

Freshwater Biological Association

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Title: Die Hydrillae (Hydrocharitaceae) in Europa.
(Translation of Key to Hydrillae only. pp 33-34).

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Translated by D.F. Westlake

Notes

- a) The characteristic features are only valid for European plants.
- b) The ranges of size include both herbarium and fresh material. The difference can be up to 20%.

Fibre cells are long, thick-walled scherenchyma tubes in the leaf margins. The leaf should be laid under the microscope with its underside upwards. In normal light the fibre cells are often difficult to see. In polarised light they appear as bright, luminous bands (stripes), 4-15 μ across each cell, very distinct from the black background.

1. Lower leaves clearly alternate; upper very close together, simulating whorled/verticillate, stiff, sickle-shaped and bent backwards (Fig. 9).

Lagarosiphon major (muscoides)

- all leaves whorled/verticillate, stiff or flaccid, bent back or stretched straight out.

2

2. Middle and upper whorls with (3-)4-5(-8) leaves, no fibre cells in leaf margin.

3

- middle and upper whorls with 3 leaves, only occasionally 4 near branches lower whorls (i.e. in spring) with 2 leaves. 1-6 fibre cell bands in leaf margins.

4

Genus Elodea

3. Leaf axils with 2 glandular, fringed scales, teeth of leaf margins mostly visible with the naked eye (Fig. 1); underside of mid-rib often with prickles or tubercles; leaves (4-) 8- 20 x 1-2 (-3) mm; cross-section of stem 0.4-1 (-2) mm (Fig. 10).

Hydrilla verticillata

- leaf axil scales at most only on the youngest leaves, margins entire, obscure; teeth of leaf margins only visible by magnification, underside of leaf always smooth; leaves (10-)-15-40 x (1.5-) 2-5 mm; stems very robust, 0.8-3.5 mm in cross-section (Fig. 5).

Egeria densa (Elodea)

4. Leaves tongue-shaped i.e. with parallel margins (Fig. 3b), rarely small and oval (Fig. 3a), [at tips] rounded or shortly pointed; straight or weakly curved, however never twisted or contorted, (Fig. 7); 2-5.5 x as long as wide.

Elodea canadensis (Anacharis)

- leaves small, triangular to linear, mostly tapered equally from base to tip, therefore long drawn-out tips (Figs 2 & 4); straight (Figs 6 & 8c) or strongly bent backwards (Fig. 8a & b), in part spirally twisted; 3.5-15 x as long as broad.

5

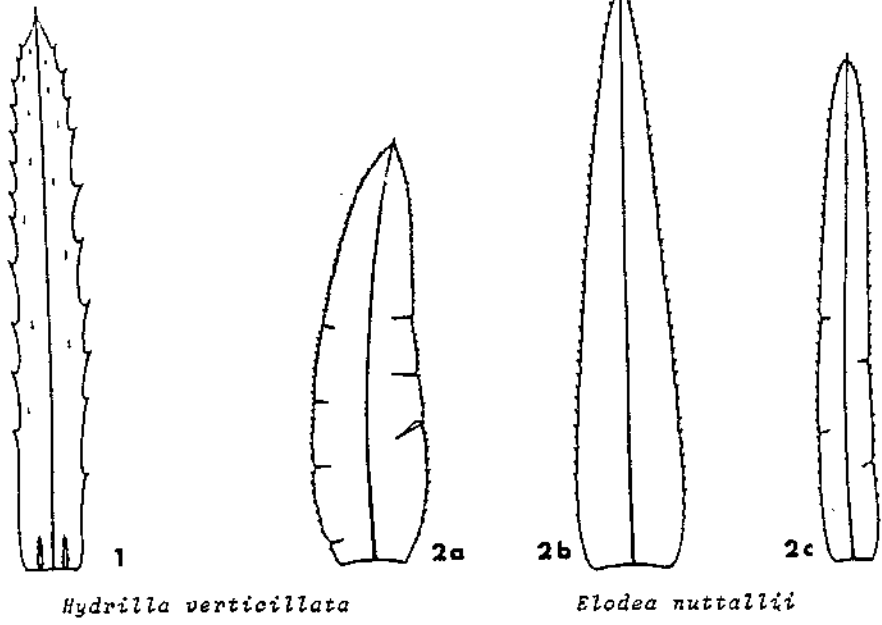
5. Leaves at the most all (or only the earlier ones) strongly bent backwards and usually spirally twisted, rigid (Fig. 8c); rarely all leaves flat and flaccid; 3.5-10 x as long as wide (Fig. 2). Flowers blue-violet, 3-5 mm across; sepals 1.2-2.4 mm long, their hooded tips violet with green.

Elodea nuttallii (occidentalis)

- leaves all flat and flaccid; 7.5-15 x as long as wide (Fig. 4 & 6). Flowers white, 5.5-9.5 mm across, sepals 3-4.5 mm long, their hooded tips green (or violet).

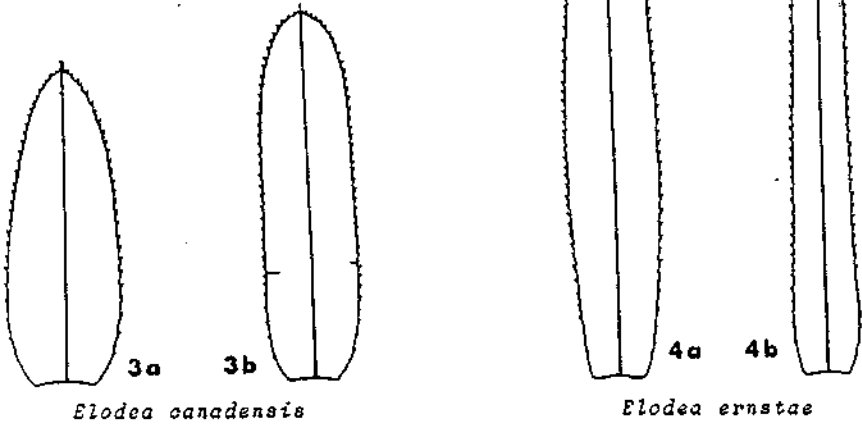
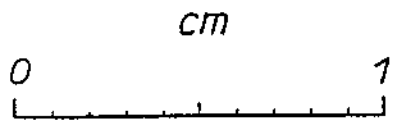
Elodea ernstae (part of callitrichoides)

Elodea callitrichoides not found in Europe; E. ernstae was identified as E. callitrichoides until recognised as a separate species. E.c. has all leaves opposite and thread-like stigmata.



Hydrilla verticillata

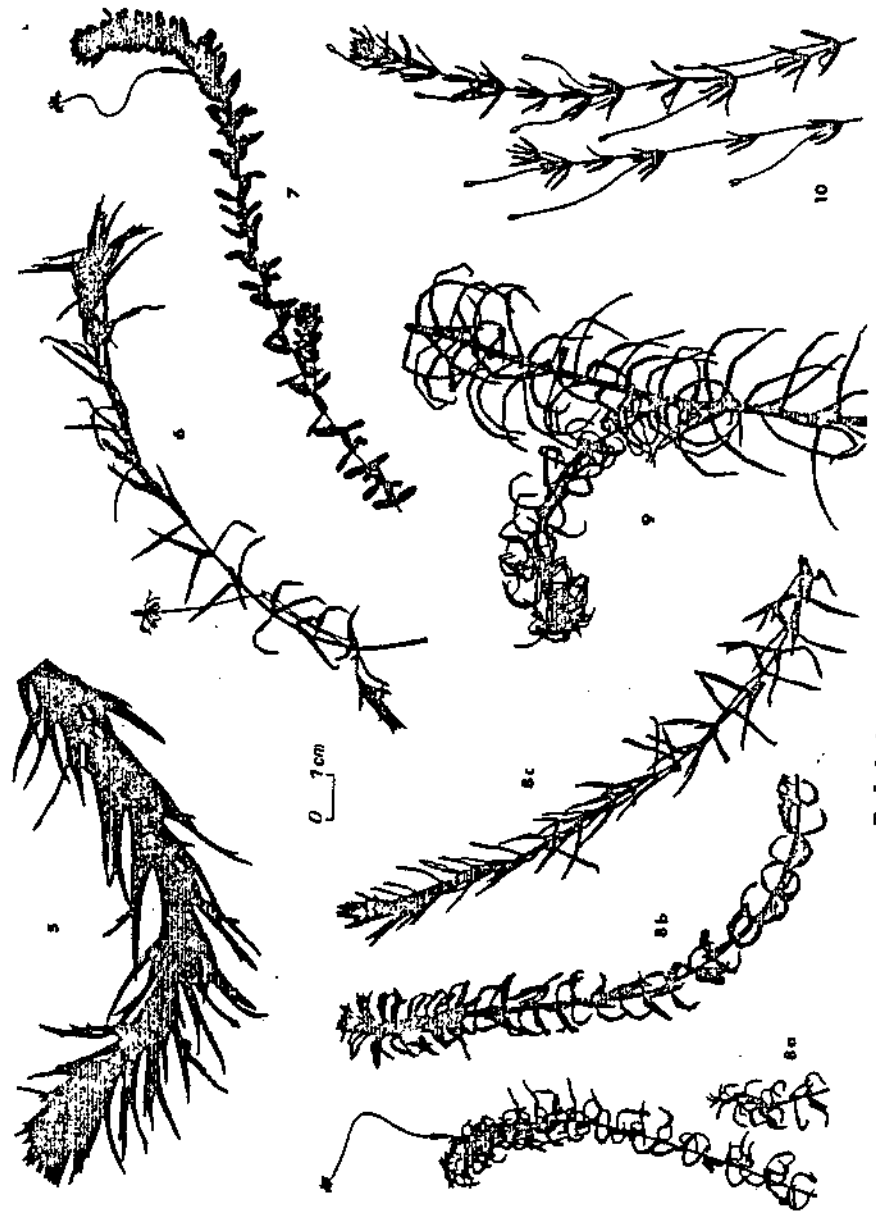
Elodea nuttallii



Elodea canadensis

Elodea ernstae

Tafel I : Blattformen. (Im lebenden Zustand zurückgekrümmte Blätter werden beim Flachpressen querfaltig.)



Tafel II : Habitusbilder.

Fig. 5 : *Egeria densa*

Fig. 6 : *Elodea ernstae*

Fig. 7 : *Elodea canadensis*

Fig. 8a-c: *Elodea nuttallii*

Fig. 9 : *Laagarosiphon major* (Stengelgrund, mit Seitentrieb)

Fig. 10 : *Hydrilla verticillata* f. *gracilis*

Notice

Please note that these translations were produced to assist the scientific staff of the FBA (Freshwater Biological Association) in their research. These translations were done by scientific staff with relevant language skills and not by professional translators.