

***ERYTHRANTHE SCOULERI* (PHRYMACEAE)
NATIVE IN THE FRASER RIVER DELTA TIDELANDS,
BRITISH COLUMBIA**

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ABSTRACT

Erythranthe scouleri (Hook.) Nesom is restricted to estuaries and tidelands on the Columbia River (Oregon and probably Washington) and Fraser River (British Columbia). Its occurrence in the Fraser River delta of British Columbia is documented by collections reported here. The morphology of the species is shown in photos of herbarium specimens and plants in nature.

Erythranthe scouleri (Hook.) Nesom is a little-known monkeyflower that in the past was lost in the *Mimulus guttatus* DC. complex. It was originally named *M. scouleri* from material collected by John Scouler on the Columbia River in Oregon and later treated as a distinct species (Howell 1903; Pennell 1951). In Hitchcock et al. (1959) it was listed in synonymy of *Mimulus guttatus* as *M. guttatus* subsp. *scouleri* (Hook.) Penn. Nesom treated it as a distinct species in 2012 and it is now included as such in the Flora of the Pacific Northwest Second Edition (Legler 2018).

At the time of Nesom's publication in 2012, *Erythranthe scouleri* was known only from the type specimens at K and NY (Columbia River, Oregon) and a few other collections.

ERYTHRANTHE SCOULERI (Hook.) Nesom, Phytoneuron 2012-40: 44. 2012. *Mimulus scouleri* W.J. Hook., Fl. Bor.-Amer. 2: 100. 1838. *Mimulus guttatus* subsp. *scouleri* (Hook.) Penn., Proc. Acad. Nat. Sci. Philadelphia 99: 166. 1947. **TYPE: USA. Oregon.** [probably Clatsop Co.]: Columbia River, no date, *Dr. Scouler s.n.* (holotype: K image!; isotype: NY image!).

Oregon. [Clatsop Co.]: S shore of Columbia River, above Astoria, 1883, *Meehan 15739* (MO); John Day, 20 Aug 1902, *Sheldon 10181* (UC); John Day, near Tongue Point, 20 Aug 1902, *Sheldon 11136* (MO). The two Sheldon collections apparently were made from the John Day River near Astoria in Clatsop County, not the town of John Day in Grant County, nor from the other John Day River, which enters the Columbia at the eastern border of Sherman County. See Nesom (2013) for a record from Columbia County, Oregon.

Plants of *Erythranthe scouleri* are perennials (proximal nodes often adventitiously rooting and producing slender rhizomes/stolons) up to more than a meter tall and often loosely sprawling over other vegetation, with yellow corollas to 5 cm long. They are recognized especially by the narrowly lanceolate to elliptic mid-stem leaves, unlike the rounded leaves of *E. guttata* or any of the related species in the complex, and long petioles on the lower stem. The proximal leaves often are disintegrated and muddy at flowering time and the distal leaves become rounded near the inflorescence, as in *E. guttata*. Nesom (2012) described *E. scouleri* as glabrous throughout, based on limited material, but the peduncles and pedicels, bracts, and calyces of plants from the Fraser River area are sparsely glandular with fine, clear, flattened, septate hairs mostly topped with a small, golden brown, globular gland.

Several British Columbia botanists were familiar with *Erythranthe scouleri* on the Fraser River tidelands but failed to recognize it as distinct from *E. guttata*. It now can be understood, however, that *E. scouleri* is a Pacific coast endemic, restricted to estuaries and tidelands on the Columbia and Fraser Rivers, including several sites in the Fraser River delta in British Columbia. A search for this species was conducted in an area of the Squamish River estuary, 55 kilometers north of the Fraser River on 14

July 2018, but no *Erythranthe* species were found. *Erythranthe* was reported from the Courtenay River estuary on Vancouver Island in similar tideland mud habitats, but these plants proved to be typical *E. guttata*. Although *E. guttata* and *E. scouleri* can share the same estuary habitat, they have not yet been observed in close proximity.

Documentation for British Columbia collections is below. Vouchers are deposited in the University of British Columbia herbarium (UBC), with duplicates to CAN, DAO, TEX, V, and WTU.

Canada. British Columbia. Ladner, Delta (a suburb of Vancouver), tidal marsh, 10 Jul 1979, *Bradfield & Porter 64* (UBC); Metro Vancouver, Delta, island in Fraser River at W end of Tilbury Slough, 700 m NE of Deas Island, tidal marsh, 29 Aug 2014, *Lomer 8942* (UBC); Metro Vancouver, Delta, Deas Island, SW shore, opposite Captain's Cove Marina, tidal marsh, with *Equisetum fluviatile*, *Oenanthe sarmentosa*, *Lycopus europaeus*, *Agrostis gigantea*, *Trifolium wormskioldii*, *Lythrum salicaria*, *Symphytotrichum subspicatum*, and *Carex lyngbyei*, 4 Jul 2018, *Lomer 11224* (UBC); New Westminster, Queensborough, Annacis Channel, Fraser River shore, 50 m E of South Dyke Road and Suzuki Street, tidal marsh strip, with *Equisetum fluviatile*, *Phalaris arundinacea*, *Oenanthe sarmentosa*, *Lycopus europaeus*, *Lythrum salicaria*, *Lotus corniculatus*, *Iris pseudacorus*, *Rumex occidentalis*, *Symphytotrichum subspicatum*, *Carex cusickii*, *Impatiens capensis*, *Juncus oxymyris*, and *Platanthera dilatata*, 6 Jul 2018, *Lomer 11226* (UBC); New Westminster, Queensborough, 270 m NE of Annacis Channel bridge over Fraser River, 20 m S of South Dyke Road, tidal marsh strip, *Equisetum fluviatile*, *Carex lyngbyei* margin, with *Phalaris arundinacea*, *Myosotis scirpioides*, *Lycopus europaeus*, *Lythrum salicaria*, *Lotus corniculatus*, *Iris pseudacorus*, *Bidens cernua*, *Leersia oryzoides*, and *Symphytotrichum subspicatum*, 6 Jul 2018, *Lomer 11227* (UBC); Metro Vancouver, Delta, Annacis Island, NW side, 645 m due SW of Highway 91 bridge, Fraser River tidal marsh, with *Equisetum fluviatile*, *Carex lyngbyei*, *Lycopus europaeus*, *Lythrum salicaria* and *Juncus oxymyris*, 1 Aug 2018, *Lomer 11297* (UBC); Metro Vancouver, Delta, Annacis Island, western end, 65 m N of western tip, Fraser River tidal shore, in thick vegetation under hydroelectric lines, with invasive *Lythrum salicaria*, *Lycopus europaeus*, *Iris pseudacorus*, *Sidalcea hendersonii*, *Epilobium ciliatum* subsp. *watsonii*, *Phalaris arundinacea*, *Trifolium wormskioldii*, and *Caltha palustris*, 1 Aug 2018, *Lomer 11303* (UBC); Metro Vancouver, Burnaby, North Arm of Fraser River, 90 m E of foot of Boundary Road, upper tidal shore, poking up through flattened *Carex* mat, scattered plants in limited area below wide path with fence along warehouses, below cement chunks and rock dyke, muddy substrate, in thick vegetation with *Leersia oryzoides*, *Lythrum salicaria*, *Phalaris arundinacea*, *Agrostis stolonifera*, *Impatiens capensis*, *Carex lyngbyei*, and *Bidens cernua*, 29 Aug 2018, *Lomer 11428* (UBC).

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Figure 1. *Erythranthe scouleri*, Bradfield & Porter 64 (UBC).



Figure 2. *Erythranthe scouleri*, Lomer 8942 (UBC).



Figure 3. *Erythranthe scouleri*, Lomer 11224 (UBC).



Figure 4. *Erythranthe scouleri*, Lomer 11226 (UBC).

Figure 5. *Erythranthe scouleri*, Lomer 11227 (UBC).



Figure 6. *Erythranthe scouleri* on the Fraser River in New Westminster, British Columbia. Photos by Ryan Batten.