

THE GENUS *CRATEROSTIGMA* HOCHST. (SCROPHULARIACEAE) IN INDIA

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ABSTRACT

Craterostigma plantagineum Hochst. (Scrophulariaceae) collected from Shivpuri, M. P. is recorded for the first time from India. The species was known earlier from tropical Africa and Arabia only. It is, therefore, described in detail together with notes on its ecology and distribution, variation and affinities, and its importance in the folk lore of Shivpuri, M. P.

The genus *Craterostigma* Hochst. (Scrophulariaceae) is represented by about 25 species distributed in different parts of tropical Africa and Madagascar, reaching as far north as Arabia. During the course of an intensive study of the flora of Madhya Pradesh, *C. plantagineum* Hochst., was collected from Shivpuri, M.P. where it grows apparently as an indigenous taxon. The species has, however, not been recorded in Indian floras. The present discovery brings the genus much within the limits of the Indian flora, thus extending its range of distribution to a great distance further eastwards. It is, therefore, described in detail together with notes on its synonymy, ecology, distribution, variation and affinities, and its importance in the folk lore of Shivpuri. Herbarium specimens collected from Shivpuri, M.P. have been deposited in the Herbarium of National Botanic Gardens, Lucknow, India (LWG), and in the Herbarium of Royal Botanic Gardens, Kew, Richmond, Surrey, Great Britain (K).

Craterostigma plantagineum Hochst. in Flora 24: 669. 1841; Hieron in Dyer, Fl. Capensis 4: 361. 1904; Skan in Dyer, Fl. Trop. Africa 4: 329. 1906; Blatter in Rec. bot. Surv. India 8: 448. 1919; Evans, Fl. Pl. S. Africa 3: t. 106. 1923; Martineau, Rhodesian Wild Fl. 73. 1953; Andrews, Fl. Pl. Anglo-Egypt. Sudan 3: 134. f. 36. 1956; Thonner, Fl. Pl. Africa 494. 1962.

Torenia plantaginea Benth. in DC. Prodr. 10: 411. 1846.

Densely pilose, acaulescent, perennial herbs, with a thick stout root-stock, 1-3 cm long, densely covered with several, stout roots 3-10 cm long. Leaves radical, rosulate, 3-8 in a whorl, vertical, ovate to ovate-lanceolate, sometimes subspathulate, somewhat fleshy, 2.8-4 × 1.5-2.2 cm, entire, ciliate-margined, obtuse, glabrous or sparingly pilose above, densely

pilose beneath, usually 5-nerved; nerves prominent beneath; base narrowed into a short, winged petiole; petioles 8-15 × 3-5 mm, pilose on both the sides. Scapes usually 2.5-10 cm long, unbranched, solitary or more, arising from the centre of the leaf-rosette, quadrangular, pilose. Flowers violet-purple, 1.5-2 cm in length, usually paired, sometimes more, in racemes. Bracts opposite, foliar, ovate-lanceolate to lanceolate, concave, 8-15 × 4-8 mm, sessile, entire, ciliate, acute, glabrous above, pilose on the back, with a prominent midrib, each enclosing one or more flowers. Pedicels 2-4 mm long; lower pedicels sometimes reaching up to 1.5 cm in length, forming corymbose racemes. Calyx tubular, 5-angled or -ribbed, sparsely pilose or pubescent, but more densely along the ribs, 6-8 mm long, accrescent, reaching up



Plate 1: Close view of the flowering specimens of *Craterostigma plantagineum* Hochst. growing in the natural state at Shivpuri, M.P.

to 1 cm in length; teeth 5, subequal, 1-2 mm long in flowers, reaching up to 4 mm in fruits, deltoid-ovate, acute, ciliate. Corolla violet-purple, 1.2-2 cm long, bilipped; the upper lip erect, 2-lobed, 4-5 mm broad, lobes deltoid-ovate; the lower lip 3-lobed, spreading, 7-10 mm broad, lobes oblong, middle one largest; corolla-tube 7-10 mm long, slightly pubescent outside, dilated upwards. Stamens 4, didynamous; anthers dimorphic. Posterior pair of stamens subincluded, inserted in the middle of corolla-tube; filaments filiform, not exceeding 2 mm in length; anthers oblong-linear, about 1 mm long, approximate, glabrous. Anterior pair of stamens exserted, attached to the throat of corolla-tube; filaments elongate, up to 5 mm in length, arched, appendaged at the base, sometimes connivent beneath the upper lip; anthers about 2 mm long, gibbous; anther-thecae divaricate, distinct. Carpels 2, syncarpous; placentation axile. Ovaries oblong, ovoid or ellipsoid, glabrous, 2-3 mm long, bilocular, many-ovuled; styles filiform, up to 1 cm long, dilated upwards; stigmas shortly bilamellate at the apex. Capsules oval or oblong, narrowed at the ends, slightly 5-angled, 8-10 × 3 mm, as long as calyx, smooth, glabrous, septicidal, blackish at maturity; valves 2, entire; style-base persistent. Seeds many, oblong,

about 1 × 1 mm, flat and smooth on the lower surface, convex and tubercular-rugulose on the upper surface, brown, with persistent funiculi at the base (Text figs. 1-9).

Craterostigma plantagineum Hochst. is an extremely variable species, especially in the size and length of the leaves and scapes. The Indian specimens differ from African plants in having oblong seeds and only violet-purple flowers which are larger in size, and are borne on comparatively shorter pedicels. The species is allied to *C. pumilum* Hochst.; the latter distinguished by the scapes shorter than leaves and blue or white flowers having the yellow-coloured throat. Further, the species resembles with the habit of a *Primula* or *Plantago*, especially in younger stages.

Ecology and distribution: The species is fairly common on exposed, gravelly and shallow soils near Badaiya Kund, Shivpuri. It is apparently an indigenous species in the area and persists by thick, massive root-stocks which bear leaves and flowers together after the first showers during the rainy season. The aerial parts disappear during the summer season. The species is indigenous to tropical Africa and has been recorded from Eritrea, Transvaal, Cape of Good Hope, Abyssinia, Angola, Mozambique, Kenya, Kalahari Region, Sudan, Aden (Arabia) and now from Central India. There is no record of the occurrence of the species in the intervening areas between Africa, Arabia and India.

Local name: Bai-surai.

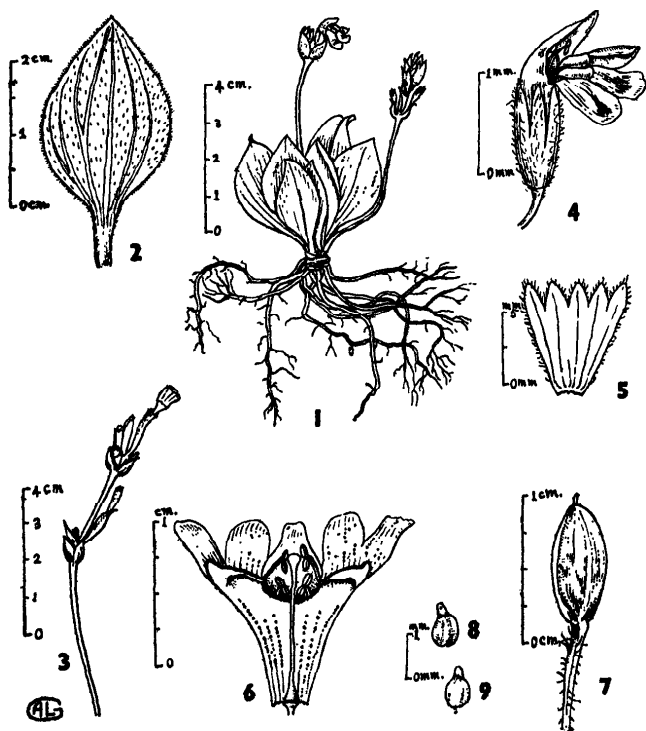
Flowering and Fruiting: August-April.

Herbarium specimens examined: MADHYA PRADESH (INDIA): Shivpuri, J. K. Maheshwari 71433 (LGW, K).

Local uses: The plant is reputed in the local folk lore of Shivpuri. The decoction of the roots is used in the treatment of gout and rheumatism. It is also a pretty herb which would be well worth cultivation in the green-house. In S. Africa, some species including *C. plantagineum* Hochst. are useful ornamental herbs.

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Craterostigma plantagineum Hochst.
Text figs. 1-9 : 1. Entire plant. 2. Lower surface of leaf. 3. Inflorescence. 4. Flower. 5. Calyx. 6. An opened flower to show stamens and pistil. 7. Fruit. 8-9. Dorsal, and ventral views of seed.