



COMMONLY FOUND RARE PLANTS: A FLORISTIC BIODIVERSITY IN BHANDARA DISTRICT (M. S.)

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ABSTRACT:-

Bhandara district is well known Lake District of east Vidarbha region and is located at 21.17° N 79.65° It has an undulating topography with an altitude range from 150 to 600 m with geographical area over 4217 sq km and the forest area is approximately 28.86 % of the total geographical area of the district. Floristic survey was conducted from 2005 to 2011 in Lakhni, Sakoli, Lakhandoor, Pauni, Bhandara, Mohadi and Tumsar tahsil of the district. During extensive and intensive floristic exploration of the district over 900 taxa were collected, of which 81 species were found to be rare in the district. Moreover, some species found common in certain localities but observed rare or absent in others. Such 74 plant species belong to 73 genera and 45 families of angiosperms were observed as common or frequent in certain localities and rare or altogether absent in other parts of the district. These species are considered commonly found rare plants of the district in this paper.

Keywords: Floristic, Rare, Angiosperms

1 INTRODUCTION

The flora of India is one of the richest in the world due to the country's wide range of climate, topology, and environment. There are over 15,000 species of flowering plants in India which account for 6% of all plant species in the world. The existence or absence of plant species in a particular area completely depends on its climatic and or ecological factors including soil type and precipitation. Many environmental stresses are directly interacting with the population of the species which decides the size of population in a particular area. Many plant species are being destroyed, however, due to their prevalent removal. Some of the artificial activities like pollution in different ways which is directly responsible for the destruction of natural habitat of the plant species.

Roughly 1/4 of all plant species in the world are at risk of being endangered or going extinct. The combination of global warming and habitat destruction is the sole reason for the disappearance of many plants. This results in decrease in the population of the species in a particular area. The continuous stress in the same direction adversely

affects the existence and population growth. Though there are thousands of interesting and unusual plants, here are some common plants in one of the part of the district and have become rare in other parts. This paper deals with such plants which are found very common or frequent in some the parts of the Bhandara district but found rare or completely absent in other parts. This is due to the many ecological factors.

Floristic survey was conducted from 2005 to 2011 in Lakhni, Sakoli, Lakhandoor, Pauni, Bhandara, Mohadi and Tumsar tahsil of the district. During extensive and intensive floristic exploration of the district over 900 taxa were collected. In this paper such 74 plant species belongs to 73 genera and 45 families of angiosperms were observed as common or frequent in certain localities and rare or altogether absent in other parts of the district. These species are considered commonly found rare plants of the district.

MATERIALS AND METHODS:

For the purpose of this study extensive and intensive visits were arranged to various regions of

the district in different seasons. The plants were observed in their natural habitat and the phenological data were collected and recorded in the field diary. The multiple specimens of plants in flowering and fruiting stage were collected, preserved and their herbarium sheets were prepared. The field notes were incorporated with the specimens on the herbarium sheets.

The digital photographs of some unique plants were taken with their unique characteristics that can help in identifying the plants in the natural habitat.

Attempts have been made to use recent names and the list that follows the genera and species are arranged alphabetically. Artificial keys are prepared for the genera and species for the specimens collected for this study.

All the specimens of the taxa have been deposited in the herbarium of Department of Botany, Dharampeth M. P. Deo Memorial Science College, Nagpur.

OBSERVATIONS:

As can be understood from the biological a

MENISPERMACEAE Juss.

Cissampelos pareira L. var. *hirsuta* (Buch.-Ham. ex. DC.) Forman in Kew Bull. 22: 356. 1968. *C. hirsuta* Buch.-ham. Ex DC. Syst. Nat. 1: 535. 1817. *C. pareira* L. Sp. Pl. 1031. 1753 p.p.; Hook. f. & Thoms. in Hook. f. Fl. Brit. India 1: 103. 1872; Cooke, Fl. Pres. Bombay 1: 24. 1958 (Repr.). 'PAHADMUL'.

Occasional in deciduous forests in moist and shady places. Fls. & Frs. Aug.-Oct. Sarpewada, 489; Miregaon, 1003.

NELUMBONACEAE Dumort.

Nelumbo nucifera Gaertn. Fruct. 1: 73, t. 19, f. 2. 1788; Subram. Aq. Ang. 8, 116, f. 4. 1962; Mitra in Sharma *et al.* Fl. India 1: 441. 1993; Ugemuge, Fl. Nagpur Dist. 50. 1986. *Nelumbium speciosa* Willd. Sp. Pl. 2: 1258. 1799; Hook. f. & Thoms. in Hook. f. Fl. Brit. India 1: 116. 1872; Cooke, Fl. Pres. Bombay 1: 28. 1958 (Repr.) 'KAMAL'.

Commonly found in old tanks. Fls. & Frs. Throughout the year. Lakhni, 256; Bhandara, 1509.

BRASSICACEAE Burm. (nom. alt.)

Cochlearia cochlearioides (Roth.) Sant. & Mahesh. in J. Bombay nat. Hist. Soc. 54: 804. 1957; Bhaumik in Sharma *et al.* Fl. India 2: 191. 1993. *Alyssum cochlearioides* Roth, Nov. Pl. Sp. 322. 1821. *Cochlearia flava* Buch.-Ham. ex Hook. f. & T And. in Hook. f. Fl. Brit. India 1: 145. 1872.

Rare in wet places in sandy soil. Fls. & Frs. Jan.-June. Gose, 431.

CAPPARACEAE Juss.

Cleome chelidonii L. f. Suppl. Pl. 300. 1781; Hook. f. & Thoms. In Hook. f. Fl. Brit. India 1: 170. 1872; Cooke, Fl. Pres. Bombay 1: 42. 1958 (Repr.); Jacobs in Steenis Fl. Males 1, 6: 102. 1960; Ugemuge, Fl. Nagpur Dist. 54. 1986; Naik, Fl. Marathwada 1: 102. 1998.

Occasional in water-logged areas. Fls. & Frs. July-Oct. Aakot, 665.

MALVACEAE Juss.

Abutilon pannosum (Forst. f.) Schlect. Bot. Zeit. 9: 828. 1851; Paul & Nayar in Nayar *et al.* Fasc. Fl. India 19: 90. 1988; Paul in Sharma *et al.* Fl. India 3: 268. 1993. *Sida pannosa* Forst. f. in Comm. Phys. Soc. Reg. Goett. 1787: 62. 1789. *Abutilon muticum* (Delile ex DC.) Sweet, Hort. Brit. Ed. 2: 65. 1830; Mast. in Hook. f. Fl. Brit. India 1: 327. 1874; Cooke, Fl. Pres. Bombay 1: 102. 1958 (Repr.) *A. glaucum* (Cav.) Sweet, Hort. Brit. ed. 1: 54. 1827. 'PETARI'.

Infrequent, along road side. Fls. & Frs. Oct.-Mar. Masal, 579; Jewnala, 1152.

Thespesia lampas (Cav.) Dalz. & Gibs. Bombay Fl. 19. 1861; Mast. in Hook. f. Fl. Brit. India 1: 345. 1874; Borss. in Blumea 14: 116. 1966; Paul & Nayar in Nayar *et al.* Fasc. Fl. India 19: 222, f. 58. 1988; Paul in Sharma *et al.* Fl. India 3: 350, f. 98. 1993. *Hibiscus lampas* Cav. Diss. 3: 154, t. 56, f. 2. 1787. *Thespesia macrophylla* Bl. Bijdr. 73. 1825. Cooke, Fl. Pres. Bombay 1: 121. 1958 (Repr.) *Azanza lampas* (Cav.) Alef. in Bot. Zeit. 19: 298. 1861. 'RANKAPAS', 'CHICHINDUR'.

Occasionally found in deciduous forests. Fls. & Frs. June.-Dec. Chandrapur (Lakha Patel), 771; Ranala, 1647; Umarzari, 1783.

TILIACEAE Juss.

Grewia serrulata DC. Prodr. 1: 510. 1824; Narayanasw. & Rolla Rao in J. Indian Bot. Soc.

29: 179. 1950; Daniel & Chandrab. in Sharma *et al.* Fl. India 3: 509. f. 138. 1993. *G. laevigata* auct. Pl. non Vahl 1790; Mast. in Hook. f. Fl. Brit. India 1: 389. 1874; Cooke, Fl. Pres. Bombay 1: 152. 1958 (Repr.). *G. multiflora* auct. non A. L. Juss. 1804; Hook. f. *op. cit.* 388. *G. disperma* auct. non Rottl. ex Spreng. 1825; Almeida, Fl. Mah. 1: 155. 1996. *G. glabra* Bl. Bijdr. 115. 1825. 'KAORI'. (Photo Plate: 6.6).

Occasional on slopes of hills in deciduous forest. Fls. & Frs. Chandpur, 681.

Note: Several leaves examined by me were unmistakably with some basal serratures end in circular glands, more commonly 4 glands on one side and 1 or 2 on the other (First time report).

RUTACEAE Juss.

Atalantia monophylla (L.) Corr. Serr. in Ann. Mus. Natl. Hist. Nat. 6: 383. 1805; Hook. f. Fl. Brit. India 1: 511. 1875; Cooke, Fl. Pres. Bombay 1: 198. 1958 (Repr.); Nair & Nayar in Hajra *et al.* Fl. India 4: 266. 1997. *Limonia monophylla* L. Mant. Pl. 237. 1771. *Atalantia floribunda* Wight, Ic. t. 1611. 1850; Puri & Mahajan in Bull. Bot. Surv. India 2: 171. 1960.

Rare in deciduous forests. Fls. & Frs. Oct.-May. Gadegaon Depot, 470.

BALANITACEAE Endl.

Balanites aegyptiaca (L.) Del. in Descr. Egypt. Hist. Nat. 2: 221. T. 28, f. 1. 1813; Basak in Fasc. Fl. India 4: 20. 1980. *Ximenia aegyptiaca* L. Sp. Pl. 1194. 1753. *Balanites roxburghii* Planch. in Ann. Sci. Nat. 4, 2: 258. 1854; Bennett in Hook. f. Fl. Brit. India 1: 522. 1875; Cooke, Fl. Pres. Bombay 1: 207. 1958 (Repr.). 'HINGU'.

Occasional in deciduous forests. Fls. & Frs. Mar.-Dec. Wakeshwar, 469; Gunthara, 1065.

CELASTRACEAE R. Br.

Cassine glauca (Rottb.) O. Ktze. Rev. Gen. Pl. 1: 114. 1891. *Mangifera glauca* Rottb. Nye. Samml. Kongel. Norske Vid. Selsk. Skr. 2: 534, t. 4, f. 1. 1783. *Elaeodendron glaucum* (Rottb.) Pers. Syn. Pl. 1: 241. 1805; Laws. in Hook. f. Fl. Brit. India 1: 623. 1875 p.p.; Cooke, Fl. Pres. Bombay 1: 248. 1958 (Repr.). 'ALAN'.

Occasional in forests. Fls. & Frs. Aug.-Apr. Kesalwada, 494; Rawanvadi, 1618.

Note: I have observed several variations in the flowers with 3-5 sepals, petals and stamens each on the same plant.

FABACEAE Lindl. (nom. alt.)

Medicago polymorpha L. Sp. Pl. 779. 1753 emend. Shin. in Rhodora 58: 310. 1956; Sanj. Legumes of India 210. 1991; Naik, Fl. Marathwada 1: 287. 1998. *M. denticulata* Willd. Sp. Pl. 3: 1414. 1802; Baker in Hook. f. Fl. Brit. India 2: 90. 1876; Cooke, Fl. Pres. Bombay 1: 327. 1958 (Repr.). 'ILLI'.

Rare as weed in the cultivated fields. Fls. & Frs. Dec.-Mar. Kesalwada (Wagh), 777.

Note: I have seen this plant only in the said location from the district, may be introduced with the seeds of cultivated plants.

Smithia conferta J. E. Sm. in Rees Cyclop. 33: no. 2. 1816; Cooke, Fl. Pres. Bombay 1: 358. 1958 (Repr.); Steenis in Reinwardtia 5: 445. 1961; Ugemuge, Fl. Nagpur Dist. 157. 1986; Sanj. Legumes of India 246. 1991. *S. geminiflora* Roth, Nov. Pl. Sp. 352. 1821; Baker in Hook. f. Fl. Brit. India 2: 149. 1876. 'KAULLA'.

Occasional in moist places. Fls. & Frs. Aug.-Jan. Rengepar (Kotha), 171; Kesalwada, 1622.

Tephrosia villosa (L.) Pers. Syn. Pl. 2: 329. 1807; Baker in Hook. f. Fl. Brit. India 2: 113. 1876; Cooke, Fl. Pres. Bombay 1: 347. 1958 (Repr.); Bossman & de Hass in Blumea 28: 476. 1983; Sanj. Legumes of India 260. 1991. *Cracca villosa* L. Sp. Pl. 752. 1753. *Tephrosia villosa* var. *incana* (Roxb.) Baker in Hook. f. *op. cit.*

Rare in the district, only seen on the Pauni fort. Fls. & Frs. July-Nov. Pauni, 742.

CAESALPINIACEAE R.Br.

Bauhinia vahlii Wight & Arn. Prodr. 297. 1834; Baker in Hook. f. Fl. Brit. India 2: 279. 1878; Cooke, Fl. Pres. Bombay 2: 461. 1958 (Repr.); Sanj. Leg. India 6. 1991. *B. racemosa* Vahl, Symb. Bot. 3: 56. t. 62. 1794 non Lam. 1785. *Phanera vahlii* (Wight & Arn.) Benth. in Miq. Pl. Jungh. 263. 1852. *P. integrifolia* (Roxb.) Benth. in Miq. *op. cit.* 'MAHUR'.

Infrequent in dense moist deciduous forests. Fls. & Frs. Apr.-June. Umarzari forest, 622.

Cassia uniflora Mill. Gard. Dict. ed. 8, no. 5. 1768 non Spreng.; Raghavan in Bull. Bot. Surv. India 22: 225. (1980) 1982; Singh in Curr. Sci. 52 (13): 644. 1983; Sanj. Leg. India 24. 1991. *C. sericea* Sw. Prodr. 66. 1788 & fl. Ind. Occ. 2(1): 724. 1798; Singh in Bull. Bot. Surv. India 21: 203, f. 1-17 (1979) 1981.

Rare along the road sides and waste lands. Fls. & Frs. Aug.-Dec. Kanadmoh, 754.

Note: It is very similar in appearance with Cassia tora L. but number of leaflets are more than it. Presence of awl-shaped gland in between all the pairs of leaflets except uppermost, distinct long mucronate apex are the characteristic features of this species.

MIMOSACEAE R. Br.

Xylia xylocarpa (Roxb.) Taub. Bot. Centralbl. 67: 395. 1891; Sanj. Legumes of India 73. 1991. *Mimosa xylocarpa* Roxb. Pl. Cor. T. 100. 1798. *Xylia dolabriformis* Benth. in Hook. London J. Bot. 4: 417. 1845; Baker in Hook. f. Fl. Brit. India 2: 286. 1878; Cooke, Fl. Pres. Bombay 1: 465. 1958 (Repr.). 'JALBA'.

Occasional in deciduous forests. Fls. & Frs. Mar.-Dec. Dudhara, 351; Rawanvadi, 1469.

LYTHRACEAE J. St. Hil.

Rotala verticillaris L. Mant. 2: 175. 1771 non Hiern, 1871; C.D.K. Cook in Boissiera 29: 23, f. 1 A-E. 1979 *Ammannia rotala* Clarke in Hook. f. Fl. Brit. India 2: 567. 1879; Cooke, Fl. Pres. Bombay 1: 539. 1958 (Repr.).

Rare in the district, in wet places near lakes. Fls. & Frs. Oct.-Dec. Rawanwadi, 704.

PASSIFLORACEAE Juss. ex Kunth

Passiflora foetida L. Sp. Pl. 959. 1753; Cooke, Fl. Pres. Bombay 1: 557. 1958 (Repr.); Ugemuge, Fl. Nagpur Dist. 174. 1986; Naik, Fl. Marathwada 1: 393. 1998. 'GHANICHA VEL'.

Rare as a weed along hedges, escaped. Fls. & Frs. Aug.-Feb. Madgi (Kardi), 680; Virli, 1459.

CUCURBITACEAE Juss.

Solena amplexicaulis (Lam.) Gandhi in Sald. & Nicols. Fl. Hassan Dist. 179. 1976. *Bryonia amplexicaulis* Lam. Encycl. 1: 496. 1785. *Solena heterophylla* Lour. Fl. Cochinch. 1: 514. 1790.

Zehneria umbellata Thw. Enum. Pl. Zeyl. 125. 1859; Clarke in Hook. f. Fl. Brit. India 2: 625. 1879 p.p. *Melothria heterophylla* (Lour.) Cogn. in A. & C. DC. Mon. Phan. 3: 618. 1881; Cooke, Fl. Pres. Bombay 1: 575. 1958 (Repr.). *M. amplexicaulis* (Lam.) Cogn. in DC. Monogr. Phan 3: 621. 1881. *M. angulata* Chakr. in J. Bombay Nat. Hist. Soc. 5: 899. 1952. 'GOMATI'.

Rare on bushes in forests, also on hedges. Fls. & Frs. July-Jan. Sipewada, 630; Parastola, 1424.

AIZOACEAE Rudolphi

Gisekia pharnaceoides L. Mant. 562. 1771; Clarke in Hook f. Fl. Brit. India 2: 664. 1879; Cooke, Fl. Pres. Bombay 1: 595. 1958 (Repr.).

Occasional in sandy soil, also in river beds. Fls. & Frs. Aug.-Dec. Bhandara, 282.

APIACEAE Lindl.

Pimpinella heyneana (Wall. ex DC.) Kurz in J. Asiat Soc. Bengal 46: 115. 1877; Clarke in Hook. f. Fl. Brit. India 2: 684. 1879; Cooke, Fl. Pres. Bombay 1: 601. 1958 (Repr.); Naik, Fl. Marathwada 1: 425. 1998. *Helosciadium heyneanum* Wall. ex DC. Prodr. 4: 106. 1830.

Rare in hilly areas usually in deciduous forests. Fls. & Frs. Aug.-Nov. Umarzari, 766.

Seseli diffusum (Roxb. ex J. E. Sm.) Sant. & Wagh in Bull. Bot. Surv. India 5: 108. 1963; P. K. Mukh. & Constance, Umbelliferae (Apiaceae) of India 166. 1993. Naik, Fl. Marathwada 1: 426. 1998; *Seseli indicum* Wight & Arn. Prodr. 371. 1834; Clarke in Hook. f. Fl. Brit India 2: 693. 1879. 'KADU JIRA'.

Occasional in drying rice fields, also in drying ditches. Fls. & Frs. Apr.-May. Kesalwada (Wagh.), 339.

RUBIACEAE Juss.

Tamilnadia uliginosa (Retz.) Tirveng. & Sastre in Mauritius Inst. Bull. 8 (4): 85. 1979. *Gardenia uliginosa* Retz. Obs. Bot. 2: 14. 1781. *Randia uliginosa* (Retz.) DC. Prodr. 4: 386. 1830; Hook. f. Fl. Brit. India 3:110. 1880; Cooke, Fl. Pres. Bombay 2: 27. 1958 (Repr.). *Xeromphis uliginosa* (Retz.) Mahesh. in Bull. Bot. Surv. India 3: 92. (1961) 1962; Tirveng. in Bull. Mus. natn. Hist. nat. Paris, 3e, 521, Bot. 35: 19. 1978. *Catunaregam*

uliginosa (Retz.) Sivar. in Manilal & Sivar. Fl. Calicut 132. 1982. 'KHAD-TEMBUR'
Infrequent in deciduous forest, also on waste places. Fls. & Frs. Mar.-Nov. Khairi, 412; 1731.

ASTERACEAE Dumort. *nom. alt.*

Eupatorium odoratum L. Syst. Nat. ed. 10 (2): 1205. 1759; Hook. f. Fl. Brit. India 3: 244. 1881; Uniyal in Hajra *et al.* Fl. India 12: 354. 1995. *Chromolaena odorata* (L.) King & Robinson in Phytologia 20: 204. 1970; Rao *et al.* Fl. Ind. Enum. Aster. 24. 1988.

Rarely found in degraded forest areas, also on hill slopes. Fls. & Frs. Dec.-Apr. Choha/Pahila, 786.

Note: It can be easily identified by red glandular under surface of the leaves and much exerted styles beyond the corolla tubes.

Glossocardia bosvallea (L. f.) DC. in White, Contrib. Bot. Ind. 19. 1834; Rao *et al.* Fl. Ind. Enum. Aster. 40. 1988. *Verbascena bosvallea* L. f. Suppl. 379. 1781. *Glossocardia linearifolia* Cass. in Dict. Sci. Nat. 19: 62. 1821; Hook. f. Fl. Brit. India 3: 308. 1881; Cooke, Fl. Pres. Bombay 2: 100. 1958 (Repr.). *G. setosa* Blatt. & Hallb. In J. Bombay Nat. Hist. Soc. 26: 536. 1919; Rao *et al.* *op. cit.* 41. 'PIPADA'. (Photo Plate: 6.27).

Infrequent on rocky soils, also on hill slopes. Fls. & Frs. Aug.-Dec. Kumbhli, 259.

CAMPANULACEAE Juss.

Wahlenbergia marginata (Thunb.) A. DC. Monogr. Campanulaceae 143. 1830; Moeliona & Tuyn in Steenis, Fl. Males, 1, 6:115. 1960. *Campanula marginata* Thunb. Fl. Jap. 89. 1784. *W. gracilis* Schrad. Blumenb. 38. in Obs. 1927; C. B. Cl. in Hook. f. Fl. Brit. India 3: 429; Cooke, Fl. Pres. Bombay 2: 133. 1958 (Repr.). 'SEEMDEVI'. Rare along agricultural fields, as well as along the margins of ponds. Fls. & Frs. Dec.-Mar. Gudri, 319; Gondsaoi, 1495.

LOBELIACEAE R. Br.

Lobelia alsinoides Lam. Encycl. 3: 588. 1792; Moeliona & Tuyn in Steenis, Fl. Males 1, 6.: 126. 1960. *L. trigona* Roxb. Fl. Ind. 2: 111. 1924; C. B. Cl. in Hook. f. Fl. Brit. India 3: 423. 1881; Cooke, Fl. Pres. Bombay 2: 130. 1958 (Repr.); Prain, Bengal Plants 1. 466. 1963.

Rare in moist and water logged situations. Fls. & Frs. Aug.-Feb. Rengepar (Kotha), 173.

Note: It was not observed in any other part of the district except said location.

PRIMULACEAE Vent.

Anagalis arvensis L. Sp. Pl. 211. 1753; Hook. f. Fl. Brit. India 3: 506. 1882; Cooke, Fl. Pres. Bombay 2: 139. 1958 (Repr.); P. Taylor in Kew Bull. 1955: 329. 1955; Ugemuge, Fl. Nagpur Dist. 222. 1986; Naik, Fl. Marathwada 1: 515. 1998. (Photo Plate: 6.30).

Rare in wet situations as weed in cultivated fields. Fls. & Frs. Oct.-Jan. Kesalwada (Wagh), 776; Dawdipar, 1560.

APOCYNACEAE Juss.

Catharanthus pusillus (Murr.) G. Don, Gen. Syst. 4: 95. 1836. *Vinca pusilla* Murr. Comm. Gotting, 3: 66, t. 2, f. 1. 1773; Hook. f. Fl. Brit. India 3: 640. 1882. *Lochnera pusilla* (Murr.) K. Schum. in Engl. & Prantl, Pflanzenf. 4 (2): 145. 1895; Cooke, Fl. Pres. Bombay 2: 191. 1958 (Repr.). 'SUNKAPHI'.

Rare in moist and sandy soil. Fls. & Frs. July-Sept. Saori (Lakhni), 453.

Vallisneria spiralis (L.) Roth O. Ktze. Rev. Gen. Pl. 2: 417. 1891. *Peltanthera solanacea* Roth, Nov. Pl. Sp. 132. 1821. *Vallisneria heynei* Spr. Syst. Veg. 635. 1824; Hook. f. Fl. Brit. India 3: 650. 1882; Cooke, Fl. Pres. Bombay 2: 199. 1958 (Repr.).

Rare along roadside or in deciduous forest. Fls. & Frs. Dec.-Apr. Khedepar, 356.

ASCLEPIADACEAE R. Br.

Gymnema sylvestris (Retz.) R. Br. ex Schultes in R. & S. Syst. Veg. 6: 57. 1819; Hook. f. Fl. Brit. India 4: 29. 1882; Cooke, Fl. Pres. Bombay 2: 224. 1958 (Repr.); Sant. & Irani in Uni. Bombay Bot. Mem. no. 4: 47. 1962; Jagtap *et al.* N. P. Singh in Fasc. Fl. India 24: 89. 1999. *Periploca sylvestris* Retz. Obs. 2: 15. 1781. 'KAVALI'.

Infrequent in deciduous forest on bushed. Fls. & Frs. July-Mar. Gadegaon depot, 479; Wakeshwar, 1147.

Oxystelma esculentum (L. f.) R. Br. in Mem. Wern. Soc. 5: 40. 1809, printed in 1811 ex schult. in L. Syst. Veg. 6: 89. 1820; Hook. f. Fl. Brit.

India 4: 17. 1883; Cooke, Fl. Pres. Bombay 2: 216. 1958 (Repr.). *Periploca esculenta* L. f. Suppl. Pl. 168. 1781. *Oxystelma secamone* (L.) Karst. Deut. Fl. 1031. 1880- 1883 nom illegit; *Sarcostemma secamone* (L.) Bennet in Indian Forester 95: 692. 1969 nom. illegit; Naik, Fl. Marathwada 1: 552. 1998. 'DUDHANI'.

Infrequent along roadside in Pauni tahsil and rarely observed in other parts of the district. Fls. & Frs. May.-Feb. Khedepar, 636; Belati, 1687.

LOGANIACEAE Mart.

Mitreola petiolata (J. F. Gmel.) Torr. & A. Gray, Fl. N. America 2: 45. 1845; Heine in Kew Bull. 23: 251. 1969. *Cynoctonum petiolatum* J. F. Gmel. Syst. Nat. ed. 13, 2: 443. 1791. *Mitreola oldenlandioides* Wall. ex DC. Prodr. 9: 9. 1845; C. B. Cl. in Hook f. Fl. Brit. India 4: 79. 1883; Cooke, Fl. Pres. Bombay 2: 246. 1958 (Repr.). *Cynoctonum mitreola* (L.) Britton in Mem. Torr. Bot. Cl. 5: 258. 1884.

Common in moist and shady localities in forest, mostly in hilly slopes. Fls. & Fr. Aug.-Dec. Kesalwada (Wagh.), 211; Chandori (Usgaon), 676; Rajapur, 1489.

Note: It is very unique in its habitat, specially found on hill slopes in dense and thick forest where the temperature is quiet lower as compared to other nearby areas.

BORAGINACEAE Juss.

Coldenia procumbens L. Sp. Pl. 125. 1753; C. B. Cl. in Hook. f. Fl. Brit. India 4: 144. 1883; Cooke, Fl. Pres. Bombay 2: 271. 1958 (Repr.); Kazmi in J. Arnold Arbor. 51: 148. 1970. Ugemuge, Fl. Nagpur Dist. 243. 1986. 'TRIPANKHI'. (Photo Plate: 6.34).

Occasional in rocky places. Fls. & Frs. Dec.-May. Sipewada, 374.

CONVOLVULACEAE Juss.

Argyreia sericea Dalz. & Gibs. Bombay. Fl. 169. 1861; C. B. Cl. in Hook, f. Fl. Brit. India 4: 188. 1883; Cooke, Fl. Pres. Bombay 2: 326. 1958 (Repr.); Ugemuge, Fl. Nagpur 248. 1986. 'GAVEL'. Common in Pauni Taluka in hedges and on small trees and bushes while rare in other places of the district. Fls. & Frs. Aug.-Nov. Chandrapur 487; Pathri 666.

Operculina turpethum (L.) S. Manso, Enum. Subst. Bras. 16. 1836; Ooststr. in Steenis, Fl. Males. 1, 4: 456, f. 32. 1953; Cooke, Fl. Pres. Bombay 2: 309. 1958 (Repr.); Naik, Fl. Marathwada 1: 601. 1998. *Convolvulus turpethum* L. Sp. Pl. 155. 1753. *Ipomoea turpethum* (L.) R. Br. Prodr. 485. 1810; C.B.Cl. in Hook. f. Fl. Brit. India 4: 212. 1883. *Merremia turpethum* (L.) Shah & Bhatt in Shah, Fl. Gujarat 1: 450. 1978 et J. Bombay Nat. Hist. Soc. 74: 567. 1978. 'NISHOTTAR'. (Photo Plate: 6.37).

Common in Pauni Tahsil while infrequent in other places of the district. Fls & Frs. Sept.-Apr. Rawanwadi, 523, Bhandara, 612; Wasera, 1099.

Xenostegia tridentata (L.) Austin & Staples in Brittonia 32: 533. 1980. *Convolvulus tridentatus* L. Sp. Pl. 157. 1753. *Ipomoea tridentata* (L.) Roth in Room. Arch. Bot. 1, 2: 38. 1798; C. B. Clarke in Hook, f. Fl. Brit. India 4: 205. 1883. *Merremia tridentata* (L.) Hall. f. Bot. Jahrb. Syst. 16: 552. 1893; Cooke, Fl. Pres. Bombay 2: 306. 1958 (Repr.); Naik, Fl. Marathwada 1: 600. 1998. *Ipomoea angustifolia* Jacq. Ic. Pl. Rar. 2(10): t. 317. 1786-93; C. B. Clarke in Hook. f. Fl. Brit. India 4: 205. 1883. 'MORGA'.

Occasional in drying ditches and rice fields. Fls. & Frs. Sept.-Apr. Sipewada, 899.

CUSCUTACEAE Dumort.

Cuscuta hyalina Roth. Nov. Pl. Sp. 100. 1821; Clarke, in Hook. f. Fl. Brit. India 4: 226. 1883; Cooke, Fl. Pres. Bombay 2: 292. 1958 (Repr.); BSI, Fl. Maha. 2: 492. 2001. 'AMARVEL'. (Photo Plate: 6.38).

Infrequent, parasite on *Cassia tora* L. along road sides or in waste places. Fls. & Frs. Aug.-Dec. Khedepar, 730.

SOLANACEAE Juss.

Nicotiana plumbaginifolia Viv. Elench. Pl. Hort. Bot. 26, t. 5. 1802; Clarke in Hook. f. Fl. Brit. India 4: 246. 1883; Deb. in J. Eco. Tax. Bot. 1: 42. 1980; Matthew, Mat. Fl. Tamilnadu Carnatic 278. 1981.

Infrequent in moist and sandy soils. Fls. & Frs. Sept.-Apr. Saori / Lakhni, 362; Wasera, 1407; Kalmazari, 1528.

SCROPHULARIACEAE Juss.

Centranthera tranquebarica (Spreng.) Merr. in Biswas 150th Anniv. Vol. Roy. Bot. Gard. Calc. 57. 1942. *C. humifusa* Wall. Cat. 3883; Benth. in DC Prodr. x. 525; Haines, Bot. Bihar & Orissa 2: 668. 1961(Repr.); Prain, Bengal Pl. 2: 578. 1963; Hook. f. Fl. Brit. India 4: 301. 1884. *Rozumovia tranquebarica* Spreng. Syst. 2: 812. *Torenia lepidota* Roth. Nov. Pl. Sp. 281. (Photo Plate: 6.39).

Rare in open and moist situations among grasses in shrubby forest. Fls. & Frs. Sept.-Nov. Rengepar (Kotha), 79.

Glossostigma diandrum (L.) O. Krtz. Rev. Gen. Pl. 461. 1891; Naik, Fl. Marathwada 2: 623. 1998. *Limosella diandra* L. Mant. Alt. 252. 1771. *Glossostigma spathulatum* (Hook.) Wight & Arn. ex Arn. Nova Act. Acad. Caes. Leop-Carol. German Nat. Cur. 18: 355. 1836; Hook. f. Fl. Brit. India 4: 288. 1884; Cooke. Fl. Pres. Bombay 2: 371. 1958 (Repr.).

Rare in marshy places in drying lakes. Fls. & Frs. Oct.-Feb. Oct.-Feb. Etewai, 231.

Note: Very small plant usually found on moist soils in drying water bodies; stem creeping, rooting at every node, whole plant turns reddish-purple at maturity.

Striga asiatica (L.) O. Ktze. Rev. Gen. Pl. 1: 466. 1861; Sant. in Rec. Bot. Surv. India in 16(1): 183. 1967 (3rd Rev. ed.). *Buchnera asiatica* L. Sp. Pl. 630. 1753. *Striga lutea* Lour. Fl. Cochinch. 22. 1790; Hook. f. Fl. Brit. India 4: 299. 1884; Cooke, Fl. Pres. Bombay 2: 375. 1958 (Repr.). (Photo Plate: 6.41).

Rare among grasses along roadside. Fls. & Frs. July-Jan. Umarzari, 758.

Sutera dissecta (Del.) Walp. Repert. 3: 271. 1844; Sant. in Rec. Bot. Surv. India 16 (1): 177. 1967 (3rd Rev. ed.). *Capraria dissecta* Del. Fl. Egypte 95, t. 32, f. 2. 1812. *Sutera glandulosa* Roth, Nov. Pl. Sp. 291. 1821; Hook. f. Fl. Brit. India 4: 258. 1884; Cooke, Fl. Pres. Bombay 2: 356. 1958 (Repr.).

Rare in river bed in moist situations. Fls. & Frs. Sept.-Apr. Kardha, 788.

Note: Seeds yellow (Cooke op. cit.), I have observed several fruits from the collected specimens but fail to find the Cooke's yellow seed character, instead I found

brown coloured seeds. Touch sense is same to that of Cicer arietium L. plant.

ACANTHACEAE Juss.

Elytraria acaulis (L. f.) Lindau in Engl. & Prantl, Nat. Pflanzenfam. Nachtr. 1: 304. 1897; Ugemuge, Fl. Nagpur Dist. 284. 1986. *Justicia acaulis* L. f. Suppl. 84. 1781. *Elytraria crenata* Vahl, Enum. Pl. 1: 106. 1804; Clarke in Hook. f. Fl. Brit. India 4: 394. 1884. *Tubiflora acaulis* (L. f.) O. Ktze. Rev. Gen. Pl. 500. 1891; Cooke, Fl. Pres. Bombay 2: 420. 1958 (Repr.). 'DASMORI'. (Photo Plate: 6.43).

Rare on hill slopes under the shade of trees in moist situations. Fls. & Frs. Oct.-Jan. Ravanwadi, 389; Jogikhera, 1806.

Indoneesiella echioides (L.) Sreem. in Phytologia 15: 271. 1967. *Justicia echioides* L. Sp. Pl. 16. 1753. *Andrographis echioides* (L.) Nees in Wall. Pl. Asiat. Rar. 3: 117. 1832; Clarke in Hook. f. Fl. Brit. India 4: 505. 1884; Cooke, Fl. Pres. Bombay 2: 451. 1958 (Repr.); Ugemuge, Fl. Nagpur Dist. 279. 1986. 'PANDHRA-FEDA'.

Infrequent on gravelly slopes of hills, also on rocky soils in forests. Fls. & Frs. Aug.-Dec. Usgaon, 292; Sitepar, 1179.

VERBENACEAE J. St. Hil.

Lantana salvifolia Jacq. Hort. Schoenbr. 3: 18, t. 285. 1798. *L. indica* Roxb. Fl. Ind. 3: 89. 1832; Clarke in Hook. f. Fl. Brit. India 4: 562. 1885; Cooke, Fl. Pres. Bombay 2: 498. 1958 (Repr.).

Rare on sandy soil along banks of river. Fls. & Frs. Throughout the year. Gose, 418.

LAMIACEAE Lindl. Nom. alt.

Acrocephalus hispidus (L.) Nicols. & Sivadasan in Taxon 29: 324. 1980. *Gomphrena hispida* L. Sp. Pl. ed 2, 326. 1762. *Acrocephalus capitatus* Benth. in Wall. Pl. As. Rar. 2: 18. 1830; Hook. f. Fl. Brit. India 4: 611. 1885; Cooke, Fl. Pres. Bombay 2: 525. 1958 (Repr.).

Common on hill slopes on gravelly soil in deciduous forest. Fls. & Frs. Sept.-Dec. Kesalwada, 210; Pitezari, 968; Mandhal (Tumsar), 1158.

Note: presence of bracts only at the base of whorls or heads (not at the base of all flowers) which are sessile, longer than broader broad and cuneate at the base is the characteristic feature of this species.

Lavandula bipinnata O. Ktze. Rev. Gen. Pl. 521. 1891; Mukerjee in Rec. Bot. Surv. India 14 (1): 65. 1940. *L. burmanni* Benth. Lab. Gen. & Sp. 151. 1833; Hook. f. Fl. Brit. India 4: 631. 1885; Cooke, Fl. Pres. Bombay 2: 534. 1958 (Repr.) 'GHODEGHUI'.

Occasional along roadsides on hills in deciduous forest. Fls. & Frs. Oct.-Feb. Umarzari, 717; Masal, 1633.

Note: Leaves (beneath) and calyx (outside) are minutely gland dotted or punctate; this is first time reported in the literature.

Pogostemon plectranthoides Desf. in Mem. Mus. Hist. nat. Paris 2: 155, t. 6. 1815 (*plectranthoides*); Hook. f. Fl. Brit. India 4: 632. 1885; Cooke, Fl. Pres. Bombay 2: 536. 1958 (Repr.); Mukerjee in Rec. Bot. Surv. India 14 (1): 69. 1940; Bhatti & Ingrouille in Bull. Nat. Hist. Lond. (Bot.) 27 (2): 91, figs. 4c, 14c. 1997. 'PANGLI'.

Frequent along the roadsides in forest. Fls. & Frs. Nov.-Mar. Koka, 815; Etewai, 1599.

Note: In both the species of Pogostemon, unmistakably I found the leaves with gland dots beneath. This character is reported here first time in the literature.

AMARANTHACEAE Juss.

Allmania nodiflora (L.) R. Br. ex Wight in Hook. J. Bot. 1: 226. 1834; Hook. f. Fl. Brit. India 4: 716. 1885; Ugemuge, Fl. Nagpur Dist. 310. 1986; Naik, Fl. Marathwada 2: 740. 1998. *Celosia nodiflora* L. Sp. Pl. 205. 1753. *Allmania nodiflora* var. *aspera* (Roth) Hook. f. *op. cit.* 717; Cooke, Fl. Pres. Bombay 2: 571. 1958 (Repr.). *A. nodiflora* var. *dichotoma* (Heyne ex Roth) Hook. f. *op. cit.*

Rare on hilly places in deciduous forests in wet situations. Fls. & Frs. Aug.-Oct. Kawlewada (Tumsar), 691; Gonditola, 1657.

Pupalia lappacea (L.) A. L. Juss. in Ann. Mus. Hist. Nat. Paris 2: 132. 1803; Hook. f. Fl. Brit. India 4: 728. 1885; Cooke, Fl. Pres. Bombay 2: 583. 1958 (Repr.). *Achyranthes lappacea* L. Sp. Pl. 204. 1753.

Rare in hill forest as well as along bank of river. Fls. & Frs. Sept.-Feb. Kumbhli, 264; Pachera, 1220.

Note: Sterile flowers reduced to a number of unequal, glabrous, hooked awns, enlarged,

stellately spreading and yellowish in fruits, a characteristic feature of this plant.

Trichuriella monsoniae (L. f.) Bennet in Indian J. For. 8: 86. 1985. *Illecebrum monsoniae* L. f. Suppl. 161. 1781. *Aerva monsoniae* (L. f.) Mart. In Nov. Actxon Acad. Caes. Leop-Carol. Nat. Cur. 13: 291. 1826; Hook. f. Fl. Brit. India 4: 728. 1885; Cooke, Fl. Pres. Bombay 2: 578. 1958 (Repr.). *Trichurus monsoniae* (L. f.) Townsend in Kew Bull. 29: 466. 1974.

Rare on gravelly or sandy soil and in river beds. Fls. & Frs. Sept.-Mar. Dharmapuri, 278; Bhandara, 1655.

POLYGONACEAE Juss.

Persicaria barbata (L.) Hara, Fl. East. Himal. 70. 1966. *Polygonum barbatum* L. Sp. Pl. 362. 1753; Hook. f. Fl. Brit. India 5: 37. 1886; Steward in Contr. Gray Herb. 88: 52. 1930.

var. *stagnina* (Buch.-Ham. ex Meissn.) Sojak in Preslia 46 (2): 152. 1974. *Polygonum stagninum* Buch.-Ham. ex Meissn. In Wall. Pl. Asiat. Rar. 3: 56. 1832; Hook. f. Fl. Brit. India 5: 37. 1886; Sald. Fl. Karnataka 1: 181. 1984. *P. barbatum* var. *stagninum* (Buch.-Ham. ex Meissn.) Steward in Contr. Gray Herb. 88: 54. 1930.

Occasional in marshy places along streams. Fls. & Frs. Aug.-Jan. Vasera, 668.

Polygonum plebeium R. Br. Prodr. 420. 1810 (*P. plebejum*); Hook. f. Fl. Brit. India 5: 27. 1886; Cooke, Fl. Pres. Bombay 3: 4. 1958 (Repr.).

var. *indica* (Heyne ex Roth) Hook. f. Fl. Brit. India 5: 28. 1886; Cooke, Fl. Pres. Bombay 3: 5. 1958 (Repr.). *Polygonum indicum* Heyne ex Roth, Nov. Pl. Sp. 208. 1821.

Rarely found in moist situations. Fls. Oct.-Mar. Chandpur, 774.

EUPHORBIACEAE Juss.

Euphorbia laeta Heyne ex Roth, Nov. Pl. Sp. 230. 1821; Ugemuge, Fl. Nagpur Dist. 329. 1986. *E. rothiana* Spr. Syst. Veg. 3: 769. 1826; Hook. f. Fl. Brit. India 5: 263. 1887; Cooke, Fl. Pres. Bombay 3: 59. 1958 (Repr.); Sant. in Bull. Bot. Soc. Bengal 8: 9. 1954; Naik, Fl. Marathwada 2: 791. 1998. 'DUDHI'.

Rarely found as a weed among cultivated fields as well as drying ditches. Fls. & Frs. Oct.-Apr. Navtala, 367.

Homonoia retusa Muell.-Arg. in Linnaea 34: 200. 1865; Hook. f. Fl. Brit. India 5: 456. 1887; Cooke, Fl. Pres. Bombay 3: 119. 1958 (Repr.); Gamble, Fl. Madras 2: 933. 1967 (Repr.). 'MACHIM'. Rare in river beds. Fls. & Frs. Oct.-Apr. Gose, 419.

Tragia plukenetti L. Radcliffe-Smith in Kew Bull. 37: 688. 1983. *T. cannabina* L.f. Suppl. 415. 1781; Cooke, Fl. Pres. Bombay 3: 120. 1958 (Repr.). *T. involucrata* L. var. *cannabina* (L.f.) Muell.-Arg. in DC. Prodr. 25: 944. 1866; Hook. f. Fl. Brit. India 5: 465. 1887. 'AAGYA'.

Infrequent around the fields as well as along road sides. Fls. & Frs. June-Nov. Khedepar, 147; Ambadi/Khambadi, 1377.

URTICACEAE Juss.

Pouzolzia sp.

Infrequent along the slopes of hilly tracts in moist situations. Fls. & Frs. Aug.-Dec. Chandpur, 682; Sonegaon, 1768.

CERATOPHYLLACEAE S. F. Gray

Ceratophyllum demersum L. Sp. Pl. 992. 1753; Hook. f. Fl. Brit. India 5: 639. 1888; Cooke, Fl. Pres. Bombay 3: 165. 1958 (Repr.); Subr. Aquat. Angio. 52, f. 36. 1962; Naik, Fl. Osmanabad 323. 1979. *C. verticillatum* Roxb. Fl. Ind. 3: 624. 1832. Infrequent in shallow water ponds. Fls. & Frs. Jan.-Apr. Khadki, 645.

HYDROCHARITACEAE A. L. Juss.

Blyxa octandra (Roxb.) Planch. ex Thw. Enum. Pl. Zeyl. 332. 1864; Hortog in Steenis, Fl. Males. 1, 5:393, f. 6b. 1957; Subr. Aquat. Ang. 60. 1962. *Vallisneria octandra* Roxb. Pl. Cor. 2: 34, t. 165. 1802. *Blyxa roxburghii* Rich. in Mem. Inst. Paris 12, 2: 77, t. 5. 1812; Hook. f. Fl. Brit. India 5: 660. 1888; Cooke, Fl. Pres. Bombay 3: 172. 1958 (Repr.).

Occasional in shallow, still water, in lakes, ponds, ditches etc. Fls. & Frs. Nov.-May. Lakhni, 792; Kondha/Kosra, 1452.

ORCHIDACEAE A. L. Juss.

Habenaria roxburghii Nicols. in Sald. & Nicols. Fl. Hassan Dist. 834. 1976. *H. platyphylla* Spr. Syst. Veg. 3: 690. 1826; Hook. f. Fl. Brit. India 6: 140. 1890; Cooke, Fl. Pres. Bombay 3: 222. 1958

(Repr.); Sant. & Kap. Orch. Bombay 19. 1966. (Photo Plate: 6.57).

Rare in moist situations on forest floors. Fls. & Frs. Aug.-Oct. Koka, 733.

LILIACEAE Juss. sensu lato.

Iphigenia indica (L.) A. Gray apud Kunth, Enum. Pl. 4: 213. 1843; Hook. f. Fl. Brit. India 6: 357. 1892; Cooke, Fl. Pres. Bombay 3: 275. 1958 (Repr.). *Melanthium indicum* L. Mant. 226. 1771. 'MARKALAI'.

Rare in moist situation in sandy soil amidst grasses on forest floor. Fls. & Frs. July-Sept. Chandrapur, 747; 981; Dongri (Bujruk), 1421.

ARACEAE Juss.

Synantherias sylvatica Schott, Gen. Aroid. t. 28. 1858; Hook. f. Fl. Brit. India 6: 518. 1893; Cooke, Fl. Pres. Bombay 3: 340. 1958 (Repr.); McC. in J. Bombay Nat. Hist. Soc. 42: 796, t. 1. 1941. *Amorphophallus sylvaticus* (Roxb.) Kunth, Enum. Pl. 3: 34. 1841; Blatt. in J. Bombay Nat. Hist. Soc. 35: 28. 1931.

Infrequent near moist and water logged places. Fls. & Frs. Apr.-Sept. Pimpalgaon (Pauni), 654; Wakeshwar, 1140.

Theriophonum dalzellii Schott, Aroid. 15. 1853; Hook. f. Fl. Brit. India 6: 513. 1893; Cooke, Fl. Pres. Bombay 3: 334. 1958 (Repr.); Sivadasan & Nicols. in Kew Bull. 37: 278. 1982. *T. indicum* Engl. Pflanzenz. 4, 23, 73: 107. 1920; McC. in J. Bombay Nat. Hist. Soc. 35: 25. 1931.

Common in moist situation on hill slopes under the shades of trees. Fls. & Frs. Aug.-Nov. Rengepar (Kotha), 638; Sonegaon, 1054; Madgi, 1351.

APONOGETONACEAE J. Agardh

Aponogeton natans (L.) Engl. & Krause in Engl. Pflanzenz. 24: 11. 1906; Subr. Aquat. Ang. 92, t. 5. 1962; van Bruggen in Blumea 18: 477, f. 2. (11), MAP 1. 1970. *Saururus natans* (L.) Mant. 227. 1771. *Aponogeton monostachyon* L. f. Suppl. 214. 1781; Hook. f. Fl. Brit. India 6: 564. 1893; Cooke, Fl. Pres. Bombay 3: 348. 1958 (Repr.).

Occasional in shallow water bodies. Fls. & Frs. July-Dec. Gondsauri, 290; Kumbhli, 1370.

CYPERACEAE Juss.

Cyperus distans L. f. Suppl. 103. 1781; C. B. Clarke in Hook. f. Fl. Brit. India 6: 607. 1893;

Kern in Steenis, Fl. Males. 1, 7: 610. 1974. (Photo Plate: 6.62).

Occasional in marshy places. Fls. & Frs. Aug.-Oct. Belati, 657; Pauni, 1483.

Note: It is very similar in appearance with Cyperus nutans Vahl var. eleusinoides (Kunth) Haines but distinct in slender and delicate peduncles of umbels, spikelets spreading and in right angles with rachis.

Fimbristylis tetragona R. Br. Prodr. 226. 1810; C. B. Clarke in Hook. f. Fl. Brit. India 6: 631. 1893; Cooke, Fl. Pres. Bombay 3: 393. 1958 (Repr.); Kern in Steenis, Fl. Males. 1, 7: 590. 1974; Saldana and Nicolson, Fl. Hassan Dist. 681. 1978 (Repr.).

Occasional in marshy places. Fls. & Frs. Sept.-Mar. Rengepar (Kotha), 176; 1067.

Note: It is exactly similar with F. tetragona R. Br. (Cooke, Fl. Pres. Bombay 3: 393. 1958 (Repr.) but distinct in having 3-fid stigmas. I have examined several flowers but none is found similar with C. B. Clarke's or T. Cooke's 2-fid styles. The only record of this species with 3-fid styles found in Saldana and Nicolson op. cit. hence I treated it as the same species.

Fuirena ciliaris (L.) Roxb. Fl. Ind. 1: 184. 1820; Kern in Steenis, Fl. Males 1, 7: 519. 1974. *Scirpus ciliaris* L. Mant. Alt. 182. 1771. *Fuirena glomerata* Lam. Illustr. 1: 150. 1791; C. B. Clarke in Hook. f. Fl. Brit. India 6: 666. 1893; Cooke, Fl. Pres.

Bombay 3: 412. 1958 (Repr.).

Occasional in marshy places amidst grasses. Fls. & Frs. Sept.-Feb. Rengepar (Kotha), 172; Kinhi (Ekodi), 1708.

Juncellus pygmaeus (Rottb.) C. B. Clarke in Hook. f. Fl. Brit. India 6: 596. 1893. *Cyperus pugmaeus* Rottb. Descr. & Ic. 20, t. 14, f. 5. 1773; Cooke, Fl. Pres. Bombay 3: 372. 1958 (Repr.). *C. michelianus* (L.) Link. ssp. *pygmaeus* (Rottb.) Aschers. & Graebn. Syn. 2(2): 273. 1930; Hooper in Sald. & Nocols. Fl. Hassan Dist. 667. 1976.

Infrequent in moist situations, also in river beds. Fls. & Frs. Mar.-June. Pauni, 423; Palora, 933; Dawdipar, 1677.

Mariscus paniceus (Rottb.) Vahl var. *roxburghianus* C. B. Clarke in Hook. f. Fl. Brit. India 6: 621. 1893; Cooke, Fl. Pres. Bombay

[*Cyperus paniceus* (Mariscus) Vahl var. *roxburghianus* C. B. Clarke] 3: 388. 1958 (Repr.). *Cyperus paniceus* (Rottb.) Boeck. var. *roxburghianus* (C. B. Clarke) Kuekenth. in Engl. Pflanzenz. 4, 20, 101: 526. 1936.

Rare in moist situations under the shades of trees. Fls. & Frs. Aug.-Oct. Khairi, 463; Ravanwadi, 1602.

Note: I have examined several specimens but could not find distinct difference in M. paniceus (Rottb.) Vahl proper and var. roxburghianus in length of rays. The former when collected with ill growth (often may be depends upon climatic conditions of the growing area) then it is found as proper but when it is well grown then definitely there is increase in ray length as well as height of the plant. I retained the later only on the basis of number of bracts.

Schoenoplectus articulatus (L.) Palla in Bot. Engl. Jahrb. Syst. 10: 299. 1888; Hooper in Sald. & Nicols. Fl. Hassan Dist. 697. 1976. *Scirpus articulatus* L. Sp. 47. 1753; C. B. Cl. in Hook. f. Fl. Brit. India 6: 656. 1893; Cooke, Fl. Pres. Bombay 3: 406. 1958 (Repr.). 'NAWALA'; 'GAD'. Common in marshy places, also ditches and in barren fields. Fls. & Frs. Oct.-May. Rengepar (Kotha), 162; Bhugaon (Mendha), 1671.

Schoenoplectus supinus (L.) Palla in Engl. Bot. Jahrb. 10: 299. 1889; J. Raynal in Adansonia 2, 16: 145. 1978. *Scirpus supinus* L. Sp. Pl. 49. 1753; C. B. Clarke in Hook. f. Fl. Brit. India 6: 655. 1893; Cooke, Fl. Pres. Bombay 3: 406. 1958 (Repr.). 'KACHORA'.

Common in marshy places in ditches, fields etc. Fls. & Frs. June-Mar. Rengepar (Kotha), 163; Ashti, 997.

Scleria parvula Steud. Syn. Pl. Glum. 2: 174. 1855; Kern in Blumea 11: 202. 1961 & in Steenis, Fl. Males. 1, 7: 746. 1974. *S. tasellata sensu* C. B. Clarke in Hook. f. Fl. Brit. India 6: 686. 1894 *p.p. non* Willd; Cooke, Fl. Pres. Bombay 3: 418. 1958 (Repr.); Ugemuge, Fl. Nagpur Dist. 392. 1986.

Rare along the marshy places. Fls. & Frs. Aug.-Oct. Rengepar (Kotha), 92.

POACEAE Barnh.

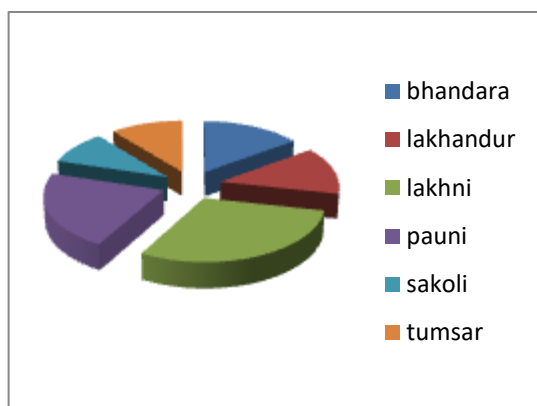
Melanocenthris jacquemontii Jaub. & Spach Illustr. Pl. Orient. 4: 36, t. 325. 1851; Bor, Grass. Ind. 473. 1960; Ugemuge, Fl. Nagpur Dist. 426. 1986. *Gracilea royleana* Hook. f. Fl. Brit. India 7:

284. 1896; Cooke, Fl. Pres. Bombay 3: 553. 1958 (Repr.). 'PHULSI'.

Occasional on gravelly soils, also found as component of wall flora. Fls. & Frs. Aug.-Nov. Pauni (fort), 740; Bhandara, 1247; Shivni, 1403

DISCUSSION & CONCLUSION:

From the above observation, out of 74 plant species most of the species i.e., 22 plant species found in Lakhni tahsil, 16 in Pauni tahsil, 11 & 10 in Bhandara and Lakhandur tahsil respectively and 8 & 7 in Lakhni and Sakoli tahsil found frequent but they are infrequent, rare or all together absent in other parts of the district. (Pie Chart: 1).



Hence, on the basis of observation of natural flora from 2005 to 2011 during floristic investigation of the district, it is concluded that Lakhni & Pauni tahsils are rich in its floristic biodiversity as most of the species which are not found or rarely found in other parts of the district but are naturally and commonly found in these tahsils. Bhandara and Lakhandur tahsils are moderately shows the floristic biodiversity but the Sakoli and Tumsar tahsils are poor in restoring the floristic biodiversity.

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