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A SYSTEMATIC STUDY OF COMMELINACEAE OF BIHAR AND JHARKHAND STATES, INDIA

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ABSTRACT

The members of the family Commelinaceae are commonly distributed in the tropical and sub-temperate regions of the world. The present study reveals that 25 species under 7 genera of the family Commelinaceae are distributed in Bihar and Jharkhand states. The dominant genera are *Commelina*, *Murdannia* and *Cyanotis*. Out of 26 taxa, 16 are common, one is rare and one is endemic. Few species are ethnobotanically important and some are ornamental garden plants. The updated nomenclature of each species, local names (if any), phenological data, distribution in the states, ecological status, local uses (if any) are also provided herewith.

Keywords: Commelinaceae, Systematic study, Bihar, Jharkhand.

INTRODUCTION

The Bihar state encompasses a geographical area of 94,162 km² and is situated between 24°15'N – 27°31'N and 83°20'E - 88°18'E. The state is surrounded by the states like Jharkhand, Uttar Pradesh, West Bengal and the country Nepal. Jharkhand is situated between 22°00'N–24°15'N and 83°20'E-87°55'E and covers a geographical area of 79,714 km². Again, the state Jharkhand is surrounded by the states like Bihar, Uttar Pradesh, Chattishgarh, Orissa & West Bengal. Geologically Bihar was formed mostly of deposits of Quaternary-Holocene Age. The chief constituting materials are alluvium mixed with soil separates like sand, silt and clay. The region experiences monsoon climate throughout the year with seasonal variation. The study area is characterized by Alluvial soils mostly in Bihar while in Jharkhand there are extensive areas under Red soils with pockets of Laterite soils. The vegetation of the states is mainly tropophilous.

A number of botanists explored the erstwhile Bihar from time to time since 1848 owing to its rich vegetation and floristic diversity. J.D. Hooker (1872-1897) made collections in the Parasnath hills. Anderson (1863) published an account of the Flora of Bihar based on the collections of his own. He was followed by other workers like Clarke (1884), Wood (1906), Haines (1910, 1919), Burkill (1910), Carter (1917) and Thomson (1917). Haines (1921-1925) did a pioneering

work by publishing a monumental work entitled, “The Botany of Bihar and Orissa”. Later, a number of other botanists like Mooney (1941, 1944, 1950), Bressers (1951), and others extensively surveyed various areas of the state and made significant contributions on the flora of Bihar. Besides, a few workers also worked out the flora of some districts like Ranchi (Bressers, 1951), West Champaran (Bhattacharyya and Sarkar, 1998), Hazaribagh (Paria and Chattopadhyay, 2000 & 2005) and Palamau (Sharma and Sarkar, 2002). Several plant species were recorded from states by many authors from time to time. The present paper is an attempt to know the systematic status of plants under the family Commelinaceae of Bihar and Jharkhand states.

MATERIALS AND METHODS

The present work is based on careful scrutiny of published literatures and study of herbarium specimens deposited at Central National Herbarium, Calcutta (CAL) and herbaria of different colleges and universities in Bihar & Jharkhand States. The paper presents correct name of species with their respective families, phenological data, ecological status and the reported distributions. The flowering and fruiting seasons (Fl. & Fr.) are mentioned in months. Local uses in some cases are also stated. Local names and distribution are abbreviated as Loc. name and distrib. respectively in the text.

OBSERVATIONS

The following species under the family Commelinaceae found in the area are presented:

KEY TO THE GENERA

1. Fertile stamens 3, staminodes 1-3
2. Cyme solitary, enclosed in a spathaceous bract.....1. *Commelina*
2. Cyme paniculate, not enclosed in a spatheaceous bract.....4. *Murdannia*

1. Fertile stamens 6, or rarely 5, staminodes absent
 3. Flowers enclosed within the inflated leaf sheaths6. *Tonningia*
 3. Flowers not enclosed within the inflated leaf sheaths
 4. Petals united below in a tube
 5. Flowers enclosed in the biseriate imbricating bracts, sepals free 2. *Cyanotis*
 5. Flowers not enclosed in the biseriate imbricating bracts, sepals united7. *Zebrina*
 4. Petals free
 6. Flowers in terminal panicle, sepals densely pubescent, ovary 2-celled3. *Floscopa*
 6. Flowers in axillary cyme, sepals glabrous, ovary 3-celled.....5. *Rhoeo*
1. *Commelina* L., Sp. Pl. 40.1753.

Key to the species

1. Two anterior cells of the ovary 2-ovuled, one posterior cell 1-ovuled
 2. Spathe cucullate, cleistogamous flowers often present.....3. *C. benghalensis*
 2. Spathe complicate, cleistogamous flowers absent
 3. Stem with reddish brown streaks, seeds tuberculate and reticulate4. *C. diffusa*
 3. Stem without reddish brown streaks, seeds smooth
 4. Capsule 2- or 1-celled.....2. *C. attenuata*
 4. Capsule 3-celled
 5. Leaves narrowly lanceolate or oblong-lanceolate, sheath 7-12 mm long.....6. *C. hasskarlii*
 5. Leaves linear-lanceolate, sheath 15-25 mm long.....7. *C. longifolia*
1. All ovary cells 1-ovuled
 6. Ovary 2-celled
 7. Spathe complicate, 3.5-6 cm long.....1. *C. appendiculata*
 7. Spathe cucullate, 1-2 cm long.....9. *C. suffruticosa*
 6. Ovary 3-celled
 8. Stem glabrous, capsule 3-valved.....8. *C. paludosa*
 8. Stem hairy, capsule 2-valved.....5. *C. erecta*

1. *Commelina appendiculata* C.B. Clarke, Commelyn. Cyrtandr. bengal.

13.1874; Hook.f., Fl. Brit. India. 6:374.1892; Prain, Bengal Pl. 2:1083.1903 (2:815.1963 Repr.ed); Haines, Bot. Bihar Orissa 1076.1924 (3:1125.1961 Repr.ed).

Fl. & Fr. : May – June

Distrib. : Bangladesh, Sri Lanka; Orissa, Sikkim, West Bengal; Purnia.

Status : Infrequent

2. *Commelina attenuata* J. Koenig ex Vahl, Enum. Pl. 2:168.1806;

Hook. f., Fl. Brit. India 6:372.1892; Prain, Bengal Pl. 2:1083.1903 (2:815.1963 Repr.ed); Haines, Bot. Bihar Orissa 1076.1924 (3:1124.1961 Repr.ed).

Fl. & Fr. : September - November

Distrib. : Sri Lanka; Madhya Pradesh, Maharashtra, Orissa, Kerala; Ranchi, Hazaribagh, Parasnath, Rajmahal hills, Manbhum, Chotanagpur, Lohardagga, Palamau.

Status : Common in damp or moist places.

Specimens Examined : Lohardagga, 11.10.1873, C.B. Clarke 20903 (CAL); Manbhum, J. Campbell, G. Watt. 8175 (CAL).

3. *Commelina benghalensis* L., Sp. Pl. 41.1753; Hook.f., Fl. Brit. India

6: 370.1892; Prain, Bengal Pl. 2:1082.1903 (2:814.1963 Repr.ed); Haines, Bot. Bihar Orissa 1077.1924 (3:1125.1961 Repr.ed).

Loc. name : Dhola, Kanchara, Kanchira, Kena

Fl. & Fr. : August – December

Distrib. : Africa, China, Japan, Malaysia; throughout India; Palamau, Motihari, Hazaribagh, Rajmahal hills near Sahibganj, Gaya, Ranchi, Chotanagpur, Santal Pargana, West Champraran, Munghyr, Saharsa.

Status : Common along the margins of waterbodies or in waterlogged rice-fields or in marshy land.

Uses : Plants are used in the treatment of leprosy, rheumatism, dyspepsia; leafy twig used as a cattle feed.

Specimens Examined : Rajmahal hills, 10/1870, Kurz Acc. No. 487339 (CAL); Hazaribagh, Chotanagpur, 05.10.1893, C.B. Clarke 20688 (CAL); Gaya, 10.10.1902, J.D. Nusker 12 (CAL).

4. *Commelina diffusa* Burm.f., Fl. Ind. 18, t.7, f. 2.1768.

Commelina nudiflora sensu Hook.f., Fl. Brit. India 6:369.1892, non L., 1753; Prain, Bengal Pl. 2:1082.1903 (2:814.1963 Repr.ed); Haines, Bot. Bihar Orissa 1075.1924 (3:1123.1961 Repr.ed).

Fl. & Fr. : July – November

Distrib. : Pantropical; throughout India; Singhbhum, Palamau (Netarhat), Ranchi.

Status : Common in wet places and marshes.

Use : Plants are used as a remedy against burns, itches and boils.

Specimens Examined : Ladaburu, 28.12.1960, G.V.S. Rao 22850 (CAL); South Bihar, 21.06.1965, K.C. Kanodia 1129 (CAL).

5. *Commelina erecta* L., Sp. Pl. 41.1753.

Commelina kurzii C.B. Clarke in J. Linn. Soc. 11:444.1871; Hook.f., Fl. Brit. India 6:373.1892; Haines, Bot. Bihar Orissa 1077.1924 (3:1126.1961 Repr.ed).

Loc. name : Jata kanchira

Fl. & Fr. : June – December

Distrib. : Africa, Australia, Malaysia, Sri Lanka; Andhra Pradesh, Karnataka, Kerala, Tamil Nadu; Rajmahal hills, Palamau (Netarhat), Parasnath.

Status : Common in damp or moist places.

Specimens Examined : Parasnath, 18.11.1888, C.B. Clarke Acc. No. 487639 (CAL).

6. *Commelina caroliniana* Walter, Fl. Carol. 68.1788.

Commelina hasskarlii C.B. Clarke, Commelyn. Cyrtandr. bengal.13, t. 5:1874; Hook.f., Fl. Brit. India 6:370.1892; Prain, Bengal Pl. 2:1082.1903 (2:814.1963 Repr.ed); Haines, Bot. Bihar Orissa 1076.1924 (3:1125.1961 Repr.ed).

Fl. & Fr. : September – March

Distrib. : Throughout India; Ranchi, Singhbhum, Hazaribagh, West Champaran, Palamau, Lohardagga, Chotanagpur, Purnia.

Status : Common in moist places and in paddy fields.

Specimens Examined : Chotanagpur, 22.11.1875, J.J. Wood Acc. No. 487320 (CAL); Hazaribagh, 03.10.1883, C.B. Clarke 33799 (CAL); Udaipur, Champaran, 10.11.1963, B.V. Shetty 205 (CAL).

7. *Commelina longifolia* Lam., Encycl. 1:129.1783.

Commelina salicifolia Roxb., Fl. Ind. 1:176.1820; Hook.f., Fl. Brit. India 6:370.1892; Prain, Bengal Pl. 2:1082.1903 (2:814.1963 Repr.ed); Haines, Bot. Bihar Orissa 1075.1924 (3:1124.1961 Repr.ed).

2. *Cyanotis* D. Don, Prodr. Fl. Nepal. 45.1825, *nom. cons.*

KEY TO THE SPECIES

1. Stem pubescent
 2. Leaves linear-ovate, 3-7 cm long.....2. *C. fasciculata*
 2. Leaves oblong, 10-25 cm long.....3. *C. tuberosa*
1. Stem glabrous
 3. Leaves 1-2 cm wide, petals bluish-violet.....1. *C. cristata*
 3. Leaves 5-7 mm wide, petals blue.....4. *C. vaga*

1. *Cyanotis cristata* (L.) D. Don, Prodr. Fl. Nepal. 46.1825; Hook.f., Fl.

Brit. India 6:385.1892; Prain, Bengal Pl. 2:1085.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1081.1924 (3:1130.1961 Repr.ed).

Loc. name : Birkana arak, Panikanchira

Fl. & Fr. : April – November

Distrib. : Bangladesh, Hong Kong, Myanmar, Java; Assam, Rajasthan, Uttar Pradesh, West Bengal; Parasnath, Chotanagpur, Purnia, West Champaran, Palamau (Netarhat), Ranchi, Dharbhanga, Munghyr, Hazaribagh.

Status : Common in moist or damp places.

Uses : Herbs are used as a medicine in the treatment of dysentery and also as cattle feed.

Specimens Examined : Bagha, Champaran, 20.09.1965, S.P. Banerjee 679 (CAL).

8. *Commelina paludosa* Blume, Enum. Pl. Javae 1:2.1827.

Commelina obliqua Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 45.1825, *non* Vahl, 1805; Hook.f., Fl. Brit. India 6:372.1892, *p.p.*; Prain, Bengal Pl. 2:1083.1903 (2:815.1963 Repr.ed); Haines, Bot. Bihar Orissa 1077.1924 (3:1126.1961 Repr.ed).

Loc. name : Jata kanchira

Fl. & Fr. : September – December

Distrib. : Java, Malay Islands, Sri Lanka; throughout India; Ranchi, Monghyr, Hazaribagh, Parasnath, Palamau.

Status : Common in damp or moist places.

Specimen Examined : Karampada, 07.01.1961, G.V.S. Rao 23230 (CAL).

9. *Commelina suffruticosa* Blume, Enum. Pl. Javae 1:3.1827; Hook.f.,

Fl. Brit. India 6:374.1892; Prain, Bengal Pl. 2:1083.1903 (2:815.1963 Repr.ed); Haines, Bot. Bihar Orissa 1078.1924 (3:1126.1961 Repr.ed).

Loc. name : Dareorsa

Fl. & Fr. : August – December

Distrib. : Malay Peninsula, Nepal; Madhya Pradesh, Orissa, Sikkim, West Bengal; Munghyr, Singhbhum, Ranchi, West Champaran, Bettiah, Palamau, Chotonagpur, Gaya.

Status : Common

Specimens Examined : Ranchi, 22.10.1873, C.B. Clarke 20379 (CAL); Chotanagpur, 12.09.1896, D. Prain Acc. No. 487668 (CAL); Gobardhana Forest, Champaran, 15.11.1963, B.V. Shetty 328 (CAL).

Commelina cristata L., Sp. Pl. 42.1753.

Fl. & Fr. : September – November

Distrib. : China, Malaysia, Myanmar, Sri Lanka; throughout India; Gaya, Rajmahal hills, Parasnath, Chotanagpur,

Manbhum, West Champaran, Palamau (Betla), Ranchi, Saharsa, Hazaribagh.

Status : Common in moist places.

Specimens Examined : Rajmahal hills, South of Sahibgunj, 03.11.1868, S. Kurz Acc. No. 488648 (CAL); Parasnath, Chotanagpur, 30.09.1873, C.B. Clarke 21328 (CAL); Gaya, Oct. 1902, J.D. Nusker Acc. No. 488652 (CAL); Champaran, 14.11.1963, B.V. Shetty 273 (CAL).

2. *Cyanotis fasciculata* (Heyne ex Roth) Schult. & J.H. Schult. in Roem.

& Schult., Syst. Veg. 7:1152.1830; Hook.f., Fl. Brit. India 6:387.1892.

Tradescantia fasciculata Heyne ex Roth, Nov. Pl. Sp.189.1821.

Fl. & Fr. : July – September

Distrib. : Sri Lanka; Karnataka, Kerala, Orissa, Tamil Nadu; Hazaribagh.

Status : Common in moist places.

3. *Cyanotis tuberosa* (Roxb.) Schult. & J.H. Schult. in Roem. & Schult.,

Syst. Veg. 7:1153.1830; Hook.f., Fl. Brit. India 6:386.1892; Prain, Bengal Pl. 2:1085.1903 (2:817.1963 Repr.ed); Haines, Bot. Bihar Orissa 1081.1924 (3:1130.1961 Repr.ed).

Tradescantia tuberosa Roxb., Pl. Coromandel 2:5, t.108.1799 & Fl. Ind. 2:119.1832.

Loc. name : Merom chunchi

Fl. & Fr. : August – November

Distrib. : Sri Lanka; Orissa, South India; Chotonagpur, Singhbhum, Ranchi.

Status : Infrequent

Specimen Examined : West Singhbhum, Sep. 1899, H.H. Haines 167 (CAL).

KEY TO THE VARIETIES

1. Stem villous, leaf-sheath up to 2.5 cm long ..1. *C. tuberosa* var. *tuberosa*

1. Stem scarcely pubescent, leaf-sheath up to 2 cm long..... 2. *C. tuberosa* var. *adscendens*

1. *Cyanotis tuberosa* (Roxb.) Schult. & J.H. Schult. var. *tuberosa*

4. *Murdannia* Royle, Ill. Bot. Himal. Mts.: 403.1840, *nom. cons.*

KEY TO THE SPECIES

1. Ovary one ovulate in each cell.....7. *M. vaginata*

1. Ovary two-many ovulate in each cell

2. Cells of the ovary 2-ovuled.....5. *M. nudiflora*

2. Cells of the ovary 3-many ovuled

3. Panicles leafless.....3. *M. edulis*

3. Panicles leafy

4. Leaves linear-lanceolate, flowers white or pinkish-white

5. Petals elliptic, 4-5 mm long.....1. *M. blumei*

5. Petals obovate, 7-10 mm long.....2. *M. divergens*

4. Leaves oblong or oblong-lanceolate, flowers blue

2. *Cyanotis tuberosa* var. *adscendens* (Dalzell) C.B. Clarke in A. DC.,

Monogr. Phan. 3:249.1881; Hook.f., Fl. Brit. India 6:386.1892; Prain, Bengal Pl. 2:1085.1903 (2:817.1963 Repr.ed); Haines, Bot. Bihar Orissa 1082.1924 (3:1131.1961 Repr.ed).

Cyanotis adscendens Dalzell in Hook., J. Bot. 343.1852.

Fl. & Fr. : August – October

Distrib. : Chgotanagpur, Ranchi, Singhbhum.

Status : Endemic

Uses : The roots are edible and often given in long-continued fever, as anthelmintic for cattle; leaves are eaten as a pot-herb.

4. *Cyanotis vaga* (Lour.) Schult. & J.H. Schult. in Roem. & Schult., Syst.

Veg. 7:1153.1830.

Tradescantia vaga Lour., Fl. Cochinch. 1:193.1790.

Cyanotis barbata D. Don, Prodr. Fl. Nepal. 46.1825; Hook.f., Fl. Brit. India 6:385.1892.

Fl. & Fr. : August – October

Distrib. : China, Myanmar, Java; Kashmir, Meghalaya, Orissa, West Bengal; Palamau.

Status : Infrequent

3. *Floscopa* Lour., Fl. Cochinch. 189,192.1790.

Floscopa scandens Lour., Fl. Cochinch. 193.1790; Hook.f., Fl. Brit. India 6:390.1892; Prain, Bengal Pl. 2:1086.1903 (2:817.1963 Repr.ed); Haines, Bot. Bihar Orissa 1082.1924 (3:1131.1961 Repr.ed).

Fl. & Fr. : September – December

Distrib. : Australia, China, Sri Lanka; throughout India; Chotanagpur, Purnia, Ranchi, Palamau, West Champaran, Singhbhum.

Status : Common in the swamps.

Uses : Plants are used as a medicine for fractured bones; stem-juice is used for sore eyes.

Specimens Examined: Saranda, Jan. 1881, J.S. Gamble 9101 (CAL).

6. Herb, stout, leaves 15-30 cm long.....4. *M. japonica*
 6. Herb, procumbent or ascending, leaves 1-4 cm long
6. *M. spirata*

1. *Murdannia blumei* (Hassk.) Brenan in Hook., Icon. Pl. t. 3578.1962.

Dichospermum blumei Hassk., Commelin. Ind. 41.1870.

Aneilema blumei (Hassk.) Bakh. f. in Blumea 6:398.1950.

Aneilema hamiltonianum Wall. ex C.B. Clarke in A. DC., Monogr. Phan. 3:213.1881; Hook.f., Fl. Brit. India 6:380.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed).

Aneilema terminalis (Blume) Haines, Bot. Bihar Orissa 1080.1924 (3: 1129. 1961 Repr.ed).

Tradescantia terminalis Blume, Enum. Pl. Javae 1:6.1827.

Fl. & Fr. : July – October

Distrib. : Bangladesh, Malaysia, Myanmar, Nepal; Assam, Madhya Pradesh, Meghalaya; Chotanagpur, Palamau, Ranchi.

Status : Rare in marshy areas and other wet places.

Specimen Examined : Koderma, RPB 342.

2. *Murdannia divergens* (C.B. Clarke) G. Bruckn. in Engl. & Prantl, Pflanzenfam. ed. 2.15a:173.1930.

Aneilema herbaceum var. *divergens* C.B. Clarke in J. Linn. Soc. 6:448.1871.

Aneilema divergens (C.B. Clarke) C.B. Clarke, Commelyn. Cyrtandr. bengal. t. 16.1874; Hook.f., Fl. Brit. India. 6:376.1892.

Fl. & Fr. : June – October

Distrib. : Bhutan; Sikkim, West Bengal; North Bihar.

Status : Infrequent

3. *Murdannia edulis* (Stokes) Faden in Taxon 29:77.1980.

Commelina edulis Stokes, Bot. Mat. Med. 1:184.1812.

Commelina scapiflora Roxb., Fl. Ind. 1:178.1820.

Murdannia scapiflora (Roxb.) Royle, Ill. Bot. Himal. Mts. 403, t.95.1840.

Aneilema scapiflorum (Roxb.) Kostel., Allg. Med.-Pharm. Fl. 1:127.1831; Hook.f., Fl. Brit. India 6:375.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1079.1924 (3:1127.1961 Repr.ed).

Loc. name : Kureli

Fl. & Fr. : April – June

Distrib. : Bangladesh, China, Myanmar, Nepal, Sri Lanka; throughout India; Purnia, Chotanagpur, Parasnath, West Champaran, Hazaribagh.

Status : Common

Use : The tuberous roots are used in various medicinal purposes.

Specimens Examined : Parasnath, S. Kurz Acc. No. 487885 (CAL); Parasnath, Chotanagpur, 09.04.1871, C.B. Clarke 13994 (CAL).

4. *Murdannia japonica* (Thunb.) Faden in Taxon 26:142.1977.

Commelina japonica Thunb. in Trans. Linn. Soc. 2:332.1794.

Commelina lineolate Blume, Enum. Pl. Javae 1:3.1827.

Aneilema lineolatum (Blume) Kunth, Enum. Pl. 4:69.1843; Hook.f., Fl. Brit. India 6:376.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1079.1924 (3:1128.1961 Repr.ed).

Fl. & Fr. : August – October

Distrib. : Bhutan, Malay Islands, Myanmar; Madhya Pradesh, Orissa, Sikkim, West Bengal; Chotanagpur, Ranchi, Hazaribagh, Parasnath, Palamau.

Status : Common

Specimens Examined : Chotanagpur, J.J. Wood Acc. No. 487972 (CAL); Parasnath, 22.09.1858, C.B. Clarke Acc. No. 487970 (CAL).

5. *Murdannia nudiflora* (L.) Brenan in Kew Bull. 1952:189.1952.

Commelina nudiflora L., Mant. Pl. 2: 177. 1771, non Sp. Pl. 41. 1753.

Aneilema nudiflorum (L.) R. Br., Prodr. 271.1810; Hook.f., Fl. Brit. India 6:378.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1080.1924 (3:1128.1961 Repr.ed).

Loc. name : Kanduli

Fl. & Fr. : June – November

Distrib. : Africa, China, Japan, Malaysia, Sri Lanka; throughout India; Purnia, Santal Pargana, Singhbhum, Ranchi, Manbhum, Chotanagpur, West Champaran, Palamau, Bhagalpur, Munghyr, Hazaribagh.

Status : Common in wet places, marshes, paddy fields.

Use : Plant used in the treatment of asthma, leprosy and piles.

Specimens Examined : Naurangia, Champaran, 12.08.1965, S.P. Banejee 436 (CAL).

6. *Murdannia spirata* (L.) G. Bruckn. in Engl. & Prantl, Nat. Pflanzenfam. ed. 2.15a:173.1930.

Commelina spirata L., Mant. Pl. 2: 176. 1771.

Aneilema spiratum (L.) R. Br., Prodr. 271. 1810; Hook.f., Fl. Brit. India 6:377.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1079.1924 (3:1128.1961 Repr.ed).

Fl. & Fr. : September – December

Distrib. : Africa, China, Japan, Myanmar; throughout India; Gaya, Purnia, Chotanagpur, West Champaran, Palamau, Manbhum, Ranchi, Parasnath, Hazaribagh.

Status : Common in wet places and rice-fields.

Specimens Examined : Ranchi, 22.10.1873, C.B. Clarke 20367 (CAL); Chotanagpur, Nov. 1891, D. Prain Acc. No. 488071 (CAL); Champaran, 14.09.1965, S.P. Banerjee 531 (CAL).

7. *Murdannia vaginata* (L.) G. Bruckn. in Engl. & Prantl, Nat. Pflanzenfam. ed. 2.15a: 173.1930.

Commelina vaginata L., Mant. Pl. 2:177.1771.

Aneilema vaginatum (L.) R. Br., Prodr. 271. 1810; Hook. f., Fl. Brit. India 6:381.1892; Prain, Bengal Pl. 2:1084.1903 (2:816.1963 Repr.ed); Haines, Bot. Bihar Orissa 1080.1924 (3:1129.1961 Repr.ed).

Fl. & Fr. : August – October

Distrib. : Bangladesh, China, Sri Lanka; throughout tropical India; Purnia, Chotanagpur, Lohardagga, Palamau, Hazaribagh, Manbhum, Ranchi, Bhagalpur.

Status : Common in rice-fields and moist places.

Specimens Examined : Hazaribagh, 13.10.1883, C.B. Clarke 33798 (CAL); Chutianagpur, 16.09.1886, A. Campbell, G. Watt 7693 (CAL).

5. *Rhoeo* Hance in Walp., Ann. 3:659.1853.

Rhoeo spathacea (Sw.) Stearn in Bailey 5:198.1957.

Tradescantia spathacea Sw., Prodr. 57.1788.

Tradescantia discolor L' Her., Sert. Angl. 8:t.12.1788 or 1789.

Rhoeo discolor (L'Her.) Hance in Walp., Ann. Bot. Syst. 3:660.1852; Haines, Bot. Bihar Orissa 1082.1924 (3:1131.1961 Repr.ed).

Fl. : Throughout the year

Distrib. : America, Cuba, Mexico; throughout India; throughout the states.

Status : Commonly grown as a garden ornamental.

6. *Tonningia* Neck. ex A.H.L. Juss., Dict. Sci. Nat. 54:505.1829.

Key to the species

1. Flowers blue, filaments bearded, capsule 6-lobed.....1. *T. axillaris*

1. Flowers pinkish-purple, filaments glabrous, capsule 3-lobed...2. *T. cucullata*

1. *Tonningia axillaris* (L.) Kuntze, Revis. Gen. Pl. 2:721.1891.

Commelina axillaris L., Sp. Pl. 42.1753.

Cyanotis axillaris (L.) D. Don, Prodr. Fl. Nepal. 46.1825; Hook.f., Fl. Brit. India 6:388.1892; Prain, Bengal Pl. 2:1085.1903 (2:817.1963 Repr.ed); Haines, Bot. Bihar Orissa 1081.1924 (3:1130.1961 Repr.ed).

Loc. name : Baghanulla, Soltraj.

Fl. & Fr. : July – December

Distrib. : Australia, China, Malaya, Sri Lanka; throughout India; West Champaran, Chotanagpur, Manbhum, Munghyr, Palamau, Ranchi, Hazaribagh.

Status : Common in swamps, marshes and in the rice-fields.

Uses : Plants are used for curing of tympanities, ascites and abortions; seeds are consumed at the time of scarcity; leaves are used in ringworm and other skin diseases.

Specimens Examined : Chotanagpur, J.J. Wood Acc. No. 488939 (CAL); Madanpur, Champaran, 13.09.1965, S.P. Banerjee 483 (CAL).

2. *Tonningia cucullata* (Roth) Kuntze, Revis. Gen. Pl.2:722.1891.

Tradescantia cucullata Roth, Nov. Pl.Sp.189.1821.

Cyanotis cucullata (Roth) Kunth, Enum. Pl. 4:107.1843; Hook.f., Fl. Brit. India 6:389.1892.

Fl. & Fr. : August – November

Distrib. : Peninsular India; Chotanagpur, Hazaribagh.

Status : Common in swampy areas, rice-fields and along the banks of ponds.

7. *Zebrina* Schnizl. in Bot. Zeit. 7:870.1849.

Zebrina pendula Schnizl. in Bot. Zeit. 7:870.1849; Haines, Bot. Bihar Orissa 1082.1924 (3:1131.1961 Repr.ed).

Fl. & Fr. : March

Distrib. : Mexico.

Status : Cultivated

DISCUSSION

A total number of 25 species and one variety belonging to 7 genera under the family Commelinaceae are encountered during the study in the states. The dominant genera on the basis of number of species (mentioned in the parentheses) are *Commelina* (9), *Murdannia* (7) and *Cyanotis* (4). Out of 26 taxa, 16 are common, one is rare and one is endemic. Few species under the family Commelinaceae presented here are ethnobotanically important. Two members are ornamental garden plants.

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REFERENCES

- Anderson, T. (1863). On the Flora of Bihar and the mountains of Parasnath with a list of species collected by Messers Hooker, Edgeworth, Thomson and Anderson. *J. Asiat. Soc. Bengal*, 32:187-218.
- Bhattacharyya, P.K. and Sarkar, K. (1998). *Flora of West Champaran district, Bihar*. Botanical Survey of India, Calcutta.
- Bressers, J. (1951). *The Botany of Ranchi District Bihar, India*. Catholic Press, Ranchi, Bihar.
- Burkill, I.H. (1910). A few observations made in the Central Provinces and Bihar. *J. & Proc. Asiat. Soc. Bengal*, 6:101-107.

- Carter, H.G. (1917). *The vegetation of Bengal, Assam, Bihar & Orissa, in Somerset Playne's "Bengal, Assam, Bihar & Orissa"*. 54 – 58.
- Clarke, C.B. (1884). Notes on the Flora of Parasnath, N.W. Bengal. *J. Linn. Soc. London (Bot.)*. 21: 252-255.
- Haines, H.H. (1910). *A forest flora of Chotanagpur including Gangapur and the Santal Parganas; a description of all indigenous trees, shrubs, and climbers, the principal economic herbs and most common cultivated trees and shrubs*. Calcutta. Rep.1974, 1993. Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Haines, H.H. (1919). Some new species of plants from Bihar and Orissa. *J. & Proc. Asiat. Soc. Bengal*, 15: 309-311.
- Haines, H.H. (1921–1925). *The Botany of Bihar and Orissa*. Rep. 1988. Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Hooker, J.D. (1872–1897). *The Flora of British India*. Vols. I-VII. Rep.1983-2003. Bishen Singh Mahendra Pal Singh, Dehra Dun
- Jain, S.K. and Rao, R.R. (1977). *A handbook of field and herbarium methods*. Today and Tomorrow's Printers & Publishers, New Delhi.
- Lawrence, G.H.M. (1967). *Taxonomy of Vascular Plants*. Oxford & IBH Publishing Co. Pvt. Ltd. Calcutta.
- Mooney, H.F. (1941). Some additions to the Botany of Bihar and Orissa. *Indian For. Rec.* 3: 63-119.
- Mooney, H.F. (1944). A list of plants recorded from the parts of Ranchi and Palamau district and the States of Jashpur and Surguja. *J. Roy. Asiat. Soc. Bengal*, 10: 59-118.
- Mooney, H.F. (1950). *Supplement to the Botany of Bihar and Orissa*. Catholic Press, Ranchi, Bihar.
- Paria, N.D. and Chattopadhyay, S.P. (2000). *Flora of Hazaribagh district, Bihar*. Vol. I. Botanical Survey of India, Calcutta.
- Paria, N.D. and Chattopadhyay, S.P. (2005). *Flora of Hazaribagh district, Bihar*. Vol. II. Botanical Survey of India, Calcutta.
- Sharma, T.K. and Sarkar, A.K. (2002). In: N.P. Singh & P.S.N. Rao (eds.). *Flora of Palamau District, Jharkhand*. Botanical Survey of India, Calcutta.
- Thomson, T. (1917). *The Botany of Parasnath hills*. Hazaribagh district Gazetteer. Calcutta.
- Wood, J.J. (1906). Plants of Chutianagpur, including Jaspur and Sirguja. *Rec. Bot. Surv. India*, 2 : 1 – 170.