

Appendix S1 *Calculations of stable isotope ratios*

The isotope ratios are reported with units of per mil (‰) difference according to:

$$[E1] \quad \delta_{sample} = \left(\frac{R_{sample}}{R_{std}} - 1 \right) * 1000$$

where δ is ^{13}C or ^{15}N , R_{sample} is the ratio of the rare to abundant isotope, R_{std} refers to the isotope standards VPDB, $R_{\text{N}}=0.011180$, and air, $R_{\text{C}}=0.0036765$. Assuming that the two phases, the sink and its source, are in equilibrium, the isotopic difference α is described as:

$$[E2] \quad \alpha = \frac{R_{sink}}{R_{source}} = \frac{1000 + \delta_{sink}}{1000 + \delta_{source}}$$

Isotopic difference is given with ‰ notation using:

$$[E3] \quad \varepsilon = (\alpha - 1) * 1000$$

Functional Ecology – Supporting Information

Table S1 Isotope ratios for *Proisotoma minuta*, *Protaphorura fimata* and their diets

Isotope ratios (δ) for *Proisotoma minuta*, *Protaphorura fimata* (means \pm SE, n=4) and their diets (n=3). Small letters denote significant differences (ANOVA, $p < 0.05$) among *P. minuta* and *P. fimata* control treatments and capital letters denote significant differences among the labelled treatments. See Fig. 1 for explanation of treatments.

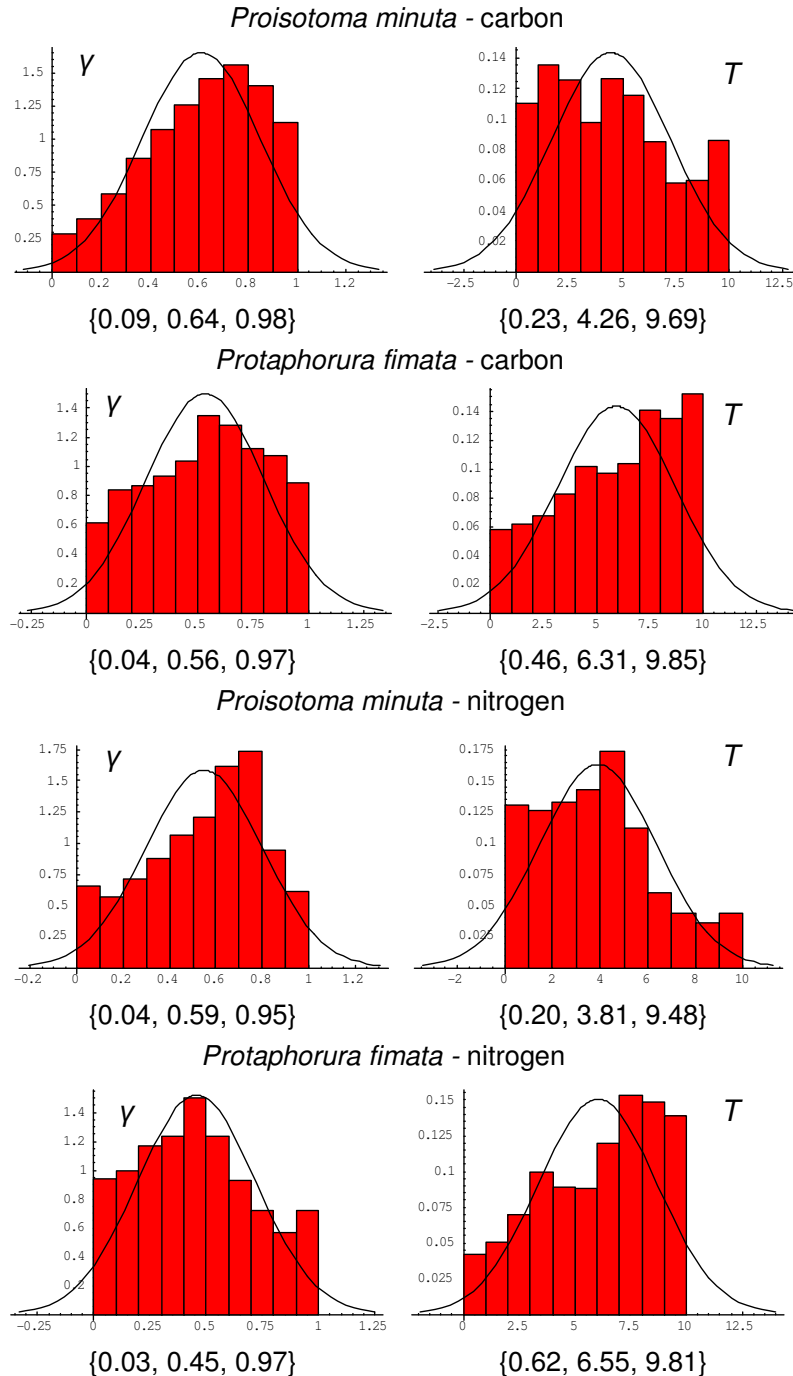
Treatment	$\delta^{13}\text{C}$ (‰)		$\delta^{15}\text{N}$ (‰)	
	<i>P. minuta</i>	<i>P. fimata</i>	<i>P. minuta</i>	<i>P. fimata</i>
Control diet	-18.0 \pm 0.0 ^a	-18.0 \pm 0.0 ^a	1.4 \pm 0.6 ^{ab}	1.4 \pm 0.6 ^a
CP- day 0	-16.6 \pm 0.1 ^b	-17.4 \pm 0.1 ^{ad}	3.6 \pm 0.3 ^{ac}	2.9 \pm 0.7 ^a
CP- day 28	-16.2 \pm 0.1 ^b	-17.6 \pm 0.1 ^{ad}	2.5 \pm 0.2 ^{ac}	-0.5 \pm 0.3 ^b
CP eggs ⁱ⁾	-17.2 \pm 0.0 ^{cd}	-17.1 \pm 0.4 ^{ac}	1.3 \pm 0.3 ^{ab}	4.4 \pm 0.8 ^c
Labelled diet	928.6 \pm 1.1 ^A	928.6 \pm 1.1 ^A	1004.2 \pm 1.1 ^A	1004.2 \pm 1.1 ^A
LP - day 11	918.1 \pm 2.3 ^B	917.7 \pm 0.7 ^B	991.3 \pm 4.5 ^B	987.1 \pm 0.5 ^B
LG - day 8	931.1 \pm 0.6 ^A	929.9 \pm 1.5 ^A	1011.8 \pm 0.8 ^A	1009.3 \pm 1.4 ^A
LG eggs ⁱⁱ⁾	933.9		1010.7	

i) collected between 14 and 28 days after diet switch. ii) *P. fimata* samples were lost and *P. minuta* replicates were pooled to obtain sufficient biomass

Functional Ecology – Supporting Information

Figure S1 *Collembolan allocation of carbon and nitrogen to egg manufacturing*

Modelled parameters of collembolan allocation of carbon and nitrogen to egg manufacturing: γ is allocation directly diet (between 0 and 1) to eggs, and T is the egg development time (days). Values in curly brackets represent 0.025, 0.5, and 0.975 percentiles.



Nutrient allocations and metabolism in two collembolans with contrasting reproduction and growth strategies by T. Larsen, M. Ventura, C. Damgaard, E. A. Hobbie, P. H. Krogh

Figure S2 The allometric scaling coefficient between *Proisotoma minuta* and *Protaphorura fimata*

Modelling allometric scaling between *P. minuta* and *P. fimata* with the function: $A'_c = a \cdot W^b$, where A'_c is the metabolic rate, W is the body mass, b is the metabolic scaling coefficient and a is the normalization constant. The points show mean metabolic rates per individual with 95 % confidence intervals as a function of the mean mass of adults (n=16, 0 – 28 days after sexual maturity). We assumed that all metabolized C was respired to CO₂. The solid line is the regression line and the broken lines are the confidence intervals.

