



**CHROMOLAENA ODORATA (L.) KING AND ROBINSON (ASTERACEAE) AN
INVASIVE WEED NEW DISTRIBUTIONAL RECORD TO CHANDRAPUR DISTRICT,
VIDHARBH REGION (MS) INDIA**

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Abstract:

Present paper enumerates an occurrence of invasive alien plant *Chromolaena odorata* (L.) King and Robinson. of Asteraceae family in Chandrapur District of Vidharbha region, Maharashtra State, India. It is new distributional plant record to Chandrapur District. This invasive plant is recorded as most dangerous invasive plant and badly affects the native flora and fauna. Description of this plant with its invasive effects discussed here.

Keywords: Invasive, *Chromolaena odorata*, Asteraceae, Chandrapur District, new record.

Introduction

Chromolaena odorata (L.) King and Robinson 1987, a species of Asteraceae Family and known in English as Siam weed, is a perennial shrub, native to Central and South America (Mgobozi, 2008). It is one of the world's most invasive, it is considered to be a serious weed in central and western Africa, India, Australia, Pacific Islands, and Southeast Asia (McFadyen, 2003).

In 1845 *Chromolaena odorata* (L.) King and Robinson. (Asteraceae) was introduced to Calcutta Botanical Garden in India as an ornamental plant (Voigt, 1845). In 1876 it becomes wild in parts of India and Java (Clark, 1876) and in 1882 it was sparingly cultivated in Calcutta area (Hooker, 1882). It wide spread in 1918 in Assam, West Bengal and Burma (Rao, 1918). *Chromolaena odorata* L. (K & R), one of the competitive weeds of the family Asteraceae, got introduced into coastal part of Maharashtra state (Konkan), India from adjacent Goa and Kamataka states. Now this weed has been recognized to be one of the most noxious weeds (Pawar and Thorat, 2004).

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 150 m – 450 m 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

During the ethnobotanical exploration we came across an interesting plant of Asteraceae family which is highly invasive in Durgapur Village and Guggus Taluka of Chandrapur district. Identification and authentication of collected specimen has been done by using flora of Maharashtra (Almeida, 2001). 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

,ecology ,common name ,hindi name in the district of the plant cited in the text.

Chromolaena odorata (Linnaeus) R. M. King & H. Robinson, Phytologia. 20: 204. 1970. *Eupatorium odoratum* Linnaeus, Syst. Nat., ed. 10, 2: 1205. 1759 ;Clark, Comp.Ind. 30,1876 ; Hook. f.Fl.Brit.Ind 3:1881. *Osmia odorata* (L.) Schultes, Pollichia 22:251,1866.

An undershrub about 2 m tall. Leaves opposite ,simple, obovate or deltoid-ovate ,6-8 cm long and 3-7 cm broad, carthaceous ,3-nerved from the base ,acute at base or truncate, margins serrulate ,apex acute. Petiole 1.5cm long .Inflorescence much branched paniculate corymbs .Heads stalked ,monogamous ,disciform .Involucre 1 cm long. Bracts multi seriate ,unequal ,outer ovate ,concave 1.5 mm ,acute, pubescent ; linear 7mm long and upto 1mm broad ,acute ,finely ciliate above .Florets bisexual ,blue purple .Pappus 1-seriate ,4.5 mm. Corolla tubular –capmpanulate ,1.2 mm across ,tube gradually widened above ,4.5 mm; lobes 5,ovate ,0.5 mm acute. Stamens 5, sub exserted; filamentous filiform . linear , flat , base sub entire; connectives ovate ,acute . Ovary linear ,4 mm angular. Style bifid. Achenes scaly. (Figure 1).

Flowering and Fruiting; January –February.

Distribution; Distribution- Central, Western, North & South Africa, Asia, Australia, Pacific Islands, North and South America. India. Throuout naturalized.

Ecology; Wastelant, near wet and canal areas.

Nativity; Central and South America.

Location; Durgapur and Ghuggus area..

Exicata. UBD-603.

Common name: Chromolaena, Armstrong's weed, Baby tea, Bitter bush, Butterfly weed, Christmas bush, Chromolaena, Devil weed, Eupatorium, Jack in the bush, Jack-in-the-bush, King weed, Paraffin bush, Paraffin weed, Siam weed, Turpentine weed, Triffid weed.

Hindi name ;Tivra Gandha, Bagh dhoka (Figure 1).

Chromolaena odorata (L.) King and Robinson. included in the top 100 of the world's most invasive species.(Lome et al,2000). This species reported as invasive to India (Reddy,2008). This species has a wide tolerance to various climates, having already invaded five continents including Asia, North and South America as well as North and South Africa (Kriticos et al,2005). The geographical distribution of *Chromolaena odorata* is known to be limited to regions within 30° N and 30° S latitudes in areas with a rainfall of 200 cm and above and where air temperature

ranges from 20°C to 37°C (Timbilla and Braimah 2002).

Chromolaena odorata seed remained dormant in the absence of direct sunlight and germinated in 3-4 rounds on the same patch of land during one rainy season whenever there were periodic disturbances in soil cover (Rai ,1976). It can quickly establish and smother plant crops, forestry and native vegetation (McFadyen and Skarratt,1996). *Chromolaena odorata* forms scrambling thickets and grows to a height of 3 m. It is considered a serious weed in plantation crops such as oil palm, coconut, cashew, teak, rubber and citrus, disturbed forests, pastures and natural reserves. It is highly allelopathic and suppresses neighboring vegetation. During the dry season the dried stems of this plant readily burn, but the stumps remain alive and rapidly grow and cover the area in the succeeding rainy season. Attempts to control this weed by methods other than biological control are not economical, environmentally safe or effective. (Muniappan and Bamba,2000). It is unpalatable and noxious and may cause death if ingested by domesticated animals (Aterrado and Bachiller,2002).



Figure 1 *Chromolaena odorata* (L.) King and Robinson. near Durgapur ,in Chandrapur.

Conclusion

An occurrence of *Chromolaena odorata* (L.) King & Robinson. of Asteraceae family reported as new distributional plant record in Chandrapur District of Vidharbha region, Maharashtra State, India. It is also new reports to addition of invasive species to this region. This invasive plant is recorded as most dangerous invasive plant and badly affects the native flora and fauna. Early eradication of this species needed as it is most dangerous and noxious weed before the entry of this weed to famous Tadoba National Park.

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