

The genus *Lecanora* represents one of the largest genera of lichenized fungi (lichens). This overall cosmopolitan group of discrete crustose lichens is ecologically diverse (e.g., epiphytic, saxicolous, terricolous, xylophilous and muscicolous taxa) and shows various patterns of geographic distribution (common, widespread, rare, and endemic taxa). According to a recent estimation, the genus *Lecanora* comprises ca. 500 species and is considered one of the more taxonomically challenging heterogenous and understudied assemblage of lichens. Whereas, some members of the genus *Lecanora* are well known for their broad spectrum of sensitivity to the air pollution and are often used as biological indicators. Some species are also well known as pioneer lichens (e.g., *L. dispersa* and *L. polytropa*) and play important ecological role in the process of succession. Because of above reasons basic research on the biology and taxonomy of this group of lichens are crucial in order to preserve the biodiversity. Such studies are of particular importance in relation to tropical areas such as Bolivia, that are considered invaluable centers of biodiversity, and on the other hand one of the most threatened ecosystems in the world. The project focuses on neotropical species of *Lecanora* occurring in Bolivia with special emphasis on species delimitation and phylogenetic relationships among them based on multilocus molecular data including intergenic markers. Both symbionts, fungus (mycobiont) and algae (photobiont), will be genetically characterized and subjected to various analyses. Morphological and chemical (lichen substances) features of lichen thalli will be evaluated in light of the reconstructed phylogenies. Phylogenetic affiliation of photobionts will be analyzed in a broad phylogenetic context of symbiotic and free-living trebouxoid taxa. The project will be an important contribution to our knowledge of neotropical lichens. It will be the first study on the genus *Lecanora* to incorporate: i) multilocus molecular data including novel markers that can be potentially applied to systematic studies on a broader selection of mycobionts from the Lecanoraceae; ii) implementation of numerous methods for species delimitation and validation; iii) and the inclusion of photobionts associated with the *Lecanora* mycobionts. It will also provide a solid framework for future comprehensive revision of the whole genus *Lecanora*. Very important outcome of the proposed project will be the first comprehensive treatment of *Lecanora* for neotropics comprising all groups of taxa and new tool for lichenological studies in the area.