Preliminary evidence for the loss of anti-predator responses from a havened mammal population.

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In light of the threat that invasive predators pose to Australian mammals, we are increasingly preserving threatened populations within predator-free havens. Inside these havens in the absence of predators, traits that once provided individuals with some protection against predation (such as neophobia) become useless and costly. Consequently, in havened populations these traits may be selected against, rendering individuals unfit for reintroduction into areas where predators remain. Using a routine capture and spotlight monitoring dataset spanning 10 years, we aimed to reveal any evidence for the loss of anti-predator responses from a havened population of woylies (*Bettongia penicillata*) in the South West of Western Australia. We identified six behavioural and morphological traits relating to predator escape and used these metrics to draw a paired comparison between a havened and non-havened population of woylies who share identical evolutionary histories. The results highlight population-level differences in the behaviour and morphology of havened and non-havened woylies, providing preliminary evidence for the loss of anti-predator responses from the havened population. Our study paves the way toward a conceptual and mechanistic understanding of the loss of anti-predator responses, which is essential if we are to aim for the persistence of havened species outside of predator-free havens.