

Vigna aconitifolia (Jacq.) Marechal & *Vigna stipulaceae* Kuntze new addition to flora of Nashik District, Maharashtra (India)

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Abstract: The present study deals with the two new wild *Vigna savi* (Fabaceae) species additions to flora of Nashik District, Maharashtra along with the detailed description, phenology and Photographs. During the extensive exploration Nashik district located in western ghat of Maharashtra. *Vigna aconitifolia* (Jacq.) Marechal and *Vigna stipulaceae* Kuntze are collected. after microscopic observation and critical review of the available references these two species are found to be new to the flora of Nashik District, Maharashtra. Therapeutically taxa have medicinal importance and use to treat different diseases and disorder

Key word: New addition Nashik district *Vigna savi*

I INTRODUCTION

The Western Ghats region is a biodiversity hotspot & shows variation in vegetation. The range runs for more than 1,600 kilometres along India's western coast & divided into three sub-regions Northern Western Ghats, Central Western Ghats (CWG) & Southern Western Ghats. The studied area of Nashik district is a part of the Northern Western Ghats of India. Nasik district has been explored extensively by (Cooke, 1901-1908; Talbot Pataskar, 1971-72; Lakshminarasimhan and Sharma, 1991). During exploration of deccan plateau of Nashik district autor have collected wild endemic species *Vigna aconitifolia* (Jacq.) Marechal & *Vigna stipulaceae* Kuntze new addition to flora of Nashik District, Maharashtra

II MATERIAL AND METHODS

The species were collected & recorded during explore of Nashik District. The locality of *V. aconitifolia* from Pade, Dindori tahsil 20°24'42.5"N and *V.stipulacea* from Peth, 73°81'65.5"E 20°15'29.9"N and 73°30'11.3"E. The studied site was explored during the years 2022– 2024 and visited different localities, habitats & ecological zones to include all possible variations in different seasons.

Plant specimens were collected in extensive visits near forest hilly & slopy area, Grasslands, field hedges, & around the rivers. Collected specimens are preserved as herbarium by using standard method. Herbarium specimens are deposited in the M.V.P.S. Arts Commerce and Science College, Dindori, Nashik

The specimens were identified by a critical survey of the literature (Cooke, 1905; P. Lakshminarashman et al., 1991; Naik, 1998; Almeida, 2001; Singh et al., 2001; Yadav et al., 2014) & comparing with specimens available at Online floras, plant list, WFO, IPNI & Kew Herbarium (<http://apps.kew.org/herbcat/navigator.do>) Material were studied under Zoom stereoscope, Photographed in natural habitat with Nikon Digital Camera 4500.

III TAXONOMY & MORPHOLOGY

Vigna aconitifolia (Jacquin) Maréchal, Bull. Jard. Bot. Natl. Belg. 39: 160.1969.

Annual herbs, trailing. Stems slender, 50-120 cm, angular, sparsely pubescent. Stipules pointed 1-2 mm ; petiole 5-8 cm; leaflets deeply 5-lobed, 4-6 cm long, lobes linear-lanceolate to obtuse, hairy, margin entire. Racemes axillary, peduncles 5-10 cm; bracts lanceolate, ciliate; pedicels short. Flowers clustered 2-5 together. Calyx 2-3 mm; lobes 5, sub-equal. Standard yellow, 5-8 mm; cordate; wings obovate 4-5 mm long, auriculate; keel apex contorted. Legumes brown, cylindric, 2-2.5 cm × 0.3-0.4 cm, beak obtuse, 5-7seeded. Seeds brown, or variegated with black dots, elliptic 3-4 × 2 mm; hilum white, linear, aril absent.

Flowering & Fruiting: September to November

Distribution: Endemic, along grasslands and small bushes.

Exiccata: Nashik District, Pade, 2024, DKL, 94;
Vilwandi, 2024, DKL, 153

Note: Easley distinguish by its 4-5 leaflets lobes which is acute to obtuse

Medicinal uses: The phytochemicals act as antioxidant, anti-inflammatory and prevention of many diseases such as obesity, aging, diabetes, heart-related diseases and prevention of many physiological disorders as therapeutic (Suneetaetal.,2021)



Vigna aconitifolia(Jacquin) Maréchal A.. Habit, B. Twig. C. Flower, D. Fruit, E. Open split fruit with seeds

Vigna stipulacea Kuntze, Revis. Gen. Pl. 1: 212. 1891

A trailing or twinning herb. Stem 30-70cm long, sparsely covered with 1 mm long white hair. Leaves 3-folioate, terminal leaflet broadly ovate to, 2-3.5 cm long, sparsely hairy, entire; lateral leaflets orbicular to broadly elliptic 1.5-2.5 cm long, 1-2 lobed or entire. Stipule cordate to ovate, modified 1- 2 x 1-1.5cm. Inflorescence 2-8 flowered; flower shiny yellow, 0.7- 1 x 1-1.3 cm. standard purple yellow 0.7- 0.9 cm long; wing 0.8- 0.9 cm, beak purple at tip 0.5 c. stamens Monadelphous 10, 0.7-0.8 cm long. Pods linear, cylindrical and sparsely hairy, 4-5x 0.2-0.3cm,

blackish brown when mature. Seeds elliptic, 10-12 seeds per pod, rough fine brown with small black mottled 3x1.5 mm aril slightly developed.

Flowering & Fruiting: September to November

Distribution: Rare around moist and shady places

Exiccata: Nashik District, Trumbakeshwar, 2024, DKL, 138; Peth, 2024, DKL,347

Note: Leaflets lobes entire to 3-lobed, both Chasmogamous and Cleistogamous flowers are present



Vigna stipulacea Kuntze A. Habit, B. Twig. C. Flower, D. Fruit, E. Seeds

IV RESULT AND DISCUSSION

Studied taxa explored during the year 2022-2024. The newly reported species to flora of Nashik district of genus *Vigna* savi from family Fabaceae. The distribution of both taxa *V. aconitifolia* and *V. stipulacea* were endemic, critically endangered and collected few individual from localities. The plant was identified after critical literature survey of available scientific literature by using Flora of Maharashtra and Flora of Bombay Presidency, online floras WFO, IPNI, Kew herbarium. Morphologically *V. aconitifolia* have entirely 5 lobed leaflet and obtuse apex but with minute stipule and in *V. stipulacea* leaves 3 foliate, leaflets entire and stipule well developed 1-2cm long cordate and both Chasmogamous and Cleistogamous flowers are present. The species have phytochemical and pharmacological importance used in to treat different diseases and disorders.

V CONCLUSION

Earlier, it was known exclusively from the Ahmednagar district in Maharashtra and was one of the state records. After that, there were no more distribution records of the studied species. Author explored the Nashik district, especially the northern Western Ghats biodiversity region. We collected studied specimens, examined them using scientific methods, and concluded that this is a new distribution record for the Flora of Nashik district. The continuous taxonomic study on considering morphological characters uncovered that *V. stipulacea* Kuntze and *V. centifolia* (Jacquin) Maréchal new record to the vegetation of flora of Nashik district, Maharashtra.

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