Distribution of *Vitex negundo* L. var. *incisa* (Lam.) C.B. Clarke (LAMIACEAE) in Karnataka, India

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ABSTRACT

The present species rank is reduced to synonymy under *Vitex negundo* L. after critical examination, the author is presenting as a distinct variety of *V. negundo* L. and the present collection found new distribution record for the state. The colour photographs and description is being provided for clarification.

KEYWORDS: Variety, *Vitex*, Chikodi, Raibag, Karnataka

INTRODUCTION

The genus *Vitex* L. (Linnaeus 1753:) [1] includes ca 250 species distributed in all tropical regions of the world [2]. In India, the genus *Vitex* is represented by 12 species, 10 varieties and 5 formae [3]. Until recently, *Vitex* was classified in Verbenaceae, subfamily Viticoideae based on its cymose inflorescences [4]. The genera of subfamily Viticoideae (e.g. *Callicarpa, Clerodendrum, Tectona* and *Vitex*) have been placed in the Lamiaceae based on DNA sequence and are better placed in Lamiaceae [5].

During regular floristic exploration surveys in 2018–19, a species of *Vitex* L. was observed in Chikodi, Raibag tahsils of Belagavi, Karnataka, India. After critical examination and relevant taxonomic literature, it was identified as *Vitex negundo* L. var. *incisa* (Lam.) C.B. Clarke (see Figure 2) [6,7,8]. and compared with *Vitex negundo* L. (Figure 1). The identified specimen has been cross verified with Kew Herbarium catalogue (K001114063) (Figure 2). The collected specimens were processed and deposited in the Herbarium, Government of Karnataka, Department of Collegiate Education, Department of Botany, Government First Grade College, Raibag, Belagavi, Karnataka. *Vitex negundo* L. var. *incisa* was first described by the C.B. Clarke based on the collection from Lamarck [9]. In the

protologue, it was stated that the species placed as a synonym under *Vitex negundo* L. [3]. After a detailed analysis of morphological characters, it was observed that, both species have considerable characters differences between these two species (Table 1) and hence the present collection seems to be new record for the flora of Karnataka State. Therefore the current name should be treated as a distinct variety under *Vitex negundo* L.

TAXONOMIC DESCRIPTION

Vitex negundo L. var. **incisa** (Lam.) C.B. Clarke. in Hook.f. Fl. Brit. India 4: 584. 1885; Prasanna in Singh et al. Fl. Maharashtra St. Dicot. 2: 699. 2001; Yadav and Sardesai, Fl. Kolhapur 376. 2002. *V. incisa* Lam. Dict. 2: 611. 1788. **Figure 2.**

Shurbs or small trees, 4-6 m high, stem and branches slender, pubescent, node annulate, internode 2-10 cm long. Leaves 3 foliate; petiole 2-4.5 cm long, canaliculated, pulvinous at base, pubescent; leaflets elliptic-lanceolate, acute or cuneate at base, acuminate at apex, entire to crenate or serrate margins; terminal leaflets 3-7 x 1-3 cm, petiolues 0.5-1.5 cm long; lateral leaflets 1.5-5 x 0.5-2 cm, petioules 1-3 mm long; characterous, glabrous above, pale pubescent beneath; lateral nerves 11-15 pairs, pinnate venation, arcuate at margin distinct on both surface, midrib prominent. Panicles terminal, 4-15 cm long, cyme dichotomously branched, rarely simple, peduncles cylindrical, 1-2 cm long, pubescent, bract foliaceous, elliptic-lanceolate. Flowers pale violet, pedicels 13 mm long, pubescent. Calyx campanulate, ca 3 x 2 mm, 5 toothed, tooth acute, ca 1 mm long, pubescent outside, glabrous inside, persistent. Corolla infundibuliform, white to pale violet, covered with appressed hairs, 5 lobed, 2 lipped, upper lip 2 lobed, lobes ovate, acute, ca 1 mm long; lower lip 3 lobed; middle lobe obovate, entire, concave, 3 mm long; lateral lobes ovate, acute, ca 1 mm long; tube 2-4 mm ling, two well-developed ridges at corolla mouth, densely villous at throat, pubescent outside. Stamens 4, didynamous, slender, inserted halfway on the corolla tube, filaments 1-4 mm long, pale purple or white, exserted, glabrous above, densely villous at base, anther oblong, ca 1 mm long, divaricate, basifixed. Ovary globose, 1 x 2 mm, glabrous, style slender, ca 8 mm long, exserted, glabrous; stigma 2 lobed, lobes subulate. Drupe ellipsoid, 2-4 x 2.5-3 mm, turn black when mature, fruiting calyx covering the mature fruit, 2-2.5 mm in diameter, pubescent in nature.

FLOWERING AND FRUITING: February-March and July-August

DISTRIBUTION: Maharashtra: Raigad district, Satara district and Kolhapur district

HABITAT AND ECOLOGY: Occasional on the hedges of field bunds and water canals and on waste places around villages

SPECIMEN EXAMINED: India, Karnataka, Belagavi Dt., Ankali-Naslapur, 22 Feb 2020, *MSY* 101.

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Table 1. Comparison of key morphological characters: *Vitex negundo* L. var. *negundo* vs *Vitex negundo* L. var. *incisa* (Lam.) C.B. Clarke.

Sl. No.	**Character**	***Vitex negundo* L. var. *negundo***	***Vitex negundo* L. var. *incisa* (Lam.) C.B. Clarke.**
1	Stem and branches	Obtusely 4-angular	Cylindrical
2	Leaves	3-5 foliate	Strictly 3 foliate
3	Leaflet margin	Entire	Entire or crenate-serrate
4	Terminal leaflet	5-15 x 2.5-4 cm	3-7 x1-3 cm
5	Panicle	12-28 cm long	4-15 cm long
6	Peduncle	Obtusely 4-angular	Cylindrical
7	Ovary	Oblong	Globose
8	Drupe	Subglobose	Ellipsoid

Figure 1. Vitex negundo L., A. Habit, B. Flowering branch, C. Close-up view of Flowering branch, D. Immature Drupes, E. Mature Drupes, F. Dry Drupes

Figure 2. Vitex negundo L. var. **incisa** (Lam.) C.B. Clarke, A. Habitat, B. Flowering branch, C. Fruiting branch, D. Adaxial surface of a leaf, E. Abaxial surface of a leaf, F. Drupes.