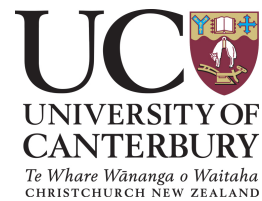


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26 June 2015

**Professor Spencer C.H. Barrett**  
**Editor-in-Chief**  
**Proceedings of the Royal Society B**  
**6-9 Carlton House Terrace**  
**London, UK**  
**SW1Y 5AG**

Dear Prof. Barrett:

We are happy to invite you to consider our manuscript “*Specialisation in food webs scales with species richness but not with latitude*” for publication in the Population and Community Ecology section of the *Proceedings of the Royal Society B*.

Our study aims to combine two well-established but disparate ecological themes, namely the analysis of macroecological gradients and the search for general laws governing the structure of food webs (networks of who eats whom within a community). In particular, we explored the possibility of a link between the well-known latitudinal gradients in species richness of some taxa (e.g., birds, terrestrial plants) and the scaling relationships between species richness and food-web structure. With regard to the former, one hypothesised mechanism for greater species richness in the tropics is the latitude-niche-breadth hypothesis, which predicts that the greater stability of temperature and productivity in the tropics will permit species to evolve narrower niches and therefore more finely partition habitats. If this hypothesis holds true, then tropical species should be more specialised—have fewer feeding links—than their high-latitude counterparts. However, the number of feeding links in which a species is involved is also known to increase with the number of species in the community food web following a power law. Therefore we also naively expect that species in tropical food webs will participate in relatively many feeding links by virtue of their speciose communities. To address this apparent paradox, we tested for an effect of latitude on the strength of the relationship between specialisation and species richness.

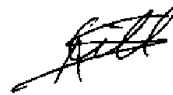
In general, we found little evidence of an effect of latitude on the relationship between

specialisation and species richness, implying that latitudinal variation in food-web structure may be driven purely by latitudinal gradients in species richness. If diet breadth may be taken as a measure of a species' Eltonian (biotic) niche, this means that food webs in general do not conform to the latitude-niche-breadth hypothesis. Ecosystem type, on the other hand, had a greater impact on scaling exponents, suggesting that different processes may structure food webs in different habitats. Indeed, freshwater food webs departed from the overall trend and showed strong effects of latitude on scaling relationships. Only in these food webs was the latitude-niche-breadth hypothesis.

By linking macroecology and food-web ecology, we believe that our study will be of interest to ecologists, theory-focused biologists, and to general readers of *Proceedings of the Royal Society B*. Our results are potentially applicable to researchers exploring community structure and specialisation in a variety of different systems and also provide a new community-wide perspective on the validity of the latitude-niche-breadth hypothesis. We hope you will agree that this broad relevance and the novelty of our results justify consideration of our manuscript for *Proceedings of the Royal Society B*.

Thank you again for your consideration.

Regards,

A handwritten signature in black ink, appearing to read 'Alyssa R. Cirtwill', written in a cursive style.

Alyssa R. Cirtwill