

Supplementary 4: Linear and quadratic and interaction effects of protein (P) and carbohydrate (C) on male and female fitness. Significant effects are represented in bold ($P < 0.05$).

	Linear effects		Quadratic Effects		Interaction
	P	C	P ²	C ²	P × C
Male					
Slope ± SE	0.192 ± 0.246	-0.866±0.576	-0.461±0.103	0.383± 0.281	0.761±0.260
t	0.78	-1.504	-4.443	1.361	2.922
Female					
Slope ± SE	0.912±0.194	0.437±0.0.438	0.3740±0.0651	0.1314±0.220	-1.016±0.226
t	4.614	0.997	5.738	0.596	-4.479

5 The sign of the linear gradient describes the direction of the relationship between nutrient intake and the response variable (fitness). The quadratic effects capturing concave relationships (troughs in nutritional landscape, slope positive), and convex relationships (peaks on the landscape, slope negative). The sign of the interaction terms indicates changes in the effect of one nutrient with the level of the other nutrient.

10