











## Cabombaceae: Water-shield family

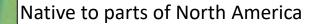
- Aquatic perennial herbs
- Leaves mostly submerged
- Submerged leaves are opposite, petiolate and deeply and finely palmately dissected
- Floating leaves are alternate, peltate and associated with flowers
- Flowers solitary in leaf axils on long pedicels, actinomorphic

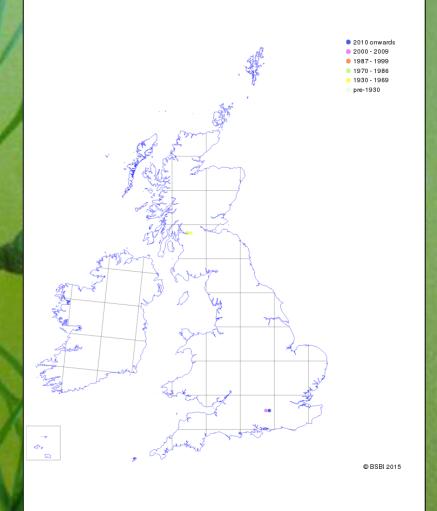


#### Cabomba caroliniana

Carolina Water-shield

- Stems to 2m
- Submerged leaves 3-5cm
- Opposite leaves, with petioles 1-3cm
- Linear to narrowly elliptic floating-leaves 0.6-2cm, with petiole joining in centre
- Flowers 6-10mm, white to lavender petals with yellow centre





## Hydrocharitaceae: Frogbit family

### Lagarosiphon major Curly Pondweed

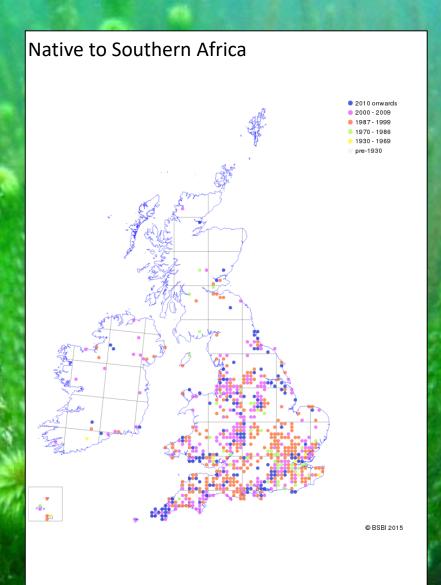
- Stems long branched, rooted in mud
- Submerged leaved, variously whirled to spiral, the lowest always spiral
- Leaf edges subentire to minutely denticulate, with 2 minute entire basal scales
- Inconspicuous reddish flowers, arising from sessile axillary spathe, 3 stamens and 3 bifid styles
- Petals as long as sepals
- Only female plants occur in BI

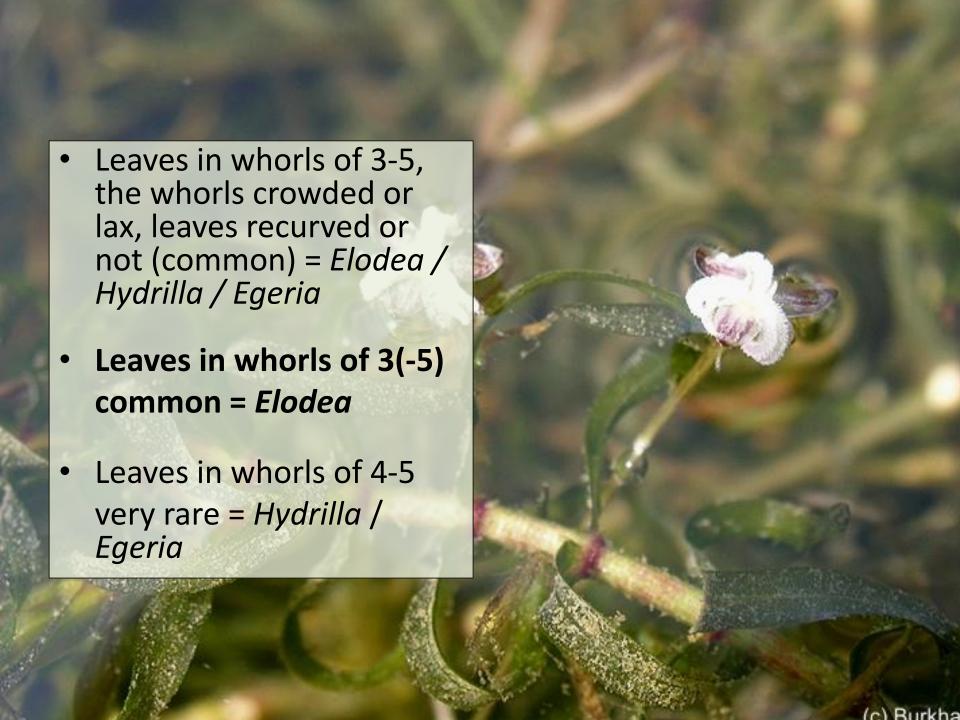
# **Elodea sp**Waterweed

- Stems long branched, rooted in mud
- Lower leaves opposite, the upper in whorls of 3-4 (5)
- Leaf edges minutely serrate, with 2 minute entire basal scales
- Inconspicuous whitish to reddish flowers, solitary from sessile axillary spathe, 9 stamens and 3 bifid styles
- Petals as long as sepals
- Only female plants occur in BI

## Lagarosiphon major Curly Pondweed

- Stems to 3m
- Leaves 6-30 x 1-3mm, usually strongly recurved, 0.2-0.5mm wide and densely crowded at apices
- Acute to acuminate apex
- Spread by vegetative reproduction in UK as all plants are female





# E canadensis E nui

Not usually twisted

**Leaf lamina** 

**Length of leaf** 

margin teeth

Sepal length of female flowers

**Roots** 

Feature	<i>E. canadensis</i> Canadian Waterweed	<i>E. nuttallii</i> Nuttall's Waterweed	<i>E. callitrichoides</i> South American W.
Leaf shape	Linear-oblong, oblong- lanceolate, oblong, oblong- ovate, rarely linear lanceolate	Linear or linear lanceolate	Linear or linear lanceolate
Leaf apex	Broadly acute or obtuse, rarely narrowly acute	Narrowly acute or acuminate	Narrowly acute or acuminate
Leaf width	(0.7) 0.9-2.3 mm	0.2-0.7 (-0.8)mm	0.2-0.7 (-0.8)mm
Width below apex	0.5mm	0.5mm	0.5mm
Recurved leaves	Not usually recurved	At least some leaves	Leaves never strongly

strongly recurved

Leaf lamina often twisted

60-90 (-100)micrometres

White or grey-green

adventitious root tips

1.6 to 2.5mm

recurved

twisted

tips

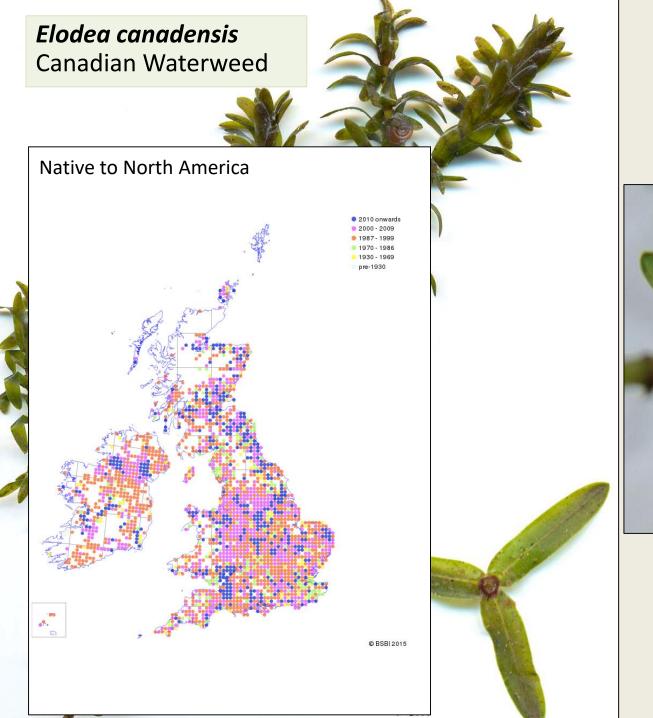
(80-) 110-140 micrometres

3.1 to 4.3mm

Leaves never strongly

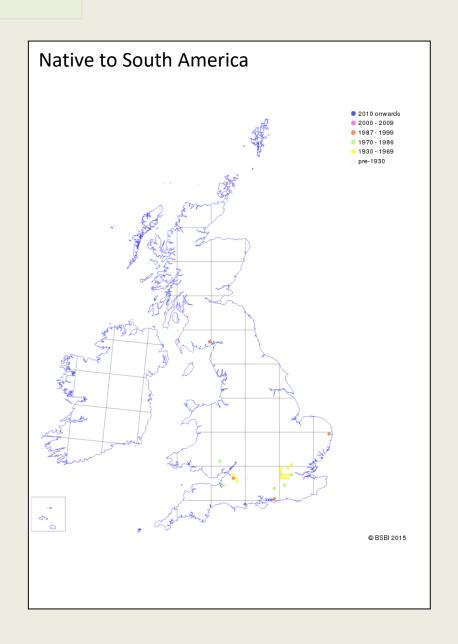
Red adventitious root

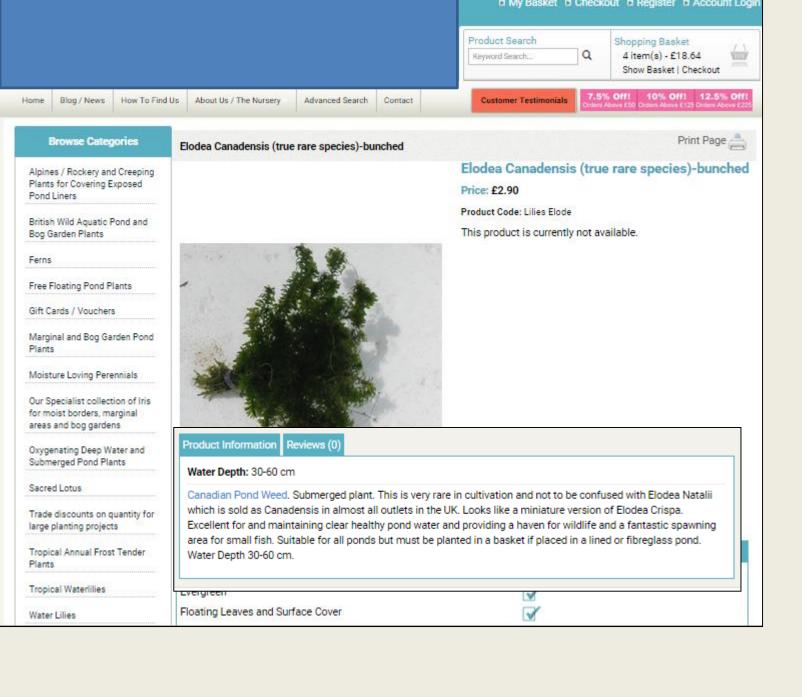
# Elodea nuttallii Nuttall's Waterweed Native to North America 2010 onwards **2000 - 2009** 9 1987 - 1999 9 1970 - 1986 9 1930 - 1969 pre-1930 © BSBI 2015

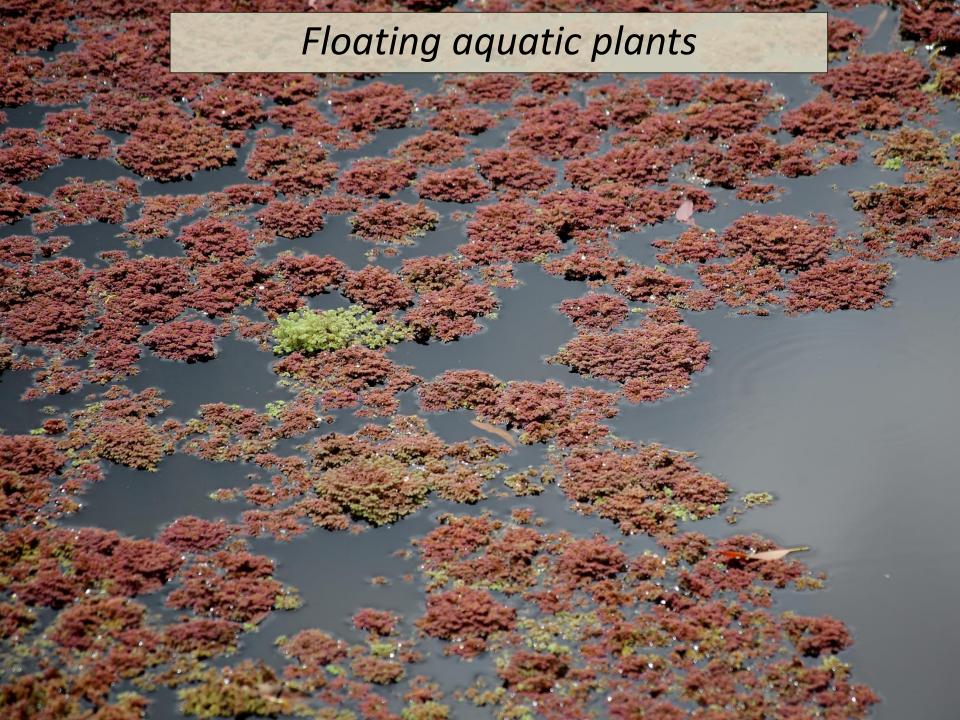




## **Elodea callitrichoides**South American Waterweed







## Salviniaceae: Water Fern family

# Azolla filiculoides Water Fern

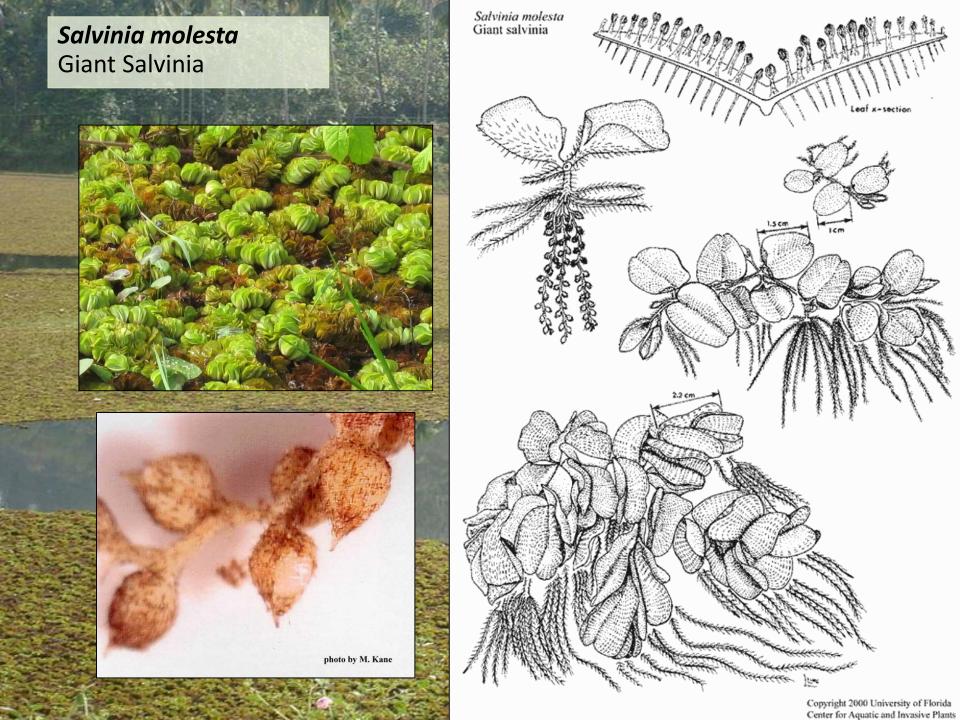
- Stems 1-5 (10) cm
- Leaves 2.5 x 1.5mm in surface view
- Hyaline edge to each leaf
- Plant green in early part of season becoming red later in season
- Thread like roots

# Salvinia molesta (and other sp.) Giant Salvinia

- Series of folded bright green coloured leaves, appearing more pleated, as more dense
- Leaves with hairy upper surface
- Leaf hairs with egg whisk shape
- Dangling 'roots' these are actually old leaves!

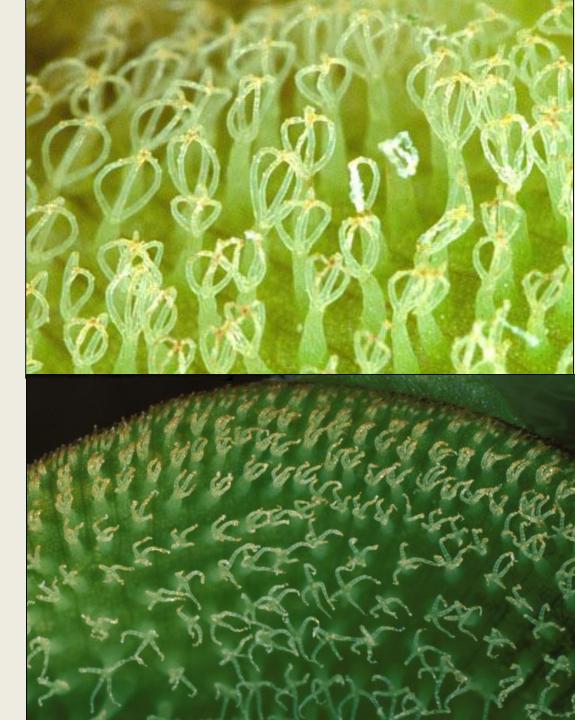


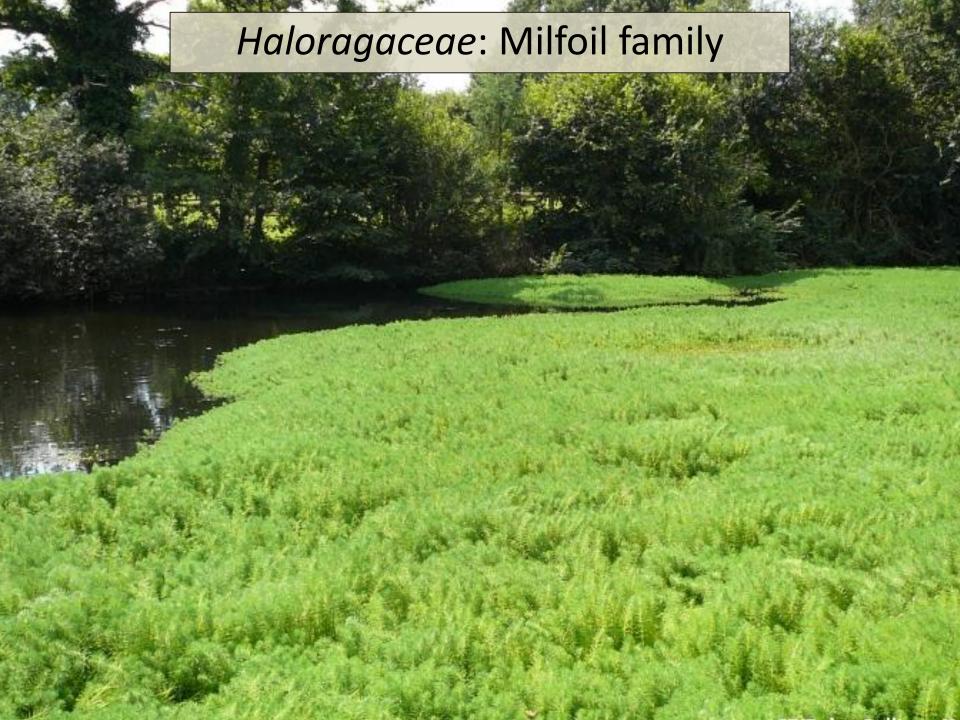




**Salvinia molesta**Giant Salvinia

*Salvinia natans*Floating Water-moss





#### Myriophyllum M. verticillatum M. spicatum

Whorled Water-

Male, female and

Native, mostly base-

Nationally Scarce

usu. bisexual

rich habitats

yes

Spiked Water-

Male, female and

Native, mostly base-

usu. bisexual

rich habitats

no

M. alterniforum

Alternate Water-

(female) and

usu. bisexual

poor habitats

no

opposite to alternate

for upper (male)

Male, female and

Native, mostly base-

Feature		milfoil	milfoil	milfoil
Maximum stem length	2m	3m	2.5m	1.2m
No. of leaves in each whorl	4-6 Hemispherical glands	(4) 5 (-6)	(3) 4 (-5)	(3-) 4
No. of leaf segments	Usually 8-30	Usually 24-35	Usually 13-38	Usually 6-18
No. of flowers	Mostly 5-6	Mostly 5	4	2-4 whorled below

# in whorl Divided bracts - can look like aquaticum

Dioecious, but only

female in Britain

Introduced and

thrown out.

no

naturalised where

Flower type

Status /

habitats

**Turions** 

M. aquaticum

Parrot's-feather

# Myriophyllum aquaticum Parrot's-feather Native to South America 2010 onwards 2000 - 2009 9 1987 - 1999 9 1970 - 1986 9 1930 - 1969 pre-1930 © BSBI 2015



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