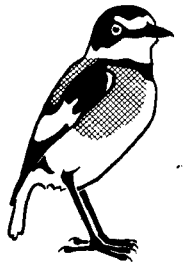
S.W.A. SCIENTIFIC SOCIETY / S.W.A. WETENSKAPLIKE VERENIGING / S.W.A. WISSENSCHAFTLICHE GESELLSCHAFT



Lanioturdus torquatus
Drosselwürger

MITTEILUNGEN

ORNITHOLOGISCHE ARBEITSGRUPPE

SCHRIFTLEITUNG: POSTFACH 67, WINDHOEK, S.W.A.

No. 7/8 - 9. Jahrgang - Okt./Nov. 1973

"DIE LEBENSANPASSUNG DER VOEGEL IN EINEM HEISSEN UND TROCKENEN KLIMA"

Ornithologisches Symposium in Hardap, S.W.A. am 24. und 25. Sept. 1973; Veranstaltet von der S.A. Ornithological Society, Cape Town, und der S.W.A. Wissenschaftlichen Gesellschaft, Windhoek.

INHALT:

die Referate in Kurzfassungen.

---

of rock holes for nests, the assistance of the male during sealing of the nests, and the bringing of several food items to the nest at once. Chick starvation was an important limiting factor to breeding success.

BERGMANN'S AND ALLEN'S RULES IN THE WESTERN CAPE

J.M. Winterbottom

Bergmann's Rule states that body size increases as temperature decreases; Allen's Rule that the length of limbs and other extermities increases as temperature increases. Both rules are known to apply to birds, though systematists sometimes use wing-length as a measure of size. As between the Karoo and the South West Cape, measurements and weights of 33 species are given and the results discussed in the light of the rules.

ARID ZONE ADAPTATIONS IN SOUTHERN AFRICAN BIRDS

G.L. Maclean

The southern African arid zone is taken to include the western region with a rainfall of less than 250 mm a year. Habitats vary from the true desert, through karoo scrub and dry grassland to Acacia savanna.

The coloration of groundbirds is cryptic in one of two ways: (a) "desert coloration" in most sedentary species matches closely the background colour, and (b) general cryptic coloration in nomadic and some sedentary species confers adequate camouflage on almost any background. A majority of true desert birds are seedeaters or augment their diet with seeds; many of these species are nomadic and gregarious at least when not breeding. The remainder of desert birds are insectivorous and resident; few of these are gregarious at any time. The seedeaters are totally or largely or partly dependent on drinking water, depending on the species and on the prevailing environmental conditions. Insect eaters are independent of drinking water.

Most arid zone birds show a high tolerance to saline drinking waters and can excrete high concentrations of salt by water resorption in the kidneys and cloaca, and/or by salt excretion via the salt gland. Birds generally have a high tolerance to hyperthermia, which, like the possession of a salt gland, is in effect a preadaptation to desert life. The Ostrich is particularly good at thermoregulation.

Most truly arid zone birds in southern Africa are highly dependent on rainfall as the Zeitgeber for breeding activity, but are not as dependent on rainfall as are Australian desert birds, especially in the Namib where rainfall is very erractic and negligibly small. A few species breed seasonally in winter, a few in summer, regardless of rainfall. The Double-banded Courser breeds continuously throughout the year regardless of rainfall or season.

Nest-sites of arid zone passerines tend to be strongly orientated on the southeastern side of a bush, grasstuft or other object, to obtain maximal shade during the day. This orientation is less rigid in winter than in summer.

Clutch size in most southern African arid zone birds is determinate and small - usually two eggs, sometimes one, and seldom tree. A notable exception is the Social Weaver, whose clutch size increases with increasing rainfall to a maximum of six eggs, and can drop in a relatively poor season to only two eggs. All rainfall-dependent

breeding birds in the arid zone of southern Africa continue to breed as long as favourable conditions last - up to nine months and possibly more.

Behaviour, parental care, and predators are also described and discussed.

DRINKING HABITS OF BIRDS IN THE CENTRAL TRANSVAAL BUSHVELD

David M. Skead

Notes on the drinking habits of birds were made mainly in the Pienaar's River/Hammanskraal area of the central Transvaal between July 1967 and December 1970. The climate according to Koeppen's classification is referred to as Dry (B) Steppe (S) with an average annual temperature above 18° C (h), with the dry season occurring during the low-sun period (w), abbreviated to BShw. Little or no rain can be expected from June to September.

The habitat is mainly thorn bushveld, and water is generally available to birds at stock drinking troughs and where water seeps from hairline cracks in reservoirs. Water is also available from the seasonally flowing Pienaar's River, and small man-made dams when they hold water in summer.

Seventy one species from 25 families, including six subfamilies of the Ploceidae, were noted drinking. Most species appeared to drink more regularly during the dry winter months. There is probably a limited food supply then in the case of fruit-eaters, whilst seed-eaters only have dry seeds, 10% or less water content, available.

One hundred and ninety trapping days, of ten hours each, took place over a 40-month period from August 1967 to November 1970 at a water point on the farm Vaalbosch. During this time 164 Golden-breasted Buntings Emberiza flaviventris were trapped coming to drink. Analysis of the data showed that 137 were trapped in the months June-September, 18 in the months October-January and 9 in the months February - May. The highest numbers coincided with the dry winter month when the birds probably subsisted on a diet of dry seeds, but obtained enough water from their diet of insects,plant material and green seeds during summer and autumn.

While it is generally considered that granivorous species rely more on potable water than predators, insectivorous or herbivorous species, it has been shown that 80,3% of the 71 species listed include insects in their diet. Those species including seed in the diet amounted to 60,5%. Purely granivorous species only amounted to 18,3%, and purely insectivorous species 10,0% of the total recorded drinking.

SOME PLOVERS TRANSPORT WATER TO THEIR NESTS

Peter F. Woodall

A White-fronted Plover Charadrius marginatus was observed on the Zambesi River dipping its breast and belly feathers into the water and then returning to its nest and wetting the sand. There are similar records in the literature for the White-headed Plover Vanellus albiceps and the Wattled Plover Vanellus senegallus. This behaviour pattern seems to be an adaptation to protect the eggs from excessive temperatures.

A microscopic examination of the structure of these breast and belly feathers revealed that some of the barbules were specialised