

Short communication

Nervilia makinnoni Duthie. and *Nervilia plicata* (Andrews) Schltr. (Orchidaceae): new records for flora of Nepal

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Abstract

Nervilia makinnoni Duthie and *Nervilia plicata* (Andrews) Schltr. (Orchidaceae) are reported as new records to Nepal. Detail description, illustrations and relevant notes are provided.

Key words: conservation status, herbarium, orchids, phenology.

Introduction

The genus *Nervilia* Comm. ex Gaudich is one of the widespread genera of the family Orchidaceae. It has about 80 species in the world distributed in tropical Africa, Madagascar, Asia, The Malay Archipelago, The Pacific Island and North Australia (Pearce and Cribb 2002).

The genus *Nervilia* is characterized as globose or ovoid and fleshy tuber having single leaf that grows after flower withered, leaf may be cordate, orbicular, or kidney-shaped with a stalk. Flower with thin pedicel, sepals and petals similar, narrowly long, open, half open or closed; labellum suberect, base without spur, slender column.

Nepal harbors 377 species of orchids (Orchidaceae) belonging to 100 genera (Rajbhandari and Dahal 2004). The genus *Nervilia* comprises 5 species in Nepal distributed mostly at altitudes of 400–1000 m asl in litter-covered loose soil. The previously recorded species were *N. aragoana* Gaudich, *N. crociformis* (Zollinger & Morritzi) Seidenf., *N. falcata* (King & Pantl.) Schltr., *N. gammieana* (Hook. f.) Schltr. and *N. microglossa* (Hook. f.) Schltr. (Banerji 1978; Press *et al.* 2000; Subedi 2002; Rajbhandari and Dahal 2004).

In this study *Nervilia makinnoni* Duthie and *Nervilia plicata* (Andrews) Schltr. are reported as new records to Nepal. *N. plicata* is distributed in India, Myanmar, Thailand, China, Laos, Vietnam, Malaysia, The Philippines and Australia (Pearce and Cribb 2002); whereas, *N. mackinnonii* is distributed in India (Duthie 1970). These two species are not previously recorded from Nepal (Hara *et al.* 1978; Banerji and Pradhan 1984; Press *et al.* 2000; DPR 2001; Rajbhandari and Dahal 2004). There is no record of the specimens of these two species in the National Herbarium, Kathmandu (KATH) and Tribhuvan University Central Herbarium (TUCH). The specimens of *N. mackinnonii* and *N. plicata* have been collected by the first author from the Kathmandu valley and Arghakhanchi district, respectively and deposited at TUCH.

Results

Nervilia mackinnonii (Duthie) Schltr. Bot. Jahrb. Syst. 45: 402 (1911).

Pogonia mackinnonii Duthie J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 71(2): 43 (1903).

Tuber globose, 1 cm in diameter. Leaf petiole 6 cm long, arising after flowering, petiole 7 cm, heptagonal, 2.5–4.5 × 3.7–5 cm, margin entire, base cordate, all lobes rounded except terminal acute lobes. Flower scape 10 cm long, sheathed; raceme with a pedicellate, solitary flower; floral bracts lanceolate, acute. Flowers 1.8 cm across, spreading, pale yellow, lip white tinged with purple. Sepals linear-lanceolate, 2 cm long, apex acuminate. Petals linear-lanceolate, 2 cm long, apex acute; labellum oblong, 1.5 cm long, 3-lobed near middle, lateral lobes erect, acute; midlobe narrowly oblong, apex sub-acute; column slender, 7 mm. Anthers broad, margins of the cells toothed. Pollinia 2, clavate. Ovary 4 mm, cylindrical.

Phenology: Flowering in May and fruiting in June.

Habit and habitat: Terrestrial on litter-covered loose soil, in full shade. Occurs in the subtropical forest at altitudes of 1700 m asl.

Specimens examined: Central Nepal: Bagmati Zone, Kathmandu District, Nagarjun forest, 1700 m asl, May 15, 2007, B.B. Raskoti 196 (TUCH).

Conservation status: Threatened due to habitat destruction.

Note: This species is closely related to *Nervilia macroglossa* but the leaves are distinctly lobed, the flowers are smaller and spreading, the lateral lobes of the lip are distinct.

Nervilia plicata (Andrews) Schltr. Bot. Jahrb. Syst. 45: 403 (1911).

Arethusa plicata Andrews Bot. Repos. 5: t. 321 (1803).

Tuber globose, 10 mm in diameter. Leaf petiole 1.5–3 cm; growing after flowering; orbicular-cordate, 7.5–11 × 10–13 cm, interveinal areas and margin hirsute, base cordate, margin entire, apex acute. Flower scape 12 cm tall, lower part with tubular sheaths; raceme 2–3 flowers. Flowers half opened, brownish yellow with

purplish red veins. Sepals and petals subequal, linear-oblong, 2 cm, apex acuminate; labellum concave, subrhombic, 2 cm long, glabrous, near middle obscurely 3-lobed; lateral lobes erect, apex obtuse; mid-lobe ovate, apex emarginated; column 10 mm, apex clavate. Anthers broad. Ovary 6 mm, elliptic, ridged, glabrous.

Phenology: Flowering in May and fruiting in June.

Habit and habitat: Terrestrial on humus-rich damp places, in full shade. Occurs in the tropical forest at 900-1000 m asl.

Specimens examined: Central Nepal (Lumbini Zone, Pokharathok-9, Arghakhanchi at altitudes of 600-1000 meters); May 27, 2007; Raskoti 204 (TUCH).

Conservation status: Threatened due to over grazing.

Note: This species is related to *Nervilia hookeriana* but it differs in having lip shorter than sepals, lacking distinct lateral lobes, and leaves with coarse hairs on both sides.

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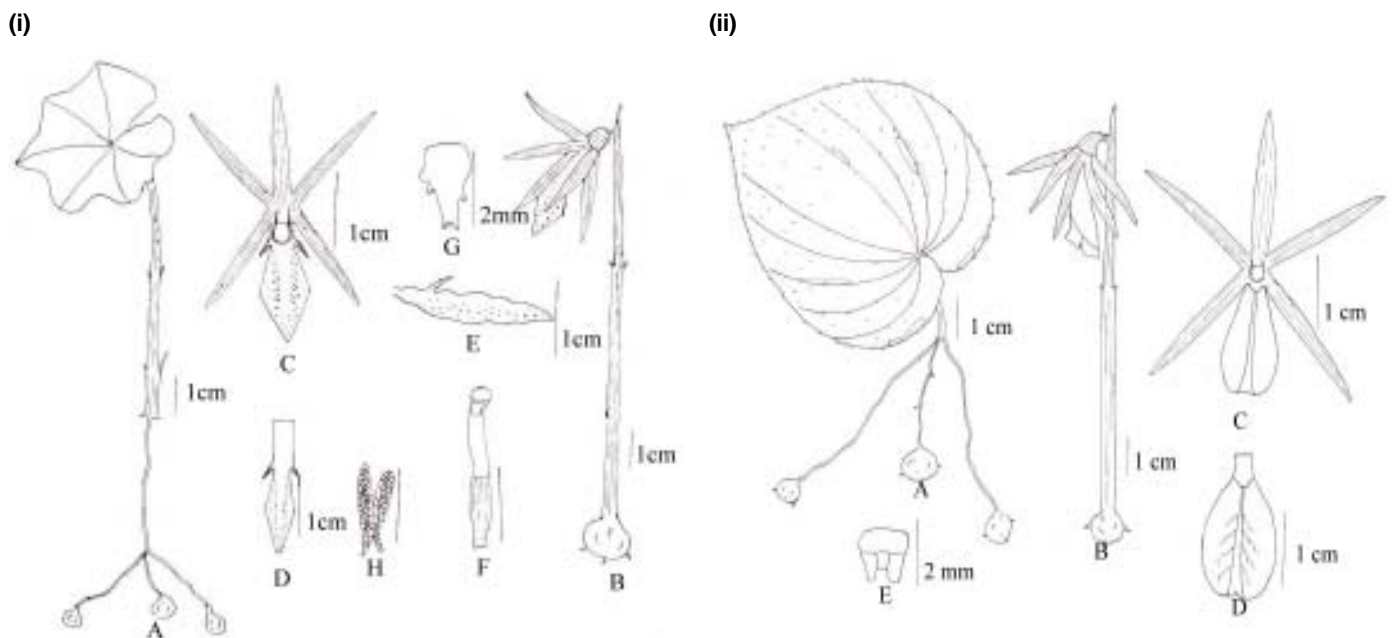


Fig. 1. i. *Nervilia mackinnonii* (Duthie) Schltr. A. habit; B. plant bearing flower; C. flower (spread out); D. labellum (front view); E. labellum (side view); F. column and ovary; G. anther; H. pollinia. **ii.** *Nervilia plicata* (Andrews) Schltr. A. habit; B. plant bearing flower; C. flower (spread out); D. labellum; E. anther.