# WADER STUDY GROUP

Bulletin No 22 April 1978

Contents



Editors


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## EDITORIAL

At the meeting of the Wader Study Group in October 1976, the membership decided that they preferred large bulletins (even if this resulted in delays while waiting for material) to a more rigid production schedule (possibly with a variable length to each issue). Since then Bulletins have continued to increase in size and now usually comprise about 30 pages. Production delays have, however, built up to a level which the editors find unacceptable. The long delays in appearance of recent Bulletins have been due to a variety of problems, but strenuous efforts are being made to overcome these and to return to a regular schedule. This Bulletin was prepared mainly in April and most members should receive it in June. Thereafter we intend to return to a regular schedule with Bulletins appearing in August, December and April, with corresponding

deadlines at the end of the first week of July, November and March, respectively. It is a considerable help if material is received well before these deadlines; this applies particularly to articles and papers which may require some correspondence between editors and authors.

In an attempt to return to the regular schedule, preparation of the next Bulletin will be well advanced by the time members receive this issue and we ask that members return the catch reporting forms promptly. Other contributions for this and future Bulletins would be welcome and should be sent to one of the editors listed above.

Apart from the delays in production, certain problems have arisen in circulation of the Bulletin, and we apologise to those members concerned. Graham Appleton has kindly agreed to take over responsibility for circulation in the future and any complaints should now be addressed to him at 18 Old Barn Road, Bourneville, Birmingham, England (Telephone 021 - 458 5881).

## North American Section

In view of growing membership in North America, and the organisation of these members into a distinct section within the Wader Study Group, we are intending to include more articles and other material of direct relevance to this area. Guy Morrison has agreed to edit the North American section of the Bulletin and any contributions from this area sould be sent to : Dr. R.I.G. Morrison, Canadian Wildlife Service, 2721 Highway 31, Ottawa, Ontario, Canada KIG 3Z7. Although the North American material will form a separate section within the Bulletin, all members will receive the entire publication. We intend to include the first North American section in the next Bulletin (August 1978).

Thanks are due to the following who are known to have had a hand in the production of this issue: Graham Appleton, Hugh Jones, Ron Little, Graham Martin, John McMeeking, Ann Pienkowski, Paul Pratley, Humphrey Sitters, Barbara and Roger Swinfen; and to those others whose names we did not hear.

## NOTICES

### Subscriptions

If you have not already sent your 1978 subscription of £1.00, please do so as soon as possible. Cheques should be payable to Halifax Building Society, A/C Wader Study Group and sent to our new Treasurer:
Bryan E. Murray, 51 Windsor Road, Billinge, Nr Wigan, Lancs, U.K.

Requests for information: continuing requests are:-

1) Colour ringed or dyed waders. Please report all sightings to Tony Prater (address above) who will pass them on. Please note that many schemes can make use of incomplete details if not all colours of a combination can be identified. If you are operating a scheme, please ensure that Tony has been given details.
2) Weights of retrapped Ringed Plover chicks: Bull 17 (April1976)
3) Ornithologists visiting Tunisia : Bull 18 (August 1976)
4) Corpses of freshly dead waders : Bull 19 (November 1976)
5) Request for feeding observations and detailed bill measurements of colour-ringed Oystercatchers seen or caught : Bull 21 (November 1977)

Colour ringed Curlew Sandpipers.

About 200 Curlew Sandpipers have been colour ringed in South Africa during the 1977/78 southern summer. They have been mostly ringed with a single colour. Could any sightings please be sent to Tony Prater (BTO, Tring, Herts) including details of height and number of colour rings, colours involved, and date and place of observation.

Cannon-netting Code of Practice.

This guide prepared by John McMeeking and Kate Lessells for the WSG and BTO is now in its final stages of production and should be available during late May 1978. It covers in detail all of the procedures involved in cannon-netting with particular emphasis on safety to both birds and participants.

It is an essential document for all cannon-net licence holders and is strongly recommended for all regular, experienced members of cannon-net teams. It is also hoped that all new groups using cannon-nets, both in Britain and abroad, will obtain copies so that the experience gained during the last fifteen years will enable efficient and safe catching everywhere.

The guide which will be of 16 pages will cost 60p and will be available from the B.T.O., Beech Grove, Tring, Herts, HP23 5NR.(postage included in price)

Redshank with wing tags

Bill Hale of Liverpool Polytechnic has been marking Redshanks with wing tags which wrap over the wing. He now requests that anyone who catches one of these birds remove the tags, as there is some evidence of damage to the secondaries.

## WADER STUDY GROUP COMMITTEE

During recent months, several members of the Wader Study Group have expressed their concern that the group might be losing some of its initial impetus, after the recent years of mass ringing by many workers, and numerous overseas expeditions.

Following suggestions by members and discussions of the officers, Clive Minton, as chairman, proposed at the AGM of the WSG at the Ringing and Migration Conference on 7th January that a committee be established to examine the future aims and operation of the WSG. He noted that the group had so far operated without a formal constitution and felt that, after a highly successful initial period, the group had grown to such a size that it would be helpful to re-examine its role as a forum for the exchange of views amongst those interested in waders as amateurs, or professionally.

The meeting approved this suggestion and authorised the officers to select and invite members to join the initial committee. It was agreed that committee members should be chosen with a particular view to their likely potential to contribute usefully to the committee but having as wide a geographical spread as possible in all areas where active wader ringing is taking place. In this connection, committee members will not necessarily be representatives of ringing groups although, of course, it is hoped that they will liaise with all group and individual wader ringers in their region, in addition to those with other wader interests.

As Clive Minton is particularly heavily committed at present he has asked me to act as co-ordinator of the committee. The officers have approached members whom they feel should serve on the committee and those who have agreed to contribute have been asked for their comments and suggestions on the role of the WSG and its method of operation. It is hoped that the committee will look into such questions as :

- Should WSG be promoting more co-ordinated projects ?
- Should WSG be giving more guidance in analysis and publication of centralised or local data ?
- Do amateur ringing groups feel they would like more "scientific" guidance ?
- Are the three bulletins and two meetings per year providing all that members would like to see from WSG ?
- Is the present content and scientific status of the WSG bulletin acceptable ?

It is hoped that these and many other subjects will lead to a lively debate and some concrete proposals. I will be preparing a discussion document from the comments of committee members to provide a starting point at the first meeting of the committee in September.

Over one third of WSG members live overseas, and it is hoped that their views can be represented by written contributions as it is obviously not possible for them to attend meetings. The same will probably apply to the further flung representatives in Britain.

If any members of WSG feel that they would like to make any comments relevant to the future of the WSG I would very much welcome these. Alternatively they might prefer to contact one of the committee members, who are: Clive Minton (Chairman), Tony Prater (Secretary), Mike Pienkowski (Editor), Bryan Murray (Treasurer), William Dick (Co-ordinator), Stephen Baillie, Ian Bainbridge, Gerard Boere, Peter Challinor, Chris Clapham, Roger Forster, Les Goodyer, Harry Green, Jeremy Greenwood, M. Harengerd, Hans Meltofte, Guy Morrison, Chris Reynolds, Bob Swann, David Steventon, Roger Swinfen and Manfred Waltner.

The progress of the committee will of course be fully reported in WSG Bulletin and no doubt discussed at meetings of the Group.

William J.A. Dick, 35 Musard Road, London W.6.

## GUIDE TO THE IDENTIFICATION AND AGEING OF HOLARCTIC WADERS.

Since Clive Minton's interim wader ageing guide of 1971 it has been an aim of the Wader Study Group to encourage, help and generally pester various people until a more definite version appears to meet the demand stimulated by the preliminary version. At last, Tony Prater, John Marchant and Juhani Vuorinen have produced the above-named book which has been published as BTO Field Guide No. 17. The word "book" is chosen advisedly as the present work is of a different nature than the early Ageing Guide and is indeed rather more ambitious than previous BTO Guides. The book is strongly bound in a water-resistant thin card cover and includes 168 pages, 32 black-and-white photographs by J. B. & S. Bottomley and 2 colour photographs by Dr. V. Flint, many line drawings and a comprehensive bibliography.

The geographical coverage is wide with coverage of plumage identification, ageing and sexing characters of all 118 species found in Ewasia (except India and S.E.Asia), N. America and N. Africa. Although aimed mainly at ringers with birds in the hand, bird-watchers are not forgotten as many species can be aged in the field, particularly in autumn. It is to be hoped that many will make use of this guide as much valuable information on, for example, annual breeding productivity may thereby result.

The authors point out that much is still being learned about ageing and identification and would welcome further information for incorporation in future editions. It is to be hoped that the authors will take the opportunity of any future editions to incorporate measurement information from live birds, as well as museum skins, for use particularly in racial and sexual identification.

The guide is available from the BTO, Beech Grove, Tring, Herts, HP23 5NR. Price £2.50 or U.S. $6, including postage and packing.

## WADING BIRDS OF THE SEVERN ESTUARY.

Following the recent article by G. H. Green on the work of the Celtic Wader Research Group (WSG Bull.21), readers may like to note the above-named publication by P. N. Ferns concerning the same general area. This report was commissioned by the Nature Conservancy Council as an initial study following recent proposals concerning tidal-power barrages and other possible developments on the Severn Estuary. In 114 pages with numerous maps, figures and tables, the area is described in relation to its physical nature, invertebrate distributions and wader roosting sites. Each wader species is considered in terms of monthly totals, distribution about the estuary, breeding status(if appropriate) and conservation recommendations. The possible effects of various reclamation proposals and future research priorities are considered briefly. Copies of the report are available from Dr. P. N. Ferns, Zoology Department, University College, Cathays Park, Cardiff, CF1 1XL. Cheques for 50p to cover postage and packing should be made payable to "Zoology Department, University College, Cardiff".

## WASH WADER RINGING GROUP REPORT 1975-76

The Wash Wader Ringing Group biennial report for 1975/76 has recently been published. It includes the regular ringing totals and reports together with a full list of recoveries and controls of birds caught on the Wash in these two years. There are also maps of all these movements to and from the Wash with two separate maps of impressive circumpolar and African recoveries. This issue celebrates the end of the first ten years of cannon-netting on the Wash and includes weight graphs summarizing the data collected from ten species during this period. A list of publications of the group and associated overseas expeditions is also included.

The report, which is 1 cm. thick is available to non-members at a cost of £1.50 plus 30p for postage in Britain (60p for posting to Europe, £1.00 elsewhere) from the address below.

Dr. C.D.T. Minton, "Tregolwyn", 45 Bodenham Road, Hereford.

## RINGING TOTALS—STOP PRESS

The following ringing totals for July to October 1977 were received too late for inclusion in the table on opposite page.

Zentrale für Wasservogelforschung der DDR beim Ministerium für Land-, Forst- und Nahrungsgüterwirtschaft: E. Germany. Oystercatcher 37, Lapwing 20, Ringed Plover 103, Little Ringed Plover 17, Grey Plover 20, Golden Plover -, Turnstone 24, Snipe 317, Woodcock -., Curlew 2, Whimbrel 8, Black-tailed Godwit -, Bar-tailed Godwit 2, Green Sandpiper 26, Common Sandpiper 289, Redshank 521, Spotted Redshank 9, Greenshank 3, Knot 36, Purple Sandpiper 1, Little Stint 32, Dunlin 1125, Curlew Sandpiper 49, Sanderling 3, Ruff 105, Avocet -, Jack Snipe 23, Wood Sandpiper 96, Temmincks Stint 4, Broad-billed Sandpiper 1.

Merseyside R.G. Oystercatcher 1, Lapwing 1 pullus, Turnstone 18, Curlew 2, Whimbrel 4, Redshank 182, Knot 18, Dunlin 871, Curlew Sandpiper 1, Sanderling 216.

SCAN R.G. Ringed Plover 1, Turnstone 49, Dunlin 34.

Wash Wader R.G. Oystercatcher 1636, Ringed Plover 124, Grey Plover 215, Turnstone 256, Curlew 20, Whimbrel 4, Bar-tailed Godwit 26, Green Sandpiper 1, Common Sandpiper 2, Redshank 201, Greenshank 6, Knot 1108, Dunlin 5864, Curlew Sandpiper 4, Sanderling 625, Ruff 2.

## RINGING TOTALS REPORTED FOR JULY TO OCTOBER 1977

For species in which two figures are listed, fully grown birds are given above and pulli below.

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oystercatcher | | 106 | | | | | | | 7 | 264 | | 63 |
| Lapwing | 1 | | | | | | | 5 | 1 | 3 | | |
| | | | | 3 | | | | 3 | | | | |
| Ringed Plover | 1 | | | | 54 | 4 | | 101 | 83 | 18 | 35 | 77 |
| | | | | | | | 4 | | | | | |
| Kentish Plover | 1 | | | | | | | | | | | |
| Grey Plover | | | | | 5 | | | | | | | |
| Turnstone | | | | | 3 | 3 | | | 1 | 3 | 92 | 126 |
| Curlew | 1 | | | | 42 | | | 1 | 24 | 44 | | 1 |
| Whimbrel | | | | | 1 | | | | | 2 | | |
| Black-t Godwit | | | | | | | | 1 | 11 | 1 | | |
| Bar-t Godwit | | | | | 8 | | | | | 3 | | |
| Common Sandpiper | | | 26 | | | | | 2 | 5 | | | |
| Redshank | 3 | 54 | 8 | | 10 | 42 | | 3 | 67 | 76 | 61 | 55 |
| Spotted Redshank | | | | | | | | | 2 | | | |
| Greenshank | | | | | | | | | 36 | | | |
| Knot | | | | | 4 | 1 | | | | 5 | | 10 |
| Purple Sandpiper | | | | | | | | | | | | 5 |
| Little Stint | | | | | | | | 1 | | | | |
| Dunlin | 62 | | 7 | | 229 | 578 | | 156 | 94 | 274 | 48 | 38 |
| Curlew Sandpiper | | | | | | 1 | | 1 | 3 | 2 | | |
| Sanderling | | | | | 168 | | | | | 6 | 11 | 17 |
| Ruff | | | | | | | | | 1 | | | |

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A = Arbeitskreis Natur-u. Umweltschutz Harlingerland Esens-Nordsee : Lower Saxony, W. Germany

B = Highland R.G. : Moray Firth

C = H. Clark : Speymouth, Moray

D = H. Clark : W. Lothian

E = Durham University : Teesmouth

F = Spurn Bird Observatory

G = P.G. Murton : Essex

H = S.H. Sporne : Hampshire

I = Farlington R.G. : Hampshire

J = Devon & Cornwall Wader R.G.

K = S.W. Lancs. R.G.

L = Morecambe Bay Wader Group

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Forms for totals for Nov 77-Feb 78 and Mar-June 78 will be found at the end of this Bulletin. The former should be returned immediately and the latter in the first week of July.

## RECENT RECOVERIES

### OYSTERCATCHER

| | | | | | | |
|---|---|---|---|---|---|---|
| FS 35702 | Ad | 3. 1.73 | Inishkea Isl.,Mayo | x | 63.57N 21.07W Iceland | 30. 5.76 |
| SS 82610 | 1Y | 26.10.73 | Lough Foyle | v | Reykjavik, " | 25. 6.75 |
| FS 44374 | Ad | 7. 1.73 | N. Solway | x | 63.58N 20.33W " | 0. 8.73 |
| FS 44930 | 1Y | 25.11.73 | " | x | Reykjavik, " | 18. 6.75 |
| FS 08530 | Ad | 23.11.69 | Morecambe Bay | + | 64.57N 13.49W " | 10. 6.74 |
| SS 59467 | 1Y | 30.11.67 | Dee | x | 63.49N 20.18W " | 0. 6.76 |
| FV 23212 | Ad | 8. 9.75 | Wash | + | 64.00N 20.49W " | 12. 3.76 |
| SS 01632 | Ad | 18. 9.63 | Morecambe Bay | x | Faeroe Islands | 24. 8.77 |
| FS 99990 | 1Y | 21. 8.74 | Wash | x | Vaster Norrland, Sweden | 22. 6.77 |
| SS 88102 | Juv | 29. 8.69 | " | x | Sor Trondelag,Norway | mid. 9.77 |
| FS 54127 | 2Y | 22. 7.74 | " | x | Rogaland, Norway | 17. 7.77 |
| FS 98830 | Ad | 2. 2.75 | " | x | Nordland, " | 25. 4.77 |
| FS 29750 | 2Y | 24.11.73 | " | x | Zeeland,Netherlands | 17. 9.77 |
| FV 28609 | Ad | 25. 8.76 | " | + | Somme, France | 13. 8.77 |
| FS 76277 | Juv | 5. 8.74 | Camel, Cornwall | + | Cotes du Nord, France | 5.12.77 |
| FS 09915 | Pull | 30. 6.74 | Orford, Suffolk | + | Somme, France | 11. 8.77 |
| SS 06565 | Pull | 19. 5.63 | Skokholm, Dyfed | + | Algarve, Portugal | 22.12.77 |
| SS 73926 | Pull | 5. 6.69 | Muckle, Moray | v | Ballymacoda, Cork | 31.12.77 |
| FS 07981 | Pull | 17. 6.73 | South Uist | + | Dunkineely, Donegal | 25.12.77 |
| FV 10918 | Pull | 3. 6.77 | Kinbrace,Sutherland | + | Ennis, Clare | 30.11.77 |
| FV 22632 | Pull | 12. 6.77 | Westray,Orkney | x | Ballysodare, Sligo | 18. 9.77 |
| FV 48801 | Pull | 27. 6.64 | Valley, Anglesey | v | Exe, Devon | 18. 9.77 |
| SS 95861 | Ad | 19. 1.69 | Morecambe Bay | x | Sanday, Orkney | 2. 7.77 |
| FS 26512 | Ad | 18.12.71 | " | x | Eynhallow, Orkney | mid. 7.77 |

During 1-16 August 1977 the following west coast birds were controlled on the Wash, all were ringed as immatures.

| | | |
|---|---|---|
| SS 62419 | 14. 6.67 | Conway Bay; 3093521 7.9.68 Burry Inlet; |
| FS 20602 | 27. 1.71 | Poole Harbour; SS 95305 14.8.72 Camel Estuary; |
| FS 61491 | 19. 9.74 | Poole Harbour; FS 66363 22.5.75 Dee, and |
| FS 87814 | 8.10.75 | Poole Harbour. |

A further nine movements between west coast estuaries or from them to Scotland were recorded.

### LAPWING

| | | | | | | |
|---|---|---|---|---|---|---|
| DR 29906 | Ad | 27.11.76 | Blithfield Res.,Staffs | x | Kalinin, USSR | 0. 8.77 |

### RINGED PLOVER

| | | | | | | |
|---|---|---|---|---|---|---|
| BX 69632 | Ad | 14. 5.76 | Dee | + | Safi, Morocco | 17.10.77 |
| BX 03053 | Ad | 19. 5.72 | Morecambe Bay | + | Somme, France | 13. 8.77 |
| BB 50685 | Ad | 11.10.69 | Wash | + | Gironde, " | 18. 8.77 |
| BX 63203 | Juv | 5. 9.75 | Cromarty Firth | + | Calvados, " | 22.11.77 |
| NB 30177 | Juv | 21. 7.68 | Foulness | v | Liverpool | 16.10.77 |
| BV 48002 | Pull | 23. 6.74 | Foulness | v | Anglesey | 28.12.77 |
| BV 40831 | Pull | 18. 6.77 | Ore, Suffolk | x | Flint | 6.12.77 |
| BB 82969 | Juv | 4. 9.71 | Wash | v | Liverpool | 16.10.77 |
| BV 10364 | Pull | 14. 6.71 | Ayr | v | " | 16.10.77 |
| BX 07487 | Ad | 23. 8.72 | Morecambe Bay | v | Anglesey | 28.12.77 |
| BV 35855 | Pull | 26. 5.76 | Ribble | v | " | 28.12.77 |
| NB 30022 | Juv | 16.10.77 | Liverpool | v | " | 28.12.77 |

### GREY PLOVER

| | | | | | | |
|---|---|---|---|---|---|---|
| DS 30665 | Juv | 12.10.72 | Wash | + | Anloga, Ghana | 21.9.77 |

GOLDEN PLOVER

| | | | | | |
|---|---|---|---|---|---|
| DR 36071 | Pull | 21. 5.76 | Kirkby Stephen,Westm. | x Lancaster | 7.11.77 |

DOTTEREL

| | | | | | |
|---|---|---|---|---|---|
| CE 52162 | Pull | 30. 6.77 | Grampians, Perth | + Berrechid, Morocco | 9.10.77 |

TURNSTONE

| | | | | | |
|---|---|---|---|---|---|
| CE 20688 | Juv | 25. 9.76 | Carnoustie, Angus | + Angmagssalik,Greenland | 2. 6.77 |
| CE 53023 | Ad | 2. 8.77 | Wash | + Casablanca, Morocco | 1.12.77 |
| CJ 01274 | Juv | 23.11.76 | Teesmouth | v Vlieland, Netherlands | 6. 8.77 |
| CK 46223 | Juv | 4. 9.67 | Minsmere,Suffolk | + Cote du Nord, France | 28.11.77 |
| CK 93722 | FG | 18.11.72 | Conway | v Liverpool | 16.10.77 |

SNIPE

| | | | | | |
|---|---|---|---|---|---|
| CH 88567 | Ad | 3. 9.75 | Durham | ? 54.21N, 31.03E, USSR | 0. 7.77 |
| XA 15990 | Juv | 28.12.75 | Redcar, Yorks | + 53.35N, 34.21E, " | 10. 4.77 |
| XV 52758 | Juv | 6.11.76 | Stafford | x Turku & Pori, Finland | 8. 5.77 |
| CC 86260 | Juv | 26.12.75 | Bolton, Lancs | x Arnhem, Netherlands | 15.10.77 |
| XB 31608 | Ad | 22. 2.76 | Sevenoaks, Kent | + Orne, France | 10.12.77 |
| XB 34828 | FG | 28.12.75 | " | + Laxfield, Suffolk | 27.10.77 |
| XC 34321 | FG | 21. 9.77 | Wellington,Shrops. | + Morpeth, Northumberland | 31.12.77 |
| XB 42244 | FG | 25. 9.77 | Ratcliffe,Leics. | + Lizard, Cornwall | 29.12.77 |
| CP 17848 | FG | 11.10.70 | Leigh, Lancs | + Nenagh, Tipperary | 18.12.77 |

JACK SNIPE

| | | | | | |
|---|---|---|---|---|---|
| BV 07205 | FG | 5.11.74 | Epping, Essex | + Lot-et-Garonne, France | 6.11.75 |

WOODCOCK

| | | | | | |
|---|---|---|---|---|---|
| 2012021 | Ad | 6. 2.76 | Margate,Kent | + Latvia SSR | 26.10.77 |
| EF 37488 | Ad | 17. 2.76 | Claremorris,Mayo | + Kristianstad, Sweden | 13. 7.77 |
| EF 37230 | Ad | 20.11.75 | " | + W. Flanders, Belgium | 19.11.77 |

CURLEW

| | | | | | |
|---|---|---|---|---|---|
| FS 12987 | Ad | 8. 8.71 | Morecambe Bay | x Oulu, Finland | 9. 5.77 |
| SS 00254 | Pull | 13. 6.65 | Pateley Bridge,York | + Walney Island | 23.11.77 |
| SS 72769 | Pull | 20. 6.71 | W.Castletown, Caithness | + Virginia, Cavan | 28.10.77 |
| SS 29798 | Pull | 21. 6.77 | Kilwinning, Ayr | x Wooler, Northumberland | 7. 9.77 |
| FS 30478 | Ad | 17. 7.77 | New Cumnock, Ayr | x Donaghadee, Down | 1.10.77 |
| FS 01209 | Ad | 26. 8.71 | Dundrum, Down | + Seascale, Cumbria | 26.11.77 |

REDSHANK

| | | | | | |
|---|---|---|---|---|---|
| DS 99032 | Ad | 13. 1.73 | Clyde | x 65.22N, 22.55W Iceland | 15. 6.73 |
| DR 13447 | Ad | 15. 2.75 | " | x Myvatn, Iceland | 4. 6.77 |
| DR 15025 | Ad | 17. 4.74 | St.Andrews, Fife | x 64.05N, 21.01W, Iceland | 4. 7.77 |
| CC 87753 | Ad | 20. 4.74 | Dee | x 64.46N, 21.21W, " | 22. 7.77 |
| DR 34414 | Ad | 18. 1.76 | Teesmouth | x Myvatn, Iceland | 23. 5.77 |
| DA 17414 | Ad | 22. 5.76 | Wicken Fen, Cambs. | + Gironde, France | 2. 3.77 |
| DR 25091 | Pull | 23. 6.75 | Ribble | ? Finistere, " | 30.10.77 |
| DR 36243 | Ad | 3. 6.76 | " | v Plym, Devon | 16.12.77 |
| DR 36484 | Ad | 31. 5.77 | " | v Camel, Cornwall | 28. 8.77 |
| DR 13797 | Ad | 30. 5.74 | " | v Dee | 31. 7.77 |
| DR 36473 | Ad | 2. 7.76 | " | v Widnes, Lancs. | 17.10.77 |

REDSHANK (Cont'd)

| | | | | | |
|---|---|---|---|---|---|
| DA 30804 | Pull | 6. 6.77 | Sunbiggen Tarn,Westm. | x Wallasey, Cheshire | 3.10.77 |
| DS 64530 | FG | 4.10.75 | Conway | v Dee | 31. 7.77 |
| DS 64561 | FG | 4.10.75 | " | v " | 31. 7.77 |

KNOT

| | | | | | |
|---|---|---|---|---|---|
| CC 89487 | Ad | 8.10.72 | Wash | +Disko, Greenland | 4. 6.74 |
| CP 21193 | Ad | 22.12.68 | Morecambe Bay | v Schiermonnikoog, Netherlands | 19. 9.77 |
| CK 95109 | Ad | 13. 9.69 | Wash | + Manche, France | 9.12.77 |
| CJ 03337 | Ad | 20. 8.75 | St. Kilda | v Wash | 19. 8.77 |
| CR 36228 | PJ | 3. 3.68 | Dee | v " | 18. 8.77 |
| CC 74336 | Ad | 27. 4.76 | Morecambe Bay | v " | 17. 9.77 |
| CE 48555 | Ad | 22.12.68 | " | v " | 17. 9.77 |
| CC 55959 | FG | 21.12.72 | " | v " | 1. 8.77 |
| CE 29442 | Ad | 10. 4.70 | " | v " | 1. 8.77 |
| CC 70427 | Ad | 1. 2.72 | N. Solway | v " | 1. 8.77 |
| CS 36806 | PJ | 22.10.67 | Humber | v " | 1. 8.77 |
| CX 20112 | 1Y | 5. 2.77 | Teesmouth | v " | 1. 8.77 |
| CC 89481 | Ad | 8.10.72 | Wash | v Teesmouth | 9.12.77 |

DUNLIN

There were very many Dunlin recoveries and controls notified during the period, those from Iceland and Portugal are detailed, the others are simply summarized.

| | | | | | |
|---|---|---|---|---|---|
| BX 39394 | Ad | 7. 5.77 | Dee | x 65.27N, 22.39W,Iceland | 19. 7.77 |
| BX 59562 | Ad | 27. 7.75 | Wash | v Tejo, Portugal | 29.10.77 |

Other recoveries were:-

Finland (56 : 8 in second half of May, 47 in the second half of July and 1 early August) ; Poland (1), Sweden (1), Norway (1), Denmark (8), West Germany (1), Netherlands (6), and France (11).

Within Britain there were 16 long distance movements recorded during the same winter, virtually all moving from Eastern England (Wash and Humber) to the west coast. A further 90 movements were noted between different estuaries in Britain and Ireland during subsequent winters.

SANDERLING

| | | | | | |
|---|---|---|---|---|---|
| BB 72244 | Ad | 24. 5.71 | Dee | + El Jadida, Morocco | 4.12.77 |
| BX 10840 | Ad | 2. 6.73 | " | + Safi, " | 11. 3.77 |
| BX 43075 | Ad | 25. 5.74 | Wash | + Kenitra, " | 12. 9.77 |
| BX 64010 | Ad | 9. 8.75 | " | + Azemmour, " | 5.12.77 |
| BB 44457 | Ad | 31. 7.69 | " | + Somme, France | 13. 8.77 |
| BX 11928 | Ad | 6. 4.77 | Margate, Kent | + Pas-de-Calais, France | early 8.77 |
| BX 11945 | Ad | 6. 4.77 | " | v Wash | 21. 8.77 |
| BB 68631 | Ad | 23. 5.71 | Dee | v " | 15. 9.77 |
| BB 79005 | Ad | 26. 5.71 | Morecambe Bay | v Dee | 31. 7.77 |

# WADER MIGRATION IN THE UPPER FORTH ESTUARY

by I R Taylor

## Introduction

This paper describes the migrations of ten species of wader through a study area in the upper Forth estuary. The species examined are those that occurred in the study area only on passage; species that neither bred nor wintered in the area. The migrations of a few of these have been described from sites in Northumberland (Brady 1949, Evans 1966) but for most the only other published information is from sites far to the south of the Forth; in Cambridge (Nisbet 1957), Leicestershire (Mason 1969) and South Glamorgan (Ingram 1945).

The paper is concerned mainly with the timing of the migrations and these are compared with the timings recorded at the study sites mentioned above. Detailed observations of timing often reveal the passages of different populations of single species and subsequent ringing may determine their origins. Different populations may also move through the country by different routes. Studies from as many sites as possible throughout the country, although repetitive, may thus be very valuable in the understanding of these movements.

Observations of migration in progress are, of course, rare and this study like the previous ones relies on counting birds resting or feeding at a particular site. This method has many drawbacks. The absence of a species on the ground does not necessarily mean the absence of migration over the study area; the feeding habitat may simply be unsuitable. Similarly the total numbers involved in a movement cannot be safely deduced from the numbers on the ground. However, despite the difficulties these studies do provide useful preliminary information for subsequent intensive ringing studies.

## Study area and methods

The study area consisted of a number of permanent, shallow pools in fields on the south side of the Forth estuary, north of Grangemouth (Figure 1). The Forth at this point forms extensive mudflats which support large populations of migrant and wintering waders. The study pools were within a few hundred yards of these flats, separated from them by a protective embankment. Most of the species included in the study fed only on the pools but a few also fed on the flats. Tidal variations in the numbers of these species on the pools were eliminated as much as possible by counting at high tide.

Counts were made by moving systematically from pool to pool trying as far as possible to leave the birds undisturbed. However when other bird watchers were present the birds were nearly always frightened from one pool to the next and in these cases counts were also made of birds in transit. These were subsequently added to or subtracted from the total counts depending upon the direction of their movement.

In the case of the Whimbrel the counts were of birds actually on passage and flying over the area. They rarely settled in the study area. These counts would obviously be time dependent but all visits to the study area lasted approximately two hours so there was little bias through inconsistency.

The observations were made over a period of six years, from 1964 to 1970, excluding 1968, during which a total of 337 visits were made to the study area.

Results

Oystercatcher Haematopus ostralegus

A few birds were recorded in spring but there was no evidence of a regular passage (Table 1). Andrew (1959) found no regular spring passage through Midlothian and suggested that the birds entered the Forth area through the Forth/Clyde valley. From the present study this does not seem to be the case. Brady similarly found no spring passage through Northumberland and both Nisbet and Mason found them scarce in Cambridge and Leicestershire respectively.

Autumn passage was well pronounced starting in early July and reaching a peak during the first half of August. Few birds were seen after the end of August (Table 1). Andrew recorded a similar passage time through Midlothian but in Northumberland Brady recorded an additional movement in September. It is possible that these late birds move directly down the east coast and do not come west into the Forth area.

Ringed Plover Charadrius hiaticula

The Ringed Plover was one of the few species that showed a marked spring passage through the area. Most of this took place during the first half of May, when large flocks of up to 100 birds were regularly seen, but a small number were still passing through up to the beginning of June (Table 1). Brady, Nisbet, Evans and Mason all recorded a passage in May. However Brady and Nisbet also recorded an apparently smaller passage occurring mostly in late March, which was absent in the present study.

The autumn passage occurred mostly during the second half of August although a few birds were moving through as early as the beginning of July (Table 1). Numbers were nearly always much less than those recorded during the spring passage but it is impossible to be certain whether the total number of birds involved was actually less or whether they simply moved through more quickly. Brady, Nisbet and Mason all recorded an additional passage during late September not recorded in this study.

Evans (1966) suggested that the birds involved in the May and August passages bred in either Iceland or Greenland. Recent evidence supports this view. A sample of Ringed Plovers caught at Fife Ness on 18th August 1973 had wing lengths corresponding to those of arctic breeding birds (Summers 1974). During the summer of 1974 a number of Ringed Plovers were marked with plumage dye and colour rings in N.E. Greenland. Several of these were subsequently sighted on passage through the British Isles during late August and early September. Also 2 birds found in Greenland were wearing British rings; one had been caught on passage through Britain in late May, the other in late August (Green 1974).

Whimbrel Numenius phaeopus

There was a distinct spring passage usually involving only a small number of birds during the first half of May (Table 1). Nisbet recorded a passage through Cambridge at almost exactly the same time but Mason found the movements through Leicestershire to be much earlier, mostly during April. Brady described them as common in small numbers during May in Northumberland.

Autumn passage started in early August and reached a peak during the second half of the month. There was then a rapid decline in numbers throughout September by the end of which most of the passage was over (Table 1). This agrees closely with the movements noted by Mason but rather surprisingly they do not agree with Brady's observations in Northumberland. He stated that the passage there reached a peak at the end of July. Nisbet found whimbrels to be very rare in Cambridge during autumn.

| | Number of Counts | Oyster-catcher | Ringed Plover | Whimbrel | Black-tailed Godwit | Common Sand-piper | Spotted Redshank | Green-shank | Little Stint | Curlew Sandpiper | Ruff |
|---|---|---|---|---|---|---|---|---|---|---|---|
| February | 8 | 0 | 0.38(3) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.13(1) |
| March | 9 | 0 | 0.44(4) | 0 | 0.22(2) | 0 | 0 | 0 | 0 | 0 | 0.11(1) |
| | 4 | 0.50(2) | 1.00(4) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.50(18) |
| April | 11 | 0 | 2.27(25) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8 | 0.38(3) | 0.88(7) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 17 | 0 | 48.06(817) | 1.00(17) | 0 | 0.18(3) | 0 | 0 | 0 | 0 | 0 |
| | 9 | 0 | 7.67(69) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| June | 18 | 0.06(1) | 4.33(78) | 0.17(3) | 0 | 0 | 0 | 0 | 0 | 0.06(1) | 0 |
| | 9 | 0.33(3) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July | 26 | 1.35(35) | 1.20(31) | 0 | 0.46(12) | 1.30(34) | 0 | 0.08(2) | 0 | 0 | 0.15(4) |
| | 23 | 6.00(138) | 2.35(54) | 0 | 0.91(21) | 2.17(50) | 0 | 0.39(9) | 0 | 0 | 0.87(20) |
| August | 26 | 7.04(183) | 1.19(31) | 0.46(12) | 0.50(13) | 0.31(8) | 0 | 1.96(51) | 0 | 0 | 2.42(63) |
| | 43 | 1.09(47) | 15.80(679) | 1.33(57) | 1.72(74) | 0.19(8) | 0.72(31) | 1.56(67) | 0.21(9) | 2.19(90) | 8.14(350) |
| September | 22 | 0.23(5) | 0.36(8) | 0.59(13) | 1.23(27) | 0.05(1) | 0.27(6) | 0.86(19) | 0.77(17) | 2.31(51) | 6.77(149) |
| | 16 | 0.13(2) | 0 | 0.25(4) | 3.31(5) | 0 | 0.31(6) | 0.50(8) | 0.81(13) | 2.44(39) | 2.38(38) |
| October | 18 | 0 | 0 | 0 | 1.00(18) | 0 | 0.28(5) | 0.05(1) | 0.33(6) | 0.72(13) | 3.28(59) |
| | 15 | 0 | 0 | 0 | 0.07(1) | 0 | 0.27(4) | 0 | 0.07(1) | 0.47(7) | 0.40(6) |
| November | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.27(3) |

Table 1. Counts of Waders in the Study Area
The figures in brackets show the totals counted on all visits; the open figures show the mean number recorded per visit. The period from mid-November to mid-February has been omitted in the table as there were no sightings of any of the species during this time. For each month the upper figures refer to the first fifteen days and the lower figures the remainder.

Black-tailed Godwit Limosa limosa

There was no regular spring passage through the study area. Autumn passage was prolonged, starting at the beginning of July and continuing until mid October. Maximum numbers were recorded during the last two weeks of August and first two weeks of September (Table 1). This is about a month later than the main movements through Cambridge recorded by Nisbet. In Leicestershire Mason noted peak movements during August.

Common Sandpiper Tringa hypoleucos

There was no regular spring passage. Nisbet and Mason recorded spring movements during May in Cambridge and Leicestershire and Ingram noted a late April passage in Glamorgan.

Autumn passage began at the beginning of July and reached a peak during the second half of the month. There was a rapid decline in numbers during August and only one bird was recorded in September (Table 1). The passage through Cambridge recorded by Nisbet also started early in July but reached a peak somewhat later, in the first half of August, and continued into early October. Ingram also found an early August peak in Glamorgan but Mason found a peak in late August in Leicestershire.

Spotted Redshank Tringa erythropus

There was no spring passage. Autumn passage started about mid August and extended to the end of October. Maximum numbers were recorded during the second half of August (Table 1). Nisbet found an early September peak in Cambridge.

Greenshank Tringa nebularia

There was no spring passage. Nisbet and Mason found very small numbers in their study areas during May. Autumn passage started in early July and reached a peak in late August. Most birds had passed through by the end of September (Table 1). Nisbet and Mason also found late August peaks.

Little Stint Calidris minuta

There was no spring passage. Autumn passage stretched from mid August to mid October with peak numbers occurring during September (Table 1). This agrees closely with the movements recorded by Nisbet and Mason.

Curlew Sandpiper Calidris ferruginea

No spring passage. Autumn passage extended from mid August to the end of October with maximum numbers during August and September (Table 1). Nisbet recorded peak numbers during early September in Cambridge and Mason described a late September peak in Leicestershire.

Ruff Philomachus pugnax

Spring passage occurred almost entirely during the second half of March (Table 1). Nisbet recorded two passages, one during late March, the other in early May. Mason did not record a spring passage in Leicestershire. Autumn movements began in early July and extended into early November. Peak numbers occurred from mid August to mid September (Table 1). This agrees exactly with Nisbet's observations from Cambridge and with Mason's records from Leicestershire.

Overland movements of waders from the Forth

Using radar, Evans (1968) studies the overland passage of waders departing from Aberlady Bay in the Forth and found that they used three separate pathways. One of these was in a S.S.W. direction leading to the Ayrshire coast. During the course of the present study overland migration from the Forth around Grangemouth was regularly seen and heard from July to September. The direction was always approximately S.W. which would take the birds across central Scotland to the Ayrshire coast.

In late July and August Oystercatchers were seen using this route more frequently than any other species. Most of the movements occurred between about 8 o'clock in the evening and 7 in the morning. The birds were usually in flocks of between 20 and 70 individuals, frequently adopting a V formation and usually very noisy. Thus they were often heard flying over Falkirk (approx. 4 km S.W. of the Forth) during the hours of darkness. Such flights took place on dark overcast nights as well as on clear, light nights.

During September flocks of Curlews and Golden Plovers were frequently seen flying inland along the route and Richards (1965) observed influxes of these species to the Ayrshire coast during this month. Most of the movements of these species were at the same time of the day as those of the Oystercatcher and they were often heard flying over at night.

Six other species were seen flying inland but in much smaller numbers than those described above. Whimbrel and Ringed Plover were seen mostly in August. Greenshank, Bar-tailed and Black-tailed Godwits and Knot were seen during both August and September.

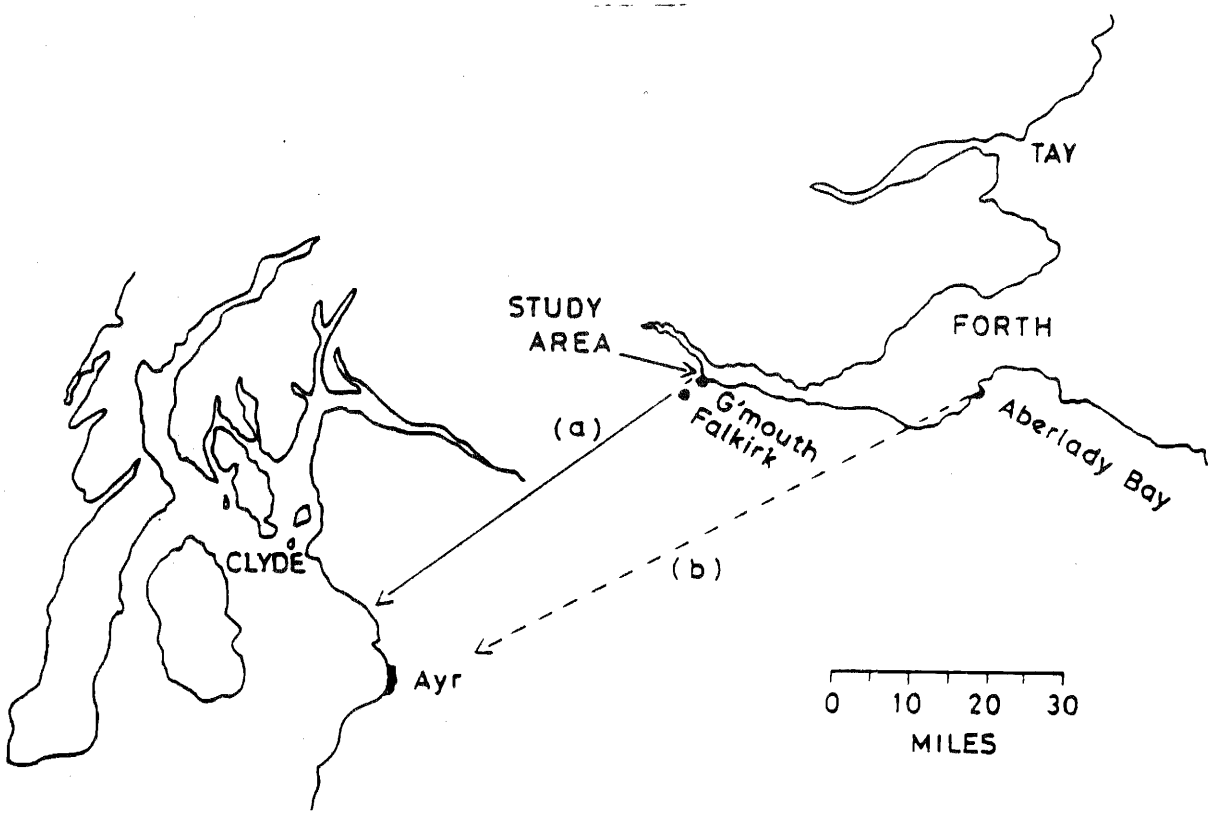


Figure 1. The position of the study area and the overland migration route from the upper Forth to the Ayrshire coast (a). The overland route from Aberlady to the Ayrshire coast recorded by Evans is also shown (b).

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## 1978 CAMBRIDGE NORWEGIAN EXPEDITION

During June and July 1978, a party of seven undergraduates from Cambridge University and one student from the Duncan Jordanstone College of Art, Dundee will be going to the Hardangervidda in southern Norway to study Purple Sandpipers Calidris maritima, Dotterels Eudromias morinellus and Dunlins Calidris alpina. As many adults and chicks as possible will be caught and ringed and in addition Purple Sandpipers and Dotterels will be colour-ringed. Detailed observations of these two species will be made in order to complement the work of Bengtson in Svalbard and Nethersole-Thompson in Scotland, both of whom were working with birds of a limited population.

Both projects are designed to link in with long-term studies presently being conducted by the Tay Ringing Group in east Scotland ; a Purple Sandpiper recovery from Finse on the Hardanger Plateau indicates that at least some of the birds wintering on the east coast of Scotland are probably from the Plateau population and it is hoped to confirm this with more definite evidence. In addition it will be interesting to compare the measurements of the breeding population with those obtained from wintering birds.

If an y colour-ringed birds are seen we would be grateful if details could be sent to : A.J. Prater, BTO, Beech Grove, Tring, Herts, England.

John Innes, Christ College, Cambridge

## TRANSFERRING WADER RINGING DATA BETWEEN COMPUTERS.

by Jeremy J.D. Greenwood and Michael W. Pienkowski.

Various people have become involved in using computers to store and analyse data obtained from ringing waders. It may be that a need for transferring data, other than by written record, will make itself felt. If so, it will be useful to have an agreed format. This does not mean that we shall all have to use the same codes and format for our own individual purposes, merely that there will be an agreed system for transfer. Each of us will be able to write programs to interconvert our individual systems with the transfer system. Of course, some people may feel that the format outlined below would also be convenient for their own data storage, but this is not a requirement. For a few items, however, we have been unable to find a generally agreed scoring system (e.g. fat, plumage) and have tried to incorporate the best of various different methods known to have been used. These few items may affect the way data are recorded in the field and we hope that they will prove satisfactory.

The following has been worked out after consultations with other interested parties and we hope that it will prove acceptable. It is restricted to British localities but could easily be extended.

### General Features

The medium will be 9-track magnetic tape, coding in IBM industry-compatible form. There will be one record per handling - i.e. a bird caught on two different dates will form two records. There will be 72 characters/record, 34 records/block, and a density of 1,600 bits/inch.

The data will be in fixed format with no spaces between items. The raw data will be a mixture of alphabetical and decimal numeric characters. Missing data will be coded with zeros. Data with fewer characters than are allowed for the item in question must have leading zeros - except for measurements (see below).

### Details

| Item | No. of Characters | Notes |
|---|---|---|
| SPECIES | 3 | Euring code MINUS the last digit (see, e.g. "Ringers' Manual"). |
| RACE | 1 | See below. |
| LOCALITY | 6 | 1-km National Grid Reference: 2 letters and 4 digits. |
| DAY | 2 | Day of month. |
| MONTH | 2 | January = 01.... December = 12. |
| YEAR | 2 | Last 2 digits only. |
| SCHEME | 2 | See below. |
| RING | 8 | Ring "number" including letters if used, with leading zeros if number has less than 8 characters. Do not leave spaces between any characters. |
| SECOND SCHEME | 2 | In case the bird carries two rings or if one is replaced by another. If not needed fill with zeros. |
| SECOND RING | 8 | |

| | | |
|---|---|---|
| AGE | 1 | Euring code, omitting use of J. (Codes greater than 9 should not be necessary). |
| SEX | 1 | 1 = male; 2 = female. |
| WING LENGTH | 3 | All to 3 figures. If measured less accurate |
| BILL LENGTH | 3 | use trailing zeros:; if more accurately, |
| BILL DEPTH | 3 | round off to 3 figures. Do not use decimal |
| WEIGHT | 3 | points. (Context will indicate whether |
| TARSUS LENGTH | 3 | 613 is, e.g., 61.3 or 6130). |
| OPTION A | 3 | See below. |
| OPTION B | 3 | |
| FAT SCORE | 1 | Modified standard score - see below. |
| MOULT | 10 | Modified moult scores of primaries, in order from 1st (innermost) to tenth -see be |
| PLUMAGE | 1 | See below. |
| CAPTURE METHOD | 1 | See below. |

## Notes on idividual items

### Race

Up to 9 races can be coded. It will be necessary to have an agreed code for the races of each species. If you wish to code for race, write to the Editor of the Bulletin, who will publish all newly-established code-lists as the need arises, and maintain a file of established codes.

### Scheme

We list below all schemes in Europe, Africa and America which seem to have the slightest chance of occuring in Europe. If anyone is fortunate enough to need codes for any other scheme, please write to the Editor of the Bulletin, who will publish the additions.

| | | | |
|---|---|---|---|
| 01 | London, UK. | 24 | Donana, Spain. |
| 02 | Washington, USA. | 25 | Madrid, Spain. |
| 03 | Reykjavik, Iceland | 26 | San Sebastian, Spain |
| 04 | Stavanger, Norway | 27 | Oporto, Portugal |
| 05 | As, Norway | 28 | Warsaw, Poland |
| 06 | Oslo, Norway | 29 | Gdansk, Poland |
| 07 | Stockholm, Sweden | 30 | Matsulu, Estonian SSR |
| 08 | Goteborg, Sweden | 31 | Tartu, Estonian SSR |
| 09 | Helsinki, Finland | 32 | Riga, Latvian SSR |
| 10 | Copenhagen, Denmark | 33 | Moscow, USSR |
| 11 | Viborg, Denmark | 34 | Praha, Czechoslovakia |
| 12 | Kalø, Denmark | 35 | Budapest, Hungary |
| 13 | Arnhem, Holland | 36 | Sofia, Bulgaria |
| 14 | Leiden, Holland | 37 | Bucarest, Rumania |
| 15 | Helgoland, Germany | 38 | Zagreb, Yugoslavia |
| 16 | Radolfzell, Germany | 39 | Bologna, Italy |
| 17 | Rossiten, Germany | 40 | Valetta, Malta |
| 18 | Hiddensee, Germany | 41 | Cyprus |
| 19 | Sempach, Switzerland | 42 | Tunis, Tunisia |
| 20 | Bruxelles, Belgium | 43 | Jos, Nigeria |
| 21 | Jersey | 44 | Nairobi, Kenya |
| 22 | Paris, France | 45 | Livingstone, Zambia |
| 23 | Aranzadi, Spain | 46 | Pretoria, S.Africa |

## Options A and B

People working on some species may wish to code for items additional to those included here. They can do so, using the optional fields. If you wish to establish the use of one of these fields for a particular purpose, write to the Editor of the Bulletin, who will publish new code lists and maintain a file of those already established.

## Fat Score

Coding given below is based on Helms and Drury (Bird-Banding 31:13) but has been modified slightly for waders. Further, 1 has been added to all scores to leave 0 to indicate "not recorded". The relationship of fat score to quantity of fat present is unknown but is unlikely to be linear.

0 No record.
1 None or trace; furcular (interclavicular) region concave. None in abdomen.
2 Fat present but furcular region concave and clavicles visible. Trace in abdomen.
3 Furcular region filling but still concave. Some covering of clavicles. Some between intestinal folds and/or in small patches.
4 Hollow filled; clavicles covered; some overflowing furculum but still concave. Pad of fat covering abdomen but not mounded.
5 Hollow filled; furcular fat nearly level with pectoralis muscle, overflowing up interclavicles, and subcutaneous fat in patches over pectoral muscles. Mounded pad over abdomen.
6 Convex pad overflowing the length of the furculum and subcutaneous fat covering entire ventral area. Abdomen pad well mounded.

## Moult

To distinguish score 0 from "no record" the usual moult score for each feather should have 1 added to it. Thus moult not recorded codes as 0000000000, all old feathers as 1111111111, and all new feathers as 6666666666.

## Plumage

The following scheme is based simply on what seems to be recorded at present; there is no suggestion that it is linearly related either to time of progression or quantity of plumage involved:-

0 No record
1 Full winter plumage
2 Trace of summer plumage
3 ¼ of summer plumage
4 ½ of summer plumage
5 ¾ of summer plumage
6 Trace of winter plumage
7 Full summer plumage

## Capture method

1 = cannon-net, 2 = mist-net, 3 = dazzling, 4 = cage-trap,
5 = clap-net, 6 = at nest, 7 = other.

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## EAST GREENLAND WADERS 1977

by Jeremy J. D. Greenwood.

As a result of work done on the Dundee University N.E. Greenland Expedition 1972 and on the Joint Biological Expedition to N.E. Greenland 1974, we have some sound information on the waders of those areas of north-east Greenland within 100km of the outer coast. Much less is known of the inner fjord region, since this is accessible only during the winter, by sledge, or during August, by small boat. In 1977 a six-man tea from Dundee University, including D.J.Fletcher and I as biologists, spent August in the inner parts of the Kong Oscars Fjord/Kaiser Franz Joseph Fjord complex, between about 72°50' and 73°50'N.

The recently-published report of the 1974 expedition contains considerabl information on the habitats and general ecology of the outer fjord region, as well as on the waders. The inner fjords turned out to be quite different. In general, the mountains are higher and steeper, plunging straight into the fjords, and there is very little flat ground. The climate is much drier. Tarns and lakes are very infrequent and boggy ground not common. The vegetation is generally sparse, mostly made up of sparse heaths of sedges and grasses.

This would not seem to add up to much in the way of wader habitat. First impressions turned out to be right. Only Ringed Plovers were widespread and even these were less common than in the outer fjords. Most were living close to the fjord shores, though we saw a few inland, on the gravelly flood-plains of rivers in broad valleys. We ringed only 5 chicks but one has already been controlled: ringed at Mestersvig on 1st August, weight 20.2gm, and controlled at Fawley (Hants) England on 25th September, weight 65gm, wing 132mm.

Turnstones were seen in many places but all gave the impression of being passage birds, except those near Mestersvig, which is the outer fjord region. There they were abundant, compared with 1974 and other recent years and appear to have bred, consistent with the early clearance of the snow in 1977 (see Green, Greenwood and Lloyd 1977). Sanderlings also seem to have bred at Mestersvig in larger numbers than in 1974 and we saw the usual good numbers of small parties on passage there in late August and early September. However, we saw none but a single "possible" in the inner fjords.

Dunlins were breeding in small numbers in the inner fjords. We caught a female on 5th August on Ella Ø, dropping a mist-net on her from a distance of half a metre, as she came to brood her 4 chicks (6.5 - 7.3gm- about 2 days old) that we had rounded up. We caught a 24.5gm chick on a river delta on 9th August and one almost able to fly by a lake far inland (35km from the fjord) on 12th August.

We saw two other species on passage only - a pair of Rednecked Phalaropes at Ella Ø on 5th August and a single Knot only 40km north-west of Mestersv on 30th August. The apparent absence of Knots from the inner fjords might be a result of them having bred and moved out completely. However, one wou have expected to see a few stragglers if the population was at all high.

It seems, therefore, that if one wishes to speculate about areas that hold large numbers of high arctic waders, one must exclude the inner fjord region from our thoughts. But there are some interesting-looking areas further north on the coast.....

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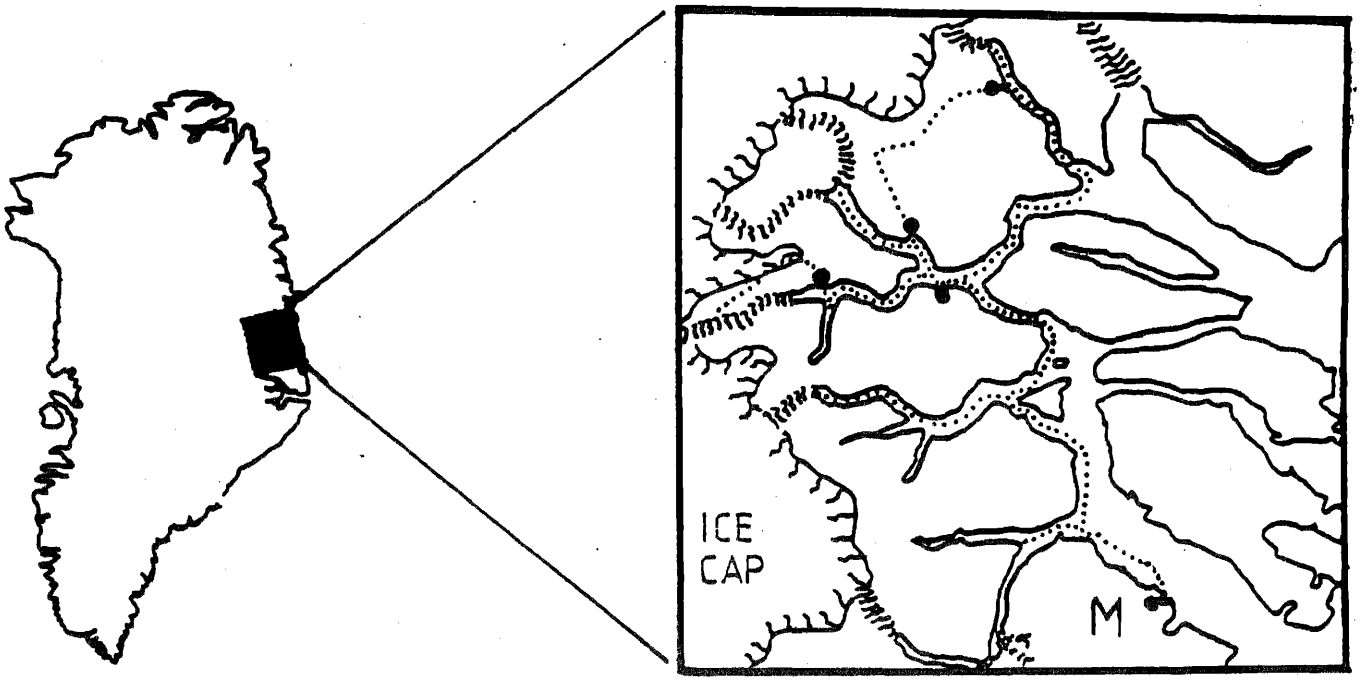


Maps indicating where the expedition worked. In the larger map large dots indicate base camps (M = Mestersvig), dotted lines major journeys, rows of irregular lines major glaciers. The main ice-cap is indicated but subsidiary ones are not. The scale is approximately 1 : 2750000.

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## THE WEIGHTS, MOULT AND MORPHOMETRICS OF SPOTTED REDSHANKS IN BRITAIN.

by Nigel A. Clark

Up to the end of 1975 231 Spotted Redshanks, Tringa erythropus, had been ringed in Britain. The Wader Study Group file contains the processi details of 114 of these. The majority have come from two sources - 46 birds were caught by the Mid-Kent Ringing Group between 1962 and 1968, and 60 birds were caught together at Terrington on the Wash by the Wash Wader Ringing Group on the 27th July, 1975.

The birds caught by the Mid-Kent Ringing Group, between July and November, consisted of 8 definite juveniles (age code 3), 16 definite adults (4) and 22 which were not aged (2). The Terrington sample, on the other hand, contained no juveniles. There were 53 in winter plumage which were, therefore, thought to be summering, possibly first summer, birds, and 7 presumed adults which were in full summer plumage. It had been noted for several years prior to the catch that there was a flock of Spotted Redshanks spending a period of time somewhere on the Wash each summer. It is probable, therefore, that a flock of non-breeding, possibly first-year, Spotted Redshanks regularly occurs on the Wash.

Figure 1 gives the bill lengths of 105 birds. There was no evidence of any variation due to age in the sample. Witherby et al. (1941) gives bill lengths of 53 - 59mm for males and 56.5 - 65mm for females. The mean of the 105 live birds on which the bill was measured was 58.3mm., standard deviation 2.9. Although there is some indication of bimodality, the data are not sufficient to attempt to test this.

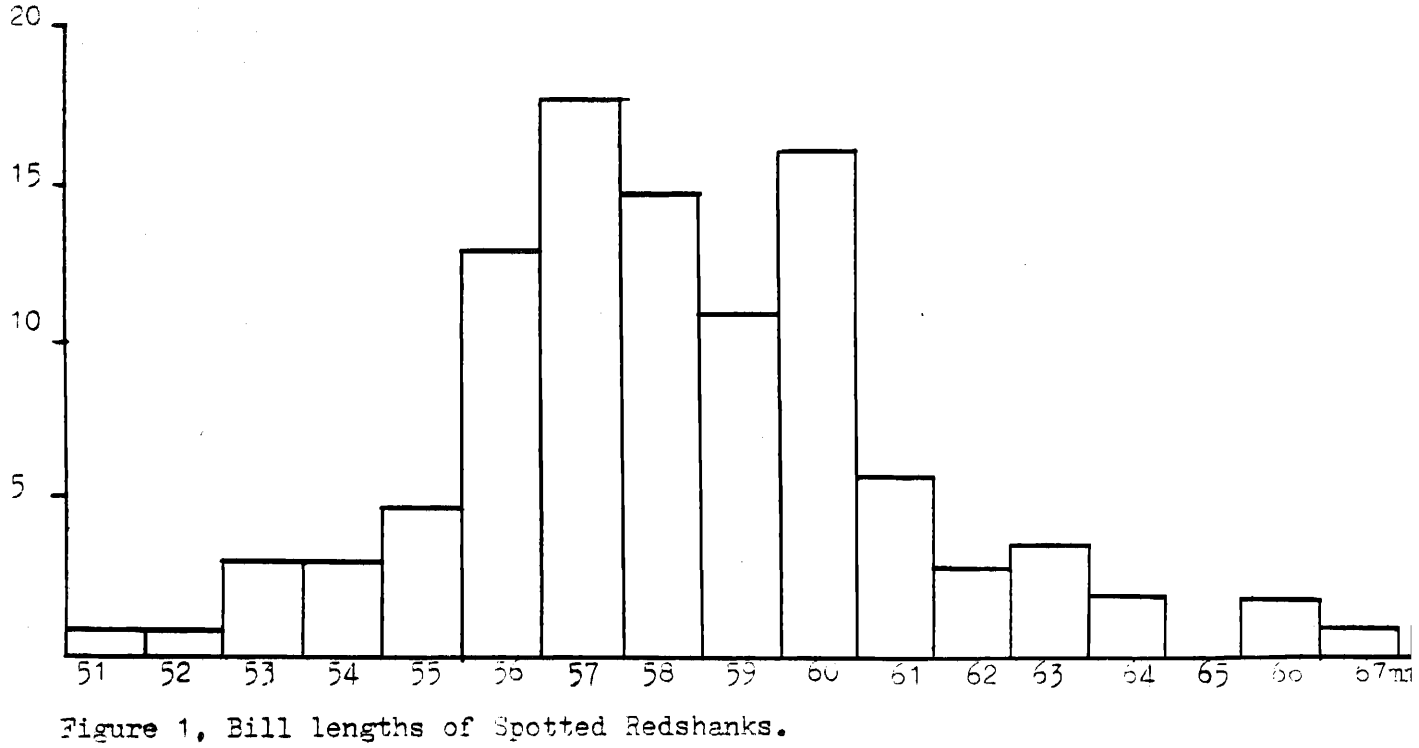


Figure 1, Bill lengths of Spotted Redshanks.

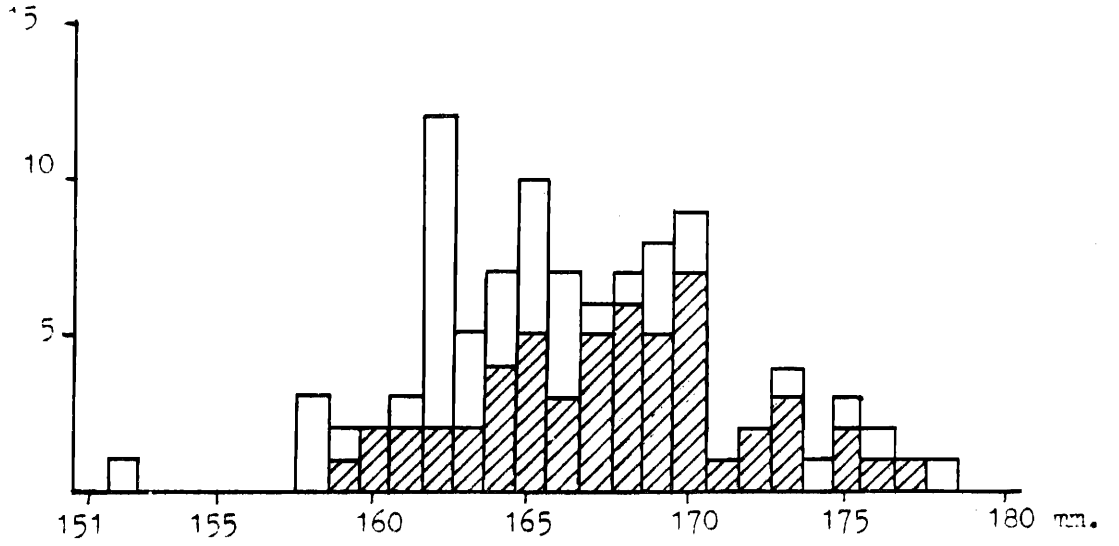


Figure 2, Wing lengths of Spotted Redshanks (Terrington sample hatched).

Figure 2 gives a histogram of the wing length of 97 birds measured using the maximum wing length method (Evans, 1964). The mean wing length of the Terrington sample (167.5mm, n = 53, s.d.4.24) was longer than that of the remainder (165.2mm, n = 44, s.d.5.29). This could be due to variation between measurers. There was a difference of 2.5mm in mean wing length between 'adult' (65.3, n = 7, s.d. = 2.7) and 'first-year' birds (67.8, n = 44, s.d. = 4.3) in the Terrington sample. This could have been due to a sex bias in the small sample (7) of adults. There was no evidence of bimodality in the wing length distribution but this could have been because of variations due to abrasion and to the measurer. As has been shown previously for Knot and Sanderling (Pienkowski and Minton 1973), the wing length becomes shorter as the feathers age, and this may blur any difference due to sex in the sample. Witherby gives the male range as 158mm. to 167.5mm., and the female range from 166mm. to 177mm. The mean for all live birds processed was 166.2mm., with a standard deviation of 5.2.

Although the birds from Mid-Kent were caught between July and November, only four of these were in primary moult (two birds in August, one in September and one in October). Every bird in the Terrington sample was in wing moult. This was recorded using the scoring method of Snow (1967), the small outermost 11th primary being ignored. Of the 53 "first-years', the mean moult score was 33.1, standard deviation 3.8, and for the 7 'adults' the mean was 5.9, standard deviation 3.6. It can be seen from Figure 3 that there was no overlap in moult score between the 'adults' and the presumed summering birds. Examination of the pattern of feather dropping and replacement showed that the moult progression follows very closely that of other closely-related wader species. Though no moulting rate can be deduced from this limited data it is clear that the presumed 'first-year' birds must have been in moult for some time - probably 5 to 8 weeks - which is consistent with the field observations of this summering non-breeding flock.

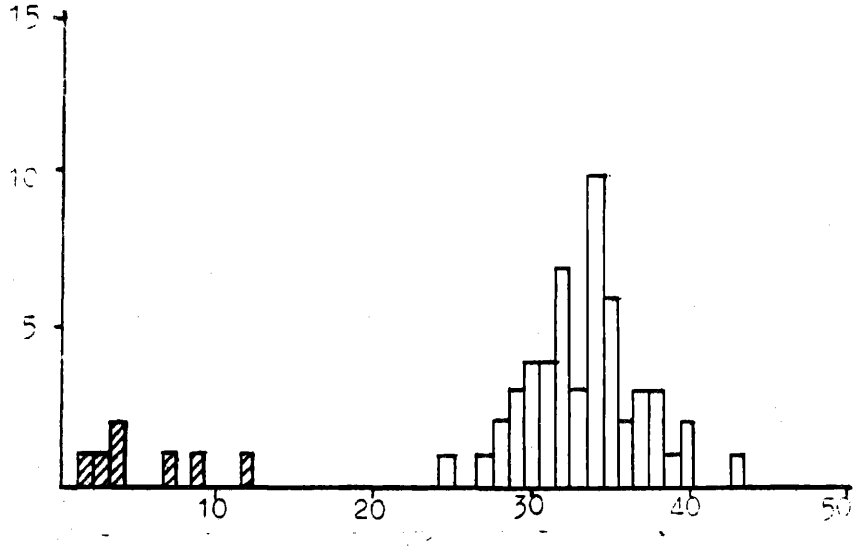


Figure 3. Moult scores for the Terrington sample (presumed adults hatched) caught on 27.07.75.

Figure 4 shows the weights obtained for Spotted Redshanks in Britain. The three birds below 120 grams were all caught on Fair Isle and were clearly very much below the normal weight for the species. From the distribution of weights of the Terrington sample, and the knowledge that birds in heavy wing moult usually have very little fat reserve, it can be deduced that the fat-free weight is probably around 140 - 150 grams. The weights above 180 grams are probably birds that have been putting on weight for onward migration. The heaviest birds, at a weight of 230 grams, are, therefore, carrying at least 50% fat.

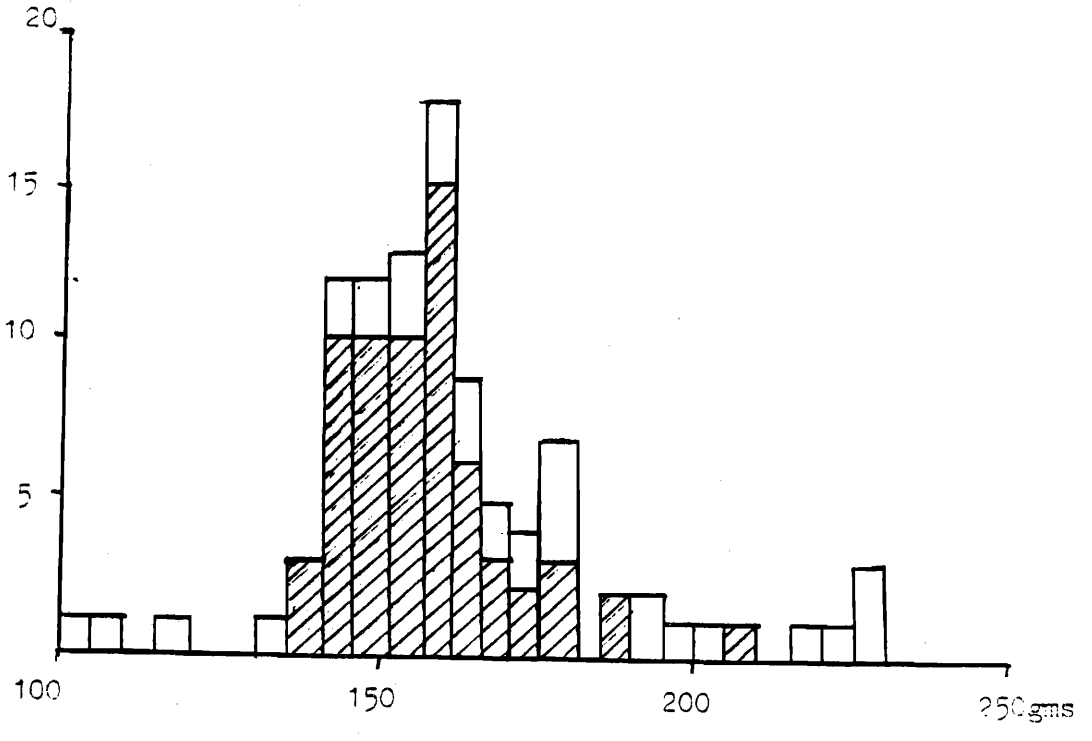


Figure 4, Weights of Spotted Redshanks (moulting birds hatched ).

Estimates of flight ranges of birds carrying fat vary tremendously. Johnston and McFarlane (1967) consider that the Pacific Golden Plover, a species of comparable fat-free weight (mean of 23 birds = 112 grams) needs only 18 grams of lipid to fly the 3,800 km it migrates across the Pacific. Figure 5 shows the estimates of flight ranges for Spotted Redshanks at different weights. This shows that the heaviest Spotted Redshanks recorded had a potential flight range of between 2,000 and 8,000 km according to these estimates. It should be noted that Nisbet et al. worked on the Blackpool Warbler at 20 gms., whereas Tucker looked at all birds and is probably more relevant to a bird the size of a Spotted Redshank. However, equations given by two recent reviews of the mechanics of flight lead to rather longer estimates: 3,800 km (Greenewalt 1975) and 9,700 (Pennycuick 1975).

The migration route of the Spotted Redshank is poorly understood. The main wintering area is just south of the Sahara, between 5° and 15° N (Moreau 1972, Grimes 1969), though some hundreds winter in Portugal and noted a few wintering even as far north as Britain. There is evidence of coastal migration in autumn through Morocco (Smith 1965) and evidence for trans-Saharan migration from Grimes (1974) and Moreau (1967) in autumn.

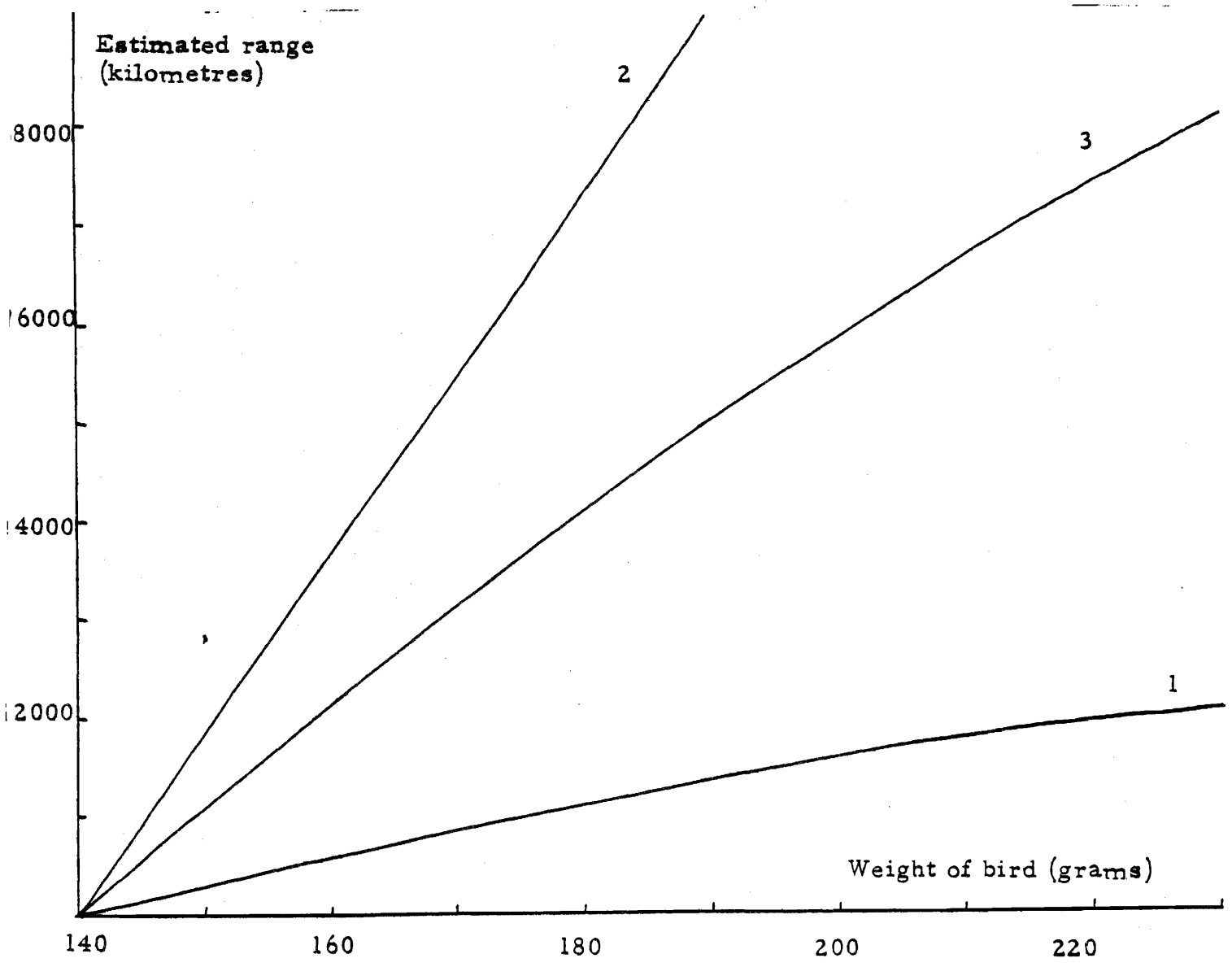


Figure 5. Estimated flight ranges of Spotted Redshanks based on the equations of various workers: 1. Nisbet et al.(1963), 2. Johnson & McFarlane (1967), 3. Tucker (1971).

The meagre evidence so far from recoveries suggests that British Spotted Redshanks may use both routes. There are three autumn recoveries, one on the Atlantic coast of Southern France (2 Sept. 1970), one in Central France (4 Oct. 1969) and one on the Mediterranean coast of France (4 Sept. 1955). The three spring recoveries came from Malta (19 April 1968), the Atlantic coast of Morocco (25 March 1976) and Denmark (11 May 1967).

If Spotted Redshanks have a flight range of 2,000 km from Great Britain it is surprising that there are three recoveries from France, all within six weeks of ringing, as the birds could have reached the North African coast in one hop. If Tucker's estimate is accurate they would then need to attain a weight of 230 grams to make the trans-Saharan flight and it may be an advantage to Spotted Redshanks to make short hops maintaining a high weight until they have to make the trans-Saharan migration. However, until more consensus is achieved in methods of estimating flight range interpretation of migration strategy remains highly speculative.

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Details of omissions to Mike Pienkowski, please.

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