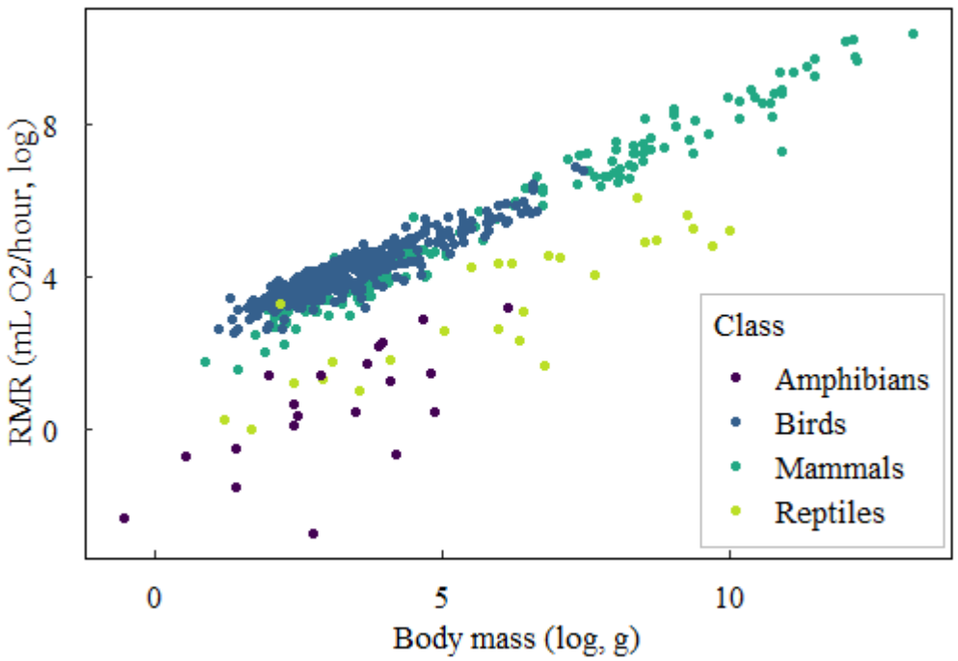
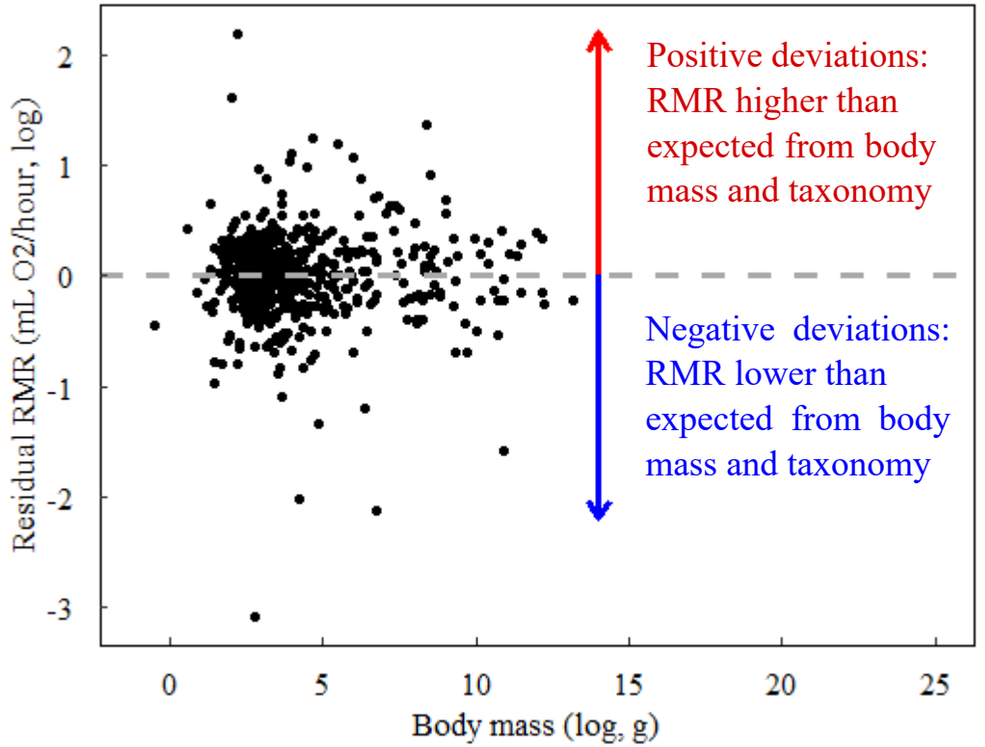
(a) Assemblage-level: there is less energy available to utilize by vertebrate assemblages in disturbed land uses than in undisturbed land uses.



residuals of
log(RMR)~log(BM) +
(1 + log(BM)|Class/Order

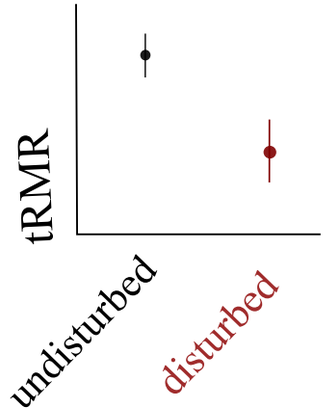
(b) Species-level: species with lower energetic expenditure than expected from body mass and taxonomy (negative deviations) do better in disturbed land uses than species with higher energetic expenditure than expected from body mass and taxonomy (positive deviations).



Prediction 1: within all trophic groups, total assemblage-level **mass-dependent** metabolic rates decrease in disturbed land uses compared to undisturbed land uses.

Assemblage level:
$tRMR=\Sigma_i(RMR_i*a_i)$

Across assemblages - model 1:
log(tRMR) ~ LU + LUI + TG +
LU:LUI + LU:TG + LUI:TG+
LU:LUI:TG + *RE*



Prediction 2: within all trophic groups, species occurrence probability in disturbed land uses is negatively affected by **residual RMR**. The slope of the relationship between occurrence probability and residual RMR is significantly lower than the slope estimate for the undisturbed land uses.

Across species - model 2:
$P_{occurrence}$ ~ LU +LUI + resRMR + TG +
LU:LUI + LU:TG + LU:resRMR +
LUI:TG + LUI:resRMR + TG:resRMR +
LU:TG:resRMR + LUI:TG:resRMR + *RE*