



AQUATIC PLANT NOTES

Issue #4

"Floating Wheel" Bladderworts

Special Thanks to Leif Boman, DEP Central ROC

Greetings! This is FDEP's Aquatic Ecology and Quality Assurance Section's periodic e-newsletter to inform Lake Vegetation Index (LVI) samplers and other plant-interested parties of new or noteworthy items related to aquatic plant identification in Florida. In issue # 3, we introduced the genus *Utricularia*, and compared *U. floridana* and *U. foliosa*. In this issue, we are going to take a closer look at 2 more of Florida's 14 *Utricularia* species, *U. inflata* and *U. radiata*.

Utricularia inflata and *Utricularia radiata*

Utricularia inflata and *U. radiata* are two free-floating aquatic species of bladderwort that are often confused because of their similar habit. They both have yellow flowers on an emergent stalk, a distinctive floating "wheel" at the base of the flower stalk, and a submersed stem with finely dissected branches. If you look closely, however, there are several characteristics you can use to separate these two species:

1. In *U. inflata*, the "spokes" of the floating wheel gradually narrow in width towards the center, but in *U. radiata*, they do not taper towards the center (Figures 1, 3, and 4).
2. *U. inflata* is a larger plant with a flower stalk to 15 cm long, and the stem below the float 15-35 cm long. *U. radiata* has flower stalks <6 cm long, and the stem below the float is <13 cm long. (Figure 2). (Admittedly these size differences are easier to determine when you've got the two side by side!)
3. All *Utricularia* flowers are two-lipped, with the bottom lip forming a spur, or tube-like extension, at the base. If you turn the flowers of *U. inflata* and *U. radiata* around and look at the backs, you can see that the spur of *U. inflata* has a notch at the top, but that the spur of *U. radiata* does not (Figures 5 and 6).
4. The submersed branches that are opposite the stem from each other are unequal in *U. inflata*, but equal in *U. radiata* (Figures 7 and 8). This is an important, and probably the most frequently used distinguishing characteristic, because the floats and flowers are only present for a short period.

Utricularia inflata

- ❖ Growth form: floating “wheel” of whorled stems supporting the flower stalk, and free-floating submersed vegetation; larger overall
- ❖ Flower stalk to 15 cm long; flowers yellow
- ❖ Stem below float 15-35 cm long
- ❖ Unequal branching of submersed portion
- ❖ Notch at the top of the spur
- ❖ Range is throughout Florida; more common than *U. radiata*.

Utricularia radiata

- ❖ Growth form: floating “wheel” of whorled stems supporting the flower stalk, and free-floating submersed vegetation; smaller overall
- ❖ Flower stalk <6 cm long; flowers yellow
- ❖ Stem below float <13 cm long
- ❖ Equal branching of submersed portion
- ❖ No notch at the top of the spur
- ❖ Range is throughout Florida; less common than *U. inflata*.



Figure 1. *Utricularia inflata* (larger) and *U. radiata*, growing together (Photo by Leif Boman, FDEP)



Figure 2. *Utricularia inflata* and *U. radiata* size comparison (Photo by Leif Boman, FDEP)



Figure 3. *Utricularia inflata* (Photo by Leif Boman, FDEP)



Figure 4. *Utricularia radiata* (Photo by Leif Boman, FDEP)



Figure 5. *Utricularia inflata*, close-up of back of flower (Photo by Leif Boman, FDEP)



Figure 6. *Utricularia radiata*, close-up of back of flower. (Photo by Leif Boman, FDEP)

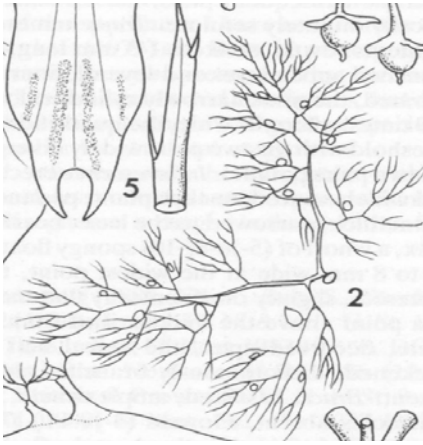


Figure 7. *Utricularia inflata*, diagram of unequal branching (Diagram from Taylor, p. 667)

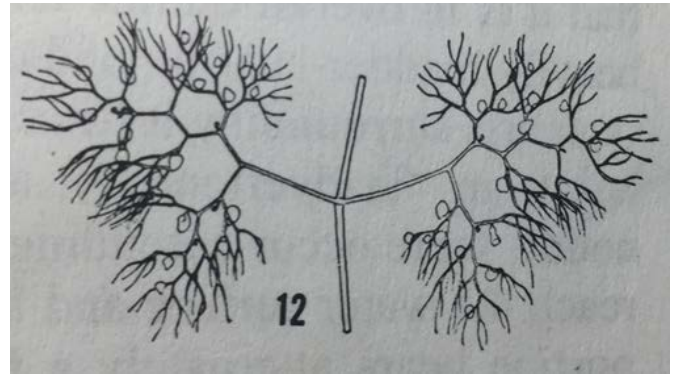


Figure 8. *Utricularia radiata*, diagram of equal branching (Diagram from Godfrey and Wooten, p. 691)

References

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