



COMPLETE MULTIDISCIPLINARY IMPACTS OF THE FABACEAE

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ABSTRACT

Uttar Pradesh is the region with high percentage of field and forest area covering, during surveys we have found 77 species, have been used as various prospects of family Fabaceae. We have always needs for such raw medications. The information of the plants and its economic importance are given by local people and tribls from the survey area has mention alphabetical order with vernacular names of the species given in bracket.

Keywords: Family Fabaceae, economic importance, species.

INTRODUCTION

The Fabaceae is one of the dominant and the most important family, found under extremely varied soil and climatic condition. It is cosmopolitan in distribution and most abundant in tropics, subtropics, temperate and warm climate. An account of ancient literature reveals that Indian treatises such as Charaka Samhita, Susrut Samhita and Vriksha Ayurveds includes many plants of family Fabaceae are mainly from medicinal like *Clitoria ternatea* (Aparajita), *Abrus precatorious* (Gumchi), *Pongamia pinnata* (Karanj); the agricultural species like *Pisum sativum* (Matar), *Cajanus cajan* (Arhar), *Cicer arietinum* (Chana), *Glycine max* (Soyabean), *Phaseolus mungo* (Urd) and *Crotalaria juncea* (Sann), *Indigofera tinctoria* (Neel) as horticultural point of view. A number of plants are used in other kinds of economic importance such as timber, dyes, gum, fibers etc. A large number of species are commonly utilized by Indian Pharmaceutical Industries (Kapoor and Mitra, 1979–Harbal Drugs of Indian Pharmaceutical Industry, Lucknow)⁴. The family is represented 1152 species under 179 genera in India (Sanjappa, 1990)⁷. The region has been explored earlier by Bhattacharyya (1963, 1964)^{1,2}, S. K. Jain (1991)³, Khanna *et al.* (1996)⁵, Singh and Maheshwari (1986)⁶; Singh and Prakash (1994, 1998)^{8,9} and Singh *et al.* (2002)¹⁰. During the field survey, information regarding medicinal uses of plants were gathered from local inhabitants, Vaidyas and Haquims, some used in various fields as timber, fibers, fodder, fuel, dyes, gum as well as ornamental and decorative purpose, like *Aeschynomene aspera* (Sola) and *A. indica* (Phulan); *Alhagi maurorum* (Jawasa); *Atylosia scarabaeoides* (Bankulthi); *Butea monosperma* (Palas); *Canavalia ensiformis* (Makhansem); *D. sissoo* (Shisham); *Mucuna pruriens* (Kenwanch) etc. There local names (given in brackets) of the plants are essential to mention here because of conservation of traditional knowledge. All the plant specimens are kept in the Duthie Herbarium, Botany department, University of Allahabad. There is given their uses and administration values with the description.

Economical aspects of the plants of Fabaceae

***Abrus precatorious* (Gumchi)**

Commonly the seeds called ‘Ratti’ are said to have constant weight of 1.75 g and are largely used by Jewelers, (1 grains = 0.064). When the juice of green leaves mixed with the root-

powder of *Plumbago zeylanica* (Chitri) is locally used for cure of ‘Leucoderma’. The seeds are poisonous. Dry leaves and stem are used as fuel.

***Aeschynomene aspera* (Sola) and *A. indica* (Phulan)**

Help to Nitrogen fixation in paddy fields. It is also used as fodder.

***Alhagi maurorum* (Jawasa)**

Used as camel fodder; the leaves are smoked in the treatment of ‘asthma’.

Alysicarpus bupleurifolius

Whole plant is used in fever.

A. monilifer

Whole plant used as Antidote to snake bite. It is also used as fodder.

***A. vaginalis* (Juhi ghas)**

Whole plant used in ‘Bone fracture’ and Joints pain, roots as expectorant and anti fertility.

***Arachis hypogia* (Mungphali)**

Cultivated in sandy soil for its pods; kernels are eaten raw and roasted. An edible oil commercially known as “Groundnut oil” is extracted from seeds.

***Atylosia scarabaeoides* (Bankulthi)**

The whole plant used as medicine for ‘Dysentery’ and Gastric problems.

***Butea monosperma* (Palas)**

A hot poultice of leaves is used for cure of boils, pimples and swellings. The leaves are used as plates, wrapping and a beautiful yellow dye is prepared from the flowers and is chiefly used for sprinkling during the ‘Holi festival’. The foliage is given as fodder.

***B. parviflora* (Murdhbel) and *Psoralea corylifolia* (Babchi)**

Flowers and seeds are extensively used for various skin diseases.

***Cajanus cajan* (Arhar)**

It is extensively grown often mixed with the crops of Jwar and Bajra and used as pulse. The leaves afford a good fodder. It's root and leaf paste has given for 'Dysentery' and only leaf paste used for 'Mouth ulcer'.

***Canavalia ensiformis* (Makhansam)**

Cultivated for edible pods, but according to ethno medicinal records, fruits if eaten create abdominal complaints, hernia and colic. The Cystin, Tyrosin and Tryptophan are three main crystalline globulins isolated from the plant. It also contains some organic compounds i.e. concaivalin 'A' and concaivalin 'B', is used in medicines.

***C. virosa* (Kathsem)**

The seeds are narcotic and poisonous.

***Cicer arietinum* (Chana)**

It also used in acid exudation like astrin used in dyspepsia, constipation and snakebite. It contains oxalic acid, acetic acid, malic acid and other acids. The 0.009 mg arginine, tyrosine, lycine, cystine, tryptophane, carotenoids and oil-soluble Vit- A, D and E are also isolated from 100 g seeds.

***Clitoria ternatea* (Aparajita)**

Seeds and roots are diuretic and purgative. The whole plant is used for snake poisons. The leaf past is applied around the neck to remove fish bone from the throat and on thorn-prick to expel the thorns.

***Crotalaria burhia* (Shinio)**

The branches of the plant are very strong and used in the preparation of ropes and cordage. The leaves and branches are used as a fodder and cooling purpose.

***C. juncea* (Sanai)**

Its fiber used for making ropes. That green plants and its seeds, are sometimes given as food to milch cows. Ethno-medicinally leaves used in cough; flower in anti fertility and seeds are in skin disease as blood purifier.

***Cyamopsis tetragonoloba* (Guar)**

The young pods are used as vegetable and the whole plant as a green manure. The boiled grain is given to cattle and wetted grain is used against sprains and swelling.

***Dalbergia latifolia* (Black Shisham) and
D. paniculata (Pharsi)**

The wood is much valued for furniture.

***D. sissoo* (Shisham)**

Yield a valuable timber; bark and leaf are used in Jaundice and liver disorder while flowers are used in cough and cold.

Desmodium gangeticum

The roots are extensively used in Typhoid fever, cerebrospinal meningitis and snake bite.

D. triflorum

It acts as a soil-binder. The fresh leaves are used for the healing wounds; leaves are given for weakness due to Diarrhea and Dysentery.

Erythrina variegata

Planted as ornamental trees; its bark used for common cold, Rheumatism and skin disease. Leaves and flowers used by lactating mothers for increasing milk secretion. The leaves are used to treat uterine disorders.

***Glycine max* (Soyabean)**

Seeds eaten roasted or cooked; sprouted seeds are used for the preparation of various milk products; oil used in cooking; cakes used to feed livestock and poultry.

***Indigofera cordifolia* (Nilawari)**

Leaves are used in swelling mouth.

***I. linifolia* (Torki)**

The roots are used for stomach disorder and fruits for Ache and Rheumatism.

***I. linnaei* (Atahai)**

The whole plant used in Diarrhea.

***I. tinctoria* (Neel)**

Plant is the source of 'Indigo'. Medicinally root used for fever, wounds, whooping cough; Leaves are used for eye disorder, fracture of fingers, hair growth and nervous disorder.

***I. trita* (Jhugin)**

The seeds are sometimes eaten and considered nutritive. The twigs are used for increasing strength of gums and teeth.

***Lablab purpureus* (Sem)**

Pods are used as vegetable. The roots are used for anti-fertility, vermicide and leaves are used in cough and Ringworm.

***L. sativus* (Khesari)**

Leaf used for stomach ulcer and Asthma. Plant is often cultivated for fodder and seeds are used as pulses. Regular consumption of its seeds is causing lathyrism and paralysis.

***Lens culinaris* (Masur)**

It is used as most nutritious pulses and fodder to cattle. Seeds have medicinal value for small pox.

***Medicago polymorpha* (Rizka)**

Leaves are used for skin plagues and Dysentery. All the species are used for as fodder.

***Melilotus indica* (Peeli senjee)**

Leaves are used in constipation and indigestion and also used as fodder.

Millettia ovalifolia

Leaves are used in fever and spleen disorders.

***Mucuna pruriens* (Kenwanch)**

Pods sometimes eaten wildly as vegetable after removing the irritating hairs, because it caused by the very intense if touched to body and may last for several hours. The leaf used for 'Rabies' and 'Dermatitis'. The application of ammonia, considerably reduce the burning sensation produced by this plant. It also used as insecticide to other cultivated plants.

***Ougeinia oogeinsis* (Tinsa)**

Ethno-medicinally the bark is used in still birth of child. Wood commonly used for agricultural implements and in buildings.

***Phaseolus radiatus* (Mung)**

The pulses are much valued and especially given to patients, as it very easily digested.

***P. mungo* (Urd)**

It is grown as mix crop in field of Jowar and Bajra. The grain is used as pulse often given as a fattening food to cattle and horses and the straw is considered to be an excellent fodder.

***P. vulgaris* (Rajma)**

Seeds are edible in vegetable which is much protein substances.

***Pisum sativum* (Mattar)**

Extensively cultivated for vegetable, the seeds are eaten in form of various preparations, also used as fodder.

***Pongamia pinnata* (Karanja)**

It is generally planted as an avenue tree. The seeds oil is used in rheumatism and seed powder in cough and Leucoderma; root is used in Leprosy and bark in Malaria fever and piles.

***Pterocarpus marsupium* (Bijasal)**

The wood valued for furniture and agricultural implements. Bark is used in Diabetes and gum is several preparations.

Sesbania bispinosa

Seeds are wildily edible, also valuable as fodder.

***S. grandiflora* (Agasth)**

It is usually planted in gardens, flowers and cooked pods eaten.

***S. sesban* (Jaint)**

The whole plant used for Urine complains and flowers are in Impotency.

Smithea conferta

The leaves are used as vegetable and in Anti-fertility.

S. sensitiva

The leaves are eaten as a potherb and the plant affords excellent fodder for cattle.

***Tephrosia purpurea* (Ban-neel)**

An extract from the pod is used in relieving body pains and inflammation troubles. Ethno-medicinally the root is given for Liver disorder and leaf in Itching.

T. strigosa

The roots are used as a remedy for toothache.

T. villosa

The whole plants are used by tribals in cough, cold and pain in scrotum.

***Teramnus labialis* (Mashoni)**

Root paste has given in Scorpion-bite and leaf in body pain.

***Trigonella foenum-graecum* (Methi)**

Cultivated for leafy vegetable; seeds used as a spice. Leaf-paste for given to the Diabetic patients.

***Uraria picta* (Dabra)**

Root sap mixed with mother's milk is used for Churn a disease of the children.

***Vicia faba* (Bakla) and *Vigna unguiculata* (Bora, Lobia)**

Cultivated for pods are used as vegetables.

***Vigna trilobata* (Mungam)**

Seeds often used as a famine food.

Miscellaneous Use

Clitoria ternatea (Aparajita); *Gliricidia sepium*; *Lathyrus odoratus* (Sweet pea); *Millettia ovalifolia* and *Sesbania sesban* (Jaint) are planted ornaments while *Crotalaria medicaginea* var. *luxurians*; *Dalbergia microphyllum*; *Lathyrus aphaca* (Wild pea); *Phaseolus aconitifolia* (Motha); *Trifolium alexandrium* (Burseem); *Vicia hirsuta*, *V. rigidula* and *V. sativa* are extensively used as fodder.

CONCLUSION

The aim of this study is to give a consolidated account of the economically important plants of family Fabaceae for wealth of this region of Uttar Pradesh, India being used for the treatment of common ailments through local and tribal people systems.

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