

Acknowledgements: We are grateful to FG Jara for his help in the field. We acknowledge to anonymous reviewers that helped to considerably improve the early version of the manuscript. This work was supported by Universidad Nacional del Comahue (UNCo) B 166, Agencia Nacional de Promoción Científica y Tecnológica (ANPCYT) PICT 13-2384-Prestamo BID- to MP and Consejo Nacional de Investigaciones Científicas y Técnicas PIP-11220110100782 to MGP. All treatments followed the ethical norms imposed by the Administración de Parques Nacionales-Argentina, N° 1231, and samplings in Laguna Fantasma were authorised by Subsecretaría de Medio Ambiente of San Carlos de Bariloche (PM N° 2012).

REFERENCES

- Abrams, P.A. (1991). Life history and the relationship between food availability and foraging effort. *Ecology* 72, 1242–1252.
- Anholt, B.R. & Werner, E.E. (1998). Predictable changes in predation mortality as a consequence of changes in food availability and predation risk. *Evolutionary Ecology* 12, 729–738.
- Coleman, S.L., Brown, V.R., Levine, D.S. & Mellgren, R.L. (2005). A neural network model of foraging decisions made under predation risk. *Cognitive Affective and Behavioral Neuroscience* 5, 434–451.
- Díaz Villanueva, V. (2006). Diatom distribution in a temporary pond from the Patagonian Andes (Fantasma Pond) during drought. *Nova Hedwigia* 83, 459–472.
- Domjan, M. (2003). *Principios de aprendizaje y conducta*. Madrid: Thomson.
- Eklöv, P. & Werner, E.E. (2000). Multiple predator effects on size-dependent behavior and mortality of two species of anuran larvae. *Oikos* 88, 250–258.
- Fraker, M.E. (2008a). The effect of hunger on the strength and duration of the antipredator behavioral response of green frog (*Rana clamitans*) tadpoles. *Behavioral Ecology and Sociobiology* 62, 1201–1205.
- Fraker, M.E. (2008b). The dynamics of predation risk assessment: responses of anuran larvae to chemical cues of predators. *Journal of Animal Ecology* 77, 638–645.
- Gendron, R.P. & Staddon, J.E.R. (1984). A laboratory simulation of foraging behavior: the effect of search rate on the probability of detecting prey. *American Naturalist* 124, 407–415.
- Gerritsen, J. & Strickler, J.R. (1977). Encounter probabilities, and the community structure in zooplankton: a mathematical model. *Journal of the Fisheries Research Board of Canada* 34, 73–82.
- Horat, P. & Semlitsch, R.D. (1994). Effects of predation risk and hunger on the behaviour of two species of tadpoles. *Behavioral Ecology and Sociobiology* 34, 393–401.
- Houston, A.I., McNamara, J.M. & Hutchinson, J.M.C. (1993). General results concerning the trade-off between gaining energy and avoiding predation. *Philosophical Transactions of the Royal Society of London series B: Biological Sciences* 341, 375–397.
- Jara, F.G. (2010). Plasticidad fenotípica en anuros Patagónicos de los géneros *Pleurodema* y *Rhinella*: respuestas al hidropereodo y a los depredadores. Doctoral Thesis, Universidad Nacional del Comahue, Argentina.
- Jara, F.G. & Perotti, M.G. (2010). Risk of predation and behavioural response in three anuran species: influence of tadpole size and predator type. *Hydrobiologia* 644, 313–324.
- Kandel, E.R., Jessell, T.M. & Scharz, J.M. (1997). *Neurociencia y conducta*. España: Prentice-Hall.
- Leblond, M., Fan, D., Brynildsen, J.K. & Yin, H.H. (2011). Motivational state and reward content determine choice behavior under risk in mice. *PLoS One* 6, e25342.
- Lienart, G.D.H., Mitchell, M.D., Ferrari, M.C.O. & McCormick, M.I. (2014). Temperature and food availability affect risk assessment in an ectotherm. *Animal Behavior* 89, 199–204.
- Lima, S.L. & Bednekoff, P.A. (1999). Temporal variation in danger drives antipredator behavior: the predation risk allocation hypothesis. *American Naturalist* 153, 649–659.
- Lima, S.L. & Dill, L.M. (1990). Behavioral decisions made under the risk of predation: a review and prospectus. *Canadian Journal of Zoology* 68, 619–640.
- McNamara, J.M. & Houston, A.I. (1987). Starvation and predation as factors limiting population size. *Ecology* 68, 1515–1519.
- McNamara, J.M. & Houston, A.I. (1994). The effect of a change in foraging options on intake rate and predation rate. *American Naturalist* 144, 978–1000.
- Mirza, R.S., Ferrari, M.C.O., Kiesecker, J.M. & Chivers, D.P. (2006). Responses of American toad tadpoles to predation cues: behavioural response thresholds, threat-sensitivity and acquired predation recognition. *Behaviour* 143, 887–889.
- Skelly, D.K. (1994). Activity level and susceptibility of anuran larvae to predation. *Animal Behavior* 47, 465–468.
- Steinberg, D.S., Losos, J.B., Schoener, T. W., Spiller, D.A., Kolbe, J.J. & Leal, M. (2014). Predation-associated modulation of movement-based signals by a Bahamian lizard. *Proceedings of the National Academy of Sciences*, 111, 9187–9192.
- Steiner, U.K. (2007). Linking antipredator behaviour, ingestion, gut evacuation and costs of predator-induced responses in tadpoles. *Animal Behavior* 74, 1473–1479.

Accepted: 1 June 2015