

GENERAL NOTES

Longevities of Some Panamanian Forest Birds, with Note of Low Survivorship in Old Spotted Antbirds (*Hylophylax naevioides*).—In January and February 1977 and 1981, I recorded on Barro Colorado Island, Panama, several ant-following birds color-banded during annual studies from 1960 to 1970 (Willis 1967, Univ. Calif. Publ. Zool. 79:1–132; 1972, Ornithol. Monogr. 10:1–162; 1972, Wilson Bull. 84:377–420; 1973, Smithson. Contrib. Zool. 144:1–57; Willis and Oniki, 1972, Condor 74:87–101). The oldest such individuals are listed in Table 1. Birds banded as adults had probably fledged the calendar year prior to banding or even earlier, as young of the year were almost never on territories by the normal banding months. All were of the territorial sex (male in all but *D. fuliginosa*), and ones banded as adults were on or near the territory where banded when last seen. The oldest female Spotted Antbirds were 11 y 7 mo and over 12 y 7 mo old when last seen; the latter was on the territory where banded while the other, banded as a fledgling, was relocated well off my normal study area 11 years later.

Ten banded Spotted Antbirds were located in 1981 (the female above had not been seen in 1977), while 28 other banded individuals had been located in 1977. All 1977 birds were at least 6 years old, the actual time elapsed since banding being over 13 years for 1 individual, 12 y for 2, 11 y for 3, 10 y for 3, 9 y for 5, 8 y for 8, 7 y for 6, and 6 y for 10; 1981 birds were at least 10 y old, the time since banding being over 14 y for 1 bird, 13 y for 1, 12 y for 2, 11 y for 3, and 10 y for 3. Special searches were made in 1981 for all birds located in 1977; and territorial fidelity is strong enough in this species that the missing individuals were probably dead. At the 81% survival rate found for birds 1 or more years old in 1960–1970 (Willis 1974, Ecol. Monogr. 44:153–169), 16 of the 1977 birds should have been relocated 4 y later. This is a significantly higher number ($\chi^2 =$

TABLE 1. Longevity records on Barro Colorado Island, Panama.

Species	Sex ^a	Banded, age ^a	Last seen	Age
Ocellated Antbird				
<i>Phaenostictus mcleannani</i>	M	22 Aug 1965, ad	16 Jan 1977	11 y 5 mo
Bicolored Antbird				
<i>Gymnopithys bicolor</i>	M	18 Sep 1965, yg	13 Feb 1977	11 y 6 mo
Spotted Antbird				
<i>Hylophylax naevioides</i>	M	3 Jun 1966, ad	18 Jan 1981	14 y 7 mo
	M	8 Jul 1967, ad	13 Jan 1981	13 y 6 mo
	M	29 Aug 1963, —	11 Feb 1977	13 y 5 mo
Chestnut-backed Antbird				
<i>Myrmeciza exsul</i>	M	8 Jun 1966, ad	11 Feb 1977	10 y 8 mo
	M	19 Jun 1966, ad	26 Jan 1977	10 y 7 mo
Plain-brown Woodcreeper				
<i>Dendrocincla fuliginosa</i>	F	24 Aug 1969, ad	12 Jan 1981	11 y 5 mo

^a M—male; F—female; ad—adult; yg—young.

3.88, $df = 1$) than was actually found, for a survival rate of only 72% per year is indicated by the 1977–1981 data. Either survivorship of the species decreased on the island, or very old birds have depressed survival rates.

Loss of 8 of the 9 oldest birds (banded 1963–1966) is noteworthy, as only 5 should have been lost between 1977 and 1981 under a survival rate of 81% per year. However, 20 of 29 birds banded 1967–1970 (survivorship, 75% per year) were also lost between 1977 and 1981. The difference in 1977–1981 survival between birds banded 1963–1966 and ones banded 1967–1970 is not significant ($\chi^2 = 1.7$, $df = 1$).

Reanalysis of 1960–1970 data on birds of known age (from Willis 1974) showed no significant annual differences in survivorship for males known to be 1–2, 3–4, 5–6, or 7–8 years old (213 of 244 individuals, or 87%, survived to the following year), but females 1–2 years old (98 of 126 individuals survived, or 78%) were significantly less likely to survive ($\chi^2 = 4.25$, $df = 1$) than were females 3–6 years old (55 of 61 were alive the next year, or 90%; 3 of 4 females 7–8 years old survived, too small a sample for tests). Females sit on nests at night, and may be unusually subject to predation when inexperienced at nesting; or there may be other causes of high mortality in females breeding for their first or second seasons.

I also analysed 1960–1970 data on birds banded as adults. Known-age males survived about like males banded as adults if the latter were banded 6 or fewer years before (238 of 286 survived, or 83%), but males of unknown age that had carried bands 7–10 y survived significantly less well (22 of 32 survived to a following year, or 69%; $\chi^2 = 4.13$, $df = 1$). The low survival of this group of very old males corresponds to the low survival of old males a decade later, and suggests that low survivorship of old birds was one cause of the high losses between 1977 and 1981. However, females banded as adults of unknown age in 1960–1970 showed little change in survivorship with increasing time since banding, except that only 6 of 8 females that had been adults 9–10 years earlier survived to the next year; the survivorship of females banded 1–6 y previously (193 of 245 surviving, or 79%) is not significantly different from that of females banded 7–10 y earlier (20 of 25 survived, or 80%). If adult birds are banded at unknown ages, and old birds survive less well than do younger ones, old birds will die too early in a study and will lower average survivorship at that time to levels where small samples might fail to detect differences. Possible high mortality of females 1–2 y old would be masked by including better-surviving females 3–6 y old with them, also.

In two cases, very old males sang little and wandered without mates when last seen, while their former mates were with younger birds. Such unmated males are not known to help relatives, and extended postreproductive life is probably not normal for the species. Barro Colorado has lost many species of predators (Willis 1974), some of which must have removed adult antbirds. Return of 1–2 individuals of one such predator to the island from 1970 on (the forest-falcon *Micrastur semitorquatus*; see Willis and Eisenmann 1979, *Smithson. Contrib. Zool.* 291:1–31) may partly explain high loss rates of Spotted Antbirds in 1977–1981, although depressed survivorship of old birds is even more likely.

I appreciate the support of the Smithsonian Tropical Research Institute for studies in 1977 and 1981, and of the University of Miami for a grant for air travel. Nick Brokaw provided observations of banded antbirds, and Yoshika Oniki helped at several stages.—EDWIN O. WILLIS, *Departamento de Zoologia, Universidade Estadual Paulista, Caixa Postal 178, 13500 Rio Claro, SP, Brazil*. Received 19 Aug. 1982; accepted 9 Aug. 1983.

Chickadee, Thrasher, and other Cowbird Hosts from Northwest Iowa.—I recorded 2 unexpected hosts of the Brown-headed Cowbird (*Molothrus ater*)—Black-capped Chickadee (*Parus atricapillus*) and Brown Thrasher (*Toxostoma rufum*)—while at Iowa Lakeside Laboratory, Dickinson Co., Iowa. I give details of these observations below as well as my observations of other cowbird hosts during 1982 and 1983 at Iowa Lakeside Laboratory and nearby Cayler Prairie and the Freda Haffner Kettlehole Preserve.

Black-capped Chickadee.—From 21 June to 29 June 1982, I monitored a pair of Black-capped Chickadees which apparently had reared 3 cowbirds and 1 of their own young. I first heard the calls of a young cowbird the morning of 21 June. I searched for and found