

## SHORT COMMUNICATIONS

### DISTRIBUTION OF THE SARUS CRANE IN NORTHERN QUEENSLAND

The Sarus Crane *Grus antigone* has recently been noted in Australia round Normanton (Gill 1969, Emu 69: 49–52) and near Atherton (Bravery 1969, Emu 69: 52–53).

In the course of studies of the biology and ecology of the Brolga *Grus rubicundus*, the opportunity was taken during 1969 to define the present distribution

of the Sarus Crane throughout northern Queensland, particularly in relation to those of the Brolga and of waterbirds generally. The region surveyed was from Sarina in eastern Queensland to the Archer River on Cape York Peninsula and westwards to Burketown in the north and Mt Isa in the south. Some birds were taken to confirm identity previously established with

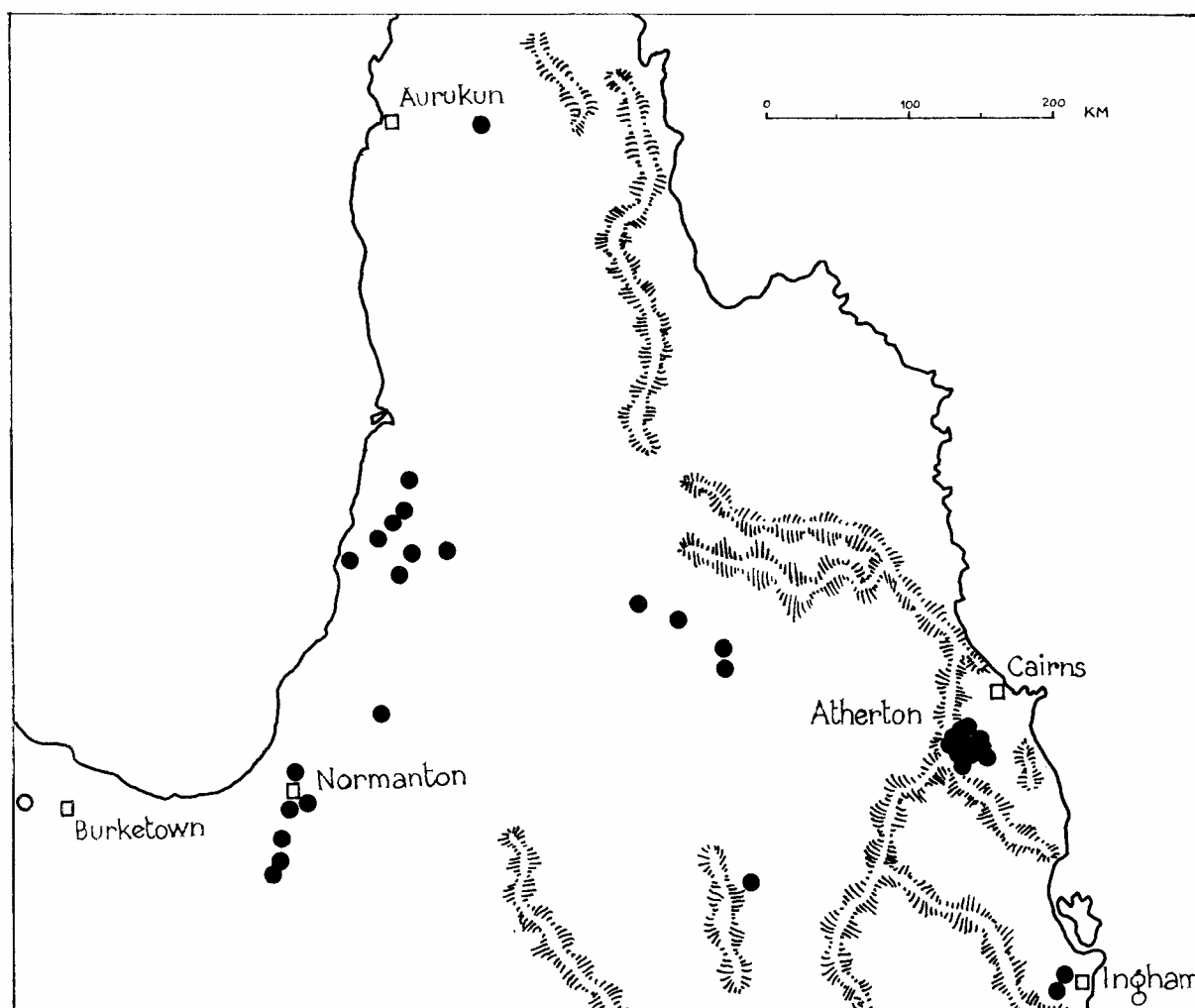


Figure 1. Distribution of the Sarus Crane in northern Queensland, 1969. • locality of record (total 33); ○ earlier (1966) record by Gill.

Queensland Museum specimen Reg. No. 011076 collected by officers of the Department of Primary Industries at Willetts Swamp near Atherton on 24 October 1967.

Figure 1 shows the localities where Sarus Cranes were recorded in 1969. The species was not seen at one locality from which it had previously been reported by Gill (*op. cit.*); this was in the far west (see Fig. 1). The largest flock seen was of seventy-five birds at Willetts Swamp. All localities were outside the main areas of distribution of the Brolga (see Lavery and Blackman 1969, Qd agric. J. 95: 156–162). The occurrence of Sarus Cranes con-

formed closely, however, to the distinct path of movement used by many waterbirds in northern Queensland (see Lavery 1966, Qd J. agric. Anim. Sci. 23: 323–327).

All Sarus Cranes taken and observed were the eastern form *G. a. sharpii* Blanford, readily distinguished from the western Asian form *G. a. anti-gone* (L.) by the absence of a white collar and from the Brolga by the extent of the caruncle (comb), which was 130–134 mm in length from crown to neck in three adult and immature Sarus Cranes compared with 30–55 mm in twenty adult and immature Brolgas.

J. G. BLACKMAN, *Department of Primary Industries, PO Box 1085, Townsville, Q 4810.*  
16 February, 1971.

### LEAD POISONING AS A POSSIBLE CAUSE OF DEATH IN WATERFOWL IN NORTHERN QUEENSLAND

Although lead poisoning from ingested shotgun pellets commonly causes death in waterfowl in other countries (Weller 1964), it has not been recorded in Australia even at those localities where shooting has taken place constantly for more than fifty years.

In the course of studies of the foods of waterfowl in northern Queensland from 1959 to 1963, birds found dead in the field were examined to establish probable primary causes of death. Individuals of the following species collected by shooting were examined for pellets in the gizzard and for premonitory symptoms of lead poisoning, such as low body-weight with no subcutaneous fat, general lethargy including arched and drooped wings, green faeces and excessive bile, ulcerated gizzard with atrophied muscles and impacted proventriculus, and liver necrosis and reduction.

Magpie Goose *Anseranas semipalmata*  
Whistling Tree Duck *Dendrocygna arcuata*  
Plumed Tree Duck *Dendrocygna eytoni*  
Black Swan *Cygnus atratus*  
Black Duck *Anas superciliosa*  
Grey Teal *Anas gibberifrons*  
White-eyed Duck *Aythya australis*  
Wood Duck *Chenonetta jubata*  
White-quilled Pygmy Goose *Nettapus coromandelianus*

Although birds dying and dead from lead poisoning have been readily detected and identified in other countries, especially during characteristic 'die-offs', no instance of this was seen or reported in northern Queensland during the period of this study.

Table I gives the occurrence of pellets in gizzards of all birds taken at places where there is much shooting (Lavery 1969) and elsewhere. The occurrence was of the order of that reported for the

United Kingdom and United States of America (Olney 1960); the larger number of pellets in one gizzard also was of the same order, for example 115 pellets in the gizzard of a Black Duck. The birds that contained pellets were feeding on diets not noticeably different from those eaten by birds that did not contain pellets. Although the species generally ate different foods, there was no significant difference in the occurrence of ingested pellets between species (see Table I); nevertheless, the birds probably did not specifically take grinding material.

There was some evidence of lead poisoning only in the Black Duck mentioned above; the chief symptom was debilitated condition (three quarters of the average weight of an adult female Black Duck). Approximately eighty-five per cent of pellets in all

TABLE I

Occurrence of shotgun pellets in waterfowl taken in northern Queensland 1959–1963

Species	Major shooting localities		Elsewhere	
	No. gizzards examined	Percentage with pellets	No. gizzards examined	Percentage with pellets
Whistling Tree Duck	444	5.0	645	4.8
Black Duck	2,037	5.0	223	3.6
Grey Teal and White-eyed Duck	346	4.0	263	2.7
Others	178	3.4	497	2.8

Significance of differences—Between species

At major localities  $\chi^2 = 1.443$  (3 degrees of freedom)

Not significant

Elsewhere  $\chi^2 = 4.122$  (3 degrees of freedom)

Not significant

Between areas  $\chi^2 = 2.814$  (1 degree of freedom)

Not significant

birds were worn as a result of grinding, so that rate of ingestion, and for that matter defaecation, should not have affected these results appreciably. Indeed, more serious lead poisoning than has been noted in other countries should have resulted because the percentage of worn pellets was higher than elsewhere (Anderson 1959).

There was no statistical evidence that pellets were eaten in larger quantities where much shooting takes place (Table I), although some of the birds containing a large quantity of pellets were taken from such places. A Whistling Tree Duck containing one pellet was taken from the newly constructed Tinaroo Dam in a 13,092 km<sup>2</sup> fauna sanctuary, indicating that long movements may confuse the findings. A Wood Duck, containing one pellet twenty-one months after the end of the previous shooting season in northern Queensland, perhaps indicates that birds may carry some pellets without harm, particularly because most shooting areas during this period of drought were uninhabited by waterfowl. This is in marked contrast to findings in other countries where

one pellet has been found to cause rapid decline in condition (Bellrose 1959).

Accordingly, lead poisoning is of no consequence among waterfowl in northern Queensland at this juncture. Moreover, because lead pellets are at present eaten in amounts comparable with those eaten in places where such mortality is common, lead poisoning probably will not be important in the foreseeable future.

#### REFERENCES

- ANDERSON, H. G. 1959. Food habits of migratory ducks in Illinois. *Bull. Ill. St. nat. Hist. Surv.* 27: 289-344.  
BELLROSE, F. C. 1959. Lead poisoning as a mortality factor in waterfowl populations. *Bull. Ill. St. nat. Hist. Surv.* 27: 235-88.  
LAVERY, H. J. 1969. Studies of waterfowl (Anatidae) in north Queensland. 3. Harvests. *Qd J. agric. Anim. Sci.* 26: 677-90.  
OLNEY, P. J. S. 1960. Lead poisoning in wildfowl. *Rep. Wildfowl Trust* 11: 123-34.  
WELLER, M. W. 1964. General habits, in *The Waterfowl of the World*, 4. Ed. J. Delacour. London: Country Life.

Dr H. J. LAVERY, *Department of Primary Industries, PO Box 1085, Townsville, Q 4810.*  
8 February 1971.