

A New Species of *Synthyris* From Idaho

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It is a curious fact that the portion of northern Idaho traversed by Lewis and Clark on their course from the Bitter Root Mountains to and from the Columbia River should still remain one of the least known sections of the United States. Until the recent roadway over Lolo Pass, no highway that crossed the main mountain axis existed between Lookout Pass and Gibbons Pass. The section has remained scarcely explored botanically, and the very identities of certain of the species obtained by Meriwether Lewis wait for collections still to be made near the Lochsa Fork of the Clearwater River. But the few plants gathered on their difficult return journey in June of 1806 are but an insignificant proportion of the species actually growing there, and we are discovering that from the Clearwater Valley on the north to the Payette Valley on the south occurs a peculiar flora with many endemic species.

Cool water Mountain lies in the Clearwater Valley, between the lower courses of the Lochsa and Selway Forks (or Rivers), which a few miles to the westward unite to form the Middle Fork of the Clearwater River. It is in the northern part of the present Idaho County, Idaho, and within sight of Lewis and Clark's route which followed the divide north of the Lochsa Fork. Expeditions from the University of Idaho are now reaching this section, and on one of them was found the remarkable new species now being described. It grew in Douglas Fir Spruce Type, partly shaded places, Cool Water Mountain, Selway National Forest, Idaho County, Idaho, at 6500-7000 feet altitude, collected in flower May 8, 1936, by Floyd W. Gail, in United States National Herbarium. Also gathered in fruit on July 11, 1936, by Professor Gail and Elbert M. Long.

In the account of *Synthyris* presented over three years ago in the Proceedings of the Academy of Natural Sciences of Philadelphia (85: 83-96), this would have nearly all the characters that in the key distinguish *S. schizantha* Piper, of the coastal mountains of western Washington and Oregon. The two species are closely related, sharing the correlated features of finely divided petals and strongly bilobed capsules, the former being a nearly unique character in the Scrophulariaceae. Yet, as would be expected from the remote and restricted areas in which these species occur, there are important differences, which may be seen in the following contrast:

- A. Corolla 5 mm. long, much exceeding the sepals; anthers about 0.8 mm. long; capsule 6 mm. wide, the cells horizontally spreading; seeds dark brown, 1.3 mm. long, nearly circular (slightly longer than wide); flowering shoot below inflorescence with a single pair of ovate-flabellate leaves (about 2.5 cm. long and wide); foliage leaves more coarsely lobed, the incisions 5-15 mm. deep, the lobules acute or acutish, the leaves becoming glabrous (at least on the upper surface). *S. schizantha*.
- B. Corolla 2.5 mm. long, slightly exceeding the sepals, anthers spreading; seeds yellowish brown, 1.6 mm. long, nearly oval; flowering shoot below inflorescence naked or with a pair of bract-like rounded-serrate leaves (less than 1 cm. long and wide); foliage leaves crenately lobed, the incisions 2-5 mm. deep, the lobules rounded, the leaves permanently sparsely pilose (at least on the upper surface). *S. platycarpa*.

From the width of the capsule, relative to its length, we propose calling this plant

Synthyris platycarpa, spec. nov. It may be described as follows:

Plant becoming glabrate. Petioles at anthesis 5-7 cm. long, at fruiting becoming 8-14 mm. long, at first white-pubescent, later hairy only on upper surface, elsewhere glabrous; leaf-blades rounded-cordate, bright green, above pilose, beneath eventually glabrous, the margin with about 25 or 27 shallow lobes, (2-5 mm. long), each of which is irregularly crenately bidentate, the blades reaching 5-7 cm. long, 7-9 cm. wide. Flowering stems permanently erect, sharply 4-angled, at first densely pubescent with white hairs, distally closely pubescent with shorter hairs; the stems becoming 20-30 cm. tall, below the inflorescence naked or with a pair of short bract-like rounded-serrate leaves. Bracts lanceolate or nearly ovate, acuminate to obtusish, entire to irregularly serrate. Pedicels in anthesis densely white-pubescent, shorter than or

about equaling the bracts, in fruit 6-8 mm. long, strongly ascending, finely pubescent, a few hairs obscurely gland-tipped. Sepals lanceolate, attenuate, entire or slightly lobed, 2 mm. long. Corolla 2.5 mm. long, blue-violet, tube hardly 0.5 mm. long, sparsely short-hairy within; the lobes all laciniately pinnatifid, the posterior 2 mm., the anterior 1.5 mm. long. Filaments 2-2.5 mm. long. Anthers 1 mm. long, brown. Capsule 2.5 mm. long, 4.5 mm. wide yellowish-brown, widely and shallowly notched, the rounded lobes ascending. Seeds yellowish-brown, oval, flattened, 1.6 mm. long.

(*Planta ultimo glabrata; folia rotundata-cordata, pilosa vel subtus glabrescens, aequaliter lobata, lobis dentibus rotundatis obsitis; pedunculus 20-30 cm. altus; pedicelli 6.8 mm. longi, pubescentes; sepala 2 mm. longa, attenuata; corolla 2.5 mm. long, caerulea, lobis laciniatis tubum excedentibus; capsula 2.5 mm. longa, biloba, blabra; semina 1.6 mm. longa.*)

Continuous growth of Northwest Scientific Association through a decade and a half attests the usefulness of this organization. The various projects which it has initiated and is carrying forward—annual meeting, publication of research papers, inauguration of the Flint Memorial Fund and the Trustees' Fund all with uniform success tell us we must go on. There is no turning back. Encouragement of young scientific workers by publication of their work, financial aid to more seasoned investigators to enable them to carry on in their spare time and the needed interchange of ideas and the cooperative planning of research for utilization of the scarcely touched resources of the great Northwest are worthy ideals for a scientific organization and should stimulate increased interest in our work. It is

not too early now to make plans for the 1937 December Meeting which is announced for December 28 and 29.

A note in SCIENCE (April 30, 1937, p. 429) may be of vast importance to the Northwest and all other fruit producing regions when fully investigated. Dr. V. R. Haber's discovery several years ago that Epsom salts (Magnesium sulphate) was an insecticide has been further investigated at the University of Oklahoma, by Frings and Frings. They used: Bran 60%, molasses 15% and Mg SO₄ moistened with water for grasshopper bait with success and suggest the use of this salt for all mandibulate insects. Its cost is far lower than arsenical sprays and danger of many kinds and cost of washing fruits is saved. The salt is harmless to mammals.