Species

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Anisomeles heyneana Benth. (Lamiaceae): A New Distributional Record for Bihar, India

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ABSTRACT

During plant exploration along the Ganga River in Bihar, some specimens of the family Lamiaceae were collected and identified as *Anisomeles heyneana* Benth. After extensive study, the species mentioned above was previously unrecorded in Bihar's floristic documentation and is now reported as a new distributional record for Bihar. The detailed morphological description, field and microscopic photographs, distribution, ecology, threat status and a note on its variation from allied species is given for easy identification.

Keywords: *Anisomeles heyneana*, Bihar, Lamiaceae, New Report

1. INTRODUCTION

Worldwide, the family Lamiaceae consists of ca. 225 genera, widely distributed in tropical, sub-tropical, and temperate regions of the world POWO, (2024). The flora of India listed 443 taxa (399 species & 44 infraspecific) under 67 genera in the family Lamiaceae (Sampath-Kumar et al., 2020). Of these, the genus *Anisomeles* R.Br. comprises 04 species growing in different regions of India, with *A. tirunelveliensis* Rajakumar, Selvak. & S. Murug. is endemic to Tamil Nadu. During the vegetation exploration along the Ganga River in Bihar, the author (AK) collected some specimens of *Anisomeles* R.Br. species along the roadsides near Barh, Patna district of Bihar. On critical examination with relevant literature Bean, (2015), it was identified as *Anisomeles heyneana* Benth. and it is so far known from Gujarat, Jharkhand, Karnataka, Kerala, Maharashtra, and Tamil Nadu (Sampath-Kumar et al., 2020). This paper provides updated nomenclature, botanical descriptions, phenology, and ecological notes, as well as photo plates for easy identification (Plates 1 & 2).

2. MATERIAL & METHOD

The field visit along the Ganga River in Bihar was conducted from March 2023 to October 2023. The collected plant samples were identified and authenticated using the relevant literature of Hooker (1881), Singh et al. (2001), and Bean (2015).

Currently, accepted botanical name has been used following POWO, (2024). The voucher specimens were dried, pressed, and mounted on herbarium sheets according to with Jain and Rao, (1977), and then deposited in the Patanjali Research Foundation Herbarium (PRFH), Haridwar, Uttarakhand, for future reference and documentation.

3. SYSTEMATIC ENUMERATION

Anisomeles heyneana Benth. in Wall., Pl. Asiat. Rar. 1: 59. 1830; Hook.f., FI. Brit. India 4: 672. 1885; Singh et al., Fl. Bihar Analysis 409. 2001; Sampath-Kumar et al. in S. S. Dash & A. A. Mao, Fl. Pl. India Annot. Checkl. Dicot. 2: 235. 2020.

Perennial, erect, undershrubs, up to 1.5 m tall. Stems and branches glabrous or sparsely hairy, acutely tetragonous. Leaves 4-10 x 2-5 cm, ovate or ovate-lanceolate, thin, glabrous or sparsely hairy, apex acuminate, base cuneate, margins crenate-serrate. Flowers 12-14 mm long, white, bilipped, lower lip tinged with pink, in few flowered, unilateral cymes. Calyx 0.5-0.7 cm long; teeth ca. 2 mm long, acuminate, strongly reticulate. Corolla tube 0.6-0.8 cm long, upper lip 0.5 cm long, lower lip 0.9-1.2 cm long. Stamens 4, two small, two large, large stamen ca. 1 cm long, small stamen 0.7 mm long. Style 1.5 cm long. Nutlets ca. 0.2 cm long, oblong, brown, smooth.

Vedic name

Nakhapuṣpakam sitam

Etymology of Genus name: Name is given on the basis of claw-like flowers.

Etymology of Species name: Name is given on the basis of white colored flowers.

Fl. & Fr.

September-December

Ecological note

Occasional; found along the along the roadside and open places.

Specimen examine

India, Bihar, Patna district, Barh (25°22'39.4" N & 85°57'00.1" E) on 18.10.2023, *Amit Kumar*, *1601* (PRFH).

Distribution

Gujarat, Jharkhand, Karnataka, Kerala, Maharashtra, Tamil Nadu and now Bihar.

Note

Anisomeles heyneana Benth. is endemic to India, and earlier, Singh et al., (2001) reported the distribution of *Anisomeles heyneana* Benth. from Hazaribagh, but now it is located in Jharkhand state of India. In present study, it was collected from Barh area of Patna district (Bihar) and rarely found along the roadside and open places. *Anisomeles heyneana* Benth. is similar to *Anisomeles indica* (L.) Kuntze, but the earlier has white-colored flowers. *Anisomeles heyneana* Benth. have 12-14 mm long flower with calyx 5-7 mm long, teeth ca. 2 mm long, large stamen ca. 10 mm long, small stamen 0.7 mm long, style ca. 15 mm long, and brown-colored seeds. *Anisomeles indica* (L.) Kuntze have 14-15 mm long, pink colored flower with calyx 7-11 mm long, teeth ca. 0.35 mm long, large stamen ca. 1.4 cm long, small stamen 1.2 cm long, style 1.5 cm long and black colored seeds.

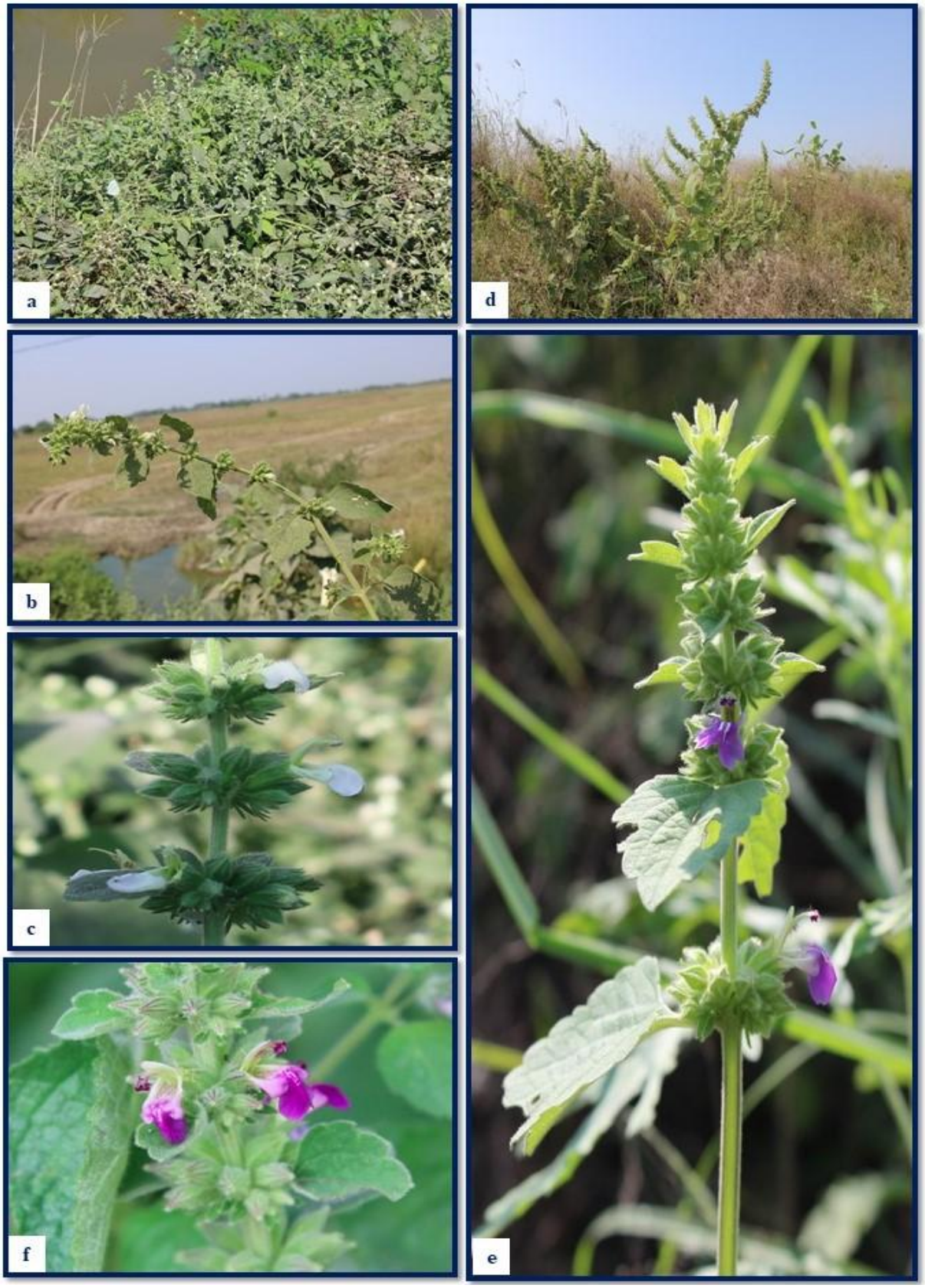

Plate 1 *A. heyneana* Benth.: a. Plant in natural habitat; b. Branch view; c. Inflorescence; *A. indica* (L.) Kuntze; d. Plant in natural habitat; e. Branch view; f. Inflorescence.

Plate 2 Herbarium specimen of *Anisomeles heyneana* Benth.

Authors' Contribution

AB: Supervision and editorial inputs; AK and BJ: Identification of plant, manuscript writing and data interpretation; RKM, AS, VPA and IM: Manuscript editing and technical inputs.

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Conflicts of interests:

The authors declare that there are no conflicts of interests.

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Ethical approval & declaration

In this article, as per the plant regulations followed in the Patanjali Research Foundation, Haridwar, India, the authors identified *Anisomeles heyneana* Benth (Lamiaceae family) from Ganga River in Bihar, India. The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

Data and materials availability

All data associated with this study are present in the paper.

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