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Roadside colony densities of weavers in southern Angola

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Introduction

Weavers have adapted to a variety of nesting sites, and are often found in high densities along roadsides (Macdonald 1990, Tarboton 2001, Oschadleus *et al.* 2003, Oschadleus & Franke 2006). On 21 June 2008 we surveyed the main road from Cahama to Santa Clara in southern Angola for roadside colony densities of three weaver species: Southern Masked-Weaver *Ploceus velatus*, White-browed Sparrow-Weaver *Plocepasser mahali* and Red-billed Buffalo-Weaver *Bubalornis niger*. This survey was undertaken on the return trip of cataloging the Lubango Bird Skin Collection (Mills *et al.* 2010).

Methods

Colonies were counted between the road to about 200 m on both sides of the road, although large sections of the route were well wooded reducing visibility of colonies away from the road. The survey started in Cahama along the main road from Lubango to the Namibian border at Santa Clara. The survey distance was 230 km (Figure 1). Nests of the Red-billed Buffalo-Weaver, Southern Masked-Weaver and White-browed Sparrow-Weaver were looked for, and each tree with nests was considered to be one colony. Red-billed Buffalo-Weaver nests were easily identified as conspicuous stick nests in trees, mostly baobabs. Chestnut-backed

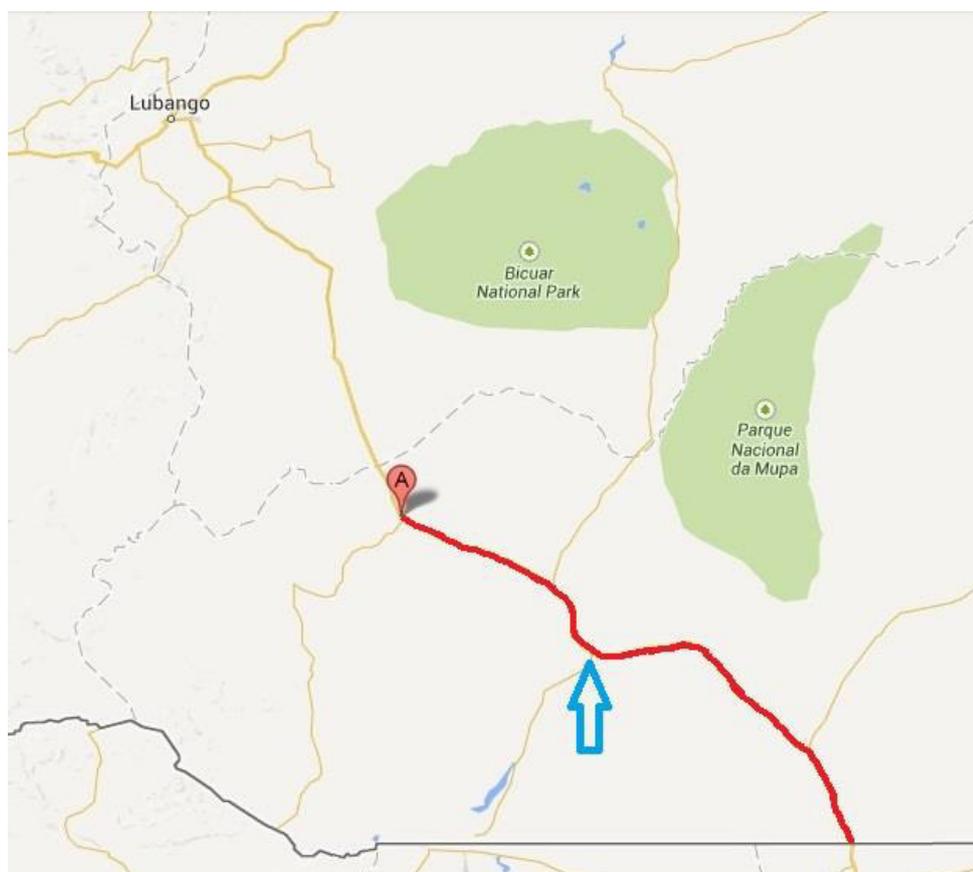


Figure 1: Map of southern Angola, showing the route surveyed for weaver colonies in red, starting from Cahama (marked A on the map), crossing the Cunene River (blue arrow on the map) and ending at Santa Clara.

Sparrow-Weavers *Plocepasser rufoscapulatus* do not occur in extreme southern Angola (since the habitat is unsuitable for this species) and thus typical sparrow-weaver nests were assumed to belong to the White-browed Sparrow-Weaver. Typical *Ploceus* nests were assumed to belong to Southern Masked-Weavers; colonies generally consisted of 1-15 nests that were tidy, compactly woven and about 2-3 m above the ground or over ponds of water. Other *Ploceus* species occurring in extreme southern Angola were eliminated as follows: Spectacled Weaver *P. ocularius* nests have a tunnel, Golden Weaver *P.*

xanthops nests are slightly untidy and not conspicuous from a distance, Lesser Masked-Weaver *P. intermedius* nests are untidy and with a short tunnel, Chestnut Weaver *P. rubiginosus* nests are also untidy and colonies are densely packed with nests. One nest of the Scaly-feathered Finch *Sporopipes squamifrons* was seen; others may have been overlooked. The speed travelled was 50-90 km/h depending on the condition of the road. The colony counts are presented per 10 km road stretches, with counts from both sides of the road combined.

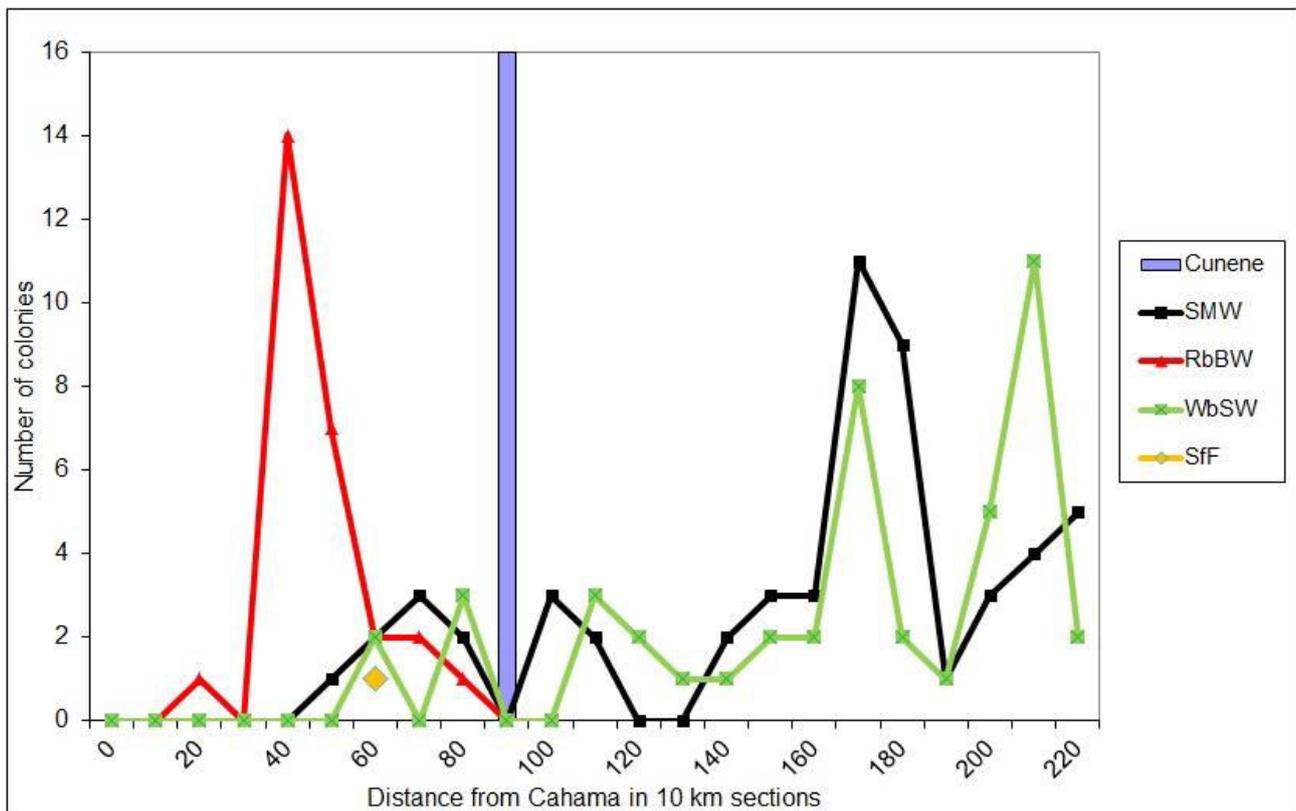


Figure 2: Roadside colony densities of weavers in southern Angola. The number of nests per km for successive 10 km stretches of road, starting from Cahama and ending at Santa Clara.

SMW = Southern Masked Weaver, WbSW = White-browed Sparrow-weaver, RbBW = Red-billed Buffalo Weaver, SfF = Scaly-feathered Finch

Results

Red-billed Buffalo-Weaver colonies were numerous in the baobab forest 40 km either side of where the Cunene River crossed the main road. No nests were seen along the stretch

of road 120 km from the border, although nests become common in northern Namibia again (pers. obs.). White-browed Sparrow-Weaver and Southern Masked-Weaver colonies were regularly seen from the Cunene

River to the border, with higher densities at 50-60 km and 20 km from the border. Overall colony densities for the surveyed road were highest for the Southern Masked-Weaver at 23.5 colonies/100 km, followed by White-browed Sparrow-Weaver at 19.6 colonies/100 km, and then Red-billed Buffalo-Weaver at 11.7 colonies/100 km.

Discussion

The results are compared to roadside counts in Namibia, to show the variation of density in different regions. The visibility of nests may, however, be higher in Namibia since density detection depends in part to density of the bush (this may vary seasonally), driving speed and number of observers.

Red-billed Buffalo-Weaver

1-5 males build several chambers in one nest mass; there can be up to 10 nest masses in one tree (Tarboton 2001), so one nest mass represents a small group of birds. Colony densities appear to be lower in Angola (11.7 colonies/100 km) than in Namibia: 110 nests/100km over 1447 km of transmission towers (Brown and Lawson 1989) and 52 colonies/100km in central Namibia (Oschadleus & Franke 2006).

White-browed Sparrow-Weaver

There are 10-12 nests per colony in one tree or few adjacent trees; but only one active breeding nest in a colony (Tarboton 2001). Colony densities appear to be lower in Angola (19.6 colonies/100 km) than in central Namibia: 121 and 87 colonies/100km along two road stretches in central Namibia (Oschadleus & Franke 2006), but higher than in southern Namibia: 11 colonies/100km overall, although one 10km section had a high density of

180 colonies/100km (Macdonald 1990).

Southern Masked-Weaver

Colony densities appear to be similar in Angola (23.5 colonies/100 km) and in southern Namibia: 22 colonies/100km (Macdonald 1990).

Overall White-browed Sparrow-Weaver and Southern Masked-Weaver colony densities increased towards the south in southern Angola, while Red-billed Buffalo-Weaver colonies were restricted largely to the baobab forest and none were seen between the Cunene River and Santa Clara. Use of artificial nest sites by any weaver species was not observed in southern Angola while in Namibia power-lines and telephone poles are often used as nest sites by Red-billed Buffalo-Weavers (Brown & Lawson 1989, Oschadleus & Franke 2006).

A quick internet search showed a map with a climate change around the Cunene River. The Köppen climate classification (http://en.wikipedia.org/wiki/K%C3%B6ppen_climate_classification) shows a "Temperate highland tropical climate with dry winters" north, and "Semi-arid" south of the river. This difference in climate could explain the increase in White-browed Sparrow-Weaver nests. The Southern Masked-Weaver is found in a wide variety of vegetation and climate regimes, so it is not apparent why it shows an increase southwards. Interestingly, these two weavers show a similar roadside density, so tree species and tree density may play a role.

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