

SHORT NOTE

The abundance of European Rollers *Coracias garrulus* in Botswana and Namibia

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The European Roller *Coracias garrulus* is said to be abundant in northeastern Botswana and eastern Namibia with these areas shown as part of the main wintering grounds for the species in Fry *et al.* (1988). For Botswana this premise appears to be entirely based on one report by Ginn (1976a) who stated that the species was found to be 'extremely common in January 1974 at Nthane' and 'specimens from Nata, Nthane and Mopipi suggest occurrence throughout area'. However, examination of the original papers reveals these statements to be inaccurate. Ginn (1976a) indicates that 15 specimens were collected at three localities during three expeditions, but from the separate collection reports of each trip it is clear that only one European Roller was seen at Mopipi (Ginn 1973) and the report on the Nata expedition does not even mention the species (Ginn 1976b). Furthermore, only four specimens were collected in 1974 near Nthane, where the species was said to be 'extremely common in all light woodland', while the ubiquitous Lilacbreasted Roller *Coracias caudata* was only given the status 'locally com-

mon' in the same report. There is also a chance that the statement on abundance actually pertained to the European Bee-eater *Merops apiaster*, since it appeared under the heading '232 *Coracias garrulus* European Bee-eater' (sic). In view of the above inaccuracies, we query the validity of Ginn's (1976a) statements.

For Namibia, Fry *et al.* (1988) quote Sauer & Sauer (1960) stating that European Rollers occur at densities of 5–10 birds per km. However, the correct reading of the text in Sauer & Sauer is that they '... often found several European Rollers in a row, spaced at distances from 100 or 200 m up to 2 km from each other ...'. The full details of the records given in Sauer & Sauer show that European Rollers were in fact uncommon. For each distance over 20 km there was at most one bird for every 7 km and the highest concentration was 11 birds in 17 km. Altogether, it appears that Sauer & Sauer (1960) found 38 European Rollers in 556 km, roughly one bird every 15 km. Also, the area reported in Sauer & Sauer is not eastern Namibia (*contra* Fry *et al.* 1988), but north-central Namibia.

The European Roller has recently been documented to be a regular visitor to northern and eastern Botswana (Penry 1990) and Namibia, where the species is generally considered much less common than the Lilacbreasted or Purple Roller *Coracias naevia* (Hines 1985/7, Brown 1990, 1993). The extensive reports on Palaearctic migrants in Namibia by Becker (1974) and Loske (1985) mention a total of only four observations of European Rollers and van den Brink (1989) did not see any in Namibia.

TABLE 1
ABUNDANCE OF ROLLERS ALONG ROADS IN NORTHERN AND EASTERN BOTSWANA DURING OCTOBER–MARCH (1991–1993).*

Degree-square	Total distance (km)	Distance per roller (Km)		
		Lilacbreasted	Purple	European
1725	309	19	—	309
1823	40	20	40	40
1824	957	3	191	60
1825	271	68	—	271
1923	1 188	10	99	119
1924	83	3	28	—
1925	157	17	26	31
1926	93	4	93	9
2023	710	10	142	237
2024	606	4	101	51
2025	425	18	142	106
2026	1 405	14	33	45
2027	85	43	—	—
2127	1 257	13	9	157
2226	158	5	12	79
2227	1 145	10	22	104
2324	491	33	—	—
2325	133	44	133	—
2326	1 342	6	25	62
2424	635	37	—	318
2425	3 153	32	631	631
2426	1 049	12	210	525
2525	942	135	942	—
Northern Botswana	6 329	7	74	67
Eastern Botswana	9 046	13	34	181
TOTAL	16 634	11	47	114

Rollers were counted along roads in Botswana by MH & DH and in Namibia by CJB. For Botswana, data from October to March 1991–1993 are used. A total of 16 634 km through 23 degree squares were counted in the northern and eastern regions (Table 1). For Namibia, data from October to March 1989–1991 were analysed per vegetation type, covering 19 600 km through 24 degree squares in central and northern Namibia (Table 2). Abundance of rollers along roads is highly variable, both regionally and temporally, and a substantial mileage is needed before a representative picture can be obtained. The European Roller was never found to be the most common roller in a square, and in general it was the least common of the three most common rollers (Lilacbreasted, Purple and European in that order). If we define northern Botswana as all squares north of 21 °S and eastern Botswana as the hardveld area between Ramathlabama and Francistown (thus the remaining squares in Table 1, excluding squares 2324, 2325 and 2424 which are entirely on Kalahari sand) our data are at variance with those of Penry (1990) who found European Rollers generally somewhat more common in the east than in the north of Botswana. During this study European Rollers were particularly rare in southeastern Botswana (squares 2424, 2425, 2426 and 2525). In northern Botswana the European Roller was the second most common roller (closely followed by Purple Roller), but in the eastern hardveld it was by far the most uncommon, which however, was also due to a difference in abundance of the Purple Roller. Only on a very local scale or during a restricted time period are European Rollers occasionally found to outnumber other rollers. Such cases generally occur in October/November and during mid-February/March when migrating European Rollers are in loose flocks upon arrival and just before departure (Penry 1990). During these periods large concentrations can be found: e.g. CJB counted on 20 February 1992 in 182 km in north-central Namibia (from 42 km north of Otjiwarongo to 37 km north of Tsumeb) 125 European Rollers (1,5 kilometres per bird) compared with 21 Lilacbreasted Rollers (8,7 km/bird) and 12 Purple Rollers (15,2 km/bird). In the middle of the non-breeding season (December to mid-February) European Rollers mostly disperse as singletons and are generally uncommon (1–3 birds per 100 km in road counts). However, Hoesch & Niethammer (1940), reported an a-seasonal flock of 50 European Rollers south of the Waterberg area in Nam-

ibia on 25 January 1937 and we suggest that the report by Ginn (1976a), if correct at all, also refers to an a-seasonal (January) flock of European Rollers.

The interpretation in the "Birds of Africa" (Fry *et al.* 1988) of Sauer & Sauer (1960) is incorrect and the extrapolation of the report by Ginn (1976a) is not warranted. It is inappropriate to include Botswana or Namibia, and therefore probably the whole 'SW African thornbush', in the main wintering range of the European Roller. The numbers in east Africa, the other area indicated to constitute principal wintering grounds (Fry *et al.* 1988), are roughly 50 to 100 times higher than the figures found in Botswana or Namibia.

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TABLE 2
ABUNDANCE OF ROLLERS ALONG ROADS IN DIFFERENT VEGETATION TYPES IN CENTRAL AND NORTHERN NAMIBIA DURING OCTOBER–MARCH (1989–1991).*

Vegetation type (rainfall mm)	Total distance (km)	Distance per roller (Km)		
		Lilacbreasted	Purple	European
Thornveld savanna (300–500)	9 640	9	16	54
Mopane savanna (200–400)	3 990	15	22	97
Palm tree savanna, Owambo (400–500)	1 350	10	41	64
Broadleaved woodland (400–600)	4 620	6	37	41
TOTAL	19 600	9	21	55

* The Broadbilled Roller *Eurystomus glaucurus* is not included, since its greatly different feeding biology results in poor representation in road counts.