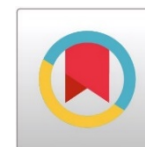


IDENTIFIED PLANTS WHICH ARE BELONGS IN INDIGOFERA GENERA IN THOOTHUKUDI DISTRICT, TAMIL NADU, INDIA



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ABSTRACT

The Indigofera are frequently shrubs, and some are small trees or herbaceous perennials or annuals. These have pinnate leaves. Racemes of flowers grow in the leaf axils, in hues of red, but there are a few white- and yellow-flowered species. The fruit is a legume pod of varying size and shape. Botanical description schedule as; Kingdom: Plantae, (unranked): Angiosperms, (unranked): Eudicots, (unranked): Rosids, Order: Fabales, Family: Fabaceae, Subfamily: Faboideae, Tribe: Indigofereae, Genus: Indigofera. 1620 plant name records match your search criteria Indigofera. The names found have these generic epithets: as accepted in the plant list online data base. That plants were; *Indigofera argentea* / *I. articulate*, *Indigofera aspalathoides* Vahl. *Indigofera enneaphylla* Linn. *Indigofera glabra* Linn. *Indigofera glandulosa* Willd. *Indigofera linifolia* Retz. *Indigofera pulchella* Roxb. *Indigofera tinctoria* Linn. *Indigofera trifoliata* Linn. *Indigofera trita* Linn. Books mentioned 04 species were not latest updated Plant List Online data base which were; *Indigofera caerulea* Roxb. *Indigofera cordifolia*. *Indigofera frutescens*. *Indigofera hirsuta*. According to the Results and Discussion this research revealed that, 20 species of *Indigofera* genera by the evidence of books and 04 species synonyms like updated latest in online data base. However, 16 species available in the Thoothukudi District 16 species available commonly and 04 species were rarely showed in Thoothukudi District by randomly field to all soil types of areas.

1. INTRODUCTION

Species of *Indigofera* are frequently shrubs, and some are small trees or herbaceous perennials or annuals. Most have pinnate leaves. Racemes of flowers raise in the leaf axils, in hues of red, but there are a few white- and yellow-flowered species. The fruit is a legume pod of changing size and shape. [3]

Indigofera is a diverse genus that has exposed unique features production it an interesting candidate as a potential perennial crop. Specifically, there is varied variation between species with a number of distinctive characteristics. Some examples of this variety include alterations in pericarp thickness, fruit type, and flowering morphology. The unique features it has showed include potential for mixed smallholder systems with at least one other species and a resilience that allows for constant nitrogen update despite varying circumstances.

One example of its sole flowering morphology is an open carpel not often understood elsewhere. In addition, it seems that the organ primordial is often formed at deeper layers than other eudicots. [4] This diversity could have

important insinuations on its role in an actual perennial polyculture. For example, different flowering morphologies could be insincerely selected for in varying directions in order to better fit in dissimilar environmental conditions and with different populations of other plants.

The categories of fruit formed by different species of Indigofera can also be separated into wide-ranging categories that over show great difference. The three elementary types of fruit groupings can be divided by their curvature including straight, slightly curved, and falcate (sickle-shaped). In addition, several of the species as well as Indigofera microcarpa, Indigofera suffruticosa, and Indigofera enneaphylla have exposed delayed dehiscence (ripening) of fruits [5] This variation might again permit for artificial selection of the most plentiful and nutritious fruit types and shapes.

Additional way to categorize Indigofera is by its pericarp thickness. The pericarp (the tissue from the ovary that surrounds the seeds) can be categorized as type I, type II, and type III with type I having the thinnest pericarp and smallest layers of schlerenchymatous (stiff) tissue and type III having the thickest pericarp and most schlerenchymatous layers. Despite the previous examples of delayed dehiscence, most fruits of this genus show normal irascible dehiscence to disperse seeds. [6] Similar to fruit shape, the variation in fruit sizes allows for the thickest and most bountiful fruits to be selected.

Botanical classification

Kingdom: Plantae
(unranked): Angiosperms
(unranked): Eudicots
(unranked): Rosids
Order: Fabales
Family: Fabaceae
Subfamily: Faboideae
Tribe: Indigofereae [1]
Genus: **Indigofera**

Benefits: Indigo dye

Numerous species, especially Indigofera tinctoria and Indigofera suffruticosa, are used to yield the dye indigo. Scraps of Indigo-dyed fabric likely dyed with plants from the genus Indigofera discovered at Huaca Prieta predate Egyptian indigo-dyed fabrics by more than 1,500 years. [7] Colonial planters in the Caribbean grew indigo and relocated its cultivation when they firm in the colony of South Carolina and North Carolina where people of the Tuscarora confederacy assumed the dyeing procedure for head wraps and clothing. Exports of the crop did not rise until the mid-to late 18th century. When Eliza Lucas Pinckney and enslaved Africans successfully cultivated new strains near Charleston it turn into the second most important cash crop in the colony (after rice) before the American Revolution. It covered more than one-third of all exports in value.

The chemical aniline, from which many important dyes are derivative, was first synthesized from Indigofera suffruticosa (syn. Indigofera anil, whence the name aniline).

In Indonesia, the Sundanese use Indigofera tinctoria (known locally as tarum or nila) as dye for batik. Marco Polo was the first to account on the preparation of indigo in India. Indigo was fairly frequently used in European easel painting during the Middle Ages. [8], [9]

Medicinal uses

More than a few species of this collection are used to alleviate pain. The herbs are commonly stared as an analgesic with anti-inflammatory activity, rather than an anodyne. [10] Indigofera articulata (Khedaish in Arabic) was used for toothache, and Indigofera oblongifolia (hasr in Arabic) was used as an anti-inflammatory for insect stings, snakebites, and swellings. [11]

Indigofera suffruticosa and Indigofera aspalthoides have also been utilized as anti-inflammatories. [12], [13], [14]. A obvious was granted for use of Indigofera arrecta extract to dismiss ulcer pain. [15]

The Maasai people of Kenya use parts of Indigofera brevicealyx and Indigofera swaziensis as tooth brushes. [16]

2. MATERIALS AND METHODS

Research type: plant survey research

Research design: selected areas and field visit to collected samples and identified the particular genera species respectively and made digital photography of the identified plants. Data compare with available botany taxonomical printed book and www.theplantlist.com in electronic media with schedule the plants as result then data generated to conclusion.

3. RESULTS

BOTANICAL NAME	Tamil name	REFERENCE	
<i>Indigofera angustifolia</i>		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera anil</i> Linn.	shimaiya-veri	indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera argentea</i> / <i>I. articulata</i>	kat-averi / aramurai, iruppumuri	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera aspalathoides</i> Vahl.	shivanarvembu	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera caerulea</i> Roxb.		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera cordifolia</i> .		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera enneaphylla</i> Linn.	cheppu neringie, adampedi	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera frutescens</i> .		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera galegoides</i> DC.		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera glabra</i> Linn.		indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera glandulosa</i> Willd.	barapatam	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera hirsuta</i> .		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera indica</i> Gaertn.		indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera linifolia</i> Retz.	rathna maalai	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera paucifolia</i> Delile	kauttukkar chammathi	indian materia medica, volume two, 3rd edition, 1954	
<i>Indigofera pulchella</i> Roxb.	narinji	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera tinctoria</i> Linn.	averi	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera trifoliata</i> Linn.		indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera trita</i> Linn	kandaram, punalmurungai, saubanjam	indian materia medica, volume two, 3rd edition, 1954	2
<i>Indigofera oblongifolia</i> Forsk	kauttukkar chammathi	Indian Medicinal Plants, vol-1, second edition, 2012, Periodical expert book agency, delhi.	

BOTANICAL NAME

PICTURES

Indigofera angustifolia



Indigofera anil Linn.



Indigofera argentea / *I. articulata*



Indigofera aspalathoides Vahl.



Indigofera enneaphylla Linn.



Indigofera galegoides DC.



Indigofera glabra Linn.



Indigofera glandulosa Willd.



Identified plants which are belongs in Indigofera genera in Thoothukudi District, Tamil Nadu, India

***Indigofera indica* Gaertn.**



***Indigofera linifolia* Retz.**



***Indigofera paucifolia* Delile**



***Indigofera pulchella* Roxb.**



Indigofera tinctoria Linn.



Indigofera trifoliata Linn.



Indigofera trita Linn



Indigofera oblongifolia Forsk



4. DISCUSSION

The Indigofera are mostly shrubs, though some are small trees or herbaceous perennials or annuals. Botanical description schedule as; Kingdom: Plantae, (unranked): Angiosperms, (unranked): Eudicots, (unranked): Rosids, Order: Fabales, Family: Fabaceae, Subfamily: Faboideae, Tribe: Indigofereae, Genus: Indigofera. According to the result; 20 species identified in thoothukudi district among 20 species mentioned in two text books such as; Indian Materia Medica, volume two, 3rd edition, 1954 and Indian Medicinal Plants, vol-1, second edition, 2012, Periodical expert book agency, Delhi. That plants were; Indigofera argentea / I. articulate, Indigofera aspalathoides Vahl. Indigofera enneaphylla Linn. Indigofera glabra Linn. Indigofera glandulosa Willd. Indigofera linifolia Retz. Indigofera pulchella Roxb. Indigofera tinctoria Linn. Indigofera trifoliata Linn. Indigofera trita Linn.

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CONFLICT OF INTEREST

The author have declared that no competing interests exist.

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