**INSIGHTS INTO THE SELECTIVITY OF *Peltigera* LICHENS FOR THEIR ASSOCIATED BACTERIA**

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The diversity of classical lichen symbionts (mycobionts and photobionts) has been widely studied, but the origin and functioning of the associated bacteria have been just included during the last years. It has been proposed that certain bacteria come from the lichen reproductive propagules, which would carry bacteria highly dependent on the composition of the thallus; but they could also come from the environment in which lichens develop, whose contribution would depend mainly on the environmental conditions. We studied *Peltigera* lichens in forest-associated environments of Southern Chile. Specifically, we assessed the bacterial diversity of thalli, substrates, and surrounding soils by sequencing 16S amplicons using primers that exclude cyanobacteria, and by quantifying genes related to phosphorous solubilization. *Proteobacteria* were more abundant in thalli, *Acidobacteriota* in substrates, while both were similarly abundant in soils. Some bacterial taxa, like *Sphingomonas* (*Proteobacteria*) and those of the family *Chitinophagaceae* (*Bacteroidota*), were in high proportion in the lichen thalli compared to their substrates and would be positively selected. Conversely, other bacterial taxa of the phylum *Acidobacteria* were in low abundance in the thalli compared with the substrates and would be negatively selected. Likewise, the abundance of the organic phosphorus solubilizers was higher in thalli and its substrates than in the surrounding soils, while the inorganic phosphorus solubilizers were more abundant in the latter. Altogether, our results confirm the idea that the diversity of the bacterial communities associated with lichens is different from that found in surrounding soils, suggesting that lichens act as environmental filters, capable of enriching their microbiome with certain bacterial groups important for their survival and development, choosing taxa that are better adapted to fulfill their requirements or avoiding those that could be detrimental. Funding: JO (FONDECYT-1181510).