

Collision into buildings cause of many birds' deaths: Study

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Birds here are dying from encounters with an unexpected "predator".

A new study by scientists here has shown that almost a third of resident birds found dead in Singapore over a four-year period were killed because of collisions with buildings.

Between November 2013 and last October, a total of 362 bird carcasses were picked up by ornithologists from institutions such as the National University of Singapore (NUS), non-profit body BirdLife International and Nature Society (Singapore). They were alerted to the carcasses by members of the public.

The study's lead author from NUS, Mr David Tan, said 104 of the carcasses were found at the base of buildings and exhibited forms of facial injury or head trauma, confirming that their deaths were the result of building collisions.

It was not possible to pinpoint the causes of deaths for most of the carcasses – 225 of them – although the remainder were killed by, among other things, vehicular collision and attacks by animals such as cats.

The rise in bird-building collision rates is not unique to Singapore. In North America, estimates of bird deaths from collisions range from

100 million to one billion a year.

The Singapore study, published last November in *The International Journal of Tropical Veterinary and Biomedical Research*, also found some species of resident birds were more susceptible to building collisions. Pink-necked green pigeons, Asian glossy starlings and Asian emerald doves seemed exceptionally vulnerable, making up 64 out of the 104 carcasses found.

The fact that all three species are forest-edge fruit-eaters suggests that both feeding patterns and habitat affect a species' susceptibility to collision, the study said. "Given the patchy distribution of parks and forest fragments in Singapore, it is likely these nomadic forest-edge frugivores pass through urban areas as part of their foraging movements, which increases the likelihood of building collisions occurring," the scientists wrote in the paper.

Dr Yong Ding Li from Nature Society (Singapore) said this suggests that buildings near nature areas could incorporate wildlife-friendly measures in their designs, such as reducing the use of huge glass panes which birds tend to crash into.

The findings of the recent study mirror the results of an earlier one focusing on causes of death for migratory birds in Singapore, done by the same group of researchers. That



study, published last June, found that between 1998 and 2016, 237 migratory birds collided with buildings and 157 of them died.

On the need to differentiate between migratory birds and resident birds, Mr Tan said: "Migratory birds are pass-through species, not long-term residents, so the factors that result in collisions may be different.

"For example, why is Jurong West a death hot spot for migratory birds, but not for resident birds?"

But the latest study found two regions where resident and migratory collision hot spots overlap: in the Clementi area, near the NUS campus, and in the Central Business District. Finding out the reasons for this – such as whether it was due to light pollution – is what the scientists hope to do next.

In New York, a growing number of building owners are switching off non-essential lights after becoming

aware of the fatal attraction birds have to lights. Since 2005, over 90 buildings in the city, including the Rockefeller Centre, have joined the Lights Out scheme, which encourages buildings to take a lights-off approach to keep birds safe.

Here in Singapore, scientists are hopeful that more can be done to reduce bird-building collisions. Mr Tan is in touch with owners of buildings where dead birds have been found, such as at Outward Bound Singapore (OBS) on Pulau Ubin.

An OBS spokesman said a staff member has found three bird carcasses over the past two years. "As part of our efforts to better understand and appreciate the biodiversity of our flora and fauna on Pulau Ubin, we welcome the opportunity to work with Mr David Tan on his research efforts."

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Mr David Tan (at right) with the carcass of a changeable hawk eagle and Dr Yong Ding Li with the carcass of an Oriental pied hornbill. Of the 362 carcasses picked up between November 2013 and last October, 104 were found at the base of buildings and exhibited injuries confirming their deaths were the result of building collisions, said Mr Tan. ST PHOTO: MARK CHEONG