

# CRYPTOMORPHA, A NEW SECTION OF SAXIFRAGA

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(Received for publication September 29, 1922)

While pursuing some studies on the section *Boraphila* Engler, of the genus *Saxifraga*, the writer (4) found that the flower of *Saxifraga eriophora* S. Watson showed some important differences in structure as compared with the other species of this section. With better material at hand, kindly loaned by the Herbarium of the University of California, it has been possible to make a more thorough analysis of the flower of this species, with the result that the writer here undertakes to make it the basis of a new section.

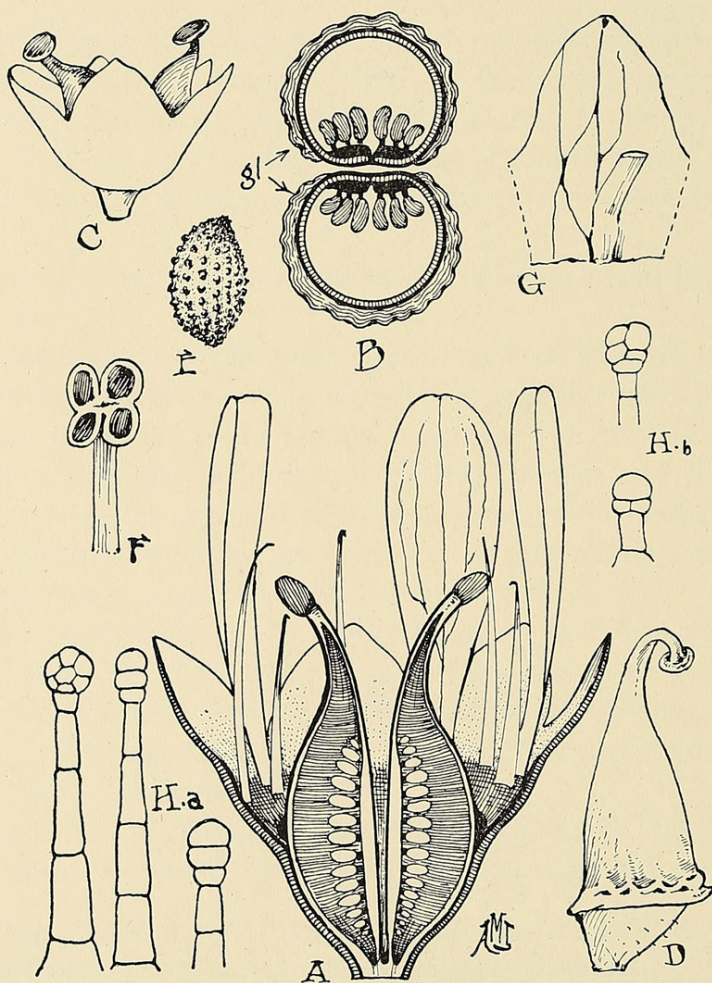


FIG. 1. A, Semidiagrammatic vertical section of the flower of *Saxifraga eriophora* S. Watson. B, Cross-section of the ovaries *in situ*, in the region of the gland, showing placentation and ovules, and glands surrounding ovaries; *gl*, gland. C, Semidiagrammatic aspect of a young flower, the stamens and petals removed. D, Lateral aspect of a single carpel, with parts of the flower cut away to show the gland. E, A mature seed. F, An anther, some time after shedding of pollen. G, A single segment of the calyx with part of the calyx-tube (hypanthium), showing nervation and the insertion of a stamen. H.a and H.b, Various types of hairs.



Watson (1) regarded *Saxifraga eriophora* S. Watson as closely related to *Saxifraga virginensis* Michx. and *S. nivalis* L. It is true that these three species are very similar in vegetative characters, but, as will be shown below, the flower of *Saxifraga eriophora* S. Wats. is distinctly different in structure from the flowers of the other two above-named species. In like manner, Engler (2) placed the species with *Saxifraga virginensis* S. Wats., *S. nivalis* L., and *S. reflexa* Hook., in a group of the section *Boraphila* characterized by a compact inflorescence ("Blütenstand dicht gedrängt"). Later, Small and Rydberg (3) included the species in the genus *Micranthes* Haw.

The important facts about the flower of *Saxifraga eriophora* S. Wats. are that the ovaries of the two otherwise distinct carpels are consolidated with the receptacle for nearly half their length, that is, the ovaries are half-inferior, the receptacle being further prolonged and expanded into a rather deep calyx-tube (hypanthium) in the middle region of which the stamens are inserted. As in many other species of *Saxifraga*, the ovaries are surrounded dorsally and laterally by a sinuous disk or gland, which in this case persists at maturity as a dry flange a short distance above the base of the hypanthium.



FIG. 2. *Saxifraga eriophora* S. Watson. Drawn from a specimen in the Herbarium of the University of California. Height of scape, 15 cm. At the left is a sketch of the lower surface of a leaf-blade, showing tomentum.



**CRYPTOMORPHA** sect. nov.

Carpella 2 elongata distincta in divergentes stilos attenuatos contracta ovariis semiinferis glandula supra hypanthii basim cinctis staminibus in hypanthii parte superiore instructis.

Carpels two, elongate, distinct, contracted into slender divergent styles; ovaries semi-inferior, surrounded by a gland above the base of the hypanthium; stamens inserted on the upper part of the hypanthium.

*Saxifraga eriophora* S. Watson, Proc. Amer. Acad. 17: 372. 1881-1882.

*Micranthes eriophora* (S. Wats.) Small, N. Amer. Fl. 22<sup>2</sup>: 142. 1905.

Scape erect, rigid, 15-18 cm. high, sparsely and rather obscurely rufous-pubescent, cymosely branched from the middle, the branches spreading. Leaves basal, 2-4 cm. long, ovate to elliptic-ovate, more or less abruptly contracted into the petioles, glabrous above, more or less densely rufous-tomentose beneath. Flowers small, numerous; pedicels shorter than the flowers, subtended by small lanceolate bracts. Hairs multicellular, consisting of a single row of cells, the glands multicellular, oblong or globose, when oblong consisting of a single series of superposed cells. Sepals deltoid or triangular-oblong, ascending-spreading, sparsely glandular-pubescent dorsally. Petals spatulate-oblong, gradually contracted toward the base, about twice as long as the sepals, inserted on the hypanthium. Stamens 10, filaments plano-subulate, broadest downwards, strongly contracted and incurving above; anthers small. Follicles small, erect; stigmas oblong or nearly globose. Seeds 0.3 mm. long, elliptic to elliptic-ovoid, with longitudinal lines of short, blunt, tuberculate teeth. Perennial from a short, stout, erect caudex. Roots fibrous.

*Distribution.* Known only from the Santa Catalina mountains of Arizona, where it is reported to be common.

*Specimens examined.* Ex Lemmon Herbarium, Oakland, California, "N. slope Santa Catalina Mts., 8000 ft. alt., May 1, 1881. Flora of Arizona." Collected by J. C. Lemmon and wife. Missouri Botanical Garden no. 84214, and Herbarium of the University of California, no. 114893.

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Johnson, Arthur Monrad. 1923. "Cryptomorpha, a new section of Saxifraga." *American journal of botany* 10(6), 294–296.

<https://doi.org/10.1002/j.1537-2197.1923.tb05729.x>.

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