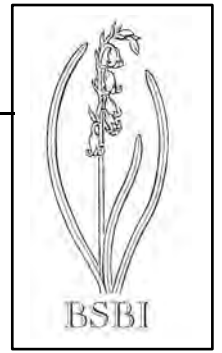


Plant Crib






ISOETES ECHINOSPORA* / *I. LACUSTRIS* / *I. × HICKEYI

Isoetes echinospora and *I. lacustris* appear to have subtle but different ecological preferences, *I. lacustris* often forming extensive turf in deeper lakes whereas *I. echinospora* is rarely in such dense patches and is more likely to colonise shallower areas of lakes or pools. Nevertheless they can be found growing in the same lake, and such records are increasing. Whether this is due to more assiduous recording or to the fact that the water level of many lakes in upland Britain is changing because of water storage or abstraction, or to acidification, is uncertain. Where they do grow together they have the potential of hybridising to form *I. × hickeyi*. So far this hybrid has been found in V.c. 46 (A. O. Chater, pers. comm.) material of which has been cytologically checked to have $2n = 66$ chromosomes (D. Britton, pers. comm.), the first confirmed record for the British Isles. Collections made in V.c. 108 conform morphologically but have not yet been cytologically checked. Because of the thick silicious exospore in *Isoetes*, aborted spores do not collapse but will be seen to vary considerably in size. They often lack the ability to complete partition at the tetrad stage, and clusters of four or, more usually, two spores (appearing 'dumbbell'-shaped) will be seen with a good $\times 20$ hand lens. Both species and hybrid must be confirmed by checking spores.

	<i>Isoetes echinospora</i> Durieu	<i>I. × hickeyi</i> W. C. Taylor & Luebke	<i>I. lacustris</i> L.
Habit	Initially erect, but soon bending away from the centre of the rosette, often appressed to the substrate (looking starfish-like), flaccid and clinging together when taken out of the water; scattered though rarely forming continuous swards	Erect or spreading, sometimes recurved, usually remaining stiff when taken out of the water; usually single with parents	Erect, sometimes recurved, somewhat brittle, remaining stiff when taken out of the water; usually present in some quantity, forming a dense turf on deeper lake bottoms
Leaves	3-25 cm long, c. 2.5-3 mm wide near the base, with a perceptibly slightly flattened adaxial face, tapering almost immediately from the base to a slender, acute apex	Up to 25 cm long, c. 2.5-10 mm wide, \pm cylindrical, tapering in upper one third to a somewhat blunt apex	10-45 cm long, c. 2.5-12 mm wide, \pm cylindrical, tapering only slightly in the last few centimetres towards a rather blunt asymmetrical point

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Megaspores	420-450 μm diameter, densely spiny on all faces ($\times 20$ lens, only seen when dry and mature, i.e. late summer and autumn). 	250-500 μm diameter, often linked in twos (dumbbell-shaped), very variable in one sporangium; wall sculpturing verrucate, or with short spines on obscure ridges, or ill-defined. 	500-570 μm diameter, the mature spore wall showing anastomosing that resemble brain-coral ridges ($\times 20$ lens). 
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Authors A. C. Jermy & J. M. Camus (*Fern Guide* 1991), revised A. C. Jermy, December 1997.