

HANDY GUIDE TO AQUATIC PLANTS IN IRELAND

Floating: Nymphaea, Nuphar, Nymphoides, Potamogeton, Lemna

Rooted rosettes: Isoetes, Lobelia, Littorella, Subularia

Ribbon-leaves: Sagittaria, Stratiotes, Potamogeton, Sparganium

Simple alternate: Potamogeton, Lagarosiphon, Persicaria, Fontinalis antipyretica

Opposite pairs: Crassula, Callitriche,

Simple whorls: Elodea (3), Egeria (4-6), Hydrilla (4-5)



Elodea
Egeria
Lagarosiphon
Hippuris, Hydrilla

Ceratophyllum
Ranunculus
Utricularia

Hottonia
Myriophyllum

Other Compound leaves: *Apium inundatum* (Bipinnate, fine hair like branches)

Oenanthe aquatica (Tripinnate; narrow leaflets, becoming emergent and cow-parsley-like)

Waterlilies

Nuphar lutea (2ndry veins arising along midrib; Yellow flwr; over-wintering leaves lettuce like, petiole angular)

Nymphaea alba (2ndry veins arising from petiole; White flwr; petiole round, margin entire)

Nymphoides peltata (Yellow flwr; margin scalloped). – an alien invasive species

Hydrocharis morsus-ranae (white flwr; leaves small, thick, rounded, margin smooth)

Duckweeds

Lemna gibba (Fat duckweed – bead-like)

Lemna minor (2-4 mm across)

Lemna minuta (1 mm across)

Lemna trisulca (Ivy-leaved, usually submerged, sitting on plants or sediment)

Spirodela polyrhiza (4-5 mm across; 2-4 roots)

Starworts Submerged leaves long and linear, floating leaves blunt, ovate

Callitriche brutia (leaves expanded at tip and notched)

Callitriche hamulata (leaves expanded at tip and notched)

Callitriche hermaphroditica (fruits winged)

Callitriche obtusangula

Callitriche palustris

Callitriche platycarpa

Callitriche stagnalis

Callitriche truncate (very long styles)

Waterplantains & Arrowheads (Rooted in mud, leaves floating to emergent, or in water column)

- Alisma lanceolatum* (Carpels arranged symmetrically)
- Alisma plantago-aquatica* (Carpels arranged symmetrically; blade cordate/blunt)
- Baldellia ranunculoides* (Smells of Cumin; Carpels arranged irregularly)
- Luronium natans* (leaves float rather than emergent; 1 lake in Galway)
- Persicaria hydropiper* (stipule a papery sheath around stem; leaves)
- Ranunculus lingua/flammula* (Leaf bases sheathing, stems reddish)
- Sagittaria sagittifolia* (submerged leaves long and ribbon-like; aerial leaves spearhead)
- Sagittaria rigida* (emergent leaves ovate, rarely with small lobes)
- Stratiotes aloides* (watersoldier – floating in summer; leaf margins toothed)
- Sparganium angustifolium* (Ribbon-like, triangular, fleshy leaves)

Rooted, submerged rosette plants

- Lobelia dortmanna* (West of Ireland; leaf tips blunt; leaves with 2 air-chambers)
- Eriocaulon aquaticum* (Leaves septate, apex finely pointed; roots with dark and light striations)
- Isoetes* (Leaves rounded, with 4 air-chambers)
- Littorella uniflora* (Leaves round, solid)
- Subularia aquatica* (Leaves round to angular, solid)

Canadian Pondweeds

- Elodea canadensis* (whorls of 3, blunt/acuminate-tipped lvs, broad, straight)
- Elodea nuttallii* (whorls of 3; acute-tipped lvs, narrow, recurved)
- Lagarosiphon major* (alternate curled leaves)
- Fontinalis antipyretica* (an aquatic moss; lvs alternate, pale tips to shoots)
- Egeria densa* (whorls of 4-5 (3 at base))
- Hydrilla verticillata* (whorls of 4; lvs serrate, tapering to apex)
- Hippuris vulgaris* (whorls of 6-12 lvs, submerged leaves flaccid)
- Crassula helmsii* (leaves slightly succulent, in opposite pairs)

Hair-like leaves

- Isolepis fluitans* (*Eleogiton fluitans*) (Floating, rounded leaves, spongy)
- Juncus bulbosus* (leaf bases with auricles; roots [bulbous] at nodes; transverse septae)
- Potamogeton pectinatus* (leaves hair-like, 2 major air-chambers, other smaller ones; sheaths split conspicuous and free of stem)
- Potamogeton filiformis* (leaves hair-like; 2 air-chambers; sheaths closed)
- Ruppia cirrhosa* (leaf margin dentate; no midrib; 2 air-chambers; peduncles long, sometimes coiled/spiral)
- Ruppia maritime* (leaf margin dentate; no midrib; 2 air-chambers; peduncle as short as pedicels)
- Najas flexilis* (leaf margins dentate; fruits asymmetric)
- Zannichellia palustris* (Leaves opposite; fruits horned, clustered, sessile in axils - right)



DIVIDED leaves

Water crowfoots (divided leaves, alternate)

Ranunculus subgenus batrachium – white petals, usually heterophyllous (leaves of 2 kinds)

Extremely variable. Usually impossible to identify in vegetative state. Most have a mixture of variable laminar and capillary leaves, and collections must comprise the entire plant from root to tip.

R. hederaceus and *R. omiophyllus* never have capillary leaves.

R. tripartitus (hetero; one coastal pond near Baltimore)

R. fluitans (capillary leaves 8-50 cm; nectar-pits pyriform; Co Antrim only, Six-mile river, from Dunadry to mouth only.)

R. aquatilis (hetero; petals 3.5-10 mm; nectar-pits circular)

R. peltatus (hetero; leaves rigid or collapsing, shorter or = internode; petals 5.5-15 mm; nectar-pits pyriform)

R. penicillatus (hetero; leaves collapse to a tassel; petals 10-15 mm, leaves longer than internode; nectar-pits pyriform)

R. circinatus (rigid capillary leaves, not collapsing out of water; like spokes of a bicycle wheel; nectar-pits crescents)

R. baudotii [?subsp. of *peltatus*] (hetero; nectar-pits crescent; saline lakes, a)

R. trichophyllus (nectar-pits crescents;

Hornworts (Divided leaves)

Ceratophyllum demersum (rigid; leaves divided 1-2 times)

Ceratophyllum submersum (soft; leaves divided 3-4x)

Bladderworts (Divided leaves with traps)

Utricularia ochroleuca / *Utricularia intermedia* (Bladders on separate stolons)

Utricularia minor (Leaf segments untoothed)

Utricularia vulgaris / *Utricularia australis* (Leaf segments toothed, stems of 1 type)

Water Millfoils (Pinnate leaves, in whorls)

Myriophyllum aquaticum (emergent; glaucous lvs)

M. verticillatum (Lvs lngr than internodes; in whorls of 5s, 1-5-4.5cm; 15-40 flts/side)

M. spicatum (Lvs more rigid, usually fewer flts, 6-18 flts/side; reddish tinge)

M. alterniflorum ()

Hottonia palustris (Water violet – flattened pinnate leaves)

True Pondweeds (*Potamogeton*)

- Groenlandia densa (Translucent, sessile & opposite leaves)
- Potamogeton crispus (Leaf margin serrate; entire blade undulate)
- Potamogeton perfoliatus (Leaf base amplexicaul)

Hair-like leaves (beware *Juncus*, *Ruppia*, *Najas* & *Zannichellia*)

- Potamogeton pectinatus (leaves hair-like, sheaths split conspicuous and free of stem)
- Potamogeton filiformis (leaves hair-like; sheaths closed)

Narrow, parallel-sided leaved; stems usually compressed

- Potamogeton friesii (leaves 1.5-3.5mm wide; 4-veins; apex acuminate; stipules tubular, BUT soon splitting)
- Potamogeton pusillus (leaves 1-2 mm wide; 2-veins; apex acute; stipules tubular)
- Potamogeton obtusifolius (leaves 2.5-3.5 mm wide; 2-4-veins; apex acuminate; stipules split; leaves clustered near surface, 'hands' at ends of branches)
- Potamogeton berchtoldii (leaves 1-2 mm wide; 2-veins; obtuse/acute tips; stipules split; stems round; leaves not clustered)

Small leaves

- Potamogeton gramineus (small submerged lvs; occ with long-petioled floating lvs; leaf edges convex)
- Potamogeton gramineus x perfoliatus = P. x nitens

Leaves translucent, broadest at base, tapering above

- Potamogeton alpinus (tapering to blunt tip)
- Potamogeton praelongus (Lvs hooded at apex)
- Potamogeton lucens (large translucent leaves; apex long-acuminate)
 - Potamogeton lucens x gramineus = P. x angustifolius
 - Potamogeton lucens x perfoliatus = P. x salicifolius

Opaque, floating leaves

- Potamogeton natans (Stipules large, split; subm. Lvs grass-like; floating lvs to 10cm)
- Potamogeton coloratus (Floating leaves translucent; apparently (but not actually) opposite)
- Potamogeton polygonifolius (Floating leaves, opaque; usually confined to bogs)