

## SHORT NOTE

### Some observations on the breeding biology of the African Scops Owl

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## INTRODUCTION

Very little is known of the breeding biology of the African Scops Owl *Otus senegalensis* (Steyn 1982). The only published study (Weaving 1970) was cut short by loss of the nest contents. Some additional observations on the breeding biology of the African Scops Owl in the highland savanna (Giess 1971), of central South West Africa/Namibia are presented here. All observations were made in the Daan Viljoen Game Park (22°30'S, 16°58'E, 1560m a.s.l.) situated 20 km west of Windhoek. The bird under observation bred in a nest box in an *Acacia erioloba* tree in the dry Chuob river course. The box, measuring 60 cm X 20 cm X 20 cm with an entrance hole of 45 mm, was attached to the tree at a height of 5 m with the entrance facing west.

## RESULTS

On 20 September 1984 an adult *O. senegalensis*, presumed to be the female (and hereafter referred to as the female), was found occupying the nest box (Plate 1). To keep disturbance to a minimum the next observa-



PLATE 1: Adult Scops Owl



PLATE 2: Female with brood patch

tion was made a week later on 27 September, when the female with a brood patch (Plate 2), was found to be incubating 2 eggs. The nest had not been lined. By the following visit a week later, two more eggs had been laid (Plate 3). The eggs measured 30.1 X 25.95; 29.7 X 25.0; 28.5 X 25.35 and 30.1 X 25.95. Visits between then and the time of hatching were kept to a minimum (ie. 14, 17 and 21 October). During one of these visits the fourth egg, containing a partially grown embryo was accidentally damaged by me.

The first two chicks hatched between the late afternoon of 21 October and the early morning of 23 October, as both chicks were dry on the afternoon of 23 October. According to Mikkola (1983), the chicks of *O. scops* take 8 to 12 hours to dry and the same could reasonably be expected of *O. senegalensis*. The third chick, which had pipped its eggshell on 23 October, was between 8 and 48 hours old on 25 October. The eggs of *O. scops* are laid at two — day intervals with an incubation period of 24 to 25 days (Mikkola 1983). Therefore, if the second egg was laid on 27 September when the nest was found to contain 2 eggs, the first egg should have been laid on 25 September, the third egg on 29 September and the fourth egg on 1 October. The period between laying and hatching would then be about 27 days for the first egg, 25 days for the second

egg and 25 days for the third egg. This suggests that incubation may not have started with the laying of the first egg, but only from the laying of the second egg, or that the first egg was not laid two days before the second egg. The eggshells remained in the nest, being reduced to small fragments as the nestling period progressed.

From the time of hatching, I visited the nest every second day when possible. The growth and development of the nestlings were noted at each visit, these observations continuing for nearly two weeks, until 5 November when the nest was taken over by a Grey Hornbill *Tockus nasutus*. The analysis of the stomach contents of the three dead chicks is given in Table 1. The data on the growth and development of the three nestlings were pooled as they were very similar (Fig. 1). The relevant measurements of three adults are included in Figure 1 as a comparison to the development of the nestlings. The data on adults were obtained from (a) the female under observation, (b) an unsexed adult which roosted in a different nest box for a short period during the same season, and (c) an adult caught in the Windhoek townlands.

#### Nestling development:

The day-old chick had pink skin and was covered in white down except for the axillae and toes which were naked. The eyes were closed. The bill was greyish-pink with a white egg tooth at the tip and the cere flesh coloured. (At this stage the only visible difference between *O. senegalensis* and *Glaucidium perlatum* is that the toes of the latter are covered in down. (pers obs)).

At about 3 days the eyes were opening, with a slit of about 4 mm. The black quill buds of the upper wing coverts and scapulars were starting to show through under the skin, the cere was turning a yellowish-flesh colour and the bill blue-grey.

At about 4 days the upper wing covert quill buds were just erupting through the skin and the remex buds could just be seen. The feet were still pink, the cere horny yellow, the bill light grey and the iris dull yellow.

At about 6 days the eyes were completely open. Quill buds of all feather tracts had erupted, the remex quills being about 4 mm long and the rectrix quills just erupting. The feet and claws were becoming greyish.

At about 8 days grey feathers were emerging from their sheaths on the coverts, scapulars, chest, belly, thighs and upper back. Rectrix quills were about 2 mm long. The feet were grey, and the cere greyish. The young birds were heard clicking their bills for the first time.

At about 10 days the feathers, showing grey and white markings, had erupted on all feather tracts. The tail was about 7 mm long. The egg tooth had disappeared, white rictal bristles were present around bill, the cere was blue-grey with a tinge of red on top and the bill grey.

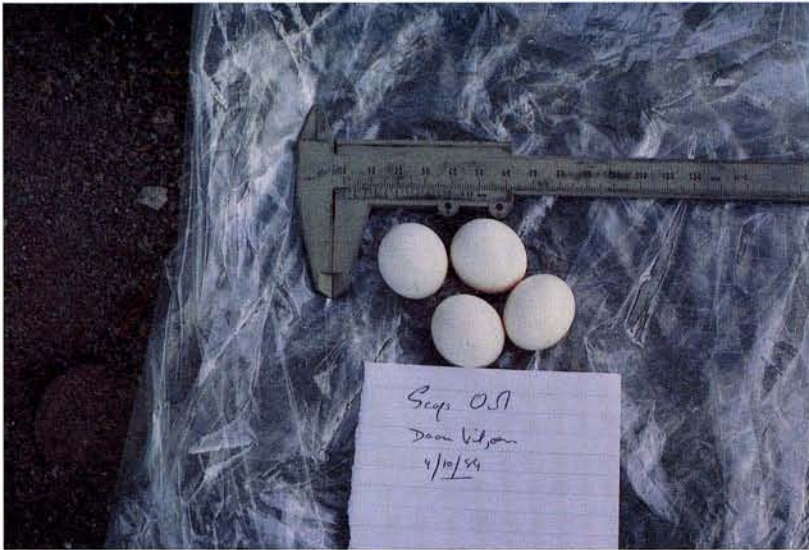


PLATE 3: Clutch of 4 eggs

At about 12 days “ear” tufts were visible and the delicate feather pattern, resembling that of adult, was fully developed.

DISCUSSION

The female occupying the nest a few days before the first egg was laid may indicate that in *O. senegalensis* as in *O. scops*, the female demonstrates her preference for a nest site by using it as a roosting place during the day (Mikkola 1983).

Although the nest site was often visited during the day, never once was the male seen or heard, contrary to the observations by Weaving (1970), in which the male flew into a nearby tree calling loudly when the nest hole was investigated. Koenig (1973) reports that in *O.*

*scops* both parents defend the eggs and chicks vehemently. The female *O. senegalensis* was extremely docile, never once attempting to bite or claw and lay limply in my hand with one eye always slightly open. *O. scops* remains in the nest with the young while they are small (Mikkola 1983); the female *O. senegalensis* under observation was found in the nest at every visit. During the 1983/84 breeding season two pairs of *O. senegalensis* bred in nest boxes in the same area (Riekert and Clinning); both nests were visited only once but there was no adult in the nest box on either occasion even though both contained downy young (pers obs).

Observations ceased when a Grey Hornbill which had sometimes been seen near the nest box over the previous few days, killed the chicks and took over the nest box. The skulls of the chicks had been crushed and

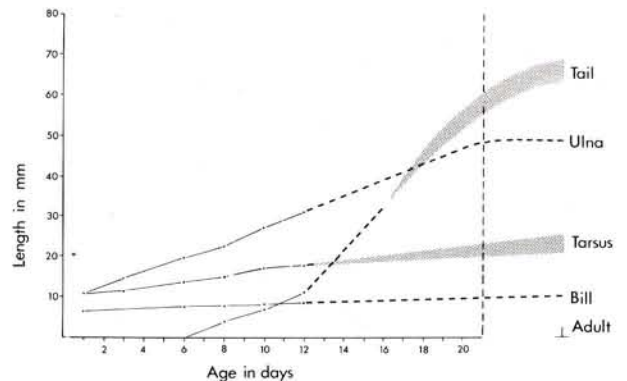
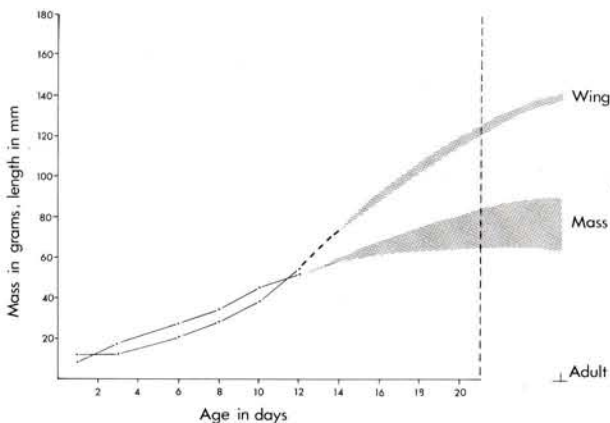


FIGURE 1: Development of the young owls up to age at death, extrapolated to the data of three adults from the same area. The dotted vertical line at 21 days is the age at which *O. scops* leaves the nest: (Measurements in mm) Wing (a = 142, b = 141, c = 136), Mass (a = 79, b = 92, c = 61), Tail (a = 68, b = 68, c = 62), Ulna (a = 49.9, b = 49.2, c = 49), Tarsus (a = 27, b = 25, c = 26), Bill (a = 10.6, b = 10, c = 10.3).

TABLE 1: Listing of the food items found in the stomachs of the three dead *O. senegalensis* chicks.

Food item		A	B	C
Coleoptera	(Sxarabidae)	×	—	×
Coleoptera	(Melolonthinae)	—	×	—
Coleoptera	(Coprinae)	×	—	—
Odonata	(Anisoptera)	—	—	×
Scorpiones	(Scorpion)	—	—	×
Formicidae	(Ants)	×	×	×
Formicidae	(Ant-eggs)	×	×	×
Solpugida	(Solifuge)	×	×	×
Orthoptera	—	×	×	×
Orthoptera	(Acrididae)	—	×	—
Hemiptera	—	—	×	—
Arachnida	(Aranea)	×	—	—
Sauria	(Lacertilia)	×	—	—

they had been covered with a layer of bark flakes. There was no sign of the female owl. I presumed that the young birds had reached the age when the female leaves the nest, allowing the hornbill easy access. The presence of ants and anteggs in the stomachs of all three chicks was probably due to the chicks feeding on the ants which are commonly found in the nest boxes. Although these observations are far from complete, they are nevertheless a further contribution to the breeding biology of the African Scops Owl.

## ACKNOWLEDGEMENTS

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