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***Epilobium hirsutum* L. (Onagraceae): A New Distributional Report for Northern Haryana, India**

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ABSTRACT

The paper presents a taxon namely *Epilobium hirsutum* L. a showy member of Onagraceae and a Eurasian species collected and identified for the first time from district Yamuna nagar, Northern Haryana.

Key Words: *Epilobium*, Eurasian, Northern Haryana.

INTRODUCTION

The genus *Epilobium* L. with more than 300 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) recognized 37 species, which include 13 new taxa from the Himalayan region and recorded 31 taxa from India. In the 20th century Peter H. Raven (1976) has researched phylogeny and systematics of willow herbs extensively. Giri and Banerjee (1984) wrote identification and distributional note on a few species of *Epilobium*. In Western Himalayas *E. hirsutum* is found in meso-trophic grassland with *Dactylis glomerata* and *Urtica dioica*. The earliest collection records from north western India are from Wagil, Sind valley, Kurram valley, Astor, Jhelum valley from Jammu and Kashmir and between Chamba to Rakh from Chamba and Ganga valley from Tehri Garhwal and some specimen from the Himalayan region of Uttarakhand, growing in wet ground. Raizada collected it from Dehradun in between 1966-1972. He reported that it was distributed temperate western Himalaya from Kashmir to Kumaon, Europe, Africa, Asia. Murty and Singh (1964) reported and collected few

specimens from Meerut region near Ganga canal. Malik et al (2014) collected and identified this species from district Saharanpur of Uttar Pradesh. During the survey of district Yamuna Nagar of Haryana, authors reported three sites of this species, covering an estimated 325 km square area. Collected specimens were critically examined with relevant literature and identified with the help of DD herbarium and BSD herbarium Dehradun. Identified specimens have been deposited in herbarium of Guru Nanak Khalsa College, Yamuna Nagar.

Epilobium hirsutum Linnaeus, Sp. Pl. 347. 1753; Boiss., Fl. Or. 2: 746. 1872; Clarke in Hookf., Fl. Brit. Ind. 2: 583. 1879; Raven, Bull. Brit. Mus. (Nat. Hist.) Bot. 2: 352. 1962; Raven, Notes Royal Bot. Gard. Edinburgh 24: 189. 1962; Raven in Rech.f., Fl. Iran. 7: 7. 1964; Raven, Bothalia 9: 09. 1967; Raven in Tutin et al., Fl. Eur. 2: 309. 1968.

Description

Annual, slightly woody 3-6 feet long high stem with glandular pubescent hairs and with long white hairs on stem, specific to (*hirsutum*) species name. The derivation of *Epilobium* is from the greek epi,



Fig. 1: *Epilobium hirsutum* L.: Habit & Flower.

upon, and lobos, a pod; the petals are born on a pod like ovary (Hyam and Pankhurst, 1995). The species name *hirsutum* from the Latin *hirsutus*, so *hirsutum* literally means hairy stem and leaves. Leaves cauline, opposite and alternate, dentate-serrulate, 20- 60 dentines on one side (edge or margin) of leaf. Leaves 4-8 cm long, 0.6- 0.8 mm wide, lanceolate, sessile, slightly cordate, mid-rib dominant, secondary nerves 7- 10 pairs. Flowers solitary axillary, pink, pedicel hardly 1 cm long or sometimes more long; ovary inferior; calyx 4, green, valvate, hirsute, heavy pubescent below, ovate lanceolate, lobes 5-6 mm long hardly reached to the corolla; corolla 4, pink, imbricate, 5-7 mm long, emarginate, clavate, 9-11 veins; stamens 8, 4 long, 4 short, attached near the base of calyx, stamens dorsifixed or basifixed, whitish yellow, short stamens attached below and long stamens attached upper side; style 1, yellowish white, 4-5 mm long, stigma 4, pubescent, cross shaped, swollen 2 mm long; fruit capsule, 2-6 cm long and hairy; seeds comose, 0.1-0.2mm long, 0.5 mm wide, hairs hardly 5-8 mm long found near, sometime papillose; dispersal through air and water.

Flowering: June- August

Fruiting: July-September

Distribution: Mediterranean region, Europe, Asia, Africa, Norway and temperate Himalayan regions.

Specimen Examined: INDIA, Haryana, Yamuna Nagar District, Yamuna Nagar (29.70000 N and 77.68000 E), 10.07.2015 Singh & Mohammed

(YNR) and near Tejli, 15.07.2015 (29.77060 N and 77.66230 E) Mohammad & Singh (YNR); Duthie 12248 (DD), Astor Valley, Kashmir, 25.07.1892; Stewart 88830 (DD), Wagil, Sind Valley, Kashmir, 03.09.1940.

Ecological Notes

It is a native of Eurasia where it is found in moist waste ground of the Mediterranean region, Europe, Asia and Africa. It is reported as a nursery weed in Norway. It is reported as a weed in district Yamuna Nagar and is reported from three sites namely Tejli village, near Thermal Power plant and nearby Yamuna canal bank respectively. In district Yamuna Nagar this herb co-exists with *Polygonum hydropiper*, *Alternanthera hypocrateriformis*, *Ipomoea aquatica*, *Oplismenus compositus*, *Setaria glauca*, *Paspalum dilatatum*, *Polypogon monspiliensis*, *Typha angustata* and *Pouzolzia indica*. All these species grow faster in summer and rainy seasons and all species require habitat with a pH of 5.5 or higher for seed germination.

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