

AIM

Do cockatoos (all species) visit nest boxes equally with respect to diameter?

Do cockatoos visit nest boxes equally with respect to context (dead tree/ live tree).

METHODS

Nest box designs used in this experiment were based on recommendations by Rick Dawson of the Carnaby's recovery team which uses black culvert pipe. The Carnaby's team use a 370mm internal diameter culvert 1200mm long. This is larger than our existing nest boxes which are a 300mm internal diameter white pipe. The additional diameter is preferred by the Carnaby's team because Carnaby's regularly have two chicks. We evaluated two different diameters of this black culvert pipe: a 370mm and a 300mm nest box.

SERTBC nest in dead and living trees, but far more nests are known from dead trees. To test whether or not this is a real preference, we placed nest boxes in live and dead trees. Dead trees are much rarer in the SERTBC range and we will have far more options for providing nest boxes if we can place them in living trees.

Trees selected for placing nest boxes had no known use by RTBC, although past use by RTBC could not be ruled out. Based on the availability of suitable trees in the two properties, five dead trees were chosen at one property and four live and one dead at the other. Nest boxes were placed on two properties north of Casterton where nesting has been regularly recorded in the past decade. Nests were placed at 8m above ground using a cherry picker. This is at the lower end of known nest heights, but was make future maintenance of these nest boxes easier. A larger and smaller nest box was placed together in each of 10 trees. At nine of these we installed a surveillance camera above the two nest boxes. (Scoutgard). A visit was defined as one or all photographs of a bird at a nest box taken on a single day.

RESULTS

Of nine cameras, eight operated taking a total of 9200 photos; between 214 and 3019 photos per camera. The majority of the photos taken were false triggers. The commonest visitor to nest boxes was Eurasian Starling, followed by Crimson Rosella and Maned Duck. Visits by starlings were discounted because starlings do not use these nest boxes for nesting. A total of 59 visits to nest boxes by birds other than starlings were recorded. Visits by all birds excluding starlings were equally distributed across large and small nest boxes. Boxes on dead trees were much more likely to be visited by birds excluding starlings (49 v 10). Only two species of cockatoos were recorded, White Cockatoo and RTBC. White cockatoos visited three different trees a total of nine times. All those visits were to dead trees and all were to the larger nest box. A SERTBC visited a smaller nest box on a dead tree on one occasion.

	370mm	300mm	Total
Dead	25	24	49
Live	6	4	10
Total	31	28	

Number of visits to nest boxes by all birds (excluding starlings).

Discussion

This experiment has not provided new insights on RTBC use which was not unexpected due to their relative rarity. A bit more unexpected was the low rate of visitation by all cockatoos, as Long-billed Corellas, White Cockatoos, Galahs and Yellow tails are common in this landscape. Other species of cockatoos are rarely observed using our RTBC nest boxes, and it may be the case that this is a real preference.

Sulphur-crested cockatoos were the only non RTBC cockatoo which visited nest boxes and they appeared to prefer the larger nest box. Sulphur-crested rarely nest in the regular 300mm SERTBC nest boxes which might be a bit small for a species which itself is 10-15% heavier than SERTBC and has multi-egg clutches. The Carnaby's recovery team uses the larger (370mm) nest box to provide more room in the nest for two fledglings. It is possible that the existing 300mm nest box may be less likely to be used by other species of cockatoos which co-occur with SERTBC because they are similar in body size and all have multi-egg clutches.

The results do give some insights into other nest competitors at nest boxes. The commonest nest visitor Eurasian Starling has not been recorded nesting in our nest boxes so is not a nest competitor. Crimson Rosellas and Maned Ducks do both commonly nest in RTBC nest boxes during the SERTBC nesting season so are real nest competitors. These data suggest that these two common nest competitors were more likely to visit dead trees, and showed no preference for nest box size.

In conclusion these data provided limited support for continuing to use the smaller, 300mm diameter nest box. Increasing nest box size may increase nest competition by providing more nesting opportunities for larger cockatoos or cockatoos with larger clutches. The two main nest competitors for 300mm nest boxes both appeared to prefer dead trees. Thus there is some support for placing nest boxes for SERTBC in live trees to reduce that potential competition. However, SERTBC may actually select for dead tree nesting sites so at this stage I recommend we continue installing nest boxes in both tree types. Now that we are able to monitor nest box use using bioacoustic recorders, we should in time get a better understanding of tree selection by nesting SERTBCs.