Relationship between reproduction of the Antarctic flowering plants and Climate Change

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Climate Change affects regional nature environment all over the world including the Antarctica. The trend of temperature increase is particulary noticable in the Antarctic Peninsula area. The surface air temperature of Vernadsky (formerly Faraday) station experienced an increase 2.8℃ between 1951 to 2000 (Turner et al. 2016), and the warming already affected the terrestrial ecosystems of the area in some degree (Royles et al. 2013).

Colobanthus quitensis is known to be one of the flowering-plant species which are native to Antarctica. They grow in maritime Antarctic area including Antarctic Peninsula and sub-Antarctic, and South America. For the present study, the *C. quitensis* samples were collected at Arctowski Station on King George island, and on Léonie Island (both located by Antarctic Peninsula) in 2012/13. In addition, we collected the data of *C. quitensis* colonies which were sampled in La Serena (Chili) and Punta Arenas (Chili) in the same season, in order to determine the influence of a latitude gradient. We dissected the samples into reproductive and vegetative parts, measured their dried weight and counted the number of seeds. Then, we compared the same set of the reproductive data collected in 1994/95 (Convey 1996) and in 2012/13 and analyzed with the latitude gradient and the change in air temperatureusing Kruskal-Wallis test in order to determine if there are any changes in the reproductive strategy of *C. quitensis* in two decades.

References

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