Reproduction type and growth form influence specialization toward their photobionts in lichen forming fungi.

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Lichen-forming fungi show different patterns of specialization towards their photobionts, ranging from generalism to high specific interactions. So far, it is not clear which factors influence symbiont specialization in lichens, although functional traits such as reproduction type or growth form may represent relevant drivers.

We studied the specialization of the myco-photobiont interaction using two common descriptors (species degree and the specialization index *d’*) in communities of epiphytic lichens growing on *Quercus rotundifolia* in a temperate fragmented forest in Central Spain. Photobiont diversity associated with each species of lichen-forming fungus was obtained by means of high throughput sequencing (llumina MiSeq) of the ITS2 region. Our results showed that both functional traits, reproduction type (sexual vs asexual) and growth form (crustose vs foliose vs fruticose) had high influence in the degree of specialization of the species studied.

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