

## Documentation of *Butea monosperma* var. *lutea* (Fabaceae)—A threatened species of India reported from Surendranagar Dist., Gujarat, India

Vipul P Sorani<sup>1\*</sup>, P K Patel<sup>2</sup>

<sup>1</sup> Research Scholar, Department of Botany, S.P.T. Arts & Science College, Godhra, Gujarat, India

<sup>2</sup> Department of Botany, S.P.T. Arts & Science College, Godhra, Gujarat, India

### Abstract

The present paper deals with the new distribution of threatened species *Butea monosperma* (Lam.) Taub. var. *lutea* (Witt.) from Surendranagar district of Gujarat state. A detailed taxonomic description, notes and photographic images are provided.

**Keywords:** *Butea*, Floristic, Gujarat, Surendranagar, threatened species

### Introduction

*Butea* (Leguminosae-Papilionoideae) is a small genus comprising two species and it is mainly distributed in Southeast Asia from sea level up to 1,000 m, predominantly in dry habitats and the habit is the most important characteristic for species identification (Sanjappa, 1987) [9]. *Butea monosperma* (Lam.) Taub. Var. *lutea*, belonging to the family Fabaceae, is an endangered, valuable, woody plant. This plant is popularly known as white palash having ivory-white flower buds (Jadhav & al., 2001) [8]. *Butea monosperma* (Lam.) Taub. var. *lutea* (Witt.) Maheshwari (Fabaceae) is commonly known as flame of forest and one of the most valuable, deciduous trees distributed in tropical and subtropical parts of the Indian Subcontinent, Burma and Ceylon (Firdausand & Mazumder, 2012) [2].

*Butea monosperma* (Lam.) Taub. var. *lutea* (Witt.) Maheshwari was earlier reported from Nizamabad, Warangal District, Karimnagar (Naqvi, 2001) [6], Kummargudem of Andhra Pradesh (Reddy & al., 2001) [4], Banaskantha, Dahod, Dang, Narmada and Panchmahals districts of Gujarat (Nagar, 2015) [5], Demti Eran village of Sabarkantha District, Gujarat (Hitesh R. Patel and R.S.Patel, 2015) [3], Nanded District of Maharashtra State (Srinivas Reddy & al., 2016), Adilabad District of Telangana State (Srinivas and Bembekar, 2016) [11, 12], Pune, Aurangabad in Maharashtra (Patil and Mahajan, 2018) [7], Ghatanji Taluka, District Yavatmal, Maharashtra (Eanguwar and Deshmukh, 2020) [1] and Bandha Bazar, district of Rajnandgaon, Chhattisgarh (Shriram Kunjam & al., 2021) [10].

*Butea monosperma* var. *lutea* (Witt) Maheshw is endemic to India. It has very less population. It has been declared by Conservation Assessment Management Planning Workshop for Medicinal Plants of Andhra Pradesh, as a rare and endangered medicinal variety. (Jadhav & al., 2001) [8].

During a field trip to the Surendranagar district of Gujarat in March 2022, authors collected interesting plant specimens from Goida village, Surendranagar district of Gujarat in India. After critical examination and going through literature, the identity of the specimens was determined as *Butea monosperma* var. *lutea* (Witt) Maheshw.

However, in Gujarat, genus *Butea monosperma* var. *lutea* (Witt) Maheshw is reported previously south, central and

northern Gujarat. (Hitesh R. Patel and R.S.Patel, 2015; Nagar, P.S., 2015) [3]. We have collected *Butea monosperma* var. *lutea* (Witt) Maheshw from surendranagar District from Gujarat state. This is the first location in Saurashtra region of Gujarat state where *Butea monosperma* var. *lutea* (Witt) Maheshw has been found. During our field trip, we found only two plants in our study area. In this sense, this plant is very rare. It is very important to protect it.

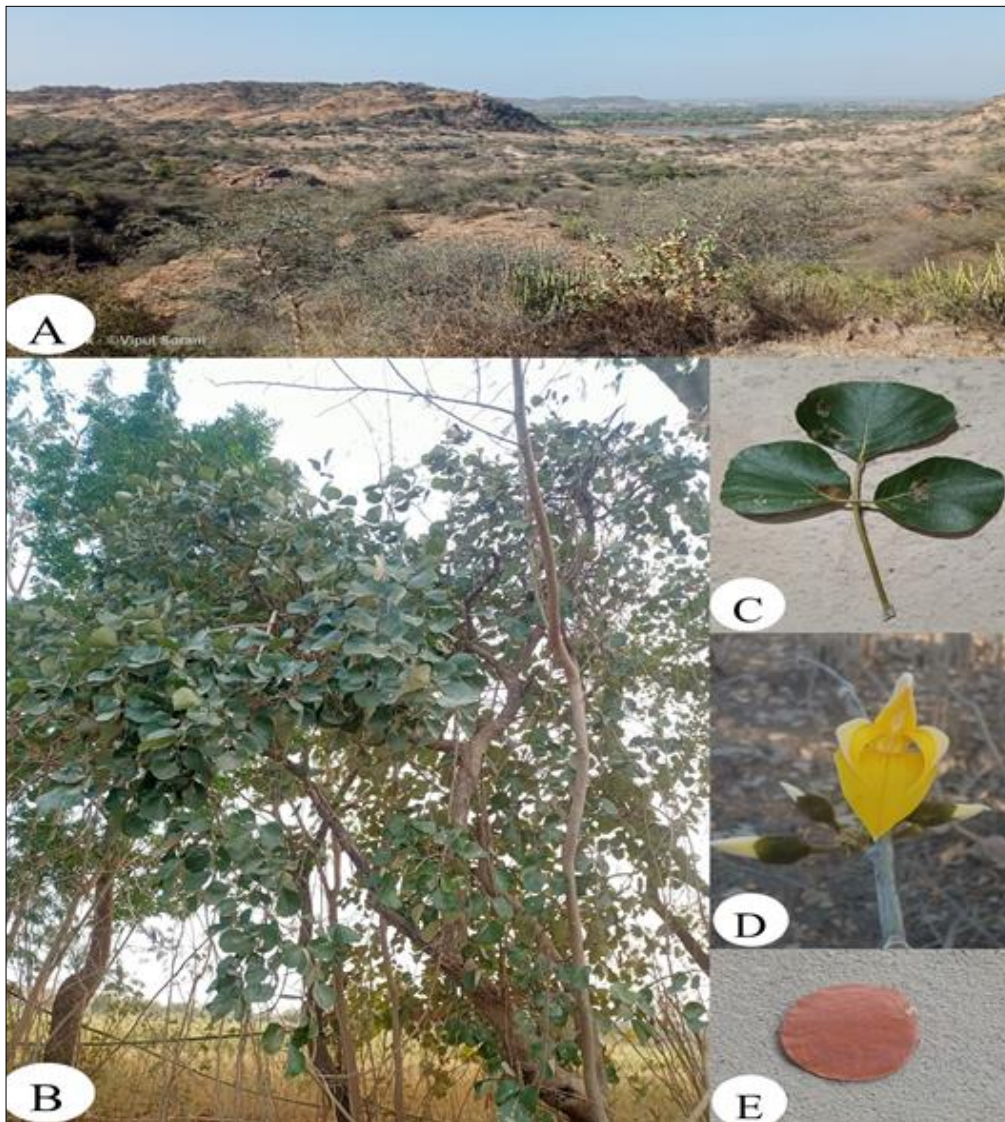
The voucher specimens (VPS 00055) are deposited in SPT Arts and Science College, Godhra, Gujarat, India. A taxonomic description of the species is provided.

### Taxonomic treatment

#### *Butea monosperma* var. *lutea* (Witt) Maheshw. (Fig. 1)

*Butea monosperma* (Lam) Taub. Syn *B. Frondosa* Koenig Ex. Roxb. var. *lutea* (Witt) Maheshwari. Descrip. List, N. et Ber. For. Circ. C. P. 75, 1916. *Butea lutea* Sagreiya, Indian for. 65: 560, 1939, Maheshwari, Bul. Bot. Surv. India 3(1): 91-94, 1961 [Maheshwari J.K., 1961].

The plant is a deciduous, erect medium-sized tree. Stem usually crooked and sometimes twisted with irregular branches and rough grey bark. Leaves are pinnately compound with the long petiole (10-14 cm) with stipules, pulvinus leaf base; tripinnate unequal leaflets, each leaflet 15-20cm long; broadly ovate to rhomboid, glabrous; coriaceous leaflet, texture smooth in young and rough in mature; leafless while flowering; arrangement – alternate, base – cuneate; shape – rhomboid or ovate, margin – entire. Inflorescences racemes, big and rigid 12-15 cm. Flowers golden yellow, bisexual, terminal or axillary; bracts small, pedicels 3cm long. Calyx black velvety cup shaped 1.5-1.8 cm long. Corolla standard ovate 5.3-6.4 x 2.6-3.2 cm glabrous, acute apex, entire margin; wing petals lanceolate, 6.4-7 x 1.4-1.6 cm pubescent, base oblique, apex acute; keel petals elliptical 6.3-7.3x 1.10-2.6 cm, base oblique, apex acute, margin entire, vexillary aestivation. Stamens diadelphous (9+1), filaments 5.8-7.0 cm long; anther elliptical to oblong. Ovary stalked oblong densely tomentose; style 5.8-6.2 cm long sparsely pubescent, curved. Pod single seeded inside a pod; pod thin stalked and oblong, green in color; silky tomentose, size 15-18 cm in length, and 3 to 4.8 cm broad. Seeds uniform, 3.3-3.8 cm X 2.2-2.5cm.



**Fig 1:** A. Habitat; B. Habit; C. Leaf; D. Flower; E. Seed

### Flowering & Fruiting

February to May

### Habitat

Found among grasslands at hilly forest and under the shade of dry deciduous thorny forests.

### Distribution: India

Maharashtra, Goa, Karnataka, Tamilnadu, Kerala and Gujarat (Central, South, North Gujarat and Saurashtra)

### Specimens examined

INDIA, Gujarat, Surendranagar district, Golida village, 22° 11' 35" N; 71° 11' 30 E, 100 m, 28.03.2022, VPS 00055 (Department of Botany, SPT Arts & Science College, Godhra, Gujarat).

### Note

As per IUCN threat categories *Butea monosperma* var. *lutea* (Witt) Maheshw is a Critically Endangered (CR). The plants are identified by its yellow flower.

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### References

1. Eanguwar SR, Deshmukh UB. *Butea Monosperma* (Lam.) Var. *Lutea*, (Witt) Maheshwari (Fabaceae): An Addition to the Flora of Yavatmal District (MS), India. Research Journey' International E- Research Journal,2020:7(1):156-158.
2. Firdaus R, Mazumder A. Review on *Butea monosperma*. Int. J. Res. Pharma Chemical,2020:2:1035-1039.
3. Hitesh R Patel, RS Patel. *Butea monosperma* (Lam.) var. *lutea* (Witt) (Fabaceae): A new species record from Gujarat state, India. Int J. Curr. Microbiol. App. Sci,2015:4(6):867-869.
4. Jadhav SN, VED DK, Ghate U, Reddy KN, Reddy CS. Proceedings of the workshop on Conservation Assessment and Management Planning for Medicinal Plants of Andhra Pradesh. FRLHT, Bangalore, 2001.
5. Nagar PS. Status of endemic and threatened angiosperms of Gujarat. Gujarat Biodiversity Board, Gandhinagar, Gujarat, 2015.
6. Naqvi AH. Flora of Karimnagar District, Andhra Pradesh, India. *Ph.D. Thesis*, Kakatiya University, Warangal, India, 2001.
7. Patil R, Mahajan M. Documentation of *Butea monosperma* (Lam) Taub. Syn *B. Frondosa* Koenig ex.

- Roxb. var. *lutea* (Witt) Maheshw. golden butea at Pune. International Journal of Researches in Biosciences, Agriculture and Technology, 2018:2(6):48-50.
8. Reddy CS, Reddy KN, Jadhav SN. Threatened Medicinal Plants of Andhra Pradesh. EPTRI. Hyderabad, 2001.
  9. Sanjappa M. Revision of the genus *Butea* Roxb. ex Willd. and *Meizotropis* Voigt (Fabaceae), *Bull. Bot. Surv. India*, 1987:29:199-225.
  10. Shiram Kunjam, Shweta Singh Chauhan, Ravishankar Chauhan, Pramod Kumar Mahish and Shailesh Kumar Jadhav. Addition of *Butea monosperma* var. *Lutea* (Fabaceae) in the flora of district Rajnandgaon, Chhattisgarh, India. International Journal of Botany Studies, 2021:6(3):394-397.
  11. Srinivas Reddy Eanguwar AND Shivraj Kashinath Bembrekar. A note on occurrence of *Butea monosperma* (Lam.) Var. *Lutea* (Witt) Maheshwari (Fabaceae) from Adilabad District, Telangana State, India. *Vidyawarta*, 2016:8(15):54-56.
  12. Srinivas Reddy ESR Shinde, Rathor OS. Occurrence of *Butea monosperma* (Lam.) var. *lutea* (Witt) Maheshwari (Fabaceae) at Kinwat forest (Maharashtra state). *Bioinfolet*, 2016:13(4):605.