

Mason's Lilaeopsis

(*Lilaeopsis masonii*)

Legal Status

Federal: None

State: Rare



© Dean Wm. Taylor

Global and State Conservation Status: G3S3.1: Global Rank, G3 = Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; State rank, S3 = Same as global rank, but only for the range of the taxa in California. State ranks in California often also contain a threat designation attached to the S-rank, S3.1 = very threatened.

CNPS List: 1B.1; 1B: Rare, threatened, or endangered in California and elsewhere. 0.1: Seriously endangered in California

Recovery Plan: None.

Species Description and Life History

Mason's lilaeopsis (*Lilaeopsis masonii*) is a small 1.5 to 7.5 cm (0.6 to 3.0 inch) perennial, rhizomatous herb with tufted linear or thread-like jointed leaves and a member of the carrot family (Apiaceae) (Hickman 1993; CDFG 2000). This species has flowers in simple umbels and blooms from April to November (CN PS 2001). Mason's lilaeopsis primarily reproduces vegetatively by creeping rhizomes.

Habitat Requirements and Ecology

Mason's lilaeopsis grows in areas in open areas within brackish or fresh water habitats subjected to different levels of immersion by waves or tides or during the flood events in such as in bypasses that are subjected to intense soil disturbance by the flood waters. Mason's lilaeopsis is found that are inundated such as estuarine wetlands and immediately below the banks of sloughs and rivers (Golden and Fiedler 1991; Fiedler and Zebell 1993; CDFG 2000; CNPS 2001). It is occasionally found distributed among rip-rap lined levees (Golden and Fiedler 1991). Plants have been found in areas with high soil salinity but those sites might not be optimum habitat (Fiedler and Zebell 1993). Some of the species commonly associated with Mason's lilaeopsis in the Sacramento Delta include California tule (*Scirpus californicus*), whorled marsh pennywort (*Hydrocotyle verticillata*), and annual tule (*Scirpus cernuus*) (Golden and Fiedler 1991). In the sloughs that radiate westward into Solano County at the southern end of the Sacramento River Deep Ship Channel it grows in a narrow band between the mudflats

and the terrestrial vegetation (Meisler 2002). In Suisun Marsh, California tule (*Scirpus californicus*), annual tule (*Scirpus cernuus*), and three-ribbed arrowgrass (*Triglochin striata*) are predominantly associated with Mason's lilaeopsis (SEW 1997).

Species Distribution and Population Trends

Distribution

Mason's lilaeopsis is endemic to California and its distribution, as defined by Calflora 2007, is based on 298 observations. Although it has not been reported for Yolo County, populations occur immediately south of the County border and appropriate habitat is present within Yolo County. The range of Mason's lilaeopsis extends from Napa and Solano counties in the north, to Contra Costa and Alameda counties in the south, to Marin County in the west, and Sacramento and San Joaquin counties in the east.

Population Trends

Although population trends of Mason's lilaeopsis have not been documented, this species is stable to declining (CDFG 2007). According to the CNPS (2001), occurrences of Mason's lilaeopsis in California are highly limited and the species is at serious risk throughout its range. Surveys in Solano County found that it had declined because its habitat along the margins of small islands within the sloughs had decreased as the islands eroded and became increasingly inundated (Meisler 2002).

Threats to the Species and Other Conservation Issues

The primary threat to Mason's lilaeopsis is the loss of marsh and floodplain habitat. There are numerous processes and activities that threaten this habitat including erosion, channel stabilization, levee maintenance and construction, flood-control improvements, dredging, dumping spoils, agriculture, recreation, and water quality changes (CNPS 2001; CDFG 2007). Successional changes in marsh vegetation to more dense vegetation types or to types that could grow in the intertidal area could pose an additional threat (CNPS 2001). One example of this type of threat is the invasion of some areas by non-native species such as water hyacinth (*Eichhornia crassipes*) and perennial pepperweed (*Lepidium latifolium*) (CNPS 2001; CDFG 2007). A long-term threat is the stabilization of banks and mudflats due to highly regulated water flow regimes which can cause floodplain habitat to be less dynamic (Fiedler and Zebell 1993).

Research should address inundation tolerance, the species ability to persist in highly disturbed soils. Investigate patterns of germination and growth when floodwaters recede, flowering period, pollination biology, seed production, seed dispersal, and seed germination. Mason's lilaeopsis is only found on relatively unvegetated mud banks so competition with nonnative species is potentially important.

Contributors to this species account:

Cathy Little, HT Harvey & Associates
John Gerlach, TAIC

References

Photo Credit: Copyright © 1990 Dean Wm. Taylor

Calflora: Information on California plants for education, research and conservation. (web application). 2007. Berkeley, California: The Calflora Database (a non-profit organization). Available: <http://www.calflora.org/>.

California Department of Fish and Game (CDFG). 2000. The status of rare, threatened, and endangered animals and plants of California, Mason's lilaeopsis. http://www.dfg.ca.gov/hcpb/cgi-bin/read_one.asp?specy=plants&idNum=142. Accessed August 8, 2007.

California Department of Fish and Game (CDFG). 2007. Rarefind. California Natural Diversity Data Base (CNDDB). Electronic Database.

California Native Plant Society (CNPS). 2001. Inventory of Rare and Endangered Plants of California (6th edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California.

Fiedler, P. and R. Zebell. 1993. Restoration and recovery of Mason's lilaeopsis: Phase I. Final Report, submitted to the California Department of Fish and Game. 47 pp. plus appendices.

Golden, M. and P. Fiedler. 1991. Characterization of the habitat for *Lilaeopsis masonii* (Umbelliferae): a California state listed rare plant species. Final report to the California Department of Fish and Game, Endangered Plant Program. 72 pp. plus appendices.

Hickman, J.C. (ed.). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, CA.

Meisler, J. A. 2002. Site Conservation Plan for the JepsonPrairie-Prospect Island Corridor. Prepared for the Solano County Land Trust. 27 pp. plus appendices.

Suisun Ecological Workgroup (SEW). 1997. SEW brackish marsh vegetation subcommittee report, Chapter 4 *In*: Interim Report to the State Water Resources Control Board. September 1997.