T. Glareola, Green Sandpipers T. ochropus, Greenshanks T. nebularia, Little Ringed Plovers Ch. Dubius, etc., will be d e-marked on the under parts of the body by red, green, blue, yellow and possibly black colours. The under part of the body is divided into three sections: 1) breast, 2) belly to the beginning of thigh, and 3) beginning of thigh to under tail coverts. The combinations can easily be recognised with a standard binocular at considerable distances.

Details of rings and dye-marks seen, place of observation, date and time, length of stay etc. should kindly be sent as promptly as possible to:

Beringungsgemeinschaft Bernd Riedel, 3410 Northeim 1, Wilhelmstrasse 11, BRD.

Sanderling, Greenland and colour rings

by G.H. Green

The following should be regarded as a piece of personal reportage rather than a definitive scientific publication. I was at a brass band concert the other evening and while the band was playing my mind wandered off into random thoughts about Sanderling, partly because this time (28 June) last year I was in Greenland listening to their strange croaking song and partly because on 16 June this year I received a cable from Danmarkshavn in NE Greenland which read "SANDERLING METAL RING RIGHT LEG PALL RED PLASTIC RING LEFT LEG OBSERVED DANMARKSHAVN 16 JUNE YOURS MELTOFTE". It was an exciting cable to receive as it tells of a bird ringed at Mestersvig (NE Greenland) in 1974 by the Joint Biological Expedition and found in the next breeding season 550 km further north. So far I don't know if the bird has been caught and can only speculate whether it was ringed as a passage migrant at Mestersvig or whether it was an adult which has forsaken its former breeding site. If the first it lends support to the theory that waders migrate along the NE Greenland coast. It is unlikely to be a 1974 pullus as young birds appear to remain south for their first summer.

The observation is yet another 'first' and another valuable piece of information from the colour ringing and dye marking scheme we used in Greenland in a small way in 1972, Meltofte used in Pearyland in 1973 and the Joint Biological Expedition used more extensively in 1974. To date, in addition to the Danmarkshavn bird, 9 Sanderling, 15 Ringed Plover, 1 Turnstone and 1 Dunlin have been reported in Britain solely by observation of dye marks and colour rings (see BTO News 73 June). The scheme can claim the first definite records of Greenland Ringed Plover and Sanderling in Britain. All the Sanderling (except one in the west of Ireland, March 1975) were seen during the August-September passage period and confirm the view, first put forward by A.E. Williams at a Ringers Conference 3 years ago, that Greenland Sanderling occur in Britain as passage migrants and do not stay for the winter. We were therefore rather put out and puzzled by several reports which reached us last winter from Holland, Belgium, and Essex of Sanderling with red colour rings only and no metal rings. Later we found that Dr Gerard Boere had

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colour ringed Sanderling on Vleiland (Friesian Islands) the previous August and had inadvertently used the same colour code as we used in Greenland. The metal rings were not seen because the Dutch place them above the 'knee'. So the problem is apparently resolved - the Vleiland birds were probably of Siberian origin which moulted in Europe and later wandered for relatively short distances further west in winter. BUT the two colour marking schemes came very close to invalidating each other - and we still do not understand the Irish bird whose description tallies well with the Greenland rings. Colour ringing and dye marking are powerful tools for wader migration research (Mascher used dye on Scandinavian Dunlin some time ago) but international co-operation is required and I appeal to anyone thinking of using such a scheme to contact the BTO Wader Study Group beforehand and let us know what you are doing. The Group's bulletin circulates to members in Britain and Europe and can give publicity to proposed schemes. Marking individual birds with complex codes is perhaps less likely to cause confusion than year or place codes based on single rings. Lack of liason and mutual consultation could so easily lead to coloured plastic chaos among wader watchers.

This summer Hans Meltofte is dye marking waders at Danmarkshavn, NE Greenland but he is not using colour rings. Please keep a look out for them and for birds carrying colour rings from previous years and let either Tony Prater or myself know of any sightings as soon as possible.

The Swallow is often quoted as one of the great wonders of bird migration but for me the Sanderling is the bird to fire the imagination Enough information has now accumulated to outline the yearly cycle of the Greenland birds. In May they arrive in Britain and are familiar birds of sandy beaches, scurrying at the tide edge in search of food, and mixing with birds of Siberian origin which have wintered in Britain or Europe. Their summer plumage, achieved by body moult is well developed when they arrive and complete before they go further north. Their backs become mottled reddish brown, black and white and the upper breast and neck become spotted and suffused with colour - reddish brown in the males and greyish in females. They stay in Britain for about 2 weeks - chiefly eating. By the time they depart many have nearly doubled their weight and some weigh over 100 gm. The main concentrations are on the west coast. Meanwhile in Arctic Greenland the thaw is starting. According to Meltofte snow starts to melt in ernest at Scoresbysund (southern NE Greenland) about 19 May and in Pearyland, 1500 km further north, about 7 June. Scattered along the whole coast there appear to be valleys where the snow melts earlier than in surrounding regions thus providing wader breeding oases in a snowy desert. At the end of May or in early June the Sanderling leave Britain. They have a heavy load of fat which provides fuel for the flight. They are rarely seen in Iceland in Spring and it may be that they head straight for Greenland. We don't know. We don't know if they still have fat reserves when they arrive to tide them over a period of bad weather or to enable the gonads to start developing immediately even if food is scarce; or whether the females have to wait long before they find sufficient food to produce eggs. Small flocks occur at feeding areas but quickly disperse and the birds take up territory in suitable terrain as soon as the snow clears. In otherwise favourable localities the snow melts too late in some years for the birds to breed and in fact large tracts of country thaw too late to be of use.

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The Sanderling is an elegant wader both breeding and grey and white winter plumage and the call notes are quite pleasing - but the song is a bizarre croaking given in low fluttering display flight over the territory - a strong contrast to the high trilling song flights of the Dunlin, the whistling song of the Ringed Plover and the hauntingly melodious song of the Knot. The nest is placed on sparsely vegetated tundra, the clutch is usually 4, incubation last 24 days ..... but in Canada Parmelee has found that Sanderlings may lay two clutches in quick succession, each attended by one of the pair alone. We found no sign of this behaviour in Greenland in 1974 and perhaps the birds of the two areas differ in this respect. The eggs weigh about 11 gm. a little small in relation to female weight compared with most other waders. The newly hatched chicks weight about 7.5 gm. They feed on tundra insects and fly when 16-17 days old when they weight about 45 gm. The adults start to loose their summer plumage (particularly underparts) during incubation. The adults leave the breeding areas before the juveniles and the majority of both leave my mid August. The whole breeding cycle probably takes 55-60 days. We don't know how much fat is accumulated before migration but both breeding adults and August juveniles have reached 70 gm. In Britain in July and August they again increase weight by up to 100%. They remain in Britain for 2 - 3 weeks before migrating south to - ? Somewhere in West or South Africa. A Bird carrying a South African ring has been caught at the Wash. In Africa they moult both wing and tail feathers and they remain there from September to April. In May they are found on European shores again on their way north. We don't know how long they live or how man such journeys they make.

The above is a mixture of fact and speculation built on rather scanty data and needs confirmation or refutation - more ringing recoveries are badly needed. However, it is interesting to see how research on an international scale is revealing the life pattern of a wader species. This note has deliberately been written without references and includes our own data from Greenland and that collected by wader ringing groups - mainly the Wash Wader Ringing Group and the Merseyside Ringing Group. The following are (or will be!) the most useful publications.

Parmelee, D.F. Breeding behaviour of the Sanderling in the Canadian High Arctic. Living Bird 9 : 97-145

Parmelee, D.F. & Payne, R.B. 1973 On multiple brood and the breeding strategy of Arctic Sanderlings. Ibis 115 : 218-226

Pienkowski, M.W. & Green, G.H. (in prep) Observations on the breeding biology of Sanderling Calidris alba in East Greenland

Minton, C.D.T. 1975 Wash feasibility study. The waders of the Wash-Ringing and biometric sutudies.

Meltofte, H 1975 Ornithological Observations in NE Greenland between latitudes 76 and 78 N 1969-71. Med /m Grønland (in press)

Meltofte, H (in prep) Ornithological Observations in Pearyland, N. Greenland 1973.

Green, G.H. & Lloyd, C.S. (in prep) The timing of breeding of waders in NE Greenland 1974

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