SWA/NAMIBIA VOGELKLUB

eine Zweigstelle der
SWA Wissenschaftlichen Gesellschaft
und der
Southern African Ornithological Society


Mitgliedsbeiträge für die S.A.O.S. und die Wissenschaftliche Gesellschaft für 1986 sind wie folgt:

Mitgliedschaft SWA Wissenschaftliche Gesellschaft und SWA/Namibia Vogelklub R 25-00 pro Jahr

Mitgliedschaft SWA Wissenschaftliche Gesellschaft und der Southern African Ornithological Society R 26-00 pro Jahr

Als ein Ordentliches Mitglied von sowohl der S.A.O.S. als auch der SWA Wissenschaftlichen Gesellschaft, erhalten Sie die populärwissenschaftliche Zeitschrift BOOMAKERIE, das wissenschaftlich ausgerichtete Journal OSTRICH und ebenfalls die lokalen Mitteilungen LANIOTURDUS, weiteres Informationsmaterial und die allgemeinen Publikationen der SWA Wissenschaftlichen Gesellschaft.

Als Ortsgruppen-Mitglied des SWA/Namibiens Vogelklubs stehen Ihnen der LANIOTURDUS, sowie die Mitteilungen und zusätzliche Informationen der SWA Wissenschaftlichen Gesellschaft zu.

Bemerkungen an Mitarbeiter:

Manuskripte sollten mit Schreibmaschine (oder in gut lesbarer Handschrift) geschrieben sein und zwar mit doppeltem Zeilenabstand auf A4 (30 x 21 cm) Format.

Skizzen, Karten und Tabellen sollten auf weissem Qualitätspapier mit schwarzer Tinte gezeichnet werden.

Klare Schwarz-weiß-Photographien (15 x 20 cm) können eingereicht werden, um die Arbeit zu illustrieren.

LANIOTURDUS

Newsletter of the SWA/Namibia Bird Club
Mitteilungen des SWA/Namibia Vogelklubs
Vol./Jg. 22, No. 1 1986

CONTENTS

INHALTSANGABE

EDITORIAL/REDAKTION .................................................. 2
ARTICLES & REPORTS/ ARTIKEL & BERICHTE:
The biology of the Dusky Sunbird in S.W.A./Namibia: a review ............................................. 4
Hartlab's Gulls and Swift Terns in Luderitz: a conservation problem ......................................... 10
NOTES & NEWS/BEREICHTEN & MITTEILUNGEN:
Wiederfunde und Wiederfänge ........................................ 12
PARK NOTES/BERICHTEN:
Redbilled Queleas breeding near Namutoni in 1982 .... 13
PROJECTS/PROJEKTE:
Arrivals and departures of migrant birds in S.W.A./Namibia - A new project ................................. 14
S.W.A./Namibia Bird Atlas Project ...................................... 19
HEADSCRATCHERS...ZUM KOPFZERREICHEN .................................. 20
CHESTNUT-NEVERS ........................................................ 21
RECENT LITERATURE/NEUERSCHEINUNGEN ................................ 22
NOTICES/BEKANNTMACHEN .............................................. 23
MYSTERY BIRD...WAS FÜR EIN VOGEL IST DAS? ..................... 24

Printed by John Meinert (Pty) Ltd.
ARTICLES AND REPORTS
ARTIKEL & BERICHTE

THE BIOLOGY OF THE DUSKY SUNBIRD IN S.W.A./NAMIBIA:
A REVIEW
A.J. WILLIAMS, S.G. BRAINE & P. BRIDGEFORD
c/o Directorate of Nature Conservation,
Private Bag 13306, Windhoek

(Received May 1986)

ABSTRACT

Data from 49 nests, and previously published information, on the biology of the Dusky Sunbird Nectarinia fusca in S.W.A./Namibia are reviewed. The alien Nicotiana glauca is an important nectar plant and where it occurs increases the density of Dusky Sunbirds. Breeding occurs from September to June with a peak in February and March. Nests are built on average 0.7 m above the ground, mainly of plant materials, and require six days to build. The clutch is two or (mainly) three eggs which may vary in size with the clutch. Incubation, by the female of the pair, lasts 12 to 13 days. Chicks remain in the nest for 13 to 15 days but may roost in the nest for up to 13 days after fledging. Evidence for brood reduction in this species is discussed.

INTRODUCTION

The Dusky Sunbird Nectarinia fusca is endemic to southern Africa where it ranges from southwestern Angola, through all of S.W.A./Namibia except the moister northeast, across southwestern Botswana, and occupies the Karoo areas of South Africa east to Queenstown (Sked 1967). Largely because it inhabits arid terrain sparsely settled by humans, the biology of this species has only been sketchily reported, and the single major account is that of Sked (1967).

Detailed observations of Dusky Sunbirds at three nests in the bed of the Ugab River, Skeleton Coast Park, supplemented by data contained on 46 nest record cards (hereafter NRCs) held at the Directorate of Nature Conservation, and information collated from previously published articles, provide the basis for this article. The aim of this paper is to present an updated account of the biology of the Dusky Sunbird in S.W.A./Namibia.

DIET AND FEEDING BEHAVIOUR

Dusky Sunbirds feed on nectar and insects. In the Ugab River nectar was obtained from the indigenous plants Aloe asperifolia and Droseranthemum luederitzii, and from the alien plants Nicotiana glauca and Psinaxaulon sp.

In areas of dense Nicotiana two or three males could be observed per 100 m but in areas lacking Nicotiana only one or two birds were recorded in 200 m. In 1938 "thousands" fed at a one km long patch of flowering Nicotiana plants near Keetmanshoop (Hoesch & Nielsen 1940). Elsewhere Loranthus sp., Aloe and Lycium spp. are important indigenous nectar suppliers and this species makes free use of suitable garden flowers (Sked 1967, pers. obs.).

Since nectar is in poor supply in the arid areas frequented by this species, insects probably feature in the diet of the Dusky Sunbird more than in that of most other sunbirds (Sked 1967). In the Ugab River insects were taken by "hawk" flights up into the air from a perch, and were hunted more assiduously when the birds had chicks.

BREEDING SEASON

Egg-laying has been reported in all months from September to June inclusively. At Windhoek egg-laying was recorded (12 NRCs) from mid September to early April with half of the reported layings in February or March. In the pro-Namib lowland below the escarpment egg-laying has been recorded between November and June inclusively, with a marked peak from February to April (51 records, Jensen & Clinning 1974). At Tses, near Keetmanshoop, breeding was recorded between 30 December and 6 March (Sked 1967). Winterbottom (1971a) states that breeding occurs from December to February, and again from June to July, but we found no evidence of a double peak in breeding nor of any egg-laying in July.

February and March are the two months with the highest and most reliable rainfall over most of S.W.A./Namibia, but rain in the Namib lowlands often falls later; in April or May. Early breeding in Windhoek has been recorded only in association with ornamental gardens which are kept well watered. In all researched areas the peak of Dusky Sunbird breeding coincides with the rainy season, and late laying in the Pro-Namib is probably related to delayed rainstorms.

THE NEST

Dusky Sunbird nests are built on average 0.7 ± 0.4 m (range 0.1-1.65 m, n = 29) off the ground. This reflects the low growing bushes characteristic of the bird's habitat. Nests have been recorded in the following places: Iboza...
riparia, Blythia gigantea, Euphorbia virosa, Commiphora glaucescens, Kissenia capensis, Pectoloma leucobracteata, Cephalocereus alexandri, Ziziphus mucronata, Sperobolus consimilis, Sueda plumosa and Petalidium sp. (NRCs, Jensen & Clinning 1975).

Nests are oval with a side top entry, and are attached to the supporting plant at the back. They are constructed of grasses and plant fibres, including bark, bound together with cobwebs where available. Fine silky or downy seed fibres are generally used for lining, but Gemsbok Dryx dryx hairs were also used in nests at the Ugab River. Nests are approximately 75 x 125 mm with an inside cup diameter of 40-50 mm (Jensen & Clinning 1975). Most general accounts state that feathers may be used for nest lining (Winterbottom 1971b, Sked 1967, Maclean 1984). This seems to be based on Anderson's (1872) description of a nest reputedly of this species. Feathers have not been reported as nest lining at the Ugab River nor in any of the 46 nest record cards and it seems likely that Anderson made an error in ascribing his feather-lined nest to this species. Nests take about six days to build and 12 days may elapse between the start of building and the laying of the first egg (Benseler 1970, Jensen & Clinning 1975).

EGGS

Clutch size in 31 nests was two (39%) or three (61%) eggs. Sked (1967) gives the clutch as 2-3 eggs and states that three egg clutches occur more often in this than in most other species of sunbirds, most of which lay two-egg clutches. Measurements of 15 eggs were 15.5 ± 0.4 mm (range 14.7 - 16.2 mm) x 10.9 ± 0.4 mm (range 10.3 - 11.6 mm). These measurements are similar to Sked's (1967) data for seven eggs, 15.4 mm (range 15.0-15.9 mm) x 10.8 mm (range 10.7-10.9 mm), and Maclean's (1984) data for 25 eggs, 15.4 mm (14.1-16.1 mm) x 11 mm (10.6-11.6 mm).

Egg size can vary within clutches, particularly in three-egg clutches, with differences of up to 0.9 mm in length and 0.6 mm in breadth between the largest and smallest eggs in a single clutch (NRCs). In three three-egg clutches in which eggs were measured, two clutches contained two eggs of similar size and one egg which was substantially smaller, and in the third clutch one egg was noticeably larger than the other two eggs in the clutch (NRCs). The order of laying of these eggs within the clutch was not recorded.

Dusky Sunbird can probably produce two broods in a single season since at one Windhoek nest, where fledglings from a brood were taken by a predator, a second clutch was laid in the same nest (though it is not recorded whether this was by the same female; R. Möller, NRC).

INCUBATION AND CHICK-REARING

Observations in S.W.A./Namibia support Sked's (1967) remark that only the female incubates (at least by day when all checks have been made). Two incubation periods are of 12 and 13-14 days respectively (NRCs). Hatching is asynchronous but it is not known whether the eggs hatch in the same order in which they are laid, though this is likely. Chicks spend at least the first 13-15 days of their life in the nest. Thereafter they may leave the nest for short flights during the day for up to eight days after fledging and have been recorded roosting in the nest up to 13 days after fledging (Benseler 1970). The female parent removes faecal pellets produced by the chicks. Both parents feed the young but only the female broods them (Jensen & Clinning 1975).

BROOD SIZE

At 16 nests, at various stages during chick growth, brood size was two (62.5%) or three (37.5%) chicks. This is almost a complete reversal of clutch size (39% two, and 61% three eggs) and implies hatching failure of one egg or the early loss of one chick. An egg with a dead embryo was found in a nest with two chicks (NRC). At several nests a difference in the size of chicks was recorded (NRCs), as illustrated in Jensen & Clinning (1975: Fig. 12). At, or just after fledging most reports are of only one chick suggesting that further brood reduction may occur during the chick-rearing period.

PARASITISM

Jensen & Clinning (1975) found that 11% of all Dusky Sunbird nests (n=64) in their study area in the Pro-Namib were parasitized by Klaus's Cuckoo Chrysococcyx klaas, and illustrated the close colour matching of the eggs of this cuckoo and those of the Dusky Sunbird. The cuckoo's eggs were larger (18.9-19.4 x 13.1-13.8 mm, Rowan 1983).

MOULT

Male Dusky Sunbirds moult into nuptial plumage between September and December and this plumage is retained until April to July when males moult into "eclipse" plumage which more closely resembles that of females. In seasons of early, heavy rainfall males may breed while still moulting from eclipse into nuptial plumage (Hoesch & Niethammer 1940).

COURTSHIP AND AGGRESSIVE BEHAVIOUR

Courtship behaviour includes vigorous vocalization and aerial displays with males aggressively maintaining territories from which intruders are
physically chased. Play-back of taped calls elicits strong aggressive reactions and one colour-ringed bird physically attacked the tape recorder used to play the calls! (J. Komen, pers. comm.).

DISCUSSION
Offspring reduction

Most southern African sunbirds lay a two-egg clutch, and two-egg clutches predominate in those species which may produce three-egg clutches (Sked 1967). That most (61%) clutches of Dusky Sunbirds in S.W.A./Namibia are of three eggs is therefore unusual. Brood size in Dusky Sunbirds is noticeably smaller than clutch size, with three-chick broods forming only 38% of all broods reported. It is possible that Dusky Sunbirds have an adaptive strategy which helps to reduce the number of offspring which they attempt to rear in response to changes in the environment, such as short-term changes in rainfall which might affect the availability of nectar, or more particularly, of insects.

Two features of the breeding biology of Dusky Sunbirds, namely variation in egg size within clutches and asynchronous hatching (see text above), would lead to difference in the size of chicks in particular broods. Larger eggs will, on the whole, contain more provisions than smaller ones, and this difference is likely to be reflected in difference in body size of the resultants hatching with larger hatchings from larger eggs (O'Connor 1984). Since altricial hatchlings like those of the Dusky Sunbird have to be fed shortly after hatching, any difference in the time of hatching of eggs within a clutch will result in earlier hatched chicks receiving food, and thus increasing in weight and size, before later hatched chicks. Both difference in egg size and asynchrony of hatching would independently result in a weight/size hierarchy in the chicks of a brood. Taken together they ensure such a hierarchy. If, as is the case in most bird species, the parents preferentially feed the most strongly begging chick the difference in size will be enhanced. If food is plentiful the parents can feed all the chicks but should there be a shortage of food then the largest chick is most likely to receive it and survive. The smaller chick(s) may receive insufficient food and starve to death (O'Connor 1984).

More, and more detailed, observations are needed to ascertain whether this does happen in Dusky Sunbirds. Such a strategy of brood reduction would be highly appropriate for a small bird living in an environment where rainfall, and therefore food availability, is as variable within and between years as is the case in the Dusky Sunbirds' habitat.

Conservation

Within S.W.A./Namibia the Dusky Sunbird is widespread in arid areas where human activities are limited and vegetation remains essentially natural in terms of species composition. Dusky Sunbirds cannot be considered threatened within this country in any major way at the present time. Indeed the numbers of Dusky Sunbirds may have increased in some areas, such as the Skeleton Coastal Park, as the result of local infestation of nectar-producing plants such as Nicotiana.

ACKNOWLEDGEMENTS

Mr. R. Loultt, Senior Nature Conservator of the Skeleton Coast Park provided help and enthusiasm throughout this project; in particular making nest checks when the two senior authors were prevented from doing so through professional duties. Mr. C. Clinning, of the Transvaal Provincial Administration commented on a draft of the manuscript. Compilers of nest record cards used in this paper were: A. Benseler, W. Hoesch, R.A.C. Jensen, F. Johnson, D. Ludwig, G. Niethammer, R. Möller, M. Seely, and D.H. Day. We are grateful to all these contributors.

ZUSAMMENFASSUNG


REFERENCES

SKREAD, C.J. 1967. Sunbirds of southern Africa. also the sugarbirds, the white-eyes and Spotted Creeper. Cape Town: Balkema.

HARTLAUB'S GULLS AND SWIFT TERNS IN LÜDERITZ: A CONSERVATION PROBLEM

J.KOMEN, A.J. WILLIAMS, E. MYER
1 c/o State Museum, P.O.Box 1203, Windhoek
2 c/o Directorate of Nature Conservation, Private Bag 13306, Windhoek

(Received May 1986)

Hartlaub's Gull Larus hartlaubii and Swift Tern Sterna bermorii are classed as potentially endangered within S.W.A/Namibia (Williams & Brown 1985), and status accounts are in preparation for both species in the national Red Data Book (A.J. Williams & C.J. Brown in prep.). The main reason for conservation concern is that breeding is restricted to a few colonies, and most of these colonies are located in areas where human disturbance can greatly reduce breeding success.

Both species have regularly bred in the Lüderitz area, mainly on Shark Island, although some Hartlaub's Gulls bred within the fenced railway shunting area of Lüderitz Harbour in 1984 (Williams 1985). The colony of Hartlaub's Gull at Lüderitz is one of only four frequently-used breeding colonies in S.W.A/Namibia, whereas the colony of Swift Terns is the only one in the country.

In April 1986 neither species bred on Shark Island but there was a large mixed colony of both species within the fenced harbour area.

The colony was visited on four occasions between 4 April and 17 April to count the number of breeding birds, record behavioural patterns and assess disturbance and predation. To avoid unnecessary disturbance, counts were made with binoculars from vantage points near the colony. Not all the areas used for breeding were visible at one time, and the numbers counted must be regarded as minimal.

On 4 April there were 759 pairs of Swift Terns and 247 pairs of Hartlaub's Gulls. On 17 April there were an additional 45 pairs of Swift Terns, whereas the numbers of Hartlaub's Gulls appeared to have remained stable. Most of the terns and gulls were incubating but a number of gulls, and at least two pairs of Swift Terns, were breeding small chicks. The incubation period of the Swift Tern is about 28 days, and that of Hartlaub's Gull not more than about 22 days (AJW,pers.obs.). This suggests that egg-laying must have been initiated in early March.

Nest-building, egg-laying and copulation were recorded, however, for both species in the colony during our period of observation. Most of these activities took place at the perimeter of the colony, predominantly by Hartlaub's Gulls.

Six dead gulls and one dead tern were found lying outside the perimeter of the colony, and several broken eggs and abandoned nests were seen at the edge of the colony. The cause of death of the gulls and tern could not be determined. There was no evidence that the dead birds had been eaten so predation seemed unlikely. There were several broken eggs and abandoned nests in the centre of the colony, where Swift Terns had displaced Hartlaub's Gulls from their nests.

Both terns and gulls appeared to be remarkably tame, and remained on their nests while locomotives nosily shunted wagons only 20 m from the colony. They tolerated vehicles driving up, and people walking, to about ten metres from the colony. During our observations two other parties visited the colony. One party returned next to their car and caused no noticeable disturbance. On 5 April a car drove right up to the edge of the colony, and a man and his daughter got out and walked through the colony, taking photographs. The next day we saw a large disturbance at the colony and drove up to find the same man with three other people and a dog standing in the middle of the colony. The chaos caused by the presence of the dog and that of the humans was clear. During this incident Kelp Gulls (Larus dominicanus) were observed feeding on eggs or nestlings at three different places in the colony.

In view of the potentially great reduction in breeding success at this mixed breeding colony in Lüderitz, as the result of human disturbance, we strongly recommend that this colony urgently warrants protection. The colony is located on Harbour property, and efforts should be made by the appropriate government agencies to control human access to the immediate vicinity of this threatened colony.