

Lentibulariaceae bladderwort family

A family of insectivorous herbs, their leaves are modified into insect traps. In total 200 species are found worldwide. Most are aquatics, although a single species in NS is terrestrial, but of wetlands. Flowers are perfect, the petals united. Corolla is bilabiate, the lower lip is spurred. A pair of stamens is inserted. Calyx is variable. The ovary is superior, style absent or vestigial. Fruits are capsules containing many small seeds.

Calyx with 5 lobes; flowers solitary on scapes; true leaves basal and not linear.

Pinguicula

Calyx with 2 lobes; flowers in racemes, subtended by bracts; apparent leaves not basal, but linear.

Utricularia

Pinguicula L. butterwort

The butterworts are mainly boreal, extending into temperate regions of the northern hemisphere and the Andes. Perennials, they total about 35 species. A single species reaches Nova Scotia, but it is one of our rarest and most elusive plants. Typically they have a basal rosette of entire leaves with one or more scapes carrying a single flower. Calyx and corolla are both bilabiate, with five lobes. Palate absent on the lower lip of the corolla and it is longer than the upper, prolonged into a basal spur. The upper leaf surface is soft and buttery, slick and sticky to attract and ensnare invertebrates to the fleshy leaves.

Pinguicula vulgaris L. Butterwort; grasette vulgaire



Photo by Fritz McEvoy

A small plant, its leaves are slick to the touch. The solitary flowers are bilabiate; scapes 1–3, reaching 15cm in height. Bracts are absent. Corollas are blue to purple. The rosette dies back in winter and a central perennating hibernaculum remains; bulbils may be formed at the base of the hibernaculum, the number varying with latitude.

Flowers from June through July.

Grows in moist habitats as on rock ledges and streamsides, especially of basic rocks.

Limited in NS to northern Cape Breton: Saint Paul Island, near the mouth of the Cheticamp River, Corney Brook gorge and along Southwest Brook, amongst other places.

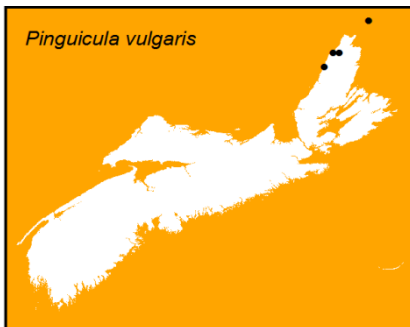
Ranges from Greenland to AK, south to NY and MI.



Photo by Fritz McEvoy



Photo by Sean Blaney



***Utricularia* L.** **bladderworts**

Worldwide, the bladderworts total about 100 species. All are herbaceous aquatics, with short-stalked bladders on stems in the water column or pools in saturated sediments or peat. There is a vacuum inside the bladders (modified leaves) and when small prey (rotifers or small arthropods) trigger a sensitive hair at the trap door, the prey and its surrounding water are drawn into the trap and digested with the aid of enzymes. The apparent leaves (they are branches) are fine and linear. Flowers may be yellow or purple, arranged in racemes that are subtended by bracts. Calyx is bilabiate, the upper wider than the lower. Corolla is also bilabiate, with up to five lobes, spurred at the base.

Key to species

- | | |
|---|----------------------------|
| A. Leaves absent or minute; bladders absent or tiny. | B |
| B. Common plant; bracts with a pair of bractlets. | <i>Utricularia cornuta</i> |
| bb. Uncommon; bractlets absent. | C |
| C. Flowers violet, solitary and terminal. | <i>U. resupinata</i> |
| cc. Flowers yellow, few or solitary. | <i>U. subulata</i> |
| aa. Leaves highly dissected, conspicuous on submerged stems; bladders well-developed. | D |
| D. Leaves whorled, 4–9. | E |
| E. Flowers rose-purple; leaves slender. | <i>U. purpurea</i> |
| ee. Flowers yellow; upper leaves with rachis swollen into floats. | <i>U. radiata</i> |
| dd. Leaves all alternate. | F |
| F. Leaf segments flat; lower lip of the corolla twice as long as the upper one. | G |
| G. Bladders on leafless branches. | <i>U. intermedia</i> |
| gg. Bladders on leaves. | <i>U. minor</i> |
| ff. Leaf segments filiform; lower lip of the corolla equal to upper in length. | H |
| H. Plant forming tangled submerged mats; flowers fewer than 6 per peduncle. | <i>U. gibba</i> |
| hh. Plant loosely floating; flowers more than 6 per peduncle. | I |
| I. Peduncles with 1 to several scales below the bracts; lower lip 10–20mm long. | <i>U. macrorhiza</i> |
| ii. Scales absent lower lip <8mm long. | <i>U. geminiscapa</i> |

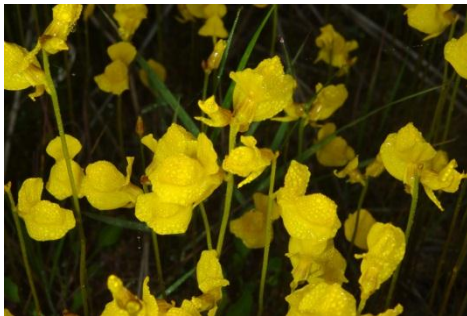
Utricularia cornuta* Michx.*Utriculaire cornue**

Photo by Martin Thomas

Usually this common species has no leaves or only tiny scales. Minute bladders are sometimes seen, on the roots. Stem is simple, to 25cm tall. The flowers are arranged in a terminal raceme, nearly sessile and brilliant yellow in colour. The plants sometimes form dense colonies over considerable area.

Flowers from June through September.

Grows on exposed substrate such as lacustrine sands, peaty, mucky depressions in wetlands.

Common throughout NS.

Ranges from NF to AB; south to TX and FL; WA.

***Utricularia geminiscapa* Benj.**
utriculaire à scapes géminés



Photo by Sean Blaney

A smaller species than *U. vulgaris* which it resembles. Flowers are few and the inflorescence is not subtended by bracteate scales.

Flowers from July to September. Cleistogamous flowers are often present.

Frequent in highly acidic waters such as in bog pools, peaty quagmires in barrens and some pools in sluggish streams.

Scattered from Yarmouth to Kings Counties and to northern Cape Breton, although not found along the Northumberland shore.

Ranges from NF to ON, south to IA and NC.



Photo by Sean Blaney

***Utricularia gibba* L.**
utriculaire à bosse

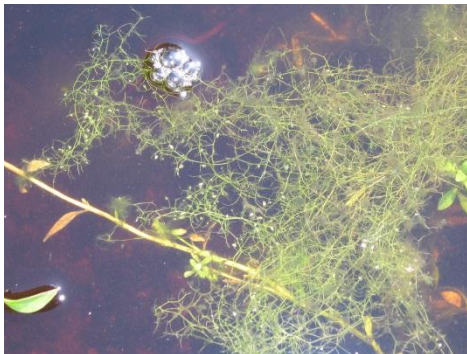


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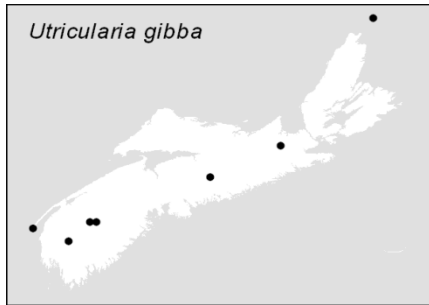
This very slender plant has creeping stems from which the scapes arise, rarely exceeding 10cm in height. There are only one or two flowers on each.

Flowers late June through September.

Found in shallow waters along lakeshores, small pools and ponds in peatlands.



Photo by Sean Blaney



More frequent in the southwest counties; scattered localities to Saint Paul Island.

Ranges from NS to ON, south to TX and FL; west coast.

***Utricularia intermedia* Hayne**
utriculaire intermédiaire



Photo by Martin Thomas

A leafy species, the individual leaves are no more than 1cm long and usually fan-shaped. They are 1–3 times cleft, the segments flat and linear, the internodes short. Bladders are quite large borne on naked stems.

This species is usually vegetative.

Creeping on the substrate of marshes and lakeshores, or in peaty hollows.

Common throughout.

Greenland; Arctic America, south to MD and CA.

***Utricularia macrorhiza* Leconte
(=*U. vulgaris* L.)**



Photo by David Mazerolle



Photo by David Mazerolle

A large species, it is one of our most frequently encountered. Stems are long and free-floating, simple or branched. Leaves are alternate and all submerged. Bladders are conspicuous. Flowers are yellow, 6–12 on each scape, the inflorescence subtended by 1–3 bracts.

Flowers May until September.

Lakeshores, ponds, oxbow ponds, sinkholes and even in sluggish streams.

Common throughout.

NF to AK south to CA and FL. Absent in MS.

***Utricularia minor* L.
utriculaire mineure**

Leaves are thrice-pinnate, less than 8mm long and usually have 1–2 bladders. Each peduncle bears 2–6 flowers, with the uppermost nodding. Creeping forms tend to be larger than typical floating form.

Flowers from May to August.

Bog pools, mud, ponds peatlands, lakeshores.

Scattered throughout.

Ranges across Canada, south to NC and CA.

***Utricularia purpurea* Walt.**
utriculaire pourpre

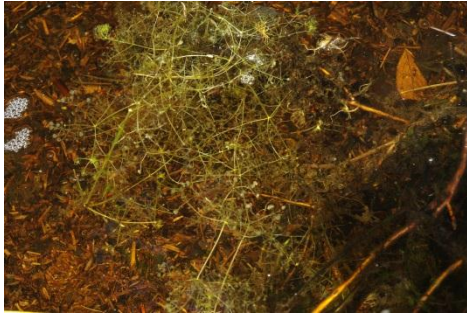


Photo by Martin Thomas

A larger, distinctive species, the whorls of leaves and branches are stiffly floating. The internodes are conspicuously long, up to 5 cm. Terminal bladders are often borne on filiform leaf segments. The plant is generally submerged, but for the purple flowers on long peduncles, reaching out of the water.

Flowers from June to September.

Usually found in deep water of ponds and lakes.

Common from Yarmouth to Halifax and Hants counties and eastern Guysborough Co. Unknown from Cape Breton.

Ranges from NF to ON, south along the coastal plain to FL and TX.



Photo by Martin Thomas

***Utricularia radiata* Small**
utriculaire rayonnante



Photo by Sean Blaney

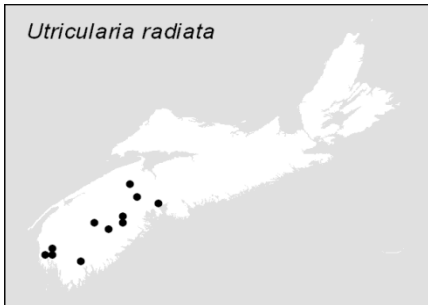
The lower leaves are finely dissected, the segments filiform and submerged, alternate on the stem. There are numerous bladders, terminal on the segments. Uppermost whorl of leaves arises from modified and inflated petioles, serving to keep the terminal part of the plant afloat. The leaves number 4–7 within the whorl, the terminal portions filiform. The scape bears a few small flowers at the top.

Flowers until November.

Frequents ponds and small lakes.

Known from Lunenburg County around to Yarmouth Co.

Ranges from NS and NB, south along the coastal plain to FL



and TX; southern Great Lake states.

***Utricularia resupinata* BD Greene**
utriculaire résupinée



Photo by Martin Thomas

A tiny species easily missed, it has but a few linear leaves. The simple stems are less than 10cm tall, bearing a single violet flower, subtended by a pair of connate bracts.

Flowers from July to September.

Riparian, paludal, lacustrine.

Widespread localities from Digby Neck and Salmon River Lake, Digby Co.; Argyle and Great Pubnico Lake, Yarmouth Co. and Barren Lake, Richmond Co.

Ranges from NS to ON, variously south to FL, along the coastal plain and around the Great Lakes.

STATUS: ORANGE-listed in NS.



Photo by Martin Thomas



Utricularia subulata* L.*Zigzag Bladderwort; utriculaire à feuilles subulées***Photo by David Mazerolle*

Slender but erect, this species produces no leaves, or very few. The few small yellow flowers (5–6mm, Voss and Reznicek, 2012) alternate along the scape. Cleistogamous flowers are frequent and are even smaller. These are measure only 1–2mm, creamy white in colour and with no spur. This form has been named forma *cleistogama* by some authors.

Flowers from May to September.

Characteristic of the coastal-plain lakes, where shores are peaty sand.

From southern Digby County around to Shelburne Co.

From NS; MA to FL and TX along the coastal plain; MI; IN; CA.

*Photo by David Mazerolle*