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## *Eria merguensis* Lindl. (Orchidaceae) – a new addition to the Indian flora

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### Abstract

*Eria merguensis* Lindl., an uncommon orchid, is reported here for the first time from India. The conservation status of the species is discussed in Indian context.

### Introduction

The genus *Eria* Lindl. *sensu lato* (Orchidaceae: Epidendroideae: Eriinae) is highly polymorphic and represented by c. 500 species (Pridgeon 1992), distributed from Sri Lanka to Tahiti (Ormerod 2014). In India, *Eria s.l.* is represented by 60 taxa (Agrawala and Chowdhery 2013).

The circumscription of the genus *Eria* is still controversial. Lindley (1858) recognized 11 sections, Bentham (1881) recognized 10 sections, Kränzlin (1911) recognized 8 sections under *Eria*. Seidenfaden (1982) provided a list of 41 sectional names in *Eria* in his treatment. Cribb et al. (2005) reinstated several earlier recognized genera that had been reduced to sectional ranks, but their concepts have not been accepted in some recent works (Agrawala and Chowdhery 2013; Agrawala and Ormerod 2014; Ormerod 2014) because the “circumscriptions of these genera are overlapping and not precisely defined” (Agrawala and Chowdhery 2013, p. 116); some segregate genera “seem difficult to define” and “the definition of the genus *Callostylis* Blume seems somewhat broad” (Ormerod 2014, p. 77).

During field explorations between 2010 and 2013, the authors collected some plants of *Eria* from North Himen Village in the Kolasib district and Murlen National Park in the Champhai district, both within the State of Mizoram (Fig. 3). A voucher specimen of the first collection could not be prepared due to lack of flowers and scarcity of specimens. However, a single living clump was transplanted to the Orchidarium of the Botanical Survey of India, Eastern Regional Centre, Shillong for ex-situ conservation and further study. Critical study of live plant material from North Himen and a herbarium specimen from Murlen National Park revealed their identity as *Eria merguensis* Lindl., a species hitherto unknown from India.

Blume (1825) described the genus *Mycaranthes* with 3 species (*Mycaranthes oblitterata* Blume, *M. latifolia* Blume and *M. lobata* Blume). Reichenbach (1857) treated *Mycaranthes* as a section of *Eria* for the first time and placed all of Blume's three species of *Mycaranthes* along with another species of *Eria*, viz. *E. javensis* Zoll. & Moritz, in the section *Mycaranthes* (Blume) Rchb.f. Lindley (1858) described *E. merguensis* and placed it in section *Mycaranthes* along with *E. stricta* Lindl. and *E. retusa* (Blume) Rchb.f. Lindley (1858) had misapplied the sectional name *Mycaranthes*, and therefore the new section *Secundae* Leavitt was created to accommodate the misplaced species. Seidenfaden (1982) placed *Eria merguensis* in section *Secundae* with other species of *Eria*, viz. *E. siamensis* Schltr. and *E. porteri* Seidenf. & A.D. Kerr. In the present communication we prefer to follow Seidenfaden's treatment but are aware that further studies may place *Eria merguensis* in a different section or genus for that matter. A detailed taxonomic account of the species is provided below.

### Taxonomic treatment

***Eria merguensis*** Lindl., *Journal of the Proceedings of the Linnean Society, Botany* 3: 52 (1858); HG Reichenbach, *The Gardeners' Chronicle, new series* 13: 616 (1880); Seidenfaden, *Opera Botanica* 62: 82 (1982).

*Pinalia merguensis* (Lindl.) O. Kuntze, *Revisio Generum Plantarum* 2: 679 (1891).

*Mycaranthes merguensis* (Lindl.) Rauschert., *Feddes Repertorium* 94: 456 (1983).

Lectotype (designated by Seidenfaden 1982): Mergui, *Griffith* 1034 (K, image!, [as 'type' by Seidenfaden, *loc. cit.*]);

Residual syntype: Moulmein, *Lobb* s.n. (K-LINDL).

Epiphytic, 8–20 cm tall herbs. Pseudobulbs crowded, clavate to cylindrical-clavate, 4–10 cm long, 0.5–1.2 cm wide. Leaves 2 or 3, arising from subapical nodes of pseudobulbs, oblong-ovate to oblong-lanceolate, 5–11 cm long, 0.7–1.5 cm wide, blunt and unequal at apex, lamina narrowed to form c. 5 mm long petiole-like structure, midrib distinct. Inflorescence a subterminal raceme, 1 or 2 from a pseudobulb, erect, densely 16–68-flowered, flowers facing outwards in all directions, covered with white tomentose hairs; peduncle 2–6 cm long; rachis 2–10 cm long. Floral bracts minute, c. 1 mm long, 0.5 mm wide. Flowers densely woolly externally, yellow; sepals similar, c. 1.5 mm long, 1.2 mm wide, ovate to ovate-orbicular, obtuse at apex, white tomentose outside, 3-veined, lateral sepals sometimes slightly oblique; petals ovate to oblong-ovate, c. 1.2 mm long, 0.8 mm wide, obtuse at apex. Lip obscurely 3-lobed, c. 1.4 long, subacute to obtuse at apex, with 2 fat parallel longitudinal calli; calli truncate and papillose at apex. Pollinia 8, yellow, clavate, each c. 0.3 mm long. Fig. 1, 2.

**Flowering and fruiting:** January–April

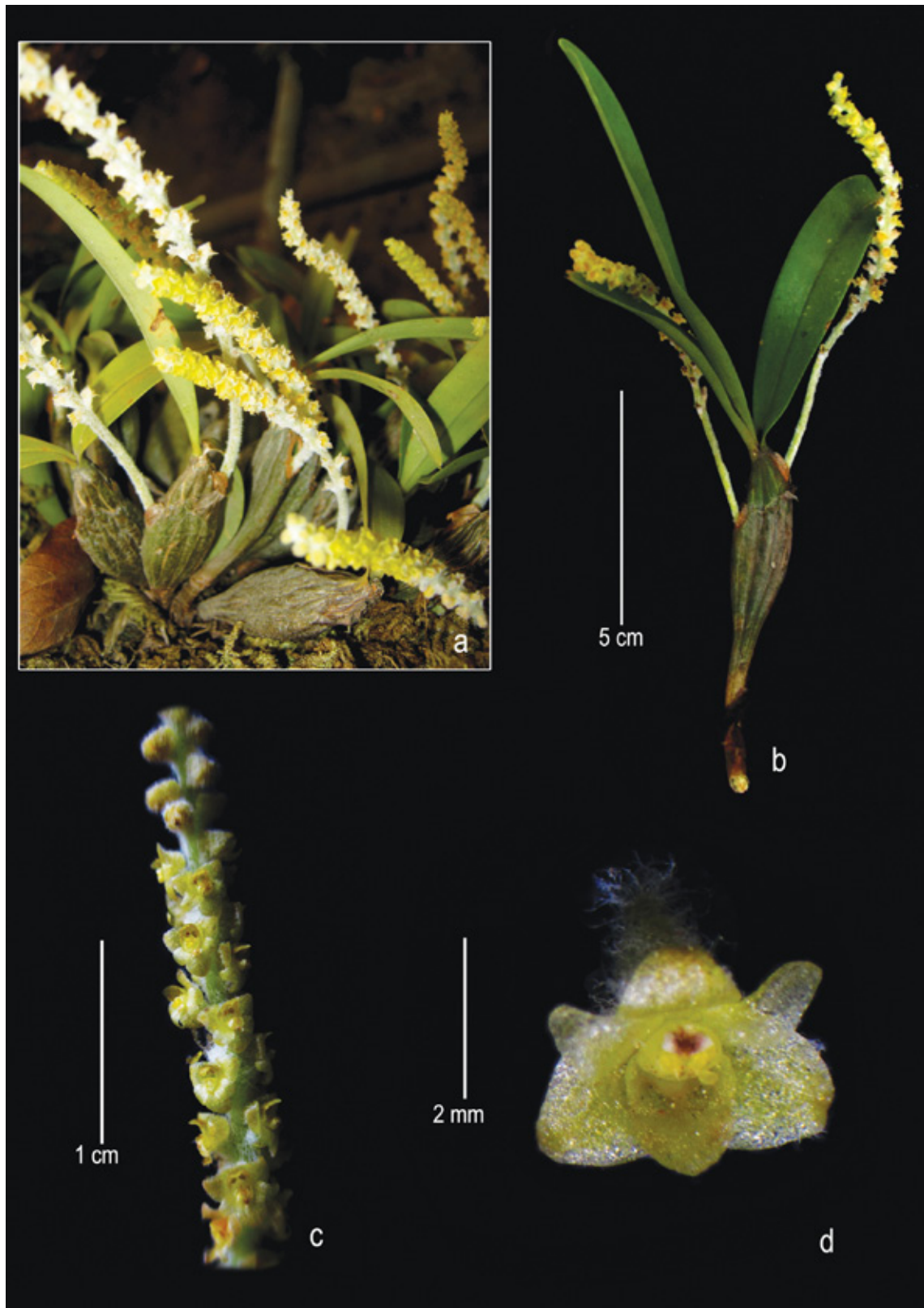
**Habitat:** The plants are found growing on the branches of trees at the edges of tropical and subtropical forests, at elevations of 600–1600 m.

**Distribution:** India (reported here), Myanmar, Thailand.

**Etymology:** The generic name *Eria* is derived from the Greek 'erio' (wool) in reference to the outside of the sepals and petals, and the specific epithet is after the type-locality (Mergui) of the species.

**Specimens examined:** INDIA: Mizoram, Champhai, Murlen National Park, 1550 m, 15 Apr 2013, *Ramesh Kumar et al.* 128466 (ASSAM). MYANMAR: Moulmein, Jan 1897, *Peche* s.n. (CAL); Feb 1897, *Peche* s.n. (CAL); Mergui, Mar 1911, *Meebold* 14510 (CAL).

**Diagnostic features:** *Eria merguensis* is morphologically similar to *E. porteri* (Seidenfaden 1982), a probable synonym of *E. pudica* Ridl., but can be distinguished by its dense, 16–68-flowered inflorescence (vs 10–12-flowered inflorescence in *E. porteri*), sepals c. 1.5 mm long (vs sepals c. 3 mm long in *E. porteri*) and papillose apices of labellum calli (vs smooth labellum calli in *E. porteri*). Further, the hairs on the pedicel plus ovary and sepals in *E. merguensis* are coarsely tomentose, where in *E. porteri* the hairs are finely tomentose.



**Fig. 1.** *Eria merguensis* Lindl. **a–b**, habit; **c**, portion of rachis; **d**, flower.



**Fig. 2.** *Eria merguensis* Lindl. **a**, habit; **b**, Flower (front view); **c**, flower (basal view); **d**, sepals, petals, lip, column and pedicel plus ovary; **e**, anther (left) and pollinia; **f**, column. [Portions of an illustration (rearranged) at CAL prepared on a herbarium sheet (with a label) possibly by Robert Pantling]

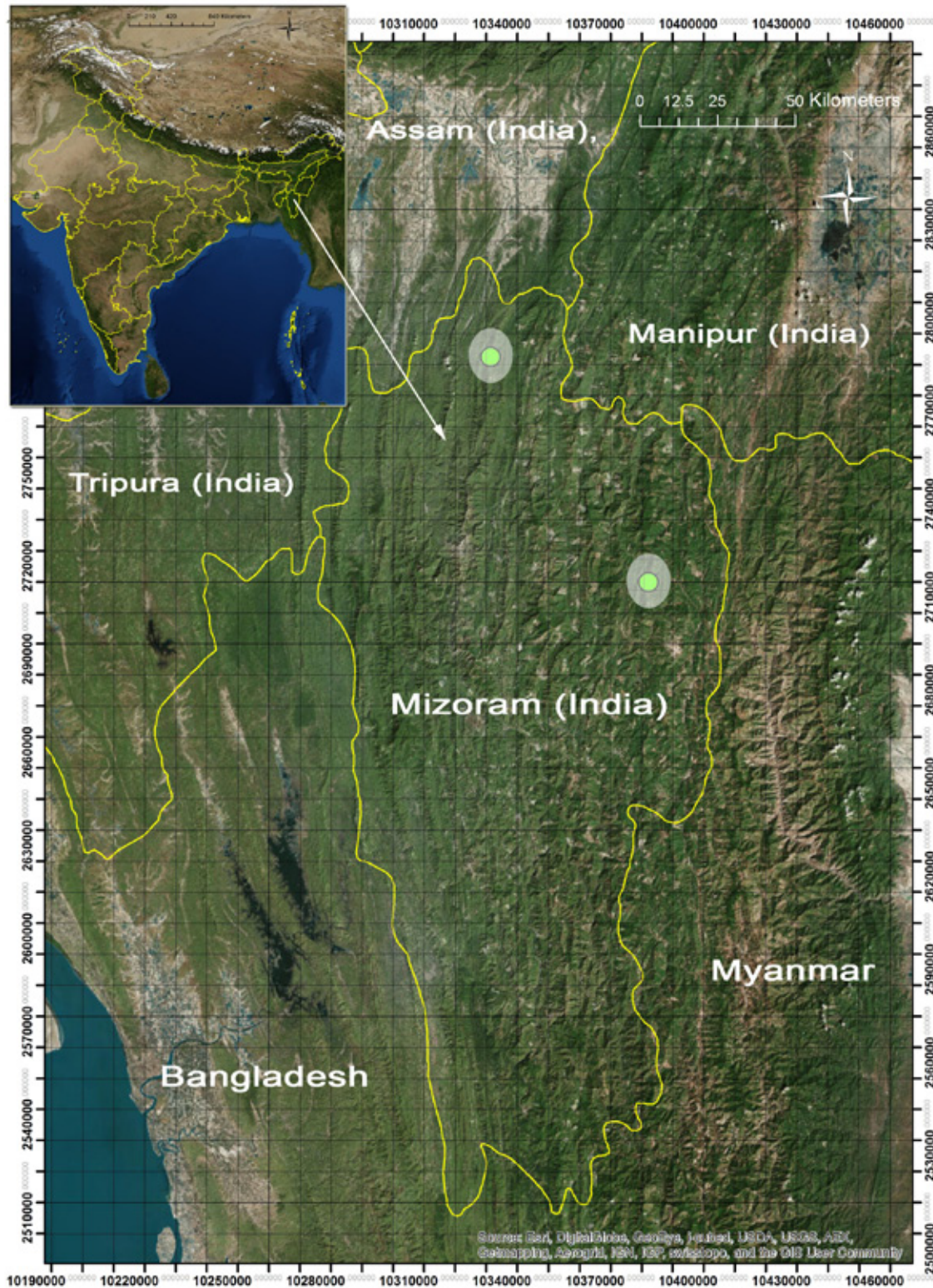


Fig. 3. Map (with 10 × 10 km grids) showing distribution of *Eria merguensis* Lindl. in India.

**Conservation status in India:** Endangered [EN B1ab(ii) D]

*Eria merguensis* is presently reported only from three countries, viz. India (here reported), Myanmar and Thailand. In India, we could locate c. 150 mature individuals (Criterion D) of *E. merguensis* growing in 2 localities in the State of Mizoram (Fig. 3), i.e. in forests of North Himen village, Kolasib and Murlen National Park, Champhai. In India, the Extent of Occurrence (EOO, Criterion B1) of *E. merguensis* is c. 3000 sq km and Area of Occupancy (AOO, Criterion B2) is c. 8 sq km. However, we predict that the AOO may be slightly higher (but of course <500 sq km) as the species may occur in a few more nearby locations due to similar type of habitat and species-composition. We have not observed any natural or man-made threat to this epiphytic species in Murlen National Park (Protected Area), but it is under moderate threat near the North Himen village due to dependency of the tribal people on the forest. Based on its EOO (Criterion B1), the number of mature individuals (Criterion D) and the present threat (near North Himen village) we assessed *E. merguensis* as Endangered [EN B1ab(ii) D] in India as per IUCN's guidelines (IUCN, 2012). The status of *E. merguensis* at global level could not be assessed at present due to lack of sufficient data on Thai and Burmese specimens and their present populations.

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