REACTIONS OF BLUE DUCK TO RECORDED CALLS OF THEIR OWN SPECIES

By ANTHONY J. WHITTEN

ABSTRACT

The technique of using recorded calls in order to induce territorial Blue Duck to show themselves is described. Its value as a census tool is discussed. On the last night of experimenting the Blue Duck mated, possibly caused by the stimulus of 'rival pair' sounds.

INTRODUCTION

Between 3 and 8 August 1971 Blue Duck *(Hymenolaimus malacorhynchos)* were watched on the banks of the Ruakituri River 25 miles (40 km) north-north-west of Wairoa. The aim was to establish whether the reactions of wild Blue Duck to calls of a potential 'rival pair' were such that the technique could be used in census work, and to establish the size of the territory. Blue Duck frequently hide during the day (Kear & Steel 1971) and walking along a river counting those visible may result in a misleading total (I. Hogarth pers. comm.).

The Blue Duck is unusual among waterfowl in being territorial. It will readily attack conspecifics and other species that enter its particular stretch of river, and Kear & Steel (1971) are of the opinion that the drake's voice is the main signal keeping pairs apart. It was wondered whether the birds would react in any way to tape recordings.

METHODS

The tape used was No. 66 of the Wildlife Service's Library and it was played on a Philips portable tape recorder. The recording consists of a series of simultaneous calls from both sexes starting with the coarse 'cra-ak' (Falla, Sibson and Turbott 1970) of the female.

The experiments were performed at a particular site where the stream was relatively slow because the recording was insufficiently powerful to be heard over breaking water. Blue Duck had been seen in this area in the evening and a terrace enabled the observer to conceal himself.

On the first two nights, around 4 p.m., the Blue Duck were sitting on a boulder about 40 metres (44 yds) away when the recording was first played. They reacted immediately by looking around. The male whistled (the '*whee-ooo*' call of Johnsgard (1965)) and flew out of sight to the right. Having found his expected neighbour absent, perhaps, he returned and landed nearer to the middle of the stream close to his mate who was feeding. He flew again, this time landing within sight, and by flying backwards and forwards, each time reducing the distance he flew, he found the sound source (Fig. 1). Having done so he returned to the rock where his mate was and then flew straight towards the recorder turning when about five feet away, and landing in the river ten feet away. He gazed, 'chin-lifted,'

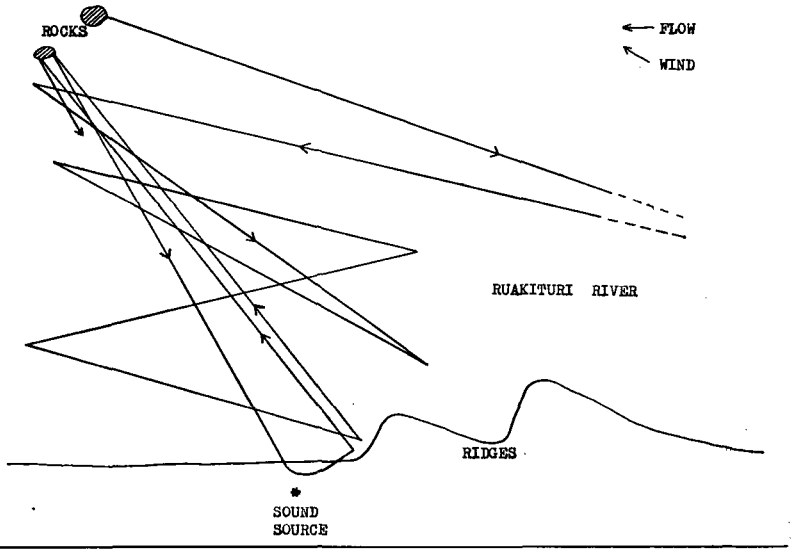

FIGURE 1 — Approximate route taken by male Blue Duck when establishing source of sound and ' attacking.'

whistled and then flew back to his rock only to ' attack ' again. He ' attacked ' five times on the first night and four times on the second. After the third flight on the second night he had what might be described as ' a fit of confusion.' He looked around him, circled twice and flapped his wings all very rapidly.

On the third night the experimenter sat in the same place, wore the same clothes but as a control did not play the tape. Neither bird showed any interest.

On the afternoon of the fourth day, the pair of Blue Ducks were found sleeping behind some rocks 30 metres (33 yds) away on the opposite bank. The tape was played at 4 p.m. and woke them; the male climbed onto a rock and whistled. It was thought that he was about to fly at the recorder for he was ' chin-lifting,' when he slid into the water towards the female. It looked as though they were treading water to stir up sediment as I had seen captive Blue Ducks do at the edge of the duck pond at the Mt Bruce Native Bird Reserve, Wairarapa. This is common waterfowl behaviour not before recorded as occuring in the Blue Duck (Kear & Burton 1971). However, on closer inspection with fieldglasses, it was seen that he was positioning himself over the female for copulation. They were in the shallows with the female almost completely submerged except for her head and the male had his body about 35° to the right of hers. He mounted four times, getting on from her left and leaving on her right, and neither bird was heard to make any sound.

When the male had dismounted for the last time, the female flapped her wings and swam, or floated, downstream as the male drank. The recording had been playing throughout, but when he followed her to some rapids it became impractical to continue. These observations agree with those made by T. H. Steel (Kear & Steel 1971), in that the male mounted on her left and got off on the right, there were no calls and the birds copulated a number of times in rapid succession. There was no elaborate post-copulatory display.

DISCUSSION

The technique of playing recorded calls certainly seemed to make one male agitated enough for him to ' attack ' the sound source. A limitation is that in fast flowing rivers the recording would have to be very loud. However, the technique would probably be quite suitable for censusing the high reaches of streams in the bush.

It is not known whether the mating sequence was caused directly or indirectly by the calls of the ' rival pair.' The observation is of interest in that copulation occured very early in the year. However the pair might conceivably have been close on breeding. A nest with seven eggs, by the headwaters of the Wharekopae River in the Rere area, was visited on 9 August which, according to Kear (1972), is the earliest date ever recorded for a Blue Duck nest with an apparently complete clutch.

ACKNOWLEDGEMENTS

I am most grateful to the Winston Churchill Memorial Trust who financed my trip to New Zealand to study the methods of conserving the endemic birds as one of their 1971 Fellows.

I would like to express my thanks to Mr T. H. Steel who arranged for me to stay and study the Blue Ducks, to Mr P. Morrison of the New Zealand Wildlife Service who lent me the tape, and to Dr Janet Kear of the Wildfowl Trust, Slimbridge, England, who stimulated my interest in the Blue Duck, and suggested this particular line of study.

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Mr A. J. Whitten,
45 Half Moon Lane,
London, S.E. 24,
England