



CLEOME RUTIDOSPERMA DC (CLEOMACEAE) AN ALIEN WEED IN CHANDRAPUR DISTRICT, VIDHARBH REGION (MS) INDIA

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Abstract:

Present paper reports an occurrence of alien plant species *Cleome rutidosperma* DC. of Cleomaceae family in Chandrapur District of Vidharbha region, Maharashtra State, India. It is a new distributional plant record to Chandrapur District. Description of this plant with its invasive effects discussed here with.

Keywords: Alien, *Cleome rutidosperma* DC, Cleomaceae, Chandrapur District, new record

Introduction

Cleome is the largest genus from family Cleomaceae comprising 180 to 200 species of herbaceous annual or perennial plants and shrubs widely distributed in tropical and subtropical regions. The major diversity of *Cleome* is restricted to tropical regions, where approximately 150 species have been recorded (Raghavan, 1993). In India, the genus is represented by fifteen species (Londhe, 2000), 12 are reported in Maharashtra (Almeida, 1996), while two species namely *Cleome gynandra* L. and *Cleome viscosa* L. reported in Chandrapur (Malhotra and Moorthy, 1992).

Cleome rutidosperma is a perennial herb that originated in Tropical Africa (Soerjani *et al.* 1987). Mukherjee (1969) reported *Cleome rutidosperma* DC. in India. Reddy *et al.* (2000) reported new naturalized *Cleome rutidosperma* DC. in Andhra Pradesh, Rathor *et al.* (2007) reported in Marathwada. Recently it is reported in Madhya Pradesh (Mujjafer *et al.*, 2013), and in Nagpur district (Kamble *et al.*, 2015).

Floristic reports of Chandrapur district are scantier and it is unexplored though it having rich biodiversity. Malhotra and Moorthy (1992) published Flora of Tadoba National Park with reporting of 667 flowering plants. Later on Kunhikannan *et al.* (2009) reported 74 flowering plants new reports to flora of Taroba National park. One hundred invasive plants reported from Chandrapur district (Deshmukh *et al.*, 2012).

Material and Methods

Study Area

The district Chandrapur is situated between 78°-48' East longitude and 18°-41' to 20° - 51' North latitude. The greater part of it consists of undulating hill ranges 150m – 450m

above M.S.L. District Bastar of Madhya Pradesh lies to its East and to District Adilabad of Andhra Pradesh lies on its south. The district is quite hot in summer, and there is general dryness in other months, but not in monsoons. The rainfall is due to South West monsoons and also due to return monsoons and from the Bay of Bengal. It is well distributed. The average annual rainfall for the district is 1420 mm. It is obvious that the flora here is very rich containing dry deciduous, semi-evergreen and some moist evergreen species. The well known tiger and wild game Reserve, Tadoba Sanctuary, lies in Chandrapur. Special features of Chandrapur are six Forest Division in the single District of Chandrapur. The teak (*Tectona grandis*) and other timber species grow here very luxuriantly and yield highest revenue to the State (Mahabale, 1987).

Collection and identification

While exploring the plant wealth for ethnomedicinal purpose Chandrapur we made collections of *Cleome rutidosperma* DC. (Cleomaceae). They were encountered as naturalized weeds in this region and earlier reported from Chandrapur district Malhotra and Moorthy (1992). Therefore, it is reported here. Identification and authentication of collected specimen has been done by using flora of Maharashtra (Almeida, 1996). The Voucher specimen of collected plant species deposited in Herbarium, P.G. Dept. of Botany, Janata Mahavidyalay, Chandrapur for further studies.

Results and Discussions

Collected plant specimen illustration given below along with flowering and fruiting seasons, distribution, habitats and localities, Habitat, English name, Marathi name in the district of the plant cited in the text.

Cleome rutidosperma DC., Prodr, 1: 241 (1824). Jacobs, Fl. Males. 1 (6): 104 (1960); Iltis, Brittonia 12: 290 (1960); Mukherjee in Indian For. 95: 237 (1969); Almeida in Econ. Tax. Bot. 7: 711, 1985. *C. burmanii* Sensu Shah, JNHBN 60: 481, 1963 (non Wight & Arn, 1834).

Herbs, annuals, erect or decumbent, 0.2 - 1 m high; stems weak, ribbed, subglabrous to eglandular-pilose, clothed with soft recurved deciduous up to 2 mm long prickles. Leaves 3-foliolate; lower ones long petiolate, upper ones short petiolate or sessile; leaflets subsessile, rhombate-elliptic or obovate, oblong-lanceolate, attenuate or cuneate and webbed at base, acute or acuminate at apex, obscurely crenulate-serrulate and purple along margins, 1 - 6 x 0.2 - 2 cm, glabrous; lateral nerves 6 - 8 pairs, softly setose; petioles at base up to 4 cm long, gradually diminishing upwards to nearly absent; petiolules up to 0.5 mm long. Racemes lax, few-flowered, leafy, not clearly demarcated, up to 20 cm long. Flowers in axils of leaves below and foliaceous bracts above, showy pink, magenta, bluish-violet or rarely white with pink streaks; pedicels filiform, 1 - 2 cm long, elongating to 3.5 cm in fruits, shortly glandular hairy. Sepals linear-lanceolate, acuminate, 2.5 - 4 x 0.3 - 0.8 mm, thinly clothed with short bristles. Petals oblanceolate to elliptic, attenuate-clawed at base, apiculate at apex, 8 - 12 x 1.5 - 2.5 mm; claw 2 - 3.5 mm long. Stamens 6; filaments 6 - 9 mm long; anthers linear, ca 2 mm long, recurved after anthesis. Gynophore 1.5 - 2 mm long, elongating to 8 mm in fruits; ovary linear, 7 - 12 mm long, slightly curved; stigma sessile, capitate. Capsules linear-cylindric, compressed, attenuate at both ends, ribbed, 4 - 7 cm long, 2.5 - 4 mm thick; beak 1 - 4 mm long; valves parallel-veined, glabrous; seeds many, suborbicular to reniform with prominent concentric and transverse ridges and open cleft, 1.6 - 1.9 x 1.4 - 1.7 mm, orange brown, drying black; elaiosome white or creamy, conspicuous. **(Photoplate 01)**

Flowering and Fruiting; June to December.

Habitat; Weed of damp, shady localities, wall

and rock crevices, rare. **Nativity;** Tropical Africa

Location; Chandrapur City **Exicata.** UBD-

560. **English name;** Fringed spider flower.

Marthi name ; Nili Tilwan

Distribution; India: An African plant, introduced and naturalised in India in wastelands from sea level to 800m. Uttar Pradesh, Bihar, West Bengal, Assam, Gujarat, Maharashtra, Karnataka, Tamil Nadu, Kerala and Andaman & Nicobar Islands.

Tropical America, Trop. Africa, Maldives, Sri Lanka, Bangladesh, Myanmar, Thailand, Malaysia and Philippines.

Cleome rutidosperma DC. reported as invasive to India (Reddy, 2008). *Cleome rutidosperma* DC. is an environmental weed in disturbed ground, roadsides, gardens, and abandoned land as well in natural and seminatural coastal forest where it has the potential to outcompete native vegetation (Randall, 2012).

Cleome rutidosperma DC. spreads by seeds. Over long distances, it is probably spread in hay and soil and on vehicles and human footwear. The seeds have very distinctive ribbed seeds that would allow this species' seeds to grip into crevices in footwear. This species has two dispersal methods over short distances. The pods of *C. rutidosperma* and most other members of the genus explode when drying, throwing their seed perhaps one metre. Each seed also has a white elaiosome. Seed dispersal is myrmecochorous, ants being attracted to the seeds by the fatty elaiosome (Jacobs, 1960; Ruiz-Zapata and Escala, 1995).



Photoplate 01. *Cleome rutidosperma* DC. (Cleomaceae) in Chandrapur City.

Conclusion

An occurrence of alien invasive weed *Cleome rutidosperma* DC. of Cleomaceae family reported as new distributional plant record to Chandrapur District of Vidharbha region, Maharashtra State, India. It is also new reports to addition of invasive species to this region.

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