

## OBSERVATIONS ON ETHNOBOTANY OF PURULIA, WEST BENGAL

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## ABSTRACT

The paper deals with the plants used by the aboriginal tribes such as the Santals, Bhumijis, Birhors and Kherias inhabiting the Purulia district of West Bengal. 210 plant species employed by these people for food, medicine and miscellaneous domestic uses are discussed. Many uses of plants reported by the tribals are not recorded earlier.

## INTRODUCTION

Man has been using plants since time immemorial. Researches in archaeology, paleobotany, ethno-history and ethnogeography are bringing to light additional information on the relationship between plants and man. The remnants of old civilisation are now seen in original or nearly original form among the so-called aboriginal, tribal or the indigenous populations of the world. A method of study of this old civilisation is an on-the-spot study of the present day tribal societies. This relationship between the indigenous people and their plant surroundings forms the subject of ethnobotany. This will include a study of the plants used by these tribals for their food, medicine and clothing and the impact of such usage on the survival of the plant growth. The importance of such studies has been stressed recently by Jones (1957) and Schultes (1963).

## AREA OF WORK

The district of Purulia, situated on the western border of the State of West Bengal, was chosen for this ethnobotanical study, because it represents one of the regions in Bengal, where tribal people are concentrated. In spite of rapid urbanisation in certain parts of Bengal during the present century, Purulia has remained rural and here, the change in indigenous culture has been slow. The area selected lies approximately between  $22^{\circ}50'$  &  $23^{\circ}42'$  N and  $85^{\circ}51'$  &  $86^{\circ}54'$  E.

Purulia, the district headquarter, is approachable from Calcutta, Asansol or Jamshedpur by road as well as by rail throughout the year; other places in the district are connected by fair-weather roads.

There are low hills and undulating plateaus, divisible into two physiographic divisions; with the higher plateau including the Baghmundi and Ajodhya ranges in the west, and the lower plateau

along the eastern half of the district. The Baghmundi region has an average altitude of about 400 m and at certain regions this rises to 600 m. The Ajodhya range has several peaks which have an altitude more than 600 m. The forest-covered hills at Panchakot and Kuilapal are the favourite abodes of the tribal people and these were the chief localities selected for our studies.

The mean maximum temperature ranges between  $25^{\circ}\text{C}$  and  $26^{\circ}\text{C}$  during December and February; it rises to  $31.5^{\circ}\text{C}$  in March-April and to  $40^{\circ}\text{C}$  in May. The minimum temperature varies from  $11^{\circ}\text{C}$  in January to  $26^{\circ}\text{C}$  in June; the mean minimum temperature is  $15^{\circ}\text{C}$  for winter,  $24.5^{\circ}\text{C}$  for summer and  $26.5^{\circ}\text{C}$  for the year. The annual rainfall varies approximately between 1230 mm and 1450 mm and is heavier along the western hilly parts of the district (Mitra, 1952).

## THE PEOPLE

The population of Purulia district is about 1.3 million; the majority of the people reside in small villages, often with less than 500 inhabitants. The more important communities of the district are the Santals, Bhumijis, and the Kora (Modi). Birhors, Kherias, Santal-Mahato and the Kurmis are occasionally present. Other tribals are comparatively few. Assurs, which were in majority in 1941 are now rare, and confined to Hurra and Pancha police stations. The nomadic Banjara and Bedia are present in small numbers. Other minor tribes have either become extinct or migrated to the adjacent areas like Ranchi and Palamau.

The Santals are now the largest in number, the Bhumijis being the next. Santals are concentrated around Baghmundi, Bandowan, Santuin, Manbazar, and Kartihar. Bhumijis are widely scattered in the district; some of them are now educated and employed in offices in towns. Further, they often have

large agricultural holdings (upto 15 sq km). The majority of them are still in a primitive state of economic life and depend on forest products for food, fuel and medicine. The Birhors live in comparatively remote forests and earn their livelihood by rope-making and occasional cultivation. They still eat monkeys and justify their ancestral name, the monkey-eating tribe. Efforts to colonise them in camps, where facilities for agriculture, organised rope-making and other cottage industries are encouraged, have not proved very successful so far. Reports of Birhors deserting these colonies and running back to forests were heard during our field work.

The prevailing language of the district is 'Rarhi Boli', a dialect of Bengali, but Santali and certain other tribal languages and dialects are also in use.

#### PREVIOUS WORK

There is no recent botanical account of Purulia district; the area was covered by Prain's (1903) work on flora of Bengal. No ethnobotanical work has been done in the district but some references of ethnobotanical interest exist for certain neighbouring areas. Bressers (1951) described the flora of Ranchi district and mentioned the use of certain plants as practised by the aboriginals. Boddington (1927) wrote on the medicinal plant lore of the Santals. The present authors recently published a preliminary account of some wild edible plants of Purulia (Jain and De 1964).

#### METHOD OF STUDY

The method of study was, in general, the same as described by the senior author for his ethnobotanical studies in Madhya Pradesh (Jain 1964, 1965).

In order to make an on-the-spot study of the plants used by the tribals of Purulia district, three field trips were undertaken during 1963-64; the first in May 1963, second in July-August 1963, and the third in March 1964. The places visited during these trips included areas around Ajodhya hills, Baghmundi, Kalma, Kuilapal, Matha, Panchakot hills and Purulia town.

**Informants:** Information was entertained only from selected local inhabitants who were considered to have good knowledge of the plants of the region. These informants were spotted with the help of forest officials and tribal leaders; they were taken to the forest as guide-cum-informants. Occasionally evening camp meetings of the village seniors were arranged and their knowledge of useful plants of the region was further tapped.

Repeated queries were made to get the information confirmed. It was noticed that women were

more familiar with vegetable foods and household articles from the forest; the men knew more about fibre plants, timbers and house-building materials. Should it be due to some sort of division of labour!

#### ECONOMIC PLANTS OF PURULIA

In the following account, the plants are given under their respective families; the latter are arranged according to Bentham and Hooker's system of classification. Under each family, the plants are arranged alphabetically. The botanical name of each species is followed by local names. The language or the region in which the sundry local names are assigned is indicated in parenthesis. The uses of the plants are given under four categories; food, medicine, other material culture and belief (or myth). Some plants are used in medicine in mixture with other ingredients and not singly; the names of these ingredients are mentioned wherever information in this regard was available. In certain cases it has not been possible to determine the identity of these ingredients, their local names are given.

Localities where the information was collected are cited, along with, wherever possible, the specimens of these plants. It was not considered necessary to collect specimens of some of the well-known and common plants. Detailed descriptions of plants are excluded here as these are available in published floras.

The following abbreviations are used:

B—Bengali; Bh—Bhumij; Bir—Birhor; K—Kheria; S—Santali.

Loc—Locality.

### ENUMERATION

#### DILLENIACEAE

**Dillenia pentagyna** Roxb.

Agoi (B), Raoidaru (Bir), Sahar (S).

Fruits are used as vegetable.

Loc: Ajodhya-Saparambera. (Jain 1964).

#### ANNONACEAE

**Annona squamosa** L.

Ata (B), Madal (Bh), Madargom (S).

Ripe and half-ripe fruits are eaten. Fresh flowers are eaten.

Loc: Ajodhya; Ranga; Hetarpani. (Jain 1964).

**Millettia velutina** Hook. f. & Th.

Kari (Bh).

Wood is used for making cots.

Loc: Ajodhya.

**Polyalthia cerasoides** (Roxb.) Bedd.

Panjon (S).

The wood is used for making cots and other domestic articles.

Loc: Ajodhya; Matha.

#### MENISPERMACEAE

##### **Cissampelos pareira** L.

*Chotkipar* (Bh), *Tijumala* (S).

A mixture of the crushed roots, with the roots of 'Bantulsi' is useful in stomach pains, in fever, and in cold. The stem (?) is crushed, mixed with 'Barki-Par' and given in fever. The plant is used in a venereal disease called 'Rukhi'.

Loc: Baghmundi; Kalma; Mathaburu; Panchakot. (De 8101, 8212).

##### **Tinospora cordifolia** (DC.) Miers.

*Latgulanj* (Bh).

A drink (Sarbat) is prepared from crushed stems. The plant is used in venereal disease (Rukhi), and in fever.

Loc: Panchakot, Vetu hills. (De 8051).

#### NYMPHAEACEAE

##### **Nymphaea nouchali** Burm. f.

*Saluk* (Bh).

Stalks of the leaves are eaten.

The motifs on house-walls have resemblance with flowers of this plant.

Loc: Kuilapal; Sahebbandh, Purulia.

#### PAPAVERACEAE

##### **Argemone mexicana** L.

*Rangaini* (Bir), *Sialkanta* (B).

Seeds crushed with fruits of *Cleistanthus collinus* Benth. and applied in skin diseases.

Oil extracted from the seeds is applied on sores. The seed oil is poisonous.

In eye sores and redening of eyes, the yellow juice from apex of the stem and flowers is applied on the eyes.

Loc: Baghmundi; Panchakot; Ramkanali. (De 7961, 8074).

#### CRUCIFERAE

##### **Brassica campestris** L. var. *sarson* Prain

*Sarisha* (Bh).

Seeds yield 'Sarson' oil.

Loc: Kalma, Matha.

##### **Lepidium sativum** L.

*Chankor* (Bh).

Leaves are eaten as vegetable.

Loc: Baghmundi; Kuilapal.

#### CAPPARACEAE

##### **Capparis zeylanica** L.

*Ashari* (Bh).

The pounded roots are applied on the sores of snakebite. The fruits are eaten in snakebite.

Loc: Kalma; Panchakot, (De 8035, 8072).

#### COCHLOSPERMACEAE

##### **Cochlospermum religiosum** (L.) Alston

*Galgal* (Bh, B), *Hupu* (Bir).

The flowers are eaten in a preparation with the rice-cake—"pithe". Stem juice is also used in the preparation of rice-cake.

The root is useful in white urine disease (Kora-bimari).

Loc: Baghmundi; Panchakot. (De 7965).

#### PORTULACACEAE

##### **Portulaca quadrifida** L.

*Urialang-ara* (S).

Leaves are used as vegetable.

#### DIPTEROCARPACEAE

##### **Shorea robusta** Gaertn. f.

*Roli* (Bh), *Sal* (B, Bh).

Decoction of the bark is used in dysentery. A poultice of the bark is applied on unhealing sores. Root and seed are useful in dysentery.

Wood used for furniture, carts and in house-building. Bowls for serving food are made from its leaves. 'Sal-resin' (Dhuno) is burnt as incense in religious ceremonies, etc.

Loc: Badgna-tungri; Kalma. (De 8110).

#### MALVACEAE

##### **Abutilon indicum** Sweet.

*Mirubaha* (S), *Petari* (B).

Decoction of the root, with other ingredients, is used in a paralytic disease called "Tanni".

Loc: Ajodhya.

##### **Kydia calycina** Roxb.

*Foska-ola* (S).

Wood is used for making sticks etc.

Loc: Ajodhya.

##### **Bombax ceiba** L.

*Simul* (B, Bh).

Wood is used for making boxes, boats etc.

Loc: Ajodhya, Kuilapal.

#### STERCULIACEAE

##### **Firmiana colorata** (Roxb.) Br.

*Palakaur* (Bh), *Sisa* (Bh).

Timber used for making houses.

Loc: Ajodhya.

##### **Helicteres isora** L.

*Antmachra* (B, S, Bh), *Machra* (Bh).

Fruits are soaked in boiling oil, this oil is applied externally in stomach complaints of children. The oil is massaged on aching body (Ga-machrano) of children.

Fibres are used as cordage.

Loc: Kuilapal, Mathaburu, Panchakot, (De 7989).

**Pterospermum acerifolium** Willd.

*Halipahale* (Bh), *Muchkundachapa* (B), *Mukundachapa* (B).

Bark is useful in intestinal complaints, in headache and in pains. Flowers are useful in headache.

*Loc*: Panchakot; Inanpur. (*De 8050*).

**Sterculia urens** Roxb.

*Telhec* (S).

Ripe fruits and seeds are eaten.

Bark yields fibre for cordage.

*Loc*: Kandyar hills. (*De 8024*).

## TILIACEAE

**Grewia tiliacfolia** Vahl

*Dhamil* (Bh).

Wood used for making frames of cots.

*Loc*: Matha.

## LINACEAE

**Linum usitatissimum** L.

*Til* (Bh).

Seed-oil is put to several domestic uses.

*Loc*: Matha.

## RUTACEAE

**Aegle marmelos** Corr.

*Bel* (B, S), *Sinja*—a (S).

Ripe fruits make good sweet drink.

Ripe fruits eaten in constipation and other stomach troubles. Fruits are collected by Bhumij tribesmen as major forest produce. Decoction of the leaves is drunk. Poultice of leaves is used in eye diseases.

*Loc*: Matha. (*Jain 7911*).

**Limonia acidissima** L.

*Beli* (Bh).

Wood used for roofs of houses.

*Loc*: Kalma.

## OCHNACEAE

**Ochna pumila** Ham.

*Keda* (K).

Root is used in snakebite.

*Loc*: Kuilapal; Nanna. (*Jain 7968*).

## BURSERACEAE

**Boswellia serrata** Roxb.

*Shalga* (B, Bh).

The resin is used as incense. Its charcoal is used as gunpowder.

*Loc*: Baraganta, Kalma.

**Bursera serrata** Colebr.

*Kandlor* (Bh).

The fruits are eaten. Fruits are collected by the Bhumij tribesmen as a major forest produce.

*Loc*: Kalma, Ajodhya. (*Jain 7924*).

**Garuga pinnata** Roxb.

*Kandwer* (Bir), *Kandyar* (Bh).

Ripe fruits are eaten.

*Loc*: Bidyajara. (*De 8013*).

## MELIACEAE

**Azadirachta indica** A. Juss.

*Nim* (B, Bh).

Oil from the seeds is massaged on the body in skin diseases and foul ulcers.

Mucilaginous secretion is used as gum. Wood used for cart-building, etc.

The sweetish white exudation from stem bark is considered to have magical properties. The tribesmen gather before such a tree, worship it and collect the exudate (locally known as Nimdudh).

*Loc*: Kalma; Matha.

**Cipadessa fruticosa** Bl.

*Titakhari* (Bh).

Ash of the burnt stem is applied on sores of tiger-bite.

*Loc*: Kushtaur; Panchakot. (*De 8047*).

## CELASTRACEAE

**Celastrus paniculata** Willd.

*Kujri* (S, B), *Khunjri* (Bh).

Oil from the seed is massaged on body.

Oil is used as a luminant.

*Loc*: Kalma; Sirkatand. (*De 8095*).

**Maytenus emarginata** (Willd.) Ding Hu

*Kentai* (Bh).

Ripe fruits are eaten.

*Loc*: Badgna, Kalma. (*De 8079*).

## RHAMNACEAE

**Ventilago calyculata** Tul.

*Bonga-Sarjom* (S), *Raidhui* (Bh).

The bark is pounded and applied on sprains. Lower parts of stems and roots, when put in fire, given an exudate which is applied on headache.

*Loc*: Birinchi Narayan's Place, Panchakot. (*De 8179*).

**Zizyphus mauritiana** Lamk.

*Janin* (S), *Kul* (B).

The fruits are eaten. The plant is used as a lac-host. Leaves are used as a fodder. The spiny branches are used for fencing the vegetable gardens.

*Loc*: Matha. (*Jain 7910*).

**Z. xylopyrus** Willd.

*Ghunt* (Bh), *Karkat* (S).

Bark is used as astringent.

The leaves are used as a fodder.

*Loc*: Andra; Hathinada. (*Jain 7943, 7944*).

## VITACEAE

**Ampelocissus tomentosa** Planch.

*Ghora-lat* (B), *Kumharlat* (Bh).

Crushed root is mixed with resin of *Shorea robusta* tree and some 'Sarson' oil and applied on boils and on pains. The crushed root is applied on pains of cattles. The crushed root is also applied in venereal diseases. The rhizome is crushed and applied as poultice on sprains.

Loc: Jara, Kalma, Matha. (De 7982).

## SAPINDACEAE

**Schleichera oleosa** (Lour.) Oken.

Kusum (B).

Ripe fruits are eaten. Seed oil is used for cooking.

Powdered bark, mixed with lime, red-stone (Giru) and 'Haldi' (*Curcuma domestica* Val.), is applied on sprained ankle. The bark of this tree is pounded with leaves of *Lawsonia inermis* and applied as poultice on sprains.

Loc: Kalma, Matha. (Jain 7908; De 8073).

## ANACARDIACEAE

**Buchanania lanzan** Spreng.

Pial (Bh).

The fruits are eaten. Leaves are added to flowers of *Madhuca indica* for preparing liquor.

A sweet drink prepared out of roots of this plant, *Piper nigrum* and candy is given in venereal diseases.

Timber is used for making household furniture.

Loc: Kalma, Matha. (De 8076).

**Lannea coromandelica** (Houtt.) Merr.

Doka (Bh, S), Jial (B).

Wood used for making doors and in cart-building, etc.

Loc: Kalma. (De 8063).

**Semecarpus anacardium** L. f.

Bhelai (Bh), Sosobaha (S), Sosoberela (S), Sosobili (S), Sosodare (S).

Orange coloured 'Cup' (hypocarp) of the ripe fruit is eaten.

The kernel is boiled in milk and given in diseases of tongue. The seeds are crushed with 'Ol', 'Nir-bisha', 'Rasun' (*Allium sativum*), 'Sadapiyaj', 'Ten-phul' and given in 'Simla' disease of cattles. The oil is used in other diseases of cattles.

The fruit is used as marking nut.

Loc: Badgnatungri, Kalma, Ranga. (Jain 7948; De 8111).

**Spondias pinnata** (L. f.) Kurz

Amra (B, Bh).

The fruits are pickled and eaten.

The leaves are used as cattle fodder.

Loc: Kalma, Matha.

## MORINGACEAE

**Moringa oleifera** Lamk.

Munga (Bir), Sanla (Bh), Sojna (Bh).

The leaves, flowers and fruits are eaten as vegetable.

Loc: Kalma.

## PAPILIONACEAE

**Abrus precatorius** L.

Gunja (S), Kunch (B).

Root forms an ingredient in a medicine for fever. Crushed roots applied to cure white eyes of the cattle.

Loc: Kalma. (De 8061).

**Atylosia scarabaeoides** (L.) Benth.

Bankulthi (B, K), Birhare (S).

Decoction of the leaves given in dysentery (also of cattle). Mixed with honey, the plant is given to woman after delivery.

Loc: Andra, Kuilapal. (Jain 7940; De 8081).

**Butea monosperma** (Lam.) Taub.

Palash (B, Bh).

The crushed seeds are eaten with curdled milk in 'Ascaris' disease.

The plant is a lac-host. Leaves are used for making plates and bowls for serving food.

Loc: Mangnatanga, Kalma. (De 8136).

**B. superba** Roxb.

Latpalash (Bh).

Juice from stem-bark has healing effect on cuts.

The plant is a lac-host.

Loc: Panchakot. (De 8180).

**Crotalaria prostrata** Roxb.

Chotojhunjhuni (Bh).

The plant is crushed with 'Barajhunjhuni' and given to women after delivery.

Loc: Chatni forest. (De 7999).

**C. alata** Ham.

Jhunjhuni (S).

The plant is given to weak pregnant women.

Loc: Ajodhya. (Jain 7932).

**Dalbergia paniculata** Roxb.

Lipsi (B, S).

The tree serves as a lac-host.

Loc: Ranga. (Jain 7945).

**D. sissoo** Roxb.

Sissu (Bh).

Wood is used for making household furniture.

Wood is extracted as a major forest produce.

Loc: Matha.

**Dolichos biflorus** L.

Kurthi (Bh).

Seeds boiled in water and given to nursing mothers.

The foliage is used as fodder.

Loc: Kalma.

**Dolichos lablab** L.

*Madal* (Bh), *Sim* (Bh), *Sirmic* (Bh).

The fruits are eaten as vegetable.

*Loc*: Kalma.

**Erythrina variegata** L. var. *orientalis* (L.) Merr.

*Kandamadar* (B), *Paldha* (Bh).

Bark is used to make collyrium to be applied in eyes, specially for babies. A soup made from bark of this tree and leaves of *Adhatoda vesica* is given in cough and cold. Warm leaf juice is applied on chest in cough.

*Loc*: Kalma; Nutandih, Panchakot; Ramkanali. (De 8039, 8133).

**Millettia auriculata** Baker

*Hehel* (B, S).

The leaves are used as fodder.

*Loc*: Ajodhya.

**Mucuna prurita** Hook.

*Alkusi* (Bh).

Fruits and leaves are used by local 'Kabiraj' in their medicine. The root mixed with 'Labanga', 'Golmarich' etc. is given in cough.

*Loc*: Mathaburu; Panchakot. (De 7990, 8046).

**Ougeinia oogeinensis** (Roxb.) Hochr.

*Pandan* (Bh).

The wood is used for making axils or hubs, in cart-making, for stilts and platforms and for making legs of cots.

*Loc*: Kalma.

**Pachyrhizus erosus** (L.) Urb.

*Sankalu* (Bh).

The roots are eaten as vegetable.

*Loc*: Common.

**Pongamia pinnata** (L.) Pierre

*Karanj* (Bh).

The seeds are boiled and crushed and the oil is massaged on body in the rainy season to protect from cold.

*Loc*: Panchakot. (De 8155).

**Pterocarpus marsupium** Roxb.

*Murga* (B, Bh, Bir).

The bark is used in dysentery and in red-urine disease. Bark is chewed in tongue diseases, else juice of bark is applied.

Wood is used for making windows, household articles and carts.

The tree is worshipped by the Bhumijs by sacrificing hen.

*Loc*: Baghmundi, Kuilapal. (De 7981, 8113).

**Sesbania aegyptiaca** Pers.

*Jhanti* (Bh).

The stem and branches are used for fencing in vegetable gardens.

*Loc*: Kalma.

**Spatholobus roxburghii** Benth.

*Bandan*, *Bandu* (Bh).

Root is used in venereal diseases.

Timber used for making windows. Ropes are made from the bark.

*Loc*: Kudagara, Kalma. (De 8092).

**Uraria lagopoides** DC.

*Isharjata* (B, Bh), *Mahadebjata* (Bh).

Crushed root is applied on body pains.

*Loc*: Jalambili tungri, Kalma. (De 8034).

**Vigna unguiculata** Walp.

*Ghangra* (Bh, S).

The seeds are used as pulses.

*Loc*: Kalma.

**V. capensis** Walp.

*Ban-ghangra* (B), *Birghangra* (S).

The seeds are eaten.

*Loc*: Ajodhya. (De 8004).

## CAESALPINIACEAE

**Bauhinia purpurea** L.

*Kural* (B), *Singara* (S).

Leaves are eaten as vegetable.

Bark is pounded by stone tools and sprinkled on sores of small-pox.

The bark of the plant is believed to be effective in keeping the small-pox causing evil spirits away.

*Loc*: Sahebdihi, Ajodhya. (De 8008).

**B. vahlii** Wt. & Arn.

*Chihor* (Bh).

An important fibre-yielding plant. The leaves are made into a sort of umbrella, locally called 'Ghong'.

*Loc*: Kalma.

**B. variegata** L.

*Kochnarphul* (Bh), *Konar* (Bh, S).

The flowers are eaten. Leaves are eaten as vegetable.

Flowers are laxative, whereas dried buds are useful in diarrhoea and worms.

*Loc*: Jalambili, Mangnatanga, Kalma. (De 8105, 8135).

**Caesalpinia crista** L.

*Nata* (Bh).

Seeds are used in malarial fever.

**Cassia fistula** L.

*Bandar-lauri* (S), *Dhan-bahera* (Bh), *Nurui* (S), *Sonali* (B).

Pulp surrounding the seeds is given with sugar in constipation. Gum from the fruit is applied on chest and belly in dysentery. Crushed apices of young leaves are given in constipation. Heated fruits are applied on the neck of cattle to allay swellings due to cold.

Fruit is used for marking. Bark is used for tanning.

*Loc*: Baraurmā; Badgnatungri, Panchakot. (*Jain* 7904; *De* 8112).

**Cassia tora** L.

*Chakanda* (S).

Tender leaves are eaten as vegetable.

*Loc*: Ajodhya.

MIMOSACEAE

**Acacia nilotica** (L.) Del.

*Babla* (B).

Timber is variously used. The gum is used for its adhesive property.

*Loc*: Common, specially on road sides.

**A. catechu** Willd.

*Khayer* (Bh), *Kundrujanum* (S).

The plant yields the 'catechu' of commerce.

*Loc*: Sirkatand, Kalma. (*De* 8103).

**Mimosa rubicaulis** Lamk.

*Kundru* (Bh).

The crushed bark is used as fish-poison.

*Loc*: Ajodhya. (*De* 7995).

COMBRETACEAE

**Anogeissus latifolia** Wall.

*Dhaw* (Bh), *Hesel* (S).

The wood is used for cart-making, etc.

*Loc*: Kalma.

**Terminalia arjuna** Wt. & Arn.

*Arjun* (B, K).

Crushed bark is applied on wounds.

*Loc*: Nanna, Kuilapal. (*Jain* 7969).

**T. bellirica** Roxb.

*Bahera* (Bh).

Crushed bark mixed with certain other ingredients (e.g. 'Panjet' leaves, 'lopong', 'Kamraj', 'Nilkantha', 'Bhadghosa', 'Saramlutur', 'Kudhibaha' etc.) and given in high fever and cold.

The fruits are eaten by cattle.

*Loc*: Aradenga, Panchakot. (*De* 8213).

**T. chebula** Retz.

*Haritaki* (B), *Rol* (S).

The fruits are useful in dysentery.

*Loc*: Ajodhya. (*Jain* 7925).

**T. crenulata** Roth.

*Asan* (Bh), *Atna* (S).

The gum, locally called 'asan-latha' is considered delicious.

Leaves and bark are added during fermentation of *Madhuca indica* flowers for preparation of liquor. Bark is useful for tanning. The timber is used for making furniture and houses.

*Loc*: Kalma, Chatni. (*De* 8000).

MYRTACEAE

**Eugenia heyneana** Wall.

*Saharjam* (Bh).

Ripe fruits are eaten.

Decoction of the bark and *Piper nigrum* seeds is given in cholera.

*Loc*: Jalambili, Kalma. (*De* 8107).

**Syzygium operculatum** Gamble

*Tipajam* (K), *Totnopak* (S).

The fruits are eaten.

A paste of bark and leaves with 'jastimadhu' is given in pneumonia.

*Loc*: Kuilapal; Tandapaniya. (*Jain* 7952).

LECYTHIDACEAE

**Careya arborea** Roxb.

*Kumbher* (S).

The root is used as fish-poison. The plant is used as fuel.

*Loc*: Ajodhya. (*Jain* 7937).

LYTHRACEAE

**Ammania pentandra** Roxb.

*Munj-ara* (S).

The leaves are eaten as vegetable.

*Loc*: Parbatpur, Panchakot. (*De* 8196).

**Lagerstroemia parviflora** Roxb.

*Sidha* (Bh).

Timber is used for making agricultural implements and for house-making.

*Loc*: Kalma.

**Lawsonia inermis** Linn.

*Mehedi* (Bh, S).

Leaves are crushed and mixed with fresh rhizome of *Curcuma domestica* Val. (Kancha halud) and crushed bark of *Schleichera oleosa* (Lour.) Oken. (Kusum), and applied on sprains.

*Loc*: Jalam-bili, Kalma. (*De* 8071).

**Woodfordia fruticosa** Kurz

*Dhadki* (Bh).

Crushed roots are given to patients of rheumatism, human as well as cattle.

*Loc*: Badgna, Kalma. (*De* 8077).

SAMYDACEAE

**Casearia elliptica** Willd.

*Churchu* (B), *Mankurkur* (Bh), *Reede* (S).

The fruits are given in headache.

The plant is used as fuel. The crushed fruits are used as fish-poison.

*Loc*: Ajodhya; Matha; Kudagara, Kalma. (*Jain* 7909; *De* 8132).

CUCURBITACEAE

**Cephalandra indica** Naud.

*Kundri* (Bh).

The fruits and leaves are eaten as vegetable

Loc: Kalma.

**Luffa acutangula** Roxb.

*Jhinga* (Bh, B).

The fruits are cooked as vegetable.

Loc: Common.

**L. cylindrica** (L.) Roem.

*Ghangra* (Bh).

The fruits are eaten as vegetable.

Loc: Common.

**Melothria heterophylla** (Lour.) Cogn.

*Mahakal* (Bh), *Makal* (B).

Crushed roots are applied on sores of small-pox in cattle. Leaf-juice is applied on cuts and bruises of cattle.

The plant is kept hanging in front of cattle-herd to keep off evil spirit and diseases like malaria.

Loc: Panchakot; Ramkanali. (De 8042).

**M. perpusilla** Cogn.

*Bankundri* (Bh), *Birkudri* (S).

Fruits are cooked as vegetable.

Decoction of the root is taken in venereal diseases.

Loc: Baramburu, Baghmundi. (De 7984).

**Momordica charantia** L.

*Karla* (Bh).

The fruits and leaves are eaten as vegetable.

Loc: Raghunathpur.

**M. dioica** Roxb.

*Bankalla* (B), *Bankarla* (Bh).

Fruits are eaten as vegetable.

Fruit is pounded and applied on women's breasts to cure pain.

Loc: Kalma. (De 8018).

#### UMBELLIFERAE

**Centella asiatica** (L.) Urban.

*Banarsah* (B, Bh).

Decoction of the leaves (which looks and tastes like tea-liquor) is given in headache.

Loc: Baraganta, Kalma. (De 8032).

#### ALANGIACEAE

**Alangium salvifolium** (L.) Wang.

*Ankra* (B), *Dhela* (Bir, S).

Ripe fruits are eaten; they are slightly acrid.

Fire is ignited by vigorous friction between two pieces of stem.

Loc: Saparambera, Ajodhya. (Jain 7921).

#### RUBIACEAE

**Adina cordifolia** Hook. f. ex Brandis

*Karam* (Bh, S), *Khetkadam* (B).

Decoction of the bark is given with candy in acute fever.

The wood is used for making hair-combs and agricultural implements; also as fuel.

Tree is associated with worship.

Loc: Baramburu hills; Parbatpur, Panchakot. (Jain 7939; De 7985, 8183).

**Dentella repens** Forst.

*Helencha shak* (Bh).

The leaves are eaten as vegetable.

Loc: Kalma. (De 8059).

**Gardenia latifolia** Aiton

*Barabhutru* (B, K), *Papra* (S).

Ripe fruits are eaten.

The resinous sap from the stem tips is applied on sores of hand and feet in rainy season.

Loc: Kalma; Kuilapal; Matha; Panchakot. (De 8087).

**Hymenodictyon excelsum** Wall.

*Bhorkud* (Bh), *Bhurkur* (Bh).

Bark is pounded with 'Hing' and applied externally in liver disorders of children.

Wood is utilised for making furniture and in house-building. It is also used as fuel.

Loc: Kalma; Kuilapal; Matha; Panchakot. (De 8201).

**Morinda tinctoria** Roxb.

*Chaili* (Bh), *Cheli* (K), *Chella* (K), *Podophul* (K).

Bark is used in red and white urine diseases.

The wood is used for making furniture.

Loc: Kuilapal; Panchakot. (De 8044).

**Pavetta indica** L.

*Hundbaha* (Bh).

The flowers are used by women as ear-rings.

Loc: Tandapaniya. (Jain 7953).

**Randia uliginosa** DC.

*Pinder* (S), *Pindra* (K).

Unripe fruits are cooked as vegetable.

Loc: Kalma; Kuilapal; Tandapaniya. (Jain 7954, 7972).

**Xeromphis spinosa** (Thunb.) Keay.

*Boebindi* (S), *Gurman* (B), *Loto* (S).

Leaves are eaten as vegetable. Ripe fruits are eaten.

Crushed fruits are used as fish-poison.

Loc: Ajodhya. (Jain 7930).

#### COMPOSITAE

**Eclipta prostrata** (L.) L.

*Laokeshar* (B, Bh).

Leaf-juice is applied to cure the sores on shoulders caused by carrying heavy loads; also used in swelling of ears of cattle.

Loc: Kandyar hills; Kudagara, Kalma. (De 8028, 8134).

**Elephantopus scaber** L.

*Majorjhuti* (B), *Mayurjhuti* (Bh), *Mejofhuti* (S).



The root is given in amoebic dysentery with 'Chire' and 'Mustard' oil. The root is applied in rheumatism. The plant is given in headache, syphilis and intestinal complaints as tablet with other ingredients.

*Loc:* Kalma; Kushtaur; Ramkanali. (*De* 8017, 8049, 8091).

**Glossogyne pinnatifida** DC.

*Mainthori* (Bh), *Nakdana* (B, S).

The juice is given in vomiting and in headache. The juice is considered to have healing effect on fractured bones specially of cattle.

*Loc:* Sahebdihi, Ajodhya; Jalambili, Kalma. (*De* 8012).

**Guizotia abyssinica** Cass.

*Gunja* (S), *Sarguja* (K).

Seeds yield oil.

*Loc:* Kalma.

**Tridax procumbens** L.

*Bichatigand* (Bh), *Bhuchapa* (Bh).

Crushed leaves are applied on scorpion-sting. Crushed root is given in fever and in irritations of skin.

*Loc:* Parbatpur; Paharbera; Panchakot. (*De* 8036, 8207).

MYRSINACEAE

**Ardisia solanacea** Roxb.

*Gardagulanj* (S).

The bark is applied in headache.

*Loc:* Bidyajara, Ajodhya. (*Jain* 7951).

SAPOTACEAE

**Madhuca indica** Gmel.

*Mathom* (S), *Koindi* (S).

Unripe fruits are cooked as vegetable. Ripe fruits are eaten fresh. Seeds yield an edible oil. Flowers are eaten in a preparation.

A liquor is prepared from the flowers; it is widely taken by the tribals. The seed-cake is burnt in homes to repel snakes and insects.

*Loc:* Saparambera, Ajodhya. (*Jain* 7927).

EBENACEAE

**Diospyros embryopteris** Pers.

*Makarkanda* (Bh), *Gab* (B).

Gum from the fruit is used for tanning and painting fishing nets.

*Loc:* Panchakot. (*De* 8045).

**D. tomentosa** Roxb.

*Kend* (Bh, B), *Keond* (Bh), *Teral* (S), *Terel* (S).

Ripe fruits are eaten.

Wood is used for making household furniture and as fuelwood. Leaves are used for making "Biri". Bark is used in fire-works.

*Loc:* Kalma; Matha; Kulajangia, Jhalda. (*Jain* 7917, 7938; *De* 8118).

OLEACEAE

**Nyctanthes arbor-tristis** L.

*San-chiari* (Bh), *Sansiari* (Bh).

Leaf-juice is given in fever.

*Loc:* Common in forest area in the hills.

**Schrebera swietenoides** Roxb.

*Eksira* (S), *Ghanto* (B, Bh).

Crushed roots are applied to kill worms in wounds of cattle.

For curing hydrocoele, a fruit is tied to the waist so as to hang near the testicles.

*Loc:* Ajodhya; Kalma. (*Jain* 7935; *De* 8015).

APOCYNACEAE

**Carissa opaca** Stapf

*Benchi* (B), *Hukapaka* (S).

The fruits are eaten.

Roots given to cattle in 'Simla' disease (tongue ejects out and gets swollen). Root decoction is used as an insecticide and insect repellent.

*Loc:* Kalma. (*De* 8016).

**Holarrhena antidysenterica** Wall.

*Hat* (S), *Kurchi* (B).

Bark-juice is given in dysentery. The bark is pounded with bark of 'Putri' and 'Dhedki' and given in rheumatism.

*Loc:* Baraurma; Pakarnala. (*Jain* 7902).

ASCLEPIADACEAE

**Calotropis procera** R. Br.

*Akand* (Bir, B).

Warmed leaves are applied on swollen cheeks in 'Sannipat' disease of cattle. The root is given with 'Telmara' (a herbal preparation) in 'Sannipat' disease of cattle.

*Loc:* Baraganta, Kalma; Chototangri, Bagh-mundi. (*De* 8144).

**Ceropegia hirsuta** Wt. & Arn.

*Bagalpatha* (S).

The root is boiled with the flowers of *Madhuca indica* during the preparation of liquor.

*Loc:* Saparambera. (*De* 8005).

**Cryptolepis buchanani** Roem. & Schult.

*Baradudhi* (Bh), *Dudhi* (S), *Madhablata* (B).

The crushed root is taken with milk in venereal disease. Decoction of the plant is given in syphilis. It is also a medicine for some veterinary diseases.

The plant is used in basketry, for making "Ghunia"—a fishing equipment.

*Loc:* Baraurma; Parbatpur; Saparambera. (*Jain* 7901).

**Cynanchum auriculatum** Royle

*Ara-Kongar* (S), *Konga* (B), *Pur-Kongar* (S).

Fibres are used for catching fish.

*Loc*: Gobria forest, Ajodhya. (*De* 8011).

**Hemidesmus indicus** (L.) Schult.

*Anantamul* (B), *Dudhi* (Bh).

The root is given in snake-bite. The root is crushed and given with sugar in venereal diseases.

*Loc*: Pakarnala, Kalma; Panchakot. (*De* 8055, 8085).

**Holostemma annularis** K. Schum.

*Charkidudhi* (Bir), *Moron-ara* (S), *Titpungi* (Bh).

Flowers and fruits are eaten fresh. Leaves are eaten in a preparation with pulses (*Cajanus cajan* Millsp. and *Lens esculenta* Moench).

Crushed flowers are eaten in venereal diseases.

The fibres are used for catching fish.

*Loc*: Mudhul forest, Kalma; Saparambera. (*De* 8007, 8033).

**Tylophora fasciculata** Ham.

*Ishermul* (Bh).

The whole plant is pounded and the decoction is given in snake-bite.

*Loc*: Panchakot. (*De* 8005).

#### BORAGINACEAE

**Cordia dichotoma** Forst. f.

*Bonch* (B, Bir), *Buch* (Bh, S).

Bark is used with milk and candy in syphilis and red urine diseases.

Mucilaginous substance from fruits is used as pasting gum.

*Loc*: Kalma hills. (*De* 7966, 8060).

**Cuscuta reflexa** Roxb.

*Alakjari* (S), *Alakpui* (Bh).

Juice of the stems is applied on wounds. The plant is used in reddening of eyes.

*Loc*: In the forest beyond Ramkanali railway station. Hetarpani (Ranga). (*Jain* 7946).

**Erycibe paniculata** Roxb.

*Baralakshar* (Bh), *Karilata* (S).

The fleshy fruit is edible (Br.).

The bark is used in syphilis. Leaves and stems are boiled in water and the thick decoction is applied on sprains of cattle. The sprained part is first cleaned with water.

*Loc*: Nanna forest, Kuilapal; Parbatpur & Tola Kashidanga, Panchakot. (*Jain* 7974; *De* 8166, 8185).

**Evolvulus alsinoides** L.

*Latagras*.

Mixed with 'Bhuichampa'; it is given in scorpion-sting.

*Loc*: Paharbera, Panchakot. (*De* 8206).

**Ipomoea batatas** (L.) L.

*Sakarkanda* (Bh).

The tuberous roots are eaten.

*Loc*: Kashipur.

**I. pes-tigridis** L.

*Bilaiguri*.

The juice of leaves is applied in reddening of eyes.

*Loc*: Kandyar hills. (*De* 8027).

#### SOLANACEAE

**Capsicum annum** L. var. **nigra** Prain

*Lanka* (Bh, B), *Marich* (Bh).

The plant is grown as a minor agricultural crop for its fruits; used as spice.

*Loc*: Kalma.

**Datura metel** L.

*Dhatra* (S), *Dhutro* (B).

Seeds are pounded and their juice mixed with mustard oil and certain other ingredients, is applied on leprosy and similar other wounds. Roots also reported to have similar property.

*Loc*: Near several villages.

**Lycopersicon esculentum** Mill.

*Bilati* (Bh).

The fruits are largely eaten as vegetable.

*Loc*: Kalma and others.

**Nicotiana tabacum** L.

*Tamuk* (Bh).

Leaves used as narcotic for smoking.

*Loc*: Commonly cultivated as a minor agricultural crop.

**Solanum melongena** L.

*Bengan* (Bh).

The fruits are largely eaten as vegetable.

*Loc*: Cultivated as minor agricultural crop.

**S. surattense** Burm. f.

*Gotbengan* (S), *Kantikari* (B).

The plant is used in diseases of teeth: juice of seeds is extracted; a thin stick is wrapped with cloth and soaked in seed juice. The soaked cloth is then burnt with a match stick; the ash is applied on the diseased teeth. The staminate column is pasted in mother's milk and given to babies in cough. Unripe fruits are useful in cough. Fruits are soaked and boiled in 'ghee' and given to old persons in cough.

*Loc*: Ajodhya; Kalma; Matha; Saparambera. (*Jain* 7926).

#### SCROPHULARIACEAE

**Scoparia dulcis** L.

*Jastimadhu* (S), *Tand-dhanya* (Bh).

The whole plant is crushed and eaten with candy; it is considered digestive.

Applied in gout pains of human beings and cows.

*Loc*: Baraganta hills, Ajodhya. (*De* 8031, 8142).

## MARTINIACEAE

**Martynia annua** L.*Baghnakhi* (S, B).

Oil from seeds is applied on sores. Extraction of oil: the dried fruits are placed within an earthen pot having a small hole in bottom; the mouth of this pot is sealed. This pot is placed just over another pot, which is then placed on fire. The hot air of the lower pot causes oil to ooze out from the fruits; the oil tickles through the hole to the lower pot. The oil is boiled before applying on ring-worms and sores.

*Loc*: Saparambera; Matha. (*De* 8006).

## PEDALIACEAE

**Sesamum indicum** DC.*Til* (Bh).

Cultivated as minor agricultural crop for its oil-seeds.

*Loc*: Balarampur.

## ACANTHACEAE

**Adhatoda vasica** Nees*Basakdoghi*.

Leaves and flowers are crushed and boiled in 'ghee' and given in cough and cold.

*Loc*: Aradenga, Panchakot. (*De* 8215).

**Andrographis paniculata** Nees*Kalmegh* (B, Bh).

The plant is soaked in water overnight and this water is given next morning to patients of chronic fever. The plant is considered a vermifuge.

*Loc*: Common in forest area, specially at Kalma and Ajodhya.

**Justicia quinqueangularis** Koen.*Kana-ara* (Bir).

Leaves are used as vegetable.

*Loc*: Ajodhya.

## VERBENACEAE

**Clerodendrum infortunatum** Gaertn.*Ghato* (S, Majhi).

Leaves are pounded and applied on forehead in headache. Root is used in rheumatism.

*Loc*: Ajodhya hills; Kudagara, Kalma. (*Jain* 7912; *De* 8094).

**Gmelina arborea** Roxb.*Gamhar* (B), *Kashmar* (S).

The bark is used in medicine.

The timber is used for making furniture, agricultural implements, boxes, etc.

*Loc*: Baraurma; Matha. (*Jain* 7905).

**Lantana camara** L. var. *aculeata* (L.) Mold.*Patut* (Bh).

The twigs of this plant are used for igniting fire

by friction. The plant is used for making gun-powder.

*Loc*: Kalma; Tola-Kashidanga, Panchakot.

**Tectona grandis** L. f.*Segun* (Bh).

Timber is a major forest produce. The leaves are rubbed on wooden articles to give them a reddish coloured paint; the juice extracted from leaves is similarly used as a paint on wooden articles.

*Loc*: Kuilapal.

**Vitex negundo** L.*Begna* (B). *Ichur* (Mahato).

Decoction of leaf given with another preparation (of *Andrographis*, *Hyoscyamus*, etc.) to cure cough, gout and certain other ailments due to cold.

Leaves are used for fumigating huts to remove flies and mosquitoes.

*Loc*: Baraurma. (*Jain* 7903).

**V. peduncularis** Wall.*Bhadu* (S).

Ripe fruits are eaten.

Leaves are eaten as vegetable to cure Ophthalmia.

The wood is used for making agricultural implements.

*Loc*: Parbatpur, Panchakot; Ramkanali (*De* 8187).

## LABIATAE

**Anisomeles ovata** R. Br.*Ramtulsi*.

The dried plants are burnt with dried fruits of *Luffa acutangula* Roxb.; this ash is given to babies suffering from nervous disorder or chronic fever, supposed to be caused by evil spirits.

*Loc*: Baraganta, Kalma. (*De* 8147).

**Leucas cephalotes** Spreng.*Durup* (Bh, B).

Leaves are used as vegetable. Leaves are packed inside some other larger leaf and are roasted; these are eaten as 'chutney' and are believed to improve appetite.

*Loc*: Kalma hills. (*De* 8014).

**Ocimum sanctum** L.

Grown in front of huts and worshipped as a sacred plant.

*Loc*: Common.

## NYCTAGINACEAE

**Boerhaavia diffusa** L.*Khapra shak*, *Peti* (Bh, S).

Leaves are used as vegetable.

Roots are crushed and taken in stomach complaints.

If roots are tied as a ring on the fingers, it keeps the colic pain-causing evil spirits away.

**Loc:** Radhamadhabpur, Panchakot; Kandyar hills. (De 8160).

## AMARANTHACEAE

**Achyranthes aspera** L.

*Apang* (B), *Chirchiti* (B, Bh).

Roots are crushed and applied on wounds.

**Loc:** Baraganta hills. (De 8029).

**Alternanthera sessilis** (L.) R. Br. ex DC.

*Garundi-ara* (Bir, S), *Garandi-shak* (Bh).

Leaves are used as vegetable.

**Loc:** Saparambera; Bhupatipalli.

**Amaranthus spinosus** L.

*Kantabhaji*, *Kantashak* (Bh).

The plant is used as leafy vegetable.

**Loc:** Panchakot. (De 8056).

## BASELLACEAE

**Basella alba** L.

*Pui* (B, Bh).

Used as leafy vegetable.

**Loc:** Kashipur; Raghunathpur.

## POLYGONACEAE

**Polygonum plebejum** R. Br.

*Mui-ara* (S), *Munj-ara*, *Pushitoa*.

In amoebic dysentery, the plant is crushed and eaten with tips of the adventitious roots of *Ficus bengalensis* and pieces of bark of *Butea* sp. Whole plant is used in diarrhoea.

**Loc:** Ajodhya camp meeting; Paharbera, Parbatpur & Parbelia coal mine area; Panchakot. (De 8191).

## PIPERACEAE

**Piper longum** L.

*Rali* (S).

The roots of this plant, mixed with fruits of black pepper, ginger and 'Nilkanth', are boiled in 'ghee' and given in cough and cold.

**Loc:** Ajodhya forest; Sirkatand, Kalma. (De 8003, 8100).

## LAURACEAE

**Litsaea sebifera** Pers.

*Harla* (B), *Pojo* (S).

The plant is used in treatment of boils.

**Loc:** Chatni forest. (De 8001).

## LORANTHACEAE

**Scurrula philippensis** (Ch. & Sch.) G. Don

*Begnar Banda* (Bh), *Sindhar Banda* (Bh).

Stem-tips are boiled in mustard oil; luke warm oil is applied on aching ears.

Pieces of stem, if tied on body of women or female of the cattle, cause infertility. The tribals, for that reason, do not even allow the twigs of this plant to be brought into their village.

**Loc:** Parbatpur, Panchakot. (De 8037).

**Viscum orientale** Willd.

*Dare-banda*. (Majhi, S).

The juice of the plant is put in the ear to cure pus-formation. (This was denied at Ajodhya). Bressers reports that ash of the plant is put in ear to cure ache.

**Loc:** Matha. (Jain 7906).

## EUPHORBIACEAE

**Antidesma diandrum** Roth.

*Chamtu* (Bh), *Matha* (Bh), *Matha-ara* (Bir), *Matia* (Bh).

Its leaves are eaten as vegetable. Ripe fruits are eaten.

**Loc:** Ajodhya; Panchakot. (Jain 7928).

**A. ghaesembilla** Gaertn.

*Amrul* (K).

The fruits are eaten.

**Loc:** Khenna forest, Kuilapal. (Jain 7977).

**Cleistanthus collinus** Benth.

*Parasi* (K).

The bark-juice is used for tanning shoes, etc.

**Loc:** Nanna forest, Kuilapal; Panchakot. (Jain 7970, De 8176).

**Croton oblongifolius** Roxb.

*Geti*, *Putri*, *Putla* (Bh).

The latex is applied on ringworm. Leaves are tied on wounds called 'Benchigha', of waist. Roots are used in rheumatism.

The plant is good lac-host; wood is used for making roofs.

**Loc:** Kandyar hills; Matha. (De 8022, 8082).

**Embolia officinalis** Gaertn.

*Aonla*, *Amrul* (K), *Meral*.

Fruits are eaten as pickles.

Fruits taken as chutney in headache. Oil extracted from seed is massaged on head in madness. Fruits are an ingredient of Triphala (with *Terminalia chebula* and *T. bellirica*). The three are pounded together, soaked in water and taken with candy to cure liver complaints, constipation, etc.

**Loc:** Baramburu hills, Matha; Baraganta, Kalma; Khenna forest, Kuilapal. (De 7983, 8145).

**Jatropha curcas** L.

*Bhedra* (Bh).

The plant is used for fencing purposes.

**Loc:** Matha.

**J. gossypifolia** L.

*Bhedra* (Bh).

When the epicarp of the seed is removed the seed burns as an incense.

**Loc:** On way to Ajodhya.

**Mallotus philippensis** Muell.-Arg.

*Ban-Sindur* (Bh), *Roli* (Bh, Mahato).

Root, in mixture with other ingredients, is given to pregnant women.

Leaves are used for thatching houses.

Loc: Sirkatand, Kalma. (De 8096).

**Melanthesea turbinata** (Koen. ex Roxb.) Wight

*Jirul* (B, K)

Flowers are eaten.

Leaves and roots are used in pneumonia and cough; they are made into pills (Bori).

Loc: Nanna forest, Kulapal. (Jain 7971).

**Ricinus communis** L.

*Bhedra* (Bh), *Bhendi*, *Bherunda*, *Erاندam* (S), *Erendi*, *Jora* (S).

Seed oil is massaged on head to cure headache; and on chest and body to cure breathing complaints and spasm. For extracting oil, seeds are boiled in water, kept in a cloth and pressed through a "Jantakal" (a local press).

The plant is often planted for fencing.

Loc: Radhamadhabpur, Panchakot; Kalma. (De 8153).

#### ULMACEAE

**Trema orientalis** Bl.

*Gnakurchi*, *Jhaoar* (S).

The bark is applied as poultice (Chapan) in pain of limbs.

Leaves are used as sand-paper.

Loc: On way to Ajodhya hills. (De 7994).

#### CANNABINACEAE

**Cannabis sativa** L.

*Ganja* (B, Bh).

Used as a narcotic and drug.

Loc: Matha; Ajodhya camp-meeting.

#### MORACEAE

**Artocarpus heterophyllus** Lam.

*Kanthai* (B, Bh).

Fruits are eaten as vegetable.

Fruit has medicinal properties.

Loc: Kalma.

**A. lakoocha** Roxb.

*Daho* (Bh), *Dahu*, *Daw*.

Fruits are eaten. Collected as major forest produce.

Seeds are used in constipation.

Loc: Kalma.

**Streblus asper** Lour.

*Khaksa* (Bir), *Khaksi* (Bh), *Kheksi*, *Sahara*, *Saora*.

Bark-extract is used in red-urine disease. In reddening of eyes, its latex is applied with the edge of a leaf; eyes are cleaned with serrated edges of leaves. Fruits and leaves are crushed and given as collyrium in eye diseases. In stomach-pain, the bark-decoction is taken with warm water.

Loc: Baghmundi hills; Kandyar; Mangnatanga, Kalma. (De 7960, 8021, 8138, 8193).

#### URTICACEAE

**Ficus benghalensis** L.

*Bat* (B, Bh).

The apex of the adventitious roots, mixed with certain other ingredients (*Bantulsi*, *Veroya*) is given in diarrhoea. Two and one half young stipules are mixed with same number of black pepper and are given in serious cases of snake-bite.

The adventitious roots are used as fibre for tying articles.

Loc: Chaurashi, Panchakot; Kudagara, Kalma.

**F. semicordata** B. Ham. ex J. E. Smith

*Podho* (S), *Potho* (B).

Ripe fruits are edible; also used as curry.

The tree is a lac host.

Loc: Ajodhya-Saparambera. (Jain 7918).

**F. virens** Ait.

*Burupakar* (S), *Lupuhesa* (Bir), *Pakar*.

The fruits are eaten.

The tree is a lac-host.

Loc: Ajodhya; Radhamadhabpur, Panchakot. (Jain 7923; De 8156).

**F. glomerata** Roxb.

*Dumur* (B), *Loa* (S).

The fruits are largely eaten; they are collected by Bhumij tribesmen as a major forest produce.

Loc: Ajodhya-Saparambera. (Jain 7919).

**F. religiosa** L.

*Jor* (Bh), *Pipal* (B).

Leaves are used as fodder. Some kind of fibre is obtained from the plant.

Loc: Purulia.

#### ORCHIDACEAE

**Vanda roxburghii** Br.

*Dare-Banki* (S).

Leaf-juice is applied on pus formation in the ears.

Loc: Matha; common on the trees of *Schleichera oleosa* (Lour.) Merr. (Jain 7907).

#### ZINGIBERACEAE

**Costus speciosus** Sm.

*Kewa* (B, S).

In red-urine disease and in body-pain and fever, the roots of this plant are roasted (with a clove kept inside the root) and given.

Loc: Ajodhya; Saparambera. (Jain 7922; De 8002).

**Curcuma domestica** Val.

*Haldi*.

Used as condiment.

The yellow rhizomes are ground and used for coloring linen in domestic use or ceremonies.

## MUSACEAE

**Musa sapientum** L.

*Kela* (B, Bh).

Fruits are largely eaten; unripe fruits cooked, and ripe fresh.

*Loc*: Kalma. (*M. paradisiaca* L. was also seen in use).

## AMARYLLIDACEAE

**Agave cantala** Roxb.

*Konga* (Bh), *Murobba*.

The roots of the plant, when the latter is in flower, are called 'Rankanda'; these roots are chewed in ascariasis disease.

A fibre used for cordage is obtained from the leaves. The stout axis of the inflorescence is used for carrying palanquins.

*Loc*: Mangnatanga, Kalma.

**Curculigo orchoides** Gaertn.

*Jamru-Tipoi* (S), *Talamuli* (B).

Roots are used as tonic. Roots are used in fever, particularly for children. In venereal disease called 'Rukhi', roots are crushed and given; also in Filaria.

*Loc*: Ajodhya; Saparambera; Mudhul, Kalma. (*Jain* 7916).

## DIOSCOREACEAE

**Dioscorea belophylla** Voigt.

*Pitakanda* (S), *Pitharukanda*.

The tubers are eaten raw.

*Loc*: Tandapaniya. (*Jain* 7957).

**D. bulbifera** L.

*Baola*, *Genthi*.

The tubers are eaten; they are slightly bitter to taste.

Tubers are pounded and applied on boils.

*Loc*: Mathaburu hills. (*De* 7987).

**D. pentaphylla** L.

*Togeya* (S).

The tubers are processed and boiled in water, then eaten.

*Loc*: Tandapaniya. (*Jain* 7955).

**D. tomentosa** Koenig.

*Tinpatri* (Bh).

The tubers are used as vegetable and a curry is made out of them.

*Loc*: Mathaburu hills. (*De* 7992).

## LILIACEAE

**Allium cepa** L.

*Piyaj* (B, Bh).

Bulbs are used as vegetable and condiment.

*Loc*: Common.

**A. sativum** L.

*Rasun* (B, Bh).

Bulbs used as condiment.

Given along with 'Chire bhaja' to expectant mothers.

*Loc*: Common.

**Asparagus racemosus** Willd.

*Ghora-Chabuk* (K).

The tuberous roots are given in stomach complaints.

*Loc*: Kuilapal.

**Gloriosa superba** L.

*Dusatini* (Bh).

Root is used in small-pox of cattle and also in diseases called 'Galakatki' and 'Dangrapila'. Root is considered poisonous.

*Loc*: Kalma hills. (*De* 8020).

**Smilax zeylanica** L.

*Antikinari* (S), *Ramdantan* (B).

Roots used in venereal diseases, fever and rheumatism.

Stems used by the tribals for ignition of fire.

Twigs are used as tooth-brush.

*Loc*: Andra; Hatinada, Khenna; Kuilapal; Mathaburu hills; Pakarnala, Kalma. (*Jain* 7942, 7979; *De* 7993).

## PALMAE

**Borassus flabellifer** L.

*Tal* (B, Bh).

Leaves used for cordage.

*Loc*: Matha.

**Phoenix sylvestris** Roxb.

*Khejur* (B, Bh).

Ripe fruits are eaten.

Roots are crushed and eaten with candy in venereal diseases.

Leaves used for making mattresses (called Telai).

*Loc*: Mangnatanga, Kalma.

## ARACEAE

**Alocasia indica** Schott.

*Saru* (Bh), *Saru-ara* (Bir).

Tubers eaten as vegetable; it is grown for this purpose. Leaves are also eaten as vegetable.

**Amorphophalus campanulatus** Blume

*Ol* (Bh).

The tubers are cooked and eaten.

**Colocasia antiquorum** Schott.

*Kachu* (B).

Tubers and leaves are eaten as vegetable.

## GRAMINEAE

**Dendrocalamus strictus** Nees

*Bans*.

Used for making domestic articles, furniture and in house-building. 'Thakthaki', a device for ignition of fire, is made from this bamboo.

**Eleusine coracana** (L.) Gaertn.*Kodo, Marua* (Bh).

The grain is eaten; it is largely cultivated.

**Oryza rufipogon** Griff.*Baba* (K), *Dhan* (B, Bh), *Uri* (S).

It grows spontaneously in the rice fields; it is harvested for its edible grains before the planted crop is ready.

**O. sativa** L.*Dhan*.

This is the commonest cereal grown and consumed by the tribals both in the plains and on the hills. Products made of rice such as "Moori" and "Chire" are commonly eaten. A drink called "Haria" or "Here" is made from rice; it is taken during festivals.

Straw is used for thatching and for fodder.

Unsteamed rice, with candy-cake (*Batasa*) is used in Mathaburupuja.**Panicum miliare** Lamk.*Gundli* (Bh).

Grain is commonly eaten, often as main diet; it is largely grown.

*Loc*: Kalma.**Pennisetum typhoides** (Burm.) Stapf*Bajra* (Bh).

A common cash crop, largely grown; grain eaten.

*Loc*: Kalma.**Setaria glauca** (L.) Beauv.*Kukru* (K).

Grains are eaten.

*Loc*: Kulapal.**Thysanolaena maxima** Kuntze*Phuljharu* (B, Bh).

In worm diseases of cattle, roots are applied.

Large panicles are used for making broomsticks.

*Loc*: Jalambili, Kalma; Kudna, Ajodhya. (*De* 8009, 8108).**Zea mays** L.*Jonar* (Bh), *Makai* (S).

Largely grown for cereal, it is a cash crop.

*Loc*: Kalma.

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