



Occurrence of *Triadica cochinchinensis* Lour. (Euphorbiaceae) in Odisha, India

KEYWORDS

Triadica cochinchinensis, Euphorbiaceae, New record, Odisha, Phytogeography

T. Kar

A.K. Nayak

* K. K. Mandal

Similipal Tiger Reserve, Bhanjpur,
Baripada, Odisha, India-757002

Similipal Tiger Reserve, Bhanjpur,
Baripada, Odisha, India-757002

P. G. Department of Botany, North
Orissa University, Baripada, Odisha
-757003. *Corresponding author

ABSTRACT *Triadica cochinchinensis* Lour. is first time recorded from the geographical boundary of Odisha. Its occurrence in Similipal Biosphere Reserve is of great phytogeographical significance. Detailed description, distribution, habitat and photographs have been provided for easy identification. kumar.kishore718@gmail.com

kumar.kishore718@gmail.com

Introduction

Euphorbiaceae is a complex heterogeneous family consisting of about 322 genera and about 8910 species (Govaerts et al. 2000). In India this family is represented by 73 genera and about 414 species. *Triadica* Lour. is a small genus of Euphorbiaceae, sub family Euphorbioideae, tribe Hippomaneae and is endemic East to South East Asia. Various authors united *Triadica* as a distinct section with other genera of the Hippomaneae, such as *Stillingia* Garden ex L. (Baillon, 1858), *Excoecaria* L. (Muller, 1866) or *Sapium* Jacq. (Pax and Hoffmann, 1912). The species are still often treated under *Sapium*, although Webster (1994) expressed serious doubts about the identity of both. The genus is however, well circumscribed and very probably monophyletic (Kruijt, 1996; Esser et al 1998). Therefore it was accepted as a distinct genus in recent years (Esser, 2002).

During recent botanical exploration in Similipal Biosphere Reserve, some interesting specimens belonging to the family Euphorbiaceae have been collected. On critical examination of specimens of the genus *Triadica* and perusal of relevant literature (Hooker, 1888; Haines, 1921-25; Kanjilal et al, 1940; Saxena & Brahmam, 1995; Singh et al, 2001; Balakrishnan & Chakrabarty, 2007) revealed the identity of the specimen as *Triadica cochinchinensis* Lour. In India the genus *Triadica* is represented by two species and our specimen has so far not been reported from Odisha and therefore it forms a new generic record for the state. Detailed description, photographs, phenology, distributional and ecological notes have been provided for easy identification. All the voucher specimens are deposited at Similipal Tiger Reserve, Herbarium, Baripada, Odisha.

Taxonomic treatments:

Triadica cochinchinensis Lour., Fl. Cochinch. 2: 610.1790; N.P. Balakr. & Chakrab. Family Euphorb. India 295. 2007. *Stillingia discolor* Champ. ex Benth. in Hook. J. Bot. Kew Gard. Misc. 6: 1. 1854. *Sapium discolor* (Champ. ex Benth.) Mull. Arg. in Linnaea 32:121. 1863; Hook. f., Fl. Brit. India 5: 469.1888. *S. eugeniifolium* Buch.-Ham. ex Hook. f., Fl. Brit. India 5: 470. 1888; Kanjilal et al., Fl. Assam 4: 206.1940. **Fig 1 & 2**

Medium sized, monoecious, evergreen trees; branchlets lenticellate. Leaves alternate, sometimes apically crowded, elliptic or oblong-ovate, 3-10 x 1.5-5 cm, base cu-

neate, margins entire, apex acute, chartaceous, reddish when young, abaxially with several laminar glands on each side; lateral nerves 7-9 pairs; petioles 4-5 cm long, apically with a pair of adaxial glands. Inflorescence terminal racemes, 8-10 cm long. Flowers yellow, mildly fragrant. Male flowers: pedicels upto 0.3 cm long; bract ovate, 0.2 x 0.2 cm, acuminate, subtending several flowers, glandular on either side at base; calyx cupular, irregularly serrulate; corolla absent; stamens 2-3, exerted in mature flowers; filaments free; anthers globose. Female flowers: pedicels stout, terete; bract almost as in males, each bract with only 1-flowered; calyx tri partite to base, lobes triangular, margins sparsely serrulate; corolla absent. Ovary ovoid, 3-celled; style 3, revolute. Capsule sub-globose, 1-1.5 cm across, woody, black; collumella 3 winged, persistent; seeds globose.

Flowering: April-June.



Fig. 1: *Triadica cochinchinensis* Lour. a: Habit, b: Closeup view of Capsules, c: Young leaves

Specimens examined:

INDIA, Odisha: Similipal Biosphere Reserve, Upper Barakhamuda, 09.07.2014, T. Kar & A.K. Nayak 795.

Fruiting: July-October.

Habitat: Rare in Semi evergreen forests at about 821 m altitude growing in association with *Phoebe wightii* Meissn, *Celtis tetrandra* Roxb. and *Shorea robusta* Gaertn. etc
Distribution: India :Himachal Pradesh, Arunachal Pradesh, Assam, Nagaland, Meghalaya, Sikkim, Uttar Pradesh, West Bengal, Odisha (Present finding) and Andhra Pradesh; Bhutan, Bangladesh, Myanmar, S. china, Hongkong and Thai-

land.



Fig. 2 : Herbarium of *Triadica cochinchinensis* Lour.

Notes: Balakrishnan & Chakrabarty (l. c) while providing the distribution of the species in India, mentioned the states namely Himachal Pradesh, Arunachal Pradesh, Assam, Nagaland, Meghalaya, Sikkim, Uttar Pradesh, West Bengal and Andhra Pradesh. The disjunctive occurrence of this relict species in Peninsular India is quite interesting and its occurrence in Similipal Biosphere Reserve is of great phytogeographical significance.

Acknowledgements:

The authors are grateful to the Director, Botanical Survey of India, Kolkata for facilities. They are also thankful to field staff of Similipal Biosphere Reserve for their cooperation during field survey.

REFERENCE

- Haines, H. H. (1921-25). The Botany of Bihar and Orissa, 6 Parts, Adlard and Sons, London. | Hooker, J.D. (1888). The flora of British India, Vol. 5. L. Reeve & Co., London. | Kanjilal, U. N., Das, A., Kanjilal, P. C. & De, R. N. (1940). Flora of Assam. Vol-4. Govt. of Assam, Shillong, India. | Saxena, H.O. & Brahmam, M. (1995). Flora of Orissa. Vol. 3. Regional Research Laboratory and Orissa Forest Development Corporation, Bhubaneswar. | Singh, N.P., Mudgal, V., Khanna, K.K., Srivastava, S.C., Sahoo, A.K., Bandopadhyay, S., Aziz, A., Das, M., Bhattacharya, R.P & Hajra, P.K. (2001). Flora of Bihar: Analysis. Botanical Survey of India, Calcutta. | Balakrishnan, N.P. & T. Chakrabarty. (2007). The family Euphorbiaceae in India – A synopsis of its profile, Taxonomy and Bibliography. Bishen Singh Mahendra Pal Singh, Dehra Dun. | Govaerts, R., Frodin, D.G. & A. Radcliffe-smith (2000). World Checklist and bibliography of Euphorbiaceae, 4 vols. Royal botanic Gardens, Kew. | Baillon, H. (1858). Etude generale du groupe des Euphorbiaceae. Pp. 1-684, tt. 1-27. Victor Masson, Paris. | Esser, H.-J., P.C. Van Welzen and T. Djarwaningsih. (1998). A phylogenetic classification of the Malesian Hippomaneae (Euphorbiaceae). Syst. Bot. 22: 617-628. | Kruijt, R.C. (1996). A taxonomic monograph of Sapium Jacq., Anomostachys (Baill.) Hurus., Duvigneaudia J. Leonard and Sclerocroton Hochst. (Euphorbiaceae tribe Hippomaneae). Biblioth. Bot. 146. Schweizerbart, Stuttgart. | Muller, J. (1866). Euphorbiaceae (except Euphorbieae). In A.P. De Candolle, Prodrum systematis naturalis regni vegetabilis Vol 15 (2) : 189-1261, 1269-1286. Fortin Masson , Paris. | Pax, F. and K. Hoffmann. (1912). Euphorbiaceae-Hippomaneae. In A. Engler, ED. Das pflanzenreich IV. 147. v (heft 52):1-319. Berlin. | Webster, G.L. (1994). Synopsis of the genera and subgeneric taxa of the Euphorbiaceae. Ann. Missouri Bot. Gard. 81(1) : 33-144.