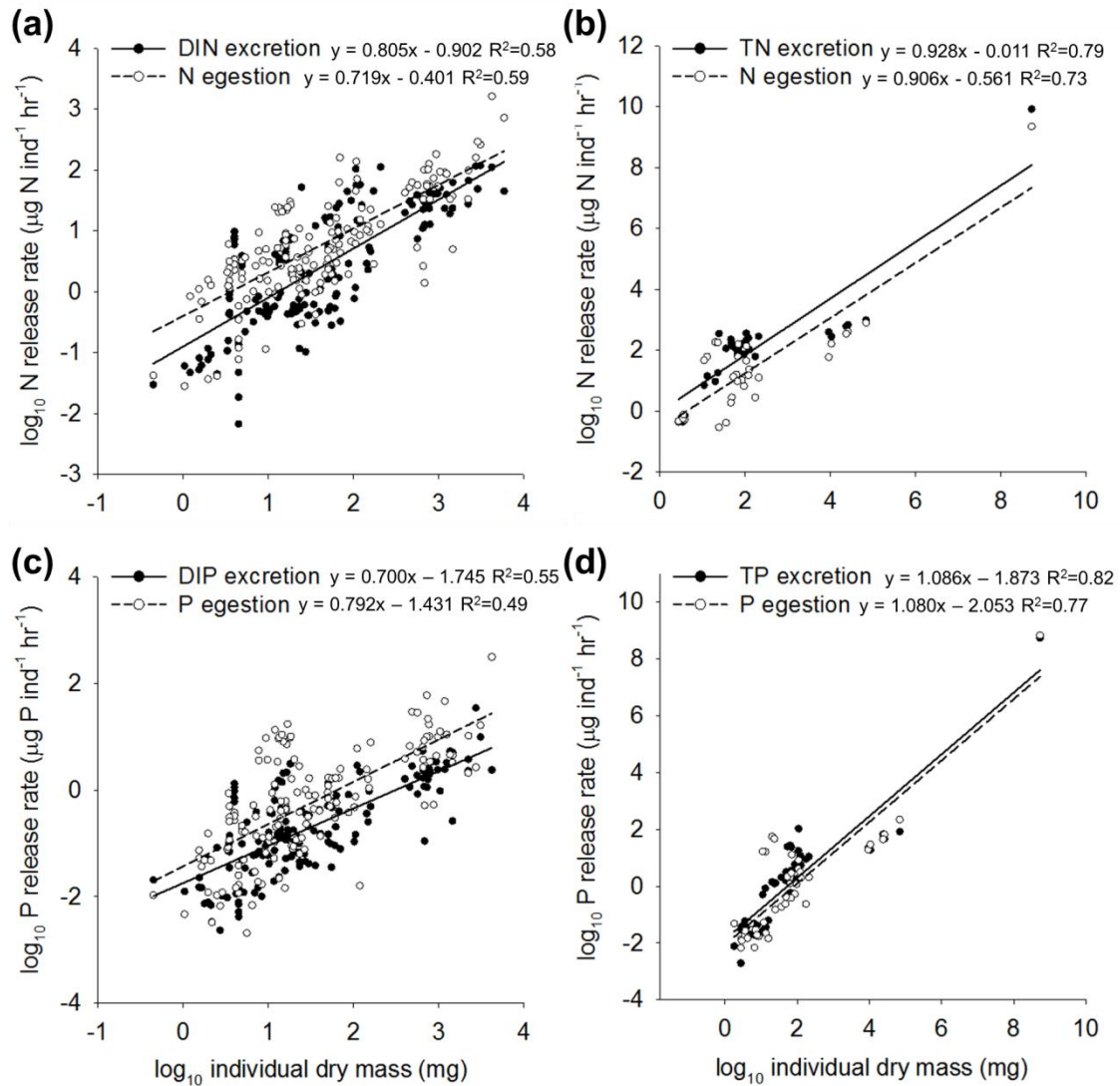
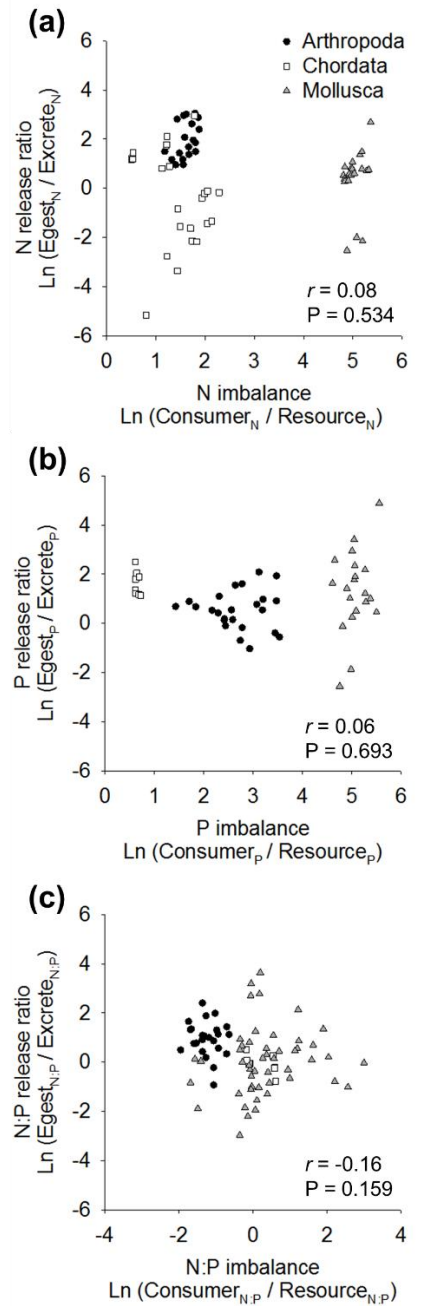


## Supplementary Material 2



**Figure 1.** Scatterplots of mean log-transformed N and P excretion and egestion rates and individual body dry mass across all study populations included in the meta-analysis. Panels are arranged into (a) N egestion and dissolved inorganic N (DIN) excretion, (b) N egestion and total N (TN) excretion, (c) P egestion and dissolved inorganic P (DIP) excretion, and (d) P egestion and total P (TP) excretion. Equations next to legend identifications describe linear regression statistics for each pathway of nutrient release as a function of body mass. Only populations from which both excretion and egestion were measured are included.



**Figure S2.** Scatterplots of (a) N release ratios, (b) P release ratios, or (c) N:P release ratios of egestion relative to excretion across degrees of consumer-resource elemental imbalance. Pearson's correlation coefficients and  $P$ -values are designated for each dataset (all phyla included) within each panel.

**Table S1.** Summary of best-fit mixed effects model intercepts for all analyses of release ratios.

Response	Model structure	Model intercept	SE	<i>t</i> -value	<i>P</i> -value
N release ratio (inorganic)	1 Source Study + 1 Family	0.782	0.271	2.89 <sub>1,126</sub>	0.005
N release ratio (total)	1 Family	-0.558	0.319	-1.75 <sub>1,27</sub>	0.092
P release ratio (inorganic)	Log Dry Mass + Phylum + 1 Source Study + 1 Family	1.23	0.557	2.21 <sub>1,122</sub>	0.029
P release ratio (total)	1 Family	0.343	0.431	0.80 <sub>1,38</sub>	0.430
N:P release ratio (inorganic)	1 Source Study + 1 Family	0.195	0.23	0.85 <sub>1,108</sub>	0.397
N:P release ratio (total)	1 Family	-0.542	0.45	-1.21 <sub>1,40</sub>	0.233

**Table S2.** Summary of best-fit mixed effects model intercepts for all analyses of release relative variance.

Response	Model structure	Model intercept	SE	t-value	P-value
N release relative variance (inorganic)	1 Family	0.326	0.125	2.60 <sub>1,137</sub>	0.010
N release relative variance (total)	1 Family	0.368	0.326	1.13 <sub>1,24</sub>	0.270
P release relative variance (inorganic)	Log Dry Mass + Phylum + 1 Family	0.417	0.229	1.82 <sub>1,122</sub>	0.071
P release relative variance (total)	1 Family	0.176	0.157	1.1 <sub>1,26</sub>	0.273
N:P release relative variance (inorganic)	1 Family	-0.189	0.210	-0.9 <sub>1,87</sub>	0.372
N:P release relative variance (total)	1 Family	-0.187	0.473	-0.40 <sub>1,34</sub>	0.695