

Tinospora baenzigeri (Menispermaceae): A New Distribution Record for the Flora of India, From Burhanpur District, Madhya Pradesh, India

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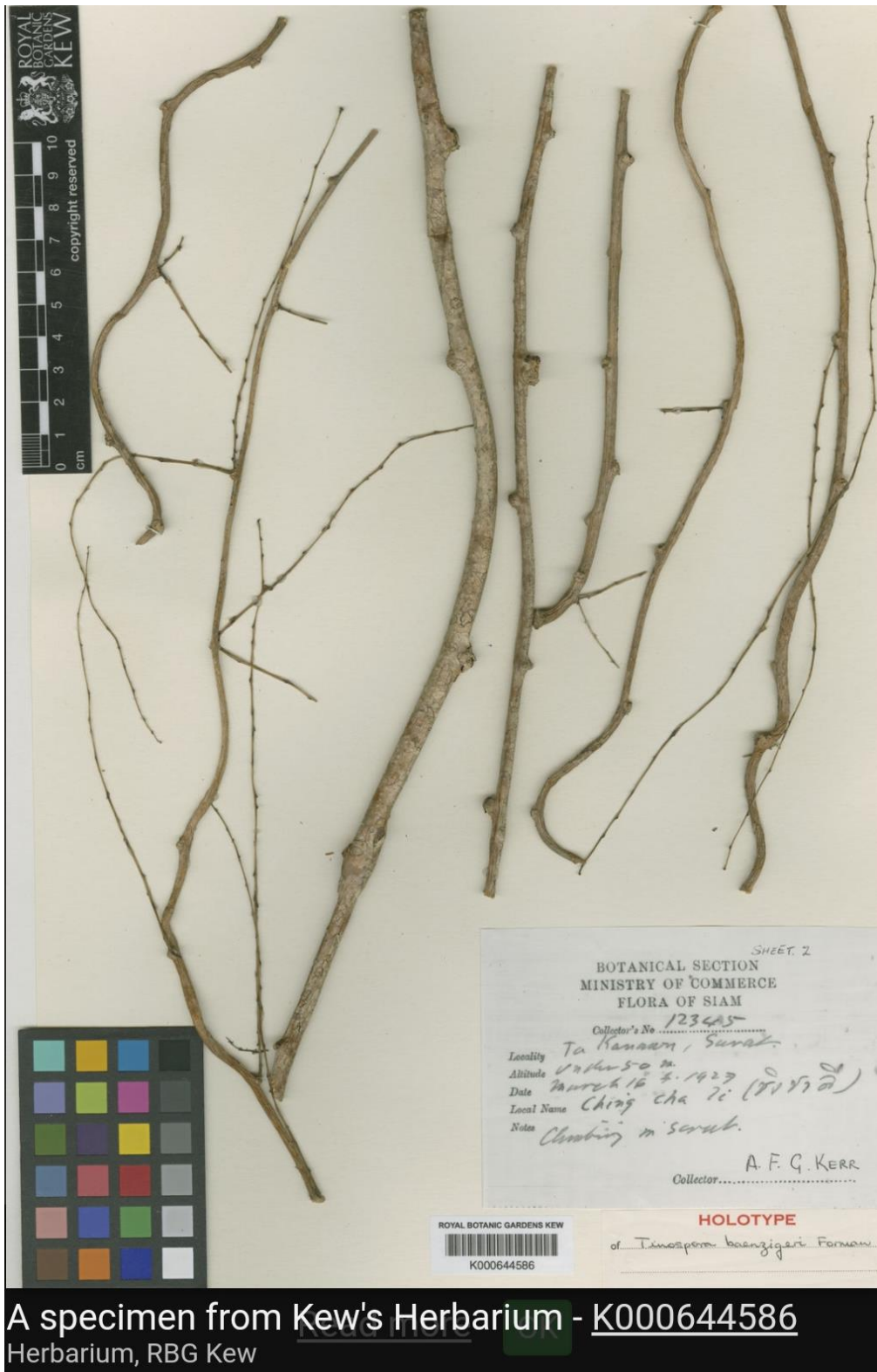
Abstract

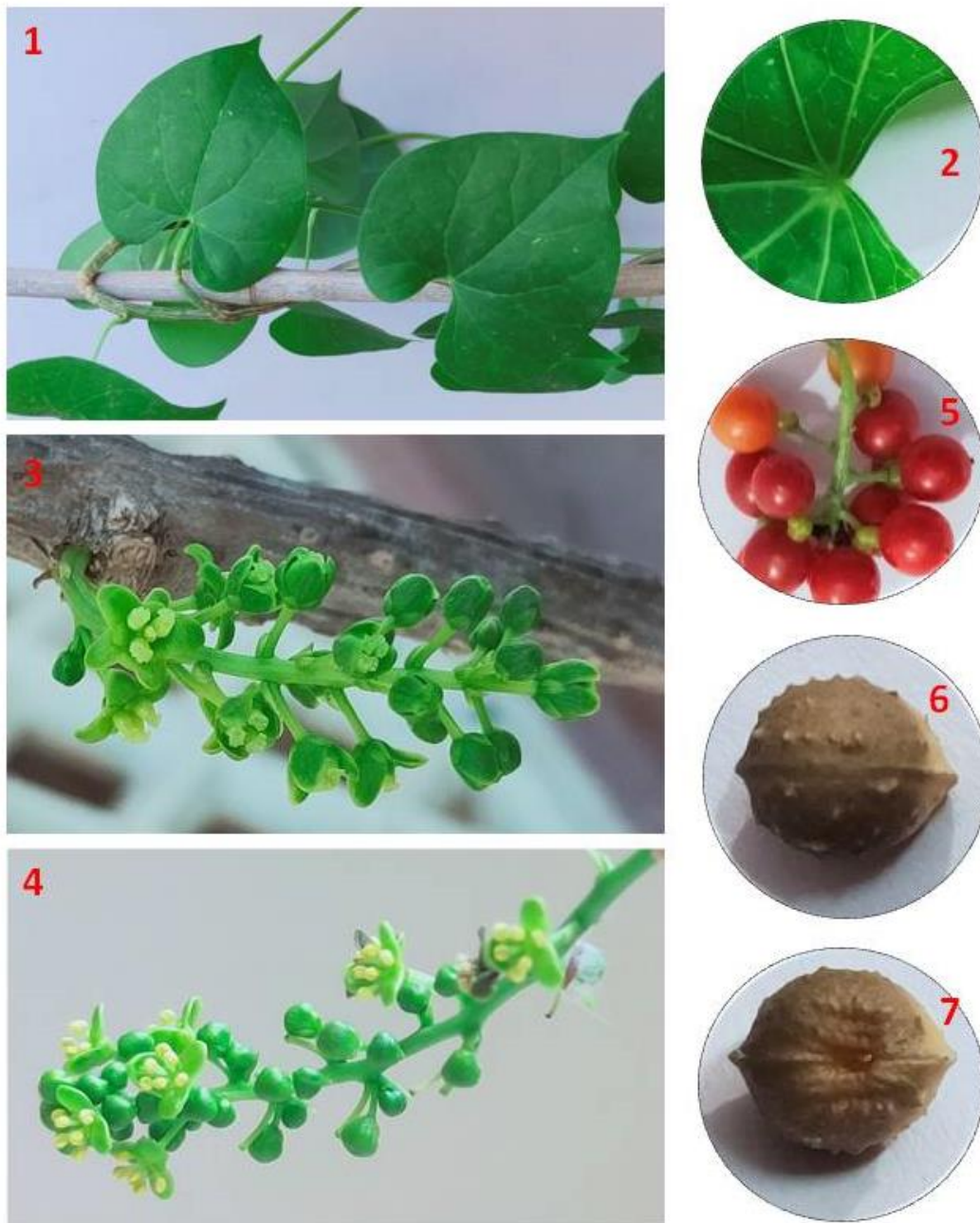
Tinospora baenzigeri Forman, Thailand species is reported as new record to the Flora of India from Telyababa forest range, Burhanpur district, Madhya Pradesh. Description, distribution photographs and with the respective holotype images accessed on Kew Herbarium (K000644586) of this newly recorded species are provided to aid easy identification.

INTRODUCTION

Tinospora Miens is a widespread genus in the family Menispermaceae comprising about 32 species (Forman, 1981) and distributed throughout tropical Africa, Madagascar, Asia to Australia and the Pacific Islands. In India, the genus *Tinospora* is represented by nine species. Out of nine, two species *Tinospora cordifolia* (Willd.) Hook. f. and Thomson and *T. sinensis* (Lour.) Merr. are known to occur in Madhya Pradesh. *Tinospora crispa* (L.) Hook f. and Thomson; *T. glabra* (F. Burm.) Merr. are reported from northeast India and the Andaman Islands. New species of *T. formanii* (Udayan *et al.*, 2009) from the Western Ghats of Thrissur district, Kerala South India; *T. maqsoodiana* (Mujaffar, *et al.*, 2014) a new species described from Madhya Pradesh; *T. smilacina* Benth. described from Tamil Nadu (Parthipan *et al.*, 2016); recently *T. subcordata* Diels (Mishra *et al.*, 2020) and *T. neocaledonica* Forman from the Madhya Pradesh, India (Mishra, 2020).

During floristic explorations in the various parts of forests of Central India, a few specimens belonging to the genus *Tinospora* Miens were collected from Telyababa forest range (Burhanpur district, Madhya Pradesh). On critical study, the specimens were identified as *T. baenzigeri* Forman. A thorough scrutiny of literature (Forman, 1981; Kubitzki *et al.*, 1993; Mabberley, 2008; Pramanik *et al.*, 1993; Udayan *et al.*, 2009; Mujaffar *et al.*, 2014 Parthipan *et al.*, 2016; Mishra *et al.*, 2020 and Mishra, 2020) and matched with the respective holotype images accessed on Kew Herbarium Catalogue (<http://apps.kew.org/herbcat/navigator.do>), revealed that this species was hitherto unreported from India. Hence the present report forms a new addition to the Flora of India. The specimens are preserved in S.N.Govt.P.G. College, Khandwa, research centre of Botany department and living specimen of in the botanical garden of S.N. Govt. P.G. College, Khandwa, Madhya Pradesh (450 001).





Tinospora baenzigeri Forman 1. A twig 2. Pair of hollow domatia present in axil of basal nerve of leaf
3. Female inflorescence 4. Male inflorescence 5. Infructescences 6. Dorsal view of Endocarp with weak dorsal ridge 7. Ventral view of Endocarp with deeply intrusive condyle

SYSTEMATIC TREATMENT

Tinospora baenzigeri Forman sp. nov. *T. crispae* (L.) Hook. f. & Thoms. affinis a qua caulibus lenticellis dispersas gerentibus sed tuberculis prominentibus carentibus, foliis infra ad basin laminae pari domatorum cavorum praeditis, floribus 6-petalis, drupis et endocarpiis minoribus, endocarpiis atrocineris differt. Typus: Thailand, *Kerr* 12345 (holotypus; isotypus) (Figures 1 to 7)

Woody climber up to c. 15 m. high, entirely glabrous. Stems up to c. 6 cm diam., drying striate when young but when old, bearing scattered pustular-lenticels but lacking prominent tubercles, with bitter watery sap when cut, producing long filiform aerial roots. Leaves with petioles 5-26 cm long; lamina broadly ovate to orbicular, base deeply to shallowly cordate, apex usually long-acuminate, 7-25 x 8-24 cm, palmately 5-7 nerved at the base, very thinly papyraceous, leaves with a pair of hollow domatia present in axils of basal nerves on lower surface. Inflorescences not coetaneous with the leaves. Male inflorescences arising from the older, leafless stems, often a few together, pseudoracemose, very slender 7-20 cm long, flowers in 1-3 flowered fascicles. Male flowers on filiform pedicels 2-4 mm long; sepals pale green, outer 3 ovate, thickened at base, 1-1.5 mm long, inner 3 obovate, unguiculate, 3-4 mm long; petals 6, in two whorls, narrowly oblanceolate, flat, lacking papillae, 2 mm long; stamens 6, 2 mm long. Female inflorescences similar to male but shorter, 2-6 cm long with flowers mostly arising singly along the axis. Female flowers: sepals and petals as in male; staminodes not distinct; carpels 3, ellipsoidal, 2 mm long, stigma very shortly lobed. Infructescences bearing lateral peduncles 1.5-2 cm long terminating in a subpyramidal 2-3 mm long carpophore below which usually persist reflexed ovate sepals 2 mm long. Drupes yellow and orange, radiating from subglobose carpophore 1 mm long on peduncle 5-7 mm long; pericarp drying very thin; endocarp thinly bony, blackish-grey, 7-9 x 5-6 mm, broadly elliptic in outline, rounded at base, slightly keeled at apex, with a weak dorsal ridge, surface papillose. (Fig.6 and 7).

This may be connected with the fact that the bitter substances present in the stems of *T. baenzigeri* are different from those in *T. crispae* (see above, p. 378)

HABITAT AND ECOLOGY: This species is growing in loamy soil with hedges of cultivated field at an altitude of 318 m, Telyababa forest range, Burhanpur district, Madhya Pradesh. It is rare and

sparsely distributed in the areas along with *Tinospora sinensis* (Lour.) Merr. The associations with species in locality are *Clerodendron phlomidis* L.f., and *Azadirachta indica* Juss., etc.

Flowering and Fruiting: November to May

Specimens Examined: Known only from Telyababa forest range, Burhanpur district, Madhya Pradesh, India, 20 March 2019, SM-1040.

Vernacular Name: Gulvel/Gudvel (Korku); Karial/Usnaide Veli/Giloya de Veli (Gond); Gahutakli (Nihal).

Distribution: Thailand and Telyababa forest range, Burhanpur district, Madhya Pradesh, India.

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