

Birds line nests with cigarette butts to repel pests, scientists claim

Birds are lining their nests with cigarette butts to repel pests and keep themselves warm, according to research.

House finches, *Carpodacus mexicanus*, in Mexico City, are keeping their nests warm and pest-free by lining them with cigarette butts Photo: AP/PA

8:33AM GMT 05 Dec 2012

Wild birds have long protected their nests from mite invasion by importing chemical-emitting plants.

But now birds living in cities seem to have adapted similar behaviour, filling their nests with up to 48 cigarette butts to make use of the repellent properties of tobacco.

The nicotine and other chemicals in discarded filters act as a natural pesticide that repels parasitic mites. At the same time, the cellulose butts provide useful nest insulation.

Scientists in Mexico City studied nests of house sparrows and house finches that each contained, on average, about 10 used cigarette butts.

Birds who stored larger numbers of butts saw their nests significantly less infested by mites.

To test the parasite-repelling effect, the researchers attached cellulose fibres from smoked and non-smoked filters to thermal traps placed in nests.

The battery-operated traps attract mites by generating heat. Fewer parasites were drawn to traps laced with nicotine-laden smoked butts.

Dr Constantino Macias Garcia, from the National Autonomous University of Mexico, and his team wrote in the Royal Society journal *Biology Letters*: "We provide evidence that urban birds incorporate cellulose from smoked cigarette butts into the nest and that this behaviour entails a reduction in the number of nest-dwelling ectoparasites.

"It appears that this effect may be due to the fact that mites are repelled by nicotine, perhaps in conjunction with other substances, because thermal traps laced with cellulose from smoked butts attracted fewer ectoparasites than traps laced with non-smoked cellulose.

"This novel behaviour observed in urban birds fulfils one of the three conditions necessary to be regarded as self-medication: it is detrimental to parasites."

Nicotine is a natural defence chemical used by the tobacco plant to ward off plant-eating insects, the researchers pointed out.

It had been used to protect crops from pests and also to control parasites in poultry.

The scientists said it was possible the anti-mite nest protection was a happy coincidence. Birds might only be lining their nests with discarded butts because they provide good insulation.

Further studies could reveal if this is the case by offering the birds a choice of smoked and non-smoked butts. Either would do for insulation, but only filters from smoked cigarettes can effectively repel mites.

"Birds could distinguish smoked and non-smoked butts from their scent, just as some birds that use the chemical compounds of plants as defence against parasites appear to rely on olfaction to collect those with effective chemicals," the scientists wrote.

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