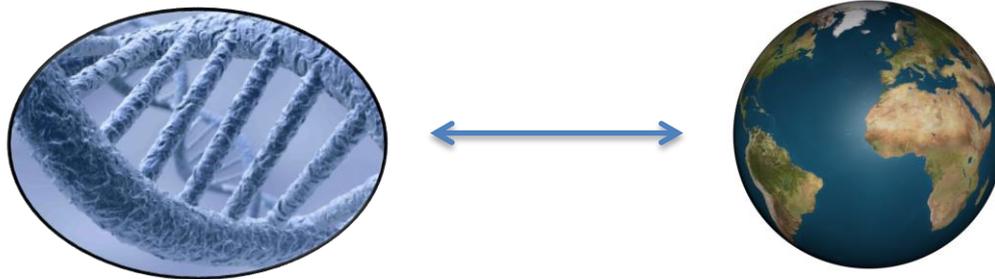


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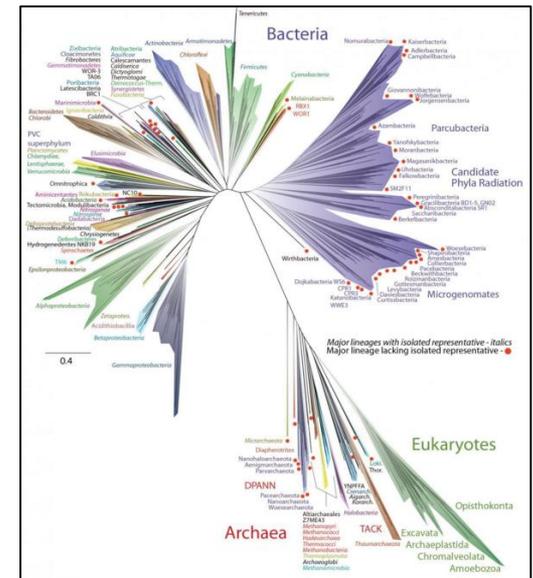
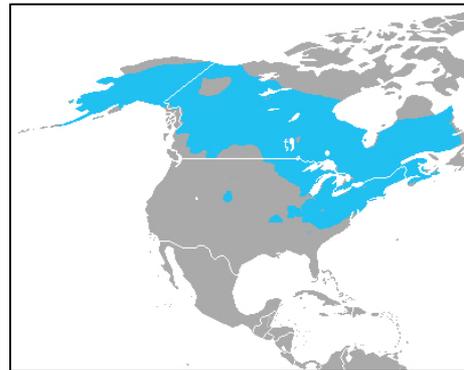
The Leading Edge in DEB:
Linking the Micro and Macro Scales in Ecology and Evolution



Leslie J. Rissler
Program Officer

Rules of Life

1. **Genetic variation** is the ultimate source of biological diversity.
2. **Environmental variation** is a selective force on genetic variation.
3. **Feedbacks** occur between genetic and environmental variation.



Investigations at 3 scales:



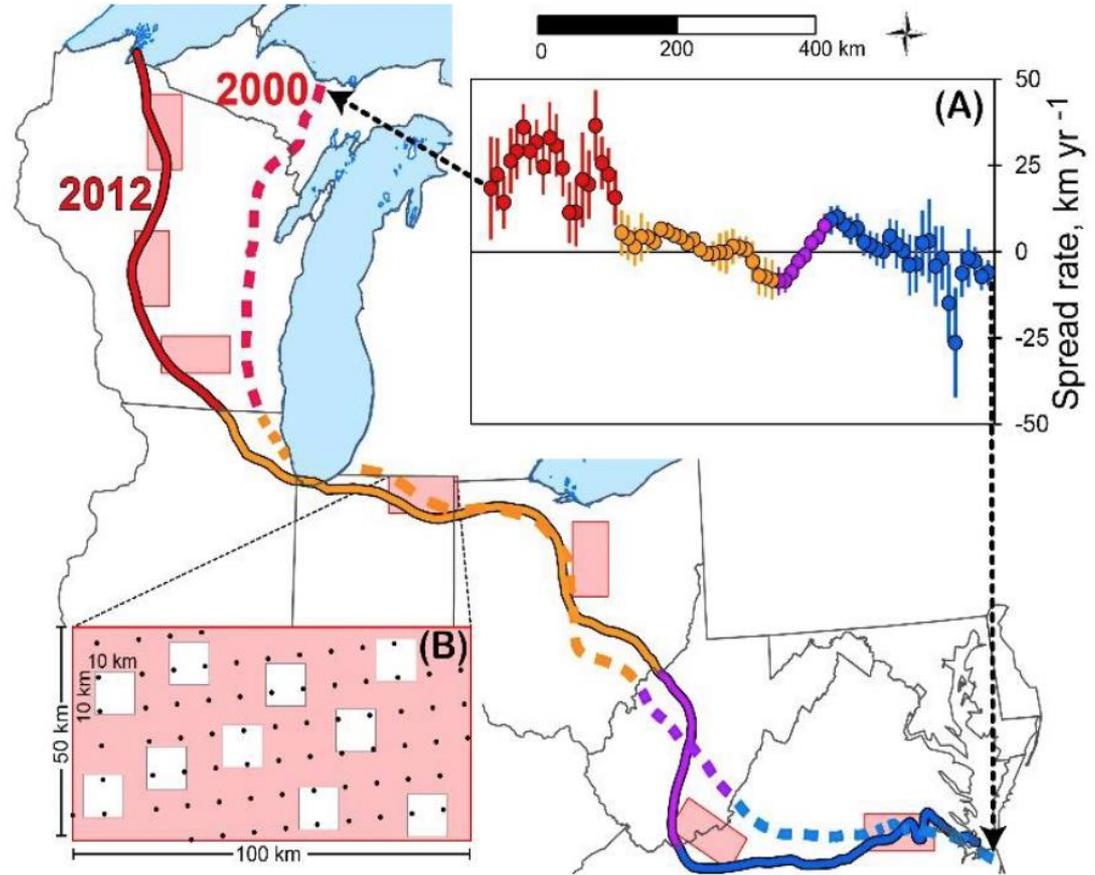


Linking the Micro and Macro Scales in Ecology and Evolution

Understanding and predicting the spread of species across the landscape.



gypsy moth
(invasive species)

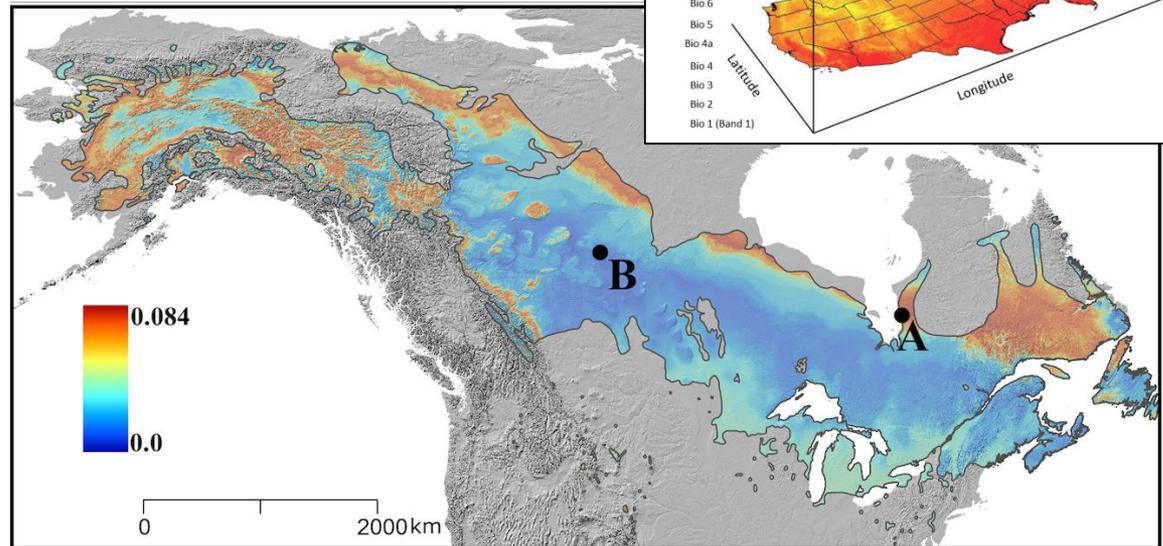
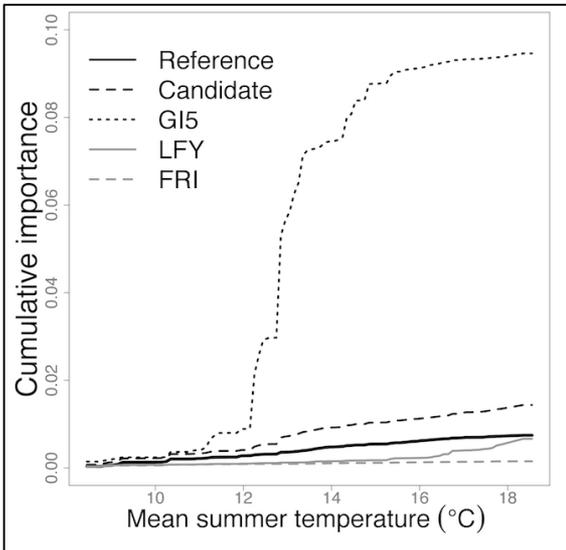




Linking the Micro and Macro Scales in Ecology and Evolution

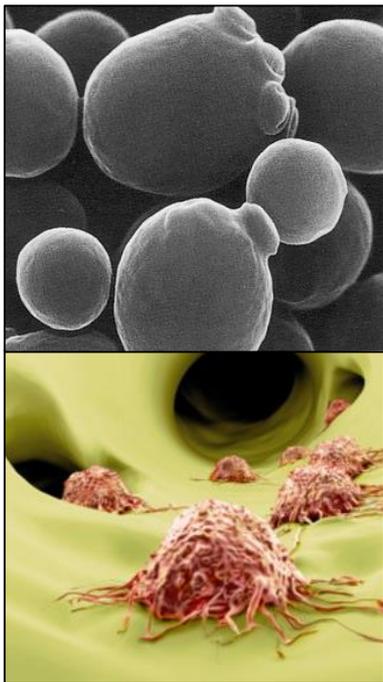


Predicting patterns of genetic diversity and adaptation across landscapes

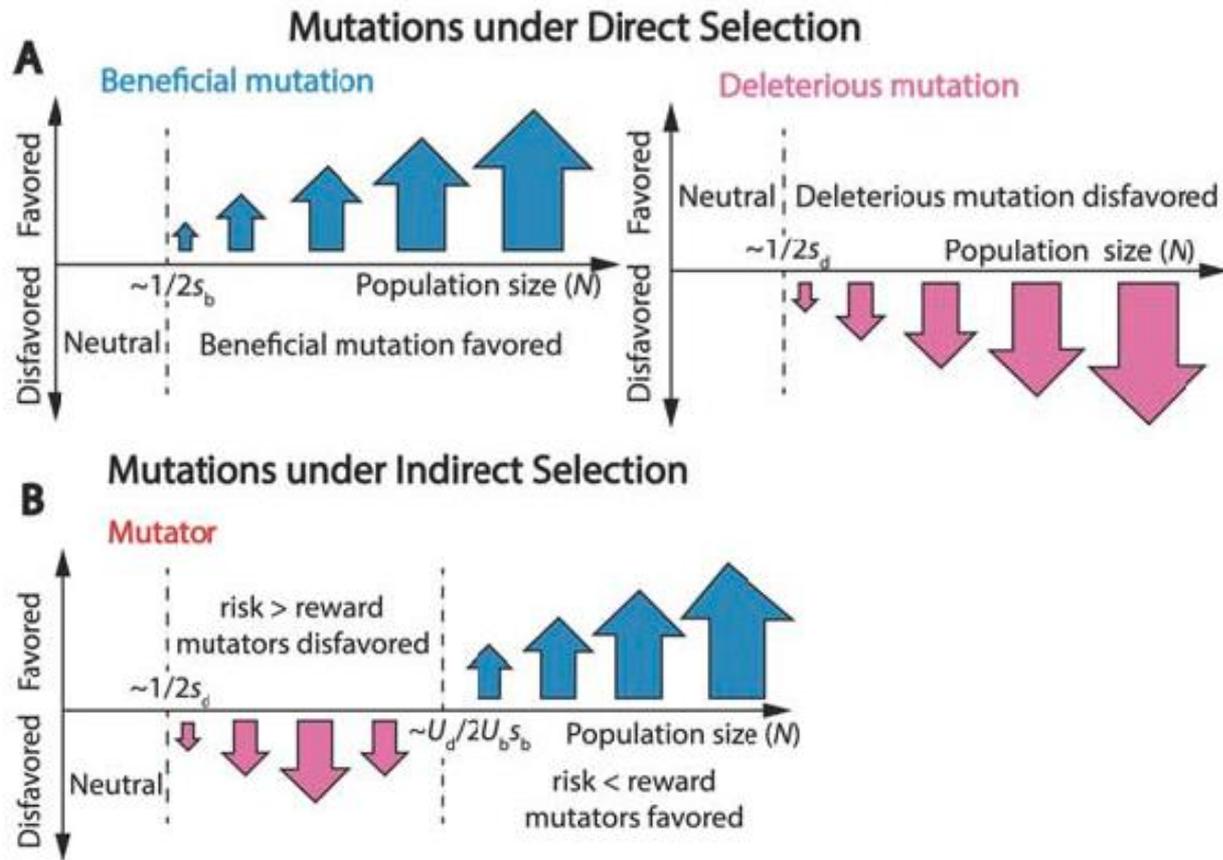


Linking the Micro and Macro Scales in Ecology and Evolution

Predicting mutation rate in relation to population size and structure



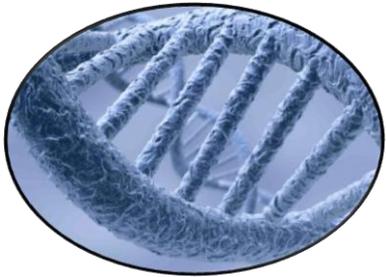
Yeast, cancer, other asexual populations



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DEB is the bridge between the Micro and Macro Scales

G



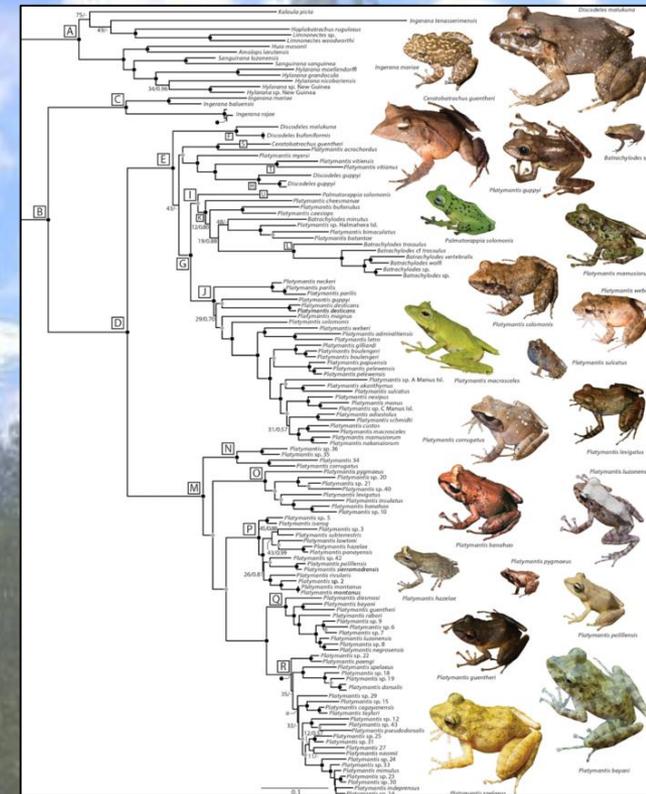
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Predicting G&P

in context of environmental feedbacks and evolutionary diversification



Environmental Variation
(in time and space)