

WSG PROJECT - SPRING PASSAGE OF SIBERIAN KNOT : PLANS FOR 1980

by W.J.A. Dick, O. Fournier and P. Prokosch

The report of the results of the 1979 fieldwork given in WSG Bull 27: 8-13 reached some conclusions and inevitably raised further questions about the spring migration. Many of the questions can only be answered by several seasons of fieldwork, and it has become clearer where fieldwork will be most interesting and productive in the future.

The results showed that the Knot Calidris canutus migrates in long flights between certain key estuaries. There seems little purpose in repeating a general request for counts to be made in areas already shown not to be of importance. It is planned to concentrate efforts in those areas where Knot do occur on migration, to find out more about energetic and stopover patterns. Some of the questions which it is hoped to investigate in 1980 are as follows:

- 1) Was 1979 an exceptional year, both in the migration timing, and in the low weights found?
- 2) What proportions of the South and West African wintering populations occur at each staging site, and when?
- 3) What is the pattern of weight increase and length of stay at different estuaries?
- 4) Do the Greenland/Canadian and Siberian populations mix in Germany, and what are the comparative strategies of timing and energy?
- 5) How do the counts from northern Norway relate to other estuaries? (see elsewhere in this bulletin)

To these ends, it is hoped that fieldwork will be carried out in the following areas:

South Africa The Cape Wader Group plan to monitor the departure of the population.

Mauritania It is hoped that it may be possible to establish departure dates, and possibly some weight information, from the Banc d'Arguin by the staff of the National Park and three Dutch workers currently studying the waders there.

Portugal Mr. Rui Rufino plans to make counts of the Tejo estuary during the spring.

Vendée, France A further season of counting and ringing studies will be made. Probably Knot will be dyed again in an attempt to track movements to Germany. Other areas in France may be counted.

Germany Many of the most interesting outstanding questions relate to Germany, and the work started in 1979 will continue. The resources available are small in relation to the size of the area, the inaccessibility of outlying areas, the difficulties of catching the birds, the huge numbers of birds present, and the complexities of two Knot populations. It is hoped that teams will visit Germany to assist with the work.

Norway/Finland The counts and radar work from the Gulf of Finland made an important contribution to the project in 1979, and it would be most valuable if these continue in 1980. It would also be most interesting to know whether the Knot are using the northern Norwegian sites for fattening or just resting.

We are extremely grateful to the many people who sent us further information and drew my attention to references in the literature. Radar counts from Helsinki show the passage of Knot most clearly, and their flying heights, which were previously not established (J.Koistinen & A.Harju, pers.comm). Also, two Knot dyed in Vendée have been reported from Aspskar, Finland (60°15' N 26°24'E) on 3/6/79 and 6/6/79 (M.Hario, pers comm.). These represent the only observations of Vendée dyed birds.

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CAPTURE MYCPATHY ('CRAMP') IN WADERS

by G.H. Green

This problem, discussed in Bulletins nos. 24 (p24) and 27 (p19-21), relates chiefly to certain long-legged waders which 'go off their legs' on capture and are reluctant to fly when released. They generally recover given a long enough period (often prolonged - may be hours or days) of quiet and, if necessary, an adequate food supply. The damage to the birds appears to be caused when they struggle in the net in which they are captured and may be exacerbated by further restraint in small bags or low keeping cages in which the birds cannot stand. Dr. P.R.Evans has drawn our attention to a relevant paper and this is reviewed below followed by a report on a cannon net catch of Bar-tailed Godwits Limosa lapponica from Dr. C.D.T. Minton.

The paper mentioned by P.R.Evans is by J.R.Henschel and G.N.Louw (1978) 'Capture stress, metabolic acidosis and hyperthermia in birds' South African J. Sci. 74:305-306. The authors refer to reports of severe losses during capture of wild ungulates due to 'capture myopathy' (basically loss of structural and functional integrity of muscle fibres when muscles are severely over-strained) and to irreversible leg paralysis in flamingos after pursuit, capture and transport (Young 1967). To study the problem in birds a series of species of doves were restrained in a mist net for an hour and then in a dark box for five hours. During this period rectal temperatures were checked and the levels of several enzymes likely to be liberated into the blood if muscle fibres were damaged were monitored. Temperatures dropped sharply on capture then rapidly rose above normal before returning slowly to normal. Enzyme levels increased significantly indicating muscle damage and enzyme leakage into the blood. Most of the birds were unable to fly when released one to six hours after capture but had recovered by next day. The author suggests that capture myopathy can develop in routine procedures and it seems likely that some species are more prone to the condition than others

Next follows C.D.T.Minton's note and a further note in conclusion.

OCCURRENCE OF 'CRAMP' IN A CATCH OF BAR-TAILED GODWITS Limosa lapponica

by C.D.T.Minton

Further to the recent note (Stanyard 1979) on 'cramp' in Curlew Numenius arquata the occurrence of a similar condition in a cannon net catch of 186 Bar-tailed Godwits in Victoria, Australia may be of interest. Twenty birds were affected by cramp - a far higher percentage than in any previous catch of Godwits in which I have involved (including several catches with the Wash Wader Ringing

Group in the UK of between 100 and 500 godwits). Like those reported by Stanyard the affected birds were found to be sitting down in the keeping cages even though these were high enough for the birds to stand. Although most gradually improved after release one bird did not recover and the fate of several others is uncertain.

The main difference between this and other godwit catches was the length of time taken in covering the birds after firing the net. (Only 5 of a team of eleven people were immediately available and the covering material was located about 200 metres from the net.) Further differences were that the leading edge of the net reached the sea, necessitating lifting ashore (the large UK catches of godwits have been on fields) and a larger mesh size which allowed the birds greater freedom to struggle so they became more entangled in the net than usual. However, the birds were extracted reasonably quickly from the net and banding (ringing) and processing proceeded expeditiously in warm (25°C) dry conditions.

This experience supports earlier conclusions, including those of van Heerden (1977). In particular they suggest that (a) 'straining' is the prime cause of 'cramp'. Minimising this during and after capture is the most important potential remedy; (b) the condition has probably taken effect before the birds are placed in keeping cages. (Tall keeping cages are not therefore considered a total remedy although they probably help recovery and reduce the chance of further development of the condition which might occur if the birds strained against the confines of small low cages); and (c) it is vital that birds which exhibit cramp on release are not immediately recaptured and replaced in keeping cages. Chances of recovery are probably maximised if the birds are left to recover quietly and gradually without further harassment. Subsequently someone walking slowly on the down-wind side of the bird may help provide the extra stimulus for final recovery - the bird making the effort to fly off. The presence of other normal birds being released and flying away near cramped birds seems to encourage the recovery process.

SOME CONCLUSIONS

One can conclude from these notes that waders prone to capture myopathy (Curlew, Whimbrels Numenius phaeopus, Bar-tailed Godwits and perhaps certain other long-legged species) must be extracted from the net (cannon or mist) in which they are captured as rapidly as possible and transferred to tall (so the birds can stand) hessian (or similar cloth) cages where the light is subdued but not so dark that the birds crouch. If the extraction time from a cannon net is to exceed a few minutes the catch must be covered immediately with lightweight dark cloth which subdues the birds and reduces their efforts (straining and struggling) to escape. Also generally, but particularly if birds are showing signs of cramp, release should be considered as an important part of the ringing process and should not be left to an unsupervised inexperienced member of the team.

References

- These include those mentioned in this note and also those listed in Henschel and Louw's paper.
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THE EFFECT OF THE HARD WINTER OF 1978/79 ON THE WADER POPULATIONS OF THE YTHAN ESTUARY (Abstract of contribution to the WSG Nottingham Meeting)

by Stephen Baillie

The 1978/79 winter was the most severe since that of 1962/63, with 45 days on which the soil was frozen at a depth of 5cm. Soil temperatures have been taken as an index of weather conditions as many Ythan waders supplement their food intake by field feeding over the high tide period in mid-winter. Unfortunately mud temperatures from the estuary are not available. The cold weather came in two prolonged spells, one in the first half of January and the second from late January to mid February. Towards the end of the first of these spells a heavy mortality of a number of bird species was recorded on the Ythan estuary by means of beached bird surveys. Further slightly less severe mortality was recorded from then until late February. The worst effected species were Redshank Tringa totanus and Oystercatcher Haematopus ostralegus with 55 and 38 respectively found dead in January and February. These figures represent about 7% of the December count totals for these species. This must be taken as a minimum estimate as it is unlikely that all those birds which died were found.

Weights and subsequent carcass analysis of the birds found dead indicated that they had died of starvation. Redshank showed highly significant decreases in fat, water and lean dry weight when compared with a sample of birds collected in the autumn. The only parameters showing no significant decrease were gut weight and the lipid indices for liver and kidney. The liver lipid values probably indicate that metabolism was still taking place there at the time of death.