

# Ethnobotanical documentation of some important plants of family Rubiaceae

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**Abstract:** Ethno-botany is the study of correlation between folks and plants for their use as remedies, food, shelter, attire, firewood, fodder and other household purpose. Ethnobotany deals with the relations of native plants and the local populations of the area. The purpose of the ethnobotanists is to discover how the plants are used for essential need of mankind, and how medical use of such plants is linked to other features of the plant species. They recognize and assemble the information of valuable plants by the use of anthropological methods. The aim of the present study is to document and know the importance of ethnobotanically important plants from Rubiaceae family from Nanded. Survey was done by giving field visits and collectcting information from the experienced ethno medicinal practitioners of this region. In the current study nine plant species are explored to know ethnomedical values of plants. During ethnobotanical survey of family rubiaceae some plants were observed as tree and some were as shrub. According to discussion make with traditional practioners the plants from this family are used to cure various ailments. The modern study make by some people also correlate the same observation.

**Keywords:** *Rubiaceae, Ethnobotany, Nanded.*

**Introduction:** Plants are very valuable source of a variety of bioactive compounds which have directly or indirectly useful in the healing of various human ailments. Aceans ago, human civilizations have been using various plants and plant products to treat the lethal diseases. Since time long past tribal communities around the world are using plants and their parts as an ethno-remedies for the treatment of various diseases (1). Botanical pesticides or herbal medicines obtained from plants have long been used against microorganisms which causes plant and human diseases (2). Compounds derived from plants have got rising importance all over the world as they acquire effective, nonpoisonous pharmacological compound, financial feasible, safer and more reliable (3). Most of the people of Marathwada are totally dependent on herbal medicines for their healthcare. Traditional medicine made from plants is commonly accepted and experienced by the villagers, vaidyas, and some other aged people and its knowledge is ethnically forwarded to the next generation. Use of plants as customary medicine is broadly recognized and experienced by the villagers, Vaidya, and some other senior people and the information of it is socially forwarded to the next generations (4).

## Material and Methods:

During the study frequent field visits were made to Kinwat and nearby forest areas in the months of January to June 2021. Plant collection was done on the basis of frequently used folk medicines by the Kinwat tribes. The plants were collected from Sahastrakund, Sitakhandi and Kinwat forest. Information presented here is based on special observations and interviews with traditional healers like hakims and old aged people. Ethnobotanical information about collected plants were documented in sense of papers. Plant identification was done by using flora of Marathwada (5). Collected medicinal plants were dried, mounted on herbarium sheets. The leaves and stem of same plants were collected, dried and prepared fine powder using mechanical grinder which will be used for preparation of extract by soxhlet method for further study. The current study presents following nine plants along its ethnomedical applications.

## *Gardenia gummifera* L. f. –

This plant is collected from Kinwat forest its primary identification was made on field and the identity was confirmed through flora. *G. gummifera* is one of the most important evergreen herbs from family Rubiaceae. Powder of all plant parts are used in bone fracture and displacement on the suffered part as fomentation to diminish pain as well as to improve the corn formation. Gum released from bark and stem is very commonly used to cure toothache and to make germ-free the infected wounds. Gum is also used to save food grains from pest and mites (4). This plant is demanded for having various therapeutic properties owning astringent and carminative properties which are used in the controlling of indigestion and hemorrhoid. The plant is also suitable in the treatment of verbosity for cleaning obscene sores and wounds. It is also reported that *G. gummifera* is very rich in phytoconstituents (18).

## *Gardenia jasmenoides* J. Ellis. –

This plant was collected from Sitakhandi forest. It is an evergreen flowering plant and now a days it is commonly cultivated as ornamental plant. It grows in many temperate regions and having strong fragrant white flowers. It is commonly known as kape jasmine. The bioactive compounds isolated from its fruits were geniposide, genipin, and geniposidic acid. All of these are iridoid glycosides and medicinally very important. Other important phytochemicals obtained from the plant are shanzhiside, scandoside, methyl ester, crocin, crocetin, gardoside, jasmnoside. These plants have various ethnomedicinal properties that are used to cure jaundice, headache, dropsy, fever, liver diseases, high blood pressure, and stomach inflammation. *G. jasmenoides* has various biological activities like antidepressant, antidiabetic, antioxidant, anti-inflammatory and antipyretic as well as used as yellow dyes

(6). Leaves of *G. jasmenoides* has the best antioxidant activity which provides a base for development and utilization of new medicines (19).

**Ixora chinensis Lam.** –It is the most common ornamental plant grown in many gardens collected from Sahastrakund forest the plant is identified by its almost stalkless leaves and red to orange coloured flowers in bunch. *I. chinensis* is a shrub with many branches. It is commonly used in the treatment of various ailments like rheumatism and wounds (7). Leaves of *I. chinensis* have been used to treat headache and stomachache and as a medicine for initial tuberculosis. Fresh flowers of *I. chinensis* is drunk ad libitum which is supposed to be good for incipient tuberculosis and for hemorrhage and headache (8).

**Ixora coccinea L.** –

*I. coccinea* which is also collected from Sahastrakund forest is common evergreen, multibranched, flowering shrub. It is commonly known as jungle of geranium. It is common flowering ornamental plant from family rubiaceae. It is a multibranched, glabrous ever green shrub commonly 1-2 m in height, can reach upto 3.6 m in height; having numerous bright scarlet coloured flowers which are in compact (9). It is traditionally used as antimicrobial, antiinflammatory, antioxidant. This plant contain active constituents which are used to cure many human diseases (10). It is extensively used in traditional medicine. The flowers of *I. coccinea* are used in treatment of dysentery, leucorrhoea and bronchitis. A decoction of the leaves is engaged as ointment for eye dilemmas and can cure wounds and sores. The roots have astringent and antiseptic properties (11).

**Hamelia patens Jacq.** –

This plant is collected from Kinwat forest. It is one of the most common plant belongs to family Rubiaceae. It is a fast growing plant reaches upto 6 to 12 feet and can spread 5 to 8 feet. It is commonly known as firebush or scarlet bush. *H. patens* grows in all type of soil like damp, sour, alkaline, silt, clay. According to tribal healers the same type of observation was made by Jafra Bano. This plant is used against headache, asthma and dysentery. *H. patens* is used in traditional medicine as diuretic and for the pragmatic cure of pain, irritation, rheumatism, diabetes, wound healing, gastritis, stomach ache, snake and scorpion bites, fever (12). The primary as well as secondary metabolites like alkaloids, flavonoids, tannins, carbohydrates are isolated from different parts of *H. patens*. Pharmacological investigations have confirmed different uses of *H. patens* (20).

**Morinda citrifolia linn.** –

*M. citrifolia* is an important herb or tree from family Rubiaceae. It is commonly known as Noni or Indian mulberry. Identifying character of this plant is its huge dark green glossy leaves. Leaves of this plant are used to inhibit the growth of bacteria. *M. citrifolia* has been accepted as an important herb for curing different biological ailments. The products obtained from the different parts of *M. citrifolia* plant namely leaves, fruits, roots and barks are available in the market as Noni juice, powder, Noni concentrates, as well as tea (13). This plant is used against high blood pressure, arthritis, ulcers, depression, burns, fever, intestinal worms, joint problems. Leaves of this plant contains antakuinon, flavonol iridoid glycosides and triterpen (14).

**Mitragyna parvifolia Roxb.** –

*M. parvifolia* is a tree species indigenous to India. It is used as medicinally important plant as well as for fine timber. The bark of the plant is used against colic pain and in problems like peptic ulcers as well as in muscular pain. Leaves of this plant is used in case of swelling due to sprain (4). The plant raises in India, in deciduous and evergreen. The plant possesses chemical constituents like pyroligneous acid, methyl acetate, ketones and aldehydes. The bark and roots of the plant are used to treat fever, indigestion, muscular pain, burning sensation, poisoning, reproductive disorders, cough, edema and as aphrodisiac. Injuries and abscesses are garbed using its leaves to relieve pain, distension and for better healing (15).

**Neolamarckia cadamba Roxb.** –

*N. cadamba* is an evergreen tree from family Rubiaceae frequently found all over India. It is commonly called as cadamb. As well as it is an early progression species which grows best on deep, damp, muddy sites. This plant grows as tree having cylindrical branches and rounded crown. The flowers of this plant are used as vegetable. Leaves and stem of cadamba plant are used against muscular pain, gynecological disorders, cough (16). Leaves of Cadamba tree are used for curing diabetes. The paste of the flowers of cadamba is useful over black spots and pimples. Also flowers are used in perfumes. *N. cadamba* has numerous therapeutic activities like antioxidant, antidiabetic, hepatoprotective, antidiarrhoeal, diuretic etc (16).

**Cantium coromendelicum Burmf.** –

*C. coromendelicum* is one of the shrub from Rubiaceae family having opposite thorns a little above the leaf. Leaves of the plant contains various secondary metabolites like alkaloids, terpenoids, flavonoids, tannin, saponin, carbohydrates. Stem and leaves of *C. coromendelicum* shows anticancerous properties (17).

**Results and Discussion:**

The given data is reliable and gathered from ancient people with knowledge of traditional medicines and therapeutic consultants of this area. In research laboratory we have confirmed its uniqueness by noticing and relating their characters in loyal floras and reference papers. Most of the medicines are used as decoctions or mixtures of plants as traditional herbal therapies are based on natural knowledge and observed practices. Ethnic people use a variety of species from the forest in preparation of traditional medicines to cure health diseases. Ethno medicinal use of nine plant of Rubiaceae has been acknowledged on the basis of collected information and confirmed by cross-checking with healers and herbal practioneers of Kinwat. From this study it is observed that all

the species mentioned in the paper are common and conventionally used as Indian folk medicines for different therapeutic treatments. According to present studies the ethno medicinal uses of these plant species may show the way to remarkable conclusion. The gathered data about plants from Rubiaceae family can be used for further ethno pharmacological investigations & sustainable use of medicinal plants for the welfare of mankind (17). The information received from this study indicates that plants of rubiaceae family like *Gardenia jasmenoides*, *Ixora coccinea*, *Ixora chinensis*, *Hamelia patens*, *Morinda citrifolia*, *Mitragyna parvifolia*, *Gardenia gummiferra*, *Canthium coromendelicum*, *Neolamarckia cadamba* show wide range of health benefits.

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