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Social transmission in avian brood parasitism systems

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Abstract

Obligate brood parasites lay all of their eggs in nests of other species, leaving the burden of parental care entirely to the hosts. As a consequence of being parasitized, hosts' reproductive success is often reduced. This strategy has triggered a coevolutionary dynamic involving behavioural, physiological and morphological adaptations and counter-adaptations from the two players, whose conflicting functions are to successfully parasitize a nest, and prevent or reduce the negative effects of parasitism. In parasite systems studied in the New and Old worlds, warbler hosts exhibited different degrees of learning antiparasite defences from conspecifics. By quantifying strength and direction of selection of intensity and plasticity of nest defence, it was possible to reveal role and evolutionary consequences of social transmission in the frontline defence of this arms race. As group mobbing was also part of antiparasite defence, results indicate that an extended phenotype, including conspecific and heterospecific social phenotype, should be taken into account for continued investigations of the selection trajectories in this ideal coevolutionary model.

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