

**Added to List 2.3 on October 27, 2010**

**Rare Plant Status Review: *Brasenia schreberi*  
Proposed New Add to List 2.3**

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July 29, 2010

Changes made to the original status document review appear in blue.

**Background**

*Brasenia schreberi* is a monotypic genus in the Cabombaceae that grows as an aquatic perennial herb throughout most of the world except Europe. It has been referred to as *Brasenia peltata*, *B. purpurea*, *Cabomba peltata*, and *Hydropeltis purpurea* in past literature and is included in *The Flora of North America* (Vol. 3), *The Jepson Manual* (1993), and will be included in the *Jepson Manual*, 2<sup>nd</sup> Edition. *Brasenia schreberi* is unique among water lilies as it is the only genus that exhibits wind pollination (Taylor and Osborn 2006), and is distinct in that its submersed parts are covered with thick mucilage. It spreads from rhizomes in mud, has centrally peltate floating leaves, and generally flowers from June to September (may flower from April to October).

*Brasenia schreberi* occurs in shallow freshwater lakes, ponds, ditches, and slow moving streams from approximately 30 to 2,200 meters in elevation. It mostly occurs in lakes throughout the north coast ranges and northern high Sierra Nevada of California.

*Brasenia schreberi* is known from approximately ~~37~~ 35 occurrences in 13 counties throughout northern California. Munz (1959) indicated the presence of *B. schreberi* in Kern County; however no known vouchers or other records have indicated its presence in this county. In addition to California, *B. schreberi* occurs in 41 other states as well as Africa, Australia, eastern Asia, the West Indies, South and Central North America, and Canada. It is absent from Europe, however fossil records indicate its historic presence there.

*Brasenia schreberi* is ranked as a G5 taxon by NatureServe and is currently ranked as Critically Imperiled (S1) in Alaska, Illinois, Montana, and Oklahoma, as well as Alberta, Newfoundland Island, and Prince Edward Island of Canada. It is also ranked as Imperiled (S2) by NatureServe in Iowa and Nebraska, and ranked Vulnerable (S3) in Delaware, Kentucky, and North Carolina. *Brasenia schreberi* is currently unranked (SNR) by NatureServe in California. In Montana, *B. schreberi* is also a Species of Concern and USFS Sensitive Species. *Brasenia schreberi* is additionally in decline outside of North America, and is listed as rare under the Queensland, Australia, *Nature Conservation Regulation 1994*, and listed as critically endangered in Korea (Kim et al. 2008).

Of the ~~37~~ 35 known occurrences of *B. schreberi* in California, only ~~19~~ 48 have been documented in the last 20 years (occurrences that have not been “seen” in

the past 20 years are considered historic by the CNDDDB), and 12 are only represented by references or herbarium specimens from more than 50 years ago. It is extirpated in Bouldin Island, San Joaquin County (D.W. Taylor pers. comm. 2009), presumed extirpated in Butte County (Oswald 1994, D.W. Taylor pers. comm. 2009), and questioned as to whether it is still extant in Lake Leonard, Clear Lake, and Fall River in Mendocino, Lake, and Shasta Counties (D.W. Taylor pers. comm. 2009). Nevertheless, existing records of *B. schreberi* may be misrepresentations of its actual occurrence in California due to the high degree of difficulty in handling and pressing this taxon (Smith and Wheeler 1992, D.W. Taylor pers. comm. 2009).

Threats to *B. schreberi* in California are unknown. Documented threats in Montana include boating activity, aquatic weeds, and agricultural runoff (Montana Field Guide 2010), and its habitat may be affected in Alaska by changes in water level or quality (Goldstein et al. 2009). *Brasenia schreberi* is threatened in Korea due to deterioration of water quality and a decline of wetland coverage (Kim et al. 2008), and threatened in Queensland, Australia, from cultivation, alteration of fire regimes, hydrological and habitat alterations, non-native plants, and possibly siltation or pollution (Boyes 2004).

Based on the available information, CNPS and CNDDDB recommend that *Brasenia schreberi* be added to List 2.3. If current records of *Brasenia schreberi* in California are later found to be under representations of its actual occurrence, it will be re-evaluated by CNPS at that time.

### Recommended Actions

CNPS: Add to CNPS List 2.3

CNDDDB: Add to CNDDDB as G5 / S2

Please review the draft CNPS Inventory record below, respond Yes or No on the proposal to add this species to the Inventory and CNDDDB, and provide any edits/comments. If responding No, please provide supporting information.

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### Draft CNPS Inventory Record

*Brasenia schreberi* J.F. Gmel.

watershield

Cabombaceae

List 2.3

Butte(\*?), El Dorado, Fresno, Kern?, Lake, Lassen, Mendocino, Nevada, Plumas, San Joaquin, Shasta, Tehama, Tulare, Tuolumne; Alabama, Alaska, Arkansas, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island,

South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia,  
Washington, West Virginia, Wisconsin  
Bouldin Island (480D) 3812115(\*?), Buck Rock (597B) 391228, Childs Meadows  
(625C) 4012134, Crescent Mills (605C) 4012018, Echo Lake (523D) 3812071,  
[Emerald Bay \(523A\) 3812081](#), Fall River Mills (678C) 4112114, Jamison Ridge  
(582B) 3912362, Kelseyville (534A) 3812287, Kern Lake (330C) 3611834,  
Lakeport (549C) 3912218, Lake Eleanor (456A) 3711987, Llano Seco (577C)  
3912158(\*?), Laughlin Range (567D) 3912333, Meadow Valley (590A) 3912181,  
Mt. Harkness (625A) 4012143, Reading Peak (625B) 4012144, Red Cinder  
(624B) 4012142, Sanborn Slough (561C) 3912138(\*?), Van Arsdale Reservoir  
(566A) 3912341  
Marshes and swamps (MshSw)/freshwater. 30-2200 meters  
Perennial herb rhizotomous aquatic. Blooms June-September.