

Myco-heterotrophic plants acquire carbon from fungi. They are distributed all around the world except Antarctica. Despite wide distribution these plants are rare. The aim of this review is to find factors important for their distribution. They can be found only in places where their host fungi occur, but not at all places where the host fungi grow. Typical environment where we can find these plants are shady and moist sites in forest understoreys where competition of autotrophic plants is not so high. Their dust seeds are dispersed by wind, water or animals. However, air movement is usually limited in forest understoreys and dispersal by water is also limited in a layer of leaf litter, likely restricting distribution of the plants. Suitable sites apart from being moist, shady and containing host fungi, should also meet specific soil nutrient requirements. These plants usually occur on soils with low amount of available inorganic forms of nitrogen and phosphorus. In these environments autotrophic plants likely need mycorrhizal fungi to obtain nutrients, so they feed them with enough carbon that can be subsequently transported to myco-heterotrophic plants. Myco-heterotrophic plants can be observed only during flowering and fruiting so proper timing is necessary for observation. Understanding of interactions between myco-heterotrophic plants, their fungi and environment may contribute to their protection and conservation.