

Nitrogen content of lichens as an indicator of inversion-based deposition

Brianne Palmer, Dept. of Wildland Resources, Utah State University

Research Mentor

Dave Bowling, Dept. of Biology, University of Utah

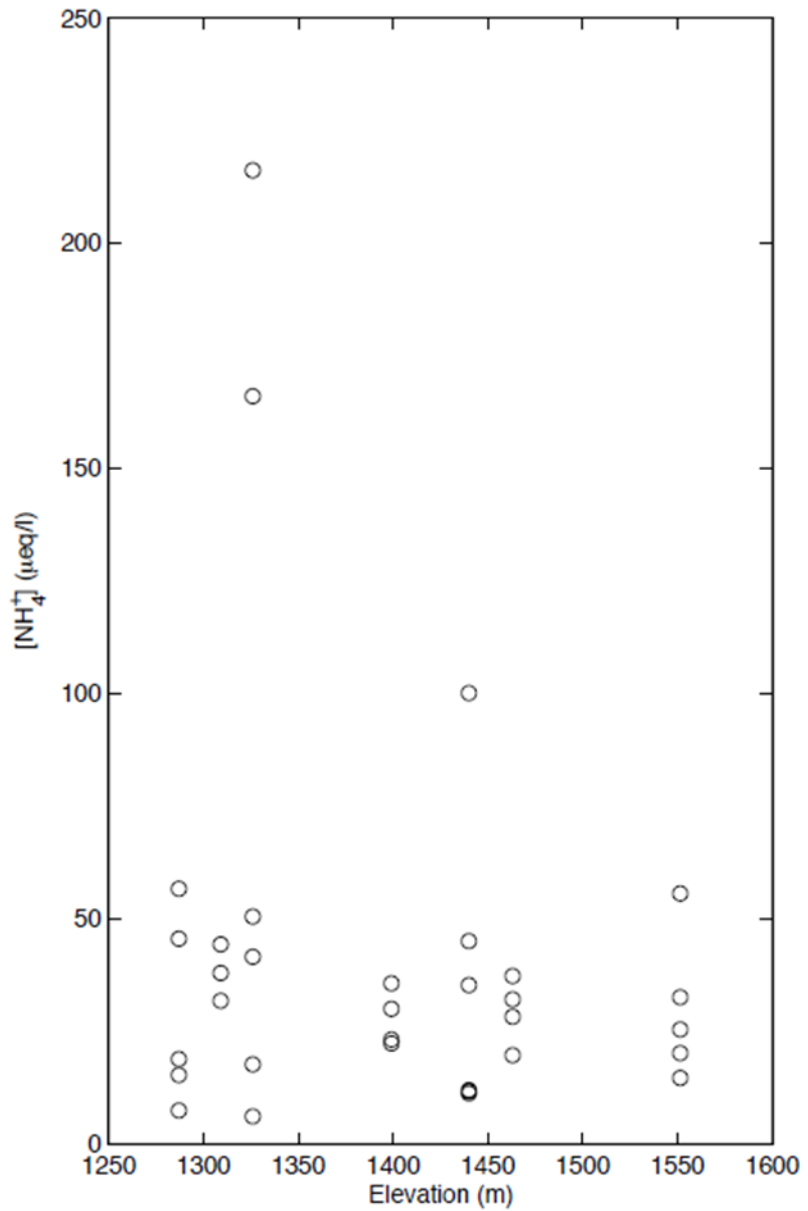


Inversions affect urban air quality
and spread into adjacent ecosystems where
pollutants are deposited

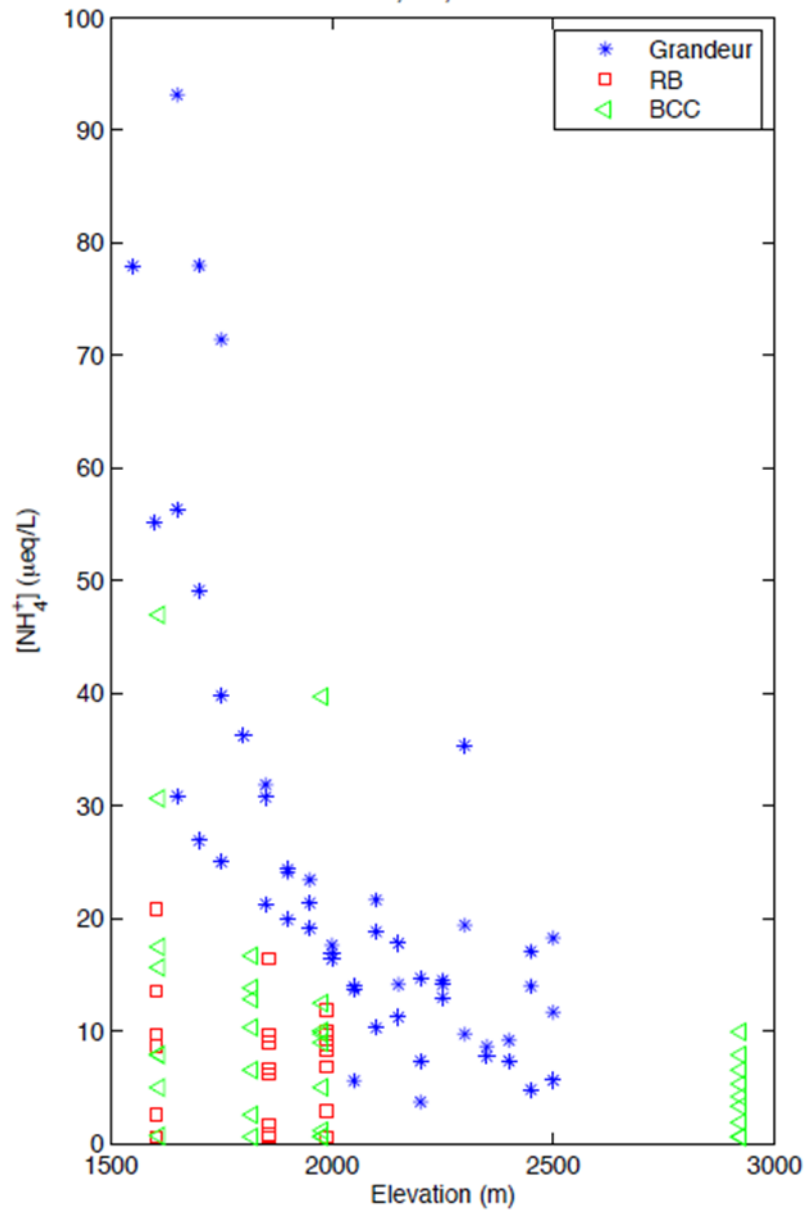


Ammonium

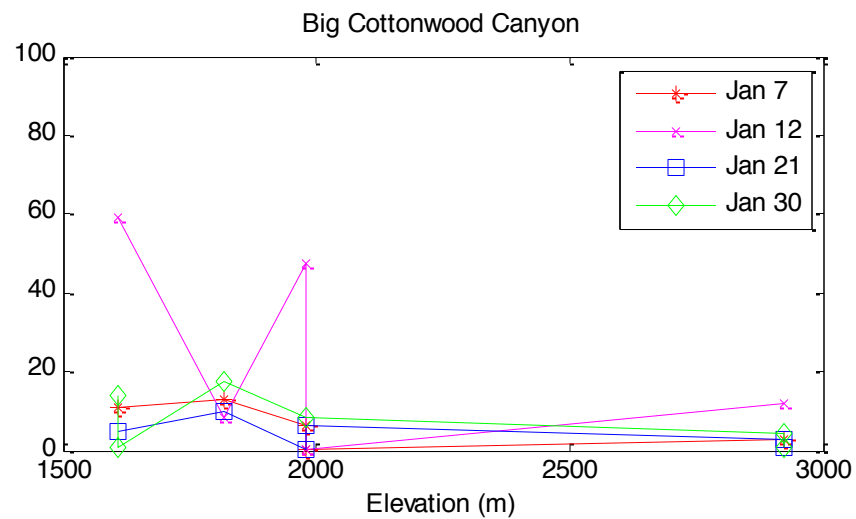
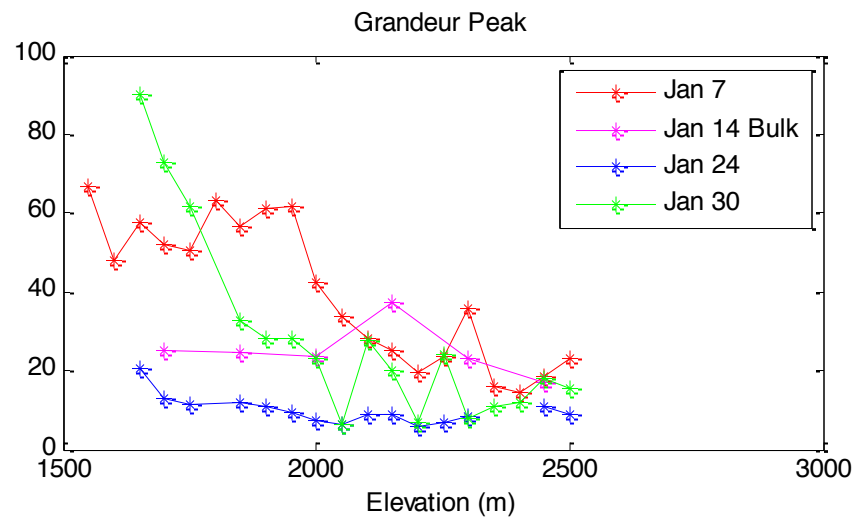
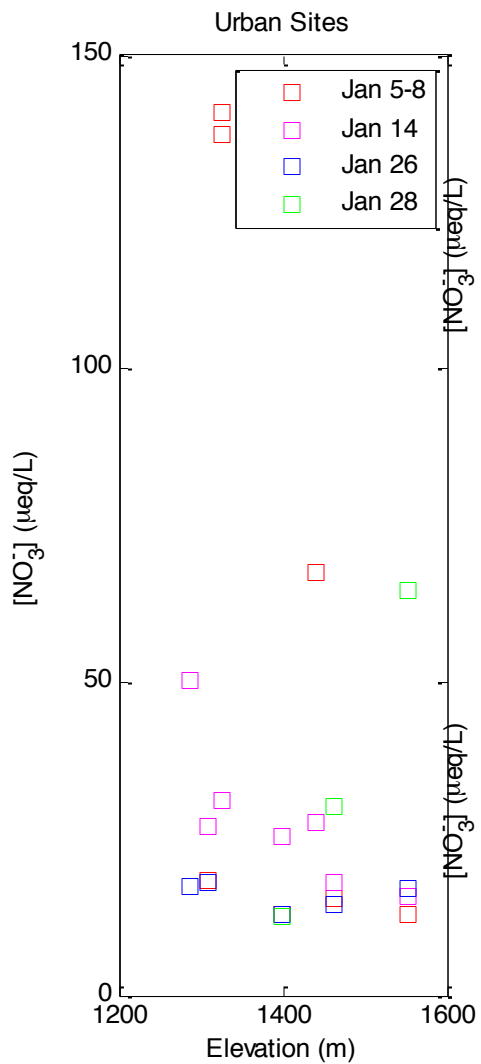
Urban Sites



Grandeur, RB, & BCC Sites



Nitrate



Research Questions:

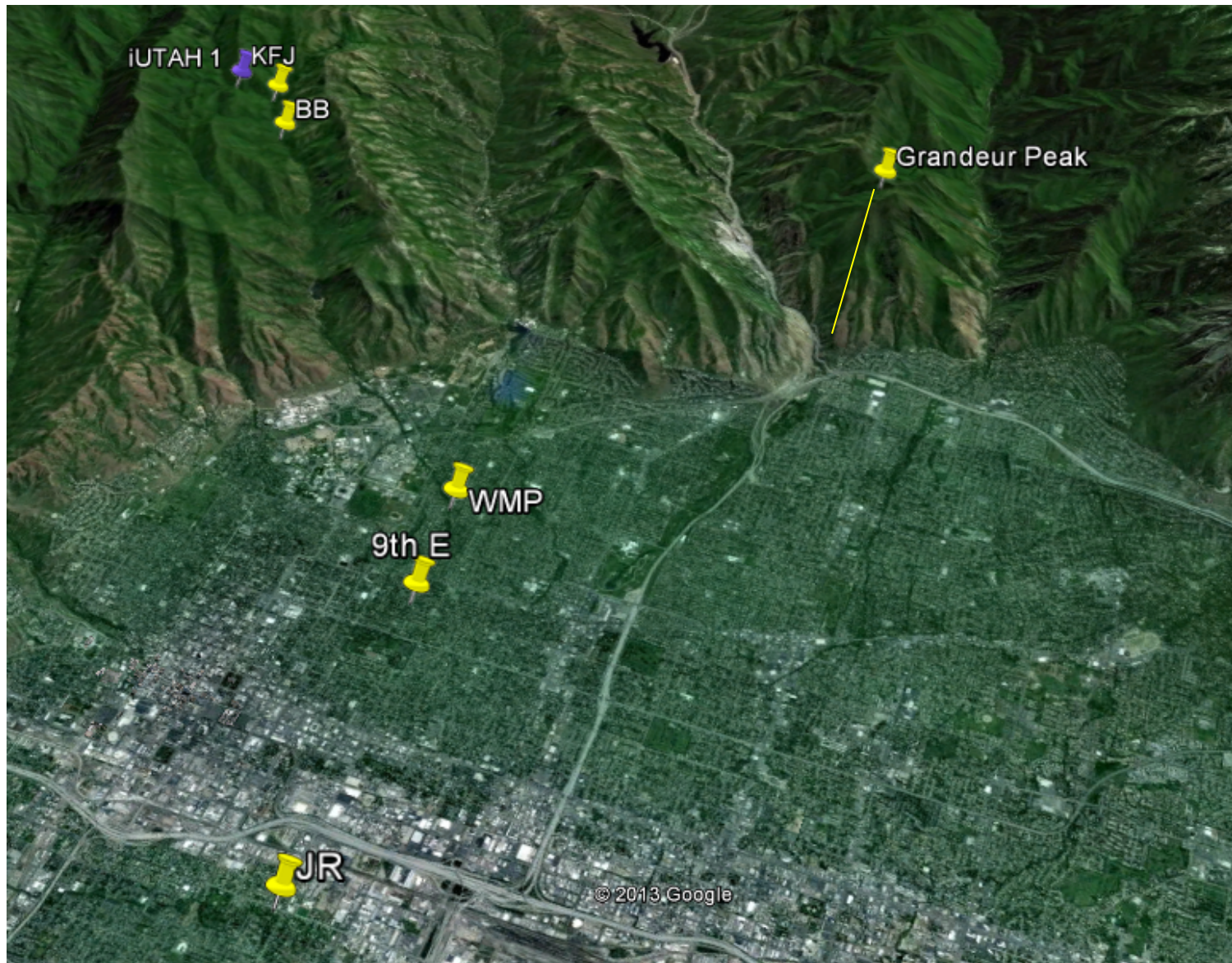
Do lichens hold a record of nitrogen deposition?

Can they be used to assess ecological effects of inversion events?

Why lichens?



Collection Methods



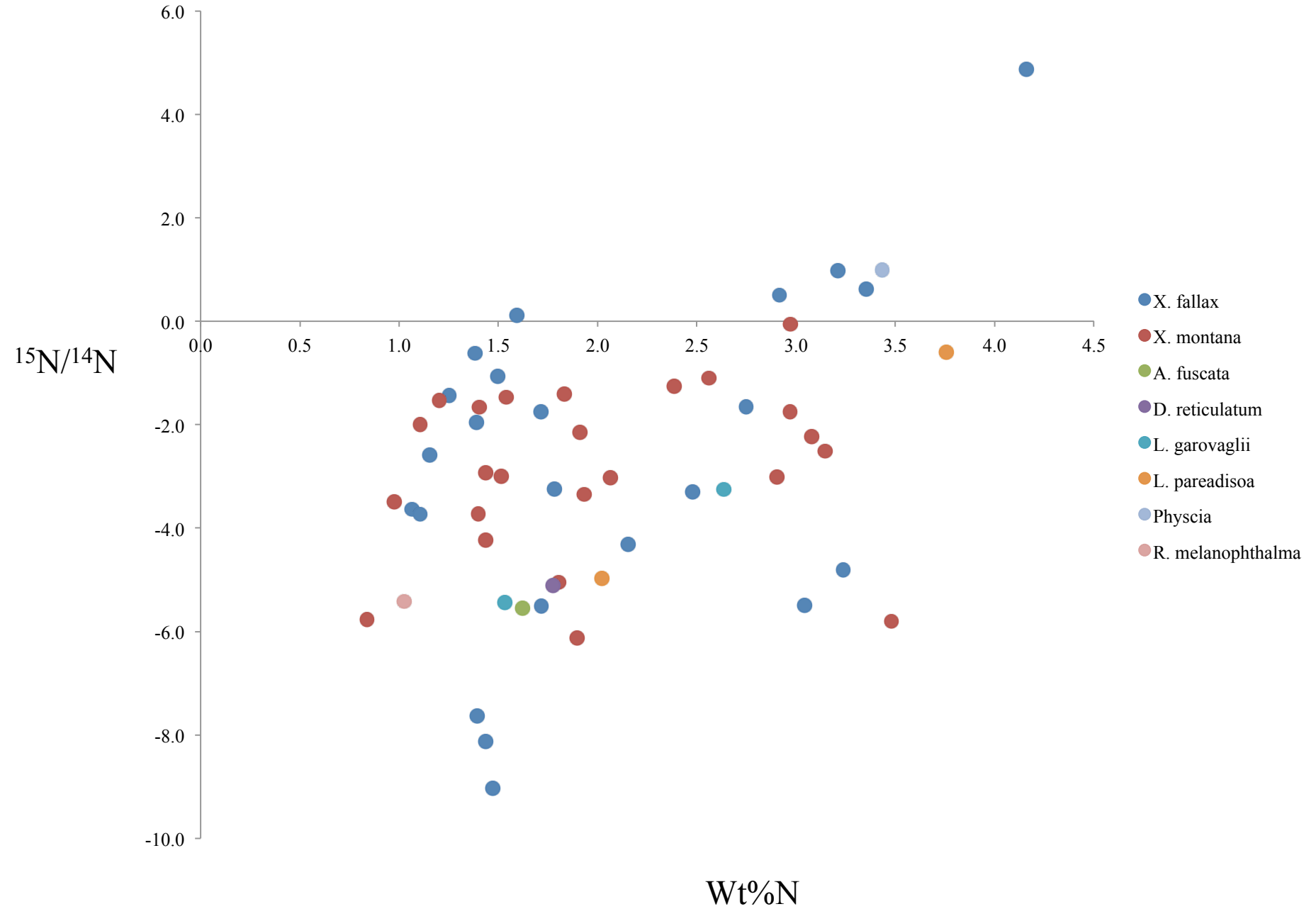


Xanthomendoza montana

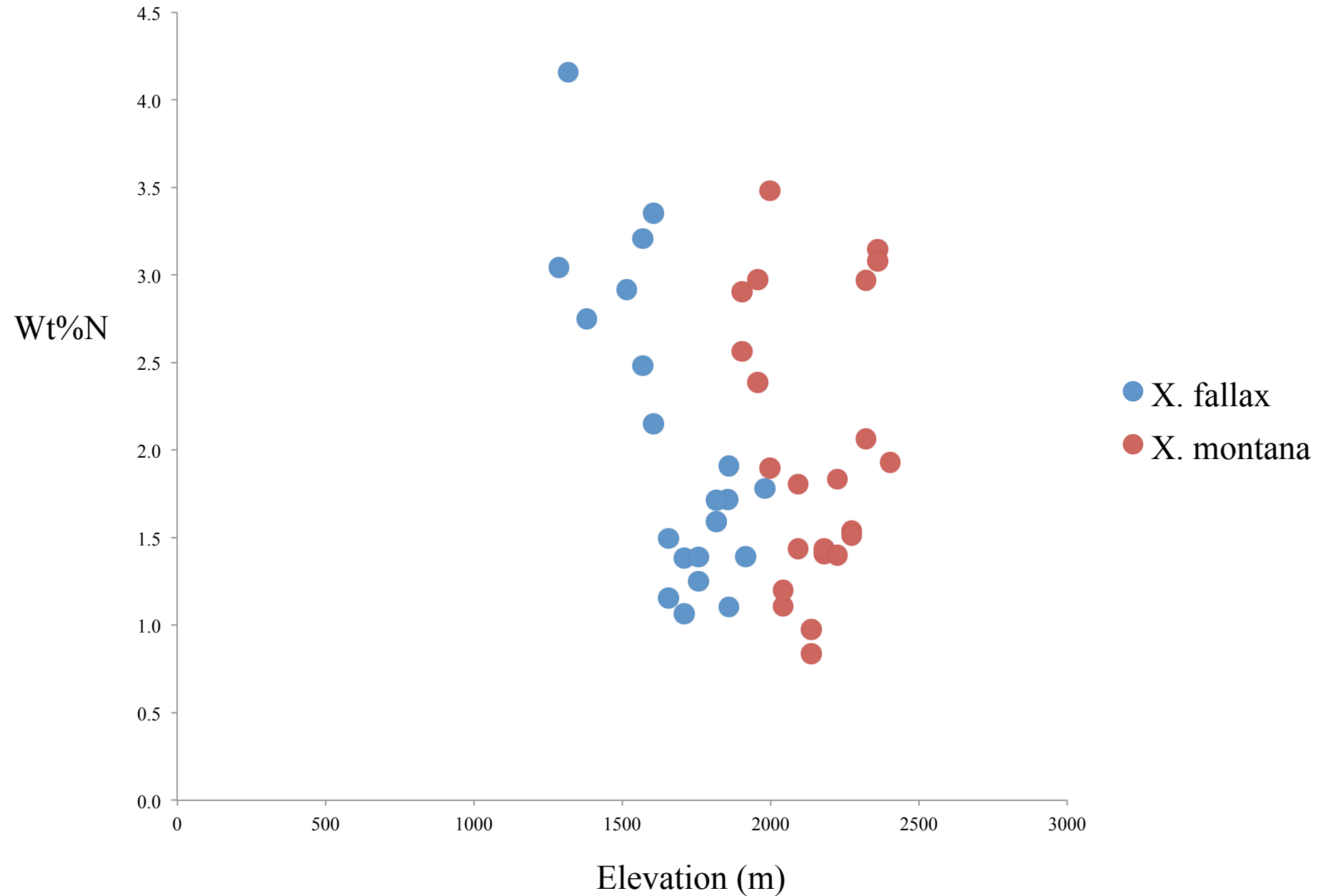


Xanthomendoza fallax

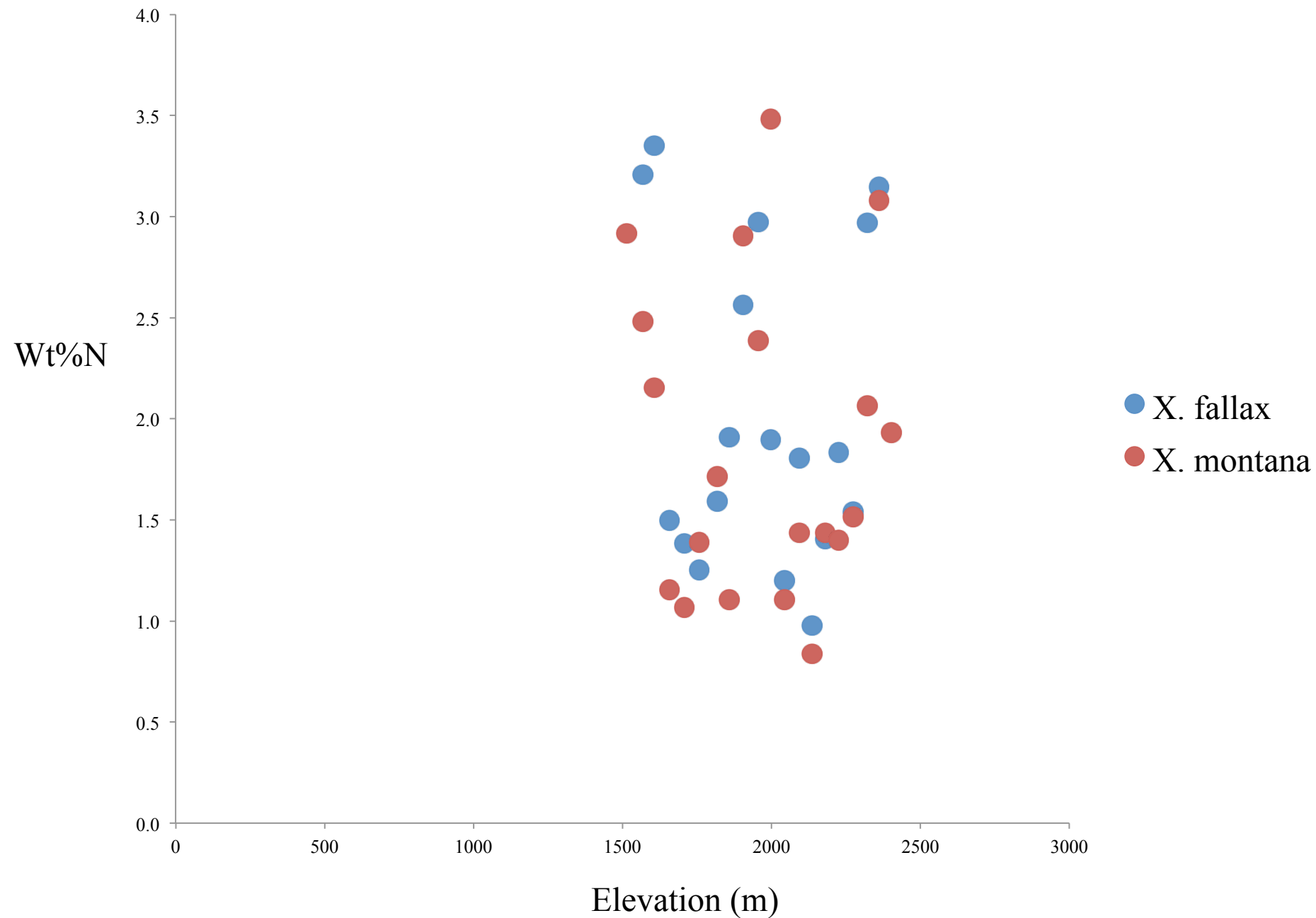
All Samples



Red Butte Creek and Grandeur Samples



Grandeur Peak



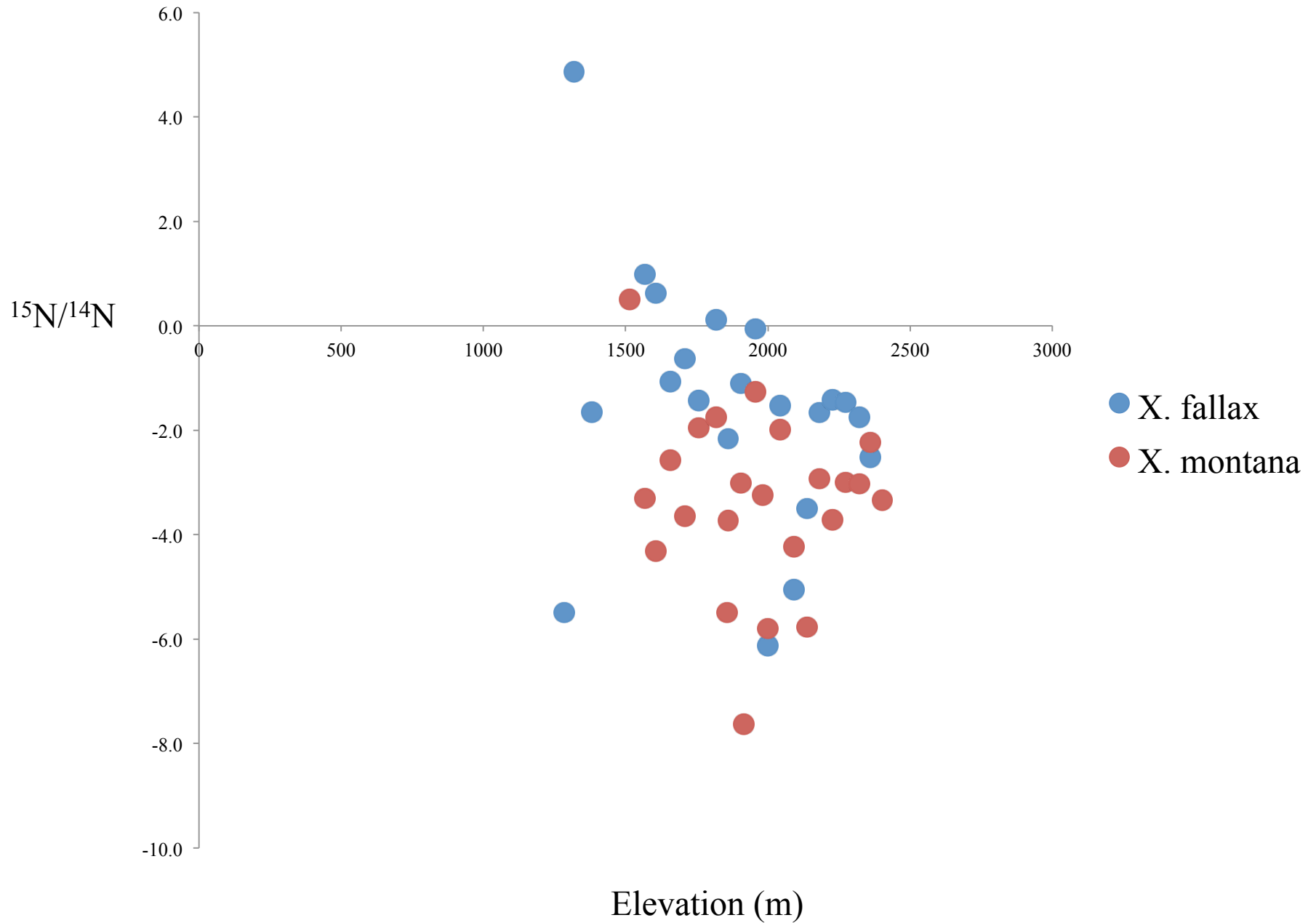
Research Questions:

Do lichens hold a record of nitrogen deposition?

No, lichens do not hold a record of inversion-based deposition on an elevational gradient

Can they be used to assess ecological effects of inversion events?

Red Butte Creek and Grandeur Samples



Research Questions:

Do lichen hold a record of nitrogen deposition?

No, lichens do not hold a record of inversion-based deposition on an elevational gradient

Can they be used to assess ecological effects of inversion events?

No.

What about the variability of the stable isotope ratios?

Questions and comments?

(you lichen what you see?)

