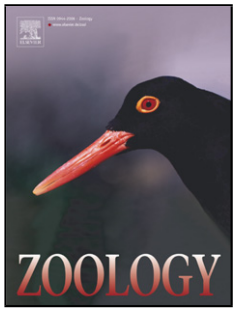

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How sensitive are temperate tadpoles to climate change? The use of thermal physiology and niche model tools to assess vulnerability

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Highlights

- Temperate tadpoles' sensitivity to climate change was studied.
- The threat level of anuran tadpoles may increase in the context of climate change.
- Modelled distributions were combined with empirical physiological results.
- Some species may experience local extinction or reduced distributional range in the future.

Abstract

Ectotherms are vulnerable to climate change, given their dependence on temperature, and amphibians are particularly interesting because of their complex life cycle. Tadpoles may regulate their body temperature by using suitable thermal microhabitats. Thus, their physiological responses are the result of adjustment to the local thermal limits experienced in their ponds. We studied three anuran tadpole species present in Argentina and Chile: *Pleurodema thaul* and *Pleurodema bufoninum* that are seasonal and have broad geographic