Egg Laying at Long Intervals in Bowerbirds (Ptilonorhynchidae)

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A review of avian long egg-laying intervals by Astheimer (1985) cited only three species of oscine Passeriformes with laying intervals of two days between eggs and considered laying intervals longer than one day rare in these species. Marchant (1986) reported ten Australian oscines with laying intervals of 48 hours and said that, if other members of the families involved proved to do likewise, at least 71 species in Australia and New Guinea might do so.

Marchant (1986, 1992) reported one personal observation of a 48-hour egg laying interval in the Satin Bowerbird *Ptilonorhynchus violaceus* and suggested that all bowerbirds might have long laying periods. Other direct evidence of long laying intervals in bowerbirds exist. Hyem (1968) recorded the first egg of a *P. violaceus* clutch was laid on 2 November and the second on 4 November 1963. Sindel (1989) reported captive breedings by a pair of Regent Bowerbirds *Sericulus chrysocephalus* and stated that the first egg was laid on 2 October and the second on 4 October 1986. The first egg of a second clutch was laid on 9 November and the second on 11 November 1986, and the first of a third clutch on 15 December and the second on 17 December 1986.

Gwynne (1937) stated that a nest of Green Catbirds *Ailuroedus crassirostris* contained one egg on two consecutive days but contained two eggs when examined

Table 1 Daily timing (h) of observations of the laying of two or three egg clutches at 11 nests of the Spotted Catbird *Ailuroedus melanotis* in tropical Queensland.

	Consecutive days of nest inspection						
Nest number	1 Last day nest empty	2 1 egg present	3 1 egg present	4 2 eggs present	5 2 eggs present	Minimum interval h	mins
7	1300	0915	1545	1330		30	30
21	0930(0) 1745(1)	1300	1200	1500		42	15
23	1615	0630	1100(1) 1750(2)	1300	1300*	28	30
25	1235	1715	1645	1345(1) 1720(2)		44	30
28	1115	0840	0715(1) 1805(2)			22	35
32	1040	0720	1710	0810		33	50
35	1400	1400	1200(1) 1800(2)			22	00
46	0740	1745	1600	0900(1)	0915(2)	39	15
88	0730(0) 1700(1)	1730	1610(1) 1800(2)	1835		47	10
90	1700	0830	1500(1) 1750(2)			30	30
39	—	—	—	1645(1) 1745(2)	—		

* = 3 eggs present on inspection day 8. — = no inspection.
Numbers in parenthesis = eggs present.

later. Donaghey (1981) reported that the three eggs of an *A. crassirostris* clutch were laid 'on alternate days'.

Data on egg laying intervals were obtained at ten nests of the Spotted Catbird *A. melanotis* in tropical Queensland (Table 1). Nests were rarely examined more than once a day to limit disturbance. The absolute minimum time between laying of the first and the second egg is that between the first and last time only one egg was found in the nest. For example, nest 7 was last found empty at 1300 on inspection day one and at 0915 on day two it contained one egg. At 1545 on day three, it still had one egg and the second egg, found at 1330 on day four, was laid anytime after 1545 on day three, giving a minimum interval of 30 h 30 mins between the laying of the first and second eggs.

These data indicate that *A. melanotis* lays eggs on alternate days, probably at approximately 48 h intervals. Single daily inspections at 16 other nests provided further data suggestive of, but inadequate to prove, alternate day egg laying. Data from two nests of Golden Bowerbirds *Prionodura newtoniana* (C.B. Frith unpubl. data) also suggested egg laying on alternate days but were not conclusive. Marchant's (1986) suspicion that all bowerbirds have longer egg laying intervals than approximately 24 hours is therefore strongly supported.

Observations at nests of *A. melanotis* showed that at least five eggs were laid in the afternoon (#25, 35, 88, 90 and 39; Table 1) and four other eggs were probably laid later than the 'early morning' considered generally characteristic of passerines (Skutch 1976; Tullett 1985).

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