

30. IDENTIFICATION AND DISTRIBUTIONAL NOTE OF A FEW SPECIES OF *EPILOBIUM* LINN. IN INDIA

The paper presents the distributional record of two newly described species namely *E. gouldii* & *E. squamosum* and extension of distribution of *E. cylindricum*

The genus *Epilobium* Linn. with more than 200 species occurs in all continents relatively at high altitudes. Clarke (1879) described 12 species under the genus *Epilobium* from East and North-East Himalaya. Raven (1962) recognised 37 species which include 13 new taxa from the Himalayan region and recorded 31 taxa from India.

During identification and study of the Indian *Epilobium* in herb. CAL we came across some interesting specimens. Further critical study with the available literature, type specimens and the photographs from Kew herbarium reveal that they belong to two newly described species of *Epilobium* described by Raven (1962).

The specimens, one collected from Gurhwal and the other from Mussourie have been identified as *E. squamosum* Raven. The species was so far known from Nepal, eastward to Bhutan and Western Yunnan. So it is here reported for the first time from India showing a westward extension of distribution of the taxon. Another specimen collected from Kashmir has been identified as *E. gouldii* Raven, so far reported from South East Tibet and Sikkim. The new report of this taxon thus establishes its westward extension. *E. cylindricum* DC., a species well distributed in sino-himalayan area is reported here for the first time from Arunachal Pradesh. A short description is provided below for easy identification.

Epilobium gouldii Raven in Bull. Brit. Mus. 2(12): 371 et pl. 35B. 1962.

Perennial herbs 20-25 cm tall, partly subterranean, underground parts often with scales,

broadly ovate dead leaves at the base; plants not pubescent throughout; internodes small, prominent pubescent lines decurrent from the base of the leaves. Leaves opposite, often alternate towards apex, sessile (10-) 18-22 (-25) x (4-) 6-8 (-10) mm, ovate, apex acuminate, base subrounded, margin serrulate, glabrous or sparsely pilose on the nerves, subcoriaceous. Inflorescence axillary or terminal, nodding at anthesis, subtending bracts smaller than the ovary. Flowers 6-7 mm long. Sepals 5, 3.5-4.0 mm long, ovate-acuminate, pubescent dorsally. Petals 5, rose purple, obcordate, 4.5-6.0 mm long. Stamens 5, filaments short, anthers cordate, remains near the stigma. Ovary densely pubescent, strigose. Style 2.5-3.0 mm long, stigma clavate-capitate. Capsule 5-6 cm long. Seeds less than 1 mm long, obovoid, papillose, verrucose.

Type: Gautsa to Phari, 12,000-14,300 ft (3650-4350 m), 13 Aug. 1938, *Gould* 1452 (K; photograph CAL).

Distribution: INDIA: Kashmir, (Sikkim), TIBET.

Specimens examined: TIBET: without precise locality, 1882, *Dr. King's Collector* 146 (CAL). INDIA: Kashmir, Astor Dist., Gudhai valley, 3344-3648 m, 12.7.82, *J. F. Duthie* 12198 (CAL).

From this disjunct distribution it is presumed that this taxon may be available in Kumaon Himalaya and Nepal.

Epilobium squamosum Raven in Bull. Brit. Mus. 2(12): 380. et pl. 39B. 1962.

Perennial herbs 8-10 cm tall, unbranched,

upper part pubescent, lower part glabrous but prominent line of hairs decurrent from the petiole, internodes small, underground stem with a series of small imbricate coriaceous scales. Leaves opposite, sessile or subsessile, broadly ovate, (10-) 12-15 (-18) x (6-) 8-10 (-15) mm, apex acute, base subrounded or subcordate, margin obscurely serrulate, sparsely hairy on the nerves, membranous or subcoriaceous. Inflorescence mostly terminal, nodding after anthesis, subtending bracts foliaceous, usually $\frac{1}{2}$ the ovary. Flowers 7-10 mm long. Sepals 5.0-6.0 x 1.5-2.0 mm, apex acute or apiculate, dorsally pubescent. Petals rose purple, 6-9 mm long, obcordate. Stamens smaller than the style. Ovary distinctly curved, sparsely pubescent, style 4-5 mm long, stigma capitate. Capsules 2-4 cm long, curved, glabrous or sparsely pubescent.

Type: Chhoyang khola, west of Num, Arun valley, 3500 m, 20 June 1956, *D. A. Stainton* 726 (BM).

Distribution: INDIA, NEPAL.

Specimens examined: Uttar Pradesh, Gurhwal, 1869, Sine coll. *s.n.*; Near Mussourie, N. W. Himalaya 1869, *G. King s.n.* (CAL).

The species is related to *E. sikkimense* in having leaves broadly ovate with obscurely serrulate margin and smaller habit, in addition to distinct curved ovaries as noted by Raven.

E. cylindricum D. Don, Prodr. Fl. Nep. 222. 1825. — Hausskn. Monogr. Epil. 200. 1884. — Raven in Bull. Brit. Mus. 2(12): 355.

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1962 — *E. roseum* var. *cylindricum* (D. Don) Clarke in Hook. f., Fl. Brit. Ind. 2: 585. 1879.

Type: NEPAL: Sheopuri Hill, North of Kathmandu, Aug. 1821, *Wallich* num. list No. 6328 (BM, lectotype; E; G; K; W and CAL).

Distribution: North eastern Afghanistan to the Tian Shan range and throughout the Himalaya to Szechwan, Yunnan and Hupeh. In India the species is well distributed in the Sino-himalayan range and is reported to occur in Jammu & Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, West Bengal and also in S.E. Tibet, Nepal, Sikkim and Bhutan.

The specimens cited below from Arunachal Pradesh thus confirm its new eastward extension of occurrence.

Specimens examined: Kameng District, Bomdila camp on the way to Dirong Dsong, on the hill top, 13.4.1957, *G. Panigrahi* 6870 (ASSAM, CAL)! Rupa-gegaon, 1570-1329 m, 9.4.1957, *G. Panigrahi* 6699 (ASSAM, CAL)!; Bomdila, 6 km towards the Terpa valley, along the roadside near the drain, 2500 m, 14 Sept. 1964, *J. Joseph* 39916 (ASSAM, CAL)!; Lohit F. D., Dreyi — Shoeliang 1200-625 m, 13.11.1957, *Rolla Seshagiri Rao* 10505, 10545 (ASSAM, CAL)!

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