

# 稳定同位素生态学的百篇经典重要论文

## 中国生态学学会稳定同位素生态专业委员会推荐

- 1 Amundson R, Austin AT, Schuur EAG, et al. (2003). Global patterns of the isotopic composition of soil and plant nitrogen. *Glob Biogeochemical Cycles* 17:1031–1041. doi:10.1029/2002GB001903
- 2 Amelung, W., Brodowski, S., Sandhage-Hofmann, A., Bol, R. (2008). Combining biomarker with stable isotope analyses for assessing the transformation and turnover of soil organic matter. *Advances in Agronomy* 100: 155-250.
- 3 Barbour MM. (2007). Stable oxygen isotope composition of plant tissue: a review. *Functional Plant Biology* 34:83–94.
- 4 Barbour MM, Schurr U, Henry BK, Wong SC, Farquhar GD. (2000). Variation in the oxygen isotope ratio of phloem sap sucrose from Castor Bean. Evidence in support of the Péclet effect. *Plant Physiology* 123: 671–679.
- 5 Barbour, M. M., Walcroft AS, Farquhar GD. (2002) Seasonal variation in  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  of cellulose from growth rings of *Pinus radiata*. 25: 1483-1499.
- 6 Bowling DR, Pataki DE, Randerson JT. (2008). Carbon isotopes in terrestrial ecosystem pools and  $\text{CO}_2$  fluxes. *New Phytologist* 178: 24–40.
- 7 Booth M S , Stark J M , Rastetter E .(2005), CONTROLS ON NITROGEN CYCLING IN TERRESTRIAL ECOSYSTEMS: A SYNTHETIC ANALYSIS OF LITERATURE DATA. *Ecological Monographs*, 75(2):139-157.
- 8 Bocherens, H; Drucker, D. (2003). Trophic level isotopic enrichment of carbon and nitrogen in bone collagen: Case studies from recent and ancient terrestrial ecosystems. *INTERNATIONAL JOURNAL OF OSTEOARCHAEOLOGY*, 13(1-2):46-53.
- 9 Brooks P D, Stark J M, Mcinteer B B, et al. (1989). A Diffusion Method to Prepare Soil Extracts for Automated Nitrogen-15 Analysis. *Soil Science Society of America Journal*, 53(6):1707-1711.

- 10 Cabana, G. & Rasmussen, J. B. (1996). Comparison of aquatic food chains using nitrogen isotopes. *Proceedings of the National Academy of Sciences*, 93(20), 10844-10847.
- 11 Casciotti K L, Sigman D M, Hastings M G, et al. (2002). Measurement of the Oxygen Isotopic Composition of Nitrate in Seawater and Freshwater Using the Denitrifier Method. *Analytical Chemistry*, 74(19):4905-4912.
- 12 Cerling, T. E., Harris, J. M., MacFadden, B. J., Leakey, M. G., Quade, J., Eisenmann, V., & Ehleringer, J. R. (1997). Global vegetation change through the Miocene/Pliocene boundary. *Nature*, 389(6647), 153-158.
- 13 Cerling, T. E., Wang, Y., & Quade, J. (1993). Expansion of C<sub>4</sub> ecosystems as an indicator of global ecological change in the late Miocene. *Nature*, 361(6410): 344-345.
- 14 Cheng, W.X. (1996). Measurement of rhizosphere respiration and organic matter decomposition using natural <sup>13</sup>C. *Plant and Soil* 183:263-268.
- 15 Ciais, P., Tans, P. P., Trolier, M., White, J. W. C., & Francey, R. J. (1995). A large northern hemisphere terrestrial CO<sub>2</sub> sink indicated by the 13C/12C ratio of atmospheric CO<sub>2</sub>. *Science*, 269(5227): 1098-1102.
- 16 Craig H. (1961). Isotopic variations in meteoric waters. *Science* 133: 1702–1703.
- 17 Craig, H., and L. I. Gordon. (1965), Deuterium and oxygen-18 variations in the ocean and the marine atmosphere, in *Stable Isotopes in Oceanographic Studies and Paleotemperatures*, edited by E. Tongiorgi, pp. 9–130, V. Lishi e F., Pisa, Spoleto, Italy.
- 18 Dawson, T. E., Mambelli, S., Plamboeck, A. H., Templer, P. H., & Tu, K. P. (2002). Stable isotopes in plant ecology. *Annual Review of Ecology and Systematics*, 33(1), 507-559.
- 19 Delwiche, C. C., & Steyn, P. L. (1970). Nitrogen isotope fractionation in soils and microbial reactions. *Environmental Science & Technology*, 4(11), 929-935.
- 20 Dongmann G, Nürnberg HW, Förstel H, Wagener K. (1974). On the enrichment of <sup>2</sup>H and <sup>18</sup>O in the leaves of transpiring plants. *Radiation and Environmental Biophysics* 11: 41–52.
- 21 Ehleringer J.R. & Dawson T.E. (1992). Water uptake by plants: perspectives from stable isotope composition. *Plant, Cell & Environment* 15, 1073–1082.

- 22 Ehleringer, J. R., Cerling, T. E., & Helliker, B. R. (1997). C<sub>4</sub> photosynthesis, atmospheric CO<sub>2</sub>, and climate. *Oecologia*, 112(3), 285-299.
- 23 Epron D, Bahn M, Derrien D et al. (2012). Pulse-labelling trees to study carbon allocation dynamics: a review of methods, current knowledge and future prospects. *Tree Physiology* 32:776–798.
- 24 Evans RD. (2001). Physiological mechanisms influencing plant nitrogen isotope composition. *Trends Plant Sci* 6:121–126.
- 25 Evans, J. R., Sharkey, T. D., Berry, J. A., & Farquhar, G. D. (1986). Carbon isotope discrimination measured concurrently with gas exchange to investigate CO<sub>2</sub> diffusion in leaves of higher plants. *Functional Plant Biology*, 13(2), 281-292.
- 26 Farquhar, G. D. (1983). On the nature of carbon isotope discrimination in C<sub>4</sub> species. *Functional Plant Biology*, 10(2), 205-226.
- 27 Farquhar, G. D. & Richards, R. A. (1984). Isotopic composition of plant carbon correlates with water-use efficiency of wheat genotypes. *Functional Plant Biology*, 11(6), 539-552.
- 28 Farquhar, G.D. & Cernusak, L.A (2005). On the isotopic composition of leaf water in the non-steady state. *Funct. Plant Biol.* 32, 293–303. <https://doi.org/10.1071/Fp04232>.
- 29 Farquhar GD, O'leary M, Berry J. (1982). On the relationship between carbon isotope discrimination and the intercellular carbon dioxide concentration in leaves. *Australian Journal of Plant Physiology* 9: 121–137.
- 30 Farquhar GD, Ehleringer JR, Hubick KT. (1989). Carbon isotope discrimination and photosynthesis. *Annual Review of Plant Physiology and Plant Molecular Biology* 40:503–537.
- 31 Farquhar GD, Hubick KT, Condon AG, Richards RA. (1989). Carbon isotope fractionation and plant water-use efficiency. In: Rundel PW, Ehleringer JR, Nagy KA, eds. *Stable isotopes in ecological research*. Heidelberg, Germany & New York, NY, USA: Springer, 21–46.
- 32 Farquhar, G. D., Ehleringer, J. R., & Hubick, K. T. (1989). Carbon isotope discrimination and photosynthesis. *Annual review of plant biology*, 40(1), 503-537.

- 33 Farquhar, G. D., Lloyd, J., Taylor, J. A., Flanagan, L. B., Syvertsen, J. P., Hubick, K. T., & Ehleringer, J. R. (1993). Vegetation effects on the isotope composition of oxygen in atmospheric CO<sub>2</sub>. *Nature*, 363(6428), 439-443.
- 34 Farquhar G.D., Cernusak L.A. & Barnes B. (2007) Heavy water fractionation during transpiration. *Plant Physiology* 143, 11–18.
- 35 Flanagan L.B., Comstock J.P. & Ehleringer J.R. (1991) Comparison of modeled and observed environmental influences on the stable oxygen and hydrogen isotope composition of leaf water in *Phaseolus vulgaris* L. *Plant Physiology* 96, 588–596.
- 36 Francey RJ, Farquhar GD. (1982). An explanation of <sup>13</sup>C/<sup>12</sup>C variations in tree rings. *Nature* 297: 28–31.
- 37 Fry B. (2006) .Stable Isotope Ecology. Springer-Verlag, New York.
- 38 Gat, J. (1996). Oxygen and hydrogen isotopes in the hydrologic cycle, *Annual Review in Earth Planetary Science*, 24, 225–262.
- 39 Gannes L Z , Rio C M M D , Koch P L . (1998). Natural Abundance Variations in Stable Isotopes and their Potential Uses in Animal Physiological Ecology. *Comparative Biochemistry and Physiology - Part A Molecular & Integrative Physiology*, 119(3):725-737.
- 40 Gillon J. & Yakir D. (2001) . Influence of carbonic anhydrase activity in terrestrial vegetation on the <sup>18</sup>O content of atmospheric CO<sub>2</sub>. *Science* 291, 2584–2587.
- 41 Handley, L. L., & Raven, J. A. (1992). The use of natural abundance of nitrogen isotopes in plant physiology and ecology. *Plant, Cell & Environment*, 15(9), 965-985.
- 42 Hanson, P. J., Edwards, N. T., Garten, C. T., & Andrews, J. A. (2000). Separating root and soil microbial contributions to soil respiration: a review of methods and observations. *Biogeochemistry*, 48(1), 115-146.
- 43 Helliker B.R. & Ehleringer J.R. (2000). Establishing a grassland signature in veins: <sup>18</sup>O in the leaf water of C<sub>3</sub> and C<sub>4</sub> grasses. *Proceedings of the National Academy of Sciences* 97, 7894–7898.

- 44 Helliker B.R. & Richter. (2008). Subtropical to boreal convergence of tree-leaf temperatures. *Nature* 454 (7203), 511.
- 45 Hobbie EA, Werner RA. (2004). Intramolecular, compound-specific, and bulk carbon isotope patterns in C3 and C4 plants: a review and synthesis. *New Phytologist* 161:371–385.
- 46 Hobbie, E. A., Macko, S. A., & Williams, M. (2000). Correlations between foliar  $\delta^{15}\text{N}$  and nitrogen concentrations may indicate plant-mycorrhizal interactions. *Oecologia*, 122(2), 273-283.
- 47 Hobson, K. A. (1999). Tracing origins and migration of wildlife using stable isotopes: a review. *Oecologia*, 120(3), 314-326.
- 48 Hogberg, P. (1997). Tansley review No 95 - N-15 natural abundance in soil-plant systems. *New Phytologist* 137, 179–203, doi:10.1046/j.1469-8137.1997.00808.x.
- 49 Hungate B.A., Holland E.A., Jackson R.B., Chapin F.S., Mooney HA, Field C.B. (1997) The fate of carbon in grasslands under carbon dioxide enrichment. *Nature* 388:576–579.
- 50 Jasechko S, Sharp ZD, Gibson JJ, Birks SJ, Yi Y, Pawcett PJ. (2013). Terrestrial water fluxes dominated by transpiration. *Nature* 496: 347–350. DOI:10.1038/nature11983
- 51 Jetten, MSM; Strous, M; van de Pas-Schoonen, KT, et al. (1998). The anaerobic oxidation of ammonium. *FEMS Microbiology Reviews*, 22(5):421-437.
- 52 Jones D L , Healey J R , Willett V B , et al.(2005). Dissolved organic nitrogen uptake by plants—an important N uptake pathway?. *Soil Biology & Biochemistry*, 37(3):413-423.
- 53 Keeling C.D. (1958). The concentration and isotopic abundances of atmospheric carbon dioxide in rural areas. *Geochim Cosmochim Acta* 13:322–334.
- 54 Keeling R.F., Piper S.C., Heiman M. (1996). Global and hemispheric CO<sub>2</sub> sinks deduced from changes in atmospheric O<sub>2</sub> concentration. *Nature* 381:218–221.
- 55 Kelly, J. F. (2000). Stable isotopes of carbon and nitrogen in the study of avian and mammalian trophic ecology. *Canadian journal of zoology*, 78(1), 1-27.

- 56 Kohn, M. J. (2010). Carbon isotope compositions of terrestrial C<sub>3</sub> plants as indicators of (paleo) ecology and (paleo) climate. *Proceedings of the National Academy of Sciences*, 107(46), 19691-19695.
- 57 Körner, C., Farquhar, G. D., & Wong, S. C. (1991). Carbon isotope discrimination by plants follows latitudinal and altitudinal trends. *Oecologia*, 88(1), 30-40.
- 58 Kuzyakov, Y. (2006). Sources of CO<sub>2</sub> efflux from soil and review of partitioning methods. *Soil Biology and Biochemistry*, 38(3), 425-448.
- 59 Layman, C. A., Arrington, D. A., Montaña, C. G., & Post, D. M. (2007). Can stable isotope ratios provide for community - wide measures of trophic structure?. *Ecology*, 88(1), 42-48.
- 60 Leavitt, S. W., & Long, A. (1984). Sampling strategy for stable carbon isotope analysis of tree rings in pine. *Nature*, 311(5982), 145-147.
- 61 Leavitt, S. W., & Long, A. (1986). Stable - carbon isotope variability in tree foliage and wood. *Ecology*, 67(4), 1002-1010.
- 62 Lin G & Sternberg L. (1993). Hydrogen isotopic fractionation during water uptake in coastal wetland plants. pp. 497-510. In *Stable Isotopes and Plant Carbon-Water Relations* (J. Ehleringer, A. Hall and G. Farquhar, eds.). Academic Press, San Diego.
- 63 Lin, G., & Ehleringer, J. R. (1997). Carbon isotopic fractionation does not occur during dark respiration in C<sub>3</sub> and C<sub>4</sub> plants. *Plant Physiology*, 114(1), 391-394.
- 64 Lin, G., J.R. Ehleringer, P.T. Rygielwicz, M.G. Johnson and D.T. Tingey. (1999). Elevated CO<sub>2</sub> and temperature impacts on different components of soil CO<sub>2</sub> efflux in Douglas-fir terracosms. *Global Change Biology* 5:157-168.
- 65 Lloyd J., Farquhar G.D. (1994) <sup>13</sup>C discrimination during CO<sub>2</sub> assimilation by the terrestrial biosphere. *Oecologia* 99:201–215.
- 66 Lloyd J., Kruijt B., Hollinger D.Y., Grace J., Francey R.J., Wong S.C., Kelliher F.M., Miranda A.C., Farquhar G.D, Gash J.H., Vygodskaya N.N., Wright I.R., Miranda H.S., Schulze E.D. (1996). Vegetation effects on the isotopic composition of atmospheric CO<sub>2</sub> at local and regional

scales: theoretical aspects and a comparison between rain forest in Amazonia and boreal forest in Siberia. *Aust Journal of Plant Physiology* 23:371–399.

- 67 Majoube M. (1971). Fractionnement en oxygene-18 et en deuterium entre l'eau et sa vapeur. *J Chim Phys* 68:1423–1436.
- 68 Mariotti A, Germon J C , Hubert P , et al. (1981). Experimental determination of nitrogen kinetic isotope fractionation: Some principles; illustration for the denitrification and nitrification processes. *Plant and Soil*, 62(3):413-430.
- 69 McCarroll, D., & Loader, N. J. (2004). Stable isotopes in tree rings. *Quaternary Science Reviews*, 23(7), 771-801.
- 70 McConnaughey, T. A., Burdett, J., Whelan, J. F., & Paull, C. K. (1997). Carbon isotopes in biological carbonates: respiration and photosynthesis. *Geochimica et Cosmochimica Acta*, 61(3), 611-622.
- 71 McCutchan, J. H., Lewis, W. M., Kendall, C., & McGrath, C. C. (2003). Variation in trophic shift for stable isotope ratios of carbon, nitrogen, and sulfur. *Oikos*, 102(2), 378-390.
- 72 Moreira MZ, Sternberg LdaSL, Martinelli LA, Victoria RL, Barbosa EM, Bonates CM, Nepstad DC.(1997). Contribution of transpiration to forest ambient vapor based on isotopic measurements. *Global Change Biology* 3:439–450.
- 73 Nadelhoffer K . (1999), Nitrogen deposition makes a minor contribution to carbon sequestration in temperate forests. *Nature*, 398.
- 74 O'Leary, M. H. (1981). Carbon isotope fractionation in plants. *Phytochemistry*, 20(4), 553-567.
- 75 O'Leary, M. H. (1988). Carbon isotopes in photosynthesis. *Bioscience*, 38(5), 328-336.
- 76 Park, R. & Epstein, S. (1960). Carbon isotope fractionation during photosynthesis. *Geochimica et Cosmochimica Acta*, 21(1-2), 110-126.
- 77 Pataki, D. E., Ehleringer, J. R., Flanagan, L. B., Yakir, D., Bowling, D. R., Still, C. J., et al. (2003). The application and interpretation of Keeling plots in terrestrial carbon cycle research. *Global Biogeochemical Cycles*, 17(1).

- 78 Peterson, B. J., & Fry, B. (1987). Stable isotopes in ecosystem studies. *Annual review of ecology and systematics*, 18(1), 293-320.
- 79 Phillips, D. L., & Gregg, J. W. (2003). Source partitioning using stable isotopes: coping with too many sources. *Oecologia*, 136(2), 261-269.
- 80 Post, D. M. (2002). Using stable isotopes to estimate trophic position: models, methods, and assumptions. *Ecology*, 83(3), 703-718.
- 81 Radajewski, S., Ineson, P., Parekh, N. R., & Murrell, J. C. (2000). Stable-isotope probing as a tool in microbial ecology. *Nature*, 403(6770), 646-649.
- 82 Robinson, D. (2001).  $\delta^{15}\text{N}$  as an integrator of the nitrogen cycle. *Trends in Ecology & Evolution*, 16(3), 153-162.
- 83 Roden J.S., Lin G. & Ehleringer J.R. (2000) A mechanistic model for interpretation of hydrogen and oxygen isotope ratios in tree-ring cellulose. *Geochimica et Cosmochimica Acta* 64, 21–35.
- 84 Rundel, P., Ehleringer, J. R., & Nagy, K. A. (Eds.). (1989). *Stable isotopes in ecological research* (Vol. 68). Springer Science & Business Media.
- 85 Schoeninger, M. J., DeNiro, M. J., & Tauber, H. (1983). Stable nitrogen isotope ratios of bone collagen reflect marine and terrestrial components of prehistoric human diet. *Science*, 220(4604), 1381-1383.
- 86 Schulze, E. D., Williams, R. J., Farquhar, G. D., Schulze, W., Langridge, J., Miller, J. M., & Walker, B. H. (1998). Carbon and nitrogen isotope discrimination and nitrogen nutrition of trees along a rainfall gradient in northern Australia. *Functional Plant Biology*, 25(4), 413-425.
- 87 Shearer G , Kohl D H . (1986). N<sub>2</sub>-Fixation in Field Settings: Estimations Based on Natural <sup>15</sup>N Abundance. *Functional Plant Biology*, 13(6):699-756.
- 88 Sigman D M , Casciotti K L , Andreani M , et al. (2001). A Bacterial Method for the Nitrogen Isotopic Analysis of Nitrate in Seawater and Freshwater. *Analytical Chemistry*, 73(17):4145-4153.



- 89 Silva S R , Kendall C , Wilkison D H , et al. (2000). A new method for collection of nitrate from fresh water and the analysis of nitrogen and oxygen isotope ratios. *Journal of Hydrology*, 228(1-2):22-36.
- 90 Sternberg L, DeNior M. (1983) Biogeochemical implications of the isotopic equilibrium fractionation factor between the oxygen atoms of acetone and water. *47: 2271-2274*.
- 91 Stark J M , Hart S C .(1997), High rates of nitrification and nitrate turnover in undisturbed coniferous forests. *Nature (London)*, 385(6611):61-64.
- 92 TaHogberg, P. (1997). Tansley review No 95: N-15 natural abundance in soil-plant systems. *NEW PHYTOLOGIST 137 : 179-203*.
- 93 Thamdrup B , Dalsgaard T .(2002), Production of N<sub>2</sub> through Anaerobic Ammonium Oxidation Coupled to Nitrate Reduction in Marine Sediments. *Applied and Environmental Microbiology*, 68(3):1312-1318.
- 94 Vitousek P M , Cassman K , Cleveland C , et al. (2002). Towards an ecological understanding of biological nitrogen fixation. *Biogeochemistry*, 57-58(1):1-45.
- 95 Waser, NAD; Harrison, PJ; Nielsen, B, et al. (1998). Nitrogen isotope fractionation during the uptake and assimilation of nitrate, nitrite, ammonium, and urea by a marine diatom. *Limnology and Oceanography*, 43(2):215-224.
- 96 White JWC, Cook ER, Lawrenc JR, Broecker WS. (1985). The D/H ratios of sap in trees: implications for water sources and tree ring D/H ratios. *Geochim Cosmochim Acta* 49:237–246.
- 97 Yakir D. (1992) Variations in the natural abundance of oxygen-18 and deuterium in plant carbohydrates. *Plant Cell Environ* 15: 1005–1020.
- 98 Yakir D. &. Wang, X.F. (1996) Fluxes of CO<sub>2</sub> and water fluxes between terrestrial vegetation and the atmosphere estimated from isotope measurements. *Nature* 380:515–517.
- 99 Yakir, D., and L. da S. L. Sternberg (2000), The use of stable isotopes to study ecosystem gas exchange, *Oecologia*, 123, 297–311, doi:10.1007/s004420051016.

100 Zanden, M. & Rasmussen, J. B. (2001). Variation in  $\delta^{15}\text{N}$  and  $\delta^{13}\text{C}$  trophic fractionation: implications for aquatic food web studies. *Limnology and Oceanography*, 46(8): 2061-2066.