

remained near the site of the net for a short time but the net was immediately closed.

Given that a Boyd's Forest Dragon was found attacking a Fernwren in exactly the same manner in which the Mountain Thornbills had been killed, it seems reasonable to suppose that the same species of dragon may well have killed the Mountain Thornbills. Conceivably, however, an Eastern Water Dragon *Physignathus lesueurii* could have been the predator at Roaring Meg Creek as the net was close to a small creek with rock and small boulders scattered along its course.

Even if mist nets are set slightly above the ground in rainforest, Boyd's Forest Dragons could still attack small birds caught in the bottom of the lowest rung. Bird banders need to be especially vigilant to minimise or avoid altogether this form of mortality to birds.

My purpose in mist-netting was to capture ground-dwelling birds so the bottom rungs of nets were intentionally set at ground level. In the course of this project, the mist-netting for which is now complete, I have netted some 400 birds and only two other instances of mortality in the nets were recorded: (a) a Large-billed Scrubwren *Sericornis magnirostris* caught at about 1.6 m

above ground level was killed, perhaps by a Black Butcherbird *Cracticus quoyi* and (b) a second Large-billed Scrubwren caught at the bottom of a net was presumably overlooked in only one round of checking the nets due to its lying motionless at ground level in relatively cold and dark conditions.

#### ACKNOWLEDGMENTS

Though probably not thrilled to be associated with this specific part of my studies, I should thank Ceinwen Edwards, Anita Heideman and Michael Cunningham for their help with the mist-netting from which this report grew. Professor Jiro Kikkawa and James Pook offered supportive comments on a draft.

#### REFERENCE

- Recher, H. F., Gowing, G. and Armstrong, T. (1985). Causes and frequency of deaths among birds mist-netted for banding studies at two localities. *Aust. Wildl. Res.* 12: 321-326.

L. JOSEPH

Department of Zoology and Centre for Conservation Biology,  
University of Queensland, Queensland 4072.

Received 27 March 1992

Corella, 1993: 17(2) 61-62

### A POSSIBLE CASE OF INTRA-SPECIFIC BROOD PARASITISM IN THE BELL MINER

Intra-specific brood parasitism has never been reported for the Bell Miner *Manorina melanophrys* (Smith and Robertson 1978; Clarke 1988). The distribution of clutch sizes is unimodal with clutches of two eggs accounting for 88.8 per cent of all the clutches ( $n = 134$ ) at Healesville. Clutches of three are occasionally (6%) laid but: (a) are restricted to the peak of the breeding season, (b) are laid in the typical one egg/day sequence, and (c) are quite homogeneous in shape, hence they are not necessarily the product of two females.

On 1 March 1991 (end of breeding season), I found a nest in the Sir Colin Mackenzie Zoological Park at Healesville, southeastern Victoria. The nest contained four eggs all of which were at a

similar stage of incubation and at least six days old. It was possible to divide the eggs into two sets according to their markings and background colour. One pair (A) of eggs had a uniform dark-pink background with brown spots distributed all over the surface. The second pair (B) had a surface of very pale-pink uniformly distributed over the pointed half of the egg, without any spots, whereas the blunt half of the egg had a dark-pink background with brown spots distributed all over. These differences in egg colour suggest that they were the product of two females.

Egg shape in the Bell Miner (measured as L/B, where L = egg length in cm and B = egg breadth in cm) varies amongst females (Poiani 1992). Therefore, if one set of eggs was the product of egg dumping they may differ in shape from the second pair. The values of egg measurements were as follows. Length:  $A_1 = 2.11$ ,  $A_2 = 2.03$ ,  $B_1 = 2.20$ ,  $B_2 = 2.22$ ; breadth:  $A_1 = 1.59$ ,  $A_2 = 1.55$ ,  $B_1 = 1.61$ ,  $B_2 = 1.64$ . The precision of the measurements was 0.01 cm and

the difference among repeated measurements of the same egg was below the limit of precision. The mean L/B differed between pairs and this difference was significant at  $p < 0.1$  as determined from 2-tailed Student's t-test ( $t_2 = 3.87$ ).

Although the statistical evidence was not strong, given the low power of the test and the corroborating data on egg colouration, I conclude that this observation of a clutch of four Bell Miner eggs is likely to be the result of two females laying in the same nest, either through intra-specific brood parasitism or through communal breeding. The latter possibility, however, is less likely than the former since Bell Miner breeding females are very aggressive towards other, potentially parasitic, females thus making the establishment of communal breeding (which requires shared incubation and brooding) difficult. In fact, blood levels of androgens were higher among breeding females than among any other members of the social unit (Poiani 1992). Androgens are sexual hormones believed to be correlated with intra-sexual competition for breeding status (Wingfield *et al.* 1990).

## ACKNOWLEDGMENTS

I am grateful to Richard A. Zann, Richard Major and two anonymous referees for their constructive criticisms on the manuscript. This work was financed and supported by the Department of Zoology, La Trobe University, the M. A. Ingram Trust, the Department of Conservation and Environment of Victoria, the Royal Society of Victoria, and the Sir Colin Mackenzie Zoological Park. I was supported by a La Trobe University Postgraduate Scholarship.

## REFERENCES

- Clarke, M. F. (1988). The reproductive behaviour of the Bell Miner *Manorina melanophrys*. *Emu* 88: 88–100.
- Poiani, A. (1992). Hormonal, behavioural and ecological aspects of co-operative breeding in the Bell Miner (*Manorina melanophrys*, Meliphagidae). PhD Thesis, Department of Zoology, La Trobe University, Melbourne, Australia.
- Smith, A. J. and Robertson, B. I. (1978). Social organization of Bell Miners. *Emu* 78: 169–178.
- Wingfield, J. C., Hegner, R. E., Dufty, A. M., Jr. and Ball, G. F. (1990) The "challenge hypothesis": theoretical implications for patterns of testosterone secretions, mating systems, and breeding strategies. *Amer. Nat.* 136: 829–846.

A. POIANI

Department of Zoology, La Trobe University, Bundoora, Vic. 3083.  
Present address: Department of Genetics and Human Variation,  
La Trobe University, Bundoora, Victoria 3083.

Received 22 March 1992

---

# RECOVERY ROUND-UP

---

This section is prepared with the co-operation of the Secretary, Australian Bird and Bat Banding Schemes, Australian National Parks and Wildlife Service. The recoveries are only a selection of the thousands received each year; they are not a complete list and should not be analysed in full or part without prior consent of the banders concerned. Longevity and distance records refer to the ABBBS unless otherwise stated. The distance is the shortest distance in kilometres along the direct line joining the place of banding and recovery; the compass direction refers to the same direct line. (There is no implication regarding the distance flown or the route followed by the bird). Where available ABBBS age codes have been included in the banding data.

Recovery or longevity items may be submitted directly to me whereupon their merits for inclusion will be considered.

Hon. Editor.

The following abbreviations appear in this issue:

- AWSG — Australasian Wader Study Group.  
VWSG — Victorian Wader Study Group.  
WAWSG — Western Australian Wader Study Group.  
WBSROC — Wild Bird Society of R.O.C. (Taiwan).

### Australian Pelican *Pelecanus conspicillatus*

170–17233. Nestling banded by M. H. Waterman on North Pelican Island, Coorong, SA on 9 Nov. 91. Recovered dead 80 km SSW of McKinlay, Qld on 20 Aug. 92. 1 590 km N.

### Grey Teal *Anas gibberifrons*

090–53479. Adult (1+) male banded by P. Schramm near Berri, SA on 3 Jan. 92. Recovered dead (shot) near Kerang, Vic. on 29 May 92. 335 km ESE.

### Brown Goshawk *Accipiter fasciatus*

101–03737. Immature (1) female banded by L. C. Currie at Werribee Sewerage Farm, Vic. on 24 May 92. Recovered (released alive with band) near Hurstbridge, Vic. on 10 Nov. 92. 852 km E.

### Little Eagle *Hieraetus morphnoides*

130–45001. Banded by S. E. Firth at Jindabyne, NSW on 8 Nov. 66. Recovered dead at Black Mountain, ACT on 13 Oct. 92, over 25 years 11 months after banding. 134 km NNE.

(This bird was captured in Canberra and relocated to Jindabyne prior to banding and release in 1966.)