



The Spatial Foodweb Ecology Group – what’s that?

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Members:

1. Hanna Parri (Univ. Helsinki)
 2. Tuomas Kankaanpää (Univ. Helsinki)
 3. Mikko Tiusanen (Univ. Helsinki)
 4. Kirsten Miller (SLU)
 5. Tomas Roslin (SLU, Univ. Helsinki)
 6. Kate Wootton (SLU)
 7. Helena Wirta (Univ. Helsinki)
 8. Adam Ekholm (SLU)
- Missing: Juha-Matti Pitkänen (Univ. Helsinki)



Members:

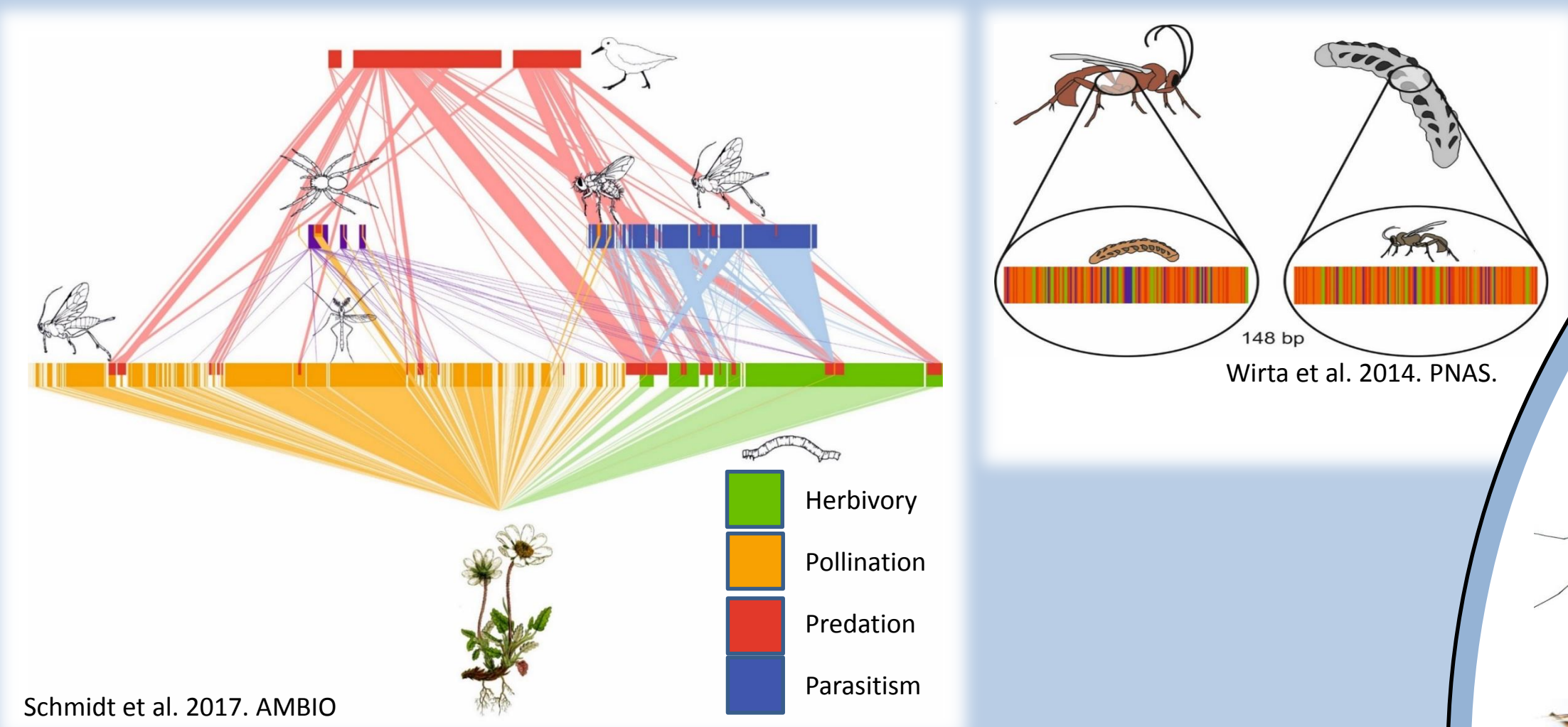
9. Bernhard Eitzinger (Univ. Helsinki)
 10. Janne Koskinen (Univ. Eastern Finland)
 11. Guillermo Aguilera Nuñez (SLU)
 12. Nerea Abrego (Univ. Helsinki)
 13. Adi (Univ. Helsinki)
 14. Bess Hardwick (Univ. Helsinki)
 15. Eero Vesterinen (Univ. Turku)
- Missing: Tea Huotari (Univ. Helsinki)

The mission

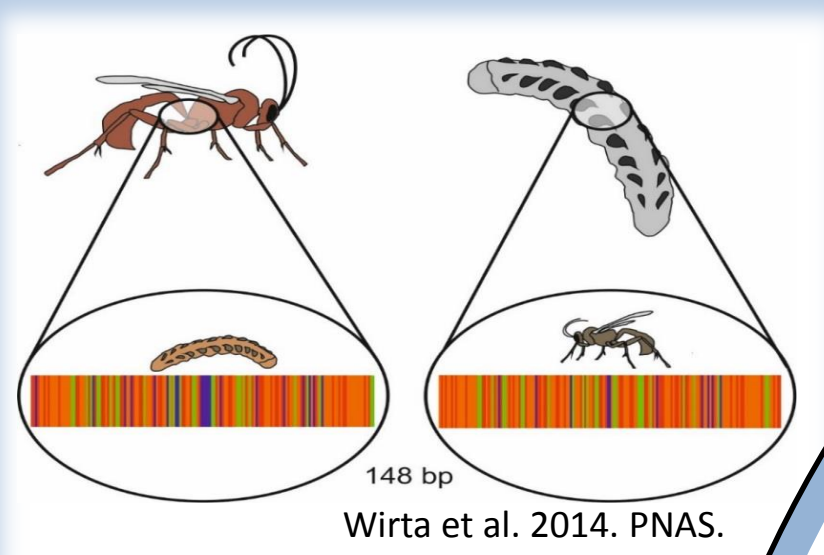
The Spatial Foodweb Ecology Group is a Nordic research group bridging two universities. We are particularly interested in how communities are built from first principles: from the (meta)population dynamics of multiple species and from the interactions between these species. To dissect interaction structure, we draw on a wide variety of techniques, with a particular fondness for molecular methods. Here we showcase some recent projects of ours.

From trophic interactions to larger interaction networks

Trophic interaction webs are a fundamental type of ecological interaction web. Hence, we spend much effort on analyzing gut contents in one form or another. Yet our ultimate aim is to understand more comprehensive net-works including multiple types of taxa and multiple types of interactions.

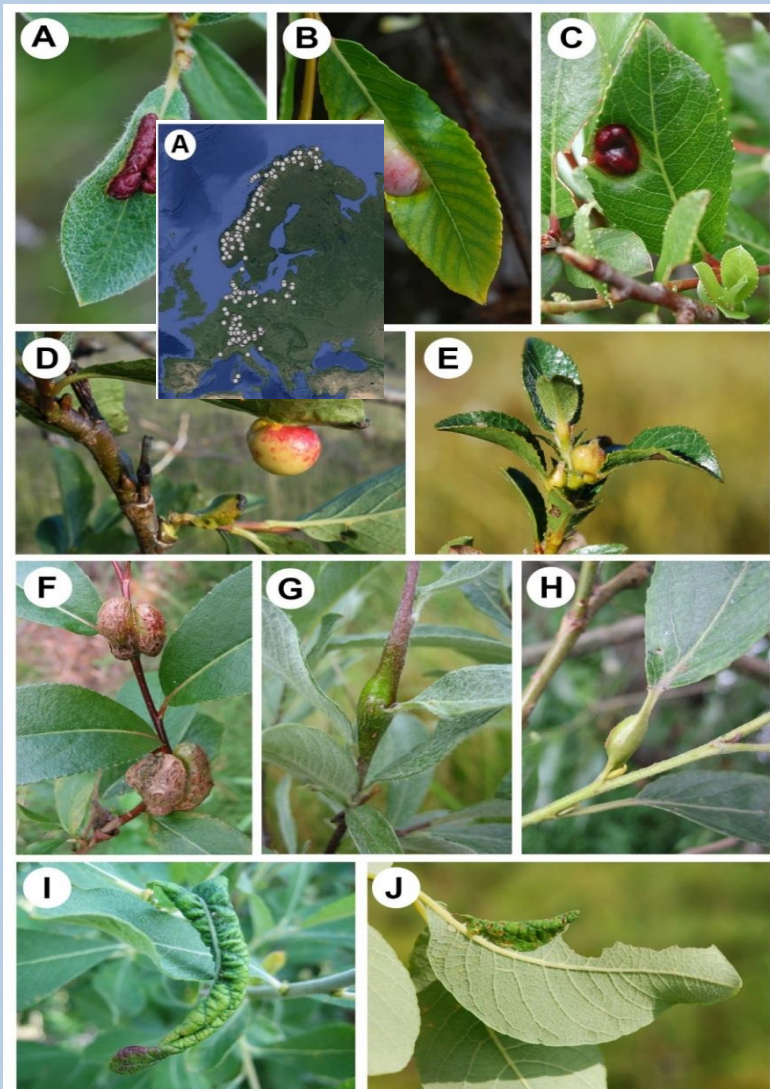


Schmidt et al. 2017. AMBIO

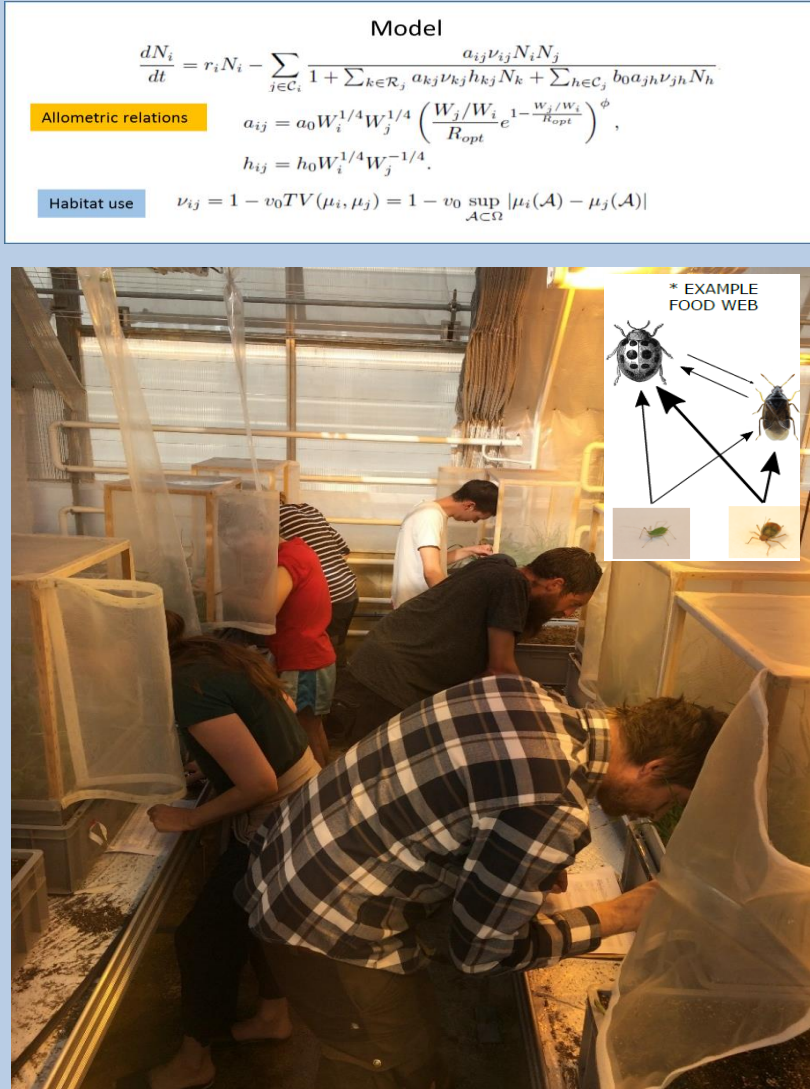


From structure to dynamics

To understand how species’ traits affect interaction strength, we combine observational data on replicate foodwebs sampled across Europe with mesocosm experiments aimed at parameterising and testing dynamic models.



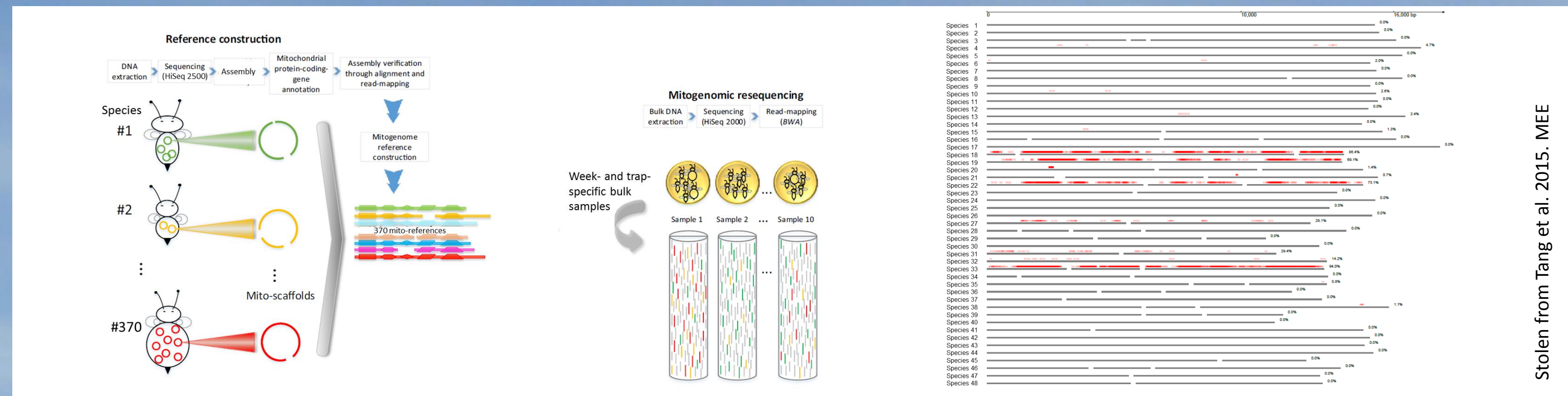
Kopelke et al. 2017 Ecology



Kate Wootton PhD project.

From metabarcoding to mito-metagenomics

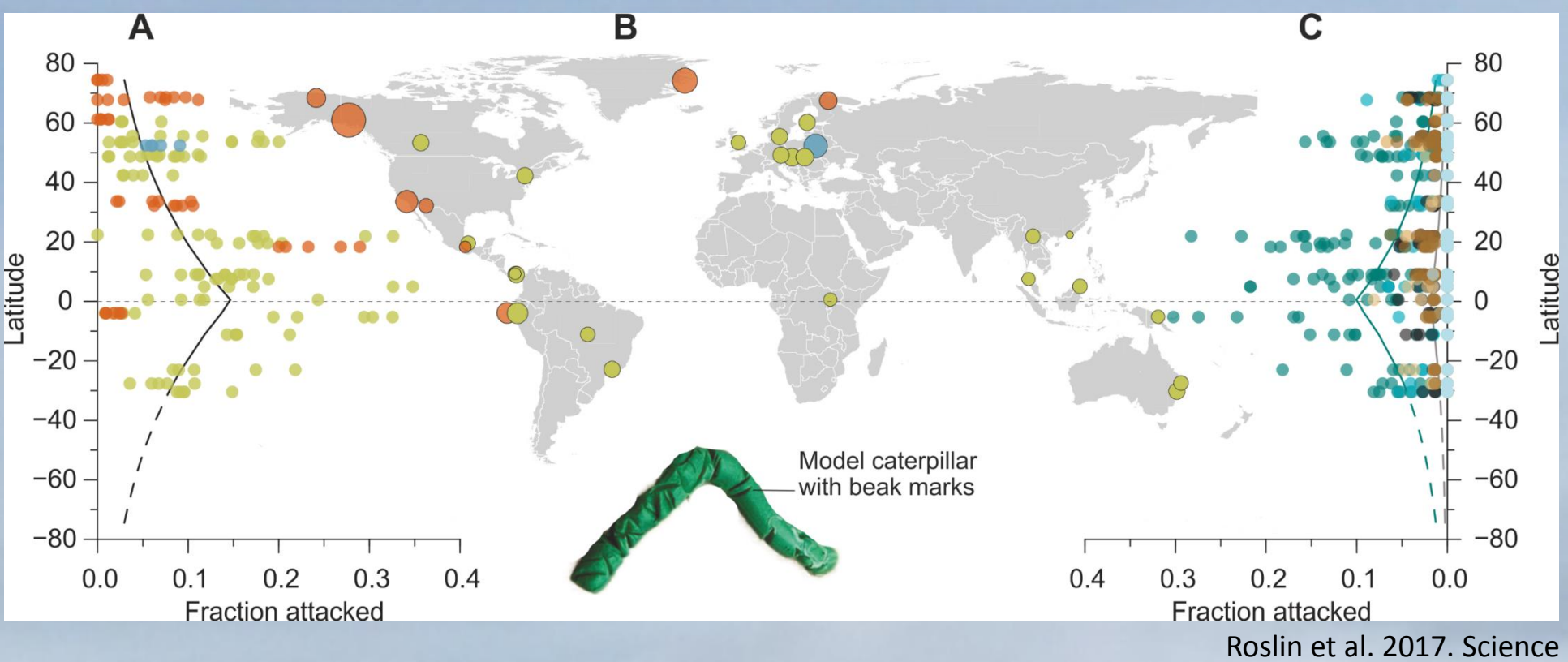
Our ultimate aim is to reconstruct not only species composition but also species abundances in community samples. For this purpose, we are developing methods for quantifying bulk samples of arctic insects by PCR-free techniques.



Stolen from Tang et al. 2015. MEE

From a single research team to distributed experiments

By working together, we can achieve so much more. We have built much of our science on low-tech solutions implemented at multiple sites. Clay caterpillars and sticky flowers are key parts of our arsenal – but subsequent species ID is based on molecular characters.



Tiusanen et al. 2016. Proc B.

Insights

- Arctic interaction webs are (much) more complex than previously thought.
- Predation rates vary predictably from the poles to the equator.
- Even in complex interaction networks, ecological functioning can hinge on a few key species.
- Within food webs, species roles are surprisingly constant despite large turnover in the surrounding community.