



Status: State threatened

Global and state rank: G5/SH

Other common names: sharp-wing monkey-flower

Family: Scrophulariaceae (snapdragon family)

Taxonomy: Pennell (1935) notes that a Michigan collection with pale lavender to white flowers named by Farwell as *Mimulus alatus chandleri* is synonymous with *f. albiflorus* House.

Total range: *Mimulus alatus* occurs in eastern North America, ranging from southern Ontario to Connecticut and south to Florida, attaining its western range limit in Nebraska, Kansas, Oklahoma, and Texas. This monkey-flower was considered by Pennell (1935) to be most common in the central and lower Mississippi valley. It is considered rare in Connecticut, Iowa, Massachusetts, Nebraska, New Jersey, New York, and Ontario (NatureServe 2003)..

State distribution: The Michigan distribution of this more southern ranging species is considered by Voss (1996) to be restricted to southern Macomb County, despite the fact that two additional specimens were labeled as being collected in southern Oakland County and Wayne County, respectively. The latter specimens,

collected on the same day as the Macomb County vouchers (August 27, 1916), were most likely from the same locality but mislabeled. Voss reasons that the more precise locality data for the Macomb specimens and the fact that these botanists often collected together argues for the occurrence of a single Michigan locality.

Recognition: The tall (to 1 m) stems of this perennial monkey-flower are square (4-angled) in cross-section, with **pronounced thin wings on the angles** and opposite, **coarsely-toothed leaves that taper to narrowly winged leafstalks**. **Tubular, blue to violet, two-lipped flowers** are borne singly on short pedicels from the upper leaf axils. *Mimulus alatus* is most likely to be confused with our only other blue-flowered monkey-flower, the widespread *M. ringens*, with which it may occur. In contrast, *M. ringens* has stalkless leaves with scalloped to weakly-toothed margins, stems that are at most obscurely winged, and flowers borne on pedicels longer than the calyx; in *M. alatus* the flowers are borne on pedicels shorter than the calyx.

Best survey time/phenology: This species was collected in flower in Michigan on August 27. According to Pennell (1935), *M. alatus* flowers from late June to early September with latitude bearing little influence, thus the survey period is presumed to be during this period. Owing to the limited collection



information, late August is ostensibly the optimal window for observing flowering. Throughout its range this species is reported to bloom in July and August (Gleason and Cronquist 1991).

Habitat: Michigan collections of winged monkey-flower offer sparse habitat data, referring only to wet, open places. Elsewhere this species inhabits swamps, swales, wet woods, and shady stream banks, “especially where alluvial or calcareous” (Pennell 1935). Ontario collections have come from wet deciduous woods and stream banks (White and Maher 1983). *M. alatus* occurs only within the Carolinian Zone of southwestern Ontario, where one locality was described as a rocky stream channel through an immature mesic woodland dominated by *Fraxinus americana* (white ash), *Carya ovata* (shagbark hickory), *Acer nigrum* (black maple), *Juglans nigra* (black walnut), and *Ulmus thomasii* (cork elm), with such herbaceous associates as *Leersia oryzoides* (rice cut grass), *Urtica dioica* (stinging nettle), *Ambrosia trifida* (giant ragweed), *Impatiens capensis* (jewelweed), and *Lobelia cardinalis* (cardinal flower) (Southerland 1987). In the Chicago region, where *M. alatus* is very rare, it occurs in habitats similar to those of the common monkey-flower, *M. ringens* (Swink and Wilhelm 1994) which indicates a wide range of potential wetland types.

Biology: *Mimulus alatus* is a perennial that produces stolons, and thus can proliferate vegetatively. Collections of flowering Michigan plants were made in late August, and it is possible that this species may bloom in July. Bumblebees have been indicated as the primary pollinators (Pennell 1935, Robertson 1895).

Conservation/management: No extant populations of *Mimulus alatus* are known in Michigan. Extensive urbanization in its southeast Michigan range, including the elimination or modification of numerous wetlands, has undoubtedly reduced potential habitat for this rare monkey-flower. However, this plant should continue to be sought in southern Lower Michigan in riparian areas, swamps, marshes, and Great Lakes coastal areas, especially in the vicinity of Lake St. Clair and Lake Erie.

Comments: According to Gleason and Cronquist (1991) this species hybridizes with the common *M. ringens*.

Research needs: The primary need for this species at present is dedicated inventories for extant populations in southeastern Michigan and other potential sites in southern Lower Michigan.

Related abstracts: Floodplain forest, Great Lakes marsh, southern wet meadow, pumpkin ash, spearwort, blue-eyed grass, American bittern, least bittern, black tern, Blanding’s turtle, eastern fox snake, eastern massasauga, Forster’s tern, king rail

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