

## University of Groningen

### Evolution in action

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Propositions accompanying the PhD thesis

## **Evolution in action: drivers of rapid adaptation to climate change in the winter moth**

Natalie van Dis

1. Nervous system development plays an important role in regulating the winter moth's temperature sensitivity of embryonic development rate (**CHAPTER 2 AND 3**).
2. The genomic underpinning underlying the temperature sensitivity of winter moth embryonic development rate has a polygenic trait architecture (**CHAPTER 3**).
3. The individual fitness consequences of strong climate change-induced selection have impacted winter moth population growth rates in the last 25 years (**CHAPTER 4**).
4. Genes involved in environmental sensing and signalling are key targets of climate change-induced selection (**THIS THESIS**).
5. High-resolution temporal sampling of populations that undergo micro-evolution is required to empirically test which factors determine the rate of micro-evolution in the wild (**THIS THESIS**).
6. The term quiescence causes more confusion than clarification and should no longer be used to describe insect dormancy responses.
7. Data publication including all code and software information needed to reproduce the results should become mandatory when publishing a manuscript.
8. Increased job security for early career researchers improves mental health, knowledge and skill retention, quality of research, and collaboration in academia.
9. To reach true sustainability, we need to change our mindset from living alongside ecosystems to being part of ecosystems.
10. Always acting according to the principle of 'less is more' increases the quality of our work, leads to a healthier and happier life, and will ultimately make society more sustainable.

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