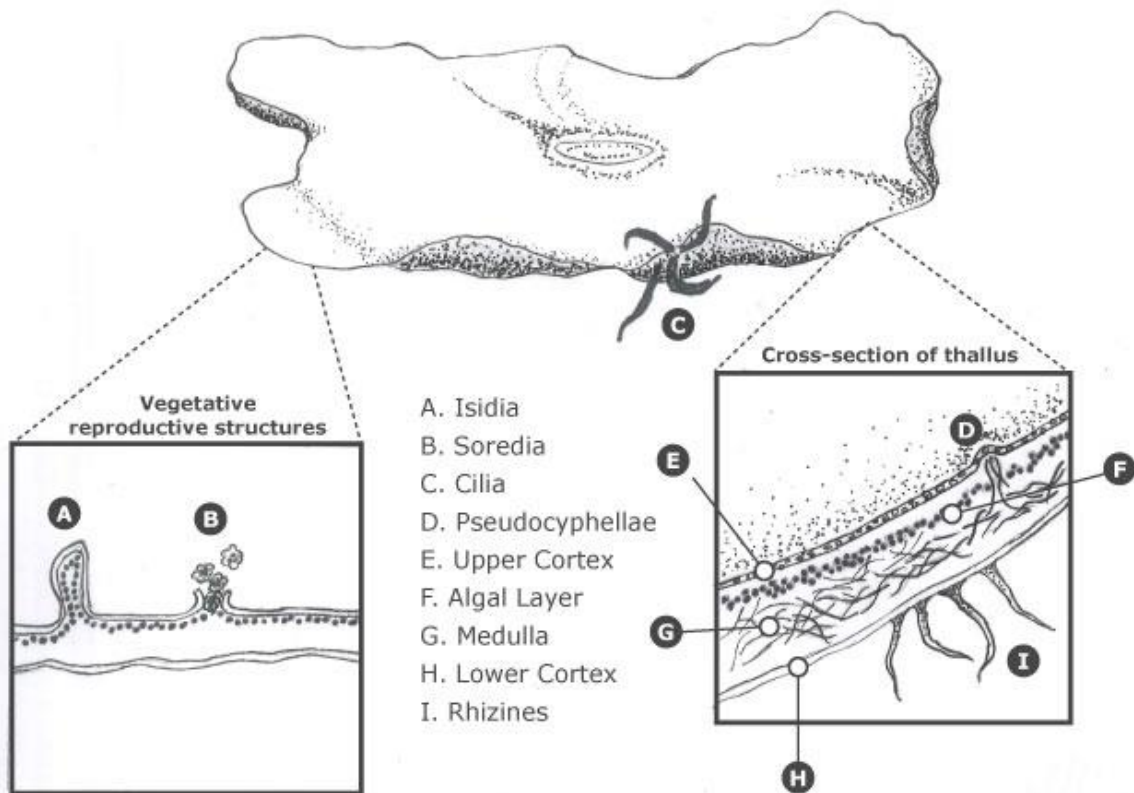


General overview of lichen morphology



Lichens represent a unique symbiotic relationship between two or sometimes three organisms: a fungus; an alga; and/or a cyanobacterium. This figure provides a good overview of a generalized lichen. The main body of the lichen is called the thallus. The thallus is the vegetative part of the lichen (i.e., not including any reproductive structures like apothecia) and is often what we visually associate with a lichen. The figure above depicts a foliose thallus with the upper surface curled up in places to reveal the lower thallus surface. The magnified thallus cross section on the right shows a number of additional layers. In this example, the top layer is the upper cortex, which is made up of fungal filaments. Underneath that is the photobiont, either an alga or a cyanobacterium or both. Beneath the photobiont is a loose layer of fungal strands (hyphae) called the medulla, and below the medulla is the lower cortex.

Lichens can reproduce sexually via spores, which are associated with the fungal component of the lichen. However, these spores must again find an appropriate photobiont before a new lichen is formed. Lichens can also reproduce asexually. The two structures shown in the box on the left function in asexual reproduction. Both isidia and soredia are essentially photobionts wrapped in a fungal skin. These can be released from the thallus to form new lichens.