

Floristic Diversity of the Family Fabaceae of Kurhani Block of Muzaffarpur District, Bihar, India

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Abstract: A study on species diversity of the family Fabaceae (Leguminosae) of the Kurhani block of the Muzaffarpur district, Bihar, was done by the authors from June 2024 to February 2026. Extensive field surveys were carried out in agricultural fields, wastelands, roadside areas, rail trackside areas, near ponds, and semi-urban habitats. A total of 32 species belonging to 25 genera were collected, studied, identified, and preserved. Collected species were also studied for their economic value and ecological role.

Keywords: Diversity, Fabaceae, Kurhani Block, Muzaffarpur, Bihar

1. Introduction

The family Fabaceae (Leguminosae) is one of the largest and most economically significant plant families, comprising approximately 19,000 to 20,000 species in 760-770 genera. India is represented by 150-170 genera and 1200-1500 species. Approximately 80-120 genera of 200-400 species represent Bihar.

The Kurhani block is a prominent administrative block of the District of Muzaffarpur of Bihar. It holds a large rural population, influencing its agriculture, economy, and socioeconomic development in the district. Members of Fabaceae are economically very important, providing protein (dal) to humans and cattle and playing a crucial agro-economic role by symbiotic nitrogen fixation in the soil to maintain its soil fertility. Other than providing protein, Fabaceae has immense importance because it provides food, fodder, fuel wood, gums, dyes, and medicinal products. However, systematic studies focusing on taxonomic diversity and ecological contributions remain limited for this family in the area. This family is never investigated for its diversity. It is, therefore, necessary to undertake research work concerning the survey, collection, identification, and study of taxonomic works on the family Fabaceae of the Kurhani Block of Muzaffarpur District.

2. Material and Method

Kurhani, a block of Muzaffarpur having 165 villages with a population more than 4.5 lakh, is a major rural settlement. The surveyed area was divided into 16 zones each having 10-11 villages so as to visit and collect specimens regularly. Some of the villages like: Kishunpur, Belaur, Godani, Basauli, Belahia, Kinari, Balra kishun, Sonbarsa, Maricha, Bakarpur, Baghi, Sonbarsa shah, Chak bhati, etc. were visited thoroughly. Data collected regarding number of villages in the area with their name and location (latitude and longitude). Photographs of plants were taken with geotag so as to know the exact location, date of collection etc. Location (latitude and longitude) of ponds, river, pasturage, orchard, road etc. were recorded. Plants were collected, pressed, preserved and pasted on the mounting sheet of required size.

Labels were also pasted on the mounting sheet after identification. A specific specimen number were given to each collected specimen denoting year, month and date of collection with number of collections on specific day. Plants were collected from mustard field, wheat field, gram field, maize field, cabbage and cauliflower field, other vegetables field, sugarcane field, tobacco field, banana field, pond side, road side, orchards like litchi, mango etc.

Table 1: Distribution of species into their Subfamilie, their habit and common name

SN	Name	Sub Family	Habit	common name
1	<i>Bauhinia variegata</i> L.	Caesalpinioideae	Tree	Kachnar
2	<i>Cassia fistula</i> L.	Caesalpinioideae	Tree	Amaltas
3	<i>Delonix regia</i> (Bojer ex Hook.) Raf.	Caesalpinioideae	Tree	Gulmohar
4	<i>Saraca asoca</i> (Roxb.) W.J.de Wilde	Caesalpinioideae	Tree	Ashoka
5	<i>Senegalia catechu</i> (L. f.) P. J. H. Hurter & Mabb.	Caesalpinioideae	Tree	Black catechu, Khair
6	<i>Tamarindus indica</i> L.	Caesalpinioideae	Tree	Imli
7	<i>Arachis hypogaea</i> L.	Faboideae	Herb	ground nut
8	<i>Butea monosperma</i> (Lam.) Taub.	Faboideae	Tree	Palas
9	<i>Cajanus cajan</i> (L.) Huth	Faboideae	Shrub	Rahar dal
10	<i>Canavalia ensiformis</i> (L.) DC.	Faboideae	Herb	Jack bean
11	<i>Cicer arietinum</i> L.	Faboideae	Herb	Chana
12	<i>Clitoria ternatea</i> L.	Faboideae	Herb	Aprajita
13	<i>Crotalaria juncea</i> L.	Faboideae	Shrub	Sunn hemp
14	<i>Dalbergia sissoo</i> Roxb. ex DC.	Faboideae	Tree	Shisham
15	<i>Desmodium gangeticum</i> (L.) DC.	Faboideae	Herb	Dirghmooli

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16	<i>Desmodium triflorum</i> (L.) DC.	Faboideae	Herb	Tripadi
17	<i>Glycine max</i> (L.) Merr.	Faboideae	Herb	Soya bean
18	<i>Lablab purpureus</i> (L.) Sweet	Faboideae	Herb	Sem
19	<i>Lathyrus oleraceus</i> Lam.	Faboideae	Herb	Sweet Pea
20	<i>Melilotus indicus</i> (L.) All.	Faboideae	Herb	Ban Methi
21	<i>Phaseolus vulgaris</i> L.	Faboideae	Herb	French bean
22	<i>Pisum sativum</i> L.	Faboideae	Herb	Pea
23	<i>Pongamia pinnata</i> (L.) Pierre	Faboideae	Tree	Karanj
24	<i>Pterocarpus marsupium</i> Roxburgh	Faboideae	Tree	Indian kino
25	<i>Senna hirsuta</i> (L.) H.S.Irwin & Barneby	Faboideae	Shrub	Hairy senna
26	<i>Sesbania bispinosa</i> (Jacq.) W.Wight	Faboideae	Shrub	Dhaincha
27	<i>Trifolium alexandrinum</i> L.	Faboideae	Herb	Berseem clover
28	<i>Trigonella foenum-graecum</i> L.	Faboideae	Herb	Methi
29	<i>Vicia faba</i> L.	Faboideae	Herb	Bokla
30	<i>Vicia lens</i> (L.) Coss. & Germ.	Faboideae	Herb	Masoor
31	<i>Vigna mungo</i> (L.) Hepper	Faboideae	Herb	black Gram, Urad
32	<i>Vigna radiata</i> (L.) R.Wilczek	Faboideae	Herb	green gram, Moong
33	<i>Vigna unguiculata</i> (L.) Walp.	Faboideae	Herb	Lobia
34	<i>Acacia nilotica</i> (L.) Willd. ex Delile	Mimosoideae	Tree	Babul
35	<i>Albizia lebeck</i> (L.) Benth.	Mimosoideae	Tree	Siris
36	<i>Albizia procera</i> (Roxb.) Benth.	Mimosoideae	Tree	Safed siris
37	<i>Mimosa pudica</i> L.	Mimosoideae	Herb	Lajwanti
38	<i>Prosopis cineraria</i> (L.) Druce	Mimosoideae	Tree	Khejri

3. Result and Discussion

The present study of family Fabaceae growing throughout the Kurhani block of Muzaffarpur District was carried out from June 2024 to February 2026. A total of 38 plants were collected and identified. There are 20 herbs, 14 trees, and 4 shrubs. Analysis showed that Faboideae had the maximum number of species, i.e., 27; Caesalpinioideae, 6; and Mimosoideae, 5. All the members of Caesalpinioideae are tree species. The maximum number of herbs is in the subfamily Faboideae. There are 6 common pulses grown in the area belonging to Faboideae, including chickpeas, lentils, and peas, which are important for their nutritional value and contribution to local agriculture. Groundnut and soybean are the two plants that are good sources of vegetable oil. Tree species are a good source of furniture wood.

Table 2: Distribution of species in different Habit groups

Subfamily	No. of Species	Tree	Shrub	Herb
Faboideae	27	4	4	19
Caesalpinioideae	6	6	0	0
Mimosoideae	5	4	0	1

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