

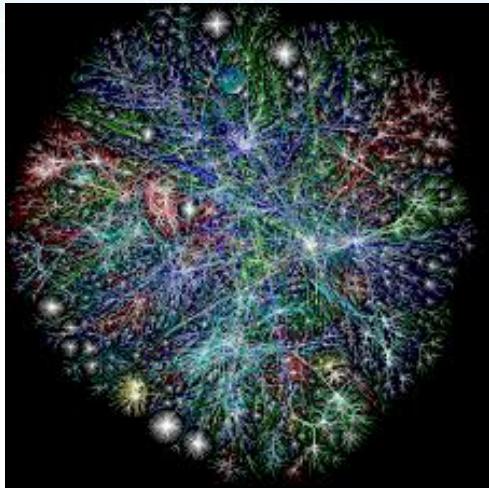


The power and promise of environmental DNA for river biodiversity monitoring

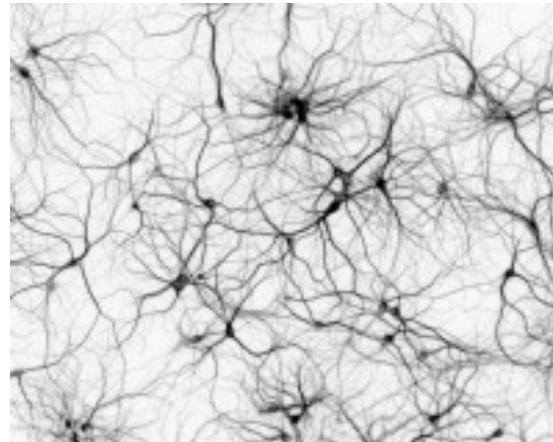
Kristy Deiner, Emanuel Fronhofer, Elvira Mächler, Florian Altermatt



Thanks to the organizers and all of you for taking time
to come and be together!

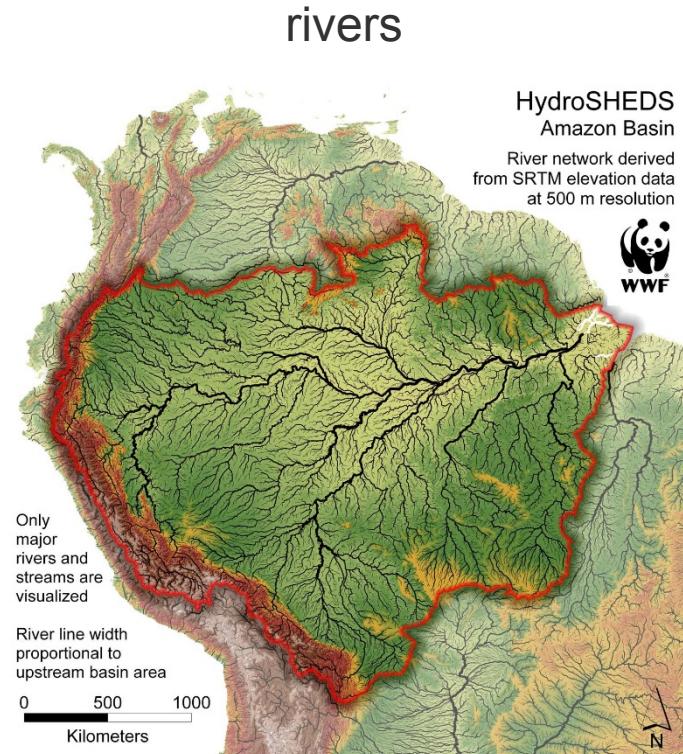


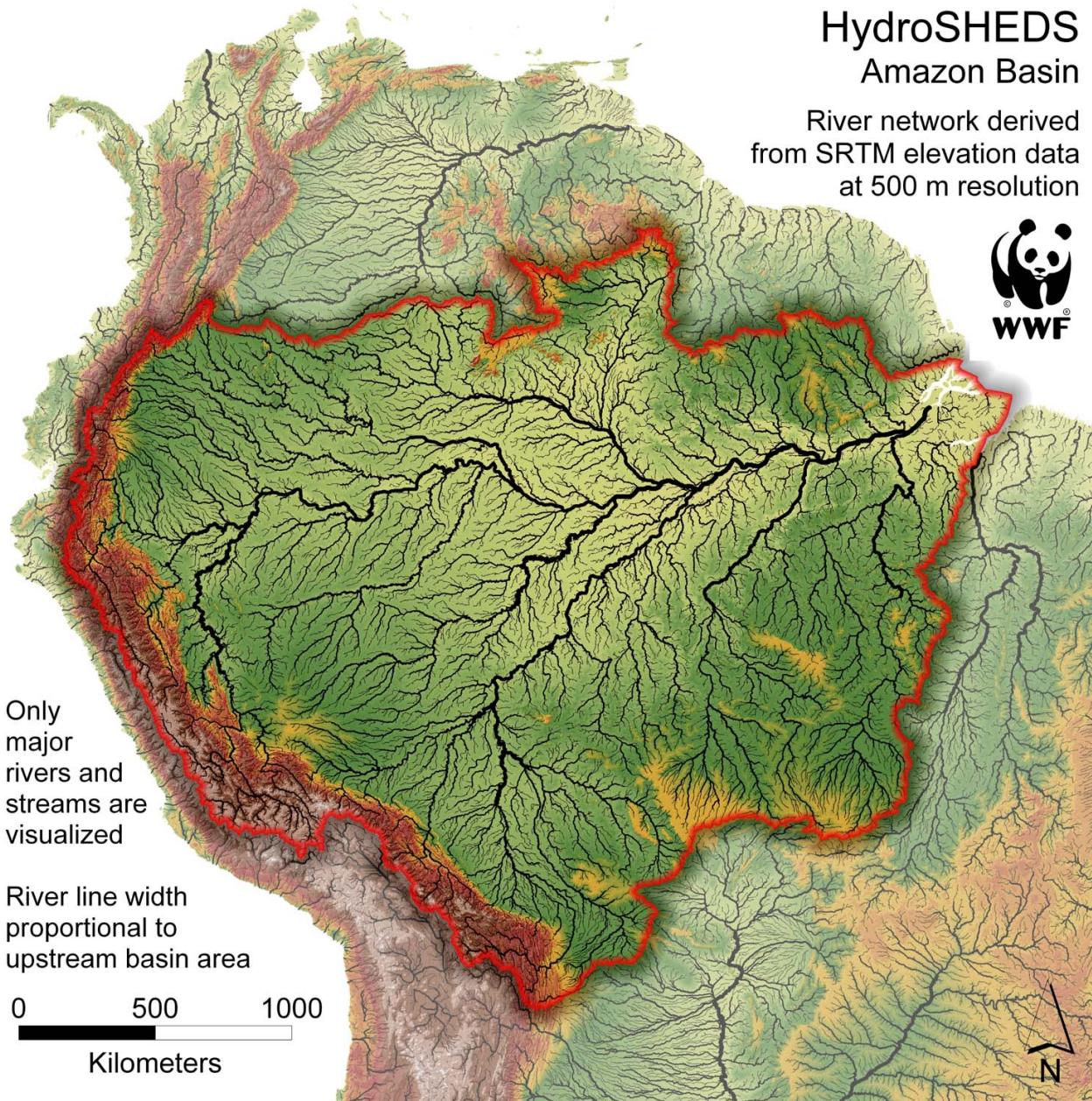
internet



neurons

Networks transport information





Rivers are conveyer belts of biodiversity information

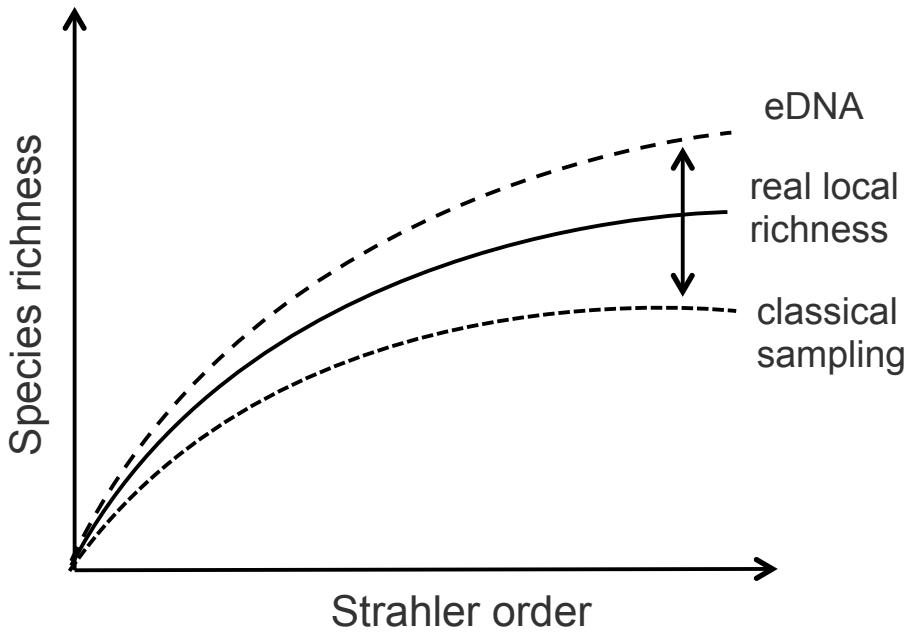
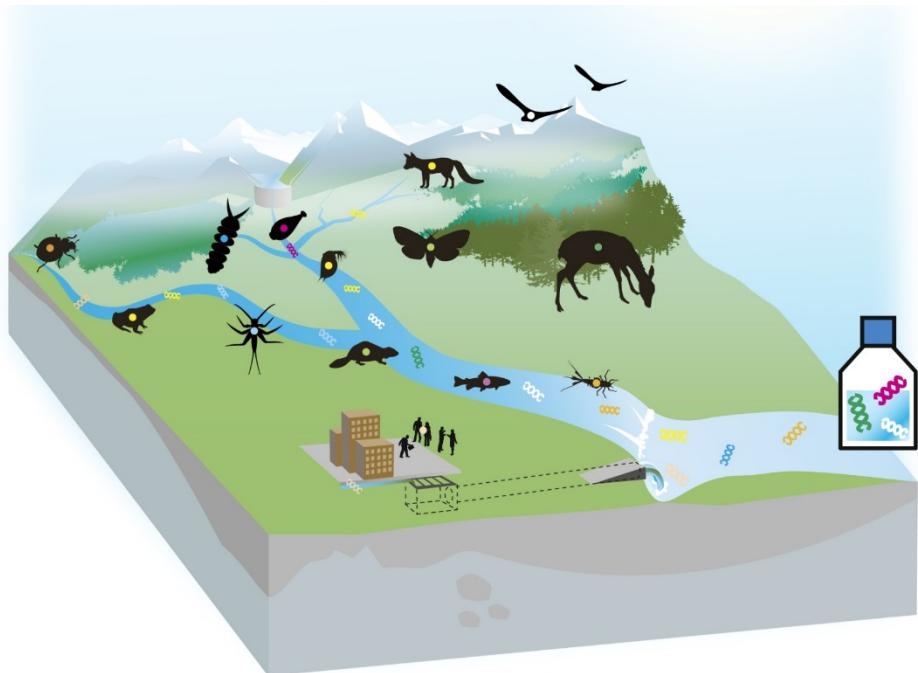
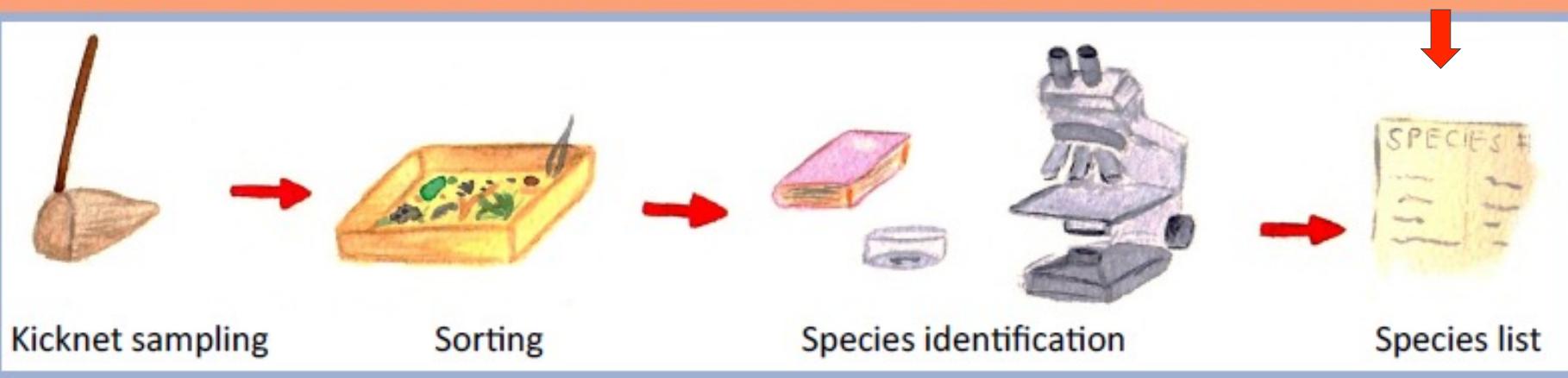
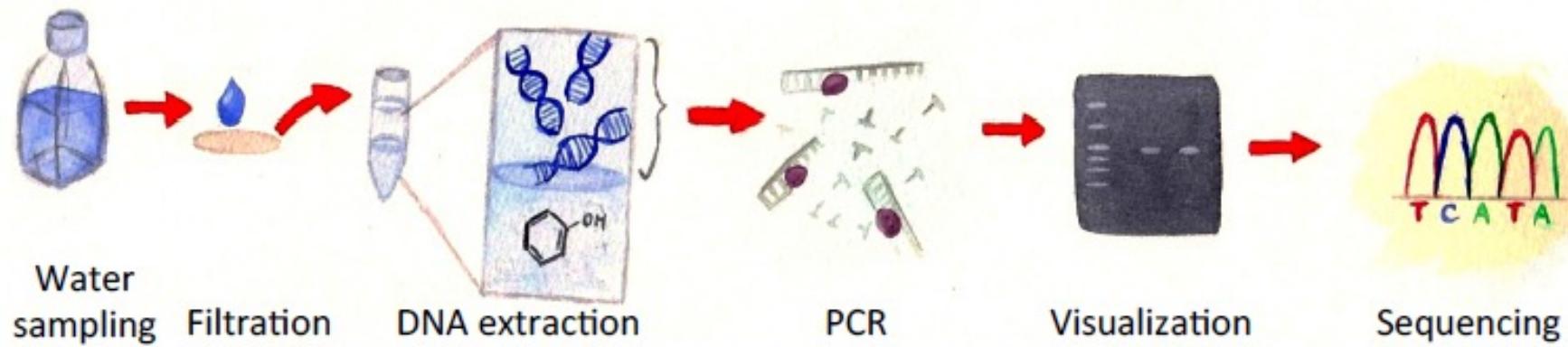


Illustration by Peter Penicka

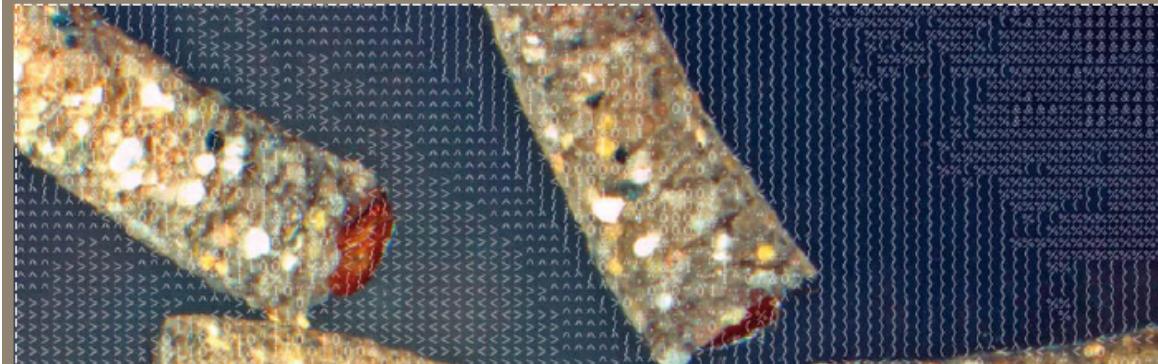
eDNA metabarcoding approach with COI



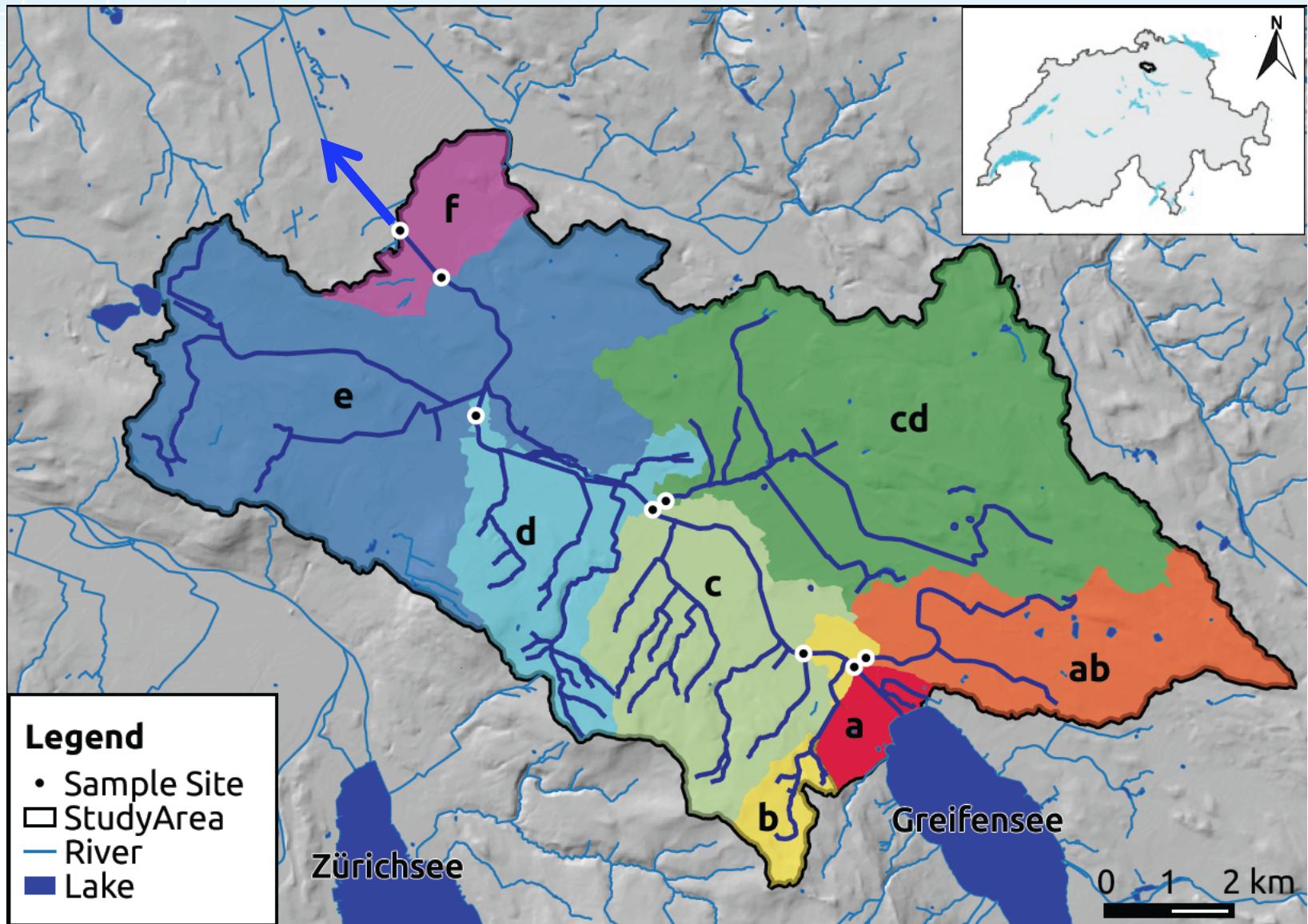
Monitoring aquatic biodiversity

> Methoden zur Untersuchung und Beurteilung der Fliessgewässer

Makrozoobenthos – Stufe F (flächendeckend)

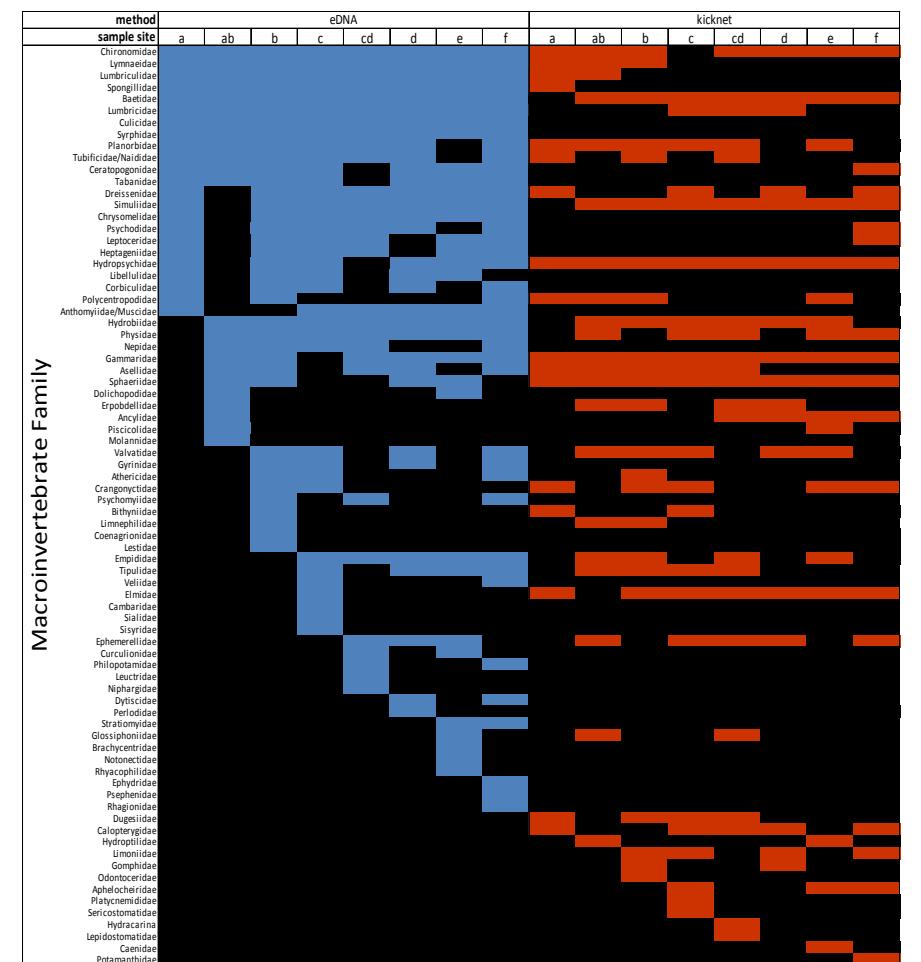


Describes kicknet methods and identification list for 133 families (5 additional orders) of macroinvertebrates

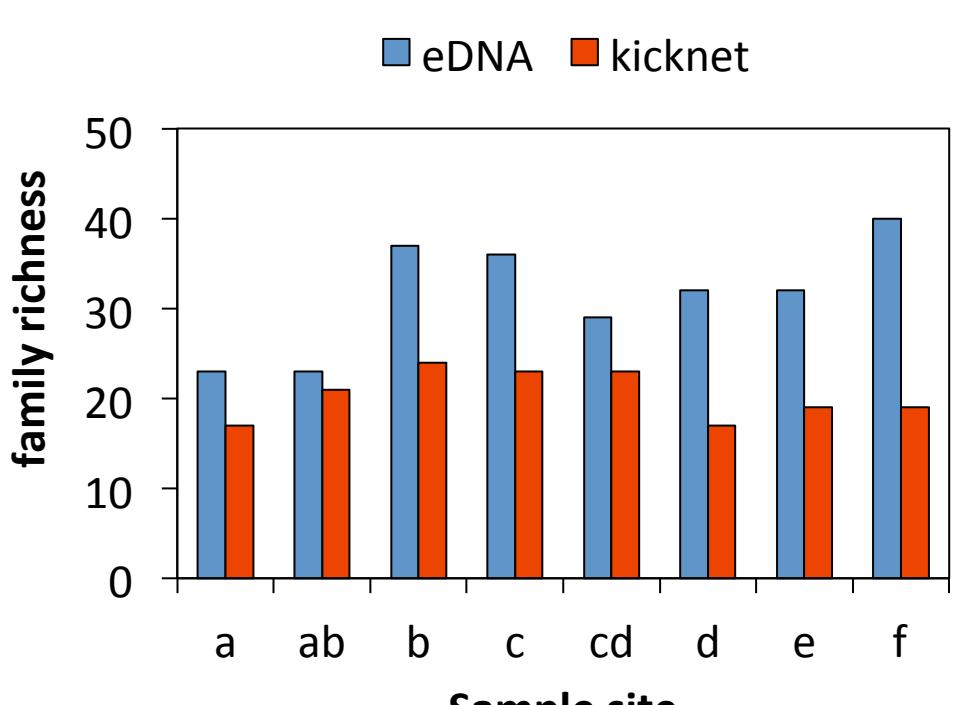


Sampled and filtered 900 mL water from eight sites

Whole community detection

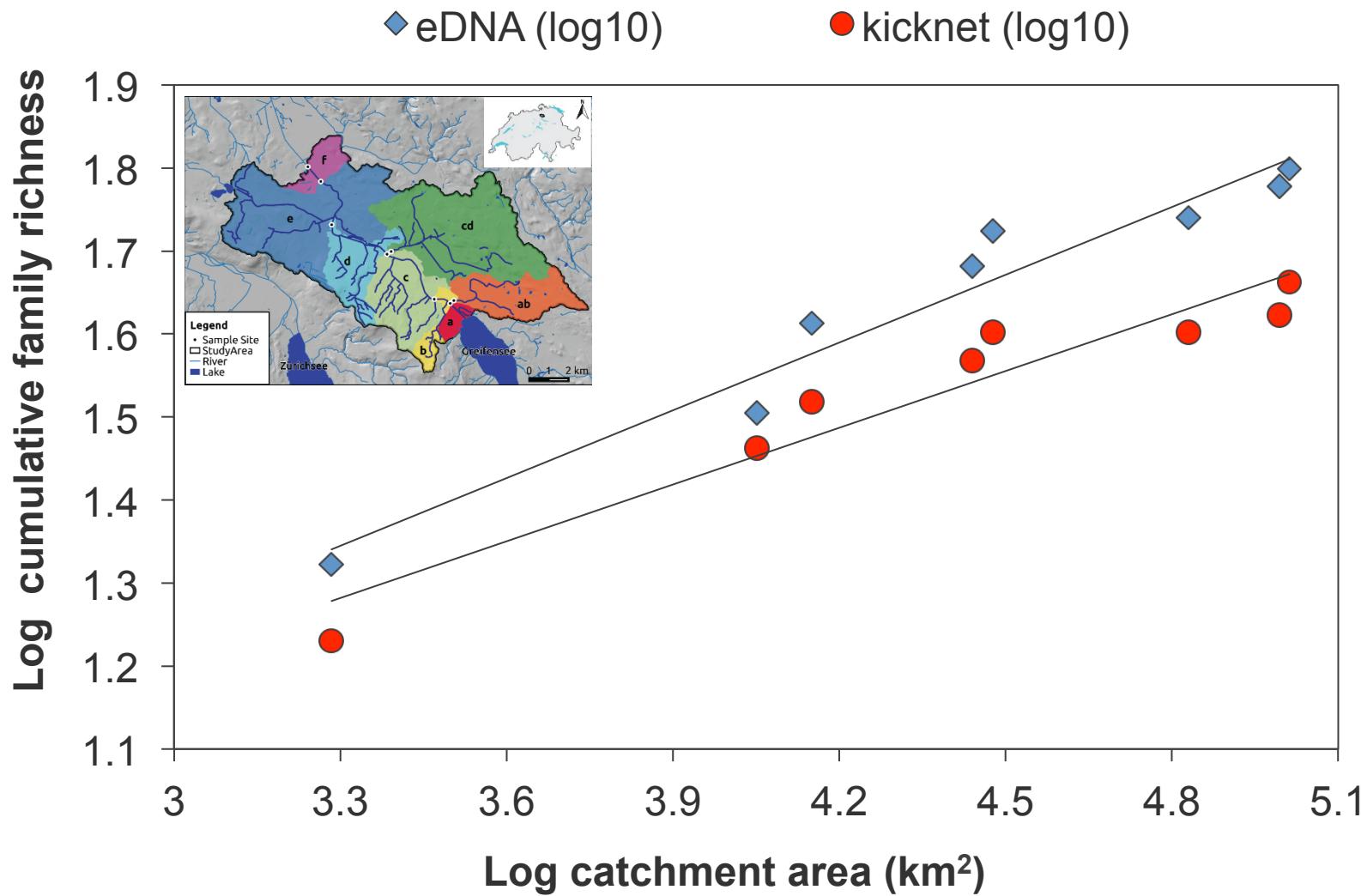


Direction of flow

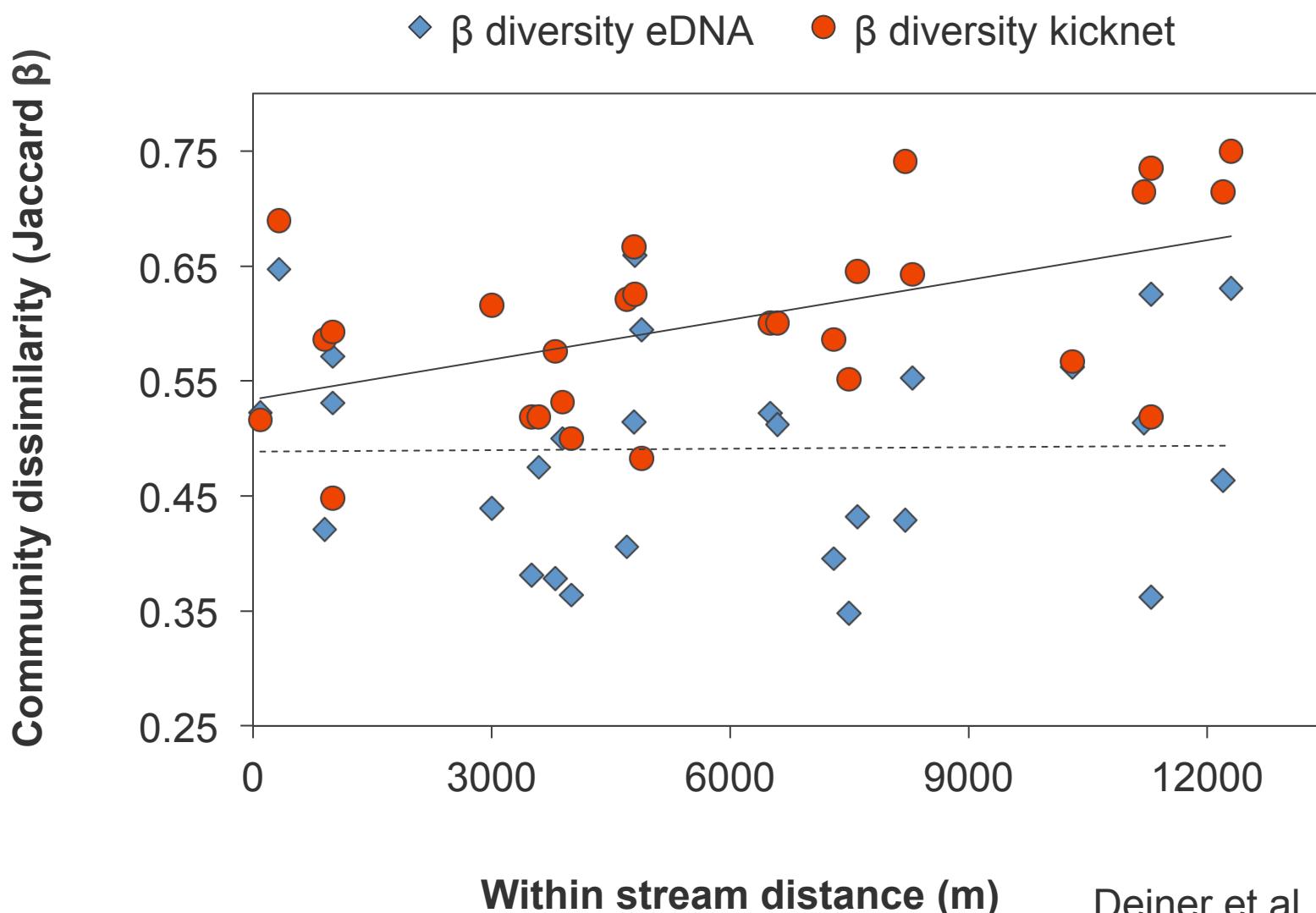


Deiner et al. in review

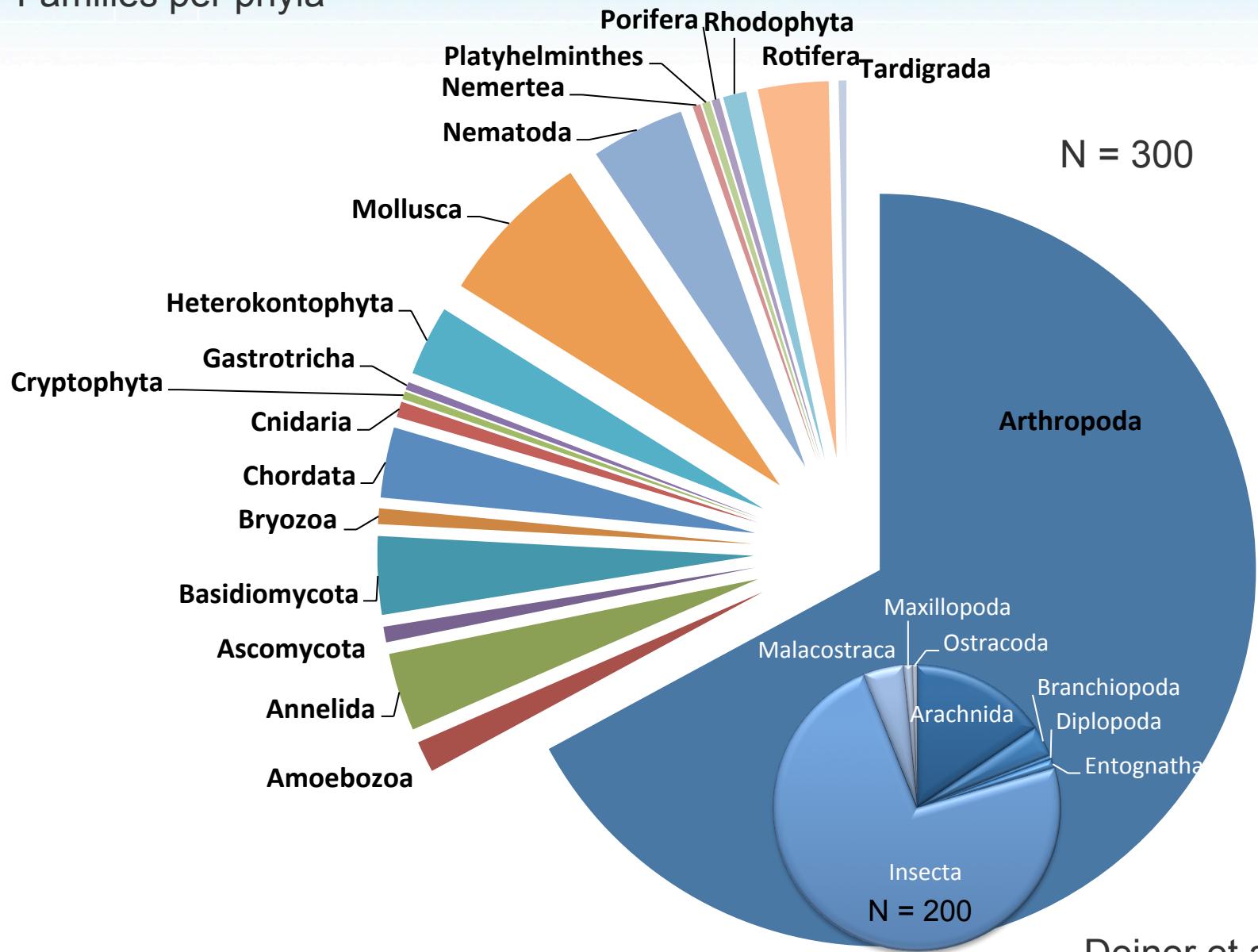
eDNA systematically detects more diversity



Transport of community eDNA in rivers



Families per phyla



Deiner et al. in review



Ixodes ricinus
Photo: Richard Bartz



Ligdia adustata,
Photo: I. Muiden

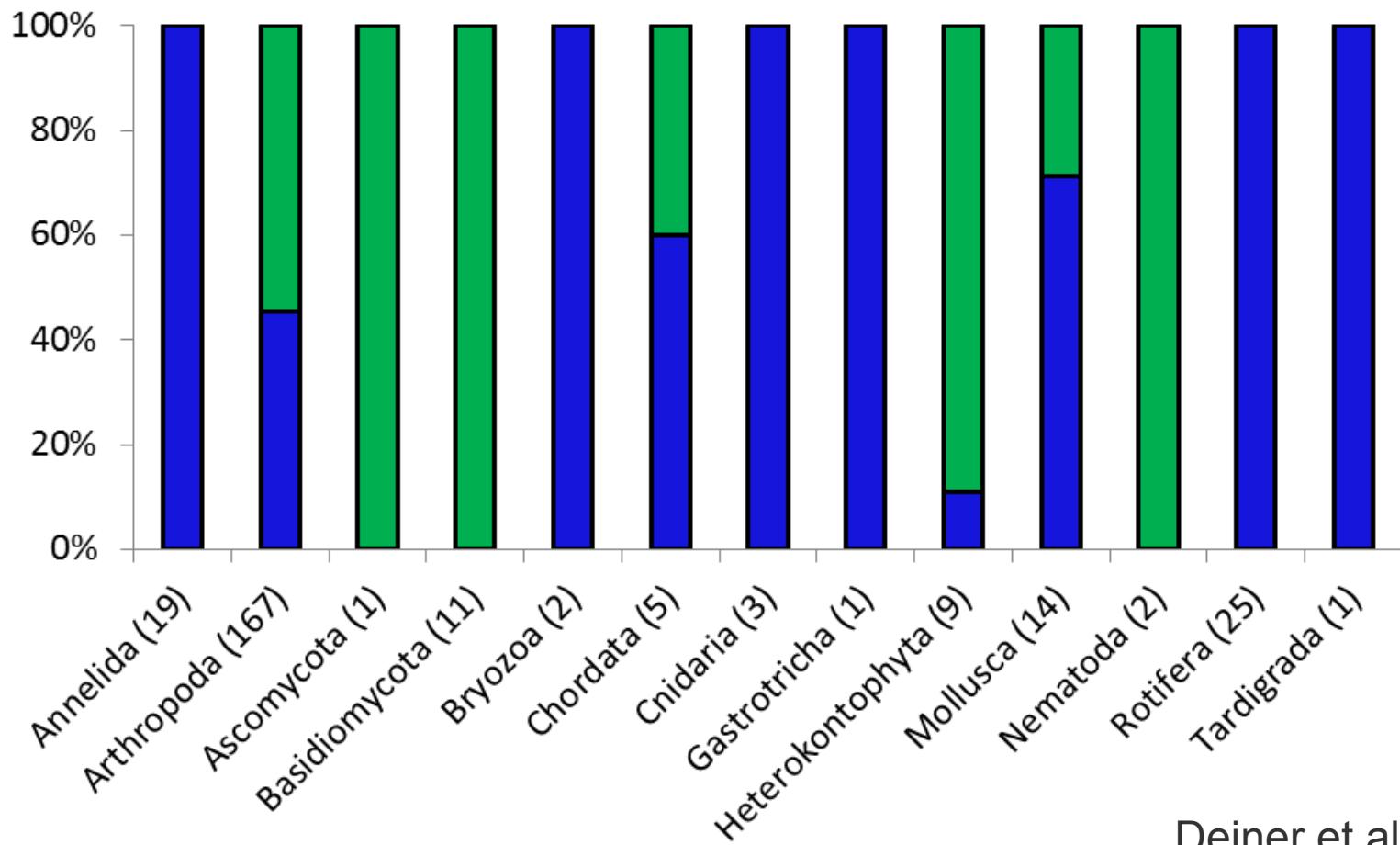


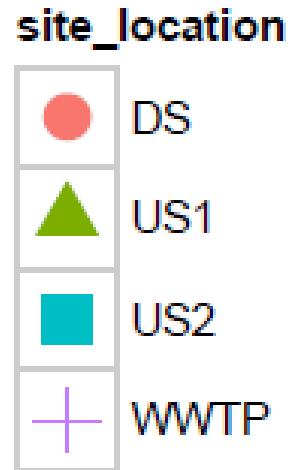
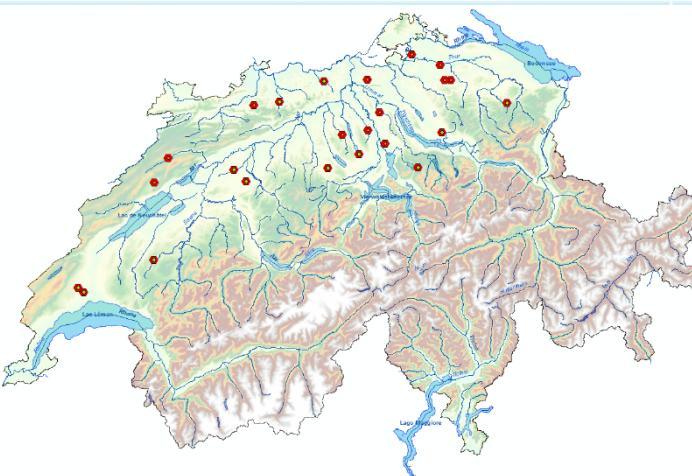
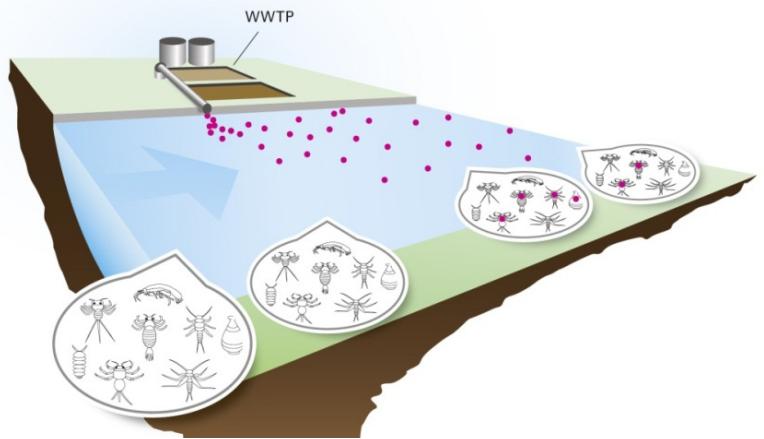
Ondatra zibethicus,
Photo: D. Gordon & E. Robertson



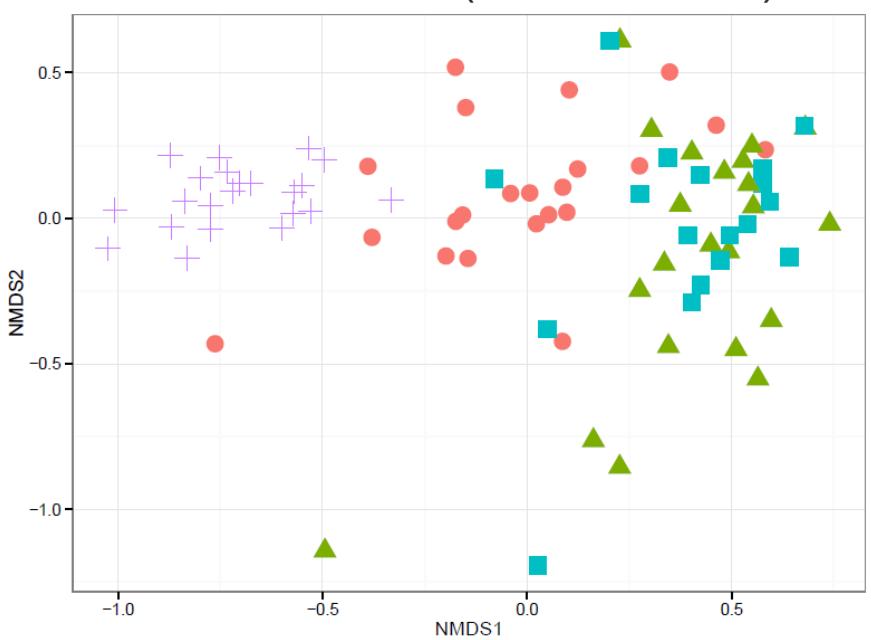
Gallinago gallinago,
Photo: Alpsdake

■ Freshwater ■ Terrestrial

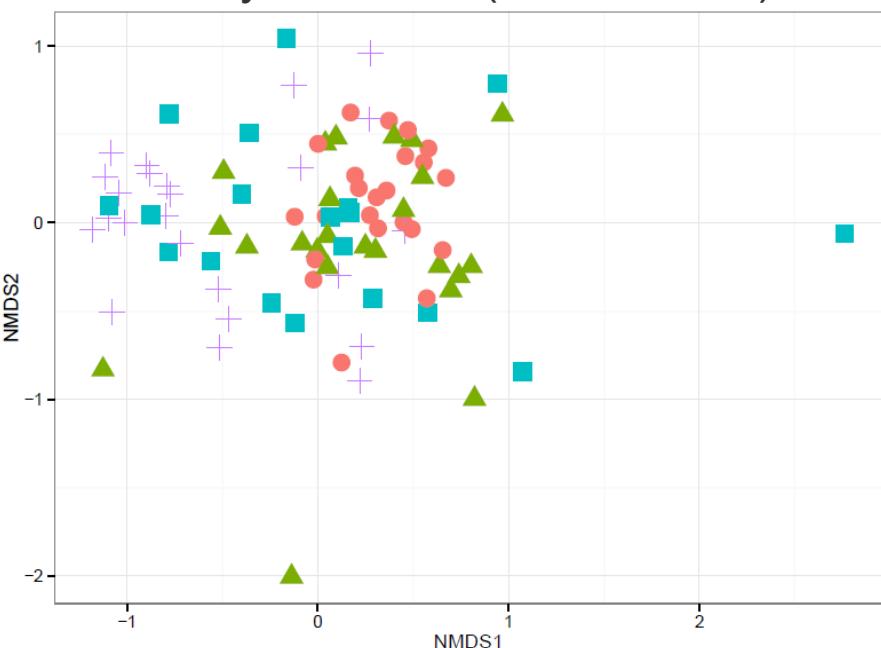




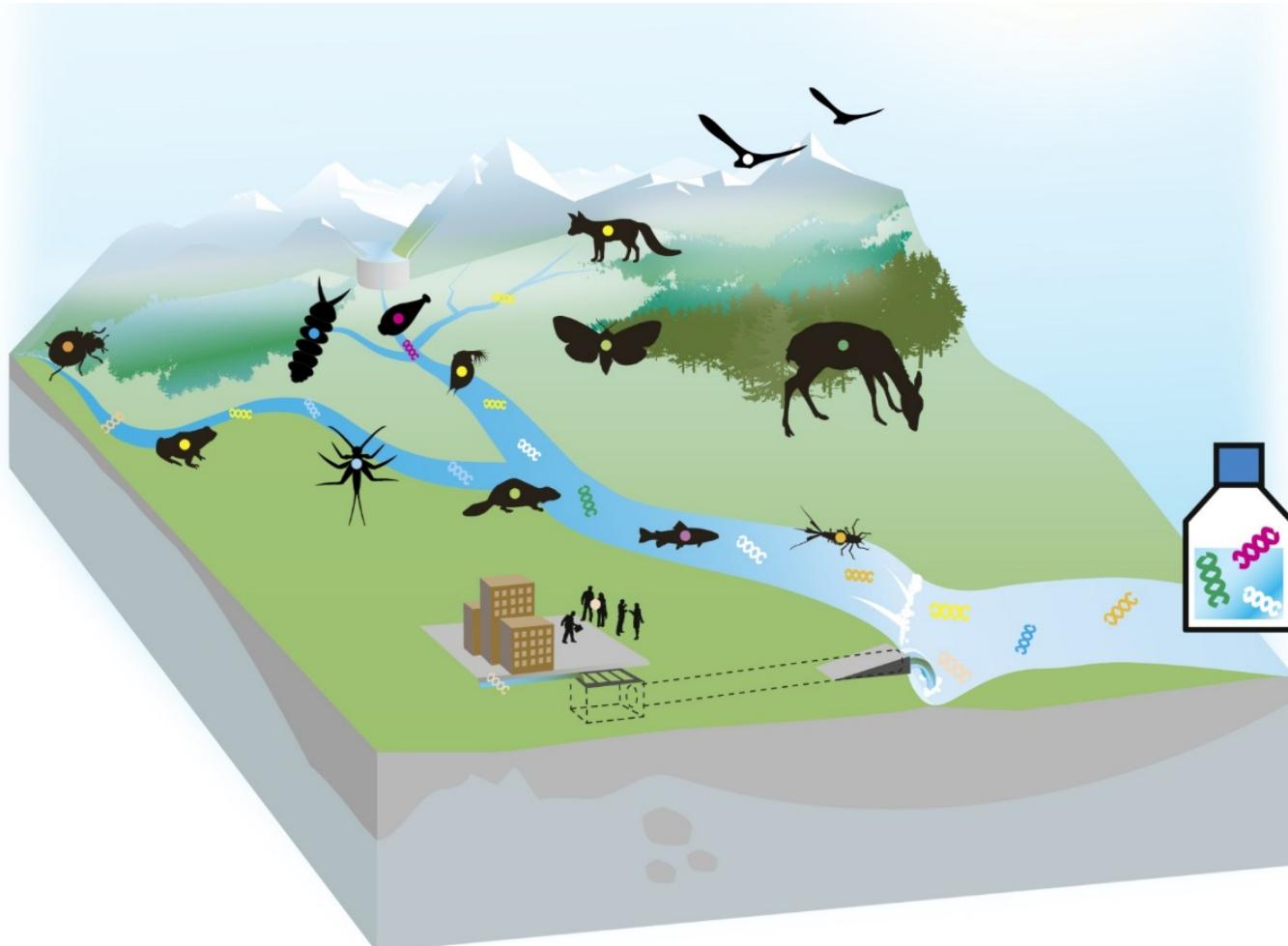
Bacteria-16S (33,000 OTUs)



Eukaryotes- COI (7,000 OTUs)



“Eventually, all things merge into one, and a river runs through it.”



Quote from *A River Runs Through It* screen play by Norman Maclean & Richard Friedenberg

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For follow up questions please email:
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