

Chapter 32

Evolutionary Aside 32.1--Origins of Lichens

Symbiosis between algae and fungi are believed to have origins predating the arrival of plants on land. Marine fossils dating back 600 MYA from a subtidal region revealed that fungi and algae were collaborating much earlier than was previous believed, resulting in lichen-like fungi. Until this finding in China, the oldest fossil evidence of symbiotic lichens was from terrestrial fossils in Scotland dating back 400 MYA. Molecular evidence also supports a very deep history of symbiosis between algae and fungi. Many additional evolutionary steps may have been needed to give rise to today's land-based lichen symbiosis.