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The Observer Wildlife

Vampire finches and deadly tree snakes: how birds went worldwide - and their battles for survival

A new exhibition at the Natural History Museum in London includes 'tragic' tales of species wiped out from their natural habitats

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The Guam rail was one of numerous species of indigenous birds to become extinct on the island last century, thanks to the predation of brown tree snakes. Photograph: Alamy

Douglas Russell, a senior curator at London's Natural History Museum, was examining a collection of nests gathered on the island of Guam when he made an unsettling discovery.

"The nests had been picked up more than 100 years ago, and I was curating them with the aim of adding them to the museum's main collection. They turned out to be one of the most tragic, saddest accumulations of objects I've ever had to deal with," Russell told the Observer last week.

In almost every case, the nests belonged to birds that had once thrived on the western Pacific island but which were now extinct. "A dozen species, many unique to Guam, had been wiped out since those nests had been collected. All that was left was this grim reminder of wildlife that once flourished on the island."

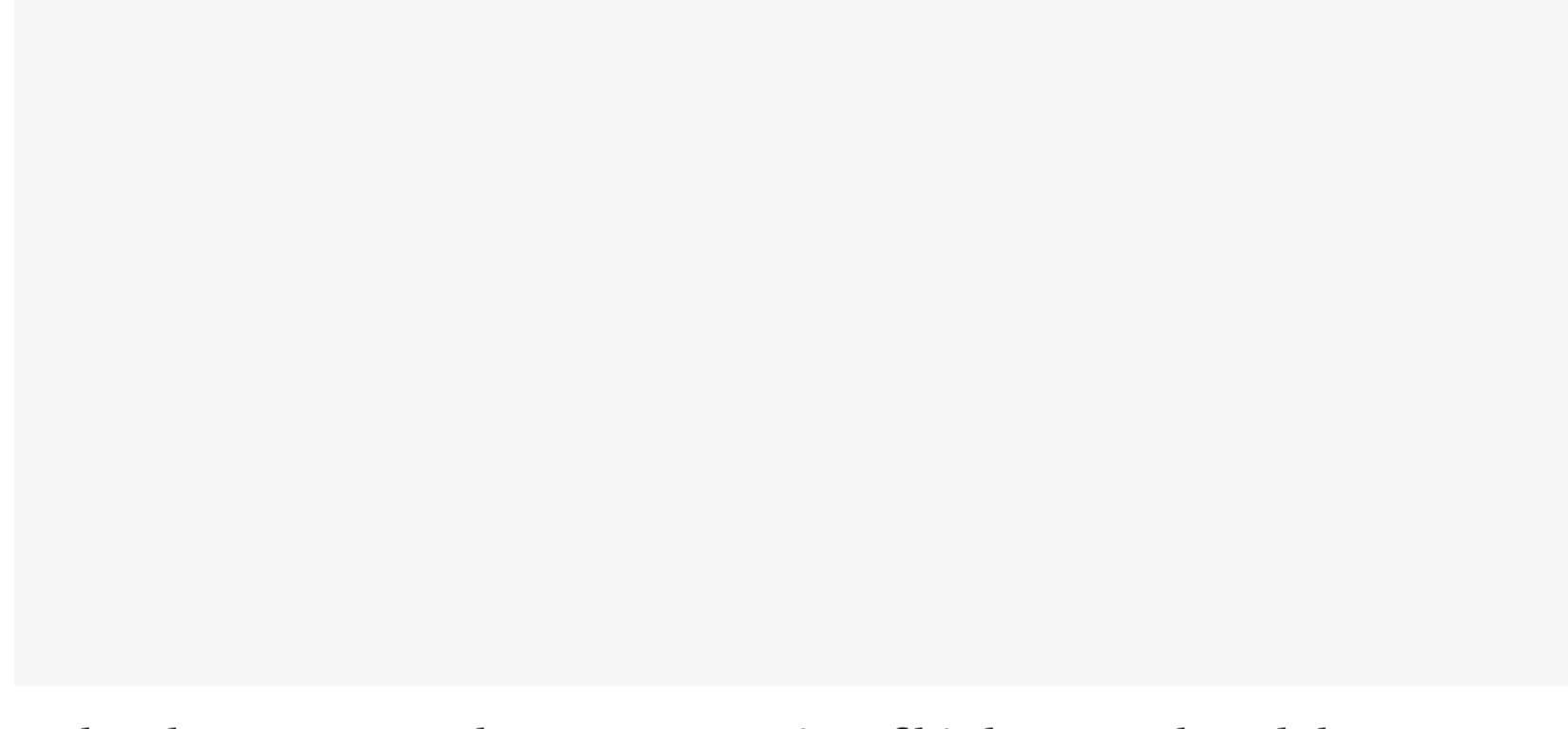
As to the cause of this devastation, conservationists blame brown tree snakes, which were brought to the island on US transport - probably as stowaways on military ships - at the end of the second world war. These expert climbers spend their time on high branches, where they eat birds and their eggs. They slowly swept through Guam's forests during the latter half of the last century.

Huge numbers of indigenous mammals, lizards and birds, including the Guam rail and the Guam flycatcher, were wiped out in its wake. Within a few decades, Boiga irregularis had silenced the island's forests.



Brown tree snakes (Boiga irregularis) were introduced to the island of Guam at the end of the second world war and wreaked havoc on indigenous populations of birds, mammals and lizards. Photograph: Biosphoto/Alamy

It is an unsettling story that will be highlighted at Birds: Brilliant and Bizarre, which opens on 24 May at the Natural History Museum. The exhibition will reveal how birds evolved from a group of meat-eating dinosaurs called theropods and eventually spread across the planet to settle on all its continents.



Today there are more than 11,000 species of birds on Earth and the exhibition will reveal the many strange ways they have found to survive. Some bathe in formic acid to kill off parasites. Others, such as the vampire finch, suck blood for food.

The show will also focus on the impact that humans are having on birds and their habitats, and the story of the brown tree snake will provide a key display that will include an image of one of the Guam flycatcher's nests that Russell has studied, a symbol of a species lost to the world because of human interference.

"Nests have only one purpose," said Russell, whose book, Interesting Bird Nests and Eggs, will be published in September. "They exist to help to nurture future generations of life, and there is something particularly tragic about looking at a nest which will never see a live bird within it."

Many efforts are being made to restore the fortunes of Guam's lost birds, including an international project backed by the Zoological Society of London and several US universities. It aims to return Guam kingfishers to the wild this year using birds bred from members of the species that were rescued just before the kingfishers succumbed to the predations of the brown tree snake. These captive-bred birds will be released on another Pacific island, Palmyra Atoll, which is free of predators.

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However, the loss of these birds has had other worrying impacts on their habitat, as revealed in a paper in Nature Communications. Scientists at Iowa State University and other research centres found that the removal of birds that once thrived on local fruits on Guam "resulted in the complete loss of seed dispersal there". The result has been a reduction in the growth of local trees and a big decline in the health of ecosystems across the island, an observation that underlines the key role of birds in maintaining the health of habitats across the planet.

"When you take out a whole group of organisms - for example, its birdlife - from an ecosystem, you don't just lose those organisms. The whole ecosystem itself suffers, as we are finding out on Guam," added Russell.

This is particularly worrying given that brown tree snakes' homes have been spotted in recent years on Saipan, an island north of Guam, added Russell. "There is now a risk, an absolutely devastating one, that brown tree snakes could become established there. And that, of course, would have a terrible impact on the birdlife and habitats of the island.

"Birds are fantastic creatures but they are now very vulnerable to the effects of human behaviour. People should come from the exhibition with a sense that we must learn from our failures, and most importantly, protect and cherish what we've got left."

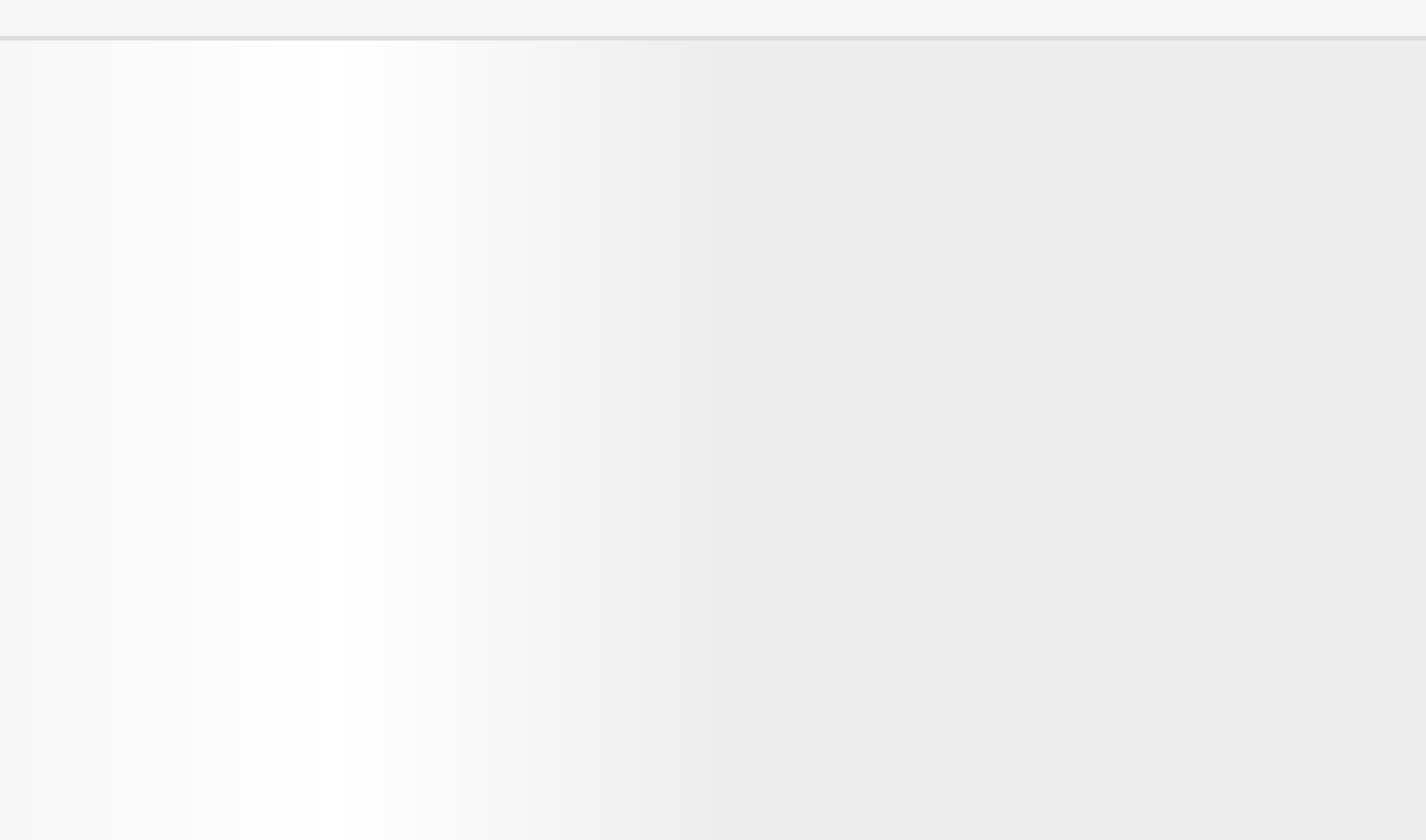
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