Water fern
(Azolla filiculoïdes)

Classification

Order	Salviniales
Family	*Azollaceae*
Genus	*Azolla*
Species	*A. filiculoïdes*
	(Lam., 1783)

Originated in South America. Introduced in Europe in the 1800s for aquariums and botanic gardens, from which it escaped. The plant was first observed in France in 1880, in the Deux-Sèvres department.

Description

■ A small fern, approximately 1-2 cm in diameter, that floats freely on the water surface

■ Small, scaled fronds, hydrophobic in the upper section:
- green, tinted red toward the end of the summer
- alternating, tightly nested together
- the fronds spread horizontally over the water surface in step with the growth of the plant

■ A short, branching rhizome

Ecology and reproduction

■ Habitats consist of calm and stagnating waters, ranging from mesotrophic to eutrophic, including lakes, lentic rivers and streams, canals, ponds, pools, ditches

■ Vegetative multiplication (fragmentation)

■ Sexual reproduction in the spring in the form of spores capable of resisting drying, this type of reproduction would appear to be very infrequent in France

■ The plant cannot resist freezing temperatures

■ The species is elusive and unforeseeable in its behaviour, capable of proliferating one year and disappearing the next, which does not facilitate management

■ The species has a symbiotic relationship with a cyanobacteria capable of fixing atmospheric nitrogen

Documentation

■ Hudin S. et Vahrameev P. (coord.,). 2010. Guide d'identification des plantes exotiques envahissant les milieux aquatiques et les berges du bassin Loire-Bretagne. Fédération des conservatoires d'espaces naturels, 45 pp.

■ Haury J. et Clergeau P. 2014. Espèces invasives en Bretagne. Plantes et vertébrés continentaux. Les cahiers naturalistes de Bretagne, numéro 9. Biotope éditions, 144 pp.

■ CABI. 2014. Invasive Species Compendium: *Azolla filiculoides* (Water Fern). http://www.cabi.org/isc/datasheet/8119

■ GIS Macrophytes des eaux continentales. 1997. Biologie et écologie des espèces végétales proliférant en France. Synthèse bibliographique. Les études de l'agence de l'eau numéro 68. 202 pp.

Hydrophytes

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