

On the Recollection and Rediscovery of *Onosma pyramidale* Hook. f., Boraginaceae from Chamoli, Uttarakhand

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ABSTRACT:

Onosma pyramidale Hook. f. (Boraginaceae) is an endemic species so far known only from Kali Valley, Eastern Kumaun (Uttarakhand). Original description was based on an illustration and seed sent by Duthie. This paper deals with recent recollection and new record for Chamoli District of Garhwal Himalaya, Uttarakhand and species collected after a lapse of 110 years.

Key words: *Onosma pyramidale*, extended distribution, Uttarakhand.

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INTRODUCTION:

The Genus *Onosma* has its center of distribution greatest diversity, and maximum concentration of species in Iran and westward into Syria and Turkey. In the past the species of *Onosma* have been distinguished almost exclusively by external features of the plant, with general habit, indument and size and shape of the flowers most emphasized. In general, though the differences that have been used are real, they are of a sort difficult to express in precise terms. Published account- of the genus, as a result, has been far from satisfactory as a means of identifying species (Johnston, 1951).

J. F. Duthie, the Superintendent of the Government Botanical Garden, Saharanpur had recorded an interesting species of *Onosma* from upper Kali Valley in eastern Kumaun at an altitude of 9000 ft. in the year 1885. As Hooker mention, it appears that the specimen seen by Duthie was in fruiting condition and he took only seeds to Kew Gardens where it was sown. The plant germinated and flowered in 1886, which was illustrated and described as *Onosma pyramidale* by Hooker (1888) (Figure-1). This

species has remained in botanical literature (e.g., Duthie, 1918, Uniyal *et al.*, 2007 and Hara 1982) without description and proper locality.

During a recent botanical tour to Chamoli District in Uttarakhand, senior author located few individuals of *O. pyramidale* at an altitude of 2770 m asl near the village Muniyalikhet, Pinder valley (30° 03' 18.3'' N lat and 79° 44' 29.3'' E long.). A single specimen was collected (UKT 1108), processed and deposited in WII Herbarium. This collection is after a gap of 110 years establishes a fact that *O. pyramidale* has now been recorded for the first time in Garhwal Himalaya (Uttarakhand) and as of now, there are at least two localities of this species in the state, which ensures its continued existence. It may be pointed out that recent developmental activities and road construction along Kali Valley may completely wipe out the original population. Other relevant publications on the flora of this region (Hooker 1885; Naithaini 1984) do not mention the occurrence of this species in Garhwal Himalaya. However, in a work done on *Onosma* of Sino-Indian region by Johnston (1951) reviles that this species was only distributed in

basin of Kali valley of Kumaon region of Uttarakhand state.

For the benefit of field identification and taxonomic revision of species of *Onosma*, original citation, brief description and field notes on habit and habitat are given in figure-1 along with appropriate illustrations.

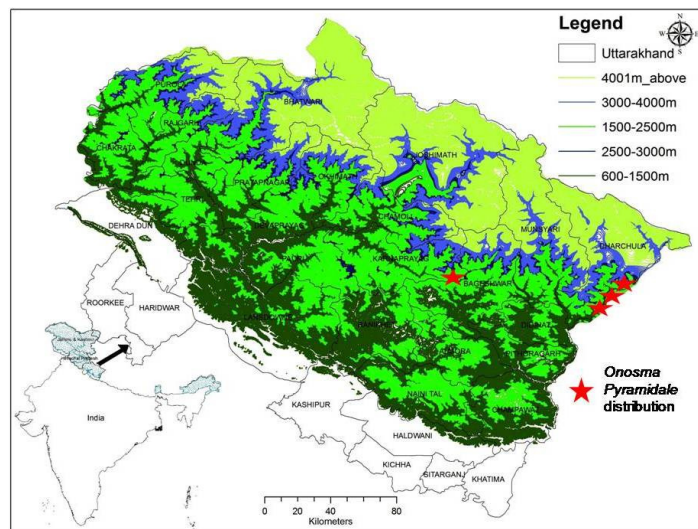


Figure:1 (Map-1) Distribution of *Onosma pyramidale* Hook.f. in Uttarakhand, India.

Onosma pyramidale Hook.f., Bot. Mag. 114:t. 6987. 1888; Johnston in J. Arn. Arb. 32: 352. 1951; Hara, En. Fl. Pl. Nepal 3: 103. 1982. Family: Boraginaceae (Figure-2 & 3).

Hispidly hirsute herbs up to 35 cm high. Hairs white, those on the upper surface of the leaves arising from rough tubercles. *Radical leaves* numerous, rosulate, ten to twelve inches long, spreading, narrowly lanceolate, nearly an inch broad, acuminate, one-nerved, narrowed towards the base, bright green. *Flowering stem*, eighteen inches to two feet high, very stout, terete, pyramidally branched from the ascending base, leafy; leaves or bracts at the bases of the branches four to six inches long, sessile, lanceolate, acuminate, three-nerved, longer than the

branches, which are erecto-patent with nodding short racemes of crowded flowers at their tips; floral bracts ovate-lanceolate, about as long as the pedicels. *Flowers* drooping, pedicels as long as or shorter than the calyx. *Sepals* half an inch long, narrowly lanceolate, green, and free to the base. *Corolla* about as long as the sepals, nearly ellipsoid, with a rather contracted truncate mouth, quite terete and sparingly pubescent, bright scarlet fading to lilac; lobes minute, very broad, recurved; basal scales opposite the filaments, obovate, truncate, concave in front, bearded. *Stamens* inserted close to the base of the corolla-tube, above a basal ring of short hairs, included; filaments filiform, not dilated below; anthers elongate, very shortly two-fid at the base with short truncate lobes; cells linear, puberulous, as is the linear truncate prolongation of the connective, which is half the length of the cells. *Ovary* of four-rounded lobes; style filiform, stigma quite simple. *Nucules* erect, ovoid, acute, hardly beaked, and quite smooth.

Flowering and Fruiting Period: July-August.

Ecology: In dry rocky slopes, at an altitude of 2770m. Other species share same habitat with *Onosma pyramidale* are as *Ephedra gerardiana*, *Cotoneaster microphyllus*, *Erigeron canadensis*, *Galium aperine* and Grasses.

Distribution: INDIA: Chamoli (UKT 1108- WII) Uttarakhand and Botanical Magazine- Kali valley, Kumaon by J.F. Duthie and *Onosma pyramidale* Hook. f. vom Western Himalaya, t. 6988 (1888).

Specimens examined: Uttarakhand: Muniyalikhet (Pinder valley), Chamoli Umeshkumar Tiwari UKT 1108(WII), Sosa, Kali Valley, Kumaon Duthie 3194 (DD), 1884; Kali Valley, Byans, Kumaon Duthie 5827 (DD), 1886; Sosa, Kali Valley, Kumaon Inayat 24754 (DD), 1900.



Figure :2 Reproduced from Original citation of *Onosma pyramidale*

Threats on the Species:

Almost everywhere in the East Pindar range of Badrinath Forest Division has been under over-grazing pressure. Especially between March to October, by great numbers of goat, sheep and cattle belong to local people move from lower altitude to higher altitude pastures for grazing. This pressure caused changing in natural habitats of the plants and serious habitat degradation. The grazing pressure at the flowering and fruiting stage may affect the population.

Horticultural uses: This species has potential as an ornamental plant because of its showy scarlet petals.

CONCLUSION:

This species is new record for Garhwal Himalaya. As such this species was reported from Bhudi village, on way to Kailash Mansarover root (Map-1). Species was reported from Kali river valley in between Nepal and Kumaon Himalaya, Uttarakhand, other than this species have no record from Garhwal Himalaya. Because of its rarity, restricted distribution and found in few pockets of state, this location is very important for the conservation of species.

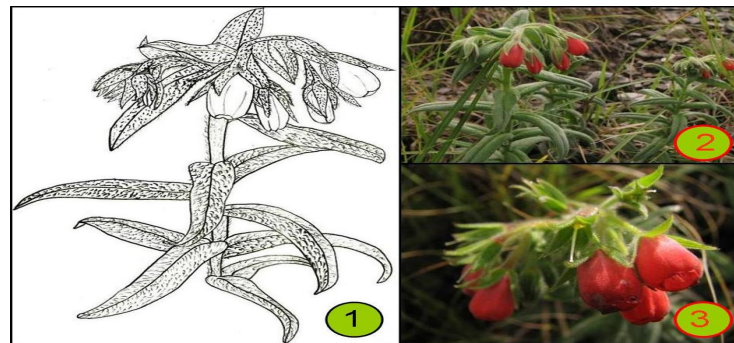


Figure 3: (1) Illustration of *Onosma pyramidale* Hook.f. (UKT 1108), (2) Habit and (3) Close up of Inflorescence.

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