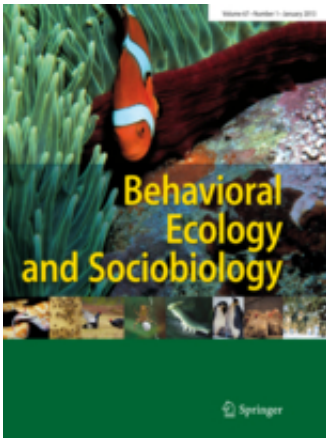


Birds find ways to avoid raising cuckoos' young

April 8 2013



Some species of birds reproduce not by rearing their own young, but by handing that task on to adults of other species. Known as brood parasitism, this habit has been most thoroughly researched in the cuckoo. Previous research has found, however, that the nests of martins and swallows in Europe are rarely parasitized by cuckoos. A new study by Wen Liang from the Hainan Normal University in China and his colleagues suggests that swallows build their nests close to humans to reduce their susceptibility to brood parasitism. The findings are published in Springer's journal *Behavioral Ecology and Sociobiology*.

When a [cuckoo](#) egg is placed in a host nest, the host may either

recognize that the egg is not one of its own and eject it from the nest, or it incubates and hatches the cuckoo egg. If the cuckoo [egg hatches](#), the fledgling will usually push any other eggs and nestlings it encounters over the edge of the nest. Once the host parents are deprived of their rightful young, they devote all their time and energy to feeding the young cuckoo.

Cuckoos tend not to inhabit villages, towns and cities and prefer to nest in open areas. The researchers suggest that the low rates of brood parasitism of swallows and martins in Europe could be caused by these birds now breeding in close association with humans and building their nests inside buildings. The barn swallow in China still nests predominantly outside but, interestingly, has low rates of parasitism by cuckoos.

In order to fully investigate the reasons for this, the researchers placed model mimetic eggs in the nests of [barn swallows](#), house martins and red-rumped swallows. They noted that the rate of rejection of model cuckoo eggs was much higher in the birds with nests located outdoors than in the indoor nests.

The authors contend that in order to avoid brood parasitism by cuckoos, European martins and swallows have over the years evolved to build their nests inside and in places inaccessible to cuckoos. These birds therefore are less "skillful" in ejecting the mimic cuckoo eggs from their nests. As barn swallows in China still build nests outside and therefore are more susceptible to [brood parasitism](#), they are better able to assess when an egg is not theirs and remove the foreign egg from their nest quickly. This shows that they have been able to develop an alternative strategy to reduce the likelihood of cuckoo parasitism.

The authors conclude that "suitable cuckoo hosts breeding close to human habitation enjoy a selective advantage from breeding indoors in

terms of reduced risk of parasitism. Cuckoos are more likely to parasitize barn swallow nests outdoors than indoors. These findings suggest that birds benefit from association with humans in terms of reduce risk of parasitism."

More information: Liang, W. et al. (2013). Avoiding parasitism by breeding indoors: cuckoo parasitism of hirundines and rejection of eggs. *Behavioral Ecology and Sociobiology*. [DOI 10.1007/s00265-013-1514-9](https://doi.org/10.1007/s00265-013-1514-9)

Provided by Springer

Citation: Birds find ways to avoid raising cuckoos' young (2013, April 8) retrieved 26 April 2024 from <https://phys.org/news/2013-04-birds-ways-cuckoos-young.html>

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