

## **Abstract**

Patagonia is one of the few regions in the Southern Hemisphere with a temperate climate, and therefore provides a unique environment for studying the evolution of the local flora. Patagonian plants, like their temperate counterparts in the Northern Hemisphere, show higher rates of polyploidy. Polyploidy is a widespread condition among plants that plays a key role in the adaptation of species to various extreme stress conditions. Climatic characteristics, glaciations or volcanic activity, for example, are factors influencing the distribution of organisms. This work focuses on the study of the Patagonian flora, in particular on alpine and steppe species and their biogeography in relation to the climate and geology of the area. It also discusses the relationship between polyploidy and this distribution. Specifically, this work focuses on the widely distributed model species *Azorella prolifera*, which exhibits three ploidy levels. However, we have zero knowledge of the occurrence of individual cytotypes. The distribution and properties of polyploids have not been studied to a sufficient level in the Southern Hemisphere. Only a fraction of the papers dealing with this issue focus specifically on Patagonian plants. A more comprehensive insight into this topic may lead to a better understanding of the evolutionary aspects of the Patagonian flora and similar areas.