

Some food plants of ostriches in the Namib Desert Park, South West Africa

by

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Records of the species of plants eaten by ostriches in various habitats are scarce. An analysis was carried out on the gut contents of two ostriches collected from different localities within the Namib Desert Park, South West Africa (15° 15'E, 23° 30'S).

Sample 1 was taken from an adult bird collected near Zebra Pan in 1969, while Sample 2 was obtained from a young bird (which had apparently died of natural causes) found in the Kuiseb River in late 1972. The Zebra Pan area is a flat calcrete-rubble plain with intermittent dry water courses. Grass in the area is mainly rain dependent with the perennials concentrated in the dry water courses along with a sparse woodland vegetation. The Kuiseb River supports a dense riverine vegetation dependent on its underground flow. Annuals occur in the riverbed itself after almost annual floods. The Kuiseb affords access to both the Namib dunes and the central Namib plains.

After thorough air-drying the constituents of the samples were sorted to species as far as possible, while taking the following into consideration: (a) Many of the grass fragments could not be identified with adequate certainty and therefore all species were combined for weighing; (b) Soft dicotyledenous plants and plant parts also proved difficult to identify and were therefore grouped; (c) A large quantity of stones was discarded from Sample 1 on collection, thus the percentages quoted in the Table reflect only the smaller material.

RESULTS AND DISCUSSION

Species identified:

Sample 1

Aptosimum spinescens — stems
Calicorema capitata — flowers
Maerua schinzii — leaf material
Monechma arenicola — stems, leaves and whole plants
Salsola tuberculata — twigs and leaves
Stipagrostis ciliata — leaves and tufts
Zygophyllum cylindrifolium — twigs
Zygophyllum simplex — twigs

Sample 2

Acacia albida — pods and loose seed
Acacia giraffae — flowers
Acacia spp. — leaves
Argemone ochroleuca — leaves and small plants
Asthenatherum glaucum — leaves, seed and whole plants
Cotula anthemoides — shoots and flowers
Helichrysum sp. — isolated leaves
Heliotropium sp. — leaves and small plants
Kohautia sp. — stems and flower calyses
Salsola tuberculata — pieces of stem
Salvadora persica — leaves
Stipagrostis sp. — leaves and tufts
(either *S. obtusa*, *S. gonotostachys* or *S. subcaulis*)

Several points are noted:

- (a) The bird which provided Sample 2 had apparently obtained most of its food from the communities of the Kuiseb River bed or the adjacent sand dunes — as evidenced by the large quantities of *Argemone ochroleuca*, *Acacia albi-da* and *Asthenatherum glaucum* present.
- (b) The large quantity of *Zygophyllum* spp. stems in Sample 1 seems to indicate that the bird might have been using the leaves of this species as a water source (cf. Louw *et al.* 1969).
- (c) The large quantities of *Acacia giraffae* flowers in sample 2 (together with the very small quantity of leaf material) seems to indicate that the flowers were selectively browsed.
- (d) Much of the grass, many of the *Monechma* plants and other small herbs had been pulled completely out of the ground, which implies that heavy utilization of grasslands (especially on soft or sandy substrates) by ostriches might prevent the formation of tufts of perennial grasses.
- (e) Many of the plants (particularly in Sample 2) which had been pulled up completely had been grazed off before being uprooted. This might,

of course, merely indicate that the birds had pecked repeatedly at a plant until it was uprooted or that the ostriches were utilizing vegetation which was too short for Gemsbok or Springbok to graze.

- (f) No identifiable animal material was found.

From the contents of the two stomachs examined it is clear that a wide variety of plant species may be utilized by ostriches, and utilization might be at least partly selective. Heavy concentrations of ostriches could have an influence upon arid grassland communities as a result of their uprooting herbs and grasses.

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REFERENCE

- Louw, Gideon N., Belonje, Peter C., and Coetzee, Hendrik J., 1969. Renal function, respiration, heart rate and thermoregulation in the Ostrich (*Struthio camelus*). *Scient. Pap. Namib Desert Res. Stn. No. 42: 43-54.*

Table: Weights of Components

Component	Sample 1		Sample 2	
	Wt.	% of Total	Wt.	% of Total
<i>Acacia</i> seeds and pods	—	—	87.6 gm	17.39%
<i>Acacia</i> leaves (+ petioles etc.)	—	—	0.5 gm	0.10%
<i>Acacia</i> flowers	—	—	9.4 gm	1.87%
<i>Argemone ochroleuca</i>	—	—	51.5 gm	10.23%
Grasses (mixed)	24.9 gm	1.93%	103.2 gm	20.49%
<i>Kohautia</i> sp.	—	—	0.3 gm	0.06%
<i>Monechma arenicola</i>	117.8 gm	13.74%	—	—
<i>Salsola tuberculata</i>	36.6 gm	2.83%	3.8 gm	0.75%
<i>Zygophyllum</i> spp. (mainly <i>Z. simplex</i>)	17.1 gm	1.32%	—	—
Dicotyledons (mixed)	56.1 gm	4.36%	46.2 gm	9.17%
Partially digested vegetable matter	387.9 gm	30.00%	19.9 gm	3.95%
Stones	?	?	24.2 gm	4.81%
Sand etc.	592.3 gm	45.81%	157.0 gm	31.18%
TOTAL	1 292.9 gm	100.00%	503.5 gm	100.00%