

A systematic Census of Orchids of Bihar and Jharkhand States, India

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Abstract

The present study relates to the systematic census of the family Orchidaceae of Bihar and Jharkhand States, India. In total, 89 plant species belonging to 34 genera of the family Orchidaceae have been recorded. The dominant genera on the basis of number of species (mentioned in the parentheses) are *Dendrobium* (11), *Habenaria* (11), *Eulophia* (5), *Peristylus* (5), *Bulbophyllum* (4), *Oberonia* (4) and *Vanda* (4).

Key words : Orchidaceae, Bihar, Jharkhand, Systemetic census.

The State Bihar, situated between 24°15'N – 27°31'N and 83°20'E - 88°18'E, covers a geographical area of 94,162 km² and it is surrounded by the States like Jharkhand, Uttar Pradesh, West Bengal and the country Nepal. Again, Jharkhand is located between 22°00'N–24°15'N and 83°20'E-87°55'E and it covers a geographical area of 79,714 km². The State Jharkhand is surrounded by the States like Bihar, Uttar Pradesh, Chattishgarh, Orissa & West Bengal. Bihar and Jharkhand geographically occupy parts of the Middle Ganga Plains and Chotanagpur Plateau regions respectively. 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. Hooker¹² made collections in the Parasnath hills. Anderson¹ published an account of the Flora of Bihar based on the collections of his own. He was followed by other workers like Clarke⁷, Wood²³, Haines⁹⁻¹⁰, Burkill⁵, Carter⁶ and Thomson²². Haines¹¹ did a pioneering work by publishing a monumental work entitled, “The Botany of Bihar and Orissa”. Later, a number of other botanists like Mooney¹⁵⁻¹⁷, Bressers⁴, 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 Ranchi⁴, West Champaran³, Hazaribagh¹⁸⁻¹⁹ and Palamau²¹. Several plant species were recorded from states by many authors from time to time^{2,8,20,24}. The present paper is an attempt to know the present status of plants under the family Orchidaceae of Bihar and Jharkhand states.

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. While working on Monocot Flora of Bihar and Jharkhand States, the specimens collected by the author are also studied. For collection and preservation of collected specimens, the methodology as proposed by Lawrence¹⁴, Jain and Rao¹³ was followed. The paper presents correct name of species, 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.

The following taxa under the family Orchidaceae are noted:

1. *Acampe* Lindl., Fol. Orchid. 4, Acampe 1. 1853, *nom. cons.*

(i). *Acampe papillosa* (Lindl.) Lindl., Fol. Orchid. 4, Acampe 2. 1853.

Saccolabium papillosum Lindl., in Edwards, Bot. Reg. 18 : t. 1552. 1833; Hook. f., Fl. Brit.

India 6: 63. 1890; Prain, Bengal Pl. 2:1022. 1903 (2:768.1963 Repr. ed); Haines, Bot. Bihar Orissa 1180. 1924 (3:1232.1961 Repr. ed).

Loc. name: Rasna. Fl. & Fr. : July – February
Distrib. : Bangladesh, Bhutan, Cambodia, Myanmar; Andhra Pradesh, Assam, Sikkim, West Bengal; Chotanagpur. Status : Infrequent
Specimens Examined: Chotanagpur, 20.07.1901, Rev. L. Cardon Acc. No. 457896, 457897 (CAL).

(ii). *Acampe praemorsa* (Roxb.)

Blatt. & Mc Cann in J. Bombay nat. Hist. Soc. 35: 495. 1932.

Epidendrum praemorsum Roxb., Pl. Coromandel 1:34, t. 43. 1795.

Saccolabium praemorsum (Roxb.) Hook. f., Fl. Brit. India 6:32. 1890; Prain, Bengal Pl. 2:1022.1903 (2:768.1963 Repr. ed); Haines, Bot. Bihar Orissa 1180.1924 (3:1232.1961 Repr. ed).

Loc. name: Banda. Fl. & Fr. : May–December
Distrib. : Sri Lanka; Madhya Pradesh, Maharashtra, Sikkim, West Bengal; Ranchi, Chotanagpur. Status : Common
Specimen Examined : Chotanagpur, 13.09.1896, D. Prain Acc. No. 457882 (CAL).

2. *Acanthephippium* Blume, Bijdr. 6: t. 5; 7:353.1825.

(i). *Acanthephippium striatum*

Lindl. in Edwards, Bot. Reg. 24: 45.1838; Hook. f., Fl. Brit. India 5: 816.1890; Prain, Bengal Pl. 2:1015.1903 (2:762. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1168.1924 (3:1221. 1961 Repr. ed).

Fl. & Fr. : May – November

Distrib. : Bangladesh; Assam, Arunachal Pradesh, Sikkim, Maghalaya; Chotanagpur.

Status : Infrequent

3. *Aerides* Lour., Fl. Cochinch. 2:525.1790.

(i). *Aerides maculosum* Lindl. in Edwards, Bot. Reg. 31 : t. 58. 1845; Hook. f., Fl. Brit. India 6:45.1890; Prain, Bengal Pl. 2:1020.1903 (2:766. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1182.1924 (3:1234.1961 Repr. ed).

Fl. & Fr. : May – October

Distrib. : Confined to India; Maharashtra, Orissa, Karnataka; Chotanagpur.

Status : Infrequent

Specimens Examined: Manbhum, Rev. A. Campbell Acc. No. 457402, 457403 (CAL)

(ii). *Aerides multiflorum* Roxb., Pl. Coromandel 3 : 68, 5.t. 271. 1820; Hook. f., Fl. Brit. India 6:44. 1890; Prain, Bengal Pl. 2: 1020.1903 (2:766. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1182. 1924 (3:1234.1961 Repr. ed).

Fl. & Fr. : May – July

Distrib. : Myanmar, Nepal; Assam, Meghalaya, Uttar Pradesh, West Bengal; Santal Pargana, Manbhum, Purnia, Chotanagpur, Hazaribagh, Koderma, Ranchi.

Status : Infrequent

Specimen Examined: Bartol, Chotanagpur, 7.8.1887, Rev. A. Campbell 84 (CAL).

(iii). *Aerides odoratum* Lour., Fl. Cochinch. 2:525.1790; Hook. f., Fl. Brit. India 6:47.1890; Prain, Bengal Pl. 2:1020.1903 (2:766. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1182. 1924 (3:1235.1961 Repr. ed).

Fl. & Fr. : May – November

Distrib. : Bangladesh, China, Indonesia, Java; Meghalaya, Orissa, Sikkim, West Bengal; Singhbhum, Purnia, Chotanagpur, Ranchi.

Status : Common in forests

Specimen Examined: Chotanagpur, 20.07.1901,

Rev. L. Cardon Acc. No. 457460 (CAL).

4. *Brachycorythis* Lindl., Gen. Sp. Orchid. Pl. 5: 363.1838.

(i) *Brachycorythis galeandra* (Reichb. f.) Summerh. in Kew Bull. 1955:239.1955.

Platanthera galeandra Reichb. f. in Linnaea 25 : 226.1852.

Habenaria galeandra (Reichb. f.) Benth., Fl. Hongk. 263. 1861; Hook. f., Fl. Brit. India 6:163. 1890; Prain, Bengal Pl. 2:1033.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1158.1924 (3:1210.1961 Repr. ed).

Fl. & Fr. : June – November. Distrib. :

Chotanagpur. Status : Infrequent

Specimen Examined : West Champaran, RPB 591.

5. *Bulbophyllum* Thouars, Hist. Orchid, Tabl. Esp. 3. 1822, *nom. cons.*

(i). *Bulbophyllum careyanum* (Hook.) Spreng., Syst. Veg. 3 : 732. 1826; Hook. f., Fl. Brit. India 5 : 760. 1890.

Anisopetalon careyanum Hook., Exot. Fl. 2: t. 149.1825.

Fl. & Fr. : September – November

Distrib. : Bhutan, Myanmar, Nepal, Thailand; Meghalaya, Orissa, Sikkim; Singhbhum.

Status : Infrequent

Specimen Examined: Tholkabad, 6.1.1961, G.V.S. Rao 23227 (CAL).

(ii). *Bulbophyllum leopardinum* (Wall.) Lindl., Gen. Sp. Orchid. Pl. 48.1830; Hook. f., Fl. Brit. India 5 : 756.1890.

Dendrobium leopardinum Wall., Tent. Fl. Nepal. 1:39, t. 28. 1826.

Fl. & Fr. : April – July

Distrib. : Bhutan, Myanmar, Nepal; North-East India, Sikkim; Palamau.

Status : Infrequent

Specimen Examined: Koderma, RPB 333.

(iii). *Bulbophyllum ornatissimum* (Reichb. f.) J.J. Sm. in Bull. Jard. Bot. Buitenz. Ser. 2, 8: 26. 1912.

Cirrhopetalum ornatissimum Reichb. f. in Gard. Chron. 2:424.1822; Hook. f., Fl. Brit. India 5:773. 1890, *p.p.*; Prain, Bengal Pl. 2:1011.1903 (2:759. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1177. 1924 (3:1229.1961 Repr. ed).

Fl. & Fr. : September – November

Distrib. : Myanmar; Assam, Orissa, Sikkim;

Chotanagpur, Ranchi.

Status : Scarce

(iv). *Bulbophyllum triste* Reichb. f. in Walp., Ann. 6 : 253. 1861; Hook. f., Fl. Brit. India 5: 768. 1890; Prain, Bengal Pl. 2:1012.1903 (2:759.1963 Repr. ed); Haines, Bot. Bihar Orissa 1176. 1924 (3:1229.1961 Repr. ed).

Fl. & Fr. : February – August

Distrib. : Myanmar, Nepal; Arunachal Pradesh, Madhya Pradesh, Meghalaya, Orissa; Chotanagpur.

Status : Infrequent

Specimen Examined: Palamau, RPB 239.

6. *Cymbidium* Sw. in Nova Acta Regiae Soc. Sci. Upsal., Ser. 2, 6: 70.1799.

(i). *Cymbidium aloifolium* (L.) Sw. in Nova Acta Regiae Soc. Sci. Upsal., Ser. 2, 6:73. 1799; Hook. f., Fl. Brit. India 6:10.1890.

Epidendrum aloifolium L., Sp. Pl. 953. 1753. Fl. & Fr. : April – February

Distrib. : China, Indonesia, Myanmar, Nepal; Assam, Orissa, Maharashtra, West Bengal;

Ranchi, Singhbhum.

Status : Frequent in forests

Specimen Examined: Gumphuburu, 12.01.1961, G.V.S. Rao 23310 (CAL).

(ii). *Cymbidium macrorhizum* Lindl., Gen. Sp. Orchid. Pl. 162. 1833; Hook. f., Fl. Brit. India 6:9.1890, “*macrorhizon*”.

Fl. & Fr. : June – October

Distrib. : China, Myanmar, Nepal, Pakistan, Thailand; Uttaranchal, Uttar Pradesh; Palamau.

Status : Common

7. *Dendrobium* Sw. in Nova Acta Regiae Soc. Sci. Upsal., Ser. 2, 6: 82. 1799, *nom. cons.*

(i). *Dendrobium bicameratum* Lindl. in Edwards, Bot. Reg. 59. 1839; Hook. f., Fl. Brit. India 5:729.1890; Prain, Bengal Pl. 2:1009.1903 (2:757. 1963 Repr. ed); Haines, Bot. Bihar Orissa 1173.1924 (3:1226.1961 Repr. ed).

Fl. : July – September

Distrib. : Myanmar; Karnataka, Orissa, Sikkim, West Bengal; Hazaribagh (Parasnath), Chotanagpur.

Status : Occasional

Specimens Examined : Parasnath, 25.10.1934, K. Biswas 2180 (CAL); Giridih, RPB 352.

(ii). *Dendrobium chrysanthum* Wall. ex Lindl., Gen. Sp. Orchid. Pl. 80.1830 & in Edwards, Bot. Reg. 15 : t. 1299. 1830; Hook. f., Fl. Brit. India 5: 747.1890.

Fl. & Fr. : April – June

Distrib. : Bhutan, China, Myanmar, Nepal; Arunachal Pradesh, Sikkim, Uttar Pradesh, West Bengal; Chotanagpur.

Status : Infrequent

Specimen Examined: Chotanagpur, Apr. 1902,
Revd. Cardon Acc. No. 451586 (CAL).

(iii). *Dendrobium crepidatum* Lindl.
in Paxt., Fl. Gard. 1: 63, f. 45. 1850; Hook. f.,
Fl. Brit. India 5 : 740. 1890; Prain, Bengal Pl.
2:1010. 1903 (2:758. 1963 Repr. ed); Haines,
Bot. Bihar Orissa 1175. 1924 (3:1227. 1961
Repr. ed).

Fl. & Fr. : March – October

Distrib. : Laos, Myanmar, Thailand; Assam,
Madhya Pradesh, Orissa, Sikkim; Palamau,
Ranchi, Singhbhum, Chotanagpur (Karampada).
Status : Frequent

Specimens Examined : Chotanagpur, 22/03/
1901, Rev. L. Cardon Acc. No. 451348 (CAL);
Palamau, RPB 231.

(iv). *Dendrobium fimbriatum* Hook.,
Exot. Fl. 1: t. 71. 1823; Hook. f., Fl. Brit. India
5: 745. 1890; Prain, Bengal Pl. 2:1010. 1903
(2:758. 1963 Repr. ed); Haines, Bot. Bihar
Orissa 1175. 1924 (3:1227. 1961 Repr. ed).

Fl. & Fr. : April – June

Distrib. : Bhutan, Cambodia, Myanmar, Nepal;
Assam, Manipur, Sikkim, West Bengal; Ranchi,
Chotanagpur.

Status : Infrequent

(v). *Dendrobium formosum* Roxb.
ex Lindl. in Wall., Pl. Asiat. Rar. 1:34, t.
39. 1830; Hook. f., Fl. Brit. India 5 : 721. 1890;
Prain, Bengal Pl. 2:1009. 1903 (2:757. 1963
Repr. ed); Haines, Bot. Bihar Orissa 1173.
1924 (3:1225. 1961 Repr. ed).

Fl. & Fr. : April – September

Distrib. : Bhutan, Myanmar, Nepal, Thailand;
Assam, Manipur, Orissa, West Bengal;
Chotanagpur, Purnia, Palamau, Ranchi.

Status : Frequent

(vi). *Dendrobium herbaceum* Lindl.
in Edwards, Bot. Reg. 26 : 69. 1840; Hook. f.,
Fl. Brit. India 5: 719. 1890; Prain, Bengal Pl.
2:1009. 1903 (2:757. 1963 Repr. ed); Haines,
Bot. Bihar Orissa 1173. 1924 (3:1225. 1961
Repr. ed).

Fl. & Fr. : June – November

Distrib. : Confined to India; Andhra Pradesh,
Assam, Orissa, West Bengal; Hazaribagh
(Parasnath), Chotanagpur, Palamau, Ranchi.

Status : Frequent

Specimens Examined : Chotanagpur,
20.07.1901, Rev. Father Cardon Acc. No.
450760, 450758, 450759 (CAL).

(vii). *Dendrobium macrostachyum*
Lindl., Gen. Sp. Orchid. Pl. 78. 1830; Hook.
f., Fl. Brit. India 5 : 735. 1890; Prain, Bengal
Pl. 2:1009. 1903 (2:758. 1963 Repr. ed); Haines,
Bot. Bihar Orissa 1174. 1924 (3:1226. 1961
Repr. ed).

Fl. & Fr. : May – November

Distrib. : Sri Lanka; Madhya Pradesh;
Manbhum, Chotanagpur, Hazaribagh, Ranchi.
Status : Frequent in moist deciduous forest.

Specimen Examined : Chotanagpur, May,
1901, Rev. L. Cardon Acc. No. 451190 (CAL).

(viii). *Dendrobium moschatum*
(Buch.-Ham.) Sw. in Schrad., Neu. J. Bot. 1:
94. 1805; Prain, Bengal Pl. 2 : 1010. 1903
(2:758. 1963 Repr. ed); Haines, Bot. Bihar
Orissa 1175. 1924 (3:1227. 1961 Repr. ed).

Epidendrum moschatum Buch.-Ham. in
Syme's, Embassy Ava. ed. 2.3:315. 1800.

Dendrobium calceolaria Carey ex Hook.,
Exot. Fl. 3 : t. 184. 1825-26; Hook. f., Fl. Brit.
India 5 : 744. 1890.

Fl. & Fr. : May – July

Distrib. : Bangladesh, Bhutan, Myanmar,
Thailand; Assam, Meghalaya, Orissa, Sikkim,

West Bengal; Chotanagpur, Ranchi.

Status : Frequent in forests

Specimen Examined : Chotanagpur, 12.04.1902,
Rev. L. Cardon Acc. No. 451475 (CAL).

(ix). *Dendrobium peguanum* Lindl.
in J. Proc. Linn. Soc. 3 : 19. 1859.

Dendrobium pygmaeum Lindl., Gen. Sp.
Orchid. Pl. 85. 1830, *non* Sm. *ex* Rees, 1808;
Hook. *f.*, Fl. Brit. India 5:717. 1890; Prain,
Bengal Pl. 2:1278.1903 (2:967.1963 Repr. ed);
Haines, Bot. Bihar Orissa 1173.1924 (3:1225.
1961 Repr. ed).

Fl. & Fr. : October – December

Distrib. : Myanmar; Karnataka, Maharashtra,
Orissa, West Bengal; Chotanagpur (Haines,
l.c.), Dumka. Status : Rare

(x). *Dendrobium regium* Prain in J.
Asiat. Soc. Bengal 71: 80. 1902 & Bengal Pl.
2. 1010.1903 (2:758.1963 Repr. ed); Haines,
Bot. Bihar Orissa 1174.1924 (3:1226.1961
Repr. ed).

Fl. & Fr. : April – July

Distrib. : Madhya Pradesh, Orissa; Chotanagpur,
Ranchi.

Specimens Examined : Chotanagpur, 6.6.1901,
Rev. Father Cardon Acc. No. 451398 (CAL);
Sahibganj, RPB 297.

(xi). *Dendrobium transparens* Wall.
ex Lindl., Gen. Sp. Orchid. Pl. 79. 1830; Hook.
f., Fl. Brit. India 5: 738. 1890; Prain, Bengal
Pl. 2:1009.1903 (2:758. 1963 Repr. ed); Haines,
Bot. Bihar Orissa 1174.1924 (3:1226. 1961
Repr. ed).

Fl. & Fr. : April – November

Distrib. : Bangladesh, Bhutan, Myanmar;
Assam, Madhya Pradesh, Maharashtra, West
Bengal; Purneah, Chotanagpur, Ranchi.

Status : Common

8. *Epipactis* Zinn, Cat. Pl. Hort. Gott.
85. 1757, *nom. cons.*

(i) *Epipactis veratrifolia* Boiss. *et*
Hohen. in Boiss., Diagn. Pl. Orient. Nov. 1,
131 : 11. 1854.

Epipactis consimilis Wall. *ex* Hook. *f.*, Fl.
Brit. India 6 : 126. 1890, *non* D. Don, 1825.
Fl. & Fr. : January – March

Distrib. : Afghanistan, China, Myanmar;
Karnataka, Sikkim; West Champaran, Giridih.
Status : Rare

9. *Eria* Lindl. in Bot. Reg. ad *t.* 904.
1825, *nom. cons.*

(i). *Eria muscicola* (Lindl.) Lindl. in
J. Proc. Linn. Soc. 3 : 47.1859; Hook. *f.*, Fl.
Brit. India 5 : 789. 1890; Prain, Bengal Pl.
2:1013.1903 (2:760. 1963 Repr. ed); Haines,
Bot. Bihar Orissa 1176. 1924 (3 : 1228.1961
Repr. ed). *Dendrobium muscicola* Lindl.,
Gen. Sp. Orchid. Pl. 75. 1830.

Fl. & Fr. : May – August

Distrib. : South-East Asia, China, Myanmar,
Nepal; Sikkim, West Bengal; Chotanagpur.
Status : Rare

(ii). *Eria pubescens* (Hook.) Lindl.
in Edwards, Bot. Reg. 11 : *t.* 904. 1825.

Dendrobium pubescens Hook., Exot. Fl. 2:
t. 124.1824.

Eria flava Lindl., Gen. Sp. Orchid. Pl. 65.
1830; Hook. *f.*, Fl. Brit. India 5 : 801.1890;
Prain, Bengal Pl. 2:1013.1903 (2:761.1963
Repr. ed); Haines, Bot. Bihar Orissa 1776.
1924 (3:1228. 1961 Repr. ed).

Fl. & Fr. : February - April

Distrib. : China, Laos, Myanmar, Nepal,
Thailand; North-East India, Chotanagpur.
Status : Scarce Specimen Examined: Palamau,

RPB 217.

10. *Eulophia* R. Br. in Bot. Reg. ad t. 573 ('578'). ('Eulophus'), *orth. et nom. cons.*

(i). *Eulophia dabia* (D. Don) Hochr. in Bull. New York. Bot. Gard. 6 : 270.1910. *Bletia dabia* D. Don, Prodr. Fl. Nepal. 30. 1825.

Eulophia campestris Wall. ex Lindl., Gen. Sp. Orchid. Pl. 185. 1833; Hook. f., Fl. Brit. India 6:4.1890; Prain, Bengal Pl. 2:1016.1903 (2:763.1963 Repr. ed); Haines, Bot. Bihar Orissa 1171.1924 (3:1223. 1961 Repr. ed).

Loc. name: Salib misri, Sangmisri

Fl. & Fr. : April – June

Distrib. : Afghanistan, Myanmar, Nepal, Pakistan; Orissa, Sikkim, West Bengal; Singhbhum, Ranchi, Palamau.

Status : Common

(ii). *Eulophia explanata* Lindl., Gen. Sp. Orchid. Pl. 180. 1833; Hook. f., Fl. Brit. India 6:3. 1890; Haines, Bot. Bihar Orissa 1171. 1924 (3:1223.1961 Repr. ed).

Fl. & Fr. : April – June

Distrib. : Nepal; Orissa, Uttaranchal; Bettiah, West Champaran, Hazaribagh.

Status : Infrequent

(iii). *Eulophia flava* (Lindl.) Hook. f., Fl. Brit. India 6:7.1890; Prain, Bengal Pl. 2:1016.1903 (2:763.1963 Repr. ed); Haines, Bot. Bihar Orissa 1170.1924 (3:1222.1961 Repr. ed).

Cyrtopera flava Lindl., Gen. Sp. Orchid. Pl. 189.1833.

Fl. & Fr. : April – October

Distrib. : Hongkong, Nepal; Jammu & Kashmir, Himachal Pradesh; Palamau, Ranchi, Singhbhum, Chotanagpur.

Status : Common Specimen Examined: Dumka, RPB 304.

(iv). *Eulophia graminea* Lindl., Gen. Sp. Orchid. Pl. 182.1833; Hook. f., Fl. Brit. India 6:2.1890; Prain, Bengal Pl. 2.1016.1903 (2:763.1963 Repr. ed).

Fl. & Fr. : September – November

Distrib. : Bhutan, China, Myanmar, Thailand, South-East Asia; Sikkim, West Bengal; West Champaran.

Specimen Examined : Sameshwar hills, Champaran, 13.4 1963, K. Thothathri 10056 (CAL).

Notes : 1. *Eulophia holochila* Coll. & Hemsl. in J. Linn. Soc. 28 :132.1890 was reported from Singhbhum (Mooney, Suppl. Bot. Bihar & Orissa 211.1950).

(v). *Eulophia ochreatea* Lindl. in J. Linn. Soc. 3: 24.1859 ; Hook. f., Fl. Brit. India 6:2. 1890 was also reported from Singhbhum (Mooney, Suppl. Bot. Bihar & Orissa 212.1950). But they are not found in the area.

(vi). *Eulophia nuda* Lindl., Gen. Sp. Orchid. Pl. 180. 1833; Hook. f., Fl. Brit. India 6:5.1890; Prain, Bengal Pl. 2:1016.1903 (2:763.1963 Repr. ed); Haines, Bot. Bihar Orissa 1171.1924 (3:1223.1961 Repr. ed).

Loc. name : Budbar Fl. & Fr. : April–September

Distrib. : China, Myanmar, Nepal, Sri Lanka; Assam, Karnataka, Maharashtra, Orissa; Ranchi, Singhbhum, Palamau, Chotanagpur.

Status : Common Specimen Examined: Singhbhum, 3.6.1902, H.H. Haines 390 (CAL).

11. *Gastrochilus* D. Don, Prodr. Fl.

Nepal. 32.1825.

(i) ***Gastrochilus inconspicuus*** (Hook.f.) Kuntze, Revis. Gen. Pl. 2:661.1891.

Saccolabium inconspicuum Hook.f., Fl. Brit. India 6:56.1890.

Luisia inconspicua (Hook.f.) King & Prantl. in Ann. Roy. Bot. Gard. Calcutta 8:203, t. 272. 1898; Prain, Bengal Pl. 2:1019.1903 (2:765.1963 Repr. ed); Haines, Bot. Bihar Orissa 1178.1924 (3:1230. 1961 Repr. ed).

Fl. & Fr. : May – December

Distrib. : Bhutan, Nepal; Assam, Orissa, Uttaranchal, Sikkim; Chotanagpur, Manbhum.

Status : Common Specimen Examined: Jonah, Chotanagpur, Sept. 1896, D. Prain Acc. No. 456802 (CAL).

12. ***Geodorum*** Jacks. in Andrews, Bot. Repos. 10:t.626.1811.

(i) ***Geodorum densiflorum*** (Lam.) Schltr. in Fedde, Repert. 4:259.1919.

Limodorum densiflorum Lam., Encycl. 3:516.1792.

Geodorum dilatatum sensu Hook.f., Fl. Brit. India 6:17.1890, non R. Br., 1813; Prain, Bengal Pl. 2:1017.1903 (2:764.1963 Repr. ed); Haines, Bot. Bihar Orissa 1170.1924 (3:1222.1961 Repr. ed).

Fl. & Fr. : June – November

Distrib. : Bhutan, China, Myanmar, Sri Lanka; Assam, Maharashtra, Orissa, West Bengal; Netarhat, Ghurki, Palamau, Parasnath, Hazaribagh, Singhbhum, Chotanagpur, West Champaran, Ranchi.

Status : Common Specimen Examined: Begusarai, RPB 902.

13. ***Goodyera*** R. Br. in Aiton & W.T. Aiton, Hort. Kew. ed. 2. 5 : 197. 1813.

(i). ***Goodyera procera*** (Wall. ex Ker-Gawl.) Hook., Exot. Fl. 1: t. 39.1823; Hook. f., Fl. Brit. India 6:111.1890; Prain, Bengal Pl. 2:1027.1903 (2:772.1963 Repr. ed); Haines, Bot. Bihar Orissa 1160.1924 (3:1212.1961 Repr. ed).

Neottia procera Wall. ex Ker-Gawl. in Edwards, Bot. Reg. 8:t.639.1822-23.

Fl. & Fr. : February – May

Distrib. : Bhutan, China, Nepal, Taiwan; Arunachal Pradesh, Meghalaya, Nagaland, Sikkim; Saranda forest (Singhbhum), Chotanagpur.

Status : Common Specimen Examined: Singhbhum, Mar. 1903, H.H. Haines 368 (CAL); Chotanagpur, 10.03.1902, Rev. L. Cardon Acc. No. 459600 (CAL).

14. ***Habenaria*** Willd., Sp. Pl. 4:5,44.1805.

(i). ***Habenaria commelinifolia*** (Roxb.) Wall. Ex Lindl., Gen. Sp. Orchid. Pl. 325.1835; Hook.f., Fl. Brit. India 6:143.1890; Prain, Bengal Pl. 2:1032.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1157.1924 (3:1208.1961 Repr. ed).

Orchis commelinifolia Roxb., Fl. Ind. 3:451.1832.

Loc. name : Banpiyaz Fl. & Fr. : August – November

Distrib. : Myanmar, Nepal, Thailand, Vietnam; Madhya Pradesh, Maharashtra, Orissa, West Bengal; Singhbhum, Hazaribagh, Ranchi, Manbhum, Chotanagpur, Parasnath, Koderma, Lohardagga, Palamau.

Status : Common Specimens Examined : Ramghar, Hazaribagh, Chotanagpur, 11.10.1873, C.B. Clarke 20290 (CAL); Chotanagpur, 12.09.1896, D. Prain Acc. No. 462321 (CAL); Ranchi, 09.09.1896, D. Prain Acc. No. 462322,

462323 (CAL).

Uses : An infusion of the whole plant together with black pepper is drunk as an antihæmorrhagic agent. The root paste is applied to the affected parts in case of rheumatic pains. (Jain *et al*, 1994).

(ii). *Habenaria digitata* Lindl., Gen. Sp. Orchid. Pl.307.1835; Hook.f., Fl. Brit. India 6:134.1890; Prain, Bengal Pl.2:1032.1903 (2:775.1963 Repr. ed); Haines, Bot. Bihar Orissa 1154.1924 (3:1206.1961 Repr. ed).
Fl. & Fr. : July – October
Distrib. : Bangladesh, Myanmar; Assam, Maharashtra, Orissa, West Bengal; Manbhum, Chotanagpur, Hazaribagh.
Status : Infrequent Specimen Examined: Chotanagpur, Sept. 1902, Father Cardon 169 (CAL).

(iii). *Habenaria diphylla* Dalzell in Hook., J. Bot. 2:262.1850; Hook.f., Fl. Brit. India 6:151. 1890; Prain, Bengal Pl. 2:1033.1903 (2:776.1963 Repr.ed); Haines, Bot. Bihar Orissa 1158.1924 (3:1210.1961 Repr. ed).
Fl. & Fr. : September – December
Distrib. : Bangladesh, Philippines; Karnataka, Kerala, Tamil Nadu, West Bengal; Singhbhum, Chotanagpur.
Status : Occasional Specimen Examined: Salbura, Singhbhum, 11.09.1898, H.H. Haines Acc. No. 462498 (CAL).

(iv). *Habenaria furcifera* Lindl., Gen. Sp. Orchid. Pl.319.1835; Hook. f., Fl. Brit. India 6:149.1890; Prain, Bengal Pl.2:1033.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1157.1924 (3:1209.1961 Repr. ed).
Fl. & Fr. : August – December
Distrib. : Bangladesh, Bhutan, Myanmar,

Thailand; Andhra Pradesh, Assam, Orissa, West Bengal; Ranchi, Singhbhum, Chotanagpur, Parasnath.

Status : Frequent Specimens Examined: Parasnath, 21.10.1934, K. Biswas 2114 (CAL)

(v). *Habenaria longicorniculata* J. Graham, Cat. Pl. Bombay 202.1839.
Habenaria longicalcarata A. Rich. In Ann. Sci. Nat. 2, 15:71, t. 3B. 1841; Hook.f., Fl. Brit. India 6:141.1890; Prain, Bengal Pl. 2:1032.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1156.1924 (3:1207.1961 Repr. ed).
Fl. & Fr. : August – November
Distrib. : Confined to India; Karnataka, Maharashtra, Orissa, Tamil Nadu; Chotanagpur, Ranchi.
Specimen Examined : Rajangpur, Chotanagpur, 01.08.1902, Rev. L. Cardon Acc. No. 462279 (CAL).

(vi). *Habenaria longifolia* Buch.-Ham. Ex Lindl., Gen. Sp. Orchid. Pl. 324.1835; Hook.f., Fl. Brit. India 6:141.1890; Prain, Bengal Pl. 2:1032.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1156.1924 (3:1208.1961 Repr. ed).
Fl. & Fr. : August – November
Distrib. : Nepal; Himachal Pradesh, Uttaranchal, West Bengal; Bhagalpur, Darbhanga, Purnia.
Status : Scarce Specimen Examined : Pusa, Darbhanga, 06.10.1904, D. Prain Acc. No. 462231 (CAL).

(vii). *Habenaria marginata* Colebr. In Hook., Exot. Fl.2, 17:t.136.1824; Hook. f., Fl. Brit. India 6:150.1890; Prain, Bengal Pl. 2:1033.1903 (2:776.1963 Repr. ed); Haines,

Bot. Bihar Orissa 1157.1924 (3:1209.1961 Repr. ed).

Fl. & Fr. : September – December

Distrib. : Myanmar, Nepal, Thailand; Andhra Pradesh, Madhya Pradesh, Orissa, West Bengal; Rajmahal Hills, Manbhum, Jonah, Chotanagpur, Ranchi near Sahibganj, Gumla, Palamau.

Specimens Examined : Chutianagpur, Rajmahal hills near Sahibganj, 10/1867, S. Kurz Acc. No. 462459 (CAL); Chotanagpur, August 1888, A. Campbell 56 (CAL).

(viii). *Habenaria plantaginea* Lindl., Gen. Sp. Orchid. Pl. 323.1835; Hook.f., Fl. Brit. India 6:141.1890; Prain, Bengal Pl. 2:1032.1903 (2:776.1963 Repr. ed); Haines, Bot. Bihar Orissa 1155.1924 (3:1207.1961 Repr. ed).

Fl. & Fr. : September – December

Distrib. : Myanmar, Nepal, Sri Lanka; Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa, West Bengal; Singhbhum, Parasnath, Hazaribagh, Manbhum, Chotanagpur, Munghyr, Palamau, Ranchi.

Status : Common

Specimens Examined : Chotanagpur, Aug. 1902, Rev. L. Cardon 834, 835 – 845 (CAL); Chotanagpur, 23.09.1905, J.J. Wood Acc. No. 462241 (CAL); Paresnath, S. Kurz Acc. No. 462248 (CAL)

(ix). *Habenaria reniformis* (D. Don) Hook. f., Fl. Brit. India 6:152.1890. *Listera reniformis* D. Don, Prodr. Fl. Nepal. 28.1825.

Fl. & Fr. : August – December

Distrib. : Cambodia, China, Nepal, Thailand; Meghalaya, Nagaland, Orissa; Ranchi. Status : Common Specimen Examined : Khunti, Ranchi, July 1944, Rev. J. Bressers Acc. No.

462523 (CAL).

(x). *Habenaria roxburghii* Nicolson in Saldanha & Nicolson, Fl. Hassan Dist. 834. 1976.

Orchis platyphyllus Willd., Sp. Pl. 4:11.1805, *nom. superfl.*

Habenaria platyphylla Spreng., Syst. Veg. 3:690.1826, *nom. superfl.*; Hook.f., Fl. Brit. India 6:140.1890; Haines, Bot. Bihar Orissa 1155.1924 (3:1207.1961 Repr. ed).

Fl. & Fr. : July – October

Distrib. : Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu; Singhbhum (Haines, *l.c.*). Status : Rare

(xi). *Habenaria stenopetala* Lindl., Gen. Sp. Orchid. Pl. 319.1835; Hook.f., Fl. Brit. India 6:134.1890; Prain, Bengal Pl. 2:1032.1903 (2:775.1963 Repr. ed); Haines, Bot. Bihar Orissa 1154.1924 (3:1205.1961 Repr. ed).

Fl. & Fr. : August – November

Distrib. : Bangladesh, Myanmar, Nepal; Assam, Manipur, Mizoram, Nagaland, West Bengal; Singhbhum, Chotonagpur.

Status : Common

15. *Kingidium* P.F. Hunt in Kew Bull. 24: 97.1970.

(i). *Kingidium deliciosum* (Reichb.f.) H.R. Sweet in Amer. Orchid. Soc. Bull. 39 : 1095.1970.

Phalaenopsis deliciosa Reichb.f. in Bonplandia 2: 93.1854.

Phalaenopsis wightii Reichb. F. in Bot. Zeit. 214.1862.

Doritis wightii (Reichb.f.) Benth. In Benth. & Hook.f., Gen. Pl. 3: 574.1883; Hook.f., Fl. Brit. India 6: 32.1890; Prain, Bengal Pl. 2:

1018.1903 (2:764.1963 Repr. ed); Haines, Bot. Bihar Orissa 1179.1924 (3:1231.1961 Repr. ed).

Fl. & Fr. : June – August

Distrib. : Bhutan, China, Malayasia, Myanmar; Assam, Karnataka, Kerala, Tamil Nadu; Chotanagpur.

Status : Rare

16. *Liparis* Rich., De Orchid. Eur. 21, 30, 38.1817, *nom. cons.*

(i). *Liparis nervosa* (Thunb.) Lindl., Gen. Sp. Orchid. Pl. 26. 1830; Haines, Bot. Bihar Orissa 1166.1924 (3:1218.1961 Repr. ed).

Ophrys nervosa Thunb., Fl. Jap. 27.1784.

Cymbidium bituberculatum Hook., Exot. Fl. 2:t.116.1824.

Liparis bituberculata (Hook.) Lindl. in Edwards, Bot. Reg. 11: sub.t.882.1825; Hook. f., Fl. Brit. India 5:696.1890; Prain, Bengal Pl. 2:1005.1903 (2:755.1963 Repr. ed); Haines, Bot. Bihar Orissa 1166.1924 (3:1218.1961 Repr. ed).

Fl. & Fr. : August – November

Distrib. : Nepal; Madhya Pradesh, Kashmir, Orissa, Sikkim; Neterhat, Palamau, Chotanagpur, Singhbhum, Ranchi.

Status : Scarce in marshy places.

Specimen Examined : Tholkabad, 06.01.1961, G.V.S. Rao 23228 (CAL).

(ii). *Liparis paradoxa* (Lindl.) Reichb. f. in Walp., Ann. 6:218.1861; Hook. f., Fl. Brit. India 5:697.1890; Prain, Bengal Pl. 2:1005.1903 (2:755.1963 Repr. ed).

Empusa paradoxa Lindl. in Edwards, Bot. Reg. 10, sub.t. 825. 1824.

Fl. & Fr. : July – October

Distrib. : China, Myanmar, Nepal, Sri Lanka;

Madhya Pradesh, Maharashtra, Orissa, West Bengal; Chotanagpur, East Champaran. Status : Rare Specimen Examined : East Champaran

17. *Luisia* Gaud. in Freyc., Voy. Monde, Ura. Phys. Bot. 426.1829 ('1826').

(i). *Luisia trichorhiza* (Hook.) Blume, Mus. Bot. 1:63. 1849; Hook. f., Fl. Brit. India 6:23.1890; Prain, Bengal Pl. 2:1019.1903 (2:765.1963 Repr. ed); Haines, Bot. Bihar Orissa 1177.1924 (3:1230. 1961 Repr. ed).

Vanda trichorhiza Hook., Exot. Fl. 1:t.72.1823. Fl. & Fr. : March – September

Distrib. : Bhutan, Myanmar, Thailand; Orissa, Uttaranchal, Sikkim; Chotanagpur, Palamau, Ranchi.

Status : Common Specimens Examined : Chotanagpur, 10.03.1902, Rev. L. Cardon Acc. No. 456774, 456775 (CAL)

(ii). *Luisia zeylanica* Lindl., Fol. Orchid. Luisia 3.1853.

Luisia teretifolia auct. non. Gaud., 1829: Hook. f., Fl. Brit. India 6:22.1890.

Fl. & Fr. : February – April

Distrib. : China, Myanmar, Nepal, Sri Lanka; Madhya Pradesh, Orissa, Sikkim, West Bengal; Chotanagpur. Status : Scarce

18. *Malaxis* Soland. ex Sw., Prodr. 8:119.1788.

(i). *Malaxis latifolia* Sm. in Rees, Cycl. 22, no. 3. 1819.

Dienia congesta Lindl. In Edwards, Bot. Reg. sub. T. 825. 1827.

Microstylis congesta (Lindl.) Reichb. F. in Walp., Ann. 6:206.1861; Hook. f., Fl. Brit. India 5:689.1890; Prain, Bengal Pl. 2.1004.1903

(2:754.1963 Repr. ed); Haines, Bot. Bihar Orissa 1165.1924 (3:1217.1961 Repr. ed).
Fl. & Fr. : June – November
Distrib. : Australia, Bhutan, China, Nepal, Sri Lanka; Manipur, Meghalaya, Orissa, Sikkim; Parasnath, Hazaribagh, Purnia, Chotanagpur.
Status : Scarce Specimen Examined : Parasnath, 9/1858, Anonymous, Acc. No. 449378 (CAL).

(ii). *Malaxis machinnonii* (Duthie) Ames, Orchidaceae 6:289.1920.
Microstylis mackinnonii Duthie in J. Asiat. Soc. Bengal 71:37.1902.
Microstylis cardoni Prain, Bengal Pl. 1004.1903 (2:754.1963 Repr. ed); Haines, Bot. Bihar Orissa 1165.1924 (3:1217.1961 Repr. ed).
Fl. & Fr. : July – November
Distrib. : Northern Thailand; Himachal Pradesh, Madhya Pradesh, Maharashtra, Orissa, West Bengal; Chotanagpur.
Status : Occasional Specimen Examined: Chotanagpur, 20.07.1904, D. Prain Acc. No. 449442 (CAL).

(iii). *Malaxis rheedii* Sw. in Kongl. Vet. Acad. Nya Handl. 21:235.1800.
Microstylis versicolor Lindl., Gen. Sp. Orchid. Pl. 21.1830, non Wight, 1844 – 45; Haines, Bot. Bihar Orissa 1165.1924 (3:1217.1961 Repr. ed).
Malaxis versicolor (Lindl.) Abeywickr. In Ceylon J. Sci. (Biol. Sci.) 2:147.1959.
Microstylis rheedii Wight, Ic. t. 902.1844; Hook. f., Fl. Brit. India 5:690.1890; Prain, Bengal Pl. 2:1004.1903 (2:754.1963 Repr. ed), “*rheedei*”.
Fl. & Fr. : July – November
Distrib. : Sri Lanka; Maharashtra, Orissa, Kerala, Tamil Nadu; Ranchi, Chotanagpur.

Status : Common
Specimens Examined : Ranchi, 21.05.1902, Rev. L. Cardon Acc. No. 449395, 449397 (CAL); Chotanagpur, 02.07.1902, Rev. L. Cardon Acc. No. 449393 (CAL).

19. *Nervilia* Comm. Ex Gaudich., Voy. Uranie, Bot. 421. 1829, *nom. cons.*

(i). *Nervilia aragoana* Gaud., Voy. Uranie 422, t. 35. 1829.
Epipactis carinata Roxb., Fl. Ind. 3:452.1832.
Pogonia flabelliformis Lindl., Gen. Sp. Orchid. Pl. 415.1840; Hook. f., Fl. Brit. India 6:121.1890; Prain, Bengal Pl. 2:1026.1903 (2:771.1963 Repr. ed); Haines, Bot. Bihar Orissa 1163.1924 (3:1215.1961 Repr. ed).
Pogonia carinata (Roxb.) Lindl., l.c. 414; Hook. f., l.c.; Prain, Bengal Pl. 2:1026.1903 (2:771.1963 Repr. ed).
Nervilia carinata (Roxb.) Schltr. in Bot. Jahrb. 45:406.1911.

Fl. & Fr. : April – September
Distrib. : Bangladesh, Java, Malayasia, Thailand; Karnataka, Kerala, Orissa, Tamil Nadu, West Bengal; Netarhat, Palamau, Ranchi, Rajmahal hills near Sahibganj, Chotanagpur, West Champaran.
Status : Common
Specimens Examined : Rajmahal hills near Sahibganj, S. Kurz Acc. No. 460503 (CAL)

(ii). *Nervilia plicata* (Andr.) Schlechter in Engl., Bot. Jahrb. 45:403.1911.
Arethusa plicata Andr., Bot. Repos. t. 321.1802.
Pogonia plicata (Andr.) Lindl., Gen. Sp. Orchid. Pl. 415.1840; Hook. f., Fl. Brit. India 6:119.1890; Prain, Bengal Pl. 2:1026.1903 (2:771.1963 Repr. ed).
Fl. & Fr. : June – October

Distrib. : Bhutan, S. China, Myanmar, Malaysia, Thailand ; Sikkim; West Champaran.
Status : Frequent

(iii). *Nervilia prainiana* (King & Prantl.) Seid. & Smit., Orch. Thailand 730.1964.

Pogonia prainiana King & Prantl. in J. Asiat. Soc. Bengal 65:129.1896.

Fl. & Fr. : June – September

Distrib. : Thailand; Maharashtra, Manipur, Orissa, Sikkim; Palamau.

Status : Rare

20. *Oberonia* Lindl., Gen. Sp. Orchid. Pl. 15.1830, *nom. cons.*

(i). *Oberonia denticulata* Wight, Ic. t. 1625.1851.

Oberonia iridifolia (Roxb.) Lindl., Gen. Sp. Orchid Pl. 15.1830, *nom. superfl. et Illegit.*; Hook.f., Fl. Brit. India 5:675.1888.

Cymbidium iridifolium Roxb., Fl. Ind. 3:458.1832.

Oberonia iridifolia var. *denticulata* Hook.f., Fl. Brit. India 5:676.1888.

Fl. & Fr. : October – February

Distrib. : Australia, Myanmar, Nepal, Philippines; Andaman Islands, Orissa, Sikkim, West Bengal; throughout the states.

Status : Occasional Specimen Examined: Darbhanga, RPB 436.

(ii). *Oberonia falconeri* Hook.f. in Hook., Ic. Pl. t. 1780.1888 & Fl. Brit. India 5: 678.1888; Prain, Bengal Pl.2:1004.1903 (2:754.1963 Repr.ed); Haines, Bot. Bihar Orissa 1164.1924 (3:1216.1961 Repr.ed).

Fl. & Fr. : August – January

Distrib. : Malaysia, Nepal, Thailand, Vietnam; Assam, Andhra Pradesh, Madhya Pradesh,

West Bengal; Chotanagpur, Singhbhum, Ranchi, Hazaribagh, Manbhum.

Status : Common

Specimen Examined : Bagadur, Chotanagpur, 23.11.1891, D. Prain Acc. No. 449559 (CAL).

(iii). *Oberonia pachyrachis* Reichb. f. ex Hook. f., Fl. Brit. India 5: 681. 1888; Haines, Bot. Bihar Orissa 1164. 1924 (3:1216.1961 Repr.ed).

Fl. & Fr. : January – May

Distrib. : China, Myanmar, Nepal, Thailand; Sikkim, West Bengal; West Champaran, Purnia.

Status : Infrequent

(iv). *Oberonia rufilabris* Lindl., Sert. Orchid. t. 8 A. 1838; Hook. f., Fl. Brit. India 5: 686. 1888; Prain, Bengal Pl.2:1004.1903 (2:754.1963 Repr.ed); Haines, Bot. Bihar Orissa 1164.1924 (3:1216.1961 Repr. ed).

Fl. & Fr. : January – February

Distrib. : Cambodia, China, Malaysia, Nepal, Thailand; North-East India, West Bengal; Purnia.

Status : Infrequent

21. *Pachystoma* Blume, Bijdr. 6: t. 3, f. 29;8:376.1825.

(i). *Pachystoma senile* (Lindl.) Reichb. f. in Bonplandia 3:250.1858; Hook.f., Fl. Brit. India 5:812.1890; Prain, Bengal Pl. 2:1014.1903 (2:761.1963 Repr. ed); Haines, Bot. Bihar Orissa 1169.1924 (3:1221.1961 Repr.ed). *Apaturia senilis* Lindl., Gen. Sp. Orchid. Pl.130.1831.

Fl. & Fr. : February – April

Distrib. : Java, Malayasia, Archipelago, South China, Sri Lanka; Manipur, Meghalaya, Orissa, Sikkim; West Champaran (Bettiah), Purnia,

Singhbhum.

22. *Papilionanthe* Schlechter in Orchis 9:78.1915.

(i). *Papilionanthe teres* (Roxb.) Schlechter in Orchis 9:78.1915.

Dendrobium teres Roxb., Fl. Ind. 3:485.1932.
Vanda teres (Roxb.) Lindl., Gen. Sp. Orchid. Pl. 217.1833; Hook.f., Fl. Brit. India 6:49.1890; Prain, Bengal Pl. 2:1021.1903 (2:767.1963 Repr. ed).

Fl. & Fr. : September – November

Distrib. : Bangladesh, Myanmar; Assam, Andaman & Nicobar Islands, Meghalaya, Sikkim, Tamil Nadu; West Champaran.

Status : Frequent

23. *Pecteilis* Refin., Fl. Teu. 2:37.1837.

(i). *Pecteilis triflora* (D. Don) Tang & Wang in Acta Phytotax. Sin. 1:62.1951. *Habenaria triflora* D. Don, Prodr. Fl. Nepal. 25.1825; Prain, Bengal Pl. 2:1032.1903 (2:776.1963 Repr.ed); Haines, Bot. Bihar Orissa 1156.1924 (3:1208.1961 Repr.ed).

Fl. & Fr. : July – November

Distrib. : Ranchi, Singhbhum, Chotanagpur, Lohardagga.

Status : Infrequent Specimens Examined : Ramghar Ghat, Chotanagpur, Lohardagga, 19.10.1883, C.B. Clarke 33862 (CAL); East Champaran, RPB 565.

24. *Pelatantheria* Ridl. in J. Linn. Soc. 32:371.1896.

(i). *Pelatantheria insectifera* (Reichb.f.) Ridl. in J. Linn. Soc. 32:373.1896.

Sarcanthus insectifer Reichb.f. in Bot. Zeit. 159. 1857; Hook.f., Fl. Brit. India 6:68.1890;

Prain, Bengal Pl. 2:1025.1903 (2:769.1963 Repr.ed); Haines, Bot. Bihar Orissa 1179.1924 (3:1231.1961 Repr.ed).

Fl. & Fr. : June – December

Distrib. : Bangladesh, Myanmar; Orissa, Uttaranchal, West Bengal; Singhbhum, Hazaribagh, Chotanagpur, Ranchi.

Status : Common Specimens Examined : Chotanagpur, 1880, J.J. Wood Acc. No. 562656 (CAL)

25. *Peristylus* Blume, Bijdr. 6: t.1, f. 30; 8:404.1825, *nom. cons.*

(i). *Peristylus affinis* (D. Don) Seid. in Dansk Bot. Ark. 31(3): 48.1977.

Habenaria affinis D. Don, Prodr. Fl. Nepal. 25.1825; Hook.f., Fl. Brit. India 6:166.1890; Prain, Bengal Pl. 2:1033.1903 (2:776.1963 Repr.ed); Haines, Bot. Bihar Orissa 1157.1924 (3:1209.1961 Repr.ed).

Habenaria goodyeroides sensu Hook.f., l.c. 161, p.p., *non* D. Don, 1825.

Fl. & Fr. : July – November

Distrib. : China, Myanmar, Nepal, Thailand; North-West India, Sikkim; Chotanagpur, Singhbhum.

Status : Infrequent

(ii). *Peristylus constrictus* (Lindl.) Lindl., Gen. Sp. Orchid. Pl. 300.1835, "*constricta*".

Herminium constrictum Lindl. in Edwards, Bot. Reg. 18:sub.t 1499.1832.

Habenaria constricta (Lindl.) Hook.f., Fl. Brit. India 6: 161.1890; Prain, Bengal Pl. 2:1033.1903 (2:776.1963 Repr.ed); Haines, Bot. Bihar Orissa 1159.1924 (3:1211.1961 Repr.ed).

Fl. & Fr. : June – October

Distrib. : Bangladesh, Bhutan, Nepal, Thailand,

Vietnam; Assam, Madhya Pradesh, Orissa, Sikkim; Chotanagpur, Manbhum, Hazaribagh, Koderma, Palamau, Purnia.
Status : Frequent

Status : Infrequent

26. *Phaius* Lour., Fl. Cochinch. 517.1790.

(iii). *Peristylus goodyeroides* (D. Don) Lindl., Gen. Sp. Orchid. Pl. 299. 1835.
Habenaria goodyeroides D. Don., Prodr. Fl. Nepal. 25. 1825; Hook. f., Fl. Brit. India 6:161. 1890, *p.p.*; Prain, Bengal Pl. 2:1033. 1903 (2:776. 1963 Repr.ed); Haines, Bot. Bihar Orissa 1159. 1924 (3:1211. 1961 Repr.ed).
Fl. & Fr. : July – November
Distrib. : Bangladesh, China, Myanmar, Philippines, Thailand; Assam, Orissa, Sikkim, West Bengal; Parasnath, Hazaribagh, Chotanagpur, Palamau, Ranchi.
Status : Infrequent Specimen Examined: Parasnath, 21.09.1858, Anonymous Acc. No. 462861 (CAL).

(iv). *Peristylus lawii* Wight, Icon Pl. Ind. Orient. 5(1) : t. 1695. 1851.
Habenaria lawii (Wight) Hook. f., Fl. Brit. India. 6:162. 1890; Prain, Bengal Pl. 2:1033. 1903 (2:776. 1963 Repr.ed); Haines, Bot. Bihar Orissa 1160. 1924 (3:1211. 1961 Repr.ed).
Fl. & Fr. : July – October
Distrib. : Confined to India; Madhya Pradesh, Karnataka, Orissa, West Bengal; Parasnath, Ranchi, Chotanagpur.
Status : Occasional

(v). *Peristylus stocksii* (Hook. f.) Kraenzl., Orchid. Gen. Sp. 1:513. 1898.
Habenaria stocksii Hook. f., Fl. Brit. India 6: 158. 1890; Haines, Bot. Bihar Orissa 1159. 1924 (3:1210. 1961 Repr.ed).
Fl. & Fr. : August – October
Distrib. : Parasnath, Hazaribagh.

(i). *Phaius mishmensis* Reichb. f. in Bonplandia 5:43. 1857; Hook. f., Fl. Brit. India 5:817. 1890.
Fl. & Fr. : January – March
Distrib. : Bhutan, China, Myanmar, Thailand; North-East India, Sikkim, West Bengal; Chotanagpur.
Specimens Examined : Ghatkuri, P.F., Chotanagpur, 02.01.1961, G.V.S. Rao 23170 (CAL)

(ii). *Phaius nanus* Hook. f., Fl. Brit. India 6:192. 1890; Prain, Bengal Pl. 2: 1014. 1903 (2:761. 1963 Repr.ed), "*Phajus nanus*"; Haines, Bot. Bihar Orissa 1168. 1924 (3:1220. 1961 Repr.ed), "*Phajus nanus*".
Fl. & Fr. : February – March
Distrib. : Myanmar; North-East India, West Bengal; Purnia. Status : Frequent

(iii). *Phaius tancarvilleae* (Banks ex L' Herit.) Blume, Mus. Bot. 2: 177. 1856, "*tankervillii*". *Limodorum tancarvilleae* Banks ex L' Herit., Sert. Ang. 28. 1789.
Phaius wallichii Lindl. in Wall., Pl. Asiat. Rar. 2:46, t. 158. 1831; Hook. f., Fl. Brit. India 5:816. 1890; Prain, Bengal Pl. 2:1014. 1903 (2:761. 1963 Repr.ed), "*Phajus wallichii*"; Haines, Bot. Bihar Orissa 1168. 1924 (3:1220. 1961 Repr.ed), "*Phajus wallichii*".
Fl. & Fr. : March – September
Distrib. : Bhutan, China, Indonesia, Japan, Myanmar, Sikkim, West Bengal; Chotanagpur, Palamau, Singhbhum, Ranchi.
Status : Infrequent Specimens Examined : Chotanagpur, 20.07.1901, Rev. L. Cardon &

J. Acc. No. 453854 (CAL)

27. *Pholidota* Lindl. ex Hook., Exot. Fl. 2:138.1825.

(i). *Pholidota imbricata* (Roxb.) Lindl. in Hook., Exot. Fl. 2:t.138.1825; Hook.f., Fl. Brit. India 5:845.1890; Prain, Bengal Pl. 2:1012.1903 (2:760.1963 Repr.ed); Haines, Bot. Bihar Orissa 1167.1924 (3:1219.1961 Repr.ed). *Cymbidium imbricatum* Roxb., Fl. Ind. 3:460.1832.

Fl. & Fr. : July – February

Distrib. : Australia, Bangladesh, Bhutan, Myanmar, Nepal; Assam, Meghalaya, Orissa, Sikkim; Ranchi, Palamau, Singhbhum, Chotanagpur (Tholkaabad).

Status : Common

Specimens Examined : Ranchi, 20.07.1901, Rev. L. Cardon Acc. No. 454998, 454999, 455000, 455001, 455005 (CAL); Tholkaabad, 06.01.1961, G.V.S. Rao 23226 (CAL)

Uses : Pseudobulbs macerated in mustard oil are applied to joints to alleviate rheumatic pains. It was reported that even water extracts of crushed pseudobulbs was credited with curative properties if taken internally. A single pseudobulb is considered sufficient for one application in the affected part of the body (Sarkar & Agarwal, 1978).

28. *Platanthera* Rich., De. Orchid. Eur. 20,26,35.1817, *nom. cons.*

(i). *Platanthera edgeworthii* (Hook. f. ex Collett) R.K. Gupta, Fl. Nainitalensis 349.1968.

Habenaria edgerworthii Hook.f. ex Collett in Collett, Fl. Siml. 504, f. 166.1902.

Fl. & Fr. : March – May

Distrib. : Bhutan, China, Nepal, Pakistan;

Sikkim, West Bengal; West Champaran.
Status : Infrequent

(ii). *Platanthera stenantha* (Hook.f.)

Soo in Ann. Hist. Nat. Mus. Natl. Hung. 26 : 363.1929.

Habenaria stenantha Hook.f., Fl. Brit. India 6:153.1890; Haines, Bot. Bihar Orissa 1158.1924 (3:1210.1961 Repr.ed).

Fl. & Fr. : July – October

Distrib. : Bhutan, China, Nepal; North-East India, Sikkim, West Bengal; Chotanagpur. Specimen Examined : Chotanagpur, 11.08.1904, Rev. L. Cardon Acc. No. 462623 (CAL).

(iii). *Platanthera susannae* (L.)

Lindl., Gen. Sp. Orchid. Pl. 295.1835.

Orchis susannae L., Sp. Pl. 939. 1753.

Orchis gigantea Sm., Exot. Bot. 2:79.t. 100.1805.

Habenaria gigantea D. Don, Prodr. Fl. Nepal. 24.1825.

Habenaria susannae (L.) R. Br. ex Spreng., Syst. Veg. 3:622.1826; Hook.f., Fl. Brit. India 6:137.1890, *p.p.*; Prain, Bengal Pl. 2:1032.1903 (2:775.1963 Repr.ed); Haines, Bot. Bihar Orissa 1155.1924 (3:1206.1961 Repr.ed).

Loc. name : Hukakanda

Fl. & Fr. : August – December

Distrib. : Cambodia, China, Malaysia, Myanmar, Thailand; North-East India, Orissa, Sikkim, Arunachal Pradesh; Palamau, Hazaribagh, Singhbhum, Chotanagpur, West Champaran, Ranchi.

Status : Common Use : Tubers are edible by the tribals.

29. *Rhynchostylis* Blume, Bijdr. 6: t. 49; 8: 285, 434. 1825, “*Rhynchostylis*”.

(i). *Rhynchostylis retusa* (L.) Blume,

Bijdr. 286, *t.* 49. 1825; Hook.f., Fl. Brit. India 6:32. 1890; Prain, Bengal Pl. 2:1020.1903 (2:767.1963 Repr.ed); Haines, Bot. Bihar Orissa 1178.1924 (3:1230.1961 Repr.ed). *Epidendrum retusum* L., Sp. Pl. 953.1753. Fl. & Fr. : May – January
 Distrib. : Bhutan, Myanmar, Nepal, Sri Lanka; Maharashtra, Orissa, Tamil Nadu, West Bengal; Manbhum, Ranchi, Chotanagpur, West Champaran, Garu, Palamau.
 Status : Common
 Specimens Examined : Bagaha, Champaran, 20.09.1965, S.P. Banerjee 709 (CAL); Manbhum, V. Ball Acc. No. 457091 (CAL)

30. *Spiranthes* Rich., De Orchid. Eur. 20,28,36.1817, *nom. cons.*

(i). *Spiranthes sinensis* (Pers.) Ames, Orchidaceae 2:53.1908.
Neottia sinensis Pers., Syn. Pl. 2:511.1807.
Neottia australis R. Br., Prodr. 319.1810.
Spiranthes australis (R. Br.) Lindl. in Edwards, Bot. Reg. 10:*t.*823.1824; Prain, Bengal Pl. 2:1028.1903 (2:772.1963 Repr. ed); Haines, Bot. Bihar Orissa 1161.1924 (3:1213.1961 Repr. ed).
 Fl. & Fr. : February – June
 Distrib. : Australia, China, Java, Myanmar; throughout India; East Champaran, Purnia.
 Status : Infrequent

31. *Thunia* Reichb. f. in Bot. Zeit. 10:764.1852.

(i). *Thunia alba* (Lindl.) Reichb.f. in Bot. Zeit. 10:764.1852.
Phajus albus Lindl., Gen. Sp. Orchid. Pl. 128.1831; Hook.f., Fl. Brit. India 5:818.1890, *p.p.*; Prain, Bengal Pl. 2:1014.1903 (2:761.1963 Repr.ed).

Fl. & Fr. : July – December
 Distrib. : Myanmar; Assam, Meghalaya, Orissa, Sikkim; Chotanagpur.

(ii). *Thunia venosa* Rolfe in Orchid Rev. 13:206. 1905; Haines, Bot. Bihar Orissa 1167.1924 (3:1219.1961 Repr. ed).
Phajus albus auct. pl. non, Lindl., 1831: Hook.f., Fl. Brit. India 5:818.1890, *p.p.*
 Fl. & Fr. : July – January
 Distrib. : Myanmar; Assam, Meghalaya, Orissa, Sikkim; Chotanagpur, Ranchi.
 Status : Occasional
 Specimen Examined : Chotanagpur, 12.04.1902, Rev. L. Cardon Acc. No. 453927 (CAL).

32. *Tropidia* Lindl. in Edwards, Bot. Reg. 19 : sub *t.*1618.1833.

(i). *Tropidia curculigoides* Lindl., Gen. Sp. Orchid. Pl. 497.1840; Hook.f., Fl. Brit. India 6:93.1890; Prain, Bengal Pl. 2:1027.1903 (2:771.1963 Repr. ed).
 Fl. & Fr. : July – October
 Distrib. : Bangladesh, Myanmar; Assam, Orissa, Sikkim; Chotanagpur, Singhbhum.
 Status : Occasional Specimen Examined : Bamiaburu, Chotanagpur, A. Sanyal Acc. No. 458780 (CAL).

33. *Vanda* W. Jones *ex* R. Br. in Edwards, Bot. Reg. 6: *t.* 506. 1820.

(i). *Vanda coerulea* Griff. *ex* Lindl. in Edwards, Bot. Reg. n.s. 33: *t.* 30. 1847; Hook.f., Fl. Brit. India 6:51.1890.
 Fl. & Fr. : March - June
 Distrib. : Assam, Arunachal Pradesh, Meghalaya, Sikkim; South Bihar.
 Status : Common Specimens Examined : South Bihar, K.C. Kanodia 1203 (CAL)

(ii). *Vanda cristata* Lindl., Gen. Sp. Orchid. Pl. 216. 1833; Hook. f., Fl. Brit. India 6:53.1890.

Fl. & Fr. : March – June

Distrib. : Bhutan, Nepal; North-East India, Sikkim, West Bengal; Chotanagpur.

Status : Infrequent

(iii). *Vanda tessellata* (Roxb.) Hook. ex G. Don in Loud., Hort. Brit. 372. 1830; Haines, Bot. Bihar Orissa 1181.1924 (3:1233.1961 Repr.ed).

Epidendrum tessellatum Roxb., Pl. Coromandel 1:34, t.42.1795.

Vanda roxburghii R. Br. in Edwards Bot. Reg. 6:t.506.1820; Hook. f., Fl. Brit. India 6:52.1890; Prain, Bengal Pl. 2:1021.1903 (2:767.1963 Repr.ed).

Loc. name : Rasna Fl. & Fr. : Throughout the year

Distrib. : China, Myanmar, Nepal, Sri Lanka; Andhra Pradesh, Madhya Pradesh, Orissa, West Bengal; Chotanagpur, West Champaran, Palamau, Singhbhum, Purnia, Ranchi, Santal Pargana, Darbhanga, Hazaribagh.

Status : Common Specimens Examined : Bihar, J. D. Hooker Acc. No. 457666 (CAL); Chotanagpur, 16.09.1896, D. Prain Acc. No. 457671 (CAL); Tholkabad, 06.01.1961, G.V.S. Rao 23229 (CAL); East Singhbhum, RPB 025.

(iv). *Vanda testacea* (Lindl.) Reichb. f. in Gard. Chron. 2:166.1877.

Aerides testaceum Lindl., Gen. Sp. Orchid. Pl. 238.1833.

Vanda parviflora Lindl. in Edwards, Bot. Reg. 30:Misc. 45.1844; Hook. f., Fl. Brit. India 6:50.1890; Prain, Bengal Pl. 2:1021.1903 (2:767.1963 Repr. ed); Haines, Bot. Bihar Orissa 1181.1924 (3:1233.1961 Repr. ed).

Fl. & Fr. : April – November

Distrib. : Myanmar, Nepal, Sri Lanka, Thailand; Assam, Orissa, Sikkim, Tamil Nadu; Ranchi, Singhbhum, Palamau, Neterhat, Santal Pargana, Manbhum, Chotanagpur, Purnia.

Status : Common Specimens Examined : Jamtara, Santal Pargana, Apr. 1904, C.H. Swinder Acc. No. 457597 (CAL); Manbhum, J. Campbell 9292 (CAL); Purnia, RPB 501.

Note : The cultivated species *Vanilla planifolia* Andr., Bot. Repos. t. 538.1808 was reported from Ranchi [Haines, Bot. Bihar Orissa 1163.1924 (3:1215. 1961 Repr.ed)].

34. *Zeuxine* Lindl., Orchid. Scelet. 1826, “*Zeuxina*”, orth. et nom. cons.

(i). *Zeuxine affinis* (Lindl.) Benth. ex Hook. f., Fl. Brit. India 6:108.1890; Prain, Bengal Pl. 2:1029.1903 (2:774.1963 Repr.ed); Haines, Bot. Bihar Orissa 1162.1924 (3:1214.1961 Repr.ed).

Monochilus affine Lindl., Gen. Sp. Orchid. Pl. 487.1840.

Fl. & Fr. : February – September

Distrib. : Bhutan, Java, Myanmar, Sumatra; Meghalaya, Orissa, Sikkim; Purnia, West Champaran.

Status : Scarce

(ii). *Zeuxine membranacea* Lindl., Gen. Sp. Orchid. Pl. 486.1840; Haines, Bot. Bihar Orissa 1162.1924 (3:1214.1961 Repr.ed).

Zeuxine sulcata sensu Hook. f., Fl. Brit. India 6:106.1890, non Lindl., 1840.

Fl. & Fr. : December – February

Distrib. : Bhutan; North-East India, West Bengal; Purnia.

Status : Infrequent

(iii). *Zeuxine strateumatica* (L.) Schlechter in Fedde, Repert. Beih. 1: 77.1911. *Orchis strateumatica* L., Sp. Pl. 943.1753. *Pterygodium sulcatum* Roxb., Fl. Ind. 3:452. 1832. *Zeuxine sulcata* (Roxb.) Lindl. in Royle, Ill. Bot. Himal. 1:368.1839; Hook.f., Fl. Brit. India 6:106.1890; Prain, Bengal Pl. 2:1029.1903 (2:773.1963 Repr.ed); Haines, Bot. Bihar Orissa 1161.1924 (3:1213.1961 Repr.ed). Fl. & Fr. : January – May
Distrib. : Afghanistan, China, Japan, Myanmar; throughout India; West Champaran, Purnia, Monghyr, Singhbhum, Manbhum, Chotanagpur, Muzaffarpur, Giridih.
Status : Common in wetland Specimens Examined : Chotanagpur, 1.02.1878, J.J. Wood Acc. No. 459334 (CAL); Purnea, 22.02.1882, J.J. Wood Acc. No. 459373 (CAL); Manbhum 03.02.1868, V. Ball Acc. No. 459372 (CAL)

A total number of 89 species belonging to 34 genera under the family Orchidaceae are encountered during the survey in the States. The dominant genera on the basis of number of species (mentioned in the parentheses) are *Dendrobium* (11), *Habenaria* (11), *Eulophia* (5), *Peristylus* (5), *Bulbophyllum* (4), *Oberonia* (4) and *Vanda* (4).

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