

Publications

Book Chapters

3. **Hobbie, E.A.**, and H. Wallander. 2006. Integrating ectomycorrhizal fungi into quantitative frameworks of forest carbon and nitrogen cycling. *in* G.M. Gadd, ed. *Fungi in Biogeochemical Cycles*. Cambridge University Press, Cambridge. pp 98-128.
2. **Hobbie, E.A.** 2005. Using isotopic tracers to follow carbon and nitrogen cycling of fungi. *in* J. Dighton, P. Oudemans and J. White, eds. *The Fungal Community: Its Organization and Role in the Ecosystem*. Marcel Dekker. pp 361-381.
1. **Hobbie, E.A.** 2005. Assessing functions of soil microbes with isotopic measurements. *in* F. Buscot, A. Varma, eds. *Micro-organisms in Soils: Roles in Genesis and Functions*. Springer, Berlin. pp 383-402.

Refereed Journal Articles

42. **Hobbie, E.A.**, A.P. Ouimette, E.A. Schuur, D. Kierstead, J.M. Trappe, K. Bendiksen, and E. Ohenoja. 2012. Radiocarbon evidence for the mining of organic nitrogen from soil by mycorrhizal fungi. In press, *Biogeochemistry*.
41. **Hobbie, E.A.**, P. Högberg. 2012. Tansley Review: Nitrogen isotopes link mycorrhizal fungi and plants to nitrogen dynamics. In press, *New Phytologist*.
40. **Hobbie EA**, Sánchez FS, Rygielwicz PT. 2012. Controls of isotopic patterns in saprotrophic and ectomycorrhizal fungi. *Soil Biology & Biochemistry* 48: 60-68.
39. Ford, C.R., J.D. McGee, F. Scandellari, **E.A. Hobbie**, R. J. Mitchell. 2012. Long- and short-term precipitation effects on soil CO₂ efflux and total belowground carbon allocation. *Agricultural and Forest Meteorology* 156: 54-64.
38. Agerer, R., J. Christan J, C. Mayr, and **E.A. Hobbie**. 2012. Isotopic signatures and trophic status of Ramaria. *Mycological Progress* 11: 47-59.
37. Hobbie, J.E., and **E.A. Hobbie**. 2012. Amino acid cycling in plankton and soil microbes studied with radioisotopes: measured amino acids in soil do not reflect bioavailability. *Biogeochemistry* 107: 339-360.
36. Lilleskov, E.A., **E.A. Hobbie**, and T.R. Horton. 2011. Nitrogen deposition and availability affects biodiversity and functional diversity in ectomycorrhizal fungi. *Fungal Ecology* 4: 174-183.
35. Brian H. Seitzman, David S. Hibbett, **E.A. Hobbie**, Andrew Ouimette, Rachel L. Mixon. 2011. Conservation of biotrophy in Hygrophoraceae (Basidiomycota: Agaricales) inferred from combined stable isotope and phylogenetic analyses. *Mycologia* 103: 280-290.
34. **Hobbie, E.A.**, and K.C. Boyce. 2010. Carbon sources for the ancient giant fungus *Prototaxites* inferred from modern analogues. in press, *Proceedings of the Royal Society B*.
33. **Hobbie, E.A.**, and R. Agerer. 2010. Nitrogen isotopes in ectomycorrhizal mushrooms correspond to belowground exploration types. *Plant and Soil* 327:71-83. DOI: 10.1007/s11104-009-0032-z
32. Scandellari, F., **E.A. Hobbie**, A.P. Ouimette, and V.P. Stucker. 2009. Tracing metabolic pathways of lipid biosynthesis in ectomycorrhizal fungi from position-specific ¹³C labeling in glucose. *Environmental Microbiology* 11:3087-95. DOI: 10.1111/j.1462-2920.2009.02013.x
31. Craine, J.M., A.J. Elmore, M.P.M. Aidar, R. Amundson, J.E. Barrett, M. Bustamente, C. Coetsee, T. Dawson, H.J. Hawkins, **E.A. Hobbie**, B.Z. Houlton, K. Koba, M.C. Mack, M. Makarov, K.K. McLauchlan, A. Michelsen, G.B. Nardoto, L.H. Pardo, J. Peñuelas, P.B. Reich, E.G. Schuur, W.D. Stock, R. Tateno, R.A. Virginia, J.M. Welker, and I.J. Wright. 2009. Nitrogen isotopes in leaves index global patterns of nitrogen availability. *New Phytologist* 183:980-992.
30. **Hobbie, E.A.**, and A.P. Ouimette. 2009. Causes of nitrogen isotope patterns in terrestrial soil profiles. *Biogeochemistry* 95:355-371.

29. **Hobbie, E.A.**, C.J. Hoff, J.G. Bryce, J.V. Colpaert, and R.A. Hallett. 2009. Nutrient supply rate and mycorrhizal colonization control patterns of element distribution in ectomycorrhizal pine. *Communications in Soil Science and Plant Analysis* 40:3503-3523.
28. Larsen, T., M. Ventura, C. Damgaard, **E.A. Hobbie**, and P.H. Krogh. 2009. The implications of contrasting life histories for nutrient allocations and reproduction in Collembola. *Functional Ecology* 23:745-755. 10.1111/j.1365-2435.2009.01564.x
27. Hobbie, J.E., **E.A. Hobbie**, H. Drossman, M. Conte, J.C. Weber, J. Shamhart, and M. Weinrobe. 2009. Mycorrhizal fungi supply nitrogen to host plants in Arctic tundra and boreal forests: ^{15}N is the key signal. *Canadian Journal of Microbiology* 55:84-94.
26. **Hobbie, E.A.**, and J.E. Hobbie. 2008. Natural abundance of ^{15}N in nitrogen-limited forests and tundra can estimate nitrogen cycling through mycorrhizal fungi: a review. *Ecosystems* 11:815-830.
25. **Hobbie, E.A.**, J.V. Colpaert, M.W. White, A.P. Ouimette and S.A. Macko. 2008. Nitrogen form, availability, and mycorrhizal colonization affect biomass and nitrogen isotope patterns in *Pinus*. *Plant and Soil* 310:121-136.
24. **Hobbie, E.A.**, P.T. Rygielwicz, M.G. Johnson, and A.R. Moldenke. 2007. ^{13}C and ^{15}N in microarthropods reveal little response of Douglas-fir ecosystems to climate change. *Global Change Biology* 13:1-12.
23. Wilson, A.W., **E.A. Hobbie**, and D.S. Hibbett. 2007. The ectomycorrhizal status of *Calostoma cinnabarinum* determined using isotopic, molecular and morphological methods. *Canadian Journal of Botany* 85:385-393.
22. **Hobbie, E.A.**, and T.R. Horton. 2007. Evidence that saprotrophic fungi mobilize carbon and ectomycorrhizal fungi mobilize nitrogen during litter decomposition. *New Phytologist* 173:447-449.
21. **Hobbie, E.A.** 2006. Carbon allocation to ectomycorrhizal fungi correlates with total belowground allocation in culture studies. *Ecology* 87:563-569.
20. Hobbie, J. E., and **E. A. Hobbie**. 2006. ^{15}N in symbiotic fungi and plants estimates nitrogen and carbon flux rates in arctic tundra. *Ecology* 87:816-822.
19. **Hobbie, E.A.**, A. Jumpponen, J. Trappe. 2005. Foliar and fungal ^{15}N : ^{14}N ratios reflect development of mycorrhizae and nitrogen supply during primary succession: testing analytical models. *Oecologia* 146:258-268.
18. **Hobbie EA**, Colpaert JV. 2004. Nitrogen availability and mycorrhizal colonization influence water use efficiency and carbon isotope patterns in *Pinus sylvestris* L. *New Phytologist* 164: 515-525.
17. **Hobbie, E.A.**, F.S. Sánchez, and P.T. Rygielwicz. 2004. Carbon use, nitrogen use, and isotopic fractionation of ectomycorrhizal and saprotrophic fungi in natural abundance and ^{13}C -labeled cultures. *Mycological Research* 108:725-736.
16. **Hobbie, E.A.**, and R.A. Werner. 2004. Intramolecular, compound-specific, and bulk carbon isotope patterns in C_3 and C_4 plants: a review and synthesis. *New Phytologist* 161:371-385. (Tansley Review). (Minor corrections to two figures were published in *New Phytologist* 162:240.)
15. **Hobbie, E.A.**, M.G. Johnson, P.T. Rygielwicz, D.T. Tingey, and D.M. Olszyk. 2004. Isotopic estimates of new carbon inputs into litter and soils in a four-year climate change experiment with Douglas-fir. *Plant and Soil* 259: 331-343.
14. Choi, W.-J., H.-M. Ro, **E.A. Hobbie**, and S.-M. Lee. 2003. Patterns of natural ^{15}N in soils and plants from chemically or organically fertilized uplands. *Soil Biology and Biochemistry* 35:1493-1500.
13. **Hobbie, E.A.**, L.S. Watrud, S. Maggard, T. Shiroyama, and P.T. Rygielwicz. 2003. Carbohydrate use by litter and soil fungi assessed through stable isotopes and BIOLOG® assays. *Soil Biology and Biochemistry* 35:303-311.
12. **Hobbie, E.A.**, and J.V. Colpaert. 2003. Nitrogen availability and colonization by mycorrhizal fungi correlate with nitrogen isotope patterns in plants. *New Phytologist* 157:115-126.
11. **Hobbie, E.A.**, P.T. Rygielwicz, D.T. Tingey, M.G. Johnson, and D.M. Olszyk. 2002. Turnover of fine roots estimated through natural ^{13}C isotopic analyses. *Plant and Soil* 247:233-242.

10. **Hobbie, E.A.**, J. Gregg, D.M. Olszyk, P.T. Rygielwicz, and D.T. Tingey. 2002. Effects of climate change on labile and structural carbon in Douglas-fir needles as estimated by ^{13}C and C_{area} measurements. *Global Change Biology* 8:1072-1084.
9. **Hobbie, E.A.**, N.S. Weber, J.M. Trappe, and G.J. van Klinken. 2002. Using radiocarbon to determine mycorrhizal status in fungi. *New Phytologist* 156:129-136.
8. Lilleskov, E. A., **E.A. Hobbie**, and T. J. Fahey. 2002. Ectomycorrhizal fungal taxa differing in response to nitrogen deposition also differ in pure culture organic nitrogen use and natural abundance of nitrogen isotopes. *New Phytologist* 154:219-231.
7. **Hobbie, E.A.**, D.M. Olszyk, P.T. Rygielwicz, M.G. Johnson, and D.T. Tingey. 2001. Foliar nitrogen levels and natural abundance ^{15}N reveal mycorrhizal-plant partitioning and recycling of N during development under climate change. *Tree Physiology* 21:1113-1122.
6. **Hobbie, E.A.**, N.S. Weber, and J.M. Trappe. 2001. Determining mycorrhizal or saprotrophic status of fungi from isotopic evidence: implications for element cycling and fungal evolution. *New Phytologist* 150:601-610.
5. **Hobbie, E.A.**, S.A. Macko, and M.T. Williams. 2000. Correlations between foliar $\delta^{15}\text{N}$ and nitrogen concentrations may indicate plant-mycorrhizal interactions. *Oecologia* 122:273-283.
4. **Hobbie, E.A.**, S.A. Macko, and H.H. Shugart. 1999. Interpretation of nitrogen isotope signatures using the NIFTE model. *Oecologia* 120:405-415.
3. **Hobbie, E.A.**, S.A. Macko, and H.H. Shugart. 1999. Insights into nitrogen and carbon dynamics of ectomycorrhizal and saprotrophic fungi from isotopic evidence. *Oecologia* 118:353-360.
2. **Hobbie, E.A.**, S.A. Macko, and H.H. Shugart. 1998. Patterns in N dynamics and N isotopes during primary succession in Glacier Bay, Alaska. *Chemical Geology* 152:3-11.
1. Koba, K., N. Tokuchi, T. Yoshioka, **E.A. Hobbie**, and G. Iwatsubo. 1998. Natural abundance of ^{15}N in a forest soil. *Soil Science Society of America Journal* 62:778-781.