



## SYSTEMATIC SURVEY OF SOME ANGIOSPERMS OF FAMILY ASTERACEAE FROM KOTA DISTRICT OF RAJASTHAN, INDIA-II

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### ABSTRACT

The present systematic survey deals with vegetation of habitats of Kota district of Rajasthan state. Exploration tour was conducted to determine plants of family Asteraceae from various habitats that resulted into occurrences of 08 plant species. Taxonomic position of these plant species is described in various available Floras of different regions of the Rajasthan state.

**KEY WORDS:** Asteraceae, Angiosperms, Kota.

### INTRODUCTION

Previous studies on systematic enumeration of South East Rajasthan especially of Kota district have been contributed by Majumdar (1971, 1976 and 1980) in form of Synoptic flora of Kota division. Sharma and Tiagi (1979), Sharma (2002a, 2002b), Sharma and Siringi (1986) have also made significant contributions. Flora of Rajasthan by N.K. Sharma (Floristic studies on Hadoti region. 2002) provides a vast account of angiosperms. This communication describes systematic survey of some plants of family Asteraceae from the study area.

#### Study Area

Kota district is situated in South of Rajasthan at latitude 30° 39.125' N and longitude 78° 31.156' E. and is located along the eastern bank of the Chambal river, covering an area of approximately 521324 hectare (12,436 km<sup>2</sup>) and that is 3.63 per cent of the Rajasthan State. Out of which, area of forests is 125379 hectare, non-agriculture land is 60021 hectare and cultivable barren land is 23011 hectare. The Chambal River is natural boundary of Kota district that separates Kota from neighboring Sawai Madhopur, Tonk and Bundi districts by forming the natural district boundary.

#### Climate

Precipitation from June and September is nearly 80% of the mean annual rainfall (1516 mm) and remaining 20% falls in winter season. Overall climate is moderate. Frost is common during winter season. Mean of minimum monthly temperature ranges from 4.7°C (Jan) to 24.2°C (Jul) and mean of maximum monthly temperature ranged from 21.2°C (Jan) to 33.10°C (Jul) in the year 2011.

### METHODOLOGY

The studied plants of family Asteraceae from study area is based on the results obtained from both extensive and intensive studies of the vegetation. 'Quadrat Method' was used for collection of these herbaceous plants. Identification of plant species during field survey was done by compiling different floras available i.e. Flora of

Rajasthan by N.K. Sharma that deals with Hadoti region (District Kota, Baran and Jhalawar), Flora of Delhi by J.K. Maheshwari, and Flora of Indian Desert by M.M. Bhandari and authenticated at Herbarium, Department of Botany, University of Rajasthan, Jaipur. The photographs of all the eight plant species were taken during field trip.

### RESULTS AND DISCUSSION

Systematic survey of studied plant species is described under (FIG: 1 A-H)-

**1. *Launaea procumbens* (Roxb.) Ramayya & Rajgopal**  
*Launaea procumbens* (Roxb.) Ramayya & Rajgopal in Kew Bull. 23:465.1969; Bhandari, Fl. Indian Desert 182. 1978; cop; Shetty & Singh Fl. Rajasthan 1: 423. 1987; Mangain & Rao, in Hazra et al. Fl. India 12:303. 1995; *Chondrilla nudicaulis* Linn. Mant. 273.1767; *Prenanthes procumbens* Roxb., Fl. India 3: 404. 1832; *Launaea nudicaulis* (Linn.) Hook. f., Fl. Brit. India 3: 404.1881; non Less. 1832; Duthie, Fl. Gangetic Plain 1: 494. 1905; Maheshwari, Fl. Delhi. 189, 1963. Maheshwari, Ill. Fl. Delhi. F.99, 1966. Shetty & Singh Fl. Rajasthan 1: 423. 1987. Sharma, Fl. Raj (Hadoti). 108, 2002. Yadav and Meena, Fl. SC Raj. 200, 2011.

Erect, biennial, several flowering stems arise from base, leafy Herb stem 60-80 cm, branched, Leaves sessile, whorled, pinnatifid, minutely toothed, acute apex, dentate margin, Inflorescence-head, Flowers bright yellow, ligulate ray florets and tubular disc florets both present, fruits acenes.

Vernacular Name- Jangi Gobi, Gobi  
Specimen Examined- SUBHASH/TH/121(GCK)

### 2. *Blumea mollis* (D. Don) Merr. Phillip

*Blumea mollis* (D. Don) Merr. Phillip J. Sci (Bot.) 5: 395.1910; Hook. f., Fl. Brit. India 3: 261. 1881; Duthie, Fl. Gangetic Plain 1: 453. 1905; Maheshwari, Fl. Delhi. 195, 1963. Sharma and Tiagi Fl. NE Raj. 199, 1979. Shetty & Singh Fl. Rajasthan 1: 398. 1987. Kumar, in Hazra et al. Fl. India 13:135-137. F. 41. 1995; *Erigeron mollis* D. Don.

Prodr. Fl. Nepal.192.1825; *Blumea wightiana* DC. In Wight, Contrib. Bot. Ind. 14.1834; *B. neilgherrensis* Hook.f.l.c.3:261.1881. (Plate 156); DC. In Wight, Contrib. Bot. Ind. 14.1834 Prashad, Mason, Marburger and Kumar, Ill. Fl. Keoladev NP Bharatpur, 171, 1996. Sharma, Fl. Raj (Hadoti). 104, 2002. Yadav and Meena, Fl. SC Raj. 195, 2011. Erect, annual wooly herb, stem 11-55 cm long, branched at base, Leaves alternate, narrow at base, ovate, covered with soft hairs, dentate margin, obtuse apex, dense spike of heads, unrobed angled achenes.

Vernacular Name - Kakronda, Mridu Chhada (Sanskrit)  
Specimen Examined - SUBHASH/TH/122(GCK)

**3. *Cotula hemisphaerica* (Roxb.)Wall. Ex Benth & Hook. *Cotula hemisphaerica* (Roxb.)Wall. Ex Benth & Hook.** Fl. Ind. 3: 447. 1832; Hook. f., Fl. Brit. India 3: 358.1881; Duthie, Fl. Gangetic Plain 1: 480. 1905; Maheshwari, Fl. Delhi. 196, 1963; Bhandari, Fl. Indian Desert 214. 1978; Sharma and Tiagi Fl. NE Raj. 224, 1979; Shetty & Singh Fl. Rajasthan 1: 408. 1987; Hajra in Hajra *et al.* Fl. India 13: 178. 1995. Prashad, Mason, Marburger and Kumar, Ill. Fl. Keoladev NP Bharatpur, 176, 1996. Sharma, Fl. Raj (Hadoti). 104, 2002. Yadav and Meena, Fl. SC Raj. 197, 2011.

Prostrate, annual, many branched diffused herb, stem glabrous, branched, spinulated, Leaves alternate, pinnatifid into thin linear segments, heads bisexual, pale yellow, solitary, angled achenes.

Specimen Examined: - SUBHASH/TH/123(GCK)

**4. *Tridax procumbens* Linn.**

*Tridax procumbens* Linn. Sp. Pl. 900.1753; Hook. f., Fl. Brit. India 3: 311.1881; Duthie, Fl. Gangetic Plain 1: 475.1905; Maheshwari, Fl. Delhi. 199, 1963; Bhandari, Fl. Indian Desert 190. 1978 Sharma and Tiagi Fl. NE Raj. 220, 1979. Shetty & Singh Fl. Rajasthan 1: 439. 1987. Prashad, Mason, Marburger and Kumar, Ill. Fl. Keoladev NP Bharatpur, 192, 1996. Sharma, Fl. Raj (Hadoti). 111, 2002. Yadav and Meena, Fl. SC Raj. 204, 2011.

Prostrate, annual, diffused herb, stem erect/ prostrate 40-60 cm long, nodes show rooting, branched, Leaves simple opposite, sub sessile, ovate/ elliptical, hairy surface, acute apex, petiole and young branches densely hairy, Solitary apical heads, 5/6 toothed ligulate ray floret, Many tubular disc florets, silky black cypsela.

Vernacular Name- Ghamraj (Hindi), Jayanti veda (Sanskrit)

Specimen Examined - SUBHASH/TH/124(GCK)

Local uses- Leaves are used for stone queries, leaf juice used for first aid dressing on wounds.

**5. *Gnaphalium luteo-album* Linn.**

*Gnaphalium luteo-album* Linn. Sp. Pl. 185. 1753; Hook. f., Fl. Brit. India 3: 288.1881; Duthie, Fl. Gangetic Plain 1: 461. 1905; Maheshwari, Fl. Delhi. 194, 1963. Bhandari, Fl. Indian Desert 180. 1978; Sharma and Tiagi Fl. NE Raj. 208, 1979. Shetty & Singh Fl. Rajasthan 1: 415. 1987. Pant in Hajra *et al.* Fl. India 13: 87. 1995. *Gnaphalium luteo-album* Linn. var. *pollidium* Hook. f., l.e. 3:

288.1881; *G. luteo-album* Linn. subsp. *pollidium* (Lam.) Mahesh. Bombay Nat. Hist. Soc. 57. (2). 377. 1960; Prashad, Mason, Marburger and Kumar, Ill. Fl. Keoladev NP Bharatpur, 178, 1996. Sharma, Fl. Raj (Hadoti). 106, 2002. Yadav and Meena, Fl. SC Raj. 199, 2011

Erect/Semi prostrate, annual, white wooly herb. stem 15-30 cm long, branched, Leaves alternate, sessile, oblong linear, wooly surface, 4mm long, corymb heads white pale, heterogenous, axillary, sessile, florets light yellow, fruits flat cypsela.

Specimen Examined: - SUBHASH/TH/125(GCK)

**6. *Parthenium hysterophorus* Linn.**

*Parthenium hysterophorus* Linn. Sp. Pl. 988. 1753; Rao, in J. Bombay Nat. Hist. Soc. 54: 218. 1956; Raizada, Suppl. Duthie, Fl. Gangetic Plain 127. 1976; Maheshwari, Fl. Delhi. 196, 1963. Bhandari, Fl. Indian Desert 189. 1978; Shetty & Singh Fl. Rajasthan 1: 425. 1987. Choudhary in Hajra *et al.* Fl. India 12: 403. f. 113. 1995; Sharma, Fl. Raj (Hadoti). 108, 2002. Yadav and Meena, Fl. SC Raj. 201, 2011.

Erect, annual, herb, stem 40-150 cm long, much branched, Leaves alternate, lanceolate, corymb heads, terminal and axillary, pale white, heterogenous, ray florets 5, many tubular disc florets, flat achenes,

Vernacular Name- Wild carrot weed (English), Gajar Ghaas and Jhilmil (Hindi)

Specimen Examined- SUBHASH/TH/125(GCK)

**7. *Vernonia cinerascens* Sch.-Bip.**

*Vernonia cinerascens* Sch.-Bip. In Sch.-Bip. In Schweinf. Beitr. Aethiop. 162. 1867; Fl. Ind. 3.610. 1832; Uniyal in Hajra *et al.* Fl. India 13: 364. f. 115. 1995; Hook. f., Fl. Brit. India 3: 237.1881; Duthie, Fl. Gangetic Plain 1: 441. 1905; Maheshwari, Fl. Delhi. 196, 1963. Bhandari, Fl. Indian Desert 190. 1978; Sharma and Tiagi Fl. NE Raj. 224, 1979. Shetty & Singh Fl. Rajasthan 1: 443. 1987. Prashad, Mason, Marburger and Kumar, Ill. Fl. Keoladev NP Bharatpur, 193, 1996. Sharma, Fl. Raj (Hadoti). 111, 2002. Yadav and Meena, Fl. SC Raj. 204, 2011.

Erect, annual, herb, stem 20-80 cm long, branched, Leaves alternate, petiolate, sphenulate, 3-5 lobed, acute apex, narrow, corymbose head, purple coloured, homogenous, 3-5 bracts in involucre, fruits achenes.

Vernacular Name- Sandri, Vishvadeva (Sanskrit)

Specimen Examined - SUBHASH/TH/127(GCK)

**8. *Pulicaria angustifolia* DC.**

*Pulicaria angustifolia* DC. Prodr. 5: 479.1836; Hook. f., Fl. Brit. India 3: 299.1881; Duthie, Fl. Gangetic Plain 1: 465. 1905; Bhandari, Fl. Indian Desert 187. 1978; Sharma and Tiagi Fl. NE Raj. 215, 1979. Shetty & Singh Fl. Rajasthan 1: 429. 1987. Sharma, Fl. Raj (Hadoti). 109, 2002. Yadav and Meena, Fl. SC Raj. 201, 2011.

Erect, annual, herb, woolly, stem 50-60 cm high, branched at base, Leaves sessile, linear, abovate, acute base, solitary terminal heads, yellow, heterogenous, ligulate ray florets, 6-8 mm, hairy achenes,

Specimen Examined: - SUBHASH/TH/127(GCK)

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