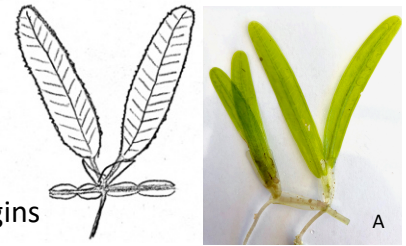


Dichotomous key and field guide of *Halophila stipulacea* reproductive structures.

Characteristics that determine *Halophila stipulacea*

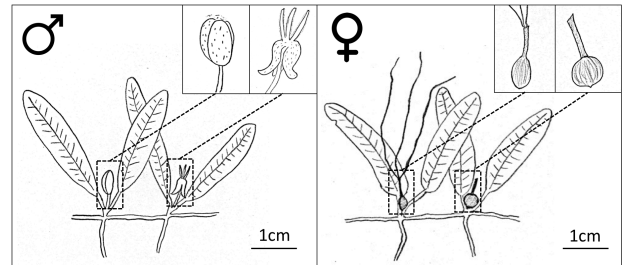
(from key pg 24,25 in Van Tussenbroek et al. 2010, picture A and drawing by F. Smulders)

- 1) Oval leaf shape, max 8 cm, 3-6 times longer than wide, with petiole, delicate leaf with a midrib and cross veins
- 2) Leaves in pairs
- 3) Two large scale leaves at the base, covering the petiole and horizontal rhizome. The blade is elongated with serrated margins



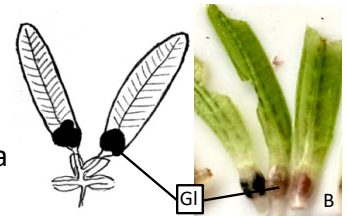
Dichotomous key to determine reproductive structures of *Halophila stipulacea*

(dimensions of reproductive structures below from Dural et al. 2020; pictures B, C, D by F. Smulders, picture E, F by G. Winters, all drawings by F. Smulders)



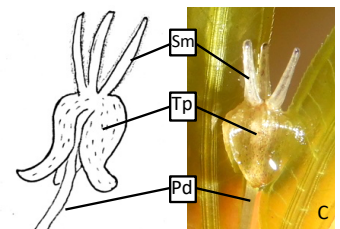
- 1) a. The structure is separate from the blade of the leaf → 2

- b. The structure is embedded as galls (Gl) inside the base of the leaf, color from white to black → **phytoxyid infection** (not a reproductive structure, see Vohník et al. 2017)



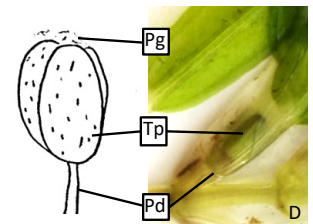
- 2) a. The structure is vase-, round- or oval-shaped → 3

- b. Structure is flower-shaped, attached with a pedicel (Pd, 3- 6 mm) with 3 tepals (Tp, 3-5 mm) either fully or half opened, and 3 stamens (Sm, 2-3.5 mm long) on top → **mature male flower**

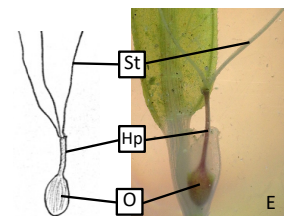


- 3) a. On top of the round shape there is a hypanthium attached (small stalk) 2.5 to 3 times the length of the round shape → 4

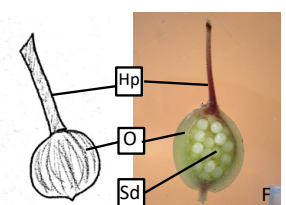
- b. The oval structure (3-5 mm) is attached to a pedicel (Pd, 3-6 mm) and consists of three tepals (Tp) folded into a flower bud, with possible pollen grain (Pg) release → **male flower bud**



- 4) a. The structure consists of a vase-shaped ovary (O, 1.5-3 mm long, 1-2 mm wide), with a hypanthium (Hp, 2.5-3 times the length of the ovary), and 3-4 long styles on top (St, 3.5-4 cm long) → **female flower**



- b. The structure is round, with hypanthium attached. Styles detach after pollination. Ovary thickens over time. Inside, multiple seeds (Sd) form after fertilization (700 μm long, 600 μm wide). Flowers develop progressively at each node, with the oldest fruits furthest from the youngest shoot apex (Kuo and Hartog 2006) → **mature fruit**



**Reference list**

Kuo, J. and Den Hartog, C. (2006). Seagrass Morphology, Anatomy, and Ultrastructure. In: *Seagrasses: biology, ecology and conservation*: Springer, pp. 51–87

van Tussenbroek, B.I., Santos, M.G.B., Wong, J.G.R., van Dijk, J.K., and Waycott, M. (2010). *A guide to the tropical seagrasses of the western Atlantic*. Universidad Nacional Autonoma. Mexico. Del Coyoacan, Mexico.

Vohník, M., Borovec, O., and Özbek, E.Ö. (2017). Rare phytomyxid infection on the alien seagrass *Halophila stipulacea* in the southeast Aegean Sea. *Mediterr. Mar. Sci.* 18: 433–442, doi:<https://doi.org/10.12681/mms.14053>.