

# PLAYBACK TAPES AS AN AID FOR MIST-NETTING REGENT HONEYEATERS

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Playback tapes are a useful tool in censusing birds but their use as an aid for trapping birds for banding is generally overlooked. In the Capertee Valley, New South Wales, Regent Honeyeaters reacted strongly to playback tapes during the breeding season and were readily caught in mist-nets with the use of tapes. This technique offered great advantages over previously used techniques that were both time and labour intensive.

## INTRODUCTION

The use of playback tapes is a commonly used census technique for nocturnal and cryptic birds such as owls (Kavanagh and Peake 1993; Debus 1995) and rails (Dombrowski *et al.* 1993). Tapes can also be a valuable tool in conducting censuses of passerines, particularly those that are uncommon, have a patchy distribution or are difficult to locate in dense vegetation. The technique has been extremely valuable in locating and mist-netting Regent Honeyeaters *Xanthomyza phrygia* during a study of their breeding biology and nesting success in the Capertee Valley in central New South Wales (Geering and French, in press).

From October 1994 to December 1995, Regent Honeyeaters were colour-banded following mist-netting at flowering trees, in gardens or along regularly used a flight paths. Mist-nets were often elevated to a height of 15 m to take advantage of particular flowering limbs that were being used by the birds. Near Bundarra, in northern New South Wales, Regent Honeyeaters were regularly captured in mist-nets placed at either natural or artificial water sources (Ley *et al.* 1996). These methods were not only time consuming with low capture rates but resulted in a bycatch, generally of other honeyeaters and Little Lorikeets *Glossopsitta pusilla*. This bycatch probably affected capture rates of Regent Honeyeaters as struggling birds in exposed nets were very obvious. Elevated nets also had to be regularly lowered to remove birds. The use of playback tapes was used to enhance the capture of Regent Honeyeaters in mist-nets from December 1995. This technique is described here.

## METHODS

While Regent Honeyeaters were usually very vocal prior to egg laying and thus relatively easy to locate, they were more difficult to find once incubation commenced as the frequency of vocalization was usually reduced. From early December 1995 playback tapes were routinely used to locate and mist-net breeding Regent Honeyeaters. The three different tapes used during the study were all composites of calls obtained from neighbouring breeding pairs during October 1995 in the Capertee Valley by F. van Gessel. Sound recordings were made using a Sony TC-D5M portable cassette player with a Sennheiser

K6 Power module and a ME66 directional microphone mounted on a tripod. To remove hiss and rumble, recordings were filtered through a Graphic Equaliser and scored on a 10 inch Reel/Master Reel Tape with a tape speed of 19.5 cm/sec.

In the field, tapes were played using a Sanyo MW801F twin-speaker portable cassette player of 10 watts output at maximum volume. The tapes consisted of a mixture of the *quippa-plonk-quip* call and the aggressive mewling call described by Pizzey (1980).

To capture Regent Honeyeaters, various net arrangements were used including: a single mist-net with the cassette player below or to one side of the net; the cassette player between two parallel nets; and two parallel nets with a higher third net between them and above the cassette player. Initially, 38 mm mesh mist-nets were used but, following a successful trial of standard 31 mm mesh nets the latter were used exclusively after December 1995.

As Regent Honeyeaters generally approached the tape from high in the trees and then descended to the cassette player from directly above it, mist-net placement was important. Once the birds were low enough they had to have the opportunity to at least attempt to fly from one side of the net to the other. Within woodland, setting the net between shrubs was ideal but, as most breeding pairs were located in a narrow gallery forest of *Casuarina cunninghamiana*, options were generally more limited. Nets were, therefore, often set in very exposed positions adjacent to a low limb.

On several occasions a mounted specimen of an Australian Raven *Corvus coronoides* or a Pied Currawong *Strepera graculina* was placed next to a mist-net in conjunction with the playback.

## RESULTS

Responses by Regent Honeyeaters to the tape varied from: (1) an immediate and very aggressive response by both members of the pair; (2) an aggressive response from the male but a less aggressive response from the female (the most common reaction); (3) a response from the male but not the female; (4) a mild response from the male that did not entail him descending to the level of the cassette player. At all 78 nests located after the use of the tape commenced the male responded to the tape in some way.

On the few occasions that playback was used outside the breeding season the birds did not respond as frequently or as strongly and, while encouraging the birds to the general area of the mist-net, did not result in the immediate capture of birds as occurred while

birds were nesting. Nevertheless, once the breeding season had begun, in July 1996 in the Capertee Valley, some members of pairs that had not yet commenced breeding responded strongly to the tape.

With the aid of the playback tapes, 59 birds were mist-netted on 35 (83%) of the 42 occasions that this technique was used. Using the tape three birds were captured near Bundarra while assisting banders in that area. Seven birds were recaptured using the tape, at distances up to 85 km from where they were banded.

The most efficient net setting was a single mist-net with the bottom strand about a metre above ground level with the cassette player placed beneath or up to 2 m to one side. Most birds were netted within five minutes of the commencement of playback and some within one minute. On one occasion however, it took 45 minutes to catch a non-breeding male that responded strongly to the tape but consistently avoided the mist-net.

The use of predator decoys was abandoned as the pairs targeted showed no interest in them. Additionally, Willie Wagtails *Rhipidura leucophrys* and Dusky Woodswallows *Artamus cyanopterus* frequently attacked the decoys resulting in the capture of unwanted birds.

Although there was much variation between individuals the strength of response to the tape generally diminished until the birds lost interest after about ten minutes. Birds were also very wary of the tape after being captured. If the male of a pair was caught first it was difficult to catch the female as her response diminished with that of the male after his capture. A pair found breeding 16 km from where they were banded would not approach the tape six weeks after capture even though they still responded to playback.

Breeding success for nest attempts prior to December 1995, when playback was not used, was 30.0 per cent while later in the season, when playback was routinely used, breeding success was 54.2 per cent. This difference was borderline significant at the 5 per cent level ( $z = 1.95$ ,  $0.1 < p < 0.05$ ) and probably relates to differences in survival between habitats (Geering and French, in press). There was no significant difference in breeding success between nests in the same habitat in early 1995 when playback was not used and 1996 when playback was routinely used ( $z = 0.008$ ,  $p > 0.05$ ).

## DISCUSSION

The aggressive response of Regent Honeyeaters to playback meant that the birds were often readily mist-netted. In general, it took about half an hour to set a mist-net, catch, colour band and collect morphometric and plumage data from a single Regent Honeyeater.

The failure to capture birds was usually a result of nets being optimistically set in exposed locations on windy days (even though birds were regularly caught in windy conditions that caused the mist-net to billow

considerably), or individuals not responding aggressively enough to the tape.

Following the success of this technique in the Capertee Valley and the capture of three Regent Honeyeaters near Bundarra, banders in that area requested a copy of the tape used in the Capertee Valley. Success in the Bundarra area has not been as high as that in the Capertee Valley since birds did not respond as aggressively to the tape (A. Ley, pers. comm.). Nevertheless, 12 birds have been banded near Bundarra using this technique. The difference between the comparative success in the Capertee Valley and that in the Bundarra area may be related to differences in calls, although this has yet to be determined. It may also result from slight differences in trapping methods.

As it was not always possible to place the net near the nest tree of the targeted pair because of the lack of an appropriate net site, birds were netted as far as 50 m from the nest. Difficulties were encountered if the net site was on the boundary of two territories as both pairs were attracted towards the tape and, instead of approaching the cassette player, engaged in a territorial dispute.

During this study birds were netted at all stages of the breeding cycle. There was no evidence to suggest that breeding success was affected by the use of playback of calls or the colour banding of nesting birds.

Despite the fact that many passerine species will respond to playback tapes and despite a number of descriptions of the technique in the literature (Horton 1973; Keyes and Grue 1982; Elody and Sloan 1984; McClure 1984) few banders in Australia appear to use this technique to attract birds to mist-nests. With the Australian Bird and Bat Banding Schemes now encouraging studies of individual species, banders should be looking for the most effective and efficient manner in which to catch birds for banding. Playback tapes obviously work for some species.

Netting success with Regent Honeyeaters in the Capertee Valley indicates that species that are difficult to capture may be efficiently mist-netted with the aid of this technique. When employing playback tapes during the breeding season the bander must avoid keeping birds from tending nests or interfering with the establishment of a breeding territory. Tapes should only be used when it is considered safe and then for only the period that it takes to capture a bird. Caution should be exercised until it can be determined what the reaction of birds to this disturbance will be. Perseverance in attempting to capture a particularly elusive bird may result in unnecessary stress to that bird which may lead to a nest failure and, ultimately, compromise the results of the study.

## ACKNOWLEDGMENTS

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## BOOK REVIEW

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### Fairy-Wrens and Grasswrens.

Ian Rowley and Eleanor Russell, 1997. Oxford University Press, Great Clarendon Street, Oxford. RRP \$85.00.

This book is the fourth in a series of monographs — *Bird Families of the World* — published by Oxford University Press. Released in December 1997, it is the culmination of forty years of field work by Ian Rowley, the last twenty being shared with his wife Eleanor.

The authors and illustrator have produced a masterful and up-to-the minute account of what we know about fairy-wrens, grass-wrens and emu-wrens — form a discussion of evolutionary theories to description of social organization and life histories, together with detailed species accounts. The text is complemented by maps, black-and-white illustrations and full colour plates by artist Peter Marsack. The colour plates are brilliant, and show a number of sub-species as well as some immature and juvenile plumages. The other illustrations are all beautifully clear — from the voice sonograms, maps and charts, to excellent descriptions of behaviour.

We are fortunate that the family Maluridae has been one of those most extensively studied in Australasia, with much recent work by Andrew Cockburn and his co-workers of the Australian National University, but especially Ian Rowley and Eleanor Russell in Western Australia. There are still many gaps in our knowledge, but a wealth of material is now available on several species, especially Superb, White-winged, Red-winged, Blue-breasted and Splendid Fairy-wrens. The discussions on social structure and breeding biology are fascinating. The value of colour-banding populations of birds is vividly highlighted.

In fact, the Maluridae have become quite notorious recently, with tales of cuckolding amongst some species. For example, less than 35 per cent of Superb Fairy-wrens are fathered by a male in the family territory. Of particular scientific interest are the insights into co-operative breeding, which are particularly prevalent in this family.

Criticisms are very minor. It would have been nice to have had the colour plates adjacent to the species accounts, instead of being bound together for economy in the middle of the book. Proof-reading must have been meticulous — the only 'typo' noticed was the Fairy-Wren rather than Fairy-wren on the dust jacket!

The text is lively and well-structured. These are authors totally conversant with their subject, who obviously relish the task of disseminating their knowledge. There is a full bibliography and index. It is a pity that the price (\$85.00) will deter many from purchasing it. However, anyone with a scientific interest in ornithology will not regret the investment.

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