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White-winged Choughs *Corcorax melanorhamphos* Using a Stick Nest

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Bird nests are typically species-specific in their structure and overall form and this can be sufficiently great that nest structure can be used as a character in constructing phylogenies (e.g. Rowley 1970; Winkler & Sheldon 1993). In the Australian mud-nest builders (subfamily Corcoracinae, Family Corvidae; Sibley & Monroe 1990) both the White-winged Chough *Corcorax melanorhamphos* and the Apostlebird *Struthidea cinerea* build large bowl-shaped mud nests. Previously, no variation in nest type has been reported for either of the two species, although choughs have been observed to place their mud nests inside an abandoned stick nest (North 1901). Here, in contrast, we report observations of White-winged Choughs nesting in a stick nest.

White-winged Choughs are communal, insectivorous birds that live in groups of 2-20 individuals (Rowley 1978; Heinsohn 1991, 1992). Choughs start breeding in July and August and every individual in the group contributes to all aspects of nest building and parental care (Heinsohn 1991, 1992). The nest resembles a pottery bowl and is constructed out of mud and fibres (Rowley 1975, 1978). Nest building may last several days to months since each layer of mud must harden before fresh layers are added (Rowley 1975, 1978). Nest building skills appear to be learned since young birds often accompany and watch building adults, and have even been seen to accidentally damage a nest while attempting to help build it (Rowley 1975, 1978).

On 17 October 1995 at Brookfield Conservation Park. South Australia we observed an adult Whitewinged Chough brooding two chicks in a stick nest (Fig. 1). The nest was approximately 7 m above the ground in a fork of a 12 m high mallee eucalypt tree. We spent three hours watching the nest on 18 October and again on 20 October for a total of 6 hours. One chick appeared older and slightly more active than the other, but both chicks were approximately 14 days old and just starting to grow feathers. Four adults attended the nest; one always brooded the young while the other three birds foraged. During 32 observed feeding visits, foragers tended to arrive simultaneously. The first adult to feed the chicks was also the one that disposed of faecal sacs and later remained to brood; the original brooder then became a forager.

During 19 October a severe storm moved into the Park and lasted four days. On the second day of our observations (20 October) the stick nest remained intact but we noticed that only one chick remained in the nest. The adults continued to brood and feed this chick. On 21 October the single young was still present but on 22 Oc-



Figure 1 Adult White-winged Chough brooding two chicks on a stick nest.

tober the young was gone and the nest was abandoned. The chicks were too young to fledge and we assume that their disappearance was related to predation.

On 23 October we removed the nest in order to examine it more closely. It was constructed in a fork of three branches, was triangular in shape, 20-30 cm across each side, and had a depth of approximately 20 cm. It was composed of several hundred sticks. The outer sticks ranged from 30-50 cm long and had a diameter of 2-5 mm. The sticks used as lining were 10-20 cm long with a diameter of 1-2 mm. There was no mud in the nest nor on any of the sticks. Although there were no carcasses of the chicks present, the nest contained a few down feathers stained with blood.

After the nest was abandoned, the adults were not observed in the area until approximately five days later when they were seen foraging together. We continued to see this group in the general area where the stick nest was located, but to our knowledge they did not attempt to renest before our field work at the park ended on 22 December.

As we discovered this group of choughs when there were chicks already in the nest, we do not know if this group built the stick nest themselves. The nest was approximately the same size as those of the Australian Magpie *Gymnorhina tibicen* which also nests at Brookfield Conservation Park. White-winged Choughs are common in the park and we knew of at least two other groups using typical mud nests, near the group using the stick nest. At least one of these other two groups also lost their clutch or brood during the four-day storm described above.

Our observations suggest a previously unrecognised adaptability by White-winged Choughs in the types of nests they will use. Although it seems unlikely that they actually built the stick nest, the fact that they would use it is significant. Large groups of choughs have been known to destroy the nests and eggs of smaller groups of neighbouring choughs (Heinsohn 1988). It is possible that the group of four choughs we observed had an earlier nest destroyed by other choughs and rather than build a new mud nest they took advantage of an existing stick nest. Although the birds were unbanded, it will be interesting to see in future years whether any choughs in this area continue to use stick nests.

Acknowledgements

We thank A. Bell, L. Nobel, S. Van Bael and R. Warren for assistance and advice, R. Heinsohn and I. Rowley for comments, and the National Science Foundation for support.

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