as cosmetic to remove wrinkles and remedy burns. The juice or paste of the leaf, when added to germinated *Trigonella foenum-graceum* seeds, is helpful in preventing hair loss.*

14. *Bauhinia variegata* L.

Family: Caesalpinaceae

Local name: Kachnar

Habit: Tree

Parts used: Stem, Bark, Flowering buds

Ethnobotanical uses: Stem/ wood is used as timber. The flowering buds are edible and are eaten as a vegetable.

Ethnomedicinal uses: The bark of this species is an anthelmintic. Since it is astringent, it is used often in tonics. In years past, people were reported to have used the bark paste of this species for the treatment of skin diseases and leprosy.

15. *Butea monosperma* (Lamk.)

Family: Fabaceae

Local name: Palas

Habit: Tree

Part used: Flowers and fruits

Ethnobotanical uses: The wood of this species is one of the chief sources of household fuel. The dye obtained from its flowers is used widely during Holi and as fiber colorant.

Ethnomedicinal uses: An extract of the flowers of this tree is used for the treatment of burning sensations, and other skin diseases. The fruits have aphrodisiac and anthelmintic properties, and are given for the treatment of urinary problems, piles, worms and abdominal disorders.

16. *Bombax ceiba* L.

Family: Bombacaceae

Local name: Saur

Habit: Tree

Parts used: Wood and Fruit floss.

Ethnobotanical uses: The fruit floss of this tree is used for the stuffing of pillows, cushions and mattresses, etc., and the wood is used for the making of light furniture.

17. *Bambusa bamboo* Vass.

Family: Poaceae

Local name: Bans

Habit: Tree

Parts used: Branches, Stem and Leaves.

Ethnobotanical uses: The branches of this tree are used in the making and thatching of huts, and in the making of ladders. The split stems are used in the manufacture of baskets and mats.
Ethnomedicinal uses: The leaf buds of this species are used in the treatment of thread worms, and the leaf juice is given in the treatment of the vomiting of blood.

18. *Cuscuta reflexa* Roxb.

Family: Cuscutaceae

Local name: Amarvel

Habit: Parasitic climber

Part used: Whole plant

Ethnomedicinal use: An infusion of this plant is used in the treatment of lice infections, and for the washing of sores.

19. *Cymbopogon flexuosus* Wats.

Family: Poaceae

Local name: Tikhadi/ Gauti Chai

Habit: Annual herb

Part used: Entire plant

Ethnobotanical uses: This species is used as a carminative and stimulant. Its specific use lies in the treatment of blood disorders, coughs and indigestion.

20. *Cardiospermum helicacabum* L.

Family: Sapindaceae

Local name: Kapal phodi

Habit: Herb

Part used: Leaves

Ethnomedicinal uses: The leaf juice of this species is used in the treatment of dysentery.

21. *Cassia fistula* L.

Family: Caesalpinaceae

Local name: Bahawa

Habit: Tree

Part used: Leaves, flowers, Bark and Root

Ethnomedicinal uses: The fresh leaves and flowers of this tree are used in the treatment of ringworm and some skin diseases. An aqueous root extract is given to cure common fever. The bark is a laxative and astringent.

22. *Cassia tora* L.

Family: Caesalpinaceae

Local name: Tarota

Habit: Annual herb

Part used: Entire plant

Ethnobotanical uses: The leaves of this plant along with the tender stems are used for vegetables.

Ethnomedicinal uses: A whole plant extract of this species is used to cure psoriasis.

23. *Calotropis procera* (Willd) R. Br.

Family: Asclepiadaceae

Local name: Rui

Habit: Shrub

Part used: Entire plant and Latex

Ethnomedicinal uses: A paste made from the entire plant of this species is mixed with sugar and applied over dog bites*. The dry leaves are smoked as a treatment for cough and asthma. The latex is useful in the treatment of ringworms and skin disease.

24. *Crotolaria juncea* L.

Family: Fabaceae

Local name: Sontag

Habit: Shrub

Part used: Bark of stem

Ethnobotanical uses: The stem bark of this species yields fiber that can be utilized for the making of ropes.

25. *Dendrocalamus strictus* (Roxb.) Nees.

Family: Poaceae

Local name: Bamboo

Habit: Tree

Part used: Leaves, Branches and Stem

Ethnobotanical use: Branches are used for making and thatching huts, making ladders, carts and pipes. The splits stems are used for the weaving of baskets and mats.

Ethnomedicinal uses: The leaves of this species are used for the treatment of coughs and colds in pet animals.

26. *Dalbergia sissoo* Roxb.

Family: Fabaceae

Local name: Shisham

Habit: Tree

Part used: Wood, Bark

Ethnobotanical uses: The hard wood of this tree is used for the making of furniture.

Ethnomedicinal uses: The powdered bark of the tree is used in the treatment of gonorrhea.

27. *Datura metal* L.

Family: Solanaceae

Local name: Dhotra

Habit: Herb

Part used: Leaves, Fruits and Seeds

Ethnomedicinal uses: The dried leaves of this species are smoked in the treatment of asthma and bronchitis. The fruit juice is taken as a preventative against dandruff and hair fall. Seeds are astringent, antispasmodic, narcotic and intoxicant.

28. *Euphorbia hirta* L.

Family: Euphorbiaceae

Local name:

Habit: Annual herb

Part used: Entire plant

Ethnomedicinal uses: An extract of the entire plant of this species is used in the treatment of cough, asthma, piles, and semen debility

29. *Emblica officinalis* Gaerth.

Family: Euphorbiaceae

Local name: Awala

Habit: Tree

Part used: Fruits

Ethnomedicinal uses: The fruits of this tree are used in the treatment of diabetes, heart disorders, eye problems, rheumatism and diarrhea.

30. *Ficus recemosa* L.

Family: Moraceae

Local name: Umber

Habit: Tree

Part used: Wood, Leaves, Latex, Fruits

Ethnobotanical uses: Wood is used as fuel.

Ethnomedicinal uses: The astringent leaves of this species are used as a mouthwash for spongy gums. The latex of the stem is useful in the treatment of piles and diarrhea. Fruits are edible, astringent and carminative. They are said to be useful in relieving stomachache.

31. *Ficus religiosa* Roxb.

Family: Moraceae

Local name: Peepal

Habit: Tree

Part used: Wood, Bark, Fruits

Ethnobotanical uses: The wood of this tree is used for household fuel.

Ethnomedicinal uses: A decoction of the bark of this species is given to treat gonorrhoea and scabies. The edible fruits are used as a laxative.

32. *Ficus glumerota* Wall. Ex Roxb.

Family: Moraceae

Local name: Gular

Habit: Tree

Part used: Fruits

Ethnomedicinal uses: The fruits of this tree are eaten to counter constipation. They are also used for the treatment of lung and urinary problems.

33. *Ficus bengalensis* L.

Family: Moraceae

Local name: Bad/ Bargad

Habit: Tree

Part used: Latex

Ethnomedicinal uses: The latex of this plant is used to treat dysentery, diarrhea, piles, tooth decay, rheumatism and skin diseases.

34. *Grewia tillifolia* (Vahl.)

Family: Tiliaceae

Local name: Dhaman

Habit: Small tree

Part used: Wood, Leaves and Bark

Ethnobotanical uses: The wood of this tree is used in the making of furniture and agricultural implements. The leaves are used for fodder; whereas the bark is utilized for the making of fiber and ropes.

35. *Heteropogon contortus* L.

Family: Poaceae

Local name: Kusal gavati

Habit: Herb

Part used: Entire plant

Ethnomedicinal uses: An oil extract of this plant is used in the treatment of appendicitis and scorpion bite.

36. *Hemidesmus indicus* R. Br.

Family: Asclepiadaceae

Local name: Khobarvel/ Anantmul

Habit: Climber

Part used: Entire plant

Ethnomedicinal uses: This species is used in the treatment of fever, diabetes, cough and blood disorders. It is also used as a tonic and a diuretic, and for the treatment of hypertension.

37. *Jatropha curcas* L.

Family: Euphorbiaceae

Local name: Chandrajoti/ Ratanjoti

Habit: Perennial herb

Part used: Seeds

Ethnomedicinal uses: The powdered seed of this species is dissolved in water and given for the treatment of cholera, dysentery and stomach disorders. It is also effective for the treatment of skin diseases and rheumatism.

38. *Lantana camara* L.

Family: Verbinaceae

Local name: Panchphuli/ Ghaneri

Part used: Whole plant

Ethnobotanical uses: Because of the colorful blooms of this species, it is often planted as an ornamental in gardens.

Ethnomedicinal uses: Although this species is a very poisonous plant, it has found occasional use as an intoxicant.

39. *Lawsonia inermis* L.

Family: Lythraceae

Local name: Heena/ Mehendi

Habit: Perennial under shrub

Part used: Leaves

Ethnobotanical uses: The leaf juice or paste from this species is used in the coloring of hair and in painting *Mehandi* on palms.

40. *Morus alba* L.

Family: Moraceae

Local name: Tuti

Habit: Shrub

Part used: Leaves, Fruits

Ethnobotanical uses: The leaves of this shrub are used as fodder for sheep and goats.

Ethnomedicinal uses: The leaves of this species have emollient properties. They are reported to be good for the cleansing of the throat. They are also used for a cooling agent, as well as for their astringent and anthelmintic properties. The fruits are used as a laxative and purgative.

41. *Mangifera indica* L.

Family: Anacardiaceae

Local name: Amba/ Aam

Habit: Tree

Part used: Stem, Branches, Bark, Fruits, Seed and Root

Ethnobotanical uses: The wood of this species is used for the making of furniture and plywood, and the branches are used as household fuel. The fruits are edible, aromatic and tasty, and can be used in the preparation of pickles.

Ethnomedicinal uses: The bark of this species is used as an appetizer, aphrodisiac, astringent and cardiac medicine. The fruits and seeds are used in the treatment of bleeding piles and skin diseases.

42. *Mytragyna parviflora* Roxb.

Family: Rubiaceae

Local name: Kadamb

Habit: Tree

Part used: Wood

Ethnobotanical uses: The wood of this tree is used in the manufacture of houses, furniture and agricultural implements.

43. *Merremia emarginata* Hallier.

Family: Convolvulaceae

Local name: Undir kana

Habit: Herb

Part used: Leaves

Ethnomedicinal uses: The fresh leaf juice of this species is given in the treatment of corns.

44. *Memordica dioca* Roxb.

Family: Cucurbitaceae

Local name: Kadu karle

Habit: Shrub

Part used: Leaves

Ethnomedicinal uses: The fresh leaf juice of this shrub is used as antiseptic.

45. *Opuntia dillenii* Haw.

Family: Cactaceae

Local name: Nagphani

Habit: Shrub

Part used: Phylloclades and fruits

Ethnomedicinal uses: A poultice made from the phylloclades of this cactus is used for the extraction of guinea worms. The edible fruits are used as a demulcent and expectorant. Juice made from the ripe fruit is used in the treatment of asthma and whooping cough.

46. *Ocimum americanum* L.

Family: Lamiaceae

Local name: Dev tulsi

Habit: Perennial herb

Part used: Leaves

Ethnomedicinal uses: A paste or extract made from the leaves of this species is applied to the skin in cases of eczema or other epidermal infections.

47. *Ocimum basilicum* L.

Family: Lamiaceae

Local name: Kali tulsi

Habit: Perennial herb

Part used: Leaves and Seed

Ethnomedicinal uses: An infusion of the leaves of this species is often used as a tonic. The leaves are helpful in the treatment of skin infections. They can be added to tea or honey to relieve the symptoms of cold and cough.

48. *Phyllanthus niruri* L.

Family: Euphorbiaceae

Local name: Bhui-awala

Habit: Annual herb

Part used: Entire plant

Ethnomedicinal uses: Because this species is a diuretic, it is often used in the treatment of jaundice and urino-genital infections. It is also made into a tonic for the treatment of liver problems.

49. *Pithecolobium dulce* Benth.

Family: Euphorbiaceae

Local name: Vilayati imli

Habit: Tree

Part used: Fruits

Ethnomedicinal uses: The edible fruits of this species are used to cure common fever and dysentery.

50. *Plumbago zeylanica* L.

Family: Plumbaginaceae

Local name: Chitrak

Habit: Annual herb

Part used: Entire plant

Ethnomedicinal uses: This species is reported to be effective in the treatment of intestinal disorders, skin diseases and rheumatism.

51. *Pterocarpus marsupium* Roxb.

Family: Fabaceae

Local name: Bija

Habit: Tree

Part used: Wood, Bark and Leaves

Ethnobotanical uses: The wood of this tree is used in the manufacture of agricultural tools and light furniture.

Ethnomedicinal uses: The powdered bark and fresh leaf extract of this species is used in the treatment of leprosy, diabetes, ulcer, leucoderma and skin diseases. It is also used cosmetically for the improvement of ones complexion.

52. *Ricinus communis* L.

Family: Euphorbiaceae

Local name: Arand

Habit: Shrub

Part used: Leaves, Seeds, Oil

Ethnomedicinal uses: The leaves of this plant have emetic, narcotic, poisonous, and purgative properties. A poultice made of the leaves of this species is used in the treatment of swellings. Castor oil is given to mothers before and after child birth to counter constipation. Although very poisonous, the seeds of this species in proper dosage can be used as a sedative.

53. *Rauwolfia serpentina* (L.) Benth. Ex Kurx.

Family: Apocyanaceae

Local name: Sarpagandha

Habit: Shrub

Part used: Roots

Ethnomedicinal uses: The powdered root of this species when taken with butter is used in the treatment of insomnia. It is also used as a sedative, depressant, febrifuge, antihypertensive and tonic.

54. *Rauwolfia tetraphylla* L.

Family: Apocyanaceae

Local name: Chandrika

Habit: Perennial herb

Part used: Roots

Ethnomedicinal uses: The roots of this plant are useful in the treatment of mouth pain. They are also given as an anti-inflammatory and in cases where there is a burning sensation of the stomach. Care must be taken as an overdose is poisonous.

55. *Sonchus asper* L.

Family: Asteraceae

Local name: Mhatari

Habit: Annual herb

Part used: Whole plant

Ethnomedicinal uses: This species has diuretic, cooling, sedative and antiseptic properties. It is helpful in the treatment of cough, bronchitis and Asthma.

56. *Syzigium cumini* (L.) Skeels.

Family: Myrtaceae

Local name: Jambhul

Habit: Tree

Part used: Stem, Branches, Bark and Fruits

Ethnobotanical uses: The stem and braches of this tree provide household fuel.

Ethnomedicinal uses: The powdered bark of this species is given to relieve stomach problems, indigestion, leucoderma, ring worm and diabetes. The fruits have carminative, astringent and diuretic properties.

57. *Semicarpus anacardium* L.

Family: Anacardiaceae

Local name: Bhilwa/ Bibba

Habit: Tree

Part used: Fruit and Seed

Ethnomedicinal uses: The fruits of this species are eaten to relieve indigestion. They are also used in the treatment of coughs, piles and boils. The oil from the seed of this plant is anthelmintic, and it has been also reported to be good for the treatment of scabies.

58. *Solanum xanthocarpum* Schard & Wendl

Family: Solanaceae

Local name: Bhui ringani

Habit: Herb

Part used: Leaves

Ethnomedicinal uses: A fresh leaf extract of this species is given in the case of respiratory diseases and dropsy. It has also been reputed to be good for the treatment of gonorrhoea and snake bite.

59. *Sapindus laurifolius* L.

Family: Sapindaceae

Local name: Reetha

Habit: Tree

Part used: Fruits

Ethnomedicinal uses: A shampoo made from the fruits of this tree is reputed to promote hair growth.

60. *Tectona grandis* L.

Family: Verbinaceae

Local name: Sagwan

Habit: Tree

Part used: Wood

Ethnobotanical uses: The wood of this tree is used in the making of houses, furniture and agricultural tools.

61. *Tamirandus indica* L.

Family: Ceasalpinaceae

Local name: Chinch/ Imlī

Habit: Tree

Part used: Leaves, Bark and Fruits

Ethnomedicinal uses: The dry, powdered bark of this species is given to relieve gastric pain. The fruits are used for tonic, and are reportedly good for the curing of dandruff. A paste made from the leaves of this tree is useful in the treatment of inflammation*, blood disorders and acne.

62. *Terminalia belarica* Roxb.

Family: Combrataceae

Local name: Beheda

Habit: Tree

Part used: Stem, Branches and Fruit

Ethnobotanical uses: The stem and branches provide household fuel.

Ethnomedicinal uses: The dried fruit of this tree is used in the treatment of cough, fever, indigestion, dropsy, leprosy, piles, and etc. The fruit has long been used in the Ayurvedic preparation called "Triphala Churna," which also contains the fruit of *T. chebula* and *E. officinalis*.

63. *Terminalia tomentosa* L.

Family: Combrataceae

Local name: Ain

Habit: Tree

Part used: Wood

Ethnobotanical uses: The wood of this tree is used in the manufacture of furniture and agricultural implements.

64. *Terminalia arjuna* (DC) Weight & Arn.

Family: Combrataceae

Local name: Arjun

Habit: Tree

Part used: Wood and Bark

Ethnobotanical uses: The wood of this tree is used in the manufacture of furniture

Ethnomedicinal uses: The astringent bark of this species is used as a febrifuge and as a coolant and cardiac stimulant.

65. *Vitex negundo* Hausskn.

Family: Verbinaceae

Local name: Nirgudi

Part used: Leaves and Branches

Ethnomedinal uses: The leaves of this species are crushed and mixed with wheat flour for use

in skin disorders. Also, the leaves are smoked to relieve headaches. The branches can be used as a toothbrush. This species also has anthelmintic and diuretic properties.

66. *Vanda roxburghii* R. B.

Family: Orchidaceae

Local name: Banda

Habit: Epiphyte

Part used: Entire plant

Ethnomedicinal uses: This species is useful in the treatment of rheumatism and arthritis.

67. *Zizyphus jujuba* Mill.

Family: Rhamnaceae

Local name: Bor/Ber

Habit: Tree

Part used: Wood, Bark, Leaves and Fruits

Ethnobotanical uses: The wood of this tree is used in the manufacture of furniture and as fuel. The leaves are used for goat fodder.

Ethnomedicinal uses: The edible fruits of this tree act as a blood purifier. They are also reported to cure indigestion. A decoction made from the fruit of this species is given for respiratory problems. The macerated bark is mixed with milk and honey, and is taken for the treatment of diarrhea, dysentery, cough and cold.

68. *Vernonia anthelmintica* Willd.

Family: Asteraceae

Local name: Kadujire

Habit: Herb

Part used: Seeds

69. *Tinospora cardifolia* (Willd.) Miers,

Family: Menispermaceae

Local name: Gulvel

Habit: shrubby climber

Part used: Roots

70. *Wrightia tinctoria* Br.

Family: Apocynaceae

Local name: Kayakuda

Habit: Tree

Part used: Bark

Ethnomedicinal uses: The bark of this species together with the seeds of *Vernonia anthelmintica* and the roots of *Tinospora cordifolia* are individually crushed into a fine powder. A mixture of the three powders (1:1:1, W/W) is then taken in water to counter gaseous intestinal problems and febrifuge. This mixture is also used as an antipyretic.

RESULT AND DISCUSSION

Research and extension work are the major pathways to integrate folk knowledge

about ethnobotanical and ethnomedicinal plants for modern primary health care and human welfare. The major objective should be to match safe, effective remedies to common illnesses, using local medicinal plants and cost effective household needs. The problem is that very little is known about folk and traditional medicine proper, and it is impossible to say how effective they are without a lot more research.

This survey provides evidence that the tribal people and other villagers residing in the near vicinity of the Nagzira sanctuary use about 70 plant species for the treatment of various ailments and household uses. The tribal people depend mostly on herbal medicines as there are no clinics in the villages. The plants are generally used for stomach disorders, skin diseases, aphrodisiacs, fever, tonic, ulcer, asthma, snake-bite, respiratory diseases, leucorrhoea, dandruff, eye-diseases, diabetes, and in the treatment of cancer. Some plants were used for the manufacture of houses, furniture and agricultural implements. As the villagers of this area are mostly illiterate, they know how to make use of their plants but have little or no knowledge on how to conserve them. Thus, there is an urgent need for training in conservation and on the cultivation of plants of economic importance.

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