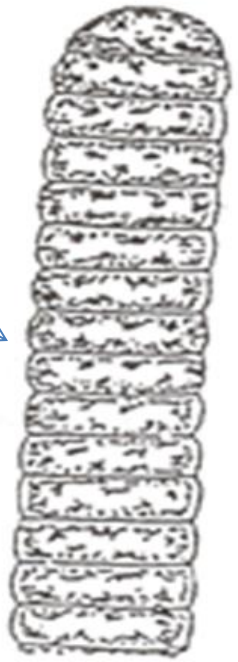
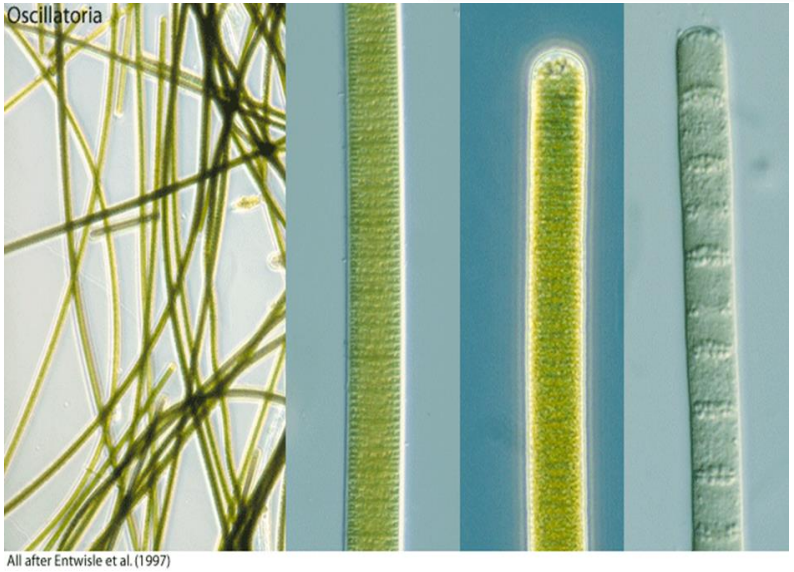
K: Monera
D: Cyanophyta
Cl: Cyanophyceae
Or: Nostocales
F:Oscillatoriaceae
Ex: *Oscillatoria* sp.

Trichome with
hemispherical apical cell
Calyptra



forming unbranched threads (trichomes) of stacked, disk-like cells, often in mats, surrounded by a thin mucilaginous sheath (though sometimes absent) . Key features include prokaryotic cells, heterocysts absence, discoid shape, granulation, and reproduction via fragmentation into motile hormogonia .

It is considered one of the initial signs resulting from moderate pollution, as it appears in large numbers, leading to a change in water color. It grows significantly, especially in the summer..



All after Entwisle et al. (1997)

K: Monera

D: Cyanophyta

Cl: Cyanophyceae

Or: Nostocales

F:Oscillatoriaceae

Ex: *Phormidium* sp.

It is similar to Oscillatoria algae, except its cells are less wide.
forming unbranched filaments (trichomes) within a thin, clear sheath, consisting of cylindrical or barrel-shaped cells. Their structure includes these cellular chains, often straight or wavy, with a distinctive rounded or pointed end cell (sometimes with a cap-like calyptra) and a gelatinous, extracellular polymeric substance (EPS) sheath that can have crystalline fibrils and aids in motility and adhesion.

All after Entwisle et al. (1997)

K: Monera

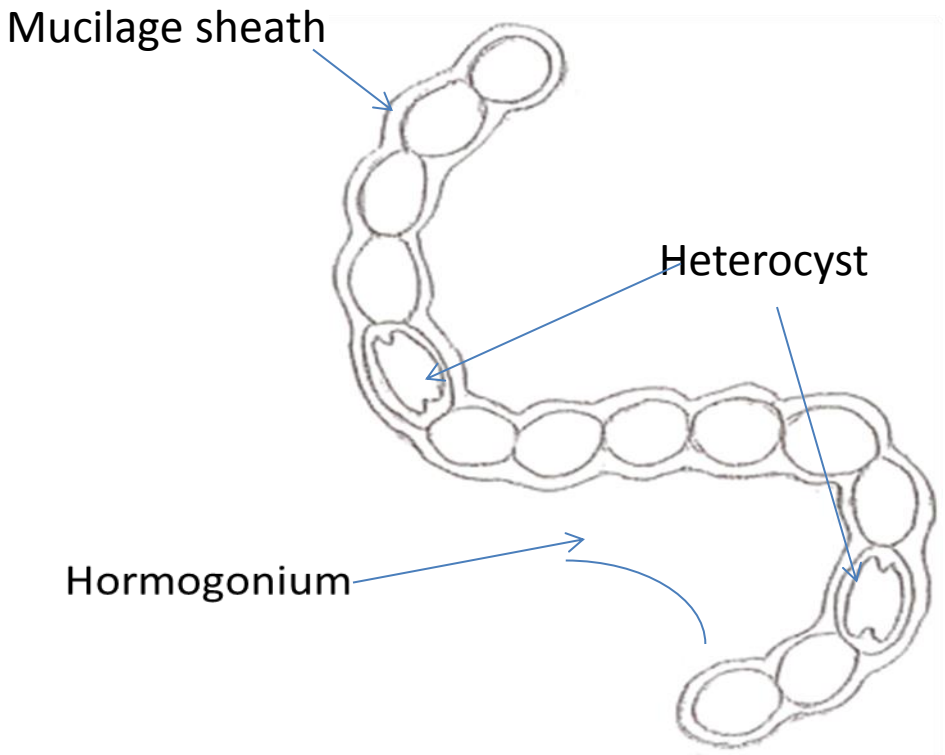
D: Cyanophyta

Cl: Cyanophyceae

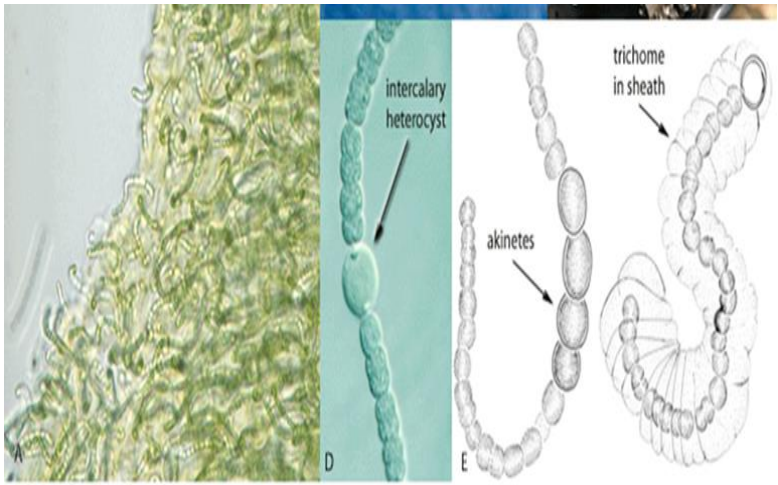
Or: Nostocales

F:Nostocaceae

Ex: *Nostoc sp*



colonies of unbranched, chain-like filaments (trichomes) embedded in a protective gelatinous sheath, with cells being spherical or oval, containing photosynthetic pigments (chlorophyll, phycocyanin, phycoerythrin) and differentiated cells called heterocysts for nitrogen fixation, and specialized spores (akinetes) for survival..

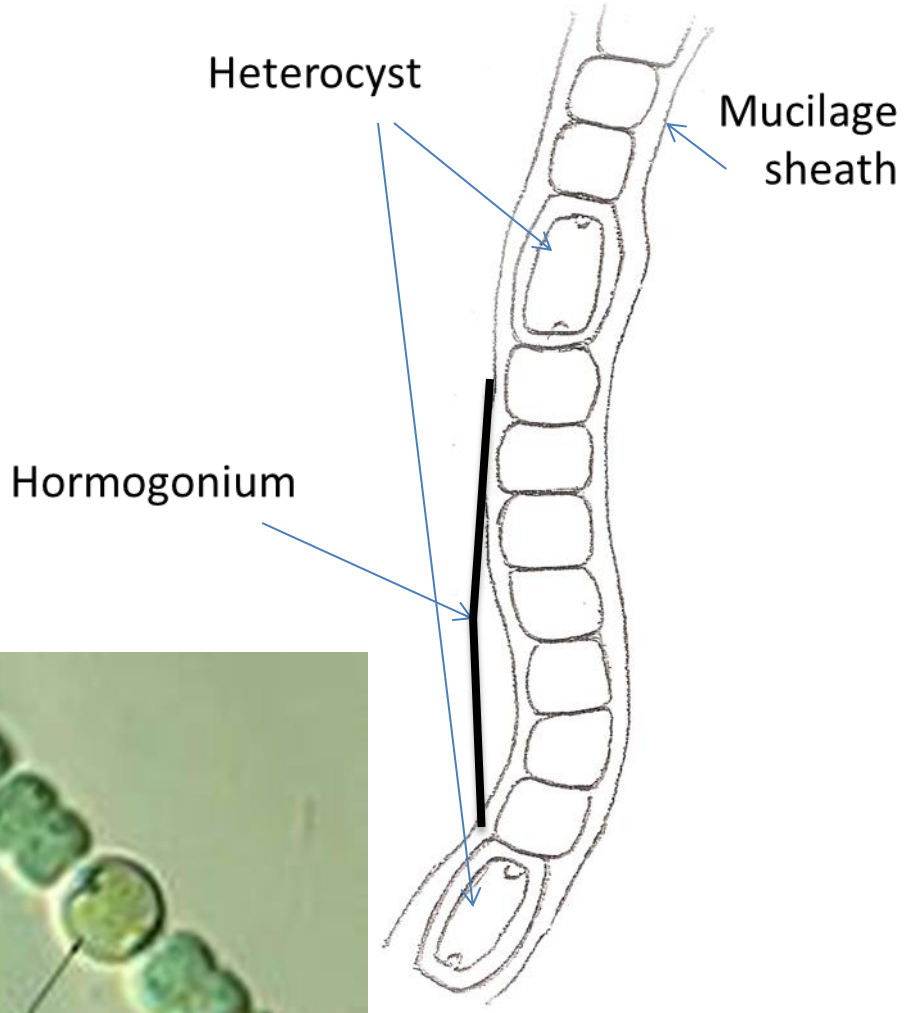


A, B, C, D after Entwisle et al. (1997)

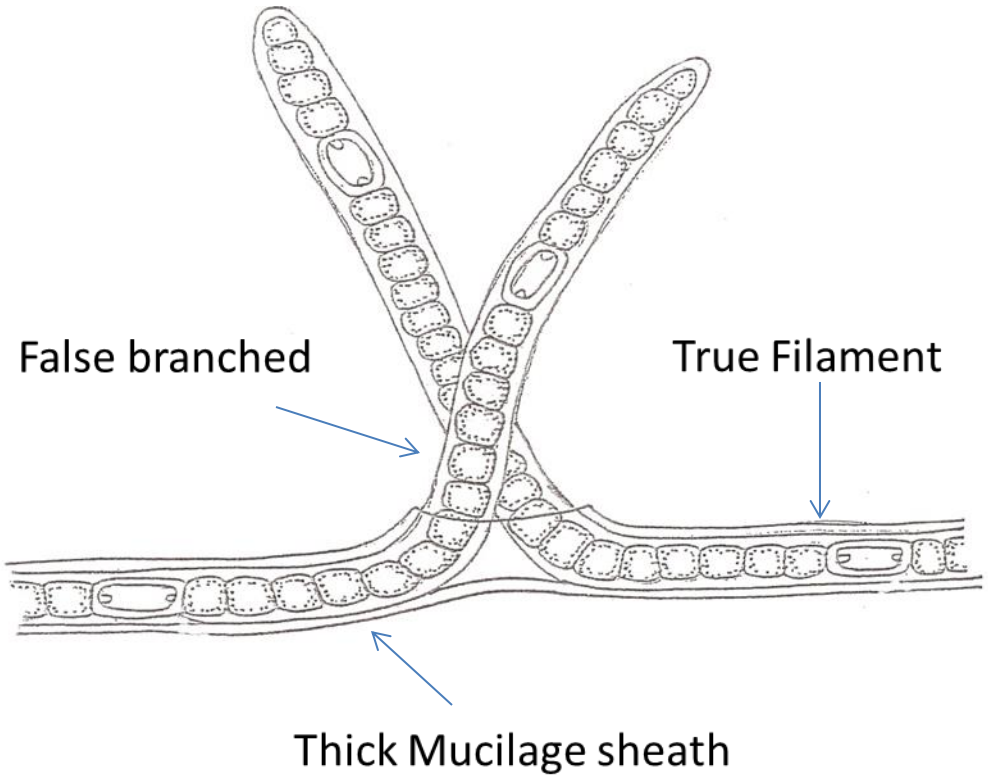
E © Royal Botanic Gardens & Domain Trust. Artist S. Skinner.

- K: Monera
  D: Cyanophyta
  Cl: Cyanophyceae
  Or:Nostocales
  F:Nostocaceae
  Ex: *Anabaena* sp.

filamentous cyanobacterium with a string of cells (trichome) that includes specialized vegetative cells (photosynthesis), thick-walled heterocysts (nitrogen fixation, lacking Photosystem II), and sometimes dormant, food-rich akinete spores, all encased in a mucilaginous sheath, forming chains that can be straight or coiled.
It is a type of algae common in rivers and freshwater, and it has a toxic effect on animals..



- K: Monera
  D: Cyanophyta
  Cl: Cyanophyceae
  Or:Nostocales
  F:Scytonemataceae
  Ex: *Scytonema* sp.



filamentous cyanobacteria, characterized by unbranched or false-branched chains (trichomes) of cylindrical cells enclosed in thick, often colored sheaths, forming dark, matted colonies; key features include heterocysts for nitrogen fixation, double false branching (from dead cells or heterocysts), and UV-protective pigments like scytonemin, enabling survival in harsh terrestrial environments