Table 1. Weights and measurements of Ringed Plover caught at the nest in Scotland and on passage in August. The wing lengths refer to maximum chord. Standard deviations are also given.

It is unlikely that the observed difference in wing length is due to wing shortening as described by Pienkowski and Minton (1973) because, between May/July when the Scottish birds were measured and August, any wing shortening would amount to less than 1% (Adult Knots decrease by 4% over the year) (Pienkowski and Minton, 1973). It is therefore assumed that the August sample belongs to a different population.

Short-winged Ringed Plovers breed in northern regions. C.h. tundrae breeds in Spitsbergen, N.Scandinavia, and N.Russia east to Tchutchki peninsula, and have wing lengths ranging from 122-135 mm. (17 birds) (Witherby et.al. 1943). However, these may not be maximum chord measurements and probably refer to museum skins which will have shrunk. C.h.septentrionalis (= psammodroma) (not recognised by Witherby et.al.) breeds in Greenland, Iceland, and Faeroes, and Green and Williams (1973) give a mean length of 131.3-3.0 (maximum chord) for 12 fresh birds obtained in Greenland. At present it is unknown which of these two populations is represented in the August sample.

It is not implied that the August sample is a pure one containing only arctic birds, though it may indeed be so. However, it must contain a high proportion of them in order to give the significant difference in wing length.

It may also be mentioned that none of the adults was in wing moult, at a time when Scottish adults undergo moult.

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AUTUMN WADERS IN THE OUTER HEBRIDES

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The Outer Hebrides are a chain of islands 130 miles long lying 30 miles off the north-west coast of the Scottish mainland. Drowned valleys give a strongly indented east coast, whereas the Atlantic pounded west coast is characterised by miles of gleaming beaches strewn with torn seaweed and backed by marram dunes and machair. The islands contain large intertidal sand flats (strands) rich in invertebrate life. Thousands of lugworm casts that dot the surface and scatterings of cockle shells are evidence of this.

The position of the Outer Hebrides is also of interest, situated as they are off the N.W. coast of Britain they would be the first possible landfall for waders on direct line from Iceland or Greenland. Past ornithological records (Baxter and Rintoul 1953) state that large autumn flocks of Sanderling and immense flocks of

Ringed Plover occur there. It was therefore of interest to know more precisely what the numbers were and if possible to determine their origins.

We travelled to the Uists (part of the Outer Hebrides) on the 26th August 1973 for 1 week, in order to count, locate roosts and if possible to catch for biometric data. There are 5 major strands in the Uists/Benbecula group and associated with 3 of these we found substantial roosts (300-500 birds). We also censused 28 km. of exposed beach and rocky coasts. The totals are given in Table 1. The seaweed strewn beaches were found to support high densities of waders. A clear feeding zonation was found amongst the waders on these beaches; Bartails in the water, Sanderling at its edge following the waves up and down, Ringed Plover on the well-drained sand, Dunlin in wet patches and Turnstone among the piles of seaweed.

TABLE I - The numbers of waders recorded on the Uists & Benbecula from 27 August-3 September 1973

Oystercatcher	987
Ringed Plover	1566
Turnstone	1057
Bar-tailed Godwit	648
Curlew	338
Redshank	734
Knot	45
Dunlin	385
Sanderling	399

The appalling weather prevented much catching. However, a small sample was obtained, with interesting results. The Ringed Plover appeared to belong to the British race Charadrius h.hiaticula as they had long wings (mean = 137.3, n = 11) and were in moult. Published figures for the mean lengths of the Greenland sub-species and British race are respectively 131.3 and 136.9 mm (Green & Williams 1973).

The Sanderling were also of interest as they too were in moult, but in earlier stages. On the Wash (WWRG 1970 Report) it is believed that it is the Siberian population which moults and winters in this country and that the Greenland population is only a passage one.

The only indication of a new arrival was a juvenile Knot which weighed 80gm. The mean winter weight for these birds on the Tay is 136 gm. Only 45 Knot were seen but in mid September a flock of 100 was recorded (L.H. Campbell, pers.comm.)

Conclusions : It appears from this short survey that fair populations of waders (especially ringed Plover) do occur in the N.W. Isles, and a greater knowledge of these is required before the relative importance of other areas can be assessed. Initial progress has been made as to the origins of the waders of the Hebrides, but it is hoped that next years "expedition" makes greater inroads in this field.

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