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ADDITIONS TO THE FLORA OF THE INDIAN DESERT

R. P. PANDEY, A. N. SINGH* AND B. V. SHETTY

Botanical Survey of India, Jodhpur

ABSTRACT

70 taxa belonging to 60 genera under 25 families not reported by Bhandari in his "Flora of the Indian Desert" are enumerated.

INTRODUCTION

The publication of the "Flora of the Indian Desert" by Bhandari (1978) is a welcome addition to our knowledge of an area which has and is continuing to attract a lot of attention. This flora covers three districts *viz.*, Jaisalmer, Barmer and Jodhpur in the Rajasthan part of the Indian desert, commonly known as the Rajasthan desert. In it 592 species and 18 varieties of phanerogams belonging to 319 genera under 82 families are dealt with. In the present paper an additional 70 taxa belonging to 60 genera under 25 families occurring in the above mentioned districts, but not included by Bhandari (*l.c.*) in this Flora are enumerated. The taxa are arranged alphabetically under their respective families which are arranged according to the classification of Bentham and Hooker, with the present day delimitation of certain families. The specimens cited, unless otherwise indicated, are deposited in the herbarium of the Botanical Survey of India, Jodhpur (BSJO).

ENUMERATION

DICOTYLEDONS

BRASSICACEAE

Lepidium sativum L. Sp. Pl. 644. 1753; Hook. f. & T. Anderson in Hook. f. Fl. Brit. India 1: 159. 1872; Duthie, Fl. Gangetic Plain 1: 48. 1903; Sankhla in Univ. Rajputana Stud. (Biol. Sci.) 1: 45. 1951; Jafri in Nasir & Ali, Fl. W. Pak. 55: 55. 1973.

Erect, branched, glabrous herbs, up to 45 cm. Flowers white or pale pink. Pods obovate, notched at the tip, 2-celled, each with one seed.

Commonly cultivated as a cold weather crop for extracting edible oil. It has also been observed as a weed of cultivated grounds and as an escape along road sides and in waste lands on sandy-loam soil.

Specimens examined: Barmer: Thob, *Tiwari* 1151. Jodhpur: Jaswant Sagar dam, Pichiyak, *Singh* 3541.

Fl. & Fr.: Jan.-March.

CARYOPHYLLACEAE

Spergula fallax (Lowe) E. H. L. Krause in Sturm, Fl. Deutschl. ed. 2. 19. 1901. *Spergularia fallax* Lowe in Hook. f. Kew Journ. Bot. 8: 289. 1856. *Spergula pentandra* sensu Edgew. & Hook. f. in Hook. f. Fl. Brit. India 1: 243. 1874, pro parte, non L. 1753; Duthie, Fl. Gangetic Plain 1: 67. 1903.

Erect or decumbent, annual herbs. Leaves whorled, not channelled beneath. Flowers white; styles 3. Capsules 3-valved. Seeds winged.

Common weed in cultivated fields in moist places.

*Present address : Botanical Survey of India, Allahabad.
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Specimens examined: Barmer: Piplum, *Tiwari* 1161. Jodhpur: Bilara, *Singh* 3524.
Fl. & Fr.: Feb.-April.

MALVACEAE

Hibiscus caesius Garcke in Oestr, Bot. Zeit. 850. 1849; Rakshit & Kundu in Bull. Bot. Surv. India 12: 173. 1972. *H. gibsonii* Stocks ex Harv. & Sond. Fl. Capensis 2: 587. 1859; Mast. in Hook. f. Fl. Brit. India 1: 339. 1874; Duthie, Fl. Gangetic Plain 1: 91. 1903.

Erect, branched, hispid undershrubs, up to 1.5 m. Leaves digitately 3-5-foliolate. Flowers yellow with purple centre, on long axillary peduncles. Bracteoles free, linear, subspinous, longer than the calyx.

Common in moist, shaded places in waste lands on sandy-loam soil amidst grasses.

Specimen examined: Jodhpur: Bilara, *Singh* 4435.
Fl. & Fr.: Aug.-Oct.

BOMBACACEAE

Bombax malabaricum DC. Prodr. 1: 479. 1824; Mast. in Hook. f. Fl. Brit. India 1: 349. 1874; Duthie, Fl. Gangetic Plain 1: 98. 1903. *B. ceiba* auct., non L. 1753; Robyns in Taxon 10: 157. 1961. *Salmalia malabarica* (DC.) Schott & Endl. Melet. Bot. 35. 1832.

Large deciduous trees with prickly trunk. Leaves digitately 3-7-foliolate. Flowers dark red; calyx cupular; stamens pentadelphous. Capsules ovoid, velvety. Seeds covered with white silky cotton.

Common on hills and also planted in gardens and along road sides as an avenue tree.

Specimens examined: Barmer: Haldeshwar, *Tiwari* 1167. Jaisalmer: Barabagh, *Shetty* 4111.
Fl.: Feb.-March.

STERCULIACEAE

Waltheria indica L. Sp. Pl. 673. 1753; Mast. in Hook. f. Fl. Brit. India 1: 374. 1874; Duthie, Fl. Gangetic Plain 1: 107. 1903. *W. americana* L. Sp. Pl. 673. 1753.

Erect, stellately pubescent, suffruticose herbs or undershrubs. Flowers yellow, in sessile or shortly peduncled, leaf-opposed, axillary and terminal clusters. Capsules obovoid, enclosed by withering calyx. Seeds polished, black, glabrous.

Common in waste places.

Specimen examined: Barmer: Haldeshwar, *Tiwari* 1177.
Fl. & Fr.: Sept.-Feb.

ZYGOPHYLLACEAE

Tribulus longipetalus Viv. subsp. **macropterus** (Boiss.) Maire ex Ozenda & Quezel in Trav. l' Inst. Recherches Sahariennes 14: 73. 1956; Ghafoor in Nasir & Ali, Fl. W. Pak. 76: 23. f. 5 E-H. 1974. *T macropterus* Boiss. Diagn. Pl. Orient. Ser. 1. 1: 61. 1843 & Fl. Orient. 1: 903. 1867.

Prostrate or decumbent, villous herbs. Flowers yellow, *c.* 10 mm across. Fruits winged; wings 4-8 mm broad, irregularly dentate, pubescent.

Common on sand-dunes.

Specimen examined: Jaisalmer: West of Ramgarh, *Shetty* 3469.
Fl. & Fr.: Aug.-Oct.

FABACEAE

Alysicarpus heterophyllus (Baker) Jafri & Ali in Biologia 12: 33. 1966; Ali in Nasir & Ali, Fl. W. Pak. 100. 343. 1977. *A. vaginalis* (L.) DC. var. *heterophyllus* Baker in Hook. f. Fl. Brit. India 2: 158. 1876.

Erect or diffuse herbs, up to 45 cm. Leaves 1-3-foliolate, intermixed. Flowers yellowish-pink or bluish-pink in distant pairs along a filiform, leaf-opposed rachis. Calyx teeth longer than the first joint of pod. Pods 4-8-jointed, reticulately veined.

Common in fallow fields and waste lands on moist, sandy-loam soil amidst grasses.

Specimens examined: Jaisalmer: Kanoi

along Sam road, *Shetty* 3447, Jodhpur: Tolesar, *Singh* 4350.

Fl. & Fr.: Aug.-Sept.

Trigonella monantha C. A. Mey. subsp. **incisa** (Benth.) Ali in Nasir & Ali, Fl. W. Pak. 100: 294. 1977. *T. incisa* Benth. in Royle, Ill. Bot. Himal. Mount. 197. 1835. *T polycerata* auct., non L. 1753; Baker in Hook. f. Fl. Brit. India 2: 87. 1876; Duthie, Fl. Gangetic Plain 1: 209. 1903.

Slender, diffuse, annual herbs. Flowers yellow, sessile, in pedunculate inflorescence. Pods turgid, falcate, reticulately veined, 10-20-seeded.

Common weed in cultivated fields.

Specimen examined: Barmer: Piplum, *Tiwari* 1186.

Fl. & Fr.: Feb.-March.

CAESALPINIACEAE

Cassia sophera L. Sp. Pl. 379. 1753; Baker in Hook. f. Fl. Brit. India 2: 262. 1878; Duthie, Fl. Gangetic Plain 1: 293. 1903; Ali in Nasir & Ali, Fl. W. Pak. 54: 27. 1973.

Shrubs up to 1 m. Rachis with a single gland at the base; leaflets more than five pairs. Flowers yellow, in axillary, peduncled corymbs. Pods falcate, turgid. Seeds dark brown.

Locally common in waste lands and near habitations.

Specimen examined: Jodhpur: Pichiyak dam site, *Singh* 4439.

Fl. & Fr.: Sept.-Jan.

ASTERACEAE

Grangea maderaspatana (L.) Poir. in Lam. Encycl. Suppl. 2: 825. 1812; Hook. f. Fl. Brit. India 3: 247. 1881; Duthie, Fl. Gangetic Plain 1: 446. 1905. *Artemisia maderaspatana* L. Sp. Pl. 849. 1753.

Prostrate, hairy herbs. Leaves pinnatipartite. Heads yellow. Achenes glandular; pappus cupular.

Common in waste lands and on river beds.

Specimen examined: Barmer: Luni river bed at Gandhav. *Tiwari* 1203.

Fl. & Fr.: Almost throughout the year.

Verbesina encelioides (Cav.) Benth. & Hook. f. ex A. Gray in Bot. Calif. 1: 350. 1880; Raizada, Suppl. Duthie's Fl. Gangetic Plain 135. 1976. *Ximenesia encelioides* Cav. Ic. 2: 60. t. 178. 1793.

Erect, branched, woolly undershrubs, up to 1.5 m. Leaves white-woolly beneath. Heads yellow, solitary, heterogamous. Achenes flat, compressed, winged.

Common in waste lands on sandy-gravelly soil. Native of Tropical America.

Specimen examined: Jodhpur: Teori along Osian road, *Singh* 3261.

Fl. & Fr.: Oct.-Feb.

PLUMBAGINACEAE

Dyerophytum indicum (Gibs. ex Wight) Kuntze, Revis. Gen. Pl. 394. 1891. *Vogelia indica* Gibs. ex Wight, Ic. 3(4): 5. t. 1075. 1846 & in Calc. Journ. Nat. Hist. 7: 17. 1847; C. B. Clarke in Hook. f. Fl. Brit. India 3: 481. 1882; Duthie, Fl. Gangetic Plain 2: 2. 1911.

Shrubs up to 1.2 m. Leaves perfoliate, coriaceous. Flowers reddish-pink, in panicled spikes. Calyx glandless.

Common in hilly regions in rocky habitats.

Specimen examined: Barmer: Haldeshwar, *Tiwari* 1178.

Fl. & Fr,: Feb.-Sept.

BORAGINACEAE

Heliotropium curassavicum L. Sp. Pl. 130. 1753; Kazmi in Journ. Arnold Arb. 51: 178. 1970; Raizada, Suppl. Duthie's Fl. Gangetic Plain 158. 1976.

Prostrate, branched, succulent, glaucous herbs. Leaves fleshy, linear or linear-spathulate. Flowers white with yellow throat, in one-sided spikes.

Common in moist places. Native of West Indies and tropical America.

Specimens examined: Barmer: Gandhav, *Tiwari* 1199. Jodhpur: On the way to Sardar Samand from Bilara, *Singh* 3567.

Fl. & Fr.: March-Dec.

Heliotropium strigosum Willd. Sp. Pl. 1: 743. 1798; C. B. Clarke in Hook. f. Fl. Brit. India 4: 151. 1883; Duthie, Fl. Gangetic Plain 2: 93. 1911; Kazmi in Journ. Arnold Arb. 51: 152. 1970.

Procumbent or prostrate, much branched, strigose herbs. Leaves linear to linear-lanceolate. Spikes ebracteate in upper part. Flowers white. Nutlets 4, depressed at apex, hairy.

Common in waste lands.

Specimens examined: Barmer: Sheo, *Tiwari* 902; along Samdari-Kalyanpur road, *Shetty* 2174. Jaisalmer: Amarsagar, *Tiwari* 840. Jodhpur: Berai, *Ratan Singh* 373; Shergarh, *Singh* 3137.

Fl. & Fr.: Oct.-Dec.

CONVOLVULACEAE

Merremia gangetica (L.) Cufod. in Bull. Jard. Bot. Brux. 31: Suppl. 743. 1961. *Convolvulus gangeticus* L. in Torner, Cent. Pl. II. 9. 1756. *Evolvulus emarginatus* N. L. Burm. Fl. Indica 77. t. 30, f. 1. 1768. *Convolvulus reniformis* Roxb. Fl. Indica ed. Carey & Wall. 2: 67. 1824. *Ipomoea reniformis* (Roxb.) Choisy in Mem. Soc. Phys. Geneve 6: 446. 1833; C. B. Clarke in Hook. f. Fl. Brit. India 4: 206. 1883. *Merremia emarginata* (N. L. Burm.) H. Hallier in Engl. Bot. Jahrb. 16: 552. 1893; Duthie, Fl. Gangetic Plain 2: 109. 1911.

Creeping herbs, rooting at nodes. Leaves petiolate, reniform, broader than long. Flowers yellow, axillary, solitary or in clusters; calyx ciliate. Capsules subglobose, enclosed in the calyx.

Common in moist places.

Specimen examined: Barmer: Gandhav along Sanchor road, *Shetty* 2341.

Fl. & Fr.: Oct.-Feb.

SOLANACEAE

Nicotiana plumbaginifolia Viv. Elench. Pl. Hort. Dinegro 26. t. 5. 1802; C. B. Clarke in Hook. f. Fl. Brit. India 4: 246. 1883; Raizada, Suppl. Duthie's Fl. Gangetic Plain 170. 1976.

Erect, branched, viscidly pubescent herbs, up to 45 cm. Basal leaves rosulate; cauline ones ovate to elliptic-lanceolate, semi-amplexicaul. Flowers pale pink, in lax racemes. Capsules ovoid.

Common in moist, shaded places. Native of Mexico and West Indies.

Specimen examined: Jodhpur: Balsamand, *Singh* 4497.

Fl. & Fr.: March-Oct.

Physalis minima L. var. **indica** C. B. Clarke in Hook. f. Fl. Brit. India 4: 238. 1883; Duthie, Fl. Gangetic Plain 2: 128. 1911.

Erect, branched, glabrescent herbs. Flowers yellow; corolla with no basal spots. Fruiting calyx ovoid with 5 distinct wings.

Common in moist, shaded places on sandy soil.

Specimen examined: Barmer: Kelore along Samdari-Balotra Road, *Shetty* 2200.

Fl. & Fr.: Oct.-March.

OROBANCHACEAE

Orobanche aegyptiaca Pers. Syn. Pl. 2: 181. 1806; Duthie, Fl. Gangetic Plain 2: 164. 1911. *O. indica* Buch.-Ham. in Roxb. Fl. Indica ed. Carey 3: 27. 1832; Hook. f. Fl. Brit. India 4: 326. 1884; Duthie, Fl. Gangetic Plain 2: 164. 1911; Jafry in Nasir & Ali, Fl. W. Pak. 98: 8. f. 2 A-D. 1976.

Erect, branched, brownish, scapigerous, root parasites. Flowers bluish-violet, in spikes, constricted at middle, bracteolate; anthers with crisped hairs.

Common parasite on the roots of cultivated crops belonging to the families Cruciferae, Umbelliferae and Solanaceae.

Specimen examined: Jodhpur: Kharia-Meetapu, *Singh* 3575.

Fl. & Fr.: Feb.-April.

PEDALIACEAE

Sesamum mulayanum Nair in Bull. Bot. Surv. India 5: 251. 1964; Raizada, Suppl. Duthie's Fl. Gangetic Plain 202. 1976.

Erect, glandular-hairy herbs, up to 1.25 m. Stem quadrangular. Leaves heteromorphic. Flowers pink. Capsules oblong, beaked. Seeds rugose or reticulately veined.

Common in waste lands and as a weed in cultivated fields.

Specimens examined: Jaisalmer: Near Jaisalmer, *Shetty* 3457; Mohangarh, *Wadhwa* 5063 (BSA). Jodhpur: Beriganga, *Shetty* 149; Baleshar-Durgavata, *Singh* 3174; Massoria, *Parmar* 4857.

Fl. & Fr.: Aug.-Oct.

ACANTHACEAE

Blepharis repens (Vahl) Roth, Nov. Pl. Sp. 321. 1821. *Acanthus repens* Vahl, Symb. Bot. 2: 76. 1791. *Blepharis molluginifolia* Pers. Syn. Pl. 2: 180. 1806; C. B. Clarke in Hook. f. Fl. Brit. India 4: 479. 1884; Duthie, Fl. Gangetic Plain 2: 183. 1911.

Prostrate, much branched, spreading, hairy herbs. Leaves whorled, subsessile, obtuse. Flowers with white-purple streaks, solitary. Capsules ellipsoid.

Common in waste lands.

Specimen examined: Jodhpur: Bilara, *Singh* 3509.

Fl. & Fr.: Feb.-April.

Justicia adhatoda L. Sp. Pl. 15. 1753; Stern in Journ. Arnold Arb. 52: 640. 1971; Duthie, Fl. Gangetic Plain 2: 207. 1911. *Adhatoda zeylanica* Medic. in Hist. Comm. Acad. Theod. Palat. 6. Phys.: 393. 1790. *A. vasica* Nees in Wall. Pl. Asiat. Rar. 3: 103. 1832; C. B. Clarke in Hook. f. Fl. Brit. India 4: 540. 1885.

Erect, branched shrubs, up to 1.5 m. Leaves elliptic-lanceolate to oblong, acuminate. Flowers white, in bracteate spikes. Capsules oblong, clavate.

Common in waste lands and in rocky places.

Specimen examined: Jodhpur: Bilara, *Singh* 3519.

Fl. & Fr.: Almost throughout the year.

Lepidagathis trinervis Wall. ex Nees in Wall. Pl. Asiat. Rar. 3: 96. 1832; C. B. Clarke in Hook. f. Fl. Brit. India 4: 517. 1885; Duthie, Fl. Gangetic Plain 2: 204. 1911.

Suffruticose herbs with perennial rootstocks. Leaves linear, 3-nerved. Flowers pinkish-white, in more or less distinct axillary spikes. Bracts spine-tipped. Capsules ovoid-lanceolate.

Common in rocky places.

Specimen examined: Jodhpur: Osian, *Singh* 3253.

Fl. & Fr.: Almost throughout the year.

Rostellularia quinqueangularis (Koenig ex Roxb.) Nees in Wall. Pl. Asiat. Rar. 3: 101. 1832. *Justicia quinqueangularis* Koenig ex Roxb. Fl. Indica ed. Carey 1: 133. 1832; C. B. Clarke in Hook. f. Fl. Brit. India 4: 536. 1885; Duthie, Fl. Gangetic Plain 2: 209. 1911.

Erect or ascending, glabrous herbs. Leaves linear or lanceolate, subacute. Flowers pink; calyx not ciliate. Capsules oblong-elliptic, acute.

Common in moist places on sandy soil.

Specimen examined: Jodhpur: Tolesar, *Singh* 4349.

Fl. & Fr.: July-Oct.

Ruellia tuberosa L. Sp. Pl. 635. 1753; Raizada, Suppl. Duthie's Fl. Gangetic Plain 209. 1976.

Erect, branched, annual herbs, up to 45 cm, with tuberous roots. Leaves oblong to obovate. Flowers bluish-violet. Bracts linear. Capsules linear.

Common in moist, shaded places.

Specimen examined: Jodhpur: Balsamand, *Singh* 4494.

Fl. & Fr.: Oct.-Dec.

LAMIACEAE

Lantana indica Roxb. Fl. Indica ed. Carey 3: 89. 1832; Wight, Ic. 4(3): 11. t. 1464. 1849; C. B. Clarke in Hook f. Fl. Brit. India 4: 562. 1885; Duthie, Fl. Gangetic Plain 2: 216. 1911.

Erect, branched shrubs. Flowers white with yellow throat, in unarmed, axillary, pedunculate headlike spikes. Bracts ovate, acute. Drupes globose.

Common in rocky places and in waste lands.

Specimen examined: Barmer: Mavanagar R. F., Balotra, *Shetty* 2265.

Fl. & Fr.: Oct.-Dec.

Lavandula bipinnata (Roth) Kuntze, Revis. Gen. Pl. 521. 1891; Mukherjee in Rec. Bot. Surv. India 14(1): 65. 1940. *Bistero-pogon bipinnatus* Roth, Nov. Pl. Sp. 225. 1821. *Lavendula burmanni* Benth. Labiat. Gen. Spec. 151. 1833 & in DC. Prodr. 12: 147. 1848; Hook. f. Fl. Brit. India 4: 631. 1885; Duthie, Fl. Gangetic Plain 2: 240 1911.

Erect, simple or branched, annual herbs. Leaves pinnately divided into narrow segments. Flowers blue, in spikes.

Common in hilly tracts.

Specimen examined: Barmer: Haldeshwar, *Tiwari* 1166.

Fl. & Fr.: Feb.-Aug.

PLANTAGINACEAE

Plantago exigua Juss. ex Murray in Comm. Soc. Reg. Scient. Gotting 1: 94. t. 5, f. 1-3. 1779; Panigrahi, Kew Bull. 30: 671. 1976; Kazmi in Nasir & Ali, Fl. W. Pak. 62: 18. 1974.

Puberulus, annual herbs, *c.* 30 cm. Leaves opposite or whorls, subulate or narrowly linear to filiform, margins revolute, entire. Flowers white or creamish, in axillary or terminal, solitary, pedunculate, dense spikes. Lowermost bracts with a broader base and subulate apex, longer than the spikes, 1-nerved. Seeds boat-shaped, shining-brown.

Common weed in cultivated fields.

Specimens examined: Barmer: Parlu, *Tiwari* 1158. Judhpur: Bilara, *Singh* 3502.

Fl. & Fr.: Nov.-March.

P. ovata Forssk. Fl. Egypt-Arab. 31. 1775; Hook. f. Fl. Brit. India 4: 707. 1885; Duthie, Fl. Gangetic Plain 2: 262. 1920; Kazmi in Nasir & Ali, Fl. W. Pak. 62: 14. f. 2 C & D. 1974.

Annual, subcaulescent herbs, sparsely or thickly covered with soft hairs. Leaves in rosettes, narrowly linear. Flowers pinkish-white or white, in dense, cylindrical spikes; sepals and petals glabrous. Capsules ellipsoid, obtuse, glabrous, 2-seeded.

Common weed in cultivated fields.

Specimens examined: Barmer: Siwana, *Tiwari* 1184. Jodhpur: Bilara, *Singh* 3505.

Fl. & Fr.: Nov.-March.

AMARANTHACEAE

Achyranthes aspera L. var. **argentea** Hook. f. Fl. Brit. India 4: 730. 1885.

Erect, branched herbs or undershrubs, up to 1.5 m. Leaves silvery silky beneath.

Common in sandy-gravelly habitats and in the crevices of rocks.

Specimens examined: Jodhpur: Birai dam, *Moorthy* 389; Kailana, *Shetty* 94; Massoria Hills, *Parmar* 4858; Luni village, *Tiwari* 637.

Fl. & Fr.: Sept.-Dec.

Alternanthera pungens Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 2: 206. 1817; Townsend in Nasir & Ali, Fl. W. Pak. 71: 39. f. 7 A-D. 1974; Raizada, Suppl. Duthie's Fl. Gangetic Plain 233. 1976. *Achyranthes repens* L. Sp. Pl. 205. 1753. non *Alternanthera repens*.

Prostrate, much branched, hairy herbs. Leaves obovate-suborbicular, unequal at base. Flowers pale green, in axillary heads; tepals dissimilar, spine-tipped; fertile stamens five.

Common in waste ground amidst grasses. Native of tropical America.

Specimen examined: Jodhpur: Phalodi, *Singh* 3222.

Fl. & Fr.: Almost throughout the year.

Gomphrena celosioides Mart. Beitr. Amar. 93. 1825 & in Nov. Act. Phys.-med. Acad. Leop. Nat. Curios. 13: 301. 1826; Sandwith in Kew Bull. 1946: 29. 1946; Townsend in Nasir & Ali, Fl. W. Pak. 71: 44. f. 8 D. 1974; Raizada, Suppl. Duthie's Fl. Gangetic Plain 235. 1976.

Prostrate, much branched, hairy herbs. Leaves sessile, spathulate or oblong-lanceolate, entire. Flowers white, in terminal subglobose or elongated spikes.

Common in waste ground amidst grasses. Native of S. America.

Specimen examined: Jodhpur: Bilara, *Singh* 3277.

Fl. & Fr.: Almost throughout the year.

EUPHORBIACEAE

Chrozophora prostrata Dalzell in Dalzell & Gibs. Bombay Fl. 233. 1861; Duthie, Fl. Gangetic Plain 3: 106. 1915; Balak. in Bull. Bot. Surv. India 15: 6. 1976. *C. plicata* var. 3. Hook. f. Fl. Brit. India 5: 410. 1887.

Prostrate, branched, stellately pubescent herbs. Leaves ovate-oblong to suborbicular, obtuse, usually eglandular at the base. Flowers yellow, in short racemes; stigmas orange-coloured.

Common in dry ditches and ponds.

Specimen examined: Barmer: Pachpadra, *Tiwari* 1136.

Fl. & Fr.: Feb.-May.

C. rottleri (Geis.) A. Juss. ex Spreng. Syst. Veg. 3: 850. 1826; Duthie, Fl. Gangetic Plain 3: 105. 1915. *C. tinctoria* (non A. Juss.) Hook. f. Fl. Brit. India 5: 409. 1887.

Erect, branched herbs, clothed with sessile, stellate hairs. Leaves with 2 glands at the base. Flowers yellow, in long racemes; stigmas red. Capsules reddish-purple.

Common in dry ditches and ponds.

Specimen examined: Barmer: Luni river bed at Gandhav, *Tiwari* 1204.

Fl. & Fr.: March-May.

Euphorbia heterophylla L. Sp. Pl. 453. 1753.

Erect, branched, annual herbs, up to 1 m. Leaves around the inflorescence with bright red base. Flowers greenish-yellow.

Common weeds of waste lands and often cultivated in gardens. Native of Mexico and Antiles.

Specimen examined: Mandore, *Singh* 3799.

Fl. & Fr.: Oct.-March.

Micrococca mercurialis (L.) Benth. in Hook. Niger Fl. 503. 1849; Raizada, Suppl. Duthie's Fl. Gangetic Plain 252. 1976. *Tragia mercurialis* L. Sp. Pl. 980. 1753. *Claoxylon mercurialis* Thw. Enum. 271. 1861; Hook. f. Fl. Brit. India 5: 412. 1887.

Erect herbs, *c.* 0.5 m. Leaves ovate, acute, crenate. Flowers monoecious, in axillary androgynous racemes; racemes equalling or exceeding the leaves; female flowers usually solitary, with several minute males. Capsules deeply 3-lobed.

Common in moist, shaded, gravelly habitats.

Specimen examined: Jodhpur: Bilara, *Singh* 4427.

Fl. & Fr.: Aug.-Oct.

Phyllanthus debilis Klein ex Willd. Sp. Pl. 4: 582. 1804; Hook. f. Fl. Brit. India 5: 299. 1887; Raizada, Suppl. Duthie's Fl. Gangetic Plain 253. 1976.

Erect, glabrous, annual herbs. Stem trigonous. Leaves ovate or ovate-lanceolate, acute. Flowers yellowish, axillary, solitary, pedicellate. Seeds transversely striate between longitudinal ribs.

Rare.

Specimen examined: Jaisalmer: Devikot, *Wadhwa* 5301 A (BSA).

Fl. & Fr.: Oct.-March.

MORACEAE

Ficus arnottiana (Miq.) Miq. Ann. Mus. Lugd.-Bat. 3: 287. 1867; King in Ann. Roy. Bot. Gard. Calcutta 1: 56. t. 68 & 84V. 1887-88; Hook. f. Fl. Brit. India 5: 513. 1888; Duthie, Fl. Gangetic Plain 3: 152. 1915. *Urostigma arnottiana* Miq. in Hook. London Journ. Bot. 6: 564. 1847.

Small trees. Leaves broadly ovate, caudate, cordate at the base, with very long petiole. Syconia clustered on tubercles, subsessile, depressed-globose.

Found on rocky hills, rare.

Specimen examined: Barmer: Haldeshwar, *Tiwari* 1168.

Fl. & Fr.: Feb.-April.

MONOCOTYLEDONS

LILIACEAE

Dipcadi serotinum (L.) Medic. in Act. Acad. Theod. Palat. 6. Phys.: 431. 1790; Hook. f. Fl. Brit. India 6: 346. 1892; Deb & Dasgupta, Fasc. Fl. India 7: 9. 1981. *Hyacinthus serotinus* L. Sp. Pl. 317. 1753.

Bulbous, scapigerous herbs. Leaves linear, acuminate. Flowers in racemes; perianth tubular. Capsules stipitate.

Found in sandy places, rare.

Specimen examined: Jaisalmer: Vinjorai, *Wadhwa* 5317 A (BSA).

Fl. & Fr.: Feb.-Sept.

TYPHACEAE

Typha angustata Bory & Chaub. in Bory Exp. Sci. Morée, Bot. 3(2): 338. 1832; Hook. f. Fl. Brit. India 6: 489. 1893; Duthie, Fl. Gangetic Plain 3: 293. 1929.

Tall, perennial herbs, up to 1.5 m with creeping rhizome. Leaves biseriate, alternate, with sheathing base. Spikes cylindric. Male flowers above separated from female by sterile internode.

Common in marshy places.

Specimens examined: Jodhpur: Bhawad river, *Singh* 4386; Berai dam, *Moorthy* 401.

Fl. & Fr.: Aug.-Dec.

CYPERACEAE

Cyperus alopecuroides Rottb. Descr. Pl. Rar. Prog. 20. 1772; Kern in van Steenis, Fl. Males. I. 7: 603. 1974.

Juncellus alopecuroides (Rottb.) C. B. Clarke in Hook. f. Fl. Brit. India 6: 595. 1893; Duthie, Fl. Gangetic Plain 3: 340. 1929.

Robust perennial sedge, up to 1 m. Spikelets in elongate spikes borne towards the end of rays of simple or compound umbels. Nuts obovate.

Common in marshy places.

Specimen examined: Jodhpur: Bilara, *Singh* 3513.

Fl. & Fr.: Oct.-March.

C. alulatus Kern in Reinwardtia 1: 463. 1952; Majumdar *et al.* in Santapau *et al.* J. Sen. Mem. Vol. 463. 1969; Raizada, Suppl. Duthie's Fl. Gangetic Plain 293. 1976. *C. iria* L. var. *rectangularis* Kukenth in Engl. Pflanzenr. 101: 152. 1935. *C. iria* (non L. 1753) *sensu* C. B. Clarke, Ill. Cypr. t. 14. f. 1. 1909.

Erect, annual sedge, up to 30 cm or more. Inflorescence umbellate. Spikelets greenish-yellow; stamens 2. Nuts obovoid, apiculate.

Common in moist places.

Specimens examined: Jaisalmer: Ramgarh, *Wadhwa* 5150 (BSA); Mohangarh, *Wadhwa* 5160 (BSA)); Vinjorai, *Wadhwa* 5312 A (BSA); 40 km south-west of Jaisalmer, *Shetty* 3403. Jodhpur: Sursagar, *Singh* 4307; Kailana, *Shetty* 98.

Fl. & Fr.: Aug.-Nov.

C. cuspidatus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 1: 204. 1815; C. B. Clarke in Hook. f. Fl. Brit. India 6: 598. 1893; Kern in Van Steenis, Fl.

Males. I. 7: 629. f. 59. 1974. *C. uncinatus* auct., non Poir. 1806; Duthie, Fl. Gangetic Plain 3: 325. 1925.

Glabrous, annual sedge, 5-10 cm. Spikelets reddish-brown, clustered; glumes oblong, obtuse, aristate, hyaline at the margins. Nuts obovoid, dark brown.

Common on sandy river beds in marshy places.

Specimen examined: Jodhpur: Bhawad river, *Singh* 3275.

Fl. & Fr.: Oct.-March.

C. cyperoides (L.) Kuntze, Revis. Gen. Pl. 3(2): 333. 1898; Kern in Van Steenis, Fl. Males. I. 7: 642. 1974; Raizada, Suppl. Duthie's Fl. Gangetic Plain 296. 1976. *Scirpus cyperoides* L. Mant. Pl. Alt., 181. 1771. *Mariscus sieberians* Nees ex C. B. Clarke in Hook. f. Fl. Brit. India 6: 622. 1893.

Tufted, perennial sedge with short rhizome. Spikes cylindrical with many spikelets. Glumes membranous. Nuts trigonous, linear, rufous to castaneous.

Common in marshy habitats.

Specimen examined: Jaisalmer: Vinjorai, *Wadhwa & Verma* 5304 A (BSA).

Fl. & Fr.: Almost throughout the year.

C. laevigatus L. Mant. Pl. Alt. 179. 1771. *Juncellus laevigatus* (L.) C. B. Clarke in Hook. f. Fl. Brit. India 6: 596. 1893; Duthie, Fl. Gangetic Plain 3: 341. 1929.

Erect, perennial sedge, up to 45 cm with horizontal rhizome covered with purple-brown scales. Spikelets in lateral, sessile clusters. Nuts ellipsoid.

Common in marshy places.

Specimens examined: Barmer: Luni river bed at Gandhav, *Tiwari* 1206. Jodhpur: Piauv village, *Shetty* 254; Bhawad river bed, *Ratan Singh* 386; *Singh* 3274.

Fl. & Fr.: Oct.-Dec.

C. pangorei Rottb. Descr. Pl. Rar. Prog. 18. 1772. *C. tegetum* Roxb. Fl. Indica ed. Carey 1. 208. 1832; C. B. Clarke in Hook. f. Fl. Brit. India 6: 613. 1893; Duthie, Fl. Gangetic Plain 3: 334. 1929.

Erect, glabrous, rhizomatous, perennial sedge, up to 0.5 m. Leaves often longer than the stem, scabrid. Spikelets spicately arranged in compound umbels; anthers apiculate. Nuts oblong-obovoid.

Common in marshy places.

Specimens examined: Jaisalmer: Runn near Ramgarh, *Shetty* 3433; near Bhuwana along Lunar road, *Shetty* 3316; tank near Pokaran, *Shetty* 3320; Salam Sagar, Pokaran, *Tiwari* 697.

Fl. & Fr.: Aug.-Nov.

Eleocharis geniculata (L.) Roem. & Schult. Syst. Veg. 2: 150. 1817; Kern in Van Steenis, Fl. Males. I. 7: 536. 1974. *Scirpus geniculatus* L. Sp. Pl. 48. 1753. *Eleocharis capitata* R. Br. Prodr. 225. 1810; C. B. Clarke in Hook. f. Fl. Brit. India 6: 627. 1893.

Small, tufted sedge, 15-20 cm or more. Spikelets solitary, terminal, globose to oblong-ovoid. Nuts biconvex, obovate, black; bristles brown, as long as the nut.

Common in marshy places.

Specimen examined: Jodhpur: Banganga river bed, Bilara, *Singh* 3523. 4429.

Fl.: Aug., Feb.

Fimbristylis spathacea Roth, Nov. Pl. Sp. 24. 1821; C. B. Clarke in Hook. f. Fl. Brit. India 6: 640. 1893; Duthie, Fl. Gangetic Plain 3: 352. 1929.

Erect, tufted, rhizomatous sedge, up to 30 cm. Leaves many, near the base. Spikelets ovoid, in simple or compound umbels. Nuts biconvex, broadly obovate.

Common in marshy places.

Specimen examined: Jodhpur: Near Pichiyak, *Singh* 4450.

Fl.: Aug.

Scirpus affinis Roth in Roem. & Schult. Syst. Veg. 2: 140. 1817; Kern in Reinwardtia 6: 33. 1961. *S. maritimus* L. var. *affinis* (Roth) C. B. Clarke in Hook.

f. Fl. Brit. India 6: 659. 1893; Duthie, Fl. Gangetic Plain 3: 366. 1929.

Erect, rhizomatous, perennial sedge. Leaves grass-like, spongy. Spikelets in sessile, dense, terminal clusters of 2-5, subtended by unequal bracts; glumes ovate-oblong, awned.

Common in marshy places.

Specimen examined: Barmer: Sheo behind Mansar tank, *R. S. Rao* 67037 (BSI).

Fl.: Feb., May.

POACEAE

Andropogon pumilus Roxb. Fl. Indica ed. Carey 1: 273. 1832; Hook. f. Fl. Brit. India 7: 170. 1896; Bor, Grasses Burm. Ceyl. Ind. Pak. 93. 1960; Raizada *et al.* in Ind. For. Rec. (n.s.) Bot. 4: 238. 1961.

Geniculately ascending, annual grass. Racemes in pairs, spathate. Sessile spikelet awned; pedicelled ones awnless.

Rare.

Specimen examined: Jaisalmer: *Raizada* 27/55 (DD).

Fl.: Sept.

Aristida setacea Retz. Obs. Bot. 4: 22. 1786; Hook. f. Fl. Brit. India 7: 225. 1896; Blatt. & Mc Cann, Bombay Grasses 211. t. 139. 1935; Bor, Grasses Burm. Ceyl. Ind. Pak. 412. 1960. *Chaetaria setacea* (Retz.) P. Beauv. Essai Agrost. 30. 158. 1812.

Tufted grass. Inflorescence a contracted panicle. Glumes long-awned.

Found in sandy habitats.

Specimen examined: Jaisalmer: Kurikotari, *Wadhwa* 5271 A (BSA).

Fl. & Fr.: Almost throughout the year.

Arthraxon lanceolatus (Roxb.) Hochst. Flora 39: 188. 1856; Hook. f. Fl. Brit India 7: 143. 1896 pro parte; Welzen in Blumea 27: 281. f. 8. 1981. *A. prionodes* (Steud.) Dandy in Andrews, Fl. Pl. Sudan 3: 399. 1956; Bor, Grasses Burm. Ceyl. Ind. Pak. 101. 1960. *Andropogon prionodes* Steud. Syn. Pl. Glum. 1: 383. 1854.

Geniculately ascending, rhizomatous, perennial grass; rhizome fulvous-hairy. Leaf base cordate-amplexicaule. Racemes terminal, fascicled. Lower glume pectinate.

Common on hills.

Specimens examined: Barmer: On the way to Haldeshwar, *Tiwari* 1171; Siwana Hills, *Shetty* 2235.

Fl. & Fr.: Nov.-Feb.

Brachiaria kurzii (Hook. f.) A. Camus in Lecomte, Fl. Indo-Chine 7: 438. 1922; Bor, Grasses Burm. Ceyl. Ind. Pak. 283. 1960; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 5: 165. 1965. *Panicum kurzii* Hook. f. Fl. Brit. India 7: 38. 1896.

Decumbent, annual grass; sheath with villous margins. Ligule bearded. Panicle loose with distant spikelets. Nerves of upper glume prominent.

Common in moist places.

Specimen examined: Jaisalmer: Amarsagar, *Wadhwa* 5193 (BSA).

Fl.: Oct.

Chrysopogon fulvus (Spreng.) Chiov. Fl. Somala 1: 327. 1929; Bor, Grasses Burm. Ceyl. Ind. Pak. 116. 1960. *Pollinia fulva* Spreng. Pugill. 2: 10. 1815. *Chrysopogon montanus* Trin. ex Spreng. Neue Entdeck. 2: 93. 1821; Raizada *et al.* in Ind. For. Rec. (n. s.) Bot. 4: 219. t. 7, f. 3. 1961. *Andropogon monticola* Schult. Mant. 3: 665. 1827; Hook. f. Fl. Brit. India 7: 192. 1896.

Erect, tufted, perennial grass. Inflorescence a panicle. Lower glume of sessile spikelet with golden brown rigid hairs in the lower 2/3.

Common in rocky/gravelly habitats.

Specimen examined: Barmer: Nimla village, *Agrawal* 629 (DD).

Fl. & Fr.: Aug.-Nov.

Cymbopogon parkeri Stapf in Kew Bull. 1929: 10. 1929; Bor, Grasses Burm. Ceyl. Ind. Pak. 131. 1960; Raizada *et al.* in Ind. For. Rec. (n.s.) Bot. 4: 241. t. 11, f. 3. 1961.

Erect, caespitose, perennial grass, woolly on the basal sheath. Ligule truncate. Inflorescence a spathate panicle of paired racemes; joints and pedicels villous all over, concealing the sessile spikelets; pedicel of the lowest pedicelled spikelets in the subsessile raceme swollen.

Common in sandy habitats.

Specimens examined: Barmer: Sheo, *Tiwari* 920. Jaisalmer: Range management area, Chandan, *Tiwari* 792; Loharki, *Shetty* 3332; Sam, *Shetty* 3342; Devikot, *Shetty* 3381. Jodhpur: Kailana, *Ratan Singh* 17.

Fl. & Fr : July-Nov.

Digitaria bicornis (Lam.) Roem. & Schult. ex Loud. Hort. Brit. 24. n. 1578. 1830; Bor, Grasses Burm. Ceyl. Ind. Pak. 299. 1960; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 5: 185. t. 5, f. 7. 1965. *Paspalum bicorne* Lam. Tabl. Encycl. 1: 176. 1791. *P. heteranthum* Hook. f. Fl. Brit. India 7: 16. 1896, non Nees & Meyen 1843, nec Link 1820.

Erect, tufted, annual grass, up to 20 cm. Racemes 2-6, often divaricate. Spikelets of each pair heteromorphic, the sessile ones glabrous, pedicellate ones hairy; lower lemma of the sessile spikelets with prominent nerves, hairy.

Rare.

Specimen examined: Jaisalmer: Amarsagar, *Wadhwa* 5189 (BSA).

Fl. & Fr.: July-Nov.

D. biformis Willd. Enum. Pl. Hort. Berol. 92. 1809; Bor, Grasses Burm. Ceyl. Ind. & Pak. 299. 1960; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 5: 186. 1965; Majumdar *et al.* in Santapau *et al.* J. Sen. Mem. Vol. 463. 1969.

Tufted, annual grass, rooting at the nodes; nodes hairy. Racemes digitately arranged. Spikelets of each pair heteromorphous; lower lemma of the subsessile spikelets with prominent nerves, hairy.

Fairly common in sandy habitats.

Specimen examined: Jodhpur: Shergarh-Phalsund road, *Wadhwa* 4729 (BSA).

Fl. & Fr.: July-Nov.

Echinochloa crusgalli (L.) P. Beauv. Essai Agrost. 53: 161. 1812; Bor, Grasses Burm. Ceyl. Ind. Pak. 310. 1960; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 5: 171. t. 3, f. 2. 1965. *Panicum crusgalli* L. Sp. Pl. 56. 1753; Hook. f. Fl. Brit. India 7: 30. 1896, pro parte.

Erect, robust, annual grass. Inflorescence a lobed panicle. Spikelets erect, 3-5-seriate; lower lemma long to moderately long-awned.

Common in moist places near ponds and ditches.

Specimen examined: Jaisalmer: Amarsagar, *Tiwari* 857.

Fl. & Fr.: Almost throughout the year.

Eragrostis tenella (L.) P. Beauv. ex Roem. & Schult. var. **insularis** Hubb. in Kew Bull. 1939: 654. 1939; Bor, Grasses Burm. Ceyl. Ind. Pak. 514. 1960.

Small, annual grass; branches erect. Panicle very contracted. Lemma not ciliate on the keels.

Common in moist places.

Specimen examined: Barmer: Kapurdi village on the way to Sheo, *Shetty* 2353.

Fl. & Fr.: Oct.-March.

Eriochloa nubica (Steud.) Hack. & Stapf ex Thell. Viert. Naturf. Ges. Zürich 64: 697. 1919; Bor. Grasses Burm. Ceyl. Ind. Pak. 312. 1960. *Helopus nubicus* Steud. Syn. Pl. Glum. 1: 100. 1854.

Tufted, geniculately ascending, annual grass. Inflorescence a panicle. Spikelets 4.0-4.5 mm long, awned; pedicel and axis hairy; lower glumes absent, upper ones with cusps.

Common in moist, sandy habitats.

Specimen examined: Jodhpur: Khara nala along Jodhpur-Bilara road, *Singh* 4459.

Fl.: Sept.

Iseilema prostratum (L.) Anders. in Nov. Act. Soc. Ups. Ser. 3. 2: 251. 1856; Bor, Grasses Burm. Ceyl. Ind. Pak. 188. 1960; Raizada *et al.* in Ind. For. Rec. (n. s.) Bot. 4: 257. 1961. *Andropogon prostratus* L. Mant. Alt. 304. 1771. *Iseilema wightii* Anderss. *l. c.*; Hook. f. Fl. Brit. India 7: 218. 1896.

Culms prostrate and rooting at the nodes. Inflorescence a spathate, decompound panicle; spathe and upper floral leaf tubercled on the keel.

Common in moist places in waste lands and cultivated fields.

Specimen examined: Jodhpur: Tolesar, *Singh* 4355.

Fl. & Fr.: Aug.-Oct.

Panicum psilopodium Trin. Gram. Panic. 217. 1826; Hook. f. Fl. Brit. India 7: 46. 1896; Bor, Grasses Burm. Ceyl. Ind. Pak. 329. 1960. *P. flexuosum* Retz. Obs. Bot. 3: 9. 1783.

Erect grass. Panicle effuse, branches capillary, spreading. Spikelets deciduous.

Common near fields.

Specimen examined: Jaisalmer: Pokaran, *Wadhwa* 4946 (BSA).

Fl. & Fr.: July-Dec.

P. repens L. Sp. Pl. ed. 2. 87. 1762; Hook. f. Fl. Brit. India 7: 49. 1896; Bor, Grasses Burm. Ceyl. Ind. Pak. 330. 1960.

Creeping, rhizomatous, perennial grass. Panicle contracted. Spikelets ovate-lanceolate to lanceolate-oblong; lower glume orbicular in outline, cup-shaped.

Common in moist, sandy habitats.

Specimen examined: Jaisalmer: Ramgarh, *Wadhwa* 5169 A (BSA).

Fl.: July.

Perotis indica (L.) Kuntze, Revis. Gen. Pl. 2: 787. 1891; Bor, Grasses Burm. Ceyl. Ind. Pak. 611. 1960. *Anthoxanthum indicum* L. Sp. Pl. 28. 1753.

Perennial grass. Leaves amplexicaul. Racemes slender, purplish; callus definite. Glumes with loosely scattered hairs on the dorsal surface.

Found in sandy habitats.

Specimen examined: Jaisalmer; Phalsund, *Wadhwa* 4767 (BSA).

Fl. & Fr.: July-Oct.

Phragmites karka (Retz.) Trin. ex Steud. Nom. Bot. ed. 2. 2: 324. 1841; Hook. f. Fl. Brit. India 7: 304. 1896; Bor, Grasses Burm. Ceyl. Ind. Pak. 416. 1960. *Arundo karka* Retz. Obs. Bot. 4: 21. 1786.

Tall, robust, rhizomatous grass, up to 2.5 m. Inflorescence a compound panicle. Pedicels hairy; glumes unequal.

Common in marshy places.

Specimens examined: Jodhpur: Birai dam, *Moorthy* 409; Banganga river bed along Bilara-Jodhpur road, *Singh* 3345.

Fl. & Fr.: Almost throughout the year.

Saccharum bengalense Retz. Obs. Bot. 5: 16. 1789; Bor, Grasses Burm. Ceyl. Ind. Pak. 211. 1960. *S. munja* Roxb. Fl. Indica ed. Carey 1: 246. 1832. *S. arundinaceum* auct., non Retz. 1789; Hook. f. Fl. Brit. India 7: 119. 1896, pro parte. *Erianthus munja* (Roxb.) Jeswiet in Arch. Suikerind. Ned.-Ind. 399. 1925; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 4: 186. 1961.

Tall, robust, perennial grass, up to 2.5 m. Panicles lang plumose. Spikelets in pairs, one sesile and the other stalked; lower glume of sessile spikelets villous; upper glume glabrous.

Common in moist places.

Specimens examined: Jaisalmer: Chandan nursery, *Tewari* 798, Jodhpur: Osian, *Singh* 3257.

Fl. & Fr.: Almost throughout the year.

Setaria intermedia Roem. & Schult. Syst. Veg. 2: 489. 1817; Hook. f. Fl. Brit. India 7: 79. 1896. *Panicum intermedium* (Roem. & Schult.) Roth, Nov. Pl. Sv. 47. 1821, non Vahl ex Hornem 1813. *Panicum tomentosa* Roxb. Fl. Indica ed. Carey & Wall. 1: 303. 1820. *Setaria*

tomentosa (Roxb.) Khnth, Révis Gramin. 1: 47. 1829; Bor, Grasses Burm. Ceyl. Ind. Pak. 365. 1960; Raizada & Jain in Ind. For. Rec. (n. s.) Bot. 5: 205. t. 8, f. 4. 1965.

Erect, tufted, annual grass, up to 60 cm. Inflorescence a narrow panicle, often lobed below and tapering above. Bristles antrorsely barbed; upper lemma transversely rugose.

Common in moist, shaded places.

Specimen examined: Jodhpur: Mandore, *Tiwari* 603.

Fl. & Fr.: Aug.-Nov.

Sorghum verticilliflorum (Steud.) Stapf in Prain, Fl. Trop. Africa 9: 116. 1917; Bor, Grasses Burm. Ceyl. Ind. Pak. 223. 1960. *Andropogon verticilliflorus* Steud. Syn. Pl. Glum. 1: 393. 1854.

Erect, tufted grass. Inflorescence a panicle. Sessile spikelets elliptic-lanceolate, acuminate.

Common weed in cultivated fields.

Specimen examined: Jodhpur: On the way to Kharda Randhir village, *Shetty* 197.

Fl. & Fr.: Aug.-Oct.

Sporobolus tenuissimus (Schrank) Kuntze, Revis. Gen. Pl. 3: 369. 1893; Bor, Grasses Burm. Ceyl. Ind. Pak. 633. 1960. *Panicum tenuissimum* Schrank in Denkschr. Bot. Ges. Ragensb. 2: 26. 1822. *Vilfa minutiflora* Trin. Diss. Bot. 158. 1824. *Sporobolus minutiflorus* (Trin.) Link, Hort. Berol. 1: 88. 1827; Hook. f. Fl. Brit. India 7: 248. 1896.

Erect grass, up to 40 cm. Panicles long. Spikelets scattered; lower and upper glumes shorter than the lemmas. Grains compressed, wedge-shaved.

Common in sandy habitats.

Specimen examined: Jodhpur. Along Jodhpur-Bar road. *Wadhwa* 4919 (BSA).

Fl. & Fr.: July-Aug.

Stipagrostis plumosa (L.) Munro ex T. Anderson in Journ. Linn. Soc. Bot. 5. Suppl. 1: 40. 1860; Bor in Townsend *et al.* Fl. Iraq 389. t. 148. 1968. *Aristida plumosa* L. Sp. Pl. ed. 2. 2: 1666. 1762; Bor, Grasses Burm. Ceyl. Ind. Pak. 411. 1960.

Densely tufted, perennial grass, 20-40 cm; lower nodes and internodes covered with wool. Lower sheaths covered with thick fugacious wool. Leaf blades convolute, filiform, flexuous, curved. Inflorescence a panicle; lateral awns naked, the central plumose-ciliate in the upper part.

Common on sand-dunes and in interdunal areas.

Specimen examined: Jaisalmer: Near Shergarh, *Shetty* 3465.

Fl.: Sept.

Urochondra setulosa (Trin.) Hubb. in Hook. Icon. Pl. t. 3457. 1950; Bor, Grasses Burm. Ceyl. Ind. Pak. 634. t. 77. 1960. *Vilfa setulosa* Trin. in Mém. Acad. Sci. Pétersb. ser. 6. 6: 55. 1840.

Tufted, pubescent, rhizomatous grass. Leaves convolute, acute. Inflorescence a dense, spiciform, cylindrical panicle, pale yellow.

Common in moist, saline habitats.

Specimen examined: Barmer: Sajyali salt bed. *Tiwari* 987.

Fl.: Nov.

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