

Supplementary Material

Incorrect estimation of predator-prey mass ratios from stable isotopes

Eric Hertz^{1,3*}, James Robinson^{1,3}, Marc Trudel^{1,2}, Asit Mazumder¹, Julia Baum¹

¹Department of Biology, University of Victoria, PO BOX 3020, Station CSC,
Victoria British Columbia, Canada, V8W 3N5.

²Pacific Biological Station, Department of Fisheries and Oceans Canada, 3190 Hammond Bay
Road, Nanaimo, British Columbia, Canada, V9T 6N7

³These authors contributed equally to this work.

*corresponding author:

hertz@uvic.ca

Phone: 1 (250) 721-8099

Fax: 1 (250) 472-4766

Methods

All code for simulations is available at github.com/baumlabs/ppmr-isotopes

Figures

Figure S1: Predator prey mass ratio (PPMR) estimates calculated from additive (grey) and scaled (red) estimates of trophic level across a range of $\delta^{15}\text{N}_{\text{base}}$ (4-11‰). (a) PPMR estimates for a low $\delta^{15}\text{N}$ community (initial $\delta^{15}\text{N}$ similar to $\delta^{15}\text{N}_{\text{base}}$). (b) PPMR estimates for a high $\delta^{15}\text{N}$ community (initial $\delta^{15}\text{N}$ 6 above $\delta^{15}\text{N}_{\text{base}}$). Note the different scales on the y-axes. In both sample types, PPMR is approximately 2000 under the additive approach.

Figure S2: Predator prey mass ratio (PPMR) estimates calculated from additive (grey) and scaled (red) estimates of trophic level across a range of $\delta^{15}\text{N}_{\text{base}}$ (4-11‰). (a) PPMR estimates for a low $\delta^{15}\text{N}$ community (initial $\delta^{15}\text{N}$ similar to $\delta^{15}\text{N}_{\text{base}}$). (b) PPMR estimates for a high $\delta^{15}\text{N}$ community (initial $\delta^{15}\text{N}$ 6 above $\delta^{15}\text{N}_{\text{base}}$). Note the different scales on the y-axes. In both sample types, PPMR is approximately 100 under the additive approach.

Figure S1:

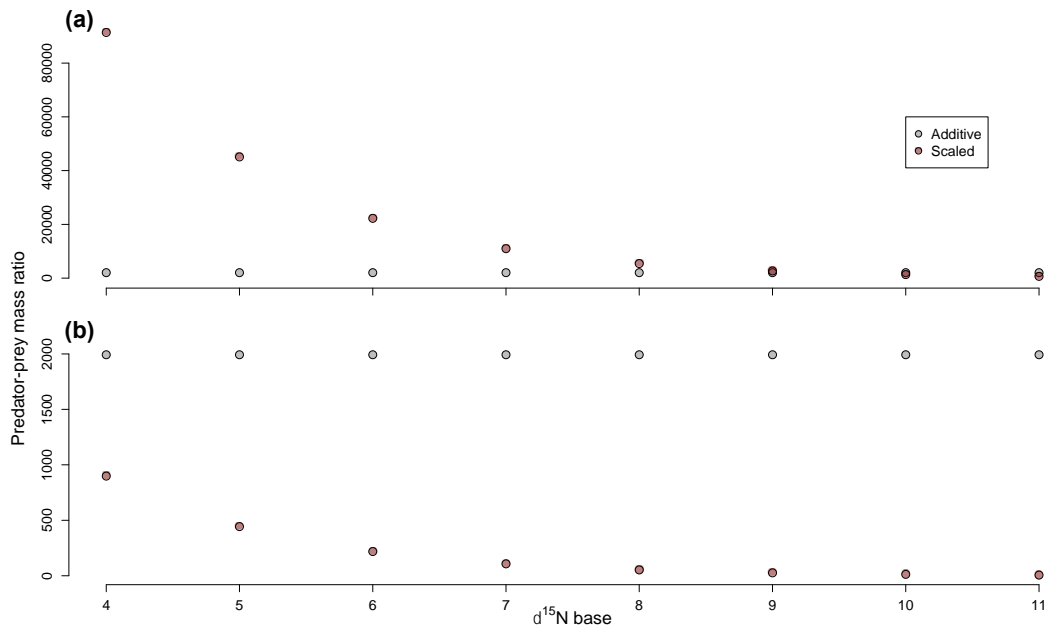


Figure S2:

