

Short-note

***Calanthe longipes* Hook.f., a new record of Orchidaceae for the flora of Nepal**

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C*alanthe* R.Br. is the largest genus in the tribe Collabieae under subfamily Epidendroideae of the family Orchidaceae. It comprises about 223 orchid species worldwide, commonly called 'Christmas orchids', with the distribution across tropical and subtropical Asia, Australia, Madagascar, Africa, central and south America, and the Caribbean (Chase, 2005; Chen *et al.*, 2020; Yukawa & Cribb, 2014) while there are 18 species in Nepal, including *Calanthe himalaicum* Raskoti, an endemic species (Raskoti *et al.*, 2024). The *Calanthe* species are evergreen or deciduous herbs, usually terrestrial, rarely epipetric or epiphytic with thick roots, plicate leaves, mostly upright and sometimes with archic flowering stems (Kurzweil & Ormerod, 2019). The genus *Calanthe*, which was formerly divided into three genera, *Calanthe*, *Cephalantheropsis* Guillaumin, and *Phaius* Lour. has undergone several intrageneric taxonomic revisions (Nanjala *et al.*, 2022). The members in this group are characterized by the presence of simple and plicate leaves, widely connivent sepals and petals, lip base fused with column and eight waxy pollinia (Kurzweil, 2010).

A distinct population of *Calanthe* species was collected from Sundarijal in Shivapuri-Nagarjun National Park (SNNP) located at the northern fringe of the Kathmandu Valley, central Nepal in November 2023. The plants were found to be naturally growing at the margin of *Alnus nepalensis* mixed forest. The morphological characteristics of

the collected species was examined and compared with that of the other *Calanthe* species stored at the National Herbarium and Plant Laboratories (KATH), Godawari, Lalitpur district, Nepal. The morphology of the aforementioned *Calanthe* species did not resemble with any of the *Calanthe* species reported earlier from Nepal. Upon careful examination of different literatures (Pearce & Cribb, 2002; Xinqi *et al.*, 2009), including the protologue (Hooker, 1890) and the type image, the species was identified to be *Calanthe longipes* Hook.f. The occurrence of *C. longipes* has been reported in Bhutan (Pearce & Cribb, 2002), China (Xinqi *et al.*, 2009), India (Hooker, 1890); however, its presence in Nepal has not been reported in any of the previous literatures (Don, 1825; Hara *et al.*, 1978; Rajbhandari, 2015; Rajbhandari & Rai, 2017; Raskoti, 2009; Rokaya *et al.*, 2013; Shrestha *et al.*, 2022) so far. Hence, the orchid "*C. longipes*" found in the SNNP is, no doubt, a new record for the flora of Nepal.

Taxonomic treatment

C. longipes Hook.f. in J.D. Hooker, Fl. Brit. India 6: 195 (1890). **Type:** India, Sikkim, s.d., *King s.n.* (BM!). ≡ *Alismorkis longipes* (Hook.f.) Kuntze, Revis. Gen. Pl. 2: 650 (1891). ≡ *Phaius longipes* (Hook.f.) Holttum, Gard. Bull. Singapore 11: 286 (1947). ≡ *Cephalantheropsis longipes* (Hook.f.) Ormerod, Orchid Digest 62: 156 (1998).

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Description



Figure 1: Habit of *Calanthe longipes* (Photo: Rashika Kafle).

Plants: 35–60 cm; Rhizomes: creeping; Stem: usually erect, cylindrical, 6–8 mm in diameter, striate when dry, with distinct nodes and internodes with leafy sheaths at base; Leaves: amplexicaul, elliptic to ovate-oblong, 10–26 cm × 2.5–6 cm, apex narrowly acute to acuminate, margins entire, both surfaces glabrous; Inflorescence: usually one, 10–20 cm, erect when anthesis, ascending after flower maturation; puberulent; lax to dense, 9–17 flowered; Floral bracts: caducous, lanceolate; Flowers: connivent in an inclined or horizontal manner, not completely opened; Sepals: spreading, lance-ovate to lanceolate, 6–8 mm × 2.5–3.5 mm, white, light yellowish-brown when mature, puberulent, apex shortly acuminate; Petals: lance-ovate to ovate, 5–6 mm × 2–3 mm, similar to sepals in colour; Lip: connivent, 4.5–5.5 mm × 3.5–4.5 mm including lateral lobes, oblong-ovate, 3-lobed, white with yellow-orange tinge at center; Lateral lobes: 1.5–1.8 mm,

broadly triangular-ovate, apices rounded-truncate, irregularly cleft; Middle lobe: 1.6–1.8 mm × 2.5–3 mm (excluding claws), margins sinuate; Claws: 1.6–2 mm; Disk: yellow-orange with 2 lamellae, extending from lip base to the base of middle lobe; Column: 3–4 mm, puberulent at apex (see Figures 1–2).



Figure 2: Voucher specimen of *C. longipes* deposited at the KATH.

Habitat and distribution

This species is found under closed canopy of the forests and also at the margin of the forests. This species may have more individuals if it is explored within the forests as evidenced by the discovery of over 12 of them growing in patches on the soil at the edges of the forests. It is distributed throughout the Tibetan plateau, East Himalaya, East Asia, and South East Asia. In Nepal, it is found in the SNNP located near the northern edge of the Kathmandu Valley in Bagmati Province (see Figure 3).

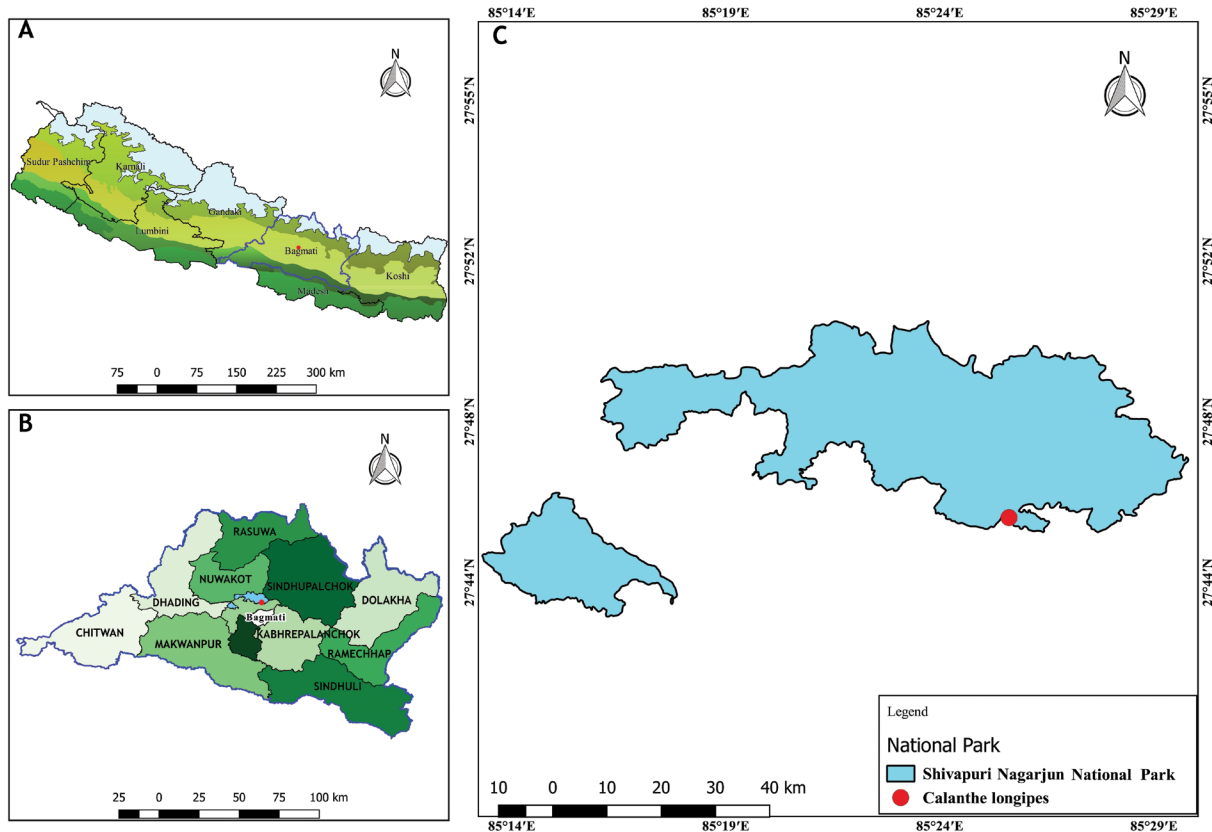


Figure 3: (A) Map showing the distribution of *C. longipes* in Nepal; (B) Map showing the location of SNNP within Bagmati Province; and (C) Map showing the site where *C. longipes* plants were detected within SNNP, Kathmandu Valley.

Phenology: October to November.

Date of collection of specimens: November 7, 2023.

Specimens collected from: 27°45'51"N latitude and 85°25'33"E longitude; 1555 m elevation; Sundarijal, Shivapuri-Nagarjun National Park, Kathmandu Valley, Bagmati Province, central Nepal.

Specimens collected by: H.R. Poudel, R. Chhetri, T.R. Pandey, R. Acharya, T.K. Thapa & R. Kafle

Specimen examined by: G. Parmar & R. Kafle

Key to the allied species of *Calanthe* in Nepal (for the identification of newly reported species)

- 1a. Lips without spur 2

- 1b. Lips with spur 4
- 2a. Flowers pink, lip mid-lobe without lamellae *C. puberula*
- 2b. Flowers yellow or white, lip mid-lobe with lamellae 3
- 3a. Flowers yellow, lip disk with 3-5 lamellae *C. tricarinata*
- 3b. Flowers white, lip disk with 2 lamellae *C. longipes*
- 4a. Margin of lip mid-lobe fimbriate *C. metoensis*
- 4b. Margin of lip mid-lobe not fimbriate 5
- 5a. Spur less than 5 mm long 6
- 5b. Spur longer than 5 mm 7
- 6a. Leaves elliptic to broadly lanceolate; flowers brick red with white striations *C. brevicornu*
- 6b. Leaves oblong-lanceolate; flowers dark brown with golden yellow lip *C. mannii*
- 7a. Flowers pinkish; lip pinkish or purple 8
- 7b. Flowers greenish; lip yellowish or white 9
- 8a. Rhizome caespitose; lip pinkish, mid-lobe of lip cuneate; apex aristate *C. plantaginea*
- 8b. Rhizome not caespitose; lip purple, mid-lobe of lip reniform; apex emarginate..... *C. masuca*
- 9a. Lip yellowish; spur straight *C. griffithii*
- 9b. Lip white; spur arcuate *C. chloroleuca*

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Author contribution statement

RK: Field visit, draft writing, manuscript revision. MSTM: Conception, manuscript revision. GP: Conception, draft writing, manuscript revision.

Data availability

The data that support the findings of this study are available on request from the corresponding author.

Conflict of interest

All the authors declare that there are no conflicts of interest.

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