



## Enumeration of specimens from Edinburgh expedition to northern Sikkim deposited at Sikkim State Forest Herbarium (SSFH): Part - I

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### Abstract

The specimens of Edinburgh Expedition to the Northern Sikkim deposited at Sikkim State Forest Herbarium (SSFH) are enumerated here for future reference. A total of 99 species under 45 genera with their distribution data is presented. Based on the representative specimens of the expedition, the new distributional data of *Crassocephalum crepidioides* (Benth.) S. Moore, *Carex cruciata* Wahlenb., *Carex atrata* L. var. *atrata*, *Carex anomoea* Hand.-Mazz. and *Carex speciosa* Kunth ssp. *speciosa* were recorded and presented in this paper for reference. These were the new records for the Sikkim Himalaya.

**Key words:** Endemic species, New distribution, Plant diversity, Sikkim Himalaya

### INTRODUCTION

The Sikkim State Forest Herbarium initiated way back in 1978 and obtained the approval of Cabinet of State Government on 14<sup>th</sup> March, 1978. This was the humble beginning of the Sikkim State Forest Herbarium. The acronym of the Sikkim State Forest Herbarium is SSFH and it houses collections of various distinguished scientists of the world including the collections of the extension work of H. Hara under the guidance of Prof. H. Ohba. The Sikkim State Forest Herbarium institutionalized under the notification 184/ GOS/FED/ Secy dated 9.11.2020 and presently, catalogues and prepares in house database of the biodiversity of Eastern Himalayas involving in several other ancillary activities. The altitudinal gradient of Sikkim is the critical factor which is responsible for the rich plant diversity and endemism in Sikkim Himalaya. Thus, the study of the distribution of the species and genera in this region is significant. The paper communication attempts to document the herbarium specimens deposited by the noted researchers in the Sikkim State Forest Herbarium. The enumerated species were the collection of D.G Long and H.J. Noltie during the Edinburgh Expedition to Northern Sikkim in 1996.

In regard to the expeditions of Sikkim Himalaya, there were many researchers who conducted several works in the flora (Hooker & Thomson 1855; Hooker 1872–1897; Griffith 1847, 1848; Hara 1964; Grierson & Long 1983; Ikeda *et al.* 2008; Maity *et al.* 2018). Joseph D. Hooker explored Sikkim in 1848 to 1849, subsequently other eminent scientists like C.B. Clarke, J.S. Gamble, H. Hara to name a few. The monumental works of Hooker guided the researchers to some extent to classify the resources. Not only was this but the contribution of W.W. Smith who made several trips to Sikkim along with G.H. Cave is also praiseworthy. These resulted in several publications of the Sikkim Himalaya. At the same time, the native Lepcha collectors Ribu and Rohmoo collected important specimens from Sikkim for the Royal Botanic Garden, Calcutta (now AJC Indian Botanic Garden) in 1911 and all these specimens are deposited at Central National Herbarium (CAL). Further N. L. Bor made extensive collections of grasses in

Sikkim and the Chumbi valley (Bor 1940, 1960). Recently, the teams led by Hara and Ohba of Tokyo University had also conducted the appreciative works for strengthening the knowledge of Sikkim flora (Hara 1966, 1971; Ohashi 1975; Ikeda *et al.* 2008).

This paper deals with the collections of Edinburgh expedition to Sikkim, led by D.G. Long and H. J. Noltie of the Royal Botanic Garden, Edinburgh. In regard to the Edinburgh expeditions to Sikkim, there were two expeditions in 1992 to the west and in 1996 to the north (Noltie 1996, 2000). The Sikkim Forest Department received the collections with some type specimens pertaining to the expedition (Noltie 2000). Long and Noltie discovered several new taxa in the region which were the additional information to the phytodiversity of Sikkim. The new distributional data of *Crassocephalum crepidioides* (Benth.) S. Moore, *Carex cruciata* Wahlenb. *Carex atrata* L. var. *atrata*, *Carex anomoea* Hand.-Mazz. and *Carex speciosa* Kunth subsp. *speciosa* were the new records for the Sikkim Himalaya based on the specimens of Edinburgh expedition.

#### ENUMERATION OF DEPOSITED HERBARIUM SPECIMENS OF D.G. LONG AND H.J. NOLTIE IN SIKKIM STATE FOREST HERBARIUM (SSFH)

***Aphragmus oxycarpus*** (Hook.f. & Thomson) Jafri, Notes Roy. Bot. Gard. Edinburgh 22: 96. 1956. [Brassicaceae]

India: Sikkim: North District: Lakes on SE side of Sebu La. Sandy soil by lake. 5040; 27°55' N, 88°39' E; Cushion-forming; flowers white, anthers yellow; Voucher No. 397; Coll. D. G. Long & H. J. Noltie

***Anaphalis triplinervis*** (Sims) C.B. Clarke var. ***monocephala*** (DC.) Airy Shaw, Bot. Mag. 158: t. 9396. 1935. [Asteraceae]

India: Sikkim: North District: Between Goichang and Club Hut, Lasha Chhu. Sandy shigle by river; 27°55'50" N, 88°36'52" E; Capitula silvery-white. 4470 m; Voucher No. 356; 20 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Anaphalis triplinervis*** (Sims) C.B. Clarke var. ***monocephala*** (DC.) Airy Shaw, Bot. Mag. 158: t. 9396. 1935. [Asteraceae]

India: Sikkim: North District: Tembawa Chhu valley, E of Yume Samdong. Loose scree. 4735m; Leaves silver; phyllaries white, florets yellow; Voucher No. 425; 24 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Anaphalis xylorhiza*** Sch.Bip. ex Hook.f., Fl. Brit. India [J. D. Hooker] 3(8): 281. 1881. [Asteraceae]

India: Sikkim: North District: Goichang, Lasha Chhu valley. Short grazed turf on slope. 4555 m; 27° 52' 52.2" N, 88° 36'17" E; Phyllaries pinkish; Voucher No. 348; 19 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Anaphalis xylorhiza*** Sch.Bip. ex Hook.f., Fl. Brit. India [J. D. Hooker] 3(8): 281. 1881. [Asteraceae]

India: Sikkim: North District: Tembawa Chhu valley, E of Yume Samdong. Loose scree. 4735 m; 27°54' N, 88°43' E; Leaves silver; phyllaries white; Voucher No. 426; Coll. D. G. Long & H. J. Noltie

***Aralia cachemirica*** Decne., Voy. Inde [Jacquemont] 4(Bot.): 72, t. 81. 1841. [Araliaceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Bank at edge of Abies forest. 3310 m ; 27°44'21" N, 88°44'24" E; Coarse herb 1.2 m, leaves 3x pinnate; flowers greenish; Voucher No. 199; Coll. D. G. Long & H.J. Noltie

***Arisaema echinatum*** (Wall.) Schott, Melet. Bot. 1. 17. 1832. [Araceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Short turf beside road on open hillside. 3080 m; 27°43'11"N, 88°45'07"E; Spathe tube: outside greenish brown, faintly striped; inside striped purple/red and white. Blade yellowish green, marked purple red at apex, narrow recurved auricles in lower half Spadix sterile, appendix swollen, striped purplish, truncate at base apex rounded, ciliate Voucher No. 214; 14 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Arisaema jacquemontii*** Blume, Rumphia 1: 95. 1836. [Araceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Edge of yak pasture in area with boulders. 3600 m; 27°48'08" N, 88°42'22" E; Spathe green striped white, tinged purplish towards base, recurved portion of spadix appendage brownish; 13 Jul 1996; Voucher No 172; Coll. D. G. Long & H. J. Noltie

***Aristolochia griffithii*** Hook. f. & Thomson ex Duch., Prodr. [A.P. de Candolle] 15(1): 437. 1864.. [Aristolochiaceae]

India: Sikkim: North District: Bicchu, S of Lachung; 27°40'08" N, 88°44'14" E Extensive climber; fruits 6-angled; Scrub covered bank by road. 2650 m; Voucher No. 248; 16 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Aster albescens*** (DC.) Wall. ex Hand.-Mazz., Acta Horti Gothob. 12: 205. 1938. [Asteraceae]

India: Sikkim: North District: Between Yakche and Lachung. Edge of bank by roadside. 3045 m; 27°43'11" N, 88°45'07" E; Sprawling shrub to 2m; ligules lilac, disc florets yellow; Voucher No. 231; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Aster asteroides*** (DC.) Kuntze, Revis. Gen. Pl. 1: 315. 1891. [Asteraceae]

India: Sikkim: North District: Upper Lasha Chhu valley, below Yulhe Khang glacier. Short grazed grass by river. 4545 m. 27°56' N, 88°38' E; Growing singly; roots tuberous; ligules mauve, disc florets yellow; Voucher No. 362; 20 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Blysmus compressus*** (L.) Panz. ex Link, Hort. Berol. [Link] 1: 278. 1827. [Cyperaceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Artificial gravel bank in yak pasture. 3600 m; 27° 48' 08" N, 88°42' 22" E; Rhizomatous sedge; Voucher No. 164; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex alatauensis*** S. R. Zhang, Bot. J. Linn. Soc. 179: 19. 2015. [Cyperaceae]

India: Sikkim: North District: Lasha Chhu valley, NE of Thangu. Short turf on open slope. 3980 m; 27°53' 39" N, 88° 32' 44" E; Voucher No. 325; 18 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex anomoea*** Hand.-Mazz., Symb. Sin. Pt. VII. 1267. 1936. [Cyperaceae]

India: Sikkim: North District: Bop, between Chungthang and Maltin. Very wet rock beside waterfall. 1960 m; 27°33'08" N, 88°40'05" E; Inflorescence pendulous; Voucher No. 117; 12 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Carex atrata*** L., Sp. Pl.: 976. 1753. var. *atrata* [Cyperaceae]

India: Sikkim: North District: SE side of Lasha Chhu, below Sebe La. Steepslope. 4560 m; Spikes nodding, blackish; Voucher No. 374; Coll. D.G Long & H. J. Noltie

***Carex atrata*** subsp. *pullata* (Boott) Kük., Pflanzenr. (Engler) IV. 20(Heft 38): 400. 1909. [Cyperaceae]

India: Sikkim: North District: SE side of Lasha Chhu, below Sebu La. Steep, grazed slope. 4560 m; 27°56'13" N, 88°38'30" E; Spikes semi-erect, blackish. Growing with *Carex dutchiei*; Voucher No. 375; 21 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex atrofusca*** subsp. *minor* (Boott) T. Koyama, Fl. E. Himalaya 3rd. Rep.: 122. 1975. [Cyperaceae]

India: Sikkim: North District: SE side of Sha Chhu, below Sebu La. Steep, grazed 4560 m; Voucher No. 373; 21 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex bhutanensis*** S. R. Zhang, Bot. J. Linn. Soc. 179: 19. 2015. [Cyperaceae]

India: Sikkim: North District: Lasha Chhu valley, NE of Thanggu. Open, grazed turf. 4330 m; 27°54' 28" N, 88°34' 02" E; Male plants greatly outnumbering female; Voucher No. 328; 18 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex bonatiana*** (Kük.) N. A. Ivanova, Bot. Zhurn. S.S.S.R. 24: 501, in obs. 1939. [Cyperaceae]

India: Sikkim: North District: Chhopta, above Thanggu. Open slope. 3980 m; 27°54' 21" N, 88°32' 04" E; Tufted sedge; some culms erect, other scurved; Voucher No. 295; 17 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex bonatiana*** (Kük.) N. A. Ivanova, Bot. Zhurn. S.S.S.R. 24: 501, in obs. 1939. [Cyperaceae]

India: Sikkim: East District: Tsomgo Chho. Yak-grazed slopes above lake. 3720 m; 27°22'14" N, 88°45'52" E

Densely tufted; Voucher No. 53; 8 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex bonatiana*** (Kük.) N. A. Ivanova, Bot. Zhurn. S.S.S.R. 24: 501, in obs. 1939. [Cyperaceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Artificial gravel bank in yak pasture. 3600 m; 27°48'08" N, 88°42'22" E; Densely tufted; stems curved; Voucher No. 163; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex burttii*** Noltie, Edinburgh J. Bot. 50(2): 186. 1993. [Cyperaceae]

India: Sikkim: East District: Rate Chu; bridge, N of Gangtok. Wet cliffs. 1770 m; 27°23'11" N, 88°38'38" E; Tufted sedge; Voucher No. 90; Coll. D. G. Long & H. J. Noltie

***Carex cercostachys*** Franch., in Bull. Annuel Soc. Philom. Paris, sér. 8, 7: 27. 1895. [Cyperaceae]

India: Sikkim: North District: Upper Lasha Chhu valley, below Yulhe Khang glacier. Among scrub by river. 4545 m; 27°56'2" N, 88°38' E; Voucher No. 361; 20 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex cercostachys*** Franch., in Bull. Annuel Soc. Philom. Paris, sér. 8, 7: 27. 1895. [Cyperaceae]

India: Sikkim: North District: NW slopes above Sebu Chho. Eroded gully in grazed slope. 4830 m; 27°55'08" N, 88°40'40" E; Dominant species on slope; Voucher No. 413; Coll. D. G. Long & H. J. Noltie

***Carex cruciata*** Wahlenb., in Kongl. Vetensk. Acad. Nya Handl. 24: 149. 1803. [Cyperaceae]

India: Sikkim: North District: N of Myang Chhu, S side of Tista Valley. Among scrub on bank by road through broadleaved forest; 1615 m; 27°31' N, 88°36' E; Utricles pale green (not whitish), male glumes orange-brown; Voucher No. 113; 11 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex curticeps*** C. B. Clarke, Fl. Brit. India [J. D. Hooker] 6(20): 729. 1894. [Cyperaceae]

India: Sikkim: East District: Above Kyangnosla. Damp, deforested slope. 3530 m; 27°22'02" N, 88°42'38" E; Young infl. female, becoming brown; Voucher No. 73; 8 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex daltonii*** Boott, Ill. Gen. Carex 1: 5. 1858. [Cyperaceae]

India: Sikkim: North District: Bop, between Chungthang and Maltin. Wet cliff ledges; 27°33'08" N, 88°40'05" E; Densely tufted; Voucher No. 119; 12 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex deasyi*** (C.B. Clarke) O.Yano & S.R. Zhang, Bot. J. Linn. Soc. 179: 20. 2015. [Cyperaceae]

India: Sikkim: North District: Chhopta, above Thanggu. Ungrazed meadow. 3880 m; 27°54'21" N, 88°32'04" E; Densely tufted; culms and leaves glaucous; Voucher No. 302; 17 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Carex decora*** Boott, Ill. Gen. Carex 1: 5, t. 15. 1858. [Cyperaceae]

India: Sikkim: East District: Below Kyangnosla. Wet slope in deforested area (formerly Fir/Juniper). 3120 m; 27°22' N, 88°42' E; Voucher No. 75; 8 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex* aff. *duthiei*** C. B. Clarke [Cyperaceae]

India: Sikkim: North District: Lakes on SE side of Sebu La. Flat, wet area by pool. 5040 m; Densely tufted, culms arching; spikes nodding, black; Voucher No. 410; 23 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Carex esenbeckii*** Kunth, Enum. Pl. [Kunth] 2: 522. 1837. [Cyperaceae]

India: Sikkim: East District: Tsomgo Chho. Yak-grazed slopes above lake. 3720 m; 27°22'14" N, 88°45'52" E;

Densely tufted; infl. dark brown; Voucher No. 59; 8 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex filicina*** Nees in R.Wight, Contr. Bot. India: 123. 1834. [Cyperaceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Bank at edge of Abies forest. 3310 m; 27°44'21" N, 88°44'24" E; Tufted sedge; Voucher No. 202; 14 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex gracilenta*** Boott ex Boeckeler, Linnaea 41(2): 185. 1877. [Cyperaceae]

India: Sikkim: North District: S of Thanggu. Stony slope among scrub. 3760 m; 27°52'28" N, 88°32'31" E; Tufted sedge; spikes black, nodding; Voucher No. 275; 17 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Carex gracilenta*** Boott ex Boeckeler, Linnaea 41(2): 185. 1877. [Cyperaceae]

India: Sikkim: North District: S of Thanggu, among scrub. 3760 m; 27°52'28" N, 88°32'31" E; Spikes green and black, some erect; Voucher No. 279; 17 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex haematostoma*** Nees in R.Wight, Contr. Bot. India: 125. 1834. [Cyperaceae]

India: Sikkim: North District: NW slopes above Sebu Chho. Moraine ridge. 4830 m; 27°55'08" N, 88°40'40" E; Spikes blackish, erect; Voucher No. 415; 23 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex harae*** (Rajbh. & H. Ohba) O. Yano, Bot. J. Linn. Soc. 179: 22. 2015. [Cyperaceae]

India: Sikkim: North District: Phune, Lachung Chhu. On mossy, rotten Abies log in yak pasture. 3430 m; 27°45'05" N, 88°43'41" E; Rhizomatous sedge; Voucher No. 152; 13 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Carex harae*** (Rajbh. & H. Ohba) O. Yano, Bot. J. Linn. Soc. 179: 22. 2015. [Cyperaceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Artificial gravel bank in yak pasture, 3600 m; Rhizomatous sedge; Voucher No. 162; 13 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Carex inclinis*** C.B. Clarke in J.D. Hooker Fl. Brit. India 6(20): 728 1894. [Cyperaceae]

India: Sikkim: North District: Between Yakche and Lachung, Edge of bank by roadside. 3045 m; 27°43'11" N, 88°45'07" E; Voucher No. 230; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex laeta*** Boott, Ill. Gen. Carex 1: 69. 1858. [Cyperaceae]

India: Sikkim: North District: Chhophtha, above Thanggu. Open healthy slope. 3980 m; 27°54'21" N, 88°32' 04" E

Densely tufted sedge; culms slender, curved; Voucher No. 290; 17 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex lehmannii*** Drejer in Symb. Caric.: 13. 1844. [Cyperaceae]

India: Sikkim: North District: Glacial valley above Yakche, N of Lachung. Moraine patches among scrub at foot of wet cliffs. 3180 m; 27°43'09 " N, 88°44' 47" E; Tufted sedge; spikelets whitish green; Voucher No. 225; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex longipes*** D. Don ex Tilloch & Taylor, Philos. Mag. J. 62: 455. 1823. [Cyperaceae]

India: Sikkim: North District: Lema, S of Lachung. Grassy place at edge of path through scrub. 2400 m; 27°38' 24" N, 88°43'18 " E; Utricles green; Voucher No. 126; 12 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Carex munda*** Boott, Ill. Gen. Carex 1: 7. 1858. [Cyperaceae]

India: Sikkim: North District: Phune, Lachung Chhu. On mossy log in Abies forest. 3430 m; Tufted sedge; Voucher No. 141; Coll. D.G. Long & H. J. Noltie

***Carex munda*** Boott, Ill. Gen. Carex 1: 7. 1858. [Cyperaceae]

India: Sikkim: North District: S of Thanggu Open stony slope by road. 3760 m; 27°52'28 " N, 88°32'31" E; Voucher No. 277; 17 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Carex parvula*** O. Yano, Bot. J. Linn. Soc. 179: 24. 2015. [Cyperaceae]

India: Sikkim: North District: NW above Sebu Chho Grazed slope. 4830 m; 27°55'08" N, 88°40'40" E; Mat-forming; plants entirely male; Voucher No. 411; 23 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Carex pseudofortida*** Kük. in Ostenf., Bot. Tidsskr. 28: 226. 1907. [Cyperaceae]

India: Sikkim: North District: Upper Lasha Chhu valley, below Yulhe Khang glacier. Marshy, sandy area near river. 4545 m; 27°56' N, 88°38' E; Rhizomatous sedge; Voucher No. 364; 20 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Carex pseudolaxa*** (C.B. Clarke) O. Yano & S.R. Zhang, Bot. J. Linn. Soc. 179: 24. 2015. [Cyperaceae]

India: Sikkim: North District: Yakche, N of Lachung. Gravelly marsh. 3105 m; 27° 43' 17" N, 88°45' 02" E; Young infls. female, older ones male at apex; Voucher No. 211; 14 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Carex pseudolaxa*** (C.B. Clarke) O. Yano & S.R. Zhang, Bot. J. Linn. Soc. 179: 24. 2015. [Cyperaceae]

India: Sikkim: North District: Glacial valley above Yakche, N of Lachung. On rocks and moraine. 3180 m; 27°43'09" N, 88°44'47" E; Shortly rhizomatous, spikelets dark brown; Voucher No. 228; Coll. D.G. Long & H.J. Noltie

*Carex rara* Boott, Trans. Linn. Soc. London 20(1): 139. 1846. [Cyperaceae]

India: Sikkim: North District: Phune, Lachung Chhu. Wet yak pasture cleared from Abies forest. 3430 m; 27°45'05" N, 88°43'41" E; Tufted sedge; Voucher No. 145; 13 Jul 1996; Coll. D.G. Long & H. J. Noltie

*Carex rochebrunei* Franch. & Sav., Enum. Pl. Jap. 2: 555. 1878. [Cyperaceae]

India: Sikkim: North District: Phune, Lachung Chhu. Abies forest. 3430 m; 27°45'05" N, 88°43'41" E; Tufted sedge.

Voucher No. 140; 13 Jul 1996; Coll. D.G. Long & H. J. Noltie

*Carex speciosa* Kunth in Enum. Pl. 2: 504. 1837. subsp. *speciosa* [Cyperaceae]

India: Sikkim: East District: Namnam area, SE outskirts of Gangtok. Degraded *Schima* forest in deep shade. 1730 m; 27°19' N, 88°36' E; Utricles green, male part of infl. Whitish; Voucher No. 26; 6 Jul 1996; Coll. D.G. Long & H.J. Noltie

*Carex unciniformis* Boeckeler, in Beitr. Cyper. 1: 40. 1888. [Cyperaceae]

India: Sikkim: North District: Chhoptha, above Thanggu; 27°54'21" N, 88°32'04" E; Densely tufted; Open healthy slope. 3980 m; Voucher No. 291; 17 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Carex uncinoides* Boott, Ill. Gen. Carex 1: 8. 1858. [Cyperaceae]

India: Sikkim: North District: SE side of Lasha Chhu, below Sebu La. Steep, grazed slope. 4560 m; 27°56'13" N, 88°38'30" E; Voucher No. 372; 21 Jul 1996; Coll. D.G. Long & H.J. Noltie

*Carex uncinoides* Boott, Ill. Gen. Carex 1: 8. 1858. [Cyperaceae]

India: Sikkim: East District: Tsomgo Chho. Yak-grazed slopes above lake. 3720 m; 27°22'14" N, 88°45'52" E; Infl. greenish brown; Voucher No. 51; 8 Jul 1996; Coll. D.G. Long & H. J. Noltie

*Carex vidua* Boott ex C.B. Clarke, in J.D. Hooker, Fl. Brit. India 6(20): 713. 1894. [Cyperaceae]

India: Sikkim: North District: Chhoptha, above Thanggu. Open healthy slope. 3980 m; 27°54'21" N, 88°32'04" E; Voucher No. 297, 288; 17 Jul 1996; Coll. D.G. Long & H.J. Noltie

*Carex wallichiana* Spreng., Syst. Veg., ed. 16 [Sprengel] 3: 812. 1826. [Cyperaceae]

India: Sikkim: North District: Lachung Army Encampment. Wet rubbish dump among scrub; 27°41' N, 88°45' E; Densely tufted sege; culms, spikes green; Voucher No. 238; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Carpesium nepalense* Less., Linnaea 6(2): 234. 1831. [Asteraceae]

India: Sikkim: North District: Phune, Lachung Chhu. Abies forest (disturbed areas). 3430 m; 27°45'05" N, 88°43'41" E; Inflorescences nodding, yellow; Voucher No. 139; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Cassiope fastigiata* (Wall.) D. Don, Edinburgh New Philos. J. 17: 156. 1834. [Ericaceae]

India: Sikkim: North District: Tembawa Chhu valley, B of Yume Samdong. Grazed slope; 27°54' N 88°43' E; Flowers white. Voucher No. 423; 24 Jul 1996; Coll. D. G. Long & E.J. Noltie

***Chlorophytum nepalense*** (Lindl.) Baker, J. Linn. Soc., Bot. 15: 330. 1876. [Asparagaceae]

India: Sikkim: North District: N bank of Rate Chu, W of bridge. Among scrub by stream in ravine, forest cleared; 27°23'25" N, 88°38'32" E; Petals white, anthers yellow; 1730 m; Voucher No. 96; Coll. D.G. Long & H. J. Noltie

***Codonopsis foetens*** Hook.f. & Thomson in J. Proc. Linn. Soc., Bot. 2: 16. 1857. [Campanulaceae]

India: Sikkim: North District: Lasha Chhu, below Phaklung. Among scrub and boulders on river bank. 4420 m; 27° 55' 22" N, 88°35' 08" E; Corolla pale blue, veined purple inside; Voucher No. 336; 19 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Codonopsis gracilis*** Hook.f. & Thomson, Illust. Himal. Pl. t. 16 A. 1855. [Campanulaceae]

India: Sikkim: North District: Menshithang, NW of Chungthang. Scrub covered bank by road. 1930 m; 27°38' N, 88°37' E Climbing, foetid herb; flowers pale lilac-blue; Voucher No. 249; Coll. D.G. Long & H. J. Noltie

***Colocasia affinis*** Schott in Bonplandia 7: 28. 1859. [Araceae]

India: Sikkim: East District: Below Martam, Rongni Chhu Valley. On damp shady cliff. 920m. Spreading by slender stolons; leaves marked purple above, spathe blade oblong 42 x 15 mm, cream, abruptly acuminate, tube green; ovaries cream, upper neuters pink, anthers orange, appendix yellow; Voucher No. 42; 7 Jul 1996; Coll. D. G. Long & H.J. Noltie

***Coriaria terminalis*** Hemsl. in Hooker's Icon. Pl. 23: t. 2220. 1892. [Coriariaceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Among shrubs at edge of degraded *Abies/Rhododendron* forest; 27°44'58" N, 88° 44' 01" E; Dwarf shrub to 50 cm; anthers orange-red. Voucher No. 192, 14 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Crassocephalum crepidioides*** (Benth.) S. Moore in J. Bot. 50: 211. 1912. [Asteraceae]

India: Sikkim: North District: Rate Chu bridge, N of Gangtok. Roadside. 1770 m; 27°23' 20" N, 88°38' 38" E; Disc florets dark orange. Voucher No. 95; 10 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cremanthodium oblongatum*** C.B. Clarke, Compos. Ind. 168. 1876. [Asteraceae]

India: Sikkim: North District: NW slopes above Sebu Chho. Grazed slope. 4830 m; 27°55'08" N, 88°40'40" E; Leaves rugose above; infls. nodding, phyllaries blackish, ligules pale yellow; anthers dark. Voucher No. 412, 23 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cremanthodium thomsonii*** C.B. Clarke, Compos. Ind. 169. 1876. [Asteraceae]

India: Sikkim: North District: SE side of Lasha Chhu, below Sebu La. Steep, grazed slope. 4560 m; 27°56'13 " N, 88°38'30" E; Stems reddish; ligules pale yellow; Voucher No. 369; 21 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cyananthus macrocalyx*** subsp. *spathulifolius* (Nannf.) K.K. Shrestha, Acta Phytotax. Sin. 35(5): 412. 1997. [Campanulaceae]

India: Sikkim: North District: Phaklung, Lasha Chhu valley. Hummocky marsh. 4620 m; 27°56'01" N, 88° 35'31" E; Decumbent herb; flowers lemon yellow, tube marked with purple lines on outside; Voucher No. 330; Coll. D.G. Long & H.J. Noltie

***Cynoglossum lanceolatum*** Forssk., Fl. Aegypt.-Arab. 41. 1775. [Boraginaceae]



India: Sikkim: North District: Rate Chu bridge, N of Gangtok. Roadside. 1770 m; 27°23'20" N, 88°38'38" E; Flowers greyish-white, with blue centre; Voucher No. 93; 10 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cynoglossum wallichii*** G. Don, Gen. Hist. 4. 354. 1837. [Boraginaceae]

India: Sikkim: North District: Phune, Lachung Chhu. Yak pasture cleared from *Abies* forest. 3430 m; 27°45'05" N, 88°43'41" E; Flowers dark blue. Voucher No. 143; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cyperus compressus*** L. in Biblioth. Bot. 85: 430. 1915. [Cyperaceae]

India: Sikkim: North District: Mangan, Tista Valley. Wet area beside road. 1340 m; 27°29'55" N, 88°32'29" E; Stem bases purplish; spikelets green, very compressed; Voucher No. 106; 11 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Cyperus haspan*** L., Sp. Pl.: 45. 1753. subsp. *haspan*: Flora Malesiana Series I (1974). [Cyperaceae]

India: Sikkim: East District: Namnam area, SE outskirts of Gangtok, Marshy bank at edge of degraded *Schima* forest. 1680 m; 27°19' N, 88°36' E; Tufted sedge; spikelets pale brown; Voucher No. 28; 6 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Cyperus laxus*** Lam., Tabl. Encycl. 1. 146. 1791. [Cyperaceae]

India: Sikkim: East District: Below Martam, Rongni Chhu Valley. Degraded subtropical vegetation (with scrub and *Mikania*) in ravine. 920 m; 27° 15' N, 88° 32' E; Tufted sedge; Voucher No. 37; 7 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Draba elata*** Hook.f. & Thomson in J. Proc. Linn. Soc., Bot. 5: 150. 1860. [Brassicaceae]

India: Sikkim: North District: Lasha Chhu, below Phaklung. Rocky gully. 4440 m; 27°55'30" N, 88°35'17" E; Flowers yellow; Voucher No. 342; 19 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Draba lasiophylla*** Royle, Ill. Bot. Himal. Mts. [Royle] 71. 1834. [Brassicaceae]

India: Sikkim: North District: Lasha Chhu, below Phaklung. Rocky gully. 4440 m; 27°55'30" N, 88°35'17" E; Flowers white; Voucher No. 341; 19 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Eleocharis yunnanensis*** Svenson in *Rhodora* 41: 559. 1939. [Cyperaceae]

India: Sikkim: North District: Lachung. Gravelly marsh. 3105 m; 27°43'17" N, 88°45'02" E; Rhizomatous sedge; Voucher No. 210; Coll. D. G. Long & H. J. Noltie

***Eleutherococcus cissifolius*** (Griff. ex C.B. Clarke) Nakai in *Chosen Shokubutsu* 1: 420. 1914. [Araliaceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Bank at edge of *Abies* forest. 3310 m ; 27°44' 21" N, 88° 44' 24" E; Tree to 3m; fruits green flushed brown Voucher No. 200; 14 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Erigeron multiradiatus*** (Lindl. ex DC.) Benth. ex C.B. Clarke, *Compos. Ind.* 56. 1876. [Asteraceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Grassy yak pasture. 3600 m; 27°48' 08" N, 88°42'22" E; Rootstock thick, horizontal, not stoloniferous; ray florets mauve, disc florets yellow; Voucher No. 173; 13 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Erigeron multiradiatus*** (Lindl. ex DC.) Benth. ex C.B. Clarke, *Compos. Ind.* 56. 1876. [Asteraceae]

India: Sikkim: North District: Yume Sam Grazed meadow on slope. 4560 m; 27°54'18"N, 88°42'56.2 E; Ligules erect in bud, reddish turning disc florets brown in centre, yellow at edge; Voucher No. 433; 24 July 1996; Coll. D.G. Long & H.J. Noltie

***Eutrema scapiflorum*** (Hook.f. & Thomson) Al-Shehbaz, G.Q.Hao & J.Quan Liu, Bot. J. Linn. Soc. 184(2): 219. 2017. [Brassicaceae]

India: Sikkim: North District: W side Sebu La. In shallow, rocky stream. 492; 27°55'56" N, 88°39'01" E; Petals white, tinged grayish; Voucher No. 391; Coll. D. G. Long & H. J. Noltie

***Fimbristylis complanata*** (Retz.) Link, Hort. Berol. [Link] 1: 292. 1827. [Cyperaceae]

India: Sikkim: North District: E bank of Lachung Chhu, just above Lachung. Grazed turf. 2730 m; 27°41'37" N, 88°45'10" E; Tufted sedge; spikelets brown; Voucher No. 246; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Globba clarkei*** Baker in J.D. Hooker, Fl. Brit. India 6(17): 210. 1890. [Zingiberaceae]

India: Sikkim: East District: Deorali; Gangtok, *Schima* woodland, in shade. 1630 m; 27° 18' 28" N, 88° 36' 35" E; 9 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Hoya acuminata*** (Wight) Benth. ex Hook.f. in J.D. Hooker, Fl. Brit. India 4(10): 53. 1883. [Apocynaceae]

India: Sikkim: North District: Myang Chhu, S side of Tista Valley. Wet, shady cliffs on moss. 1615 m; 27°31' N, 88 36' E; Pendulous succulent herb; corona pink, petals and pedicels white; Voucher No. 108; 11 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Ilex intricata*** Hook.f., Fl. Brit. India 1(3): 602. 1875. [Aquifoliaceae]

India: Sikkim: North District: Between and Yakche, N of Lachung. Among boulders *Abies/Rhododendron* forest. 3390 m; 27°45'03" N, 88°43'51" E; Small shrub to 40 cm; leaves dark green, lossy above, paler beneath; fruits red; Voucher No. 183; 14 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Impatiens decipiens*** Hook.f. in Rec. Bot. Surv. India 4: 17. 1905. [Balsaminaceae]

India: Sikkim: East District: Below Martam, Rongni chhu Valley. Degraded subtropical vegetation (with scrub and Mikania) in ravine. 880 m; 27°15' N, 88°32' E; Succulent herb to 1m; flowers cerise pink, spur slender decurved; Voucher No. 34; 7 Jul 1996; Coll. D.G. Long & H. J. Noltie

***Impatiens racemosa*** DC., Prodr. [A. P. de Candolle] 1: 688. 1824. [Balsaminaceae]

India: Sikkim: North District: Between Yakche and Lachung. By stream among scrub in degraded Tsuga forest. 3030m; 27°43'11" N, 88°45' 07" E; Succulent herb; flowers whitish; Voucher No. 233; 15 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Impatiens stenantha*** Hook. f., Fl. Brit. India 1(3): 478. 1875. [Balsaminaceae]

India: Sikkim: East District: FambongLho, ridge W of Pangthang Police Camp. Degraded evergreen oak forest; 2130 m; 27°21' N, 88°36 ' E; Erect herb; flowers yellow, spotted red on spur. Voucher No. 8; 5 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Isolepis setacea*** R.Br., Prodr. Fl. Nov. Holland. 222. 1810. [Cyperaceae]

India: Sikkim: North District: E bank of Lachung Chhu, just above Lachung. Open sandy area at edge of stream. 2730 m; 27°41'37" N, 88°45'10" E; Tufted sedge; spikelets black; Voucher No. 245; 15 Jul 1996; Coll. D.G. Long & H.J. Noltie

***Jacobaea raphanifolia*** (Wall. ex DC.) B. Nord. in *Compositae Newslett.* 44: 13. 2006. [Asteraceae]

India: Sikkim: East District: Tsongo Chho. Yak-grazed slopes above lake. 3720 m; 27°22'14" N, 88°45' 52" E; Biennial; stems purple at base; ray florets dark yellow, phyllaries dark-tipped; Voucher No. 44; 8 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Juniperus pseudosabina*** Fisch. & C.A. Mey in *Index Seminum* (LE, Petropolitanus) 8: 65. 1842. [Cupressaceae]

India: Sikkim: North District: Goichang; Lasha Chhu valley. On scree. 4555 m; 27°55' 52" N, 88° 36' 17" E; Prostrate shrub; Voucher No. 347; 19 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Ligularia fischeri*** (Ledeb.) Turcz., *Bull. Soc. Imp. Naturalistes Moscou* 20(3): 11. 1847. [Asteraceae]

India: Sikkim: North District: E of Lachung Chhu just above Lachung, scrub near river 2730 m; 27°41'37" N, 88°45'10" E; Herb to 1.m; ligules yellow, anther purple. Voucher No. 241; Coll. D. G. Long & H. J. Noltie

***Ligularia hookeri* f. *latiligulatum*** (R.D. Good) R. Mathur, *Fl. Ind. Enum. Asteraceae* [R. R. Rao *et al.*] 53. 1988. [Asteraceae]

India: Sikkim: North District: So on mossy rock among scrub. 3760 m; 27°52'28" N, 88°32'31" E; Stems purple; phyllaries tinged, Flowers yellow; Voucher No. 278; Coll. D. G. Long & R. J. Noltie

***Ligularia latiligulata*** (R.D.Good) Spring., *Edinburgh J. Bot.* 57(3): 402. 2000. [Asteraceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. *Abies/Rhododendron* forest. 3390 m; 27°45'03" N, 88°43 '51" E; Ligules slender, yellow, anthers brown; Voucher No. 186; 14 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Lonicera acuminata*** Wall., *Fl. Ind.* (Carey & Wallich ed.) 2: 176. 1824. [Caprifoliaceae]

India: Sikkim: North District: Between Phune and Yakche, N of Lachung. Bank beside road on open hillside. 3080 m; 27°43'11" N, 88 45'07" E; Shrub to 5m; corolla tube white, marked red, lower lip white with red central stripe, upper lip with 4 lobes, white with 4 red stripes. Voucher No. 215; Coll. D. G. Long & H. J. Noltie

***Lonicera lanceolata*** Wall., *Fl. Ind.* (Carey & Wallich ed.) 2: 177. 1824. [Caprifoliaceae]

India: Sikkim: North District: Phune, Lachung Chhu. *Abies/Rhodo* forest. 3430 m; 27°45'05" N, 88°43 41" E; Shrub; flowers dark pink; Voucher No. 178; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Nannoglottis hookeri*** (Clarke ex Hook.f.) Kitam., *Acta Phytotax. Geobot.* 31(1-3): 50. 1980. [Asteraceae]

India: Sikkim: North District: S of Thanggu. Degraded slope (formerly fir forest) with *Spiraea/Rosa* scrub. 3760 m; 27°52'28" N, 88 32 '31" E; Herb to 60cm; flowers yellow, anthers brown; Voucher No. 268; 17 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Panax pseudoginseng*** Wall., *Trans. Med. Soc. Calcutta* 4: 117. 1829. [Araliaceae]

India: Sikkim: North District: Yumthang, Lachung Chhu. Among boulders in *Abies* forest. 3610 m; 27°48'08" N, 88°42'22" E; Flowers greenish; Voucher No. 155; 13 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Rhaphidophora decursiva*** (Roxb.) Schott in Bonplandia 5: 45. 1857. [Araceae] India: Sikkim: North District: N bank of Rate Chu, W of bridge. On rocks in scrub cleared of forest in ravine. 1730 m; 27°23'25" N, 88°38' 32" E; Climber; stem c 4cm diameter, leaves bright shining green above, paler beneath. Voucher No. 100; 10 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Rhodiola bupleuroides*** (Wall. ex Hook. f. & Thomson) Fu, Acta Phytotax. Sin., Addit. 124. 1965. [Crassulaceae]

India: Sikkim: North District: Glacial valley above Yakche, N of Lachung. Among scrub at foot of wet cliff; 27°43' 09" N, 88°44' 47" E; Tepals and carpels dark red. 3180 m; Voucher No. 227; 15 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Rhodiola bupleuroides*** (Wall. ex Hook.f. & Thomson) Fu, Acta Phytotax. Sin., Addit. 124. 1965. [Crassulaceae]

India: Sikkim: North District: Lasha Chhu, below Phaklung. Rocky gully. 4440 m; 27°55' 30" N, 88° 35' 17" E; Leaves glaucous; young fruits purplish-red; Voucher No. 344; Coll. D. G. Long & H. J. Noltie

***Sarcococca hookeriana*** Baill., Monog. Bux. 53. 1859. [Buxaceae]

India: Sikkim: North District: Lema, S of Lachung. Rocky bank by road. 2400 m; 27°38'24" N, 88° 43' 18" E; Subshrub to 40 cm; fruit green; Voucher No. 122; 12 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Saussurea eriostemon*** Wall. ex C.B. Clarke, Compos. Ind. 229. 1876. [Asteraceae]

India: Sikkim: Bast District: Tsongo Chho Yak-grazed slopes above lake. 3720 m; 27°22'14" N, 88°45'52" E; Phyllaries blackish-purple, tipped green; Voucher No. 45; 27 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Saussurea gossypiphora*** D. Don, Mem. Wern. Nat. Hist. Soc. 3: 414. 1820. [Asteraceae]

India: Sikkim: North District: W side of Sebu La; 27°55'56"N, 88°39'01"E; Damp moraine slopes. 4920 m; Voucher No. 389; 21 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Saussurea hieracioides*** Hook.f., Fl. Brit. India 3(8): 371. 1881. [Asteraceae]

India: Sikkim: North District: Lasha Chhu valley, NE of Thanggu. Among rocks and scrub. 3980 m; 27° 53' 39" N, 88° 32' 44" E; Florets dark bluish purple; Voucher No. 313; 18 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Saussurea hookeri*** C.B. Clarke, Compos. Ind. 230. 1876. [Asteraceae]

India: Sikkim: North District: Lakes on SE side of Sebu La. Marshy ground by stream. 5040 m; 27° 55' N 88°39' E; Phyllaries dark purplish; Voucher No. 402 22 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Silene baccifera*** Roth, Tent. Fl. Germ. 1: 192. 1788. [Caryophyllaceae]

India: Sikkim: North District: Lachen, N edge of village. Open, degraded bank above road. 2800 m; 27°43'40" N, 88°33'10" E; Scrambling herb; petals white, notched at apex; Voucher No. 262; 16 Jul 1996; Coll. D. G. Long & H. J. Noltie

***Silene gonosperma*** (Rupr.) Bocquet, Candollea 22: 7. 1967. [Caryophyllaceae]

India: Sikkim: North District: Upper Lasha Chhu valley, below Yulhe Khang glacier. Among scrub by river. 4545 m; 27°56' N, 88°38' E; Flowers nodding, calyx veined blackish, petals brownish outside, whitish inside. Voucher No. 357; 20 Jul 19; Coll. D. G. Long & H. J. Noltie

*Sonchus wightianus* subsp. *wallichianus* (DC.) Boulos, Bot. Not. 125(4): 297. 1972. [Asteraceae]

India: Sikkim: East District: Rate Chu bridge, N of Gangtok. Cervices in wall by road. 1770 m; 27°23'11" N, 88° 38'38" E; Leaves glaucous beneath; ray florets orange outside, yellow inside. Voucher No. 91;10 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Sorozeris hookeriana* Stebbins in Mem: Torrey Bot. Club 19(3): 45. 1940. [Asteraceae]

India: Sikkim: North District: SE side of Lasha Chhu, below Sebu La. Steep, grazed slope. 4560 m; 27°56'13" N, 88°38'30" E; Flower buds dark brown, ligules pale yellow; Voucher No. 370; 21 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Stellaria congestiflora* H. Hara in J. Jap. Bot. 52(7): 195. 1977. [Caryophyllaceae]

India: Sikkim: North District: Lasha Chhu, below Phaklung. Rocky gully. 4440 m; 27°55'30" N, 88° 35'17.2 2 E; Petals white, deeply 2-lobed, lobes linear. Voucher No. 343; 19 Jul 1996; Coll. D. G. Long & H. J. Noltie

*Strobilanthes wallichii* Nees in N.Wallich, Pl. Asiat. Rar. 3: 87. 1832. [Acanthaceae]

India: Sikkim: North District: Glacial valley above Yakche, N of Lachung. Scrub at foot of wet cliff. 3180 m; Corolla lilac-blue, tube white; Voucher No. 219; Coll. D. G. Long & H. J. Noltie

*Taraxacum* sect. *Tibetana* Soest. [Asteraceae]

India: Sikkim: North District: Goichang, Lasha Chhu valley. Grassland around old settlement. 4480 m; 27°55'52" N, 88°36'17" E; Ligules cream, the outer brownish-pink on outside; Voucher No. 354;20 Jul 1996; Coll. D. G. Long & H. J. Noltie

## DISCUSSION

The Eastern Himalayan region has been explored by many researchers and the flora and fauna recorded are not only unique, but also many of them are rare and threatened (Griffith 1847, 1848; Hara 1964; Grierson & Long 1983; Ikeda *et al.* 2008; Maity *et al.* 2018). The Government of Sikkim is formally recording the flora and fauna, and the representative species of the region and the collected specimens have been deposited in the Sikkim State Forest Herbarium (SSFH). It has the records of many representative species of the distinguished scientists and explorers of the world. Due to anthropogenic activities and climate change, several plant species are migrating. The 'Migration lag' is an upcoming issue which is threatening the biodiversity (Corlet & Westcott 2013). Hence, the recording of the vegetation distribution in the altitudinal gradients of Sikkim Himalaya is needed as it is one of the biodiversity hotspots of the world.

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