

***Senecio echaetus* Y.L. Chen & K.Y. Pan (Senecioneae : Asteraceae) – an addition to the flora of Nepal**

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Abstract

Senecio echaetus Y.L. Chen & K.Y. Pan (Senecioneae : Asteraceae) is reported here as an addition to the flora of Nepal. Previously this species had been reported from Tibet (China) only but the field collection and the herbarium study revealed its distribution in Nepal Himalaya also. Detailed taxonomic treatment, along with illustration and images, is provided here.

Key words: *Senecio echaetus*, Senecioneae, Addition, Nepal Himalaya,

INTRODUCTION

Senecio Linnaeus is the largest genera in the tribe Senecioneae of Asteraceae and comprises of about 1250 species (Mabberley 1998) and worldwide in distribution with remarkable amount of morphological variations.

During the field visit to Langtang National Park, a species of *Senecio* was collected. Besides, a voucher specimen deposited at BM (Polunin 880 from Lende Khola, Tibet, 1949) from Nepal collection was noticed. The specimens were critically examined and identified as *Senecio echaetus* Y.L. Chen & K.Y. Pan and revealed as the new record to the flora of Nepal. Previously the genus was reported to have 24 species in Nepal (Press *et al.* 2000; Hara *et al.* 1982). According to the present generic delimitation, among the 24 species, 13 are now kept in the genus *Senecio* Linnaeus. However, Press *et al.* (2000) in “Annotated Checklist of Flowering Plants of Nepal” in www.efloras.org had mentioned the presence of *Senecio echaetus* in Nepal, but without any reference number. Rajbhandari *et al.* (eds., 2012) in “Catalogue of Nepalese Flowering Plants–III Dicotyledons (Compositae-Salicaceae)” had also not mentioned the presence of *Senecio echaetus* in Nepal. Hence, the species herein is confirmed as the addition to the flora of Nepal and is described with illustration. Addition of this species brings the total number of *Senecio* species in Nepal to 14. [**Fig. 1**]

Taxonomic Treatment

Senecio echaetus Y.L. Chen & K.Y. Pan in Acta. Phytotax. Sin. 19: 94. 1981; Jeffrey & Chen, Kew Bull 39(2): 409. 1984; Y. Chen, B. Nordenstam, C. Jeffrey & L. Vincent in Flora of China 20-21: 529. 2011. [**PLATE - I; Fig. 2**]

Type: China, Xizang, Gyirong Qingzang Complem. Exped. Veg. 5284 (Holotype : PE).

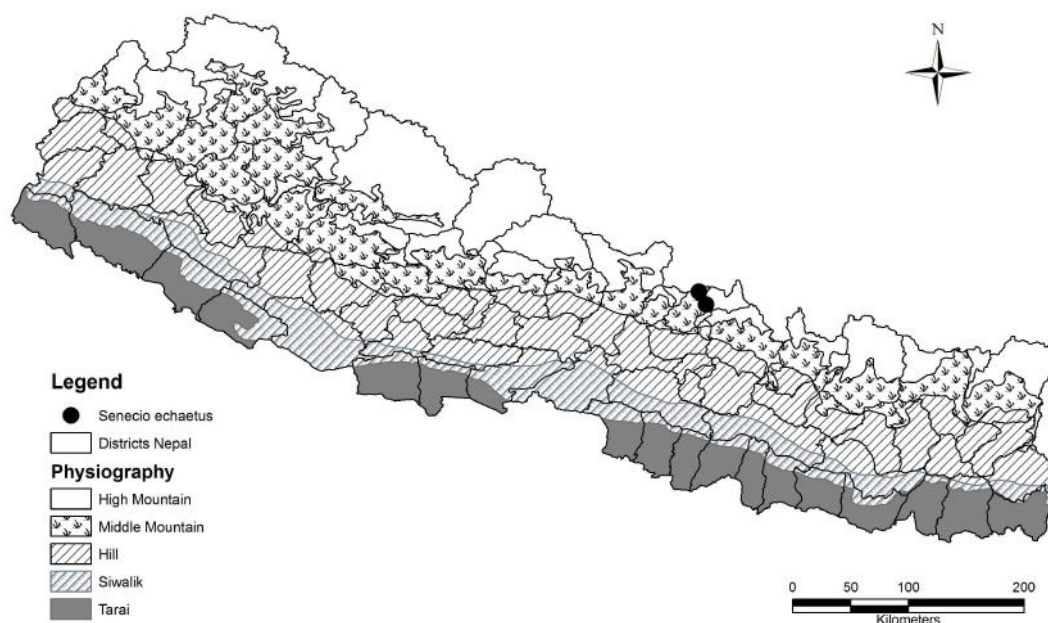


Fig. 1. Distribution of *Senecio echaetus* Y.L. Chen & K.Y. Pan in Nepal Himalaya

Perennial rhizomatous herb, 27.0 – 58.0 cm high; stem erect, solitary or branching into the inflorescence, cylindrical, sparsely arachnoid above and glabrescent below, finely striated. Leaves alternate, simple, basal leaves withered by anthesis, upper stem leaves sessile, oblong or lanceolate, 2.5 – 6.0 cm × 1.0 – 3.0 cm, lamina imparipinnately lobed, 5 – 8 lobes on either side, margins of lobes acutely dentate, adaxial surface smooth, abaxial smooth, light green, base amplexicaulis, pinnately veined, upper leaves gradually becoming smaller. Capitulescence lax, few flowered, usually 3 – 10 capitula in terminal and upper axillary corymb, peduncles 1.0 – 3.5 cm, arachnoid tomentose or glabrescent, with 2 – 5 peduncular bracts, bracteoles linear, ca. 0.8 – 6.0 mm. Capitula radiate, conspicuous, 1.0 – 1.5 × 2.5 – 3.0 cm in size, calyculate, calyculate bracts ca. 4, each with black tip, 2 – 4.5 mm long and 0.5 mm wide; involucre campanulate or hemispherical, phyllaries 19 – 21, uniseriate, 6.0 – 6.5 mm × 1.0 – 2.0 mm, elliptical to lanceolate, both adaxially and abaxially smooth, acute, tip and margin at the upper part dark brown or black, apex papillate, margins scarious, usually single nerved; receptacle convex, pitted; ray floret 18 – 21, pistillate, well exerted from the involucre; corolla bright yellow, the tube linear, ca. 2.0 mm long, pubescent, the limb oblong, 10.0 – 11.0 mm × 2.5 mm, flat, 6 – 8 veins, apex tridentate, style branches recurved, hairy all over, apex obtuse, ovary obovate, smooth, 0.8 – 1.0 × 0.4 – 0.6 mm, pappus lacking or caducous; disc florets “ (more than 80), bisexual, corolla yellow, tubular, 5.0 – 6.0 mm long overall, tube 1.3 – 1.5 mm long, the limb 2.2 – 2.5 mm, narrowly campanulate, apically 5-dentate, teeth ca. 0.82 mm long, apex acute and slightly thickened; anthers ca. 1.62 mm long overall, base sagittate, with acute apical appendage 0.24 mm long, filament collar balusterform with gradually swollen base, style branches recurved, hairy all along the basal part of the style and its branches, apex obtuse with few minute penicillate trichomes, ovary fusiform, smooth, pappus scanty, barbellate, basal part white and upper part light yellow. Achenes fusiform, smooth, pappus deciduous or scanty.

Habitat: Open moist meadow.

Distribution: Nepal, China (Tibet)

Altitudinal gradient: 2700 – 2900 m.



PLATE - I. *Senecio echaetus* Y.L. Chen & K.Y. Pan: **A.** Habit and habitat; **B.** Capitulum; **C.** Involucre (opened); **D.** Receptacle; **E.** Portion of ray floret corolla with veins; **F.** Anther base; **G.** Achene

Flowering/Fruiting: July – October.

Specimens examined: Nepal: Ghodaabela, Langtang, Rasuwa, 2725 m, Oct 12, 2011, *Sudha Joshi SJ1955* (KATH, TUCH); Lende khola, Tibet, 2438-2895 m, July 9-11, 1949, *Polunin 880* (BM: Stored unidentified).

This species resembles *S. raphanifolius* Wallich ex A.P. de Candolle in its habit. However, it can be differentiated from latter by less number of capitula, usually 3 – 10; more (19 – 21) number of phyllaries; ligulate florets 18 – 21, disc florets “(over 80), complete lack of pappus in ray florets, scanty pappus in disc florets and deciduous pappus in achenes. In other vegetative characters, it resembles with *S. raphanifolius*.

Note: The voucher specimen *O. Polunin 880* (BM), had mentioned its locality as Lende Khola, Tibet. Lende khola and Kelung khola in Rasuwa District are the boundary rivers of Nepal and China (Tibet). According to Rajbhandari (2002), O. Polunin had visited and collected the specimens from Langtang valley of Nepal during May – September, 1949. The voucher specimen of “Polunin 880” was collected on July 11, 1949. Thus it was confirmed as the error on the herbarium sheet and the locality mentioned should be Nepal instead of Tibet (China).

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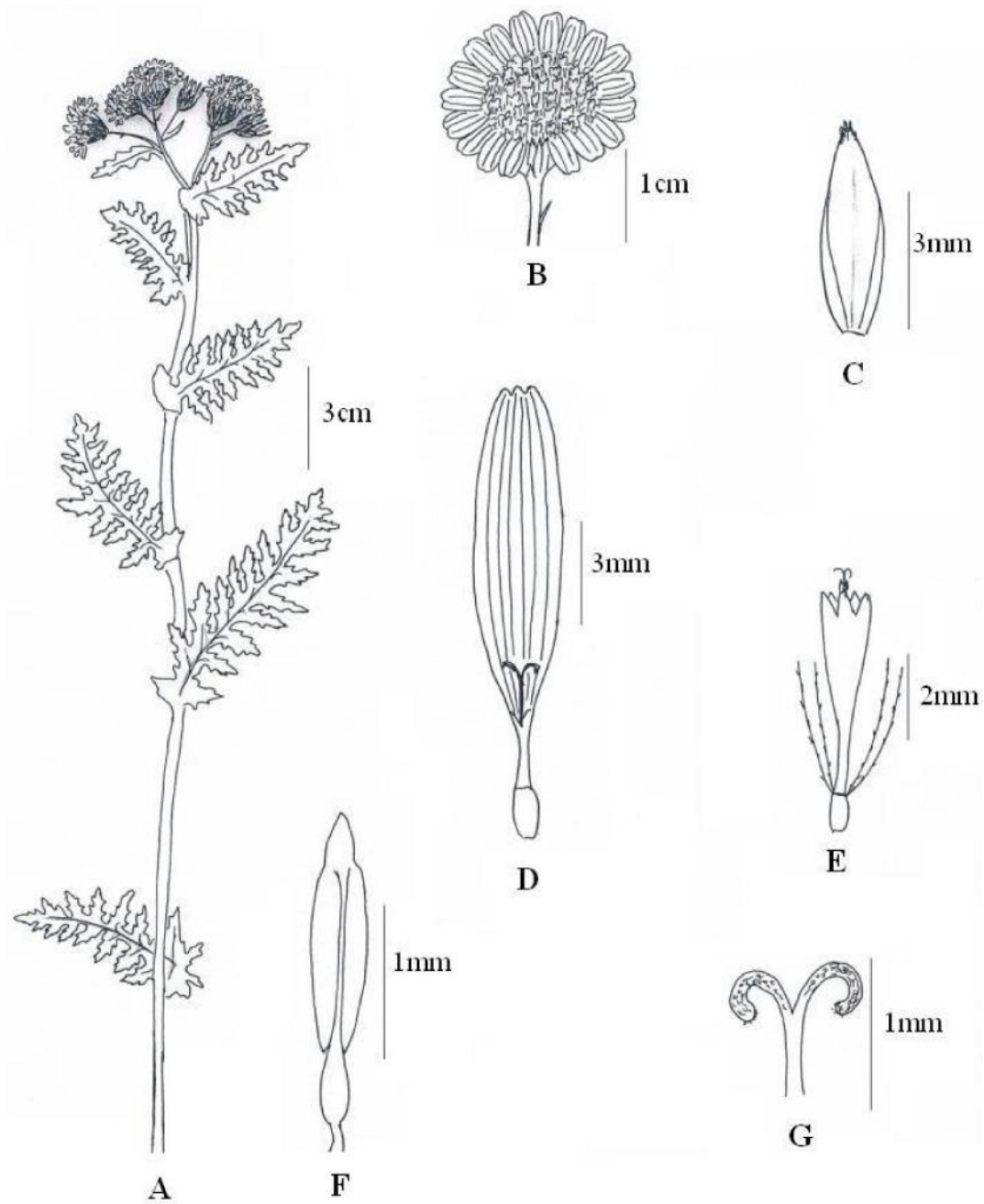


Fig. 2. Illustration of *Senecio echaetus* Y.L. Chen & K.Y. Pan: **A.** Flowering branch; **B.** Capitulum; **C.** Phyllary; **D.** Ray floret; **E.** Disc floret; **F.** Anther; **G.** Style branches

Natural History Museum (BM) for providing the samples of voucher specimen (Polunin 880: BM) and image of the specimen. I am grateful to Sheetal Vaidya and Ila Shrestha for their co-operation during the field visit to Langtang National Park. Department of National parks and Wildlife Conservation, Nepal is also gratefully acknowledged for permitting the plant collection in Langtang National Park.

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