Cockatoo pirouetting around the top of the display tree trunk, wings outstretched, beating the trunk with an object in its left foot, as it turned. This display continued for a minute or more and was followed by head rolling and erection of the crest. During this performance the other member of the pair had been perched at a vantage point nearby. This bird then flew down to the trunk top and was stroked on the neck by the performer, using its head. On several subsequent occasions this display was again observed but no object was used to beat the trunk, only a closed foot and no neck stroking occurred. The volume of noise produced by the closed foot in no way compared with that produced with an object.

Early one morning while moving along the edge of the rainforest at another locality, a loud tapping was again heard. I approached to within five metres of the display trunk before being noticed by the sentry who raised the alarm and both birds departed. Before being noticed I observed the drumming of the trunk. In this instance, the bird used part of a branch about 12 cm long. That it had been part of a living branch was evidenced by the fresh colour of the wood exposed at either end and where strips of bark had been peeled away. Upon departing, the stick was dropped and bounced loudly down the interior of the trunk, unfortunately beyond retrieval.

On a later occasion I was observing a display involving closed foot drumming when the performer departed to a nearby tree. Here a branch about two centimetres thick was bitten off and the foliage end removed, leaving a length of about 10 cm. This was taken back to the display trunk and some time was spent in modification. During this period the ends of the timber were further chewed, with pieces of bark being removed. Drumming of the trunk was terminated when the performer was disturbed and departed.

The third locality at which drumming was heard was in open woodland within one kilometre of the rainforest. At this site the drumming was clearly discernable at over 100 m.

Forshaw (1969) has previously noted a female bird using its bill to pound on hollow trees but the use of a tool has not previously been reported.

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Co-operative Hunting by Pied Currawongs *Strepera graculina*

M. G. O'NEILL and R. J. TAYLOR

Many hypotheses have been proposed to account for the adaptive value of flocking in non-breeding birds. There are numerous ways in which an individual may benefit from flocking (e.g. see Morse 1970). One advantage of flocking may be that a group of individuals can exploit certain prey items more efficiently or can capture prey not available to an individual hunting alone (Bartholomew 1942).

Chance observations of Pied Currawongs *Strepera graculina* (made by M. O'Neill) indicate that co-operative hunting could be one of the benefits derived from flocking for this species.

In late spring 1978, in a suburban area of south Canberra, a small rat *Rattus rattus* or *R. norvegicus*? was seen in a tree *Eleagnus longipes* where it was eating the ripening fruits. The rat had apparently come from under the roof of the house next to the tree, having descended a branch which touched the guttering. This branch afforded the only route from the tree to the roof.

The rat had been observed for several minutes when a Pied Currawong flew into the garden and landed in the tree, about three metres from the rat, which continued feeding.

At first the bird seemed unaware of the rat's presence and began pecking at nearby berries. After a short time, the currawong appeared to catch sight of the rat. The bird remained on its perch for several minutes, staring intently at the feeding rat whilst cocking its head from side to side. Eventually the bird took flight and disappeared over the roofs of neighbouring houses. The rat remained in the tree, apparently unaware of the currawong's visit.

About 5 minutes later a currawong returned to the tree. That this was the same bird was inferred from the fact that it came from the same direction in which the original bird had disappeared and alighted on the branch previously occupied. At the same time a second currawong, which had returned with the original bird, landed on the guttering of the house and hopped onto the branch leading to the roof.

The first bird then hopped from branch to branch towards the rat which had ceased feeding and was attempting to climb from the foliage onto the main branch. The currawong began pecking repeatedly at the retreating rat which began ascending the branch towards the roof.

At this point the second currawong started advancing down the branch, effectively cutting off the rat's escape route. Both birds attacked the rat, aiming pecks at the head and forequarters.

The rat managed to reach the roof, at which point both rat and pursing currawongs disappeared from view. Judging by the sounds coming from the roof, the attack continued for at least another minute. Of further interest is that on the following day a rat was found dead, although uneaten, beneath the bushes at the base of the tree.

Experiments on Red-billed Diochs *Quelea quelea* indicate that they are able to assess which individuals know of the whereabouts of a food source and can follow them to the resource (De Groot 1980). The observations made on Pied Currawongs indicate that this species may also have a means of communicating its knowledge of the whereabouts of a food source. The two currawongs in the present report co-operated by blocking the escape of the rat from the tree. This behaviour should have greatly increased the likelihood that the rat would be captured and hence would have led to an increased feeding efficiency.

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