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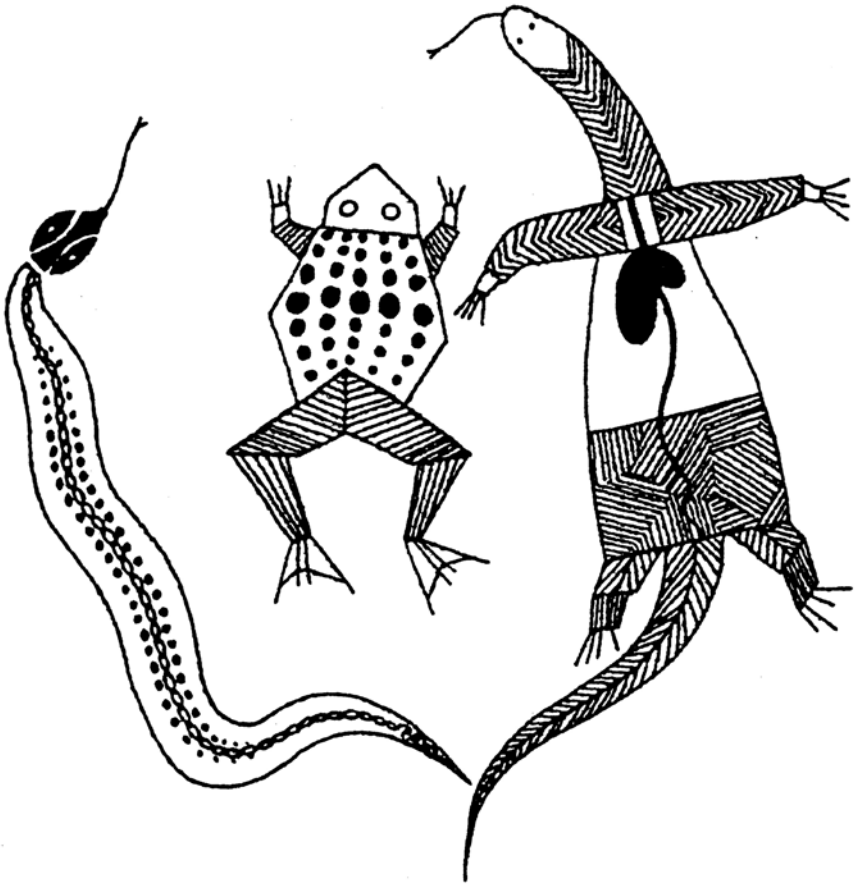

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warming themselves on thermal springs in the months prior to nesting, turtles may have accelerated follicular development and nested earlier.

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An experimental demonstration of direct behavioural interference in two Mediterranean lacertid lizard species

Podarcis sicula of Italian origin expanded its range to coastal areas and numerous islands of Croatia, where it seemingly replaced the autochtonous species *P. melisellensis* through competition. We used an experiment on newborn lizards to test whether direct behavioral interference occurs between *Podarcis sicula* and *P. melisellensis*, whereby the former species obtains an advantage over the latter species. Brief encounters between *P. sicula* and *P. melisellensis* were more aggressive and more likely to result in dominance-subordinate relationships than were brief encounters between pairs of conspecific *P. melisellensis* lizards. During prolonged encounters individuals comprising heterospecific pairs were less likely to simultaneously occupy a thermal microhabitat compared with individuals from homospecific pairs. Contrasts of individuals comprising heterospecific pairs unequivocally illustrate that behavioural interference is asymmetric in favour of *P. sicula*. During brief encounters *P. sicula* were more aggressive and dominant than *P. melisellensis* opponents. When lizards cohabited for longer periods *P. sicula* used better thermal microhabitats, whereas *P. melisellensis* used poorer thermal microhabitats than they did in isolation. In addition, *P. sicula* grew faster, whereas *P. melisellensis* grew slower than they did in isolation. These among-species shifts in microhabitat use and growth were not evident during prolonged encounters with homospecific pairs. Thus, our observations indicate that asymmetric aggressive interactions between hatchlings of our study species result in a reduction of an important fitness component of *P. melisellensis*. These findings are consistent with the hypothesis that direct behavioural interference by *P. sicula* is the mechanistic basis of the competitive exclusion of *P. melisellensis*.

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Impact of a native and introduced predator on tadpole survivorship in complex habitats

Predation is an important process that can influence the survival of amphibian larvae and can be strongly influenced by the environmental complexity of a wetland. Tadpoles persisting in wetlands characterised by habitat simplification, such as constructed wetlands, may undergo high predation rates. The introduced mosquitofish *Gambusia holbrooki* has been suspected of having deleterious effects on populations of amphibians in many parts of Australia, however most evidence is anecdotal and the few quantitative studies conducted have to a large degree failed to mimic the complex ecological interactions that may occur in nature. A factorial experiment was designed, crossing eight levels of environmental complexity with three predator treatments (no predator, predacious fish: *G. holbrooki* or predacious insect larvae *Hemicordulia tau*), to determine the relative impact of predators on survivorship of *Litoria adelaidensis* tadpoles in differing levels of environmental complexity. Analysis showed that predator type had a large influence on tadpole survivorship, while habitat cover and the presence of alternative prey improved tadpole survivorship significantly in the presence of both native and introduced predators. This study demonstrated that habitat complexity and the presence of alternative food sources can play an important role in mediating predator-prey interactions but still highlighted the potential impact the introduced predator *G. holbrooki* may have on native tadpole populations. Consequently, future design of constructed wetlands should ensure the availability of habitat structure and exclusion of the introduced predator, *G. holbrooki*.

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Studies of reproduction in *Limnodynastes tasmaniensis* (Anura: Myobatrachidae): a model species for assisted reproduction and nuclear transfer in myobatrachid frogs

Assisted reproductive technologies and gene banking provide tools to combat declining amphibian populations and extinctions in the light of unknown causal agents and failing species management strategies. This study outlines general reproductive biology and optimises *in vitro* fertilisation and oocyte storage in *Limnodynastes tasmaniensis*, developing this species as a model for assisted reproduction in myobatrachids and paving the way for development of complex procedures such as nuclear transfer and androgenesis. Larger frogs were shown to have greater fecundity, providing *a priori* indicators for future optimisation experiments. *In vitro*