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Asymmetric specialization in myco and photobionts in lichen communities from Southern Patagonia

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Tierra del Fuego (Southern Patagonia) is the closest landmass to Antarctica providing the opportunity for a comparative study focusing on the diversity and specificity of myco and photobionts within *lecideoid lichen* communities. Along a latitudinal gradient from Isla Navarino in the south (S55°) to Bariloche (S41°) more than 200 lecideoid lichen species were collected, following the subantarctic climate by increasing altitude to the north. Although Antarctic *lecideoid lichen* species have mostly a bipolar or cosmopolite distribution, we found 10 new molecular and morphologically separated species of the well described genera *Lecidea* and *Porpidia*. These highly diverse mycobionts were associated with a homogenous selection of photobionts. Network statistic revealed that mycobionts were on average more generalized in their associations than the photobionts that were often associated to few mycobionts only. However, the rather specialized photobionts were complemented by three strongly generalized species. This pattern is reflected in the modularity of the networks as the well-defined modules consisted of up to eight mycobionts but only two or three photobionts. The asymmetry in specialization in myco and photobionts sheds new light on the ecology and evolution of the associations between the symbiotic partners of these *lichens*.

Biography

Ulrike Ruprecht has completed her PhD in 2010 at the University of Salzburg and continued her Postdoctoral studies at the same university. Currently she is funded by the Austrian Science Fund (FWF) and is a Leader of the stand-alone-project 'Diversity, ecology and specificity in Antarctic lichens'.

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