Universität Basel

Research Project

Genetic constraints at species' range limits

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Project title Genetic constraints at species' range limits
Principal Investigator(s) Willi, Yvonne ; Narasimhan, Aaditya ;
Organisation / Research unit
Departement Umweltwissenschaften / Pflanzenökologie und -evolution (Willi)
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Species commonly have fairly distinct limits to spatial occurrences. The evolutionary causes of these range limits may be manifold. Often, small population size, genetic drift opposing selection or genetic constraints reducing evolvability may be involved. Previous macroevolutionary work on elevational range limits in Brassicaceae detected the importance of trade-offs involving the speed of growth under heat, acquisition capacity (SLA) and plant size to be important (Maccagni & Willi 2022). The current research builds upon these results. We investigate whether the same type of trade-offs exist on a microevolutionary scale, within species. In 6 species of Brassicaceae, we compare the genetic architecture of traits across populations of the elevational gradient. Furthermore, we assess the role of dispersal on range limits by using population genomics tools.

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