WILLIAM S. COOPER AWARD

The William S. Cooper Award is given by the Society in honor of one of the founders of modern plant ecology, in recognition of an outstanding contribution in geobotany, physiographic ecology, plant succession, or the distribution of organisms along environmental gradients. This year's award goes to J. Thompson, A. Charpentier, G. Bouguet, F. Charmasson, S. Roset, B. Buatois, P. Vernet, and P.-H. Gouyon for their 2013 paper "Evolution of a genetic polymorphism with climate change in a Mediterranean landscape," published in Proceedings of the National Academy of Sciences USA 110(8):2893–2897. http://dx.doi.org/10.1073/pnas.1215833110.

In this paper, the authors have found an evolutionary response of a genetic polymorphism in Mediterranean thyme to reduced selection in natural populations, associated with a decrease in the intensity of extreme winter freezing events. They found evidence for a rapid spatial reorganization of a genetic polymorphism, closely associated with the warming pattern, with the appearance of freezing-sensitive chemotypes in sites where they were not found before. As highlighted by the authors, this study, benefiting from strong knowledge of these populations (built over 50 years), provides a very nice example of rapid ongoing evolutionary change associated with a strong environmental change (involving relaxed selection). The paper also highlights counterintuitive effects of climate change in heterogeneous environments, as regional warming in this case has led to an increase in frequency of cold-sensitive genotypes at low-elevation sites into a topographic basin in which temperature inversions are frequent. This study has wide-ranging implications for future work related to impacts of climate change on species distributions and community composition, especially as these results have been observed on a perennial plant. The paper also illustrates the importance of long time series data in ecology in general and global change ecology, in particular.