

***Anabaena aequalis* Borge, 1906**

Most likely ID: n.a.

Synonym: n.a.

Sampling location: [Lauchsee Moor \(Austria\)](#)

Phylogenetic tree: [Anabaena aequalis](#)

Diagnosis:

- trichomes single, straight or slightly bent
- vegetative cell barrel-shaped
- length 6.5–10 μm , width 4.5–6.0 μm (of vegetative cells)
- heterocysts oval or barrel-shaped 5.5–10 μm long, 5.5–6.5 μm wide
- akinetes cylindrical with rounded ends, 22–63 μm long, 10–15 μm wide
- akinetes covered with membrane
- membrane is separated from akinete by a gap
- heterocysts and akinetes separated by vegetative cells
- cells blueish green



after Skuja

I found *Anabaena aequalis* in July 2025 in the [Lauchsee Moor](#) in Austria. This cyanobacterium forms unbranched filaments that settled on the wall of the sample container.

A characteristic feature of *Anabaena aequalis* are the very long, cylindrical akinetes, which are always separated from the heterocysts by several vegetative cells. Additionally, the akinetes have a somewhat rough membrane that stands off from

the cells like a bubble (s. fig. 5 a-b). The akinetes are densely filled with highly refractive vesicles. The heterocysts are thick-walled and yellow-green. In my population, the heterocysts were barrel-shaped (s. fig. 6). However, they can also take on an almost oval shape. The vegetative cells are also barrel-shaped. In my population, they were between 6.5-9 μm long. They are blue-green in color.

Anabaena aequalis can be confused with the similar species *Anabaena cylindrica* and *Anabaena inaequalis*. However, in *Anabaena cylindrica*, the akinetes and heterocysts lie directly next to each other, and in *Anabaena inaequalis*, the width of the vegetative cells varies greatly within the filament.



Fig. 1: *Anabaena aequalis*. Overview of several trichomes. Obj. 20 X.



Fig. 2: *Anabaena aequalis*. Some trichomes in detail in brightfield illumination. AK = akinete, HC = heterocyst, VC = vegetative cells. Obj. 20 X.

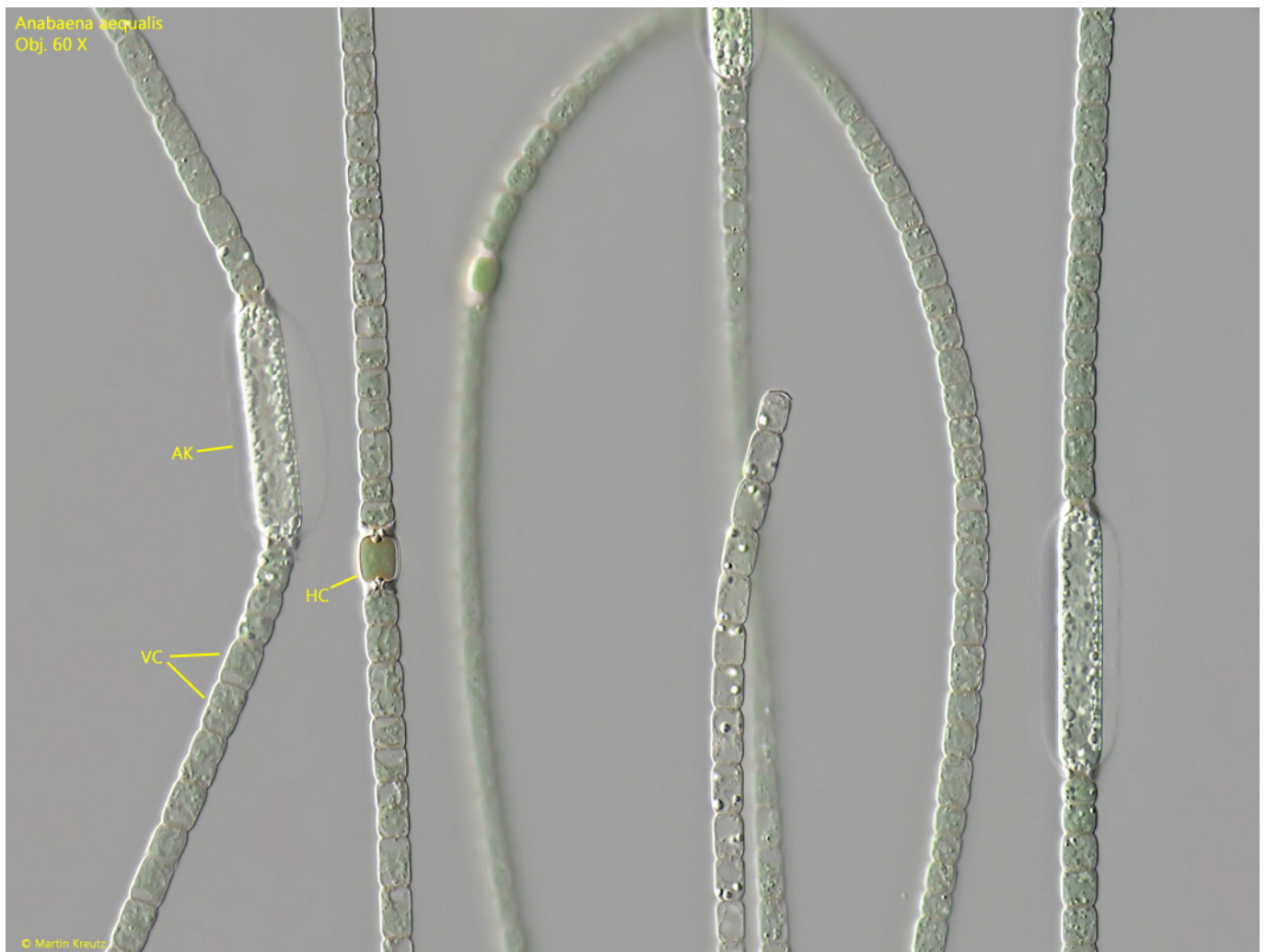


Fig. 3: *Anabaena aequalis*. Overview of some trichomes in DIC. AK = akinete, HC = heterocyst, VC = vegetative cells. Obj. 60 X.



Fig. 4: *Anabaena aequalis*. L = 6.5–8.2 μ m (of vegetative cells). The terminal cells of 4 filaments. MS = detached membraneous sheath. Obj. 100 X.

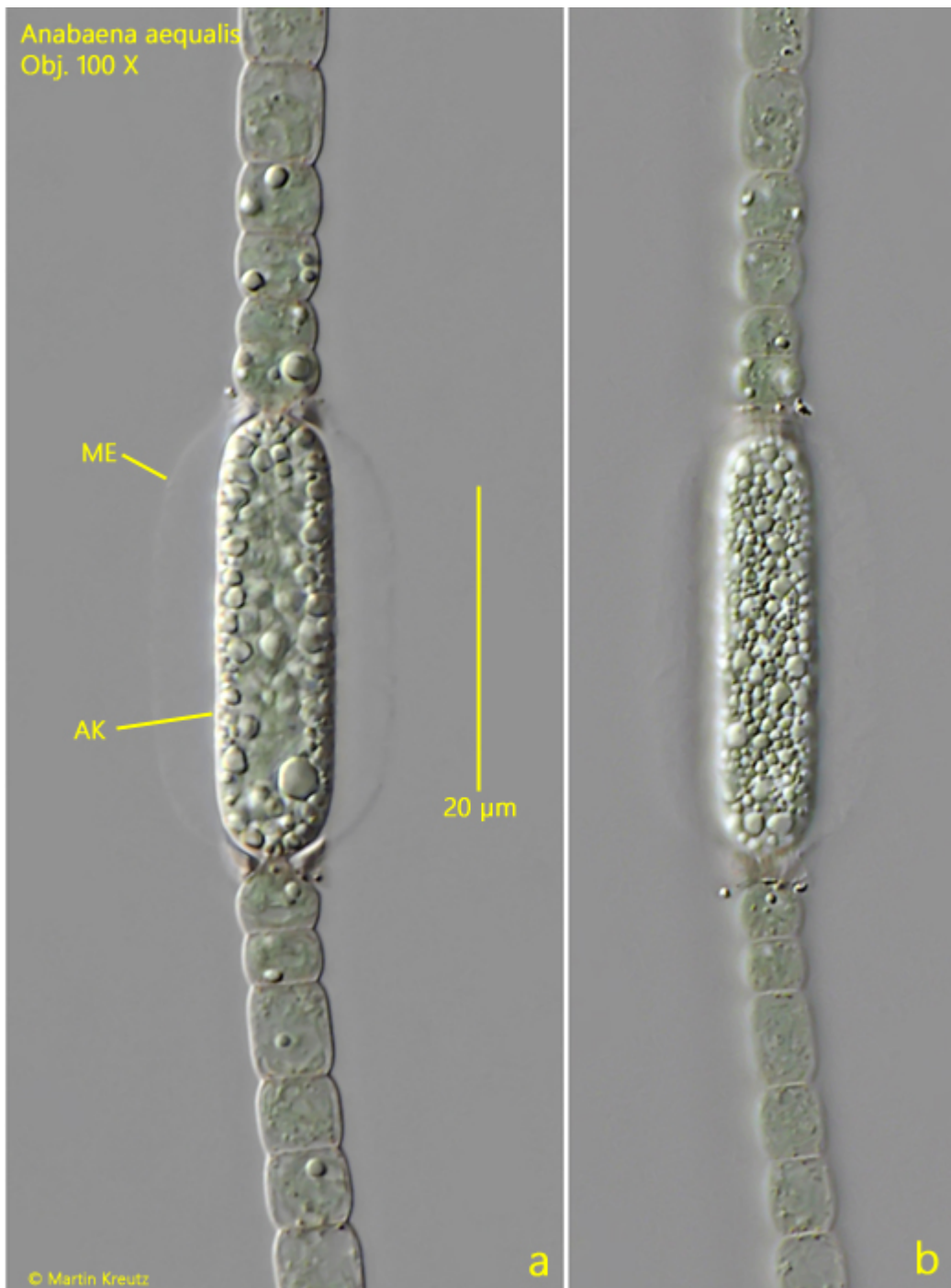


Fig. 5 a-b: *Anabaena aequalis*. Two focal planes auf an akinete (AK) with a length of 30 µm. The akinete is covered by a membrane (ME) with a distance to the cell surface. The membrane is very fine granulated. Obj. 100 X.

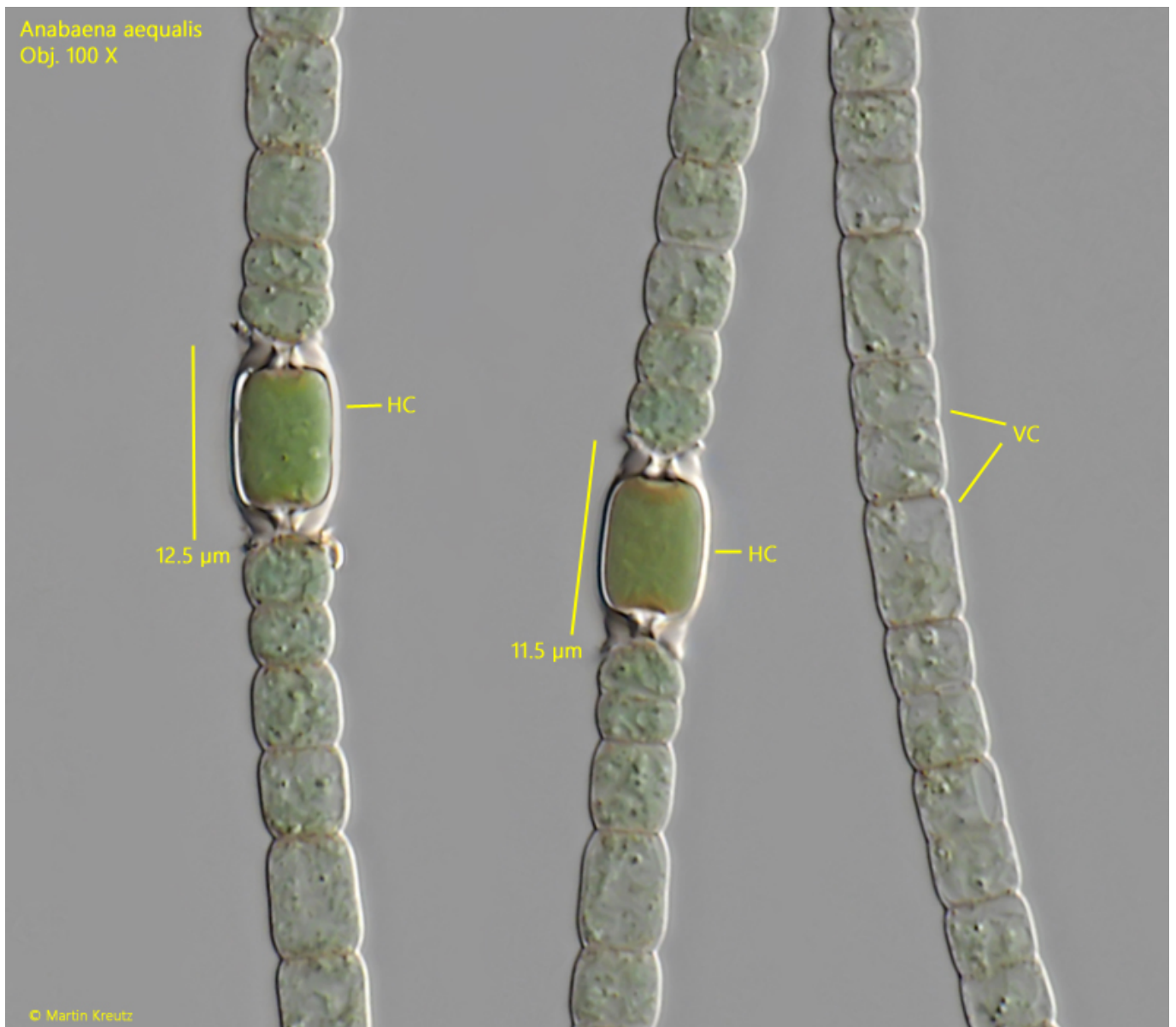


Fig. 6: *Anabaena aequalis*. The barrel-shaped heterocysts (HC) with a thickened cell wall. VC = vegetative cells. Obj. 100 X.