Kea show three signatures of domain-general inference

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Abstract

Domain-general thought requires an ability to combine information from different cognitive domains within a single judgement. We presented kea parrots (Nestor notabilis) with probabilistic choice tasks that required them to make predictions about which of two hidden samples was most likely to contain a rewarding token. Over the course of three experiments, we found that kea used relative rather than absolute quantities to make their sampling predictions and could integrate either knowledge about a physical barrier or demonstrators' sampling biases to adjust their judgements. This work provides the first evidence for domain-general statistical inference outside of humans and the great apes. This suggests that at least two structurally distinct brain models have independently evolved an ability to integrate information, highlighting how comparative cognition may inspire the development of novel artificial general intelligence systems.