

# MORPHOLOGY, MOULT AND SURVIVAL IN THREE SYMPATRIC BOWERBIRDS IN AUSTRALIAN WET TROPICS UPLAND RAINFOREST

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Spotted Catbirds *Ailuroedus melanotis*, Tooth-billed Bowerbirds *Scenopoeetes dentirostris* and Golden Bowerbirds *Prionodura newtoniana* were individually marked, measured and examined for moult in upland tropical rainforest on the Paluma Range, northern Queensland. Their adult measurements were compared with those of museum specimens. Biometrical data presented provide information on variation in size and weights for each sex and age group in all three species. Adult female Spotted Catbirds and Tooth-billed Bowerbirds had shorter wings and tails than adult males and adult female Spotted Catbirds also had smaller bills than adult males. Golden Bowerbirds were distinctive in that females were the larger-billed sex but had a tail only 81 per cent as long as that of adult males. Bowerbirds lost weight in September–October, at the beginning of their display and breeding season, but gained weight as the season progressed. The overall moult period for all three species was December to March inclusive, the peak moulting months being January to March after display and breeding declined and wet season rains had commenced. Moulting of head and body plumage began before that of wing and tail. Immature male Golden Bowerbirds without traditional bowers began moult during September and November, whereas adult bower-owning males began moulting in late December. Primary moult was most evident during January and March and finished, or nearly did so, by April. It started in the mid-wing, with the innermost primary, progressing outwards from the body in both wings simultaneously. Secondary moult was most evident during February and March and generally began when the first four or five new primaries were fully-grown or nearly so. It began at S1 to progress toward the body and simultaneously at S7 away from the body. The central secondaries (S3/4–6) were thus replaced last. Tail moult usually started during early stages of primary moult, beginning with the central pair and progressing outwards. It was finished before primary moult and was most evident during February and March. The timing of annual moult relative to other aspects of the life histories of these bowerbirds is discussed. Estimated mean annual survival rate and expectancy of further life after banding was respectively: 72 per cent and 3 years for Spotted Catbirds (both sexes); 90 per cent and 9.4 years for Tooth-billed Bowerbirds (males only) and 91 per cent and 10.9 years for Golden Bowerbirds (males only). The oldest Spotted Catbird we recorded was aged 19 years and a Tooth-billed and Golden Bowerbird attained 20 and 21 years respectively. Both monogamous (Spotted Catbirds) and polygynous (Tooth-billed and Golden) bowerbirds proved to be remarkably long-lived, their high survival rates being briefly discussed in the context of the southern hemisphere and Australian passerine avifaunas.