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## PRELIMINARY RESULTS OF NECK-COLLARED *CYGNUS CYGNUS*

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### Introduction

During unusually cold weather, 129 *Cygnus cygnus cygnus* were ringed in Denmark during the first three months of 1979. Of these, 116 were additionally marked with a plastic neck-collar and a plastic tarsus-ring, both engraved with letters and ciphers. The neck-collar is 85 mm high with an inside diameter of 57 mm, the inscription is white on blue, 3 mm wide and 27 mm high. The tarsus-ring (94 mm high and 27 mm inside diameter), having the same inscription as the neck-collar, is engraved with 2 mm wide and 17 mm high ciphers and letters. With a telescope these neck-collars can be read from up to a distance of 500 m in good viewing conditions. This form of marking facilitates control in nature of live birds and does not depend entirely on recoveries of dead birds.

Up to 1 February 1980, we have received information concerning 40 such sight records from Denmark in the period up to April 1979, when the swans left for their breeding grounds. From Sweden we have sight records up to the end of April and from Finland from May. The autumn migration was demonstrated by records from south Finland and Sweden in October and November. From December and January 1980 we have received some records from the Danish winter-quarters.

Even at this early stage of the programme it is evident that the 116 neck-collared swans produced much more information than the 266 *C. c. cygnus* ringed without neck-collars in the period 1953 to 1978. Of the 116 neck-collared swans 26 (22.4%) were seen abroad (some individuals were recorded several times), compared with 24 (9.0%) recoveries of the 266 previous ringed.



Fig 1. Sightings of neck-collared *Cygnus cygnus cygnus*.

On the map (Fig 1) sight records of neck-collared swans are indicated by a black dot and the previous recoveries by an open circle. Up to now no sight records have been received from the Soviet Union but we hope that we will get them from that area.

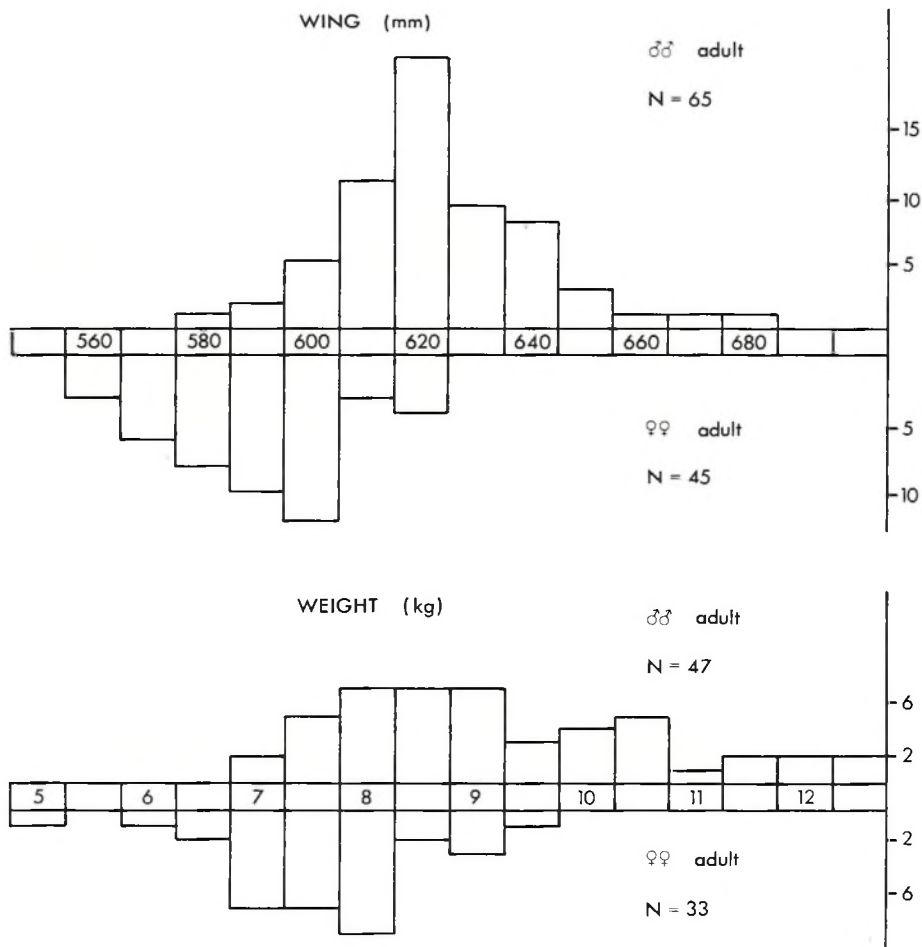


Fig 2. Weights and measurements of *Cygnus cygnus cygnus*.

### *C. c. cygnus* parameters

In connection with the Danish *C. olor* ringing programme we have caught a small number of *C. c. cygnus*. In the severe winters of 1970 and 1979 a number were measured and weighed, the results being presented here as there is little information in the literature (Table 1).

Table 1. Weights and measurements of *C. c. cygnus* (in kg and mm)

	Males			Females		
	N	$\bar{x} \pm \text{sd}$	min—max	N	$\bar{x} \pm \text{sd}$	min—max
<i>1st winter</i>						
Wing	2		580—622	8	575 $\pm$ 24	541—605
Longest primary	2		317—325	7	304 $\pm$ 18	285—340
Foot span	2		160—179	8	166 $\pm$ 8	148—175
Weight	2		7.3—9.0	6	7.4 $\pm$ 1.2	5.9—9.3
<i>2nd winter</i>						
Wing	2		600—645	4	608 $\pm$ 26	575—635
Longest primary	2		320—347	3	312 $\pm$ 8	305—320
Foot span	2		165—169	4	181 $\pm$ 12	165—190
Weight	2		9.4—9.9	4	8.2 $\pm$ 1.1	6.9—9.6
<i>Adults</i>						
Wing	65	625 $\pm$ 18	580—686	46	593 $\pm$ 16	560—625
Longest primary	42	332 $\pm$ 13	305—360	33	319 $\pm$ 13	295—350
Foot span	44	181 $\pm$ 9	160—205	37	171 $\pm$ 9	155—186
Weight	55	9.2 $\pm$ 1.5	6.4—12.9	36	7.8 $\pm$ 0.9	5.2—9.8

In *C. olor* we know that the weight may decrease during long spells of low temperatures. It is our impression that *C. cygnus* stands low temperatures and strong wind much better than *C. olor*. Over icing, which is often seen in *C. olor* under cold and windy conditions, has never been noticed in *C. c. cygnus*.

### Summary

116 *Cygnus cygnus cygnus* were marked with neck-collars in severe weather in unusually cold weather in early 1979. Resightings in the first year produced much more information (22.4%) than the 266 swans ringed without neck-collars in the previous 25 years (9.0%). Measurements and weights of trapped *C. c. cygnus* are also given.

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