

SHORT NOTE

Nasal salt secretion from Burchell's courser

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The ability to excrete a hypotonic fluid via a nasal salt gland has been known for some years to occur in various avian species. For example nasal salt secretion is well developed in two desert birds, the partridge *Ammoperdix heyi* and the ostrich *Struthio camelus* (Sturkie, 1965). In addition extrarenal salt secretions are reported from sixteen species of Accipitridae and eight species of Falconidae (Cade and Greenwald, 1966).

Burchell's Courser is widely distributed in southern Africa and occurs in the Namib Desert Park, South West Africa. During the last week of October 1974 two adult Burchell's Coursers with a single chick, were observed on the gravel plain between Gobabeb and Mirabib. Estimated at about ten days old the chick was chased and captured. It was found to have dry salt-like encrustations around both nostrils.

Scrapings were collected from around the external nares and dissolved in double distilled water. The resulting solution was analysed by means of an atomic absorption spectrophotometer. This analysis showed the presence of a strong concentration of sodium ions (G. N. Louw, *pers. comm.*).

Similar observations have been reported for both adult and chick of the Double-banded Courser *Rhinoptilus africanus* (Maclean, 1967) and in incubating Crowned Plover *Varellus coronatus* (Frost, *pers. comm.*).

Nasal salt secretion in desert birds has been shown to occur in response to high temperatures (Schmidt-Nielsen *et al* 1963). This process serves two functions both of which effect an overall reduction in water loss. In the first place extra-renal salt excretion allows the concentration and excretion of monovalent ions at levels above those in the plasma. This results in water conservation by reducing the amount of water required to excrete the ions. Secondly, by excreting the extra-renal salt fluid through the nares the moisture could be used to humidify inhaled air. Thus water that would have been lost is put to good use.

Obviously the higher the ambient and ground surface temperatures the more critical is the need for water conservation.

Burchell's Courser is primarily an insect eater and breeds on the ground in the Namib Desert Park during late spring. The need to conserve water is great. Further observations on the incidence of nasal secretions in desert birds should be recorded.

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Plate 1. Burchell's Courser chick in the Namib Desert Park.

(Photo: John E. W. Dixon)