



Zeuxine strateumatica (L.) Schlechter. (Orchidaceae): A new addition of the Orchid Flora of Bilaspur District of Chhattisgarh state in Central India

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Abstract

Zeuxine strateumatica (L.) Schlechter is reported as an addition to the orchid flora of Bilaspur District, Chhattisgarh, India. A detailed morphological description, along with photographs of plants and dissected floral parts, is provided.

Keywords: Bilaspur, Chhattisgarh, *Zeuxine strateumatica* (L.) Schlechte, New addition, Orchid, Terrestrial Orchid

Introduction

Currently, the number of tiny to medium-sized terrestrial *Zeuxine* species is approximately 80. Lindley used the Greek word *zeuxis*, which means "yoking," to describe them when he first wrote about them in 1826. Lindley most likely meant the partial union of the column and lip. Some believe it can be a reference to the fact that in certain species, pollinia tend to grow together. According to Chen *et al.*, (2009) [2], the genus *Zeuxine* Lindl. is found in tropical and subtropical Africa, Asia, New Guinea, Australia, and the islands in the SW Pacific.

A central university located in Bilaspur, Chhattisgarh, India is called Ghasidas Vishwavidyalaya. It is one of the biggest and most established universities in Chhattisgarh. Founded by the Central Universities Act 2009, No. 25 of 2009. Created by an Act of the State Legislative Assembly and formerly known as Guru Ghasidas University, it was initially opened on June 16, 1983. GGV actively participates in both the Association of Common Wealth Universities and the Association of Indian Universities. The Guru Ghasidas University campus is situated five kilometers from the center of Bilaspur and spans an area of around 700 acres (2.8 km²), between 22°07'45 N latitude and 82°08'10 E longitude. Its black-sandy soil is found close to the banks of the Arpa River, which receives rainwater. Its average elevation is 264 meters (866 feet).

The region has a tropical climate. Because of its closeness to the Tropic of Cancer and reliance on the monsoon for rain, it is hot and muggy. During the monsoon season, there are moderate rains. With summer temperatures reaching up to 47°C and winter temperatures ranging from 5°C to 25°C, it is an extremely hot summer. There is a great diversity of plant species at the location.

Materials and Methods

During the field visit of the G.G.V. Campus in Bilaspur district and adjoining areas, we came across interesting species of orchids, and upon critical observations of the specimens, they were identified. Review the relevant literature (Singh N.P. *et al.*, 2001 [19]; Khanna *et al.*, 2005 [13]; Kotia *et al.*, 2013; Singh R.N. *et al.*, 2019). Websites of the Plant List (<http://www.theplantlist.org>), POWO was consulted for updating species names, revealing that these species have been reported from the GGV Campus area of Bilaspur, Chhattisgarh, India.

The current collection thus forms the first report of orchid species from the G.G.V. Campus Bilaspur, Chhattisgarh in central India. We are here to provide a description, phenology, and other relevant notes on the species for easy identification. The specimens have been deposited in the form of an herbarium in the Department of Botany, G.G.V. Bilaspur, Chhattisgarh.

Description

Zeuxine strateumatica (L.) Schlechter in Engler, Bot. Jahrb. 45: 394 (1911). *Zeuxine strateumatica*. Synonyms: *Zeuxine strateumatica* var. *laxiflora* I. Barua, Orchid Fl. Kamrup Distr. Assam: 52 (2001). *Zeuxine strateumatica* f. *rupicola* (Fukuy.) T. Hashima, Ann. Tsukuba Bot. Gard. 5: 27 (1986). *Zeuxine strateumatica* var. *rupicola* (Fukuy.) S.S.Ying. Col. Ill. Indig. Orch. Taiwan 1(2): 512 (1977).

Terrestrial herb, 10–25 cm, stem erect, fleshy, arising from short creeping rhizome, leaves alternate erect, linear-lanceolate, 1.1–3.2 × 0.3–0.4 cm, sessile, green or brown; Inflorescence, glabrous, with a few to more than 15 densely arranged flowers; floral bracts reddish brown, ovate-lanceolate, 0.8–1.2 cm, acuminate; flowers white, 0.5 × 0.3–0.5 cm across, small; sepals glabrous, dorsal sepal narrowly ovate-oblong, concave, 0.4–0.6 × 0.2–0.3 cm, 1-veined, apex obtuse, lateral sepals obliquely oblong, 0.4–0.5 × 0.1–0.2 cm, 1-veined, apex acute or obtuse; petals subovate to obovate, oblique, 0.4–0.5 × 0.1 cm, glabrous, 1-veined, apex obtuse; lip pale yellow, cymbiform, 0.4–0.5 cm, 3-partite; hypochile concave-saccate, containing 2 subtriangular, lamellate calli; mesochile ca. 0.1 cm, exterior surfaces minutely papillate toward apex, margin denticulate, involute; epichile transversely elliptic oblong, 0.1 × 0.2 cm, minutely papillate, apex with a small mucro to slightly emarginated; column ca. 0.1 cm, very short, capsule ellipsoid or broadly ovoid, ribbed, 0.6 × 0.3 cm.

Flowering: January–March.

Habitat: terrestrial, growing in moist sandy soil on grassy land.

Locality: GGV Campus Bilaspur, Raigarh, Raipur (C.G.).

Specimen Examined: G.G.V. Campus, Bilaspur Chhattisgarh, 22.126375° N Latitude to 82.141576° E Longitude, altitude 278 M, 30 January 2023, Devendra Kumar Patel & Ram Kumar Rajwade.

Distribution: India (Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Chhattisgarh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal),

Afghanistan, Bangladesh, Bhutan, Borneo, Brazil, Cambodia, China, Cuba, Indonesia, Iran, Japan, Laos, Malaysia, Mexico, Myanmar, Nepal, New Guinea, Philippines, Saudi Arabia, South Africa, Sri Lanka, Tadjikistan, Taiwan, Thailand, United States of America, Uzbekistan, Vietnam.

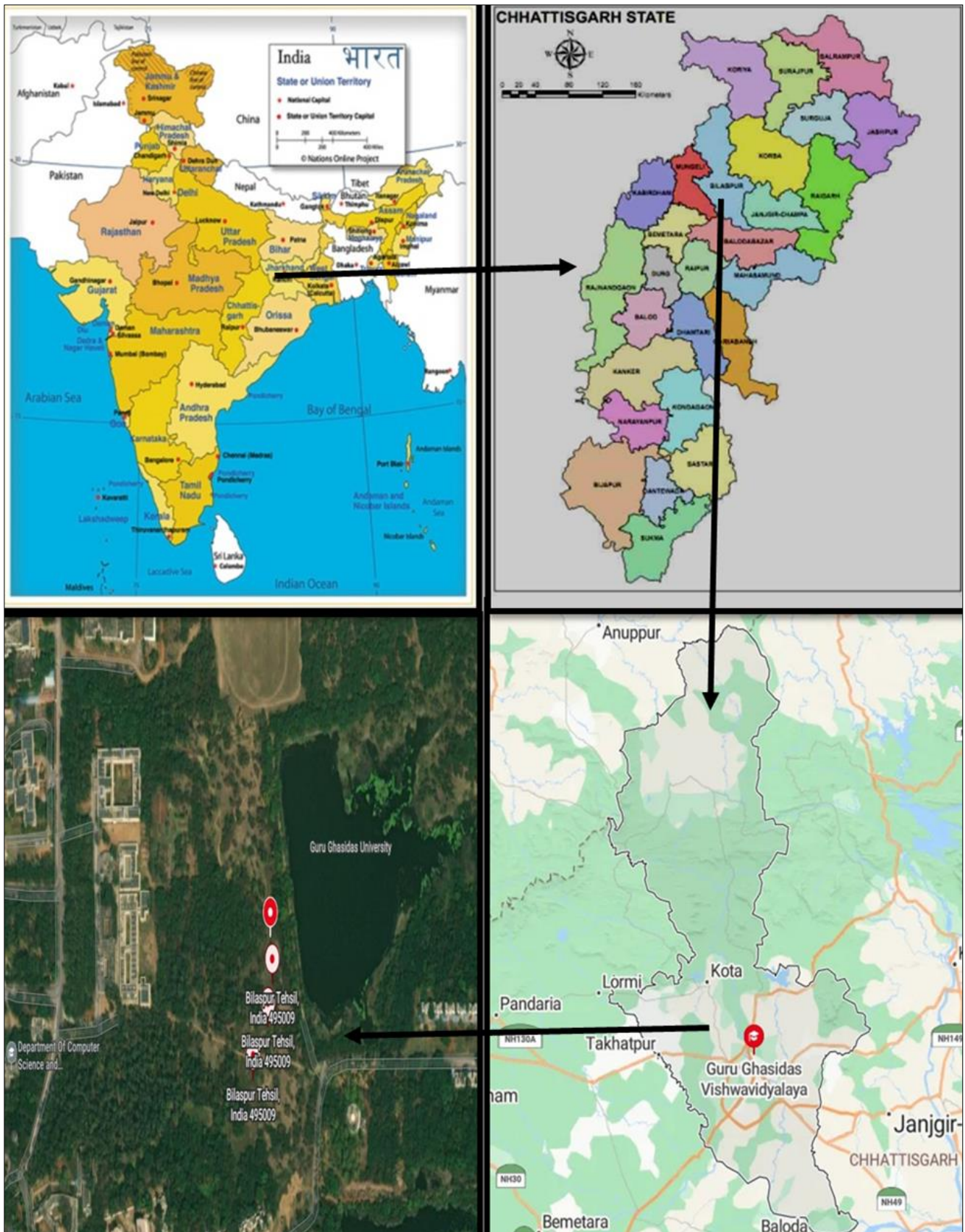


Fig 1: Maps of the area (G.G.V. Campus, Koni, Bilaspur, District of Chhattisgarh)

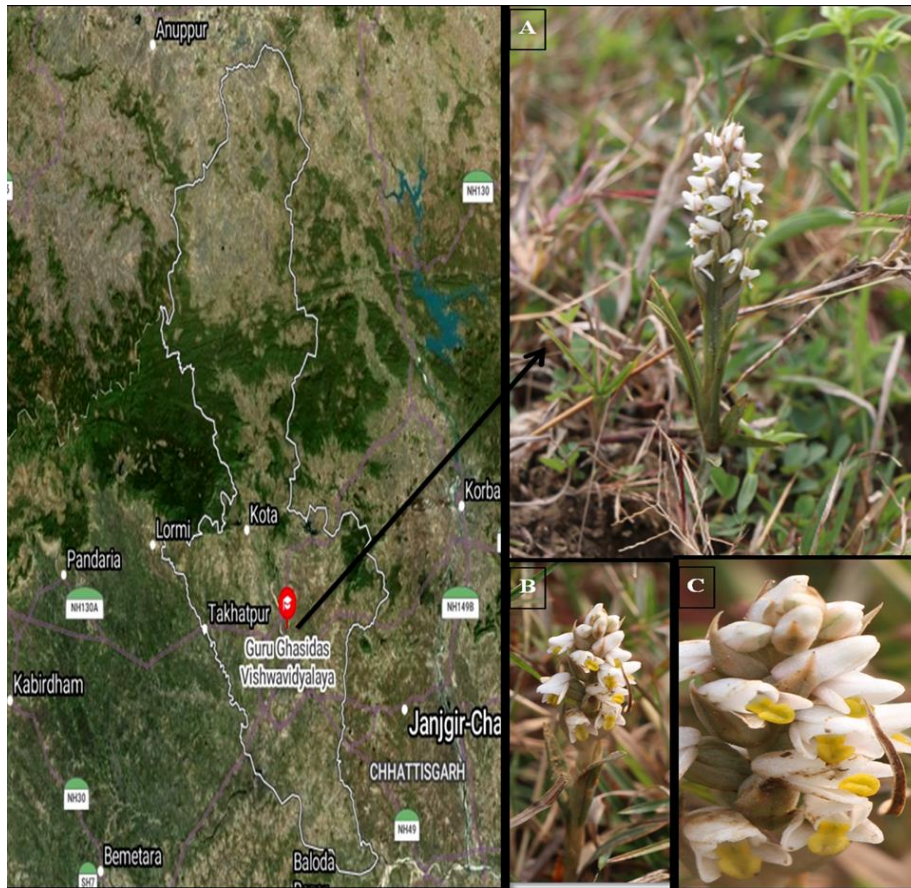


Fig 2: Location of *Zeuxine strateumatoca* (L.) Schlechter

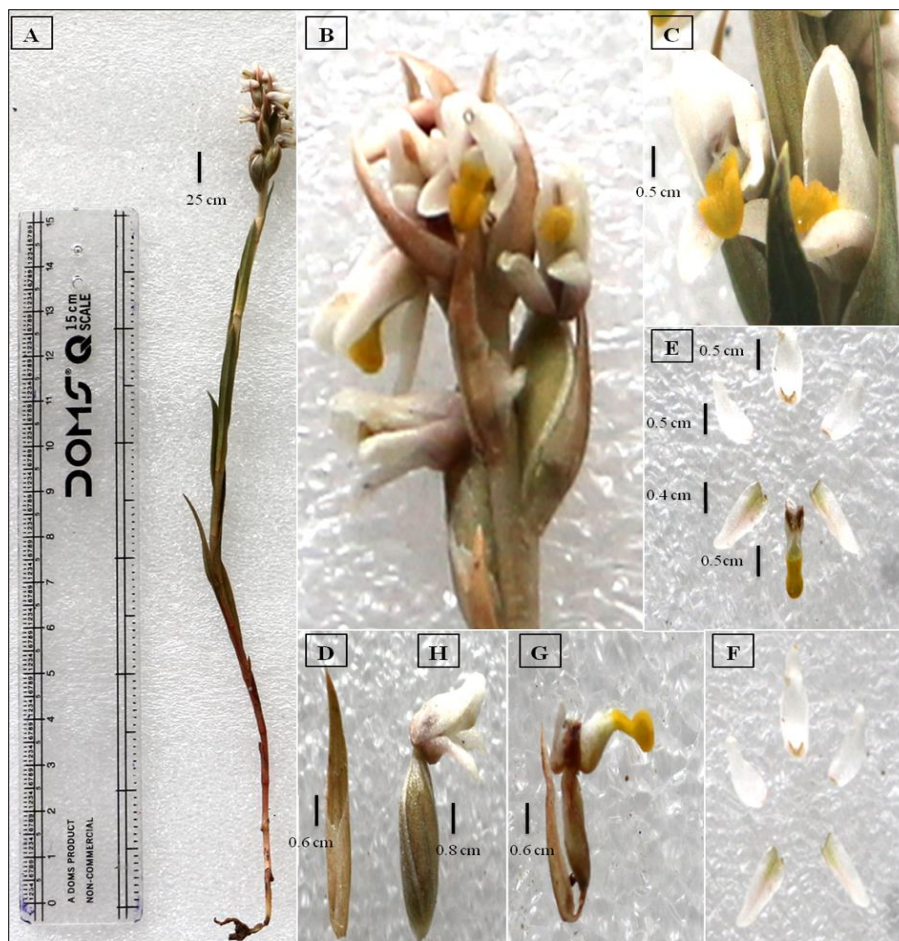


Fig 3: *Zeuxine strateumatoca* (L.) Schlerchter- (A):- Whole Plants, (B):- Inflorescence (C):- Close view of flower, (D):- Bract, (E&F):- Dissected Setal, Petal, & lip, (G):- Pedicle with lip, (H):- Immature Caspule

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