

FLOATING LEAVED, ROOTED PLANT

Species: *Brasenia schreberi*, water-shield, dollar bonnet, water target

Family: Cabombaceae

NATIVE

Leaf: Oval leaves (4-12 cm long and 3-8 cm wide) float on the water surface. Leaves have purple undersides with long, centrally attached leaf stalks up to 2 m long. A slimy gelatinous substance usually covers the stalks and underside of young leaves and stems.



Stem: Arise from submerged, branching, reddish creeping rhizomes.

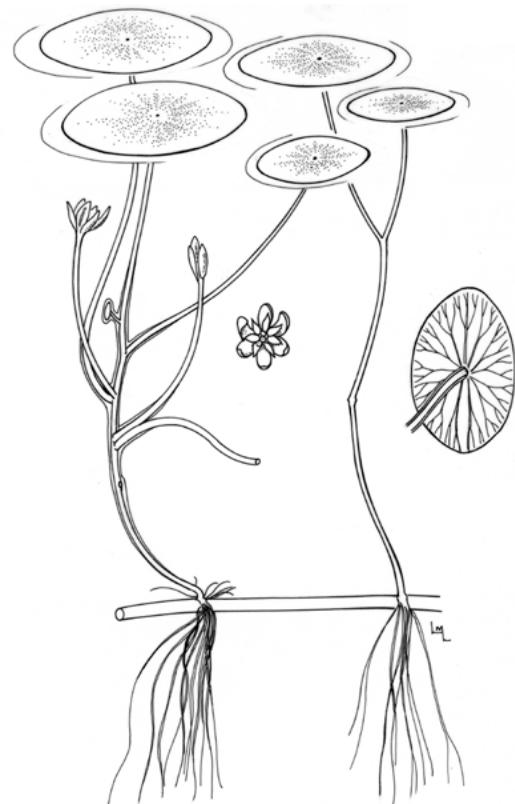
Flower: 5-20 cm long flower stalks each bear a single purplish flower with 3 sepals and 3 (4) similar-looking petals. Each flower measures up to 2.5 cm across and is elevated slightly above the water surface. Blooms from May to September.

Fruit: Each flower produces 4-18 separate narrowly egg-shaped, leathery fruits between 6-8 mm long. Each fruit usually contains 2 seeds. They ripen underwater and decay to release seeds.

Root: Slender, branched, creeping rhizomes.

Propagation: Rhizomes, seeds, winter buds.

Habitat: Shallow ponds, lakes, and slow moving streams; grows in water 0.5-3 m deep. This plant is rare in Montana.



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Species: *Nuphar polysepala* (Synonym: *Nyphar lutea* subsp. *polysepala*), spatterdock, yellow cow-lily, yellow pond-lily

Family: Nymphaeaceae

NATIVE

Leaf: Large (10-45 cm long and 7-30 cm wide) green, heart-shaped leaves have a notched base, blunt tip, prominent midvein, and leathery surface. They rise directly from the rhizome and float on or extend above the water. In early summer, spatterdock has large, delicate underwater leaves that resemble lettuce or cabbage leaves.



Stem: Flower and round leaf stalks arise directly from the rhizome. Green "stems" are actually leaf and flower stalks.

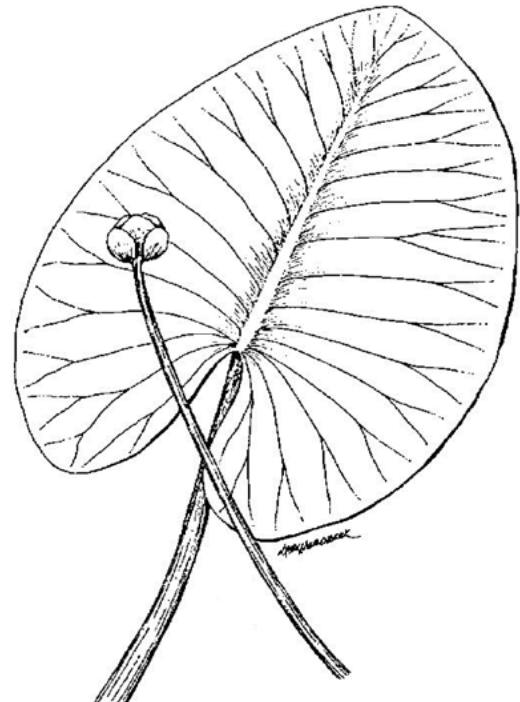
Flower: Waxy and greenish-yellow globes (5-10 cm across) open to form bright yellow cup-shaped flowers that rise above the water. This plant typically has nine petals, but can range between 8 and 17 in number. Petals are actually sepals. Stamens are reddish. Flowers have a sweet fragrance on the first day the flower is open, but after that the odor is less pleasant. Blooms from May to August.

Fruit: One urn-shaped fruit develops from each flower and contains numerous brown seeds (3-5 mm long).

Root: Fibrous roots anchor the massive, scaly, log-like rhizomes to the sediment. Rhizomes are up to 20 cm in diameter and 5 m long.

Propagation: Rhizomes, seeds.

Habitat: Shallow lakes and ponds, sluggish streams, and canals. Always occurs in fresh rather than saline or calcareous water.



Campbell and Lynn Laughlin; Lady Bird Johnson Wildflower Center



FLOATING LEAVED, ROOTED PLANT

Species: *Nymphaea odorata*, fragrant waterlily, white waterlily, American water-lily

Family: Nymphaeaceae

INTRODUCED

Leaf: Round, smooth, green, leathery leaves are up to 30 cm in diameter and have a slit on one side. Underside is often red or purplish with numerous veins. Leaf stalk is attached to the leaf center and the base of the slit.



Stem: No true upright stem is present. Straight, flexible stalks attach leaves and flowers to thick, submerged rhizomes.

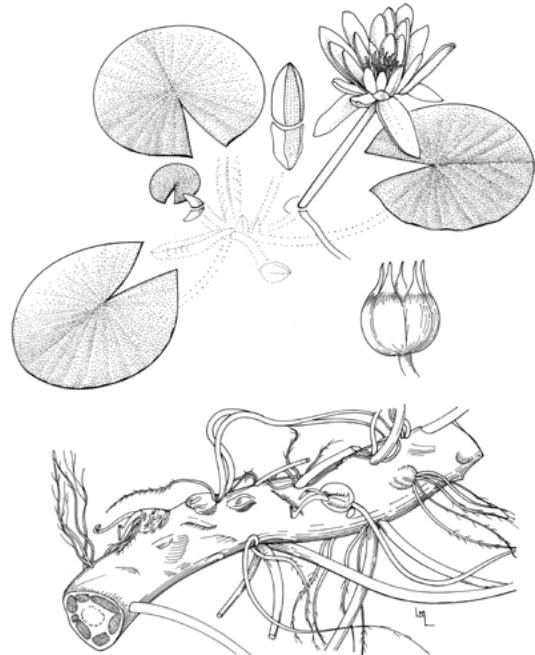
Flower: Large, fragrant flowers, 6-12 cm across, are at the ends of long stalks. Flowers have numerous (20-30) white, pink, or purple petals with yellow centers. After fertilization, the flower stalk furls like a corkscrew, drawing the flower underwater. Blooms June through October.

Fruit: Leathery, berry-like capsules, to 3 cm across, with numerous small seeds (2mm).

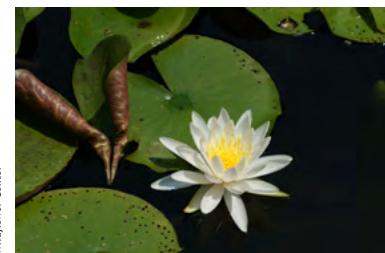
Root: Thick rhizomes, 2-3 cm in diameter.

Propagation: Seeds, rhizomes.

Habitat: Shallow ponds, lakes, and slow streams in water 3-6 feet deep. *N. odorata* is thought to be introduced into Montana, but the related *N. leibergii* with smaller flowers is native but uncommon.



Peter Lesica



Ray Mathews, Lucy Bird Johnson
Wildflower Center

FLOATING LEAVED, ROOTED PLANT

Species: *Potamogeton amplifolius*, largeleaf pondweed, big-leaf pondweed

Family: Potamogetonaceae

NATIVE

Leaf: Two types of leaves; submersed & floating.

Submersed: bright to dark green, translucent, 8-20 cm long and 2-7.5 cm wide, folded along the midrib, curved backwards into a banana-shape, and sometimes with wavy margins; have short stalks (1-2 cm) and 19-45 lengthwise veins. These leaves often decay in late summer.

Floating leaves: often absent; opaque, leathery, oval leaves taper at both ends and are 5-10 cm long and 2.5-5 cm wide. They have 25-45 veins and 3-10 cm long stalks that are generally longer than the floating leaves. Sheaths (stipules) are up to 10 cm long, whitish, translucent, occur at leaf bases, but are not attached to the leaves. They become stringy with age.



Stem: Few or unbranched stem (to 3 mm thick) to 5 m long.

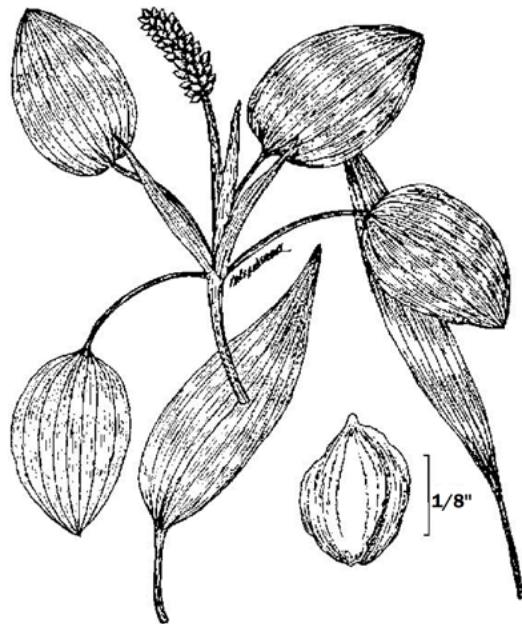
Flower: Small flowers have 4 petal-like lobes. Up to 16 whorls of tightly clustered flowers are arranged into a spike up to 5 cm long on stalks rising above the water. Flower stalks are thicker than the stem and are 5-15 cm long.

Fruit: Seed-like achene is 3-5 mm long, has flattened sides, and a 0.5-1 mm beak, and is orange to pinkish when ripe. Back is rounded or keeled when dry.

Root: Fibrous, from creeping underground rhizomes.

Propagation: Seeds, fragments, rhizomes.

Habitat: Lakes and ponds. Will grow in clear water as deep as 6 m. Found in fresh rather than saline or calcareous water.



Donald Cameron, Maine Natural Areas Program

FLOATING LEAVED, ROOTED PLANT

Species: *Potamogeton illinoensis*,
Illinois pondweed

Family: Potamogetonaceae

NATIVE

Leaf: Alternate. When floating leaves are present, the submerged leaves are often decomposed.
Submerged leaves: 6-20 cm long to 5 cm wide have 9-19 parallel veins with many cross-veins and are on short (0.5-2 cm) stalks. Sometimes transitional leaves are present. Floating

leaves: sometimes absent, 4-13 cm long, 2-6 cm wide, have 13-29 longitudinal veins. Leaf is longer than the stalk. Sheaths (stipules) 2.5-7 cm long are free from the leaf base and persistent.



Stem: Simple or branched, cylindrical.

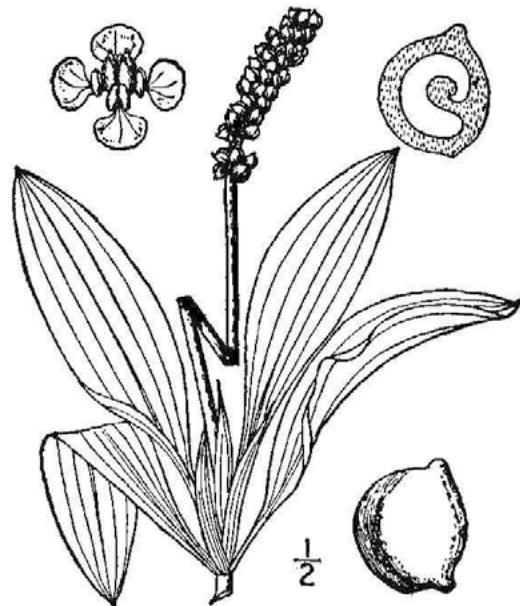
Flower: Small, greenish, whorled, in spikes to 6 cm long, on stalks thicker than the plant stem. Stalks up to 15 cm tall.

Fruit: Achenes. 4 mm long, ridged, beak attached slightly below tip.

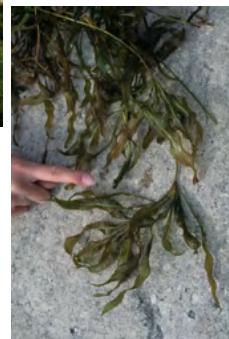
Root: Fibrous, from slender rhizomes, forms thickened overwintering rhizomes.

Propagation: Rhizomes, seeds, tubers.

Habitat: Shallow to fairly deep water of lakes, ponds and rivers. Prefers alkaline water. This species occurs in Flathead Lake and other bodies of fresh water.



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FLOATING LEAVED, ROOTED PLANT

Species: *Potamogeton natans*, floating-leaved pondweed, floating pondweed

Family: Potamogetonaceae

NATIVE

Leaf: Submerged leaves: alternate, stiff, to 50 cm long, up to 2 mm wide; almost always decayed later in the growing season. Floating leaves: alternate, dark green to copper-colored, 6-11 cm long, to 6 cm wide, have slightly heart-shaped bases and stalks longer than the leaf blade. Leaf blade and the stalks form an acute angle. Persistent sheaths (stipules) 6-8 cm long, free from leaf base.



Stem: Generally unbranched, nearly cylindrical, to 2 mm thick.

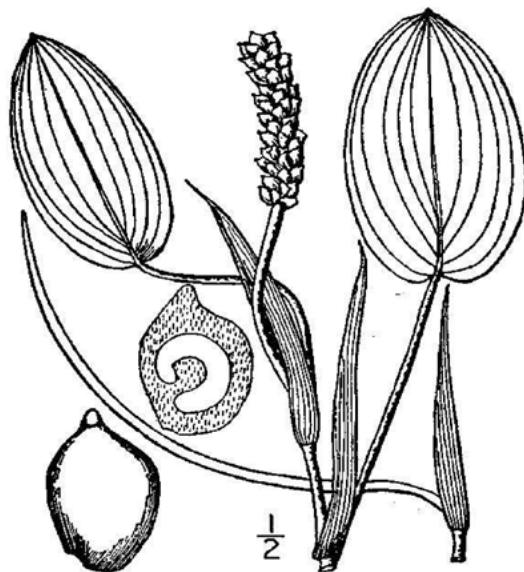
Flower: Compact spikes less than 5 cm long on stalks to 12 cm long.

Fruit: Achene, 3.5-5 mm, back rounded or fairly ridged with a 0.5-1mm beak.

Root: Fibrous from rhizomes.

Propagation: Seeds, sometimes by large winter buds and sometimes produces tubers.

Habitat: Ponds, lakes, or slowly flowing waters 0.5-3 m deep and tolerates brackish water.



FLOATING LEAVED, ROOTED PLANT

Species: *Potamogeton nodosus*, American pondweed, long-leaf pondweed

Family: Potamogetonaceae

NATIVE

Leaf: Alternate. When floating leaves are present, the submerged leaves are often decomposed.

Submerged leaves: 2-15 cm long, 1-4 cm wide, have tapered ends, 7-15 longitudinal veins, and are on long stalks (2-12cm). **Floating leaves:** 5-13 cm long and 5cm wide are on long stalks

(5-20cm). Sheaths (stipules) are 3-9 cm long, free from the leaf base, and often decomposed.

Stem: Simple or branched, cylindrical.

Flower: Small, greenish, whorled, in spikes to 6 cm long, on stalks thicker than the plant stem. Stalks to 15 cm.

Fruit: Achenes. 3-5 mm long, back rounded, short beaked.

Root: Fibrous, from slender rhizomes, forms chains of tubers.

Propagation: Rhizomes, seeds, tubers.

Habitat: Shallow to fairly deep water of lakes, ponds and rivers.



R.W. Smith, Lady Bird Johnson Wildflower Center



R.W. Smith, Lady Bird Johnson Wildflower Center

FLOATING LEAVED, ROOTED PLANT

Species: *Potamogeton gramineus*, grass-leaved pondweed, grassy pondweed, variableleaf pondweed

Family: Potamogetonaceae

NATIVE

Extremely variable in appearance and may look different depending on whether it is growing in deep or shallow water or stranded along shorelines by receding water.



Leaf: Submerged leaves: green to reddish, to 13 cm long by 1.2 cm wide, have pointed tips, 3-9 veins and no stalks. Floating leaves: 1.5-7 cm long and 1-3 cm wide and on stalks usually longer than the blades. Sheaths (stipules) to 3 cm long are persistent and free of the leaf base.

Stem: Long, forms rhizomes, many short branches.

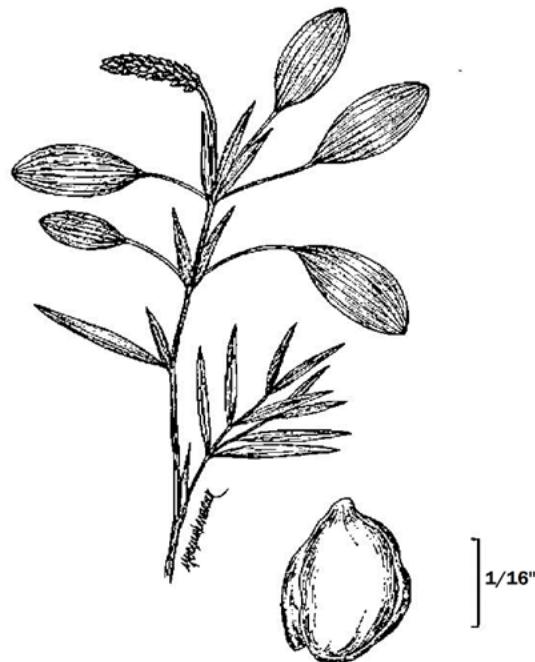
Flower: Small, clustered on emergent spikes, each with 4 petal-like lobes. Spikes to 4 cm long on long stalks to 20 cm.

Fruit: Achene. 1.5-3 mm, back slightly ridged, straight to slightly curved beak.

Root: Fibrous, from rhizomes; forms long tubers.

Propagation: Seeds, creeping rhizomes, tubers.

Habitat: Shallow to deep water; variable appearance depending upon growing conditions. Tolerant of alkaline water.



Donald Cameron, Maine Natural Areas Program