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Minimum survival data of some tropical passerine species in Comoé National Park, Ivory Coast

Knowledge of individual life history traits such as longevity is crucial for understanding the population dynamics of birds. There are, however, few long-term studies of tropical passerines in West Africa (*e.g.* Thiollay 1970, 1971, Morel & Morel 1972, Brosset 1990) and therefore hardly any field data on longevity.

During a project on the winter ecology of Palaearctic migrants we mist-netted birds regularly in Comoé National Park, NE Ivory Coast, between mid-September and late April of 1994–5, 1995–6 and 1996–7. Some birds had already been captured during a preliminary study in Feb–Mar 1994. Afrotropical species of selected families assumed to have a similar ecology compared to some Palaearctic migrants in the area were marked either with an aluminium ring or an individual combination of colour rings. Additional mist-netting took place in the northern winters 1997–8 and 2000–1, when no Afrotropical birds were marked but recaptures from the former study were recorded. A separate project also marked birds between 1990 and 1995 (Brendle 1997) although no information about precise ringing dates could be obtained. Some of these birds were captured by us and are also included here. Here, we report minimal survival times indicated by recaptured or observed individuals of 17 Afrotropical passerine species based on these data (Table 1). The minimal survival of an individual is the difference between the first capture and the last record in days. We refrain from calculating survival rates with capture-recapture models because of the low number of recaptured birds, the uneven capture effort at various sites and the combination of different recapture methods (mistnetting vs colour-ring sightings).

Individuals survived up to six years in Grey-headed Bristlebill and Snowy-crowned Robin-Chat. The two individuals with the longest minimum survival were ringed by the previous project and could therefore have been up to three years older than indicated by our analyses. Excluding Beautiful Sunbird and Fork-tailed Drongo, of which only three individuals were ringed, encounter rates after at least one year were up to 18% (Northern Crombec) and at least 5% for all species. Encounter rates after at least two years were up to 10% (Puvel's Illadopsis) and after more than three years up to 3% (Snowy-crowned Robin-Chat).

Table 1. Minimum survival of some passerine bird species in Comoé National Park. Minimal survival is the difference (days) between first capture and last record when the difference exceeds one year.

Species (n ringed)	Minimal survival	% still alive after		
		>1y	>2y	>3y
Grey-headed Bristlebill <i>Bleda canicapillus</i> (0)*	2129**	-	-	-
African Thrush <i>Turdus pelios</i> (48)	374, 417, 452, 467, 493, 765	13	2	0
Snowy-crowned Robin Chat <i>Cossypha niveicapilla</i> (76)	453, 653**, 1864, 2247**	5	3	3
Forest Scrub Robin <i>Cercotrichas leucosticta</i> (9)	459	11	0	0
Senegal Eremomela <i>Eremomela pusilla</i> (52)	365, 366, 376, 395, 410, 515, 749, 1022	15	4	0
Northern Crombec <i>Sylvietta brachyura</i> (17)	366, 436, 471	18	0	0
Grey-backed Camaroptera <i>Camaroptera brachyura</i> (168)	451, 476, 480, 579, 593, 628, 840, 2019	5	1	0.6
Pale Flycatcher <i>Melaenornis pallidus</i> (22)	497	5	0	0
Lead-coloured Flycatcher <i>Myioparus plumbeus</i> (13)	791	8	8	0
Red-bellied Paradise Flycatcher <i>Terpsiphone rufiventer</i> (66)	367, 399, 460, 484, 488, 629, 659, 715, 730, 825, 1003, 1128	18	6	1.5
African Blue Flycatcher <i>Elminia longicauda</i> (18)	1062	6	6	0
Senegal Batis <i>Batis senegalensis</i> (43)	770, 878, 1375	7	7	2
Common Wattle-eye <i>Platysteira cyanea</i> (58)	451, 563, 713, 747, 852, 1003, 1156	12	7	2
Puvel's Illadopsis <i>Illadopsis puveli</i> (20)	500, 504	10	10	0
Yellow White-eye <i>Zosterops senegalensis</i> (14)	385	7	0	0
Beautiful Sunbird <i>Cinnyris pulchellus</i> (3)	730	33	33	0
Fork-tailed Drongo <i>Dicrurus adsimilis</i> (3)	759	33	33	0

* None marked during the present project.

** Birds from previous project captured (see text).

These are the first published data on minimum survival in West Africa for many of the listed species. Similar data for a few of these species are available from Lamto, Ivory Coast, where Thiollay (1971) recorded recaptures after at least six years for Snowy-crowned Robin-Chat (one out of seven ringed), Grey-backed Camaroptera (one out of three) and Common Wattle-eye (one out of four), while the proportion of birds recaptured after *c.* 2.5 years was 38% for Grey-headed Bristlebill ($n = 8$), 20% for Snowy-crowned Robin-Chat (5), 43% for Grey-backed Camaroptera (7) and 40% for Common Wattle-eye (5) respectively (after Table 10 of Thiollay 1971). Therefore, with a smaller sample, Thiollay (1971) recaptured a much higher proportion of birds compared to our analysis after the comparable two years. However, our results are probably biased by irregular capture effort and show minimal survival times which might be in fact much higher.

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