

WADER STUDY GROUP

Bulletin No 15

July 1975

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Contributions etc should be sent to either Tony Prater,
BTO, Beech Grove, Tring, Herts or Mike Pienkowski,
5 Brockmill Cottages, Beal, Berwick-upon-Tweed, Northumberland.

The copy date for the next bulletin is October 15.

COLOUR MARKING

During the past few years several comments have been made in editorials about colour ringing and colour dyeing schemes. The situation is now almost totally chaotic with international schemes cutting across national ones and local ones - and vica versa. Colour ringing and colour dyeing are both very useful techniques which can and do result in important information being discovered.

It is essential that INTERNATIONAL COOPERATION takes place otherwise many schemes may be rendered useless. Everyone I have spoken to in Britain and elsewhere acknowledges this but what happens when they want to colour mark is different!! In this bulletin Harry Green has described the possible confusion with two schemes. The BTO has learnt of another scheme in the arctic which could affect long term results of studies in Greenland and western Europe.

The WSG is prepared to publish regular bulletins on colour marking schemes in progress (like the one in B.D.R. in this bulletin) and give advance notice of other intended schemes. This can only work if everyone informs us of their scheme (or even of any known to them). No scheme should ever be put into operation without several months thought as to the likely results and checking that no confusion will arise because of it. There is only one way to do this and it is to have all the information together in one place. 'Euring' tried to do, it but failed miserably because few projects were notified until after the initial register was set up. Full and up to date information is vital.

The WSG requests that all existing (and recently completed) colour marking schemes affecting waders be notified to Tony Prater (BTO, Tring). Please include:-

- 1) Species involved and area of ringing
- 2) Colours of rings and/or dyes
- 3) Number of rings, position of dyes
- 4) Length of time that the scheme will operate and number of birds expected/hoped to be ringed
- 5) If you have checked that the scheme is compatible with others in your country.
- 6) Other schemes in other countries which have checked with before writing to AJP.

RINGING TOTALS

We trust that these are not the only waders ringed in Britain for the first half of 1975.

| | WWRG | MRG | S.Wales | Spurn B.O. |
|----------------------|------|-----|---------|------------|
| Oystercatcher | 142 | 46 | | 1 |
| Lapwing | 258 | 66 | | |
| Ringed Plover | 1 | 60 | 41 | |
| Little Ringed Plover | | 4 | | |
| Grey Plover | 25 | | | |
| Golden Plover | | 59 | | |

| | WWRG | MRG | S. Wales | Spurn B.O. |
|-------------------|------|-----|----------|------------|
| Turnstone | 14 | | | |
| Curlew | 1 | | | |
| Whimbrel | | | 12 | |
| Bar-tailed Godwit | 12 | 1 | 2 | |
| Redshank | 16 | | | 1 |
| Knot | 119 | 1 | 1 | 2 |
| Dunlin | 390 | 876 | 402 | 117 |
| Sanderling | 63 | 108 | | |

Please let us have totals for July-September period promptly.

RECENT RECOVERIES

Cystercatcher

| | | | | | |
|-------|----------|-----------------|---|--------------------------|-----------|
| Pull. | 15.6.59 | Skokholm | x | Burry Inlet | 1.12.74 |
| Pull. | 30.6.74 | Glenshee, Perth | x | Workington, Cumbria | 22. 3.75 |
| Ad | 20.2.72 | Wash | x | Kjosarsysla, Iceland | 26. 4.75 |
| PJ | 15.12.74 | Dee | x | Vestmannaeyjar, " | 17. 4.75 |
| Ad | 28.7.68 | Wash | x | Goteburg, Sweden | 26. 3.75 |
| Ad | 19.8.67 | Wash | x | Rogaland, Norway | 25. 2.75 |
| 1S | 30.8.68 | Wash | x | Rogaland, Norway | end. 7.74 |
| 1Y | 12.11.69 | Morecambe Bay | x | Rogaland, Norway | 12. 5.75 |
| 1Y | 12.11.69 | Morecambe Bay | x | Rogaland, Norway | 19. 4.75 |
| 1Y | 23.12.72 | Wash | x | Rogaland, Norway | 19. 5.75 |
| Ad | 5. 9.63 | Burry Inlet | x | More & Romsdal, Norway | 8. 5.75 |
| 3Y | 28. 5.72 | Wash | x | More & Romsdal, Norway | 4. 4.75 |
| 3Y | 25.10.69 | Morecambe Bay | x | Aust Agder, Norway | 6. 4.75 |
| Ad | 30. 1.71 | Wash | x | Sor Trondelag, Norway | 27. 5.74 |
| 2Y | 25.11.73 | Solway | x | Sogn & Fjordane, N | 5. 4.75 |
| Ad | 21. 9.66 | Conway Bay | x | Fano, Denmark | 8. 8.74 |
| Ad | 3.11.68 | Morecambe Bay | x | Jutland, Denmark | 14. 5.75 |
| FG | 24. 7.67 | Wash | x | Noord Holland, Netherlds | 5. 5.75 |
| Juv | 30. 8.68 | Wash | x | Overijssel, Netherlds | 16. 5.75 |
| Juv | 7. 9.68 | Wash | x | Friesland, Netherlds | 29. 4.75 |
| Ad | 13. 2.71 | Swale | x | Friesland, Netherlds | 9. 3.75 |
| Ad | 20. 2.72 | Wash (long) | x | Friesland, Netherlds | 21. 3.75 |
| PJ | 14. 9.74 | Morecambe Bay | x | Brae, Shetland | 5. 5.75 |
| Ad | 12.11.69 | Morecambe Bay | x | St Kilda | 25. 4.75 |
| Imm | 14. 6.67 | Conway Bay | x | Swannay, Orkney | 8. 4.75 |
| FG | 4. 2.71 | N.Bull, Dublin | x | Orkney | 19. 7.74 |
| 1Y | 21.10.71 | Poole Harbour | v | Guernsey | 22. 2.75 |

In addition to these 9 birds were recovered from breeding grounds in Scotland (from Morecambe Bay 6, Wash, Conway Bay and Dee) and 2 from England (Poole Harbour and Dee).

Lapwing

| | | | | | |
|------|----------|---------------------|---|---------------------------|-----------|
| Pull | 3. 5.65 | Salisbury, Wilts | x | Burford, Oxford | end. 5.75 |
| Pull | 26. 5.74 | Skipton, Yorks | + | Vendee, France | 25.12.74 |
| Pull | 1. 6.74 | Blair Atholl, Perth | x | Maykirk, Kincardine | 29. 1.75 |
| Juv | 1. 6.66 | Caithness | x | East Lothian | 18. 1.74 |
| PJ | 27.12.69 | Morecambe Bay | x | Penrith, Cumbria | 20. 4.75 |
| FG | 5.11.69 | E. Tilbury | x | Zhabinka, USSR (52N, 24E) | 30. 4.75 |

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Ringed Plover

| | | | | | |
|------|----------|----------------|---|------------------|----------|
| Juv | 18.11.72 | Conway | x | Esbjerg, Denmark | 11. 4.75 |
| Pull | 29. 6.74 | Wells, Norfolk | x | Morbihan, France | 30.10.75 |
| Juv | 18.11.72 | Conway | v | Dee | 11. 5.75 |

Grey Plover

| | | | | | |
|----|----------|------|---|---------------|-------------|
| Ad | 13.10.73 | Wash | + | Huelva, Spain | early.11.74 |
|----|----------|------|---|---------------|-------------|

Turnstone

| | | | | | |
|----|----------|--------|----|---------------|----------|
| Ad | 19.10.74 | Conway | v. | Morecambe Bay | 12. 4.75 |
|----|----------|--------|----|---------------|----------|

Snipe

| | | | | | |
|----|----------|--------------------|---|---------------------|----------|
| FG | 5.10.68 | Nottingham | x | Vladimir, USSR | 25. 8.73 |
| FG | 29.12.71 | Wigan, Lancs | ? | Ukraine, SSR | 1973 |
| PJ | 19. 3.72 | Drakelow, Derby | + | Bryansk, USSR | 12. 8.73 |
| PJ | 19. 8.72 | Salthouse, Norfolk | + | Ivanov, USSR | 30. 8.74 |
| PJ | 5.12.74 | Abberton, Essex | x | Aaland Isl. Finland | 1. 5.75 |
| PJ | 24.11.68 | Shotley, Suffolk | + | Goteborg, Sweden | 22. 9.73 |
| Ad | 6.10.73 | Stafford | + | Landes, France | 7.12.74 |
| 1Y | 5.12.73 | Epping, Essex | + | Manche, France | 5. 1.75 |

Woodcock

| | | | | | |
|----|----------|-------------------|---|--------------------------|----------|
| FG | 4.11.72 | Isle of May, Fife | + | L. Neagh, N.Ireland | 11. 1.75 |
| PJ | 10. 3.73 | Withernsea, Yorks | + | Noord Holland, Netherlds | 28.12.74 |

Bar-tailed Godwit

| | | | | | |
|--------|----------|-------------------|----|---------------------|----------|
| Ad | 5.10.68 | Swale | v. | Vlieland, Netherlds | 27. 3.75 |
| Ad (m) | 26.10.73 | Londonderry, N.I. | v | Wash | 8. 8.74 |

Common Sandpiper

| | | | | | |
|------|----------|-------------------|---|------------------------|----------|
| Pull | 17. 6.68 | Bolton, Lancs | ? | Casablanca, Morocco | 18. 4.75 |
| Ad | 15. 8.69 | Minsmere, Suffolk | v | W.Flanders, Belgium | 23. 8.71 |
| Ad | 22. 8.74 | Wisbech, Norfolk | + | Seine Maritime, France | 28. 9.74 |

Redshank

| | | | | | |
|-----|----------|-----------------|---|----------------------|----------|
| PJ | 4. 9.66 | Swale | x | Oppland, Norway | 21. 7.72 |
| Ad | 20. 7.74 | Wash | x | N.Sea (53N, 3E) | 8. 5.75 |
| Juv | 22. 9.71 | Ythan, Aberdeen | x | Tomatin, Inverness | 12. 5.75 |
| Ad | 5.11.72 | Wash | x | Ballindalloch, Banff | 6. 5.75 |
| Ad | 7. 2.74 | Southampton | + | Glamis, Angus | 20. 3.75 |
| Ad | 17.11.74 | Wash | + | Welney Washes | 31. 1.75 |

Knot

| | | | | | |
|-----|----------|------|---|---------------------------|------------|
| Ad | 28. 2.71 | Wash | x | Jutland, Denmark | (28. 9.74) |
| Juv | 6. 9.63 | Wash | x | Scheswig Holstein, W.Ger. | 6. 8.74 |
| Ad | 16. 3.68 | Wash | x | Scheswig Holstein, W.Ger. | 13. 4.75 |

Knot continued

| | | | | | |
|----|----------|---------------|---|----------------------|----------|
| Ad | 3. 9.63 | Wash | v | Friesland, Netherlds | 3. 1.75 |
| Ad | 7. 3.70 | Wash | v | Friesland, Netherlds | 13. 2.75 |
| Ad | 19. 2.72 | Wash | v | Friesland, Netherlds | 16. 1.75 |
| Ad | 19. 2.72 | Wash | v | Friesland, Netherlds | 16. 1.75 |
| Ad | 24. 2.71 | Morecambe Bay | v | Friesland, Netherlds | 13. 2.75 |
| Ad | 22.12.68 | Morecambe Bay | v | Wash | 16.11.74 |
| 2Y | 19. 8.72 | Wash | v | Morecambe Bay | 13. 3.75 |
| Ad | 14. 2.71 | Solway | v | Morecambe Bay | 13. 3.75 |
| Ad | 18. 8.74 | Wash | x | Walberswick, Suffolk | 27. 3.75 |

Curlew Sandpiper

| | | | | | |
|-----|---------|------|---|---------------|----------|
| Juv | 2. 9.69 | Wash | + | Ukraine, USSR | 13. 8.72 |
|-----|---------|------|---|---------------|----------|

Dunlin

| | | | | | |
|-----|----------|-------------------|---|--------------------------------|----------|
| PJ | 18. 4.69 | Dee | x | off Bear Island, Spitz-bergen | 20. 5.75 |
| Ad | 8. 9.67 | Wash | ? | Kaliningrad, USSR | 17. 8.74 |
| PJ | 11. 2.68 | Spurn | v | Latvian, USSR | 2. 8.74 |
| Ad | 28. 8.72 | Wash | + | Arkhangelsk, USSR | 2. 6.73 |
| 2Y | 4. 8.73 | Wash | + | Komi, ASSR | 8. 6.74 |
| 1Y | 15. 5.73 | Dee | v | Turku & Pori, Finland | 31. 8.74 |
| Juv | 14.10.73 | Solway | v | " " " | 27. 5.74 |
| Ad | 6. 2.70 | Morecambe Bay | x | Jutland, Denmark | 15. 6.74 |
| Juv | 14.10.73 | Solway | x | Jutland, Denmark | 15. 6.74 |
| Ad | 11. 8.71 | Wash | x | Schleswig Holstein, W.Ger | 15. 6.74 |
| PJ | 17. 8.74 | Southampton | x | " " " | 23. 4.75 |
| Juv | 20.12.73 | Arbroath | x | Noord Holland, Netherlds | 23. 3.74 |
| Ad | 1.12.74 | Portsmouth | x | Texel, Netherlds | 12. 4.75 |
| Ad | 18. 9.71 | Dee | x | N.Sea (53N, 2E) | 18. 4.75 |
| Juv | 16. 8.65 | Wisbech SF | v | W.Flanders, Belgium | 15. 7.66 |
| Ad | 30. 8.69 | Wash | x | Finistere, France | 3. 2.75 |
| Juv | 18. 9.73 | Minsmere, Suffolk | + | Finistere, France | 19. 1.75 |
| Ad | 27. 1.74 | Portsmouth | + | Somme, France | 1.11.74 |
| Ad | 10. 4.74 | Spurn, Yorks | + | Loire Atlantique, France early | 2.75 |
| PG | 25. 8.74 | Durham | v | Gironde, France | 3.11.74 |
| Juv | 1. 9.74 | Teeside | + | Beira Litoral, Portugal | 22.10.74 |
| Ad | 12.10.74 | Orford, Suffolk | x | Tejo, Portugal | 0.12.74 |
| Ad | 3. 8.69 | Wash | + | Safi, Morocco | 2. 4.75 |
| 2Y | 23. 8.74 | Wash | v | Plym, Devon | 17. 1.75 |
| Juv | 17.12.74 | Morecambe Bay | v | Conway | 16. 2.75 |

Apart from the last two same winter recoveries within Britain there were a further 25 which did show movements in subsequent winters or migration periods.

Sanderling

| | | | | | |
|----|----------|------|---|---------------------------------------|----------|
| Ad | 9. 5.71 | Wash | x | R.Lena, Yakutsk, USSR (7045N, 12713E) | 25. 6.74 |
| Ad | 13. 8.69 | Dee | v | W.Flanders, Belgium | 19. 4.73 |
| Ad | 1. 8.70 | Dee | + | Cadiz, Spain | 24. 1.75 |
| 1Y | 12. 9.69 | Dee | x | Blackpool, Lancs | 25. 3.75 |

WADER CONFERENCE : LIVERPOOL POLYTECHNIC 21-24 August 1975

This conference for those people actively working on waders is to be held between 21st and 24th August. It is open to all and it is hoped that as many amateurs as possible will be able to attend. An outline of the sessions is set out below to give some idea of the content.

21st August assemble during the evening

22nd August A.M. Winter Feeding Ecology, including talks from specialists from The Netherlands.

P.M. Breeding biology and feeding during the breeding season. Including several basic talks on British populations (Curlew, Ringed Plover, Redshank) the details of which have not been presented before. Also breeding of Stints in Finland.

23rd August A.M. Carry capacity and numbers. Summaries of local and national studies which tie in with migration/population studies.

P.M. Geographical variation, including talks on Dunlin, Ringed Plover and Tringa sp. which should have relevance for ringers.

24th August will be spent on the Ribble looking at the research areas and even birds.

If you would like to attend the conference please contact Dr.W.G.Hale (Liverpool Polytechnic, Department of Biology, Byron Street, Liverpool L3 3AF) for further details of the programme and prices (which are very reasonable).

Notes on the Weights and Biometrics of Purple Sandpiper in Eastern Scotland.

Norman Atkinson, Ron Summers and Mike Nicoll.

The Purple Sandpiper Calidris maritima is one of the poorer ringed of the wader species. Only 735 had been ringed in Britain up until 1973 (Spencer, 1975). Difficulty in capture and their sparse distribution are presumably the causes of this situation. As a result, little is known about the migrations of this species.

In 1967 we found that small samples could be caught by torch light on the Isle of May Bird Observatory despite various encounters with Grey Seals, but attempts to repeat these successes on the mainland shores usually ended in failure. As a result we have continued to visit the Isle of May on a regular basis and 234 have now been ringed. In late 1972 the Bay R.G. acquired a cannon net and it was found that about 10% of the 3000-4000 Purple Sandpipers present on the east coast were in cannon-nettable sites at some part of the year. In the succeeding 2 years 152 were ringed. This gives a combined total of 386 to the end of 1974.

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The following article is a presentation of an initial analysis of our data collected between 1967 and May 1974.

Recoveries

There are four foreign ringing recoveries. Two ringed in September 1969 on the Isle of May were recovered on the Norwegian breeding grounds, one in July 1970 was shot with its young, and the other in June 1974. One ringed in August 1968 at Revtingen (on the Norwegian coast) was controlled in December 1973 on the Isle of May. A pullus ringed in Norway in June 1949 was recovered in Aberdeenshire in Jan. 1950.

Weight

The birds were weighed to the nearest gm. at the time of capture. The seasonal changes can be seen in table 1. Both adults and first year birds show a relatively stable weight through late autumn, winter and early spring. First year birds are slightly lighter, but this is not a significant difference for the months of December ($t = 0.79$ p 70.1) and March ($t = 1.65$ p 0.1) when good samples of both age groups were obtained. In early May there is a sharp increase in weight presumably due to fat deposits for migration to the breeding grounds. The main exodus is not until 10 - 25 May so the weights attained prior to departure may be in excess of that seen on the 4 - 6th. It is of interest that the first years also prepare for migration, bearing in mind there is a summering population.

| | ADULT | | | | FIRST YEAR | | | |
|----------------|-------|-----|-------|----|------------|-----|-------|----|
| | Mean | SD | Range | n. | Mean | SD | Range | n. |
| Oct | 64.1 | 5.2 | 54-77 | 49 | 59.1 | 4.3 | 55-67 | 7 |
| Dec | 63.5 | 7.2 | 52-73 | 60 | 62.3 | 7.1 | 52-77 | 32 |
| March | 64.8 | 8.1 | 51-81 | 58 | 61.6 | 6.4 | 52-73 | 23 |
| Apr | 62.7 | 6.9 | 53-85 | 72 | 64.1 | 6.2 | 53-75 | 16 |
| May (4-6th) | 74.4 | 9.6 | 63-92 | 23 | 80.0 | | 68-90 | 3 |

TABLE 1. The mean weights (gms.) of adult and first year Purple Sandpiper in eastern Scotland. Standard deviations, ranges and sample sizes are also given.

Biometrics.1. Bill Length

In all months the frequency distributions for bill lengths were bimodal, centred consistently on 25-26 mm. and 29-30 mm. for adults and on 25 mm and 28-30 mm. for first year birds. The data for all months has therefore been lumped (Fig.1.). This bimodality is known to be due to sexual dimorphism (Witherby et al. 1943) and this was confirmed in a collected (under licence) sample where males had a bill length of 26.4 ± 2.7 (range 23-30, n = 9) and females 30.2 ± 2.0 (range 28-34, n = 12). However, analysis of the data in figure 1 by the graphical inflexion method gave some interesting and conflicting results. Figure 2 shows the percentage cumulative frequency (PCF) curve for adults (kinked line) and the calculated population lines for the "males" (left) and "females" (right). The line for the "males" shows a normal distribution with a mean of 25.4 and SD of 1.1.

This mean (25.4) lies within the 95% confidence limits of the mean in the collected sample (24.3 - 28.6), but the SD (1.1) is approximately half of that of the collected sample. The variance ratio ($F = 6.0$) shows that the standard deviations are significantly different ($p = 0.001$).

The population line for the "females" was even more puzzling as it was found to be skewed to the right, though where the curve does pass through the 50% mark (29.9 mm.) it is close to the mean in the collected sample (30.2 mm.).

Graphical analysis of the first year bills gave similar results with calculated means of 25.5 and 29.7 mm. for "males and females" respectively. Also the "males" appeared to be normally distributed whilst the "females" were skewed.

There are two possible explanations for this situation.

(1) The distributions for both males and females could be skewed towards their upper end (Fig 3a). The tail in the male distribution being masked by the females so that the distribution appears normal in the graphical analysis. (2) There are 2 populations involved with small-billed birds in the majority. (Fig 3b). The slight peak at 34 mm. in figure 1 may represent females of a different population.

Biometrics.2. Wing length

Before describing the wing lengths, any decrease in wing length in the inter-moult period, as found in the Knot (Pienkowski and Minton, 1973), must be accounted for. All birds measured twice within this period were examined. These included birds from mid October (80% have completed moult by this date) to May. As yet, we have no birds which have been measured before and after the breeding season. 8 of the 21 birds increased in length, 7 remained constant and 6 decreased (Fig 4). It therefore appears that the wing length remains constant between October and May, the deviations being due to measuring variability. What then is the reason for the difference between the Purple Sandpiper and Knot? Perhaps it is related to differences in mobility, which possibly results in abrasion of the wing tips. Knots carry out regular winter movements (Minton 1971) whilst our data suggest that Purple Sandpipers remain on a limited stretch of coastline throughout the non-breeding season, and are not very prone to flight.

When frequency distributions for wing length in the different months were drawn, no bimodality was apparent so the data are described by a single mean (Table 2). The consistency of the means between October and May supports the conclusion that wing lengths do not decrease. However, the mean length in August is 3-4 mm. less, suggesting that there is wear due to migration, but larger samples are required to confirm this. Certainly at this time the wing tips are abraded.

The wing lengths of first year birds are 2-3 mm. shorter. This difference was significant for the 3 months that were tested; $t = 2.44$ $p = 0.05$ for December; $t = 3.70$ $p = 0.001$ for March; and $t = 2.83$ $p = 0.01$ for April.

TABLE 2 The mean wing lengths (mm.) (maximum chord) of adult and first year Purple Sandpipers in eastern Scotland.

| | ADULT | | | | FIRST YLAR | | | |
|-----|-------|-----|---------|----|-------------------|-----|---------|----|
| | Mean | SD | Range | n | Mean | SD | Range | n |
| Aug | 127.3 | 2.1 | 125-131 | 6 | Insufficient data | | | |
| Oct | 130.6 | 3.1 | 123-136 | 42 | Insufficient data | | | |
| Dec | 130.2 | 3.7 | 123-140 | 60 | 128.3 | 3.8 | 121-136 | 32 |
| Mar | 132.3 | 4.5 | 122-141 | 58 | 128.9 | 3.4 | 122-136 | 23 |
| Apr | 130.3 | 3.7 | 124-141 | 72 | 127.5 | 2.8 | 123-132 | 16 |
| May | 131.7 | 4.3 | 125-136 | 23 | Insufficient data | | | |

Biometrics.3. Comparisons with other areas

Because of the problems of comparing present day data on maximum wing chords of fresh birds with past published data where the type of measurement taken and condition of the bird are not stated, no conclusions could be made. Bill measurements, however, are standard and useful comparisons can be made.

Løvenskjold (1954) gives a list of measurements for Spitsbergen - breeding birds (Fig 5 (2)) whose average for males (28.2 ± 1.9 , $n = 20$) and females (32.1 ± 1.3 , $n = 24$) differ significantly from our Scottish data (Fig 5 (1)) ($t = 2.1$ $p = 0.05$ for males and $t = 5.4$ $p = 0.001$ for females). It can be concluded that Spitsbergen birds do not winter in eastern Scotland. Little can be made of Ogilvy and Taylor's (1977) Spitsbergen data for they give a single mean \pm SD for a sample which, judging from Løvenskjold's (1954) data, would have been bimodal. Less complete data are available for the breeding birds of Iceland (Timmermann, 1938) and Canada (Godfrey 1966) Fig 5(5) and (3)) but it would appear that neither formed major components of the eastern Scottish population.

Salmonsén (1950) gives no bill lengths for Greenland breeding birds but the wing length data he quotes for various populations suggests that Greenland birds are very slightly smaller than Scandinavian breeders. His statement though, that 'bill length is a reliable sexual characteristic, being 32 mm. and over in females while practically all males in all populations have bills shorter than this measurement,' requires modification in light of the more recent data.

The Fair Isle (north Scotland) data (Fig 5 (6)) is of interest as it suggests that these birds belong to the long-billed Icelandic-breeding population.

Morrison and Wilson (1972) caught birds on the coast of Iceland in May (Fig 5 (7)) and pointed out the similarity between their and Timmermann's (1938) data.

The birds caught by the 1974 Oxford-Varangerfjord Expedition were caught in Aug/Sept and several were in moult (Fig 5 (4)). They may not have originated from the local population in northern Norway.

Summary

Norwegian breeding birds are known to occur in eastern Scotland and they probably form the bulk of this population. The possibility of other populations being present cannot be excluded, though neither Canadian, Icelandic, nor Spitsbergen birds will form a major component of the eastern Scottish populations. Wing lengths remain constant between October and May. First year birds are 2-3 mm. shorter in the wing. Weight is stable through late autumn, winter and early spring. Both adults and first years put on weight for migration in early May and departure occurs in mid May.

Acknowledgements

We should like to thank other Tay R.G. members who helped in the trapping sessions. Also, thanks go to R. Broad of Fair Isle B.O. and K. Lessels of the Oxford-Varangerfjord Expedition for access to Fair Isle and Norwegian data respectively.

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FIGURE 1. Bill length distributions of Purple Sandpipers caught in eastern Scotland (Kincardine, Angus & Fife).

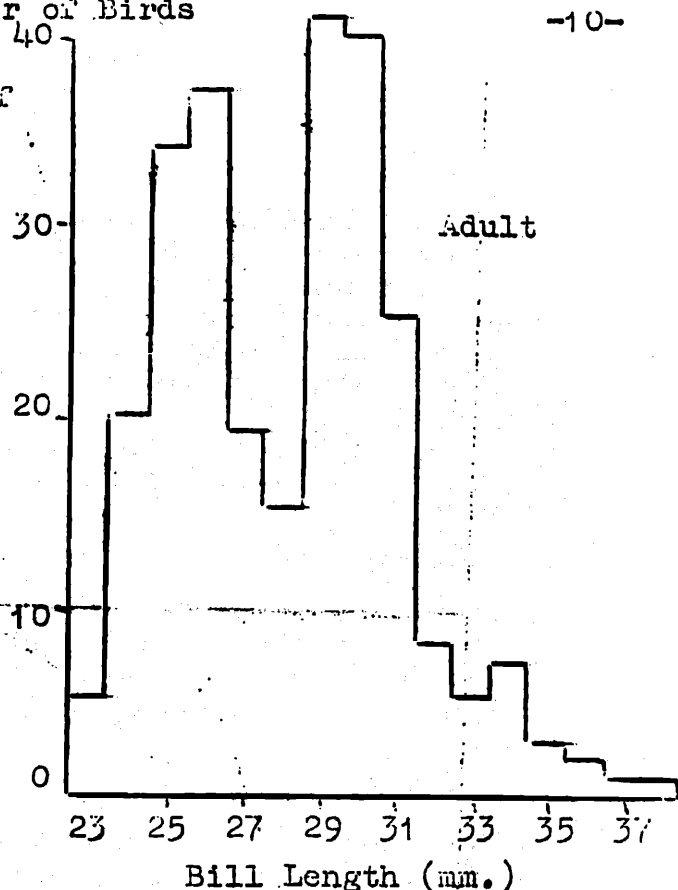
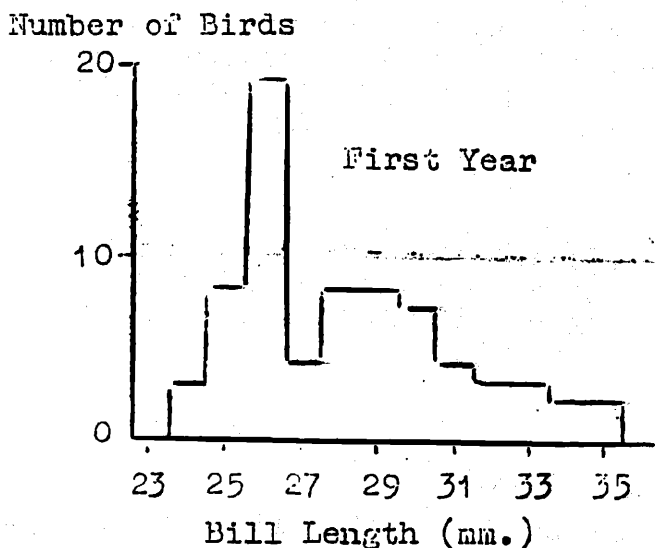
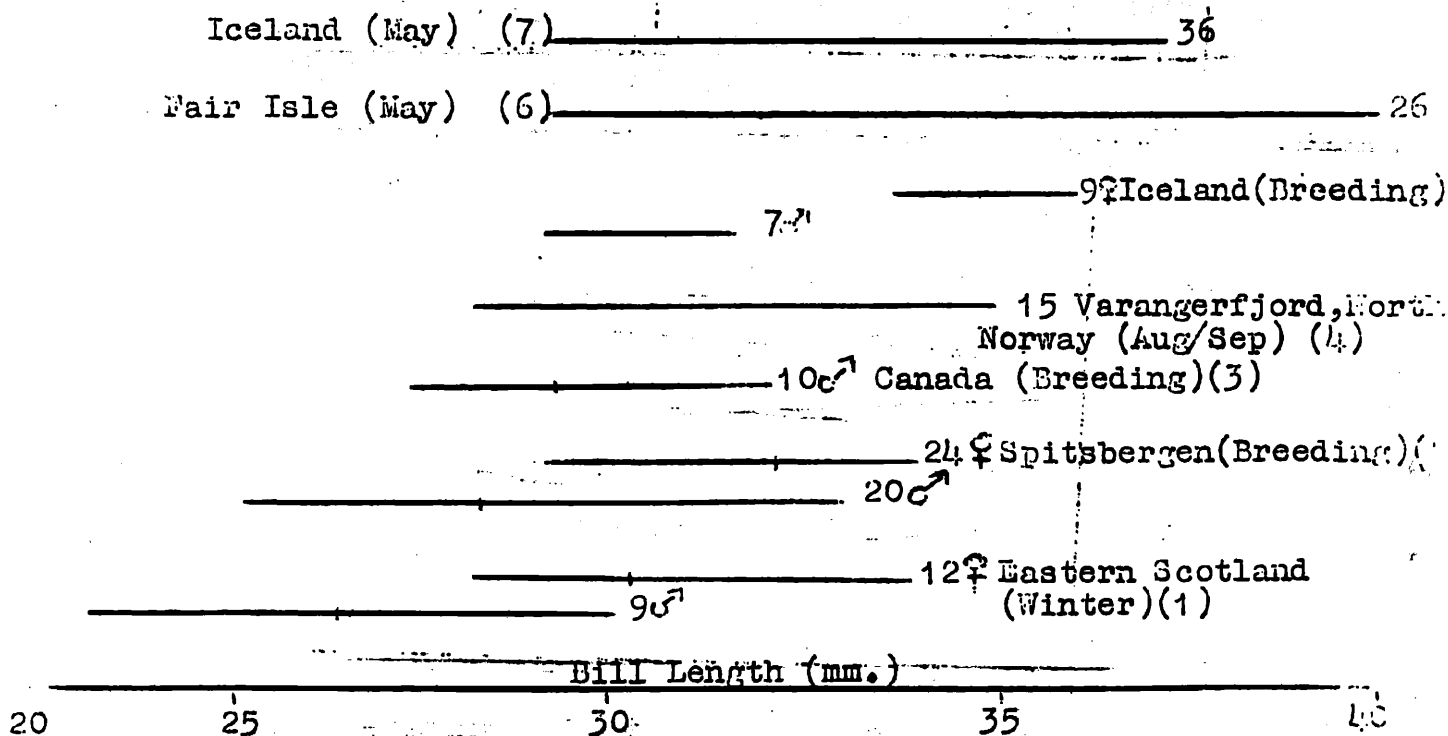


FIGURE 5. The ranges and means (where birds have been sexed by dissection) of Purple Sandpipers in various localities. Sample sizes are given beside the ranges.



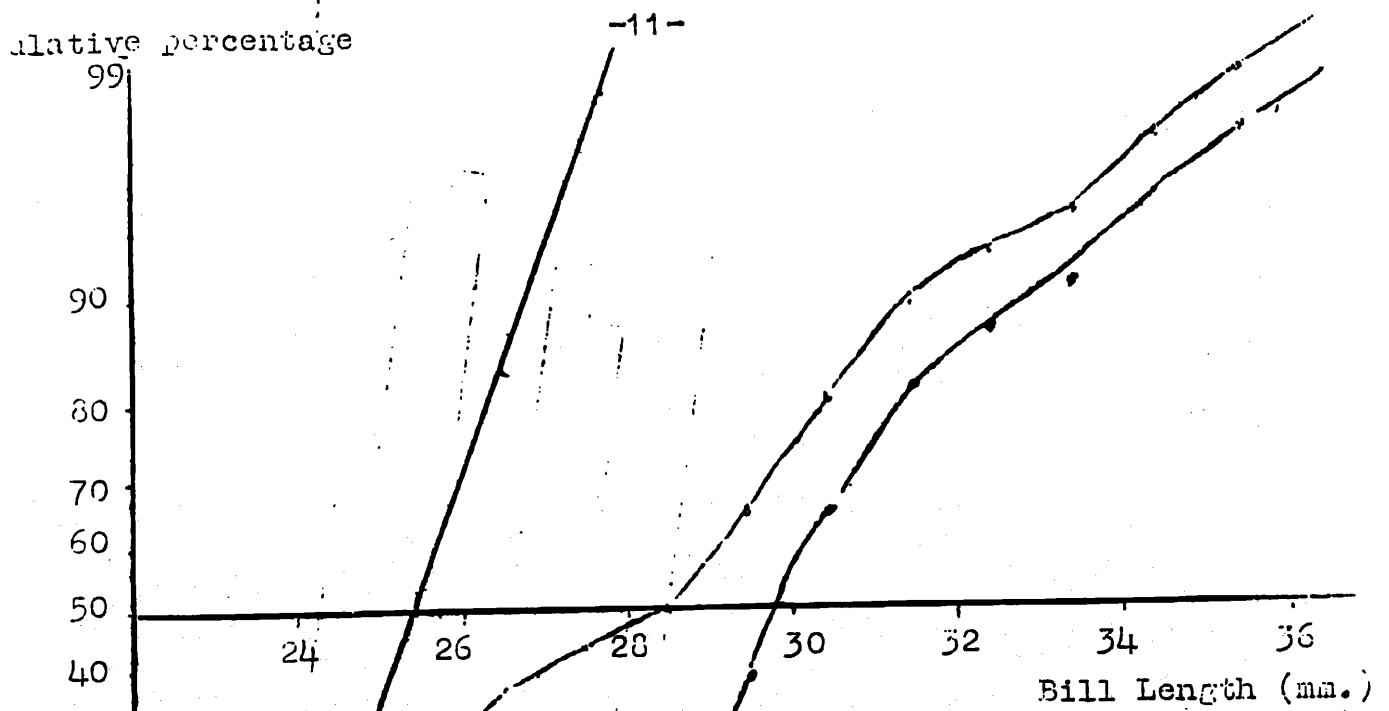


FIGURE 2 The PCF distribution of the bill lengths of adult Purple Sandpipers caught in eastern Scotland.

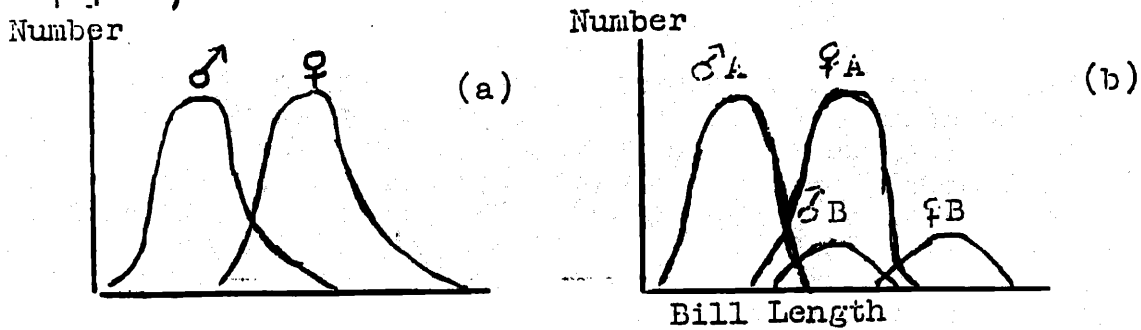


FIGURE 3. Possible interpretations of the observed bill length distribution

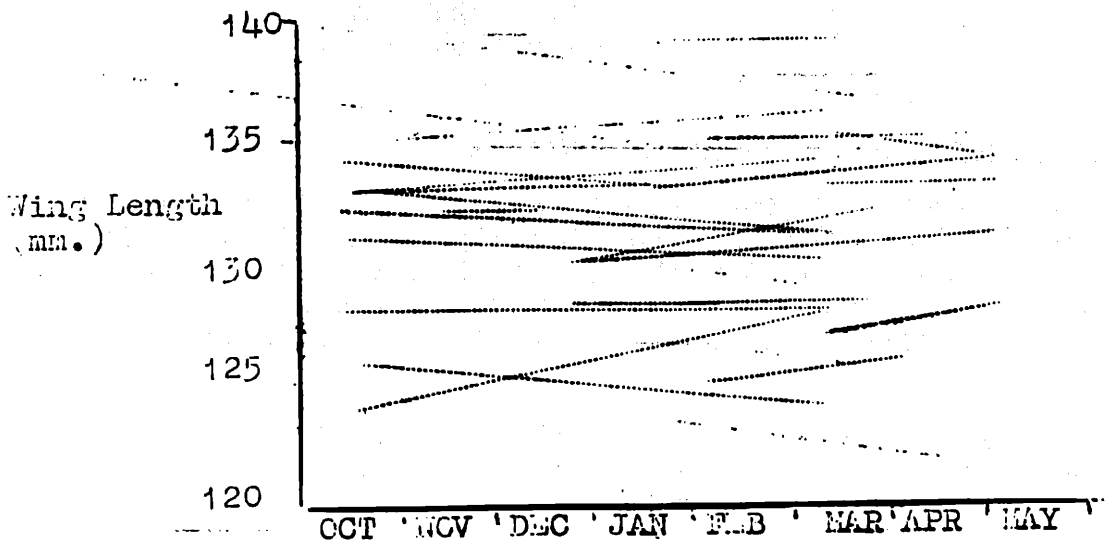


FIGURE 4. Changes in wing length of 21 Purple Sandpipers during one

Woodcock Research Group (IWRB)

The exasperating Woodcock is a 'fringe' species amongst waders and waterfowl and woodland game, and tends to be neglected in any group study. Woodcock enthusiasts are perhaps as odd and solitary as the bird they have chosen, and the new Woodcock Research Group of IWRB is striving to flush some and induce flocking behaviour. Any members of the WSG with an active interest in woodcock are asked to write to Monica Shorten at East Gate, Old Castle Road, Salisbury, Wilts SP1 3SF, and to tell her what they are doing or would like to do.

It seems that the occasional woodcock does get ringed by the WSG - a total of 5 was recorded for 1974 - thank you, TRG and Humber! The capture and ringing of this bird during its breeding season really separates the men from the boys, yet there is a great need for 600-700, mainly pulli or juveniles, to be ringed in the British Isles each year. It has not been met since 1935 (763 pulli) and the average yearly total, including FGs on migration, has been about 30 in recent years with pulli averaging about 8. So every young woodcock ringed will be a help. The recovery rate is 7.9%.

Two years ago Ib Clausager (Kalo, Denmark) published a good guide to methods of determining the age-class and sex of woodcock from external features. Even very precise measurements of bill length and central tail feathers, expressed as a ratio, allow adult males and females to be confused: the best that can be done without dissection is to use the formula of Stronach, Harrington & Wilkins which reduces the probability of error to 28%:

- 0.2952 bill length plus 0.1566 central tail feather length
which gives
greater than - 8.3640 male (72% correct)
less than - 8.3640 female (75% correct)

Birds in their first twelve months after hatching must be excluded, and this can be done by examining the tips and proximal edges of the outer primaries (ragged outline on first years; smooth on older birds, at least until April) and the terminal lighter bar on primary coverts (broader and browner on young birds). This quick, simple method correctly classifies 95-98%. Any woodcock ringed during migration periods or in the winter is worth such extra records in the notebook. But can anyone sex woodcock pulli?

Monica Shorten
Co-ordinator, WRG

Look to Colour - ringed and Dye-marked Waders!

Since 1972 Common Sandpiper Tringa hypoleucos and Little Ringed Plovers Charadrius dubius have been marked individually with colour - rings and an aluminium - ring of the Ornithological Station Helgoland below the intertarsal joint. They were ringed on the mud ponds of the sugar factory of Norten - Hardenberg, Lower Saxony, Federal Republic of Germany.

From spring 1975 a larger number of several species of waders, especially Common Sandpipers T. hypoleucos, Wood Sandpipers

.../

T. Glareola, Green Sandpipers T. ochropus, Greenshanks T. nebularia, Little Ringed Plovers Ch. Dubius, etc., will be dye-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 44
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 5 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

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 liaison 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 earnest 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.

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 Sanderling 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 by 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 many 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.

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Expeditions 1976

Norway. An expedition is going to NW Norway for July/August 1976. It is sponsored by Sheffield University and will include various interests (e.g. geographers). The area is an intertidal fjord with mudflats adjacent to it and it is hoped to include studies of waders in the programme. If anyone would be able to spare three or more weeks next year to look at the waders of this area, one almost untouched by wader ringers, then they would be very welcome. If you are interested and wish to know more of costings etc. would you please contact Chris Loynes, Spa Place, Powers Hill End, Witham, Essex CM8 1LS.

Portugal. It is hoped that a joint French and British expedition will be going to Portugal during the early part of 1976. At the moment no firm arrangements have been made - a further announcement will be made in the next bulletin.

Recent Publications on Waders

See also abstracts in Ibis, Auk and Bird-Banding and lists in IWRB Bulletin. Thanks to those people who have pointed out omissions, details of which are always welcome - to Mike Pienkowski, please. Thanks particularly to Mrs. Monica Shorten for bringing us up to date on Woodcock.

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