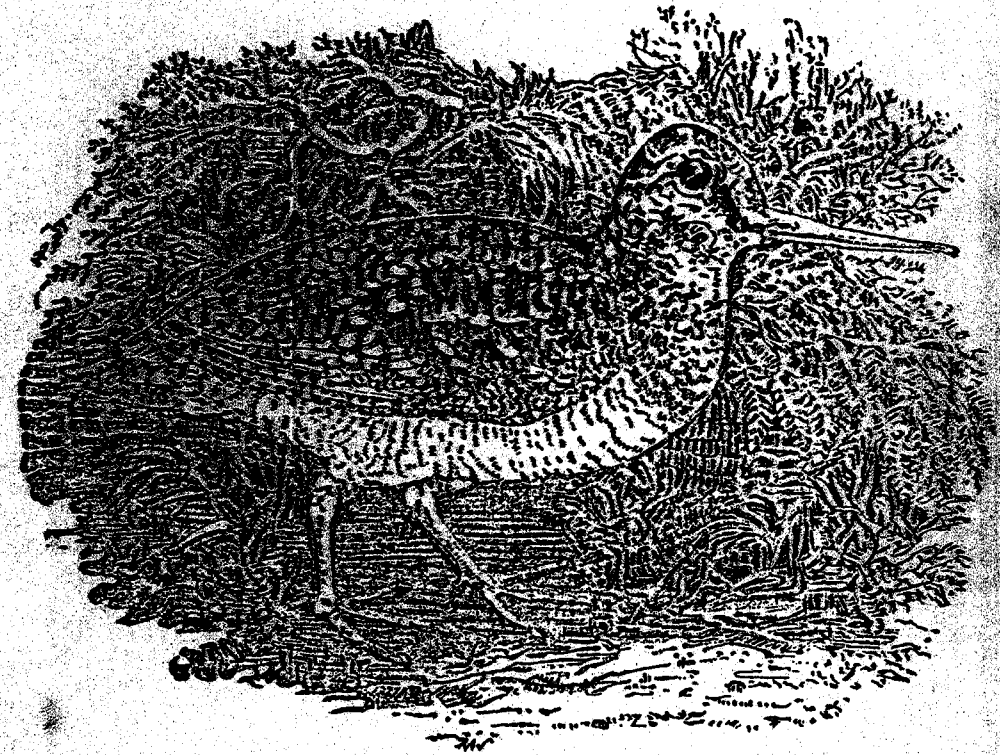


INTERNATIONAL WATER OWL RESEARCH BUREAU ^{fs.}

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WOODCOCK RESEARCH GROUP



NEWSLETTER NUMBER ONE

OCTOBER 1975

£1.00

Newsletter 1

October 1975



I.W.R.B. WOODCOCK RESEARCH GROUP

(founded January 1975)

CONTENTS

Title	Pages
Introduction	1
Meetings attended	2
Research in Norway, Sweden and Ireland	3
Report of Woodcock Research Group to 21st I.W.R.B. Executive Board Meeting, Stockholm 1975	5
Variations in hunting and conservation of woodcock 1974	7
Extracts from Ib Clausager's letters	11
New Ageing guide for waders (Wader Study Group)	11
Clausager's method for ageing woodcock from wing feathers	11
Diagram showing dissection of Bursa of Fabricius	12a
Catching woodcock during the breeding season	13
Sitting birds in Sussex	15
Methods used in finding, capturing and marking woodcock in Hurdal, Akershus County, Norway	16
Diagrams: how to affix patagial wingtags	16a
an abnormal clutch of woodcock eggs	16a
Marking adult woodcock with wing tags and plastic markers	17
An unusual clutch	17
Papers presented at meetings, in press, or published since the summer of 1974	17
Woodcock wing collection	20
Sex determination in woodcock by dissection	23
Diagrams	23a,b
Measurements	24
Diagrams	24a
On reproduction of the European Woodcock	25
Names and addresses of members	27
Late communication: wing collection	28

- 1 -

Introduction to Newsletter.

The first brood of the WRG has hatched. The rate of survival and increase will depend on YOU. We can't afford predators and parasites. Guard against being snatched away to work on a lesser species. Support the group actively.

Many thanks to those of you who contributed to this Newsletter. Costs limit us to approximately ten pages for a free issue, but a better production, twice a year, might be possible if members paid 50p annual subscription. Your comments please.

We are a self supporting group and members must rely upon funds or grants available to them in their own countries. The formation of a national club in countries having a number of members will help to centralise correspondence and as Co-ordinator I should be grateful for this. I read English, French and Spanish easily, Italian and Portuguese less easily, and all other languages have to be translated. If you write to me in German, months may pass before you get a reply.

If you don't like this Newsletter, explain what you want instead. The next issue will contain research programmes from France, West Germany and Iran; and the use of wing material for toxic chemical analysis.

Good fortune in your work, in your search for new members, and the establishment of a woodcock group in your own country.

Monica Yizoso Shorten,
C/o Unit of Invertebrate Virology,
South Parks Road,
Oxford,
England.

Now at: 12 Hayward Road, Oxford.

Meetings during 1975.

- June IWRB XX1st Executive Board Meeting, Stockholm.
Present: B. Stronach, J. Swift.
Summary: The Co-ordinator's report was presented to the Board. An appeal was made to delegates to support the group in their own countries and to encourage new members to take an active part. Many of the delegates saw 'roding' woodcock on an evening fieldtrip.
- June Migratory Birds Commission of CICCg (Conseil Internationale de la Chasse et de la Conservation du Gibier), preliminary meeting, The Zwin, Belgium.
Present: M. Vizoso Shorten.
Summary: A successful appeal was made for time to describe the aims of the WRG and its progress at the General Assembly of CICCg, and to ask members for their support and co-operation.
- August Wader Study Group Conference, Liverpool.
Present: F.P. Errington, M. Vizoso Shorten, J. Swift.
Summary: This meeting gave an excellent opportunity for us to meet wader research personnel from the UK and other countries. Peter Errington gave a talk describing the peculiar difficulties encountered during research on our wader, and the conflicting accounts in the literature. He urged members to ring more woodcock. The need for census techniques was stressed by University representatives who felt that no sponsored research was likely before successful techniques were available.
- September CICCg General Assembly, Paris. Migratory Birds Commission.
Present: M. Vizoso Shorten.
Summary: A twenty minute talk, with slides, on the need for research to provide the game manager, legislator and sportsman with a scientific basis for decisions on hunting and habitat. A very favourable reception, and valuable personal contacts with interested parties from many countries, among them Poland (at last!)
- September IWRB Resource Harvesting Division, Paris.
Present: B. Stronach, J. Swift.
Summary: This meeting gave us a further opportunity of presenting the WRG's aims and of urging the delegates of the need for woodcock kill statistics. After Dr. Harrison's talk on wildfowl wings we were able to make a plea about the collection of woodcock wings and suggested that the wings should be sent either to John Swift or Brian Stronach.

Woodcock Research in Norway

The Direktoratet for vilt og ferskvannsfisk, a Division of the Norwegian Ministry of Environmental Conservation, has had a field research programme on the woodcock since 1956. The objectives are:

1. To determine nesting success and clutch size.
2. To determine growth rate of chicks.
3. To determine the productivity of the woodcock.
4. To determine the utilization of habitat types by woodcock chicks.
5. To determine the movement of woodcock broods.
6. To determine the migration routes and winter range of woodcock.

Work is based on Hurdal in Akershus County, South Norway. The research leader is Arne Krafft and he is assisted by Asmund Bjrhus. A general aim of the programme is to establish a suitable hunting format.

Woodcock Research in Sweden

The Swedish Hunter's Association supports a research programme which has been conducted for five years or more by Prof. Dr. Vidar Marcström, mainly in the neighbourhood of Öppsala. The objectives are:

1. To explore the factors which regulate the woodcock's breeding density, with particular reference to male woodcock.
2. To rear woodcock in captivity for study purposes.
3. To identify and record amounts of toxic chemical residues in carcasses of shot woodcock.

Woodcock research in Ireland

This country has both resident breeding and migratory wintering birds. In 1965-66 the close of the shooting season was fixed at 31st January, whereas before it had been 28th February. This move initiated the first research programme on woodcock in Ireland, it was undertaken by the Agricultural Institute for the Forest and Wildlife Service of the Department of Lands. Its objective was to measure the reproductive condition of birds shot in February. The programme was started in 1971 and is still in progress. The FWS contributed to an investigation of methods for distinguishing between male and female woodcock, and first year and older birds, using external characteristics (McCabe and Brackbill, 1973).

Two further aspects of woodcock biology have been examined:

1. An attempt to separate geographical races using electrophoretic techniques.
2. The determination of external characters for sex differentiation.

The Forest and Wildlife Service is now pursuing a more comprehensive study of the woodcock. The objectives of the study are chosen with a view towards management and hunting regulations:

- (a) To determine the seasonal distribution of the species in relation to habitat.
- (b) To determine methods of censusing the population on its summer and winter grounds.
- (c) To investigate the breeding and breeding behaviour of the species.
- (d) To obtain data on the survival/mortality rates, on local movement and on migration of the species.
- (e) To continue investigations into:

1. Gonad development.
2. External characteristics distinctive for either sex.
3. Immature/adult and immature/female ratios, for hunting regulation purposes.

Forest and Wildlife Service, Department of Lands, Dublin. August 1975.

I.W.R.B. XXist Executive Board Meeting, Stockholm 1975

Report of Woodcock Research Group

1. National Representatives, Delegates and Correspondents of IWRB have been sent a letter describing the aims of the Group and requesting their help in the selection of national correspondents/co-ordinators. Of 48 who received personal letters, 22 have replied. We hope that the others are waiting only until they have found the ideal person.
2. We already have working members in Denmark, France, West Germany, Ireland, Norway, Sweden and the U.K. Some of us were able to meet and exchange ideas during the 5th American Woodcock Workshop last December. This international conference on woodcock research and management includes one afternoon devoted to European Woodcock (Scolopax rusticola), during which 7 papers were presented. We were most encouraged by the considerable achievements of our American and Canadian counterparts over the past 10 years, and by their confidence that many of the problems hampering research on Scolopax rusticola can now be solved if the effort is made.
3. The long-term aims of the Woodcock Research Group are to identify different population segments, determine their annual status, and evaluate the effects of shooting and natural mortality factors upon abundance. Five regular surveys would be needed to fulfil such a programme, and in no case could valid estimates be obtained without preliminary research. To ignore this would be to risk great waste of effort and money. The five surveys would measure:
 - (i) Population size (preferably of breeding birds)
 - (ii) Productivity (immatures per adult female)
 - (iii) Total annual harvest (using a range-wide uniform sampling frame)
 - (iv) The proportion of the population harvested (using ringing data)
 - (v) Survival rates (including that between hatching and first migration).
4. Our agreed research priorities, and the long-term aims they will serve, are shown below:
 1. Efficient techniques for live-capture, marking, observation; for finding nests and broods (i, ii, iv)
 2. Studies with marked birds throughout the breeding season to reveal characteristic breeding behaviour of male and female (i, ii, v)
 3. Reliable distinction of either sex from plumage (preferably on wing) or from some other external feature (ii, v)
 4. A great increase in the number and distribution of woodcock ringed, especially as chicks and on winter grounds (iv, v)
 5. Investigation of the characteristic rate and causes of mortality between hatching and the first migration or start of open season (ii, v)
 6. Practical and uniform methods to be devised for sampling and assessing the annual hunting harvest (ii, iii, iv)
 7. Preservation of wings from woodcock of known sex and age-class, for reference purposes; discovery of practical means of collecting a yearly sample of wings to show the composition (by sex and age) of the annual kill. (ii, v)
 8. Surveys and comparisons of woodcock habitats to find essential features of nesting, brood-raising, late summer and winter habitats; comparison of diurnal and nocturnal cover requirements.
 9. Investigation of important causes of mortality and population decline, other than hunting.
 10. Discovery of methods for judging the number of woodcock using an area, or for obtaining a comparative index (i)

5. These aims and priorities are reflected in the work programmes of our active members. In DENMARK Dr. I. Clausager has completed his valuable 5-year studies of the Breeding season, breeding distribution, annual kill, migration, and determination of age and sex. He will now be working mainly on pheasants, but hopes to continue an annual collection of primary feathers from shot woodcock to maintain a regular survey of the age composition of the kill and thence an index of breeding success. In FRANCE Prof. Charles Fadat plans to devote all his time to woodcock research now that he has shed some of his responsibilities for the C.N.B. and La Mordorée. He will be organising and supervising a countrywide network of trained hunters who will send in wings and precise data about the birds from which they came. He hopes to find time to analyse food remains and to identify parasites. The use of parasites as markers to indicate the country of origin of birds killed on passage or while overwintering is to be explored. In WEST GERMANY Günther Nemetschek is conducting a 5-year study of woodcock biotopes, density, distribution, annual kills, and breeding behaviour. In the UNITED KINGDOM John Swift is organising the woodcock wing collection and preparing to analyse the results; Grahame des Forges is studying incubation behaviour and plans to extend his work to include other aspects of breeding behaviour once his automatic recording system is working and allowing him more time; Monica Vizoso is gathering data from shoots throughout the country on many different aspects of woodcock shooting and breeding. In IRELAND Brian Stronach and his associates reported last year on their studies of the breeding condition of male woodcock in February, on a refinement of Clausager's method for distinguishing the sexes by the tail : bill measurement ratio, and on an attempt to test the truth of the belief that two different races of woodcock exist in Ireland, by using electrophoresis of breast muscle. A description of work in Norway and Sweden is given on page 3 of this newsletter.

MEMBERS PLEASE CHECK FOR ACCURACY, AND REPORT

Variations in hunting and conservation of woodcock

Summarised from a questionnaire

circulated by the Game Conservancy in 1974-5

- Belgium
(Lippens) Number of hunters, average kill, unknown; variable. Perhaps 10-15 thousand. Breeding 10 March on, peak mid-March to mid-April, continues to July, August. Perhaps 600 br. birds, mostly Ardennes. Open season 15 Oct - 31 Jan; most shot with pheasants Nov-Dec., highest kills in Flanders, Antwerp & central Belgium. No bag limit; shooting only. Hard winter closure possible. No specific refuges for woodcock on migration, no toxic chemical scrutiny or habitat management. Benelux liaison. Marketed, import and export (mainly France).
- France
(Fadat) 100 to 200,000 hunters; average kill probably exceeds 200,000. 70% shot in autumn, 70% à la passée. Breed early March to late August, number unknown, S. to Landes. Open season Sept. to 1 Jan or 31 March. No bag limit. Shooting only, dog & gun (releve), a la croule or a la passee (illegal since 1963); hard weather closure possible; no toxic chemical scrutiny; no refuges, no habitat management or official liaison. Marketed; imported from Spain, Austria, Albania, Greece.
- Netherlands
(Spreen) Number of hunters and average kill unknown: 2 per 100 ha forest? Breed mid-March to August. Open season 15 Oct to 31 Jan. No bag limits. Shooting only, one smooth barrel. Hard weather closure possible; no specific refuges or toxic chemical scrutiny or habitat management or liaison. Marketed, but 'hardly obtainable from game dealers'.
- Luxembourg
(Gillen) About 50 of 2,600 hunters specifically interested in woodcock; average kill about 100. Breed early March to August. Open season 1 October to 31 January. No bag limit; shooting only. Hard weather closure possible; no toxic chemical scrutiny, conservation or management. Benelux liaison. No sales, import or export.
- United Kingdom
(Shorten) Number of hunters and average kill unknown. Breed early March to August, peak 26 March - 5 April. Open season 1 Oct to 31 Jan. Shooting only, dogs, sometimes beaters, used; many 'accidentals'. No bag limits. Hard weather closure voluntary. No special refuges, very little toxic chemical scrutiny, habitat management on private estates only, some liaison, marketed, little import or export.
- Ireland
(Stronach) Number of hunters and average kill unknown. Breed, as UK. Open season 1 Sept. to 31 Jan. No bag limits Shooting only. Hard weather closure possible. No specific refuges, no toxic chemical scrutiny (planned), very little habitat management, liaison with UK. Tourist shooting marketed, exported.

W. Germany Hunters about 30,000, average kill about 20,000. Breeding numbers and dates being investigated. Open season mid-Oct to mid-April (Landern) but ends 31 Jan in some areas. (Spittler) Spring shooting v. popular; only flying birds shot, no flushing or dogs. In autumn driven, flushed by dogs. Use of nets and traps legal but not used. Two-thirds of year's kill in autumn. No bag limits. No hard weather closure, toxic chemical scrutiny, refuges, habitat management or liaison. Marketed, but not common; import/export unlikely. Note: owners of hunting rights send record of kills to Game Information Dept.

Austria No information on hunter numbers; about 5,000 a year killed including snipe. No breeding information. Open seasons encompass 1 Sept to 30 April (being reduced). No bag limit? (Bauer) Methods unknown. No hard weather closure, refuges, toxic chemical scrutiny, habitat management, liaison. Virtually no sales, but pass through from E. Europe to France.

Czechoslovakia Number of hunters unknown, average kill 5,900. Several 1,000 pairs breed, late March to late July, peak first half of April. (Hudec) Open season 16 March to 15 April. No legal bag limit. Hunters' Association urges limit 'One hunter one bird in the season'. Shooting only, on evening flights no hard weather closure, no refuges, toxic chemical scrutiny, habitat management, liaison. No marketing.

Poland Open season to late May.

Switzerland Number of woodcock hunters unknown; federal statistics show 1,000 to 2250 annual kill, mostly in Ticino canton. Breeding numbers, distribution and dates in press. Open season Sept. to Dec. no bag limit. Shooting only may give total protection eventually. Hard weather closure possible. No refuges, toxic chem. scrutiny, habitat management, or liaison. No reply on marketing. (Leveque)

Italy Number of hunters unknown, kill unknown; 'res nullius'. Breeding rare, N. Italy. Numbers and dates uncertain. Open season late August to 28 Feb. Woodcock present in general only from Oct to March. No bag limits. Shotgun only. Hard weather closure exceptional; no toxic chemical scrutiny, habitat management, or liaison. Refuges closed to all game shooting. Import limited (from E. Europe). (Leporati)

Yugoslavia Number of hunters unknown, kill perhaps 8,500. Breed, little data. Open season from 1975 ends 28 Feb in 6 of 8 Republics, in others until 15 April; begins Aug or Sept. Shotgun only. No liaison. (Mina Adamic)

Hungary 2,000 to 3,000 hunters, average kill 800. Breeds rarely, late March or early April. Open season 1 March to 31 March. Bag limit 2 per outing, shooting only. Hard weather closure, possible. No refuges. No sales, no import/export. (Szabolcs)

Greece About 10-15% of 243,000 hunters take woodcock. Kill unknown, not great. No breeding. Open season 10 Sept to 10 March, but woodcock there 10 Dec to 28 Feb only. No bag limit; shotgun only. Hard weather closure. Game bird refuges. No toxic chemical scrutiny, habitat management, liaison. Import/export strictly prohibited; no sales. (Clossas)

Romania Number of hunters and average kill unknown. Breed: number and dates uncertain. 11 nest per 200 ha'. (Kiss) Open season 1 Sept. to 30 April. Bag limit 40 per day, by shooting with dogs and driving. No hard weather closure, toxic chemical scrutiny, habitat management, liaison. Possible wetland refuges. Too few to be of commercial interest.

Bulgaria About 30,000 hunters, average kill about 5,000. Breeds rarely, numbers and dates uncertain. Open season from August to 28 February. Sporting arms used. No hard weather closure, toxic chemical scrutiny, habitat improvement, refuges, liaison. Sales illegal. (Dontchev)

Malta At a guess, 6,000 hunters, average kill about 500. No breeding. Open season all year, shooting uncontrolled. Not a common species, but more than 40 seen in 1 day during November migration. (Sultana)

Spain Number of hunters and average kill unknown, variable. Breeds rarely in Cantabrica and Pyrenees, number and dates uncertain. (Bernis) Open season Oct-Feb inclusive. No bag limits. Dog and gun only. Hard weather closure possible, no refuges, toxic chemical scrutiny, habitat management, liaison. No import/export, but sold in market.

Portugal Number of hunters and average kill unknown. Breeds only on islands, rest leave in March. Open season 1st Sunday of Oct to 3rd Sunday in Feb. Bag limit 3 per hunter per day; Sundays, Thursdays and Fete days only; bird dogs and shooting only, no beating or driving. No hard weather closure, refuges (except Geres), toxic chemical scrutiny, habitat management, liaison. No import/export, few sales. (Ferreira)

Iran Number of hunters and kill unknown. Believed to be no breeding; present Oct to March, a few in April. Open season 23 Sept to 20 March. Bag limit 15 per day. Only shooting legal, but still snared and netted. Hard weather closure voluntary, ignored. Refuges on Reserves of Dept. Environment. 'Waterfowl and Shorebird' licence needed. No toxic chemical scrutiny, but planned. No habitat management, liaison (planned with USSR), Marketed. (Scott)

Cyprus Shot mid-Nov to mid-Jan. Kill 1 per 3 hunters per outing. Number of licensed hunters 22,700 (1973-4). No breeding. (Leontiades)

Turkey Number of hunters and average kill unknown. Mainly wintering species, May breed No. coastline. Open season mid-Sept to end of March. Snaring and netting No export since 1963. (Bayer)

Denmark 8,000 to 9,000 hunters kill 20,000 in average year. Hunters' licence depends on kill record return. Breeds early March to August, peak mid-March to mid-April. Open season 24 Sept to 31 Dec. No bag limits. Shooting only. No hard weather closure, refuges, toxic chemical scrutiny, habitat management, liaison. Sold and exported, especially to France and Italy. (Clausager)

Sweden Number of hunters unknown, average kill unknown. Breeds. Open season 16 July to 31 Oct (north) Or 30 Nov (south). No bag limit. Shooting only, including 'a la croule'. Hard weather closure not necessary; no refuges, toxic chemical scrutiny (planned), habitat management, or liaison. Some marketed, import/export unlikely. (Marcström)

Norway Number of hunters unknown; average kill 7,000 legal, plus 3,000 illegally in spring; breeds March to August, perhaps 50,000 breeding females; practically all leave in October. Open season 15 Sept to 23 Dec. No bag limits. Rifle and shotgun. No hard weather closure, refuges, habitat management. Little toxic chemical analysis done; Scandinavian liaison through Nordic Collegium. Used to be marketed and exported; probably not to-day.

Finland 100 to 200 hunters get 1 bird or more in autumn; average kill 300 - 500. Kill statistics collected from every hunter. Breeds late April to late August. Number of breeding birds estimated at 16,000 but may be only 9,000. (pairs) Open season 10 Sept to 31 October. Woodcock leave in Oct-Nov. No bag limits. Duck-shooting methods permitted. No hard weather closure, refuges, toxic chemical scrutiny, habitat management of liaison. No sales, import/export.

Iceland Not hunted. Seen regularly. Present in breeding season in very small numbers. Maximum Oct - Dec. Up to 7 seen at one time, but usually fewer than 10 seen a year.

Monica Vizoso Shorten

Replies still needed:-

Nets and Snares

- | | |
|-------------------|----------------------------------|
| 1. Poland | Albania? |
| 2. E. Germany | Turkey? |
| 3. Albania | Iran - illegal but practised |
| 4. Morocco | W. Germany - legal not practised |
| 5. Algeria | Greece - "shotgun only"? |
| 6. Tunisia | Austria - "methods unknown" |
| 7. Cyprus | |
| 8. Crete | |
| 9. Egypt | |
| 10. Baltic States | |
| 11. USSR | |
| 12. Turkey ? More | |

Shot during breeding season:

- Sweden
- W. Germany (Landern)
- Austria
- Czechoslovakia
- Hungary
- Poland
- Rumania
- Yugoslavia
- USSR
- Baltic SSRs
- Bulgaria
- Italy
- Turkey
- N. Africa
- Iran

Woodcock marketed:

- Sweden
- Denmark
- W. Germany
- Netherlands
- Belgium
- France
- Ireland
- U.K.
- Portugal
- Spain
- Cyprus
- Iran

Export:-

- Denmark → France, Italy
- Belgium → France
- Ireland → UK, Switzerland
- E. Europe → Austria (transit) → France

France claims imports from Spain, Austria, Greece and Albania. Spain 'no', Austria 'virtually no sale', Turkey stopped 1963, Greece 'strictly prohibited'.

Copy of extracts from Ib Clausager 10.6.75

1. I have not heard of pheasants laying eggs in woodcock nests.
2. Finding and measuring the bursa. This can only be done with dead birds; remove some of the feathers around the cloaca. Put the bird on its back, insert a knife into the cloaca with the cutting edge towards the bird's ventral side; cut 1-3 cm (sic), remove the knife and bend the small flaps out to either side. Select a seeker with one end having a round head and the other a flat blade: remove any faeces by scraping from in front backwards. Use the round head to search for the bursal aperture in the dorsal wall of the cloaca from behind and forward (sic). The bursa, if there is one, will be found opposite to where the cut was made. The depth can be measured by gently pushing the seeker in until it goes no further, making the position on the seeker where it emerges from the aperture, and after withdrawing the seeker measuring this length against a ruler.
3. Concerning ringing of chicks I suppose I have got quite a good idea. The ring is too large for the newly hatched chick, therefore I put a thin layer of wax (in Danish "gardenwax") inside the ring. It is some sort of very fine clay the gardeners use when they are making flower decorations. (Sample enclosed). Now the chickshave well-fitting rings and as they grow the wax becomes worn and lost so that the ring fits the fully grown bird. When a nest is found, I put a small fine-meshed fence around it at a distance of about 2 metres (3-4 m diameter with the nest in the middle) After hatching all the chicks can be caught for ringing, and then the fence is taken away.
4. In the spring we trapped 26 woodcock on migration - a new record for Denmark in the spring. I used the traps described by Bub (fall-traps of nylon mesh stretched over a wire frame: set on alternate sides of a guide fence of netting about 18 ins high and operated by a trip thread). 60-70 woodcock have been caught in a season using these traps in Denmark.
5. Certainly I will be the Danish correspondent for the WRG, but at the moment I am the only one doing serious work on this species and I no longer can spend much time on it. If I find someone with interest and possibilities I will give as much help and advice as possible.

New ageing guide for waders (United Kingdom) Wader Study Group

The basic analysis for this guide should be completed by this autumn, and the final text completed by the end of 1975. It will probably be published by the British Trust for Ornithology; enquiries about its progress can be sent to A.J. Prater, B.T.O., Beech Grove., Tring, Hertfordshire HP23 5NR, England. The scope is to be wide, covering details of ageing, sexing, biometrics and moult for all reasonably frequent Palearctic waders found in the west. Brief notes will be given on ALL Palearctic and northern Nearctic species to enable them to be aged and sexed.

At the time of writing, the Woodcock has not yet been examined. Only 2 of the first 40 species examined were found to raise problems (Long-billed Ringed Plover and Killdeer). The discovery of a plumage character on the Woodcock's wing which will distinguish males from females may be just a few weeks away

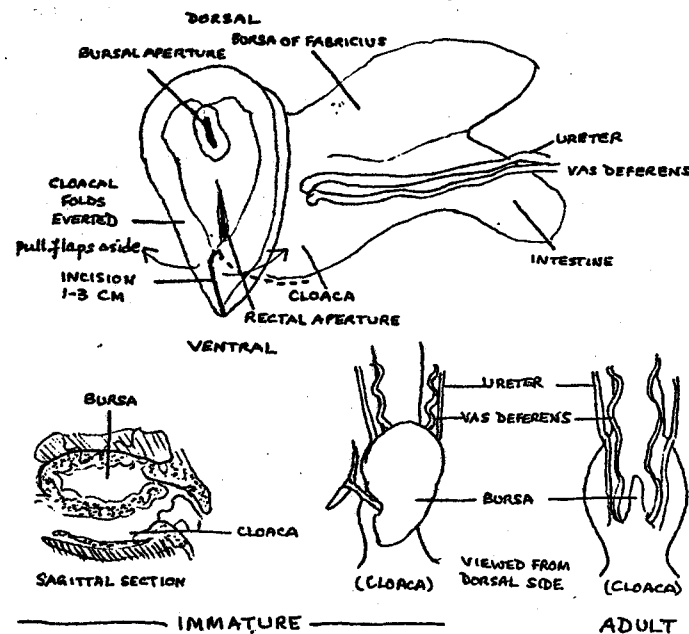
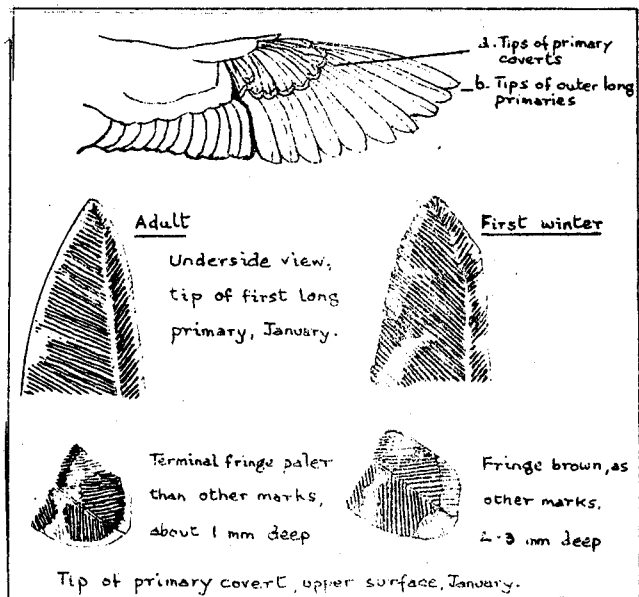
Clausager's method for ageing woodcock from wing feathers

A full account, with photographs and with descriptions of other diagnostic characters for the separation of birds in their first year of life (valid until April of the year following), is given in:

Clausager, I. (1973) Age and sex determination of the Woodcock (*Scolopax rusticola*). Danish Rev. Game Biol. 8 (1): 1 - 18 (in English with Danish & Russian summaries).

During the period October - January adult woodcock have primary feathers which have only been exposed to wear for 1 - 4 months while young woodcock (which do not lose primaries in their first summer) have usually had these feathers exposed to wear for 3 - 8 months. The structure of the primary feather is more robust in adults, and wear still leaves the feather with an even edge; in young birds the barbs break off in pieces of varying length and the feather has a frayed irregular edge at the tip and along the inner vane. Wear is most evident on the three outermost long primaries and can be seen best when the last inch of these feathers is held against a black background and viewed from the underside using a hand lens. The indentations caused by wear may be up to 2 mm deep, but in some cases they are not immediately obvious (probably when the bird comes from a late clutch). However, the unworn edge of a feather from a young bird has a woolly look due to a difference in the way that the barbules branch from the barbs. Most adult primaries still appear unworn in March-April, so this age guide could be useful for ageing birds netted for marking before any study of breeding behaviour.

The terminal bar on the primary coverts affords an even easier method of separating young birds from adults (see diagram).



After Godin (1960) The location and appearance of the bursa and related structures in the California quail.

Dissection showing Bursa of Fabricius

Catching woodcock during the breeding season

I have spent about 840 hours during the past 4 breeding seasons watching woodcock in the same wood. During much of this time I have had mist nets set for them. From my experiences I can perhaps simplify the task of anyone wishing to catch woodcock during the breeding season.

The roding flight of the Woodcock may be well-known, but many facets of it are poorly documented. The evening flights last for 30-60 minutes and seem invariably to include a brief pause when woodcock land in some open space. Such landings can occur at any time during the evening flight and persist as a feature of it throughout the roding months. Woodcock also land during morning flights but I have fewer observations of this.

Most of my records refer to a 35.6 ha broadleaved woodland and to a single rectangular clearing within this, 100 x 80 metres in extent. At least 5 landing sites are used here, and since each has arisen from a bonfire in the winter months they are quite small, about 2 metres in diameter. The woodcock seem to prefer such landing sites, which have very little ground cover. There is a favoured flight path to each site, offering an unobstructed approach. The wood contains several other clearings and a number of grassy tracks. It is surrounded by pastures, arable fields and other copses and woods.

During 1975 I watched the clearing on 30 evenings and counted 10 landings. On some evenings 2, and once 3, birds landed but usually only a single bird would land. Thus I came to expect one landing here for every 3 nights of watching. My previous 3 years of watching supported this expectation. I saw the greatest number (6 landings) in the clearing one evening in 1973. That same year a party of observers watching at 11 sites in a very different habitat of conifers, bracken and heather saw 3 landings during the evening of 31 May.

Birds usually approach the clearing croaking in flight and then glide in silently to land. The glide path is often 100 metres or so in length. All the birds that I have seen land have stood quietly at the landing spot and then after 1-2 minutes flown away, usually along the original flight path. I have never noticed any landed bird react to a roding woodcock passing overhead.

Thus, by keeping watch in suitable clearings, landing sites can be found and at these sites nets can be set up and birds caught. The net should be set at right angles to the probable flight line and at the forward edge of the landing site. I try to position at least one of the supporting poles and part of the net under a tree, or very close to a bush or sapling, so that the net and poles are less obvious when viewed from above by the bird. Much of the evening roding flight may occur in good light and birds repeatedly cross the nets and may see them. Later in the evening when landing they may avoid such sites. Nets are certainly much more obvious to human observers when viewed end-on or in plan form. Before the evening flight starts, all nets must be in position.

It has been suggested that females on the ground utter a characteristic call in response to that of the roding bird, and that taping of such a call, or of any distress call, and subsequent playback at the net might improve catching success. I have not tried this here.

Standard mist nets are not suitable as they seldom retain woodcock that strike them. The mesh size seems too small to catch around any part of the bird. Wader nets work well - the bird is, after all, a wader - but I have had the best results using a 4-shelf nylon fowling net, 13 x 2 metres with a 10 cm mesh, kindly supplied by Dr. Fant Martin of the U.S. Fish and Wildlife Service Office of Migratory Bird Management. If the net is placed too close to the landing site the birds strike with very little forward velocity and tend to drop into it vertically. They usually strike within 1 - 2 metres of the ground. If the net is moved back along the flight path it needs to be set much higher (most of the approach flight is at least 4 metres above the ground) and added difficulties are that it is then more conspicuous and it is harder to ensure that it lies across the flight line.

Why do we need to catch woodcock during the breeding months? In my experience the method described catches roding birds and these are presumably males (vide Marcström) so that any disturbance to females should be indirect and minimal; the male supposedly takes no part in incubation or care of the chicks. Taking roding males allows some marking system to be used which would permit a study of individual roding behaviour, to ascertain the true nature and significance of roding. At the same time the success rate in capture/recapture work will provide the crucial feasibility study before any decision to use radiotelemetry. RT is expensive and should not be employed unless one is confident that transmitters can be recovered for servicing and for battery replacement, and there are warning signs that radiopacks may cause atypical behaviour as reported in American studies of *Philohela*. It is important to have efficient catching methods and a general knowledge of behaviour without radiopacks before turning to radiotelemetry.

At present all reports on roding behaviour refer to unmarked birds and assume that there is some definite patrolling of a breeding territory by the male. Such territories have been mapped by joining various segments of observed flight lines over the habitat. The data that I have seen presented by other authors, and certainly my own field records, suggests that the most optimistic draughtsman would be unable to show any circuit by this method, Tester & Watson notwithstanding.

Catching birds in the way described would obviously be useful in any study of breeding behaviour where marked individuals are needed. It would indicate just how site-faithful the breeding population is throughout any particular season and from year to year. I have two instances of site-faithfulness on my own study area from ringed birds, one having been caught at the same place a year later and another after 2 years.

Footnote: After examination, measuring, and marking, woodcock should be held quietly on the ground in an open space and in the dark for about 2-3 minutes before being released.

F.P. Errington.

Sitting birds in Sussex

Having watched the day-time activities of an incubating woodcock in 1975 I hope to extend the observations in 1976 so as

- (1) to augment the data and
- (2) to discover the behaviour during hours of darkness.

This should be readily possible by using a thermistor inserted in the nest in conjunction with a continuous chart recorder. This has been done in the U.S.A. by Caldwell and Lindsey in respect of Philohela (unpublished).

If hiding tents are to be used to observe woodcock at the nest, the following points are worth bearing in mind: the structure should be water and wind proof, steady and without 'flap' in wind and capable of quick and easy erection. I have used a light metal framework the height of which can be adjusted and a heavy canvas cover made to fit the frame. This can be put up in less than 5 minutes. Since the bird should be completely at ease it is best to put the hide at a distance to the nest, if possible. The optimum is the distance down to which one's binoculars will focus. Apart from being able to see the bird sitting regard should also be had to overlooking any area likely to be used by the bird when feeding. This is probably the closest patch of damp ground with no more than a covering of short grass. The distance I have used was some 9m and it was possible to enter and leave the hide without disturbing the bird. On the other hand there are a number of accounts by bird photographers who have erected their hides much nearer to the bird finding that it froze motionless - in one case for 4 hours 'without moving a feather'.

Any experience of using a lamp with a red filter for night observation would be valuable. Purely nocturnal birds (and animals) seem not to notice a red light. The alternatives of infra-red light with appropriate telescope and light-intensifying glasses are both very expensive and cumbersome. Theoretically the question could be answered tentatively by knowing the structure of woodcock's eye. Has any work been done on this?

G. des Forges.

METHODS USED IN FINDING, CAPTURING AND MARKING WOODCOCK IN HURDAL, AKERSHUS COUNTY, NORWAY.

Study Area

The woodcock study area is situated around Hurdal Lake in Akershus County in the southeastern part of Norway. The area consists of approximately 80 per cent productive forest. The rest is made up of bogs, water and arable and pasture land. The coniferous forest type is characteristic of this part of the country.

Locating and Capturing Newly-Hatched Chicks at their Nest

During the study the writer has captured and marked newly-hatched chicks just before or after the brood left their nest locality. The nests were found accidentally by forest workers, and by the marking crew (two persons) using a pointing dog, (English pointer and setter and German shorthair pointer).

The stage of incubation of the eggs was in most cases determined by floating. Knowing this the approximate date of hatching was calculated.

This method has worked well chicks being easy to locate and easy to capture by hand or with a hand net. The hand net used was 60 cm in diameter with a handle 2.5 m long.

Locating Broods with Dog and Capturing Chicks by Hand or Net

The broods were found and pointed by a trained bird dog. If the chicks were unable to fly they were usually found close together and they were easy to catch by hand. Older chicks, able to use their wings, were found much more scattered, and great care was taken that they were not stepped on. Older chicks were commonly taken by hand, but a hand net was useful. Commonly the individual chicks of the brood were located by the dog. Sometimes only a few were found. If these started to "peep", it helped in locating the ones still in hiding because they often would answer. This method produced good results until the chicks reached an age of about 3 weeks. If older they were extremely difficult to catch.

Locating broods of woodcock with a pointing dog, and capturing chicks by hand or with a hand net is the best method yet devised in the study area.

Marking with wing-marks

The woodcock chicks were marked with a wing mark. This method of marking made it possible to mark even newly hatched chicks.

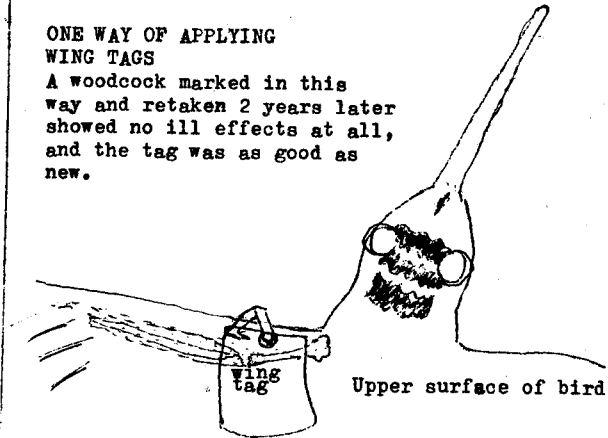
The wing mark is a small aluminum plate approximately 10x10 mm provided with a steel pin, the whole shaped like a safety pin. A number and return address are stamped on the plate. The pin is fastened to the front edge of the elastic skin (patagium) between the humerus and the radius and ulna. When the pin is fastened it is pressed down into the groove of the metal plate and this is pinched together with a small pair of pincers.

Anne Krafft

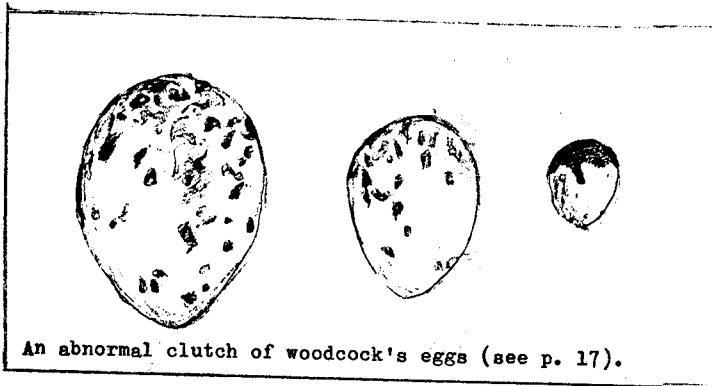
August 21, 1975.

ONE WAY OF APPLYING WING TAGS

A woodcock marked in this way and retaken 2 years later showed no ill effects at all, and the tag was as good as new.



To apply patagial wing tags: make sure pin passes through skin in front of wing bones. Leave 1/8 inch of tag projecting in front of wingfeathers on leading edge. Remove if any trace of blood (Tag will have passed through a blood vessel).



An abnormal clutch of woodcock's eggs (see p. 17).

MARKING ADULT WOODCOCK WITH WING TAGS AND PLASTIC MARKERS

These metal tags are used for pheasants (5-8 weeks old) and partridges (6-10 weeks) but have been used with success on adult woodcock. One bird was retaken more than 2 years after marking and neither the bird nor the plastic marker showed any sign of wear.

Special pliers are available from the Game Conservancy, Fordingbridge, Hants SP6 1EF, England, and numbered and lettered tags are also available from the same source. Prices are in the region of 250p for pliers and 4p per tag, but this should be checked before ordering.

Fixing The tag is clipped on to loose tissue on the leading edge of the wing, avoiding piercing veins or muscle. Do not place the tag quite flush with the leading edge of the wing: about 1/8 to 1/4 inch should project.

Stout plastic for making markers can also be supplied, with woven thread interior.

An unusual clutch

A woodcock's nest containing 3 eggs was found on a Hertfordshire estate on 25 March 1975. One egg was the normal size, one about the size of nightjar's egg (*Caprimulgus europaeus*) and the third measured 12 x 16 mm. The average size of 100 British eggs was 33.5 x 44.2 mm (Witherby et al., Handbook of British Birds). The clutch was removed from the nest and photographed on 29 March and the smallest egg was removed. Incubation continued until 11 April, at which time the large egg was chipping, but on 13 April the nest was found deserted, the eggshells crushed and the chick flattened. The keeper was confident that all 3 eggs had been laid by the woodcock.

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La Mordorée nos III (:16-28, 32-35) and 112 (:13-19) contain comptes rendus for the 1973-74 hunting season in Morocco, Italy, Greece, Sweden, Romania and France. La Mordorée 114 :8-12, 19-21, has accounts of woodcock migration observed both in France and elsewhere during 1974-75.

WOODCOCK WING COLLECTION

This project aims to establish the collection of a simple run of data from as wide a range of sites as possible on an open-ended basis. The intention is not therefore to subsidise the hunter's wing returns, since money could not be made available on an open ended basis: but rather to 'involve' the hunter and encourage him to send in his wings - because he feels he is doing something useful and productive. This line of approach may take some time to gather momentum and will, all the time, need frequent and rapid feedback through the hunting association magazines and journals, and also the sporting press.

General

Each wing will be classified as being either first winter or post first winter (i.e. adult) (Clausager 1973).

There will, ideally, be two independent variables (A) and four dependent variables (B) in the final analysis:-

- A {
 - (1. The age ratio of the shot birds at the given time and region
 - (2. The number of woodcock shot by the collecting hunters at a given time and region
- B {
 - (3. the region
 - (4. the time of year
 - (5. the method of shooting (i.e. driven; flighting, over dogs, roding etc.)
 - (6. the year.

Another group of independent variables may be collected relating to weather, namely:-

- 1. Mean monthly temperature.
- 2. Monthly rainfall.
- 3. Number of days of frost in the month.
- 4. Number of days of north winds etc.
- 5. Number of days of gale.

But that can be done later.

Successful interpretation may be limited by the differential mortality to hunting according to age but such bridges can be crossed at the time and in the light of ringing data. (Martin, Greis and Stichel, 1965).

The above groups A and B are ideals.

Instruction to Collectors

Collect whatever woodcock wings you can from wherever they may be.

For each wing we need to know whether:-

- 1. first winter or post first winter.
- 2. the exact location of shooting - or as near as possible.
- 3. the exact date of shooting - or month(year) only will be adequate.
- 4. the method of shooting.

For those people supplying regular samples (either monthly or yearly) of wings (and they should be encouraged) we will need:

- 1. the number of wings submitted in the month (year)
- 2. the number of woodcock shot in the month (year)
- 3. the principal method of shooting.

Collectors - We should seek to set up networks for collection in the following countries:

Norway	Poland	Denmark
Sweden	Czechoslovakia	FRG
Finland		Holland
U.K.	Portugal	Greece
Ireland	Spain	Turkey
France	North Africa	Yugoslavia

References:

Martin F.W., Greis A.D., Stichel W.H.,
Results of Woodcock Wing Collection '59 to '62
J. WILDL. MGMT 1965 29 pp 121 - 131

CLAUSAGER I.B.

Age and Sex Determination of the Woodcock (Scolopax rusticola)
DAN. REV. GAME BIOL. 1973 8, 1, 1 - 18

WOODCOCK WING COLLECTION

NAME OF COLLECTOR _____ (Ref.)					CODE	
ADDRESS _____						

NAME OF SHOOT OR LOCATION OF SHOOTING					CODE	
_____ :LAT _____ :LON _____ : (region)						
METHOD OF SHOOTING _____ (method)					CODE	

	OCT	NOV	DEC	JAN	TOTAL	CODE
N.1st W	_____	_____	_____	_____	_____	
N AD	_____	_____	_____	_____	_____	CODE
RAT	_____ :	_____ :	_____ :	_____ :	_____ : (ratio)	
N.SHOT	_____	_____	_____	_____	_____ (number shot)	CODE

N 1st W = Number of 1st winter wings
 N AD = Number of adult wings
 Ratio = N 1st W : N AD
 N. SHOT = the total number shot during the time
 N 1st W and N AD were being collected.

John Swift

SEX DETERMINATION IN WOODCOCK. BY DISSECTION.

Reproductively birds are slightly different from mammals. To start with their reproductive organs (gonads) are only active just before and during the breeding season. The females have only one ovary which lies on the left side. The males have paired testes. When active the reproductive organs increase greatly in size and bear no relation to what they look like in the winter. For example the testes of woodcock increase from 2 x 10 mm in the winter to approx. 15 x 25 mm for an active testis in the breeding season. The ovaries which consist of many minute ova in the winter measuring less than 0.5 mm each increase to as much as 25 mm. The largest ova are the ones which are ready for egg production, and therefore the size varies. Undamaged testes are very pale yellow in colour (but are blood stained if damaged). The ovary in the winter is white or pale yellow, and has a granular appearance; during the breeding season it looks like a small bunch of grapes.

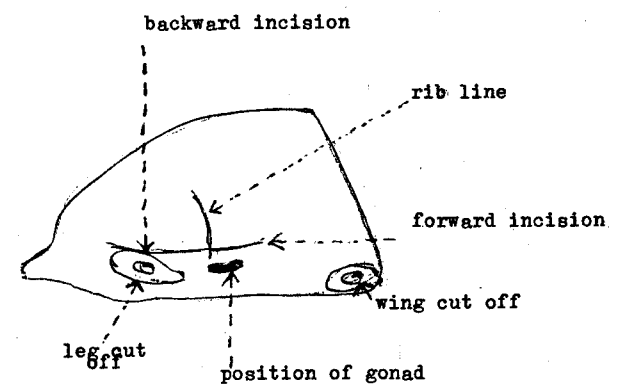
To find the reproductive organs:

Place the bird on its back, with its head away from you. Remember that the left side of the bird now lies on the right side because you have turned the bird on its back. Using a pair of scissors cut the skin between the right leg and the body and press the leg down until it is at right angles to the body. You will now be able to see the line of the ribs. Make an incision along the ribs towards the head, for about an inch; make a further incision towards the tail for a further inch, making certain not to cut the intestines or the cloaca. Lift up the skin and the cut ribs and the intestines will be seen clearly. With your thumb raise the intestines and the reproductive organs will be seen at about the same level as the start of the rib incision. Usually the left testis is seen if it is a male or the ovary if a female. When one becomes proficient it is only necessary to make the rib incision.

Sometimes when the testes are damaged the adrenals are mistaken for testes. In these cases if you are not sure the bird should be classified as sex uncertain.

Brian Stronach.

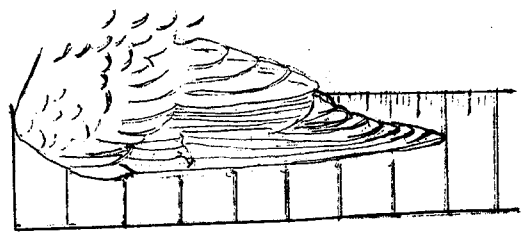
1.



Dissection for sex determination. See text.

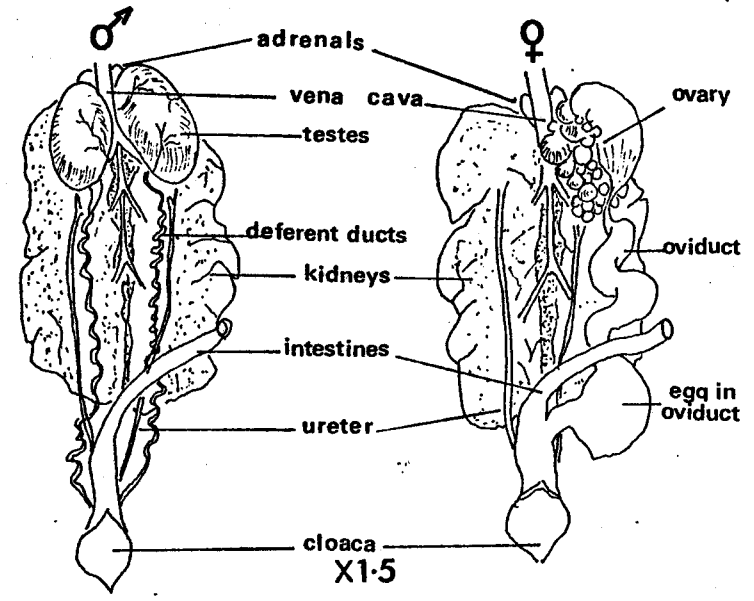
7.

Wing measurement. See text.

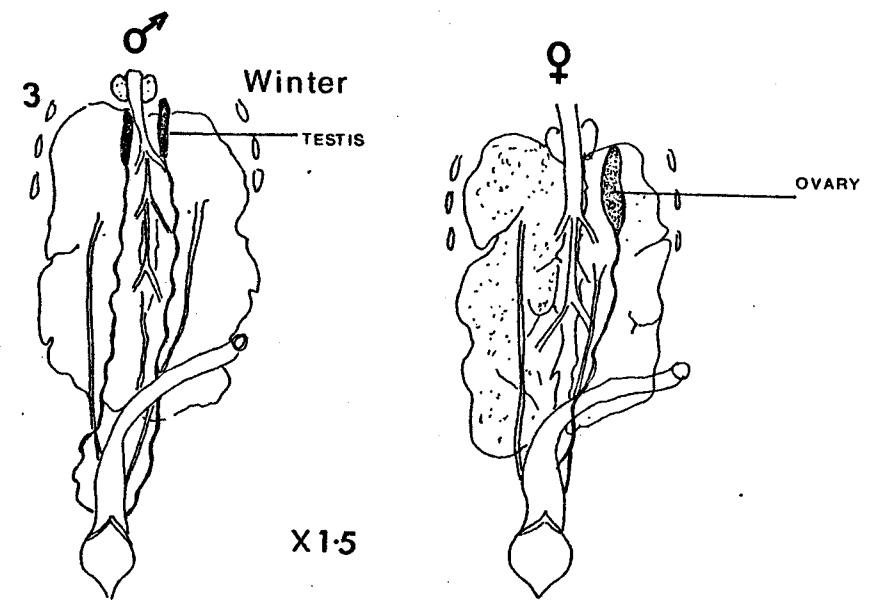


Cut ruler off accurately at zero, and fix a block against which wing can be held. Press primary feathers FLAT onto the ruler.

2 Summer and Spring



Sex determination dissection. See text.



Now reduced x 2

MEASUREMENTS

Measurements generally.

IT IS ESSENTIAL THAT ALL MEASUREMENTS ARE MADE IN MILLIMETERS OR GRAMS.

Weighing the birds

Normally birds are weighed on 1000 gram Pesola spring balances. It does not really matter what spring balance is used as long as it is accurate and is divided into divisions of at least two grams. The scales must be checked fairly frequently to ensure their accuracy.

Measurement of Bill

The standard method of measuring the bill is to measure from the tip of the bill to the start of the cere. See diagram. Usually a pair of dividers or calipers are used for this measurement, but I have found that a cheap six inch transparent ruler, accurately cut off at zero mm is a much easier and just as accurate method of measuring the bill.

Measurement of the central tail feather

Use the cut off ruler described for bill measurement or calipers, measure from where the central tail feather enters the skin, as shown in diagram, to the tip of the feather. For the length and width of the outer tail feather the measurement is taken in a different way. Here the vane of the feather is measured along its long axis and the width is measured at its widest point. As this is a trickier measurement it is necessary to use either dividers or vernier calipers.

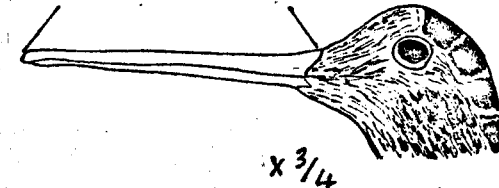
Wing measurement

Hold the wing of the bird as shown in the diagram and place this on a standard B.T.O. wing measurer. If this type of measurer is not available it is quite easy to make one. Again obtain a cheap transparent plastic ruler, cut off at zero mm, this time the ruler will be at least 12 inches long; attach the ruler to a strip of white formica using some colourless adhesive or two very small nuts and bolts. (Meccanno) Fix a block accurately at zero mm on which you will place your wing (see diagram). IT IS ESSENTIAL THAT THE PRIMARY FEATHERS ARE PRESSED FLAT ON TO THE MEASURER.

Brian Stronach

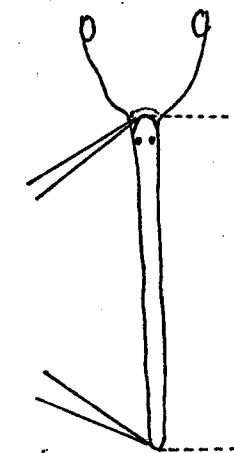
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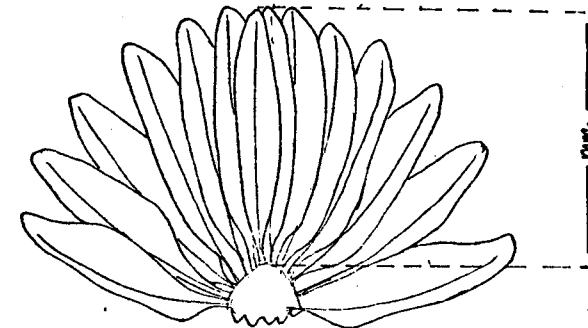
Bill measurement. See text.

5



Bill measurement. See text.

6



Tail measurement. See text.

Excerpt from article by Vidar Marcström in Svensk Jakt 7, 1975

ON REPRODUCTION OF THE EUROPEAN WOODCOCK

The nest

From 33 nests that have been found in this study it appears that deciduous and mixed forests are more preferred than pure coniferous forest. Because of the domination of coniferous forest within the areas of current interest most of the nests found have been lying in coniferous forest. Middle-aged, dense spruce forest is very little used as a nesting place, which also has been pointed out by Clausager.

More than half of the nests found have been placed close to the foot of a tree, near bushes, lying trees etc. Others have been lying more openly. An unusual nesting place was recorded on the island of Oland, where a woodcock had laid its nest on grass-covered ground between two newly sown fields, about 1 meter from some bushes but 75 meters from nearest edge of wood.

The number of eggs in the above mentioned 33 nests has been 4 except from one nest with 5 eggs and one with 2 eggs. Also in the latter case sitting had begun, but the number of eggs could have been decimated. On the same day that the nest was found an ermine was observed about 40 meters from it.

The sitting

The woodcock has a certain tendency to abandon the nest if it is considerably disturbed during egg laying or in the beginning of the sitting. On the other hand some individuals can be sitting so close that they can be caught on the nest.

The eggs usually weigh between 23 and 26 grams at egg laying. The shell is remarkably thin and fragile. About two days before hatching the chicken makes the first hole in the shell - normal time for many other species is $\frac{1}{2}$ -1 day before hatching. With fowl, ducks, and other species hatching is done in the way that the chicken cuts off a lid in the big end of the egg and crawls out. With the woodcock a similar process is taking place, but in addition there is also usually a crack lengthways. The time from the hatching of the first to the last chicken varies a lot but in one case, when hatching a brood in an incubator, all the chickens were hatched within 10 minutes.

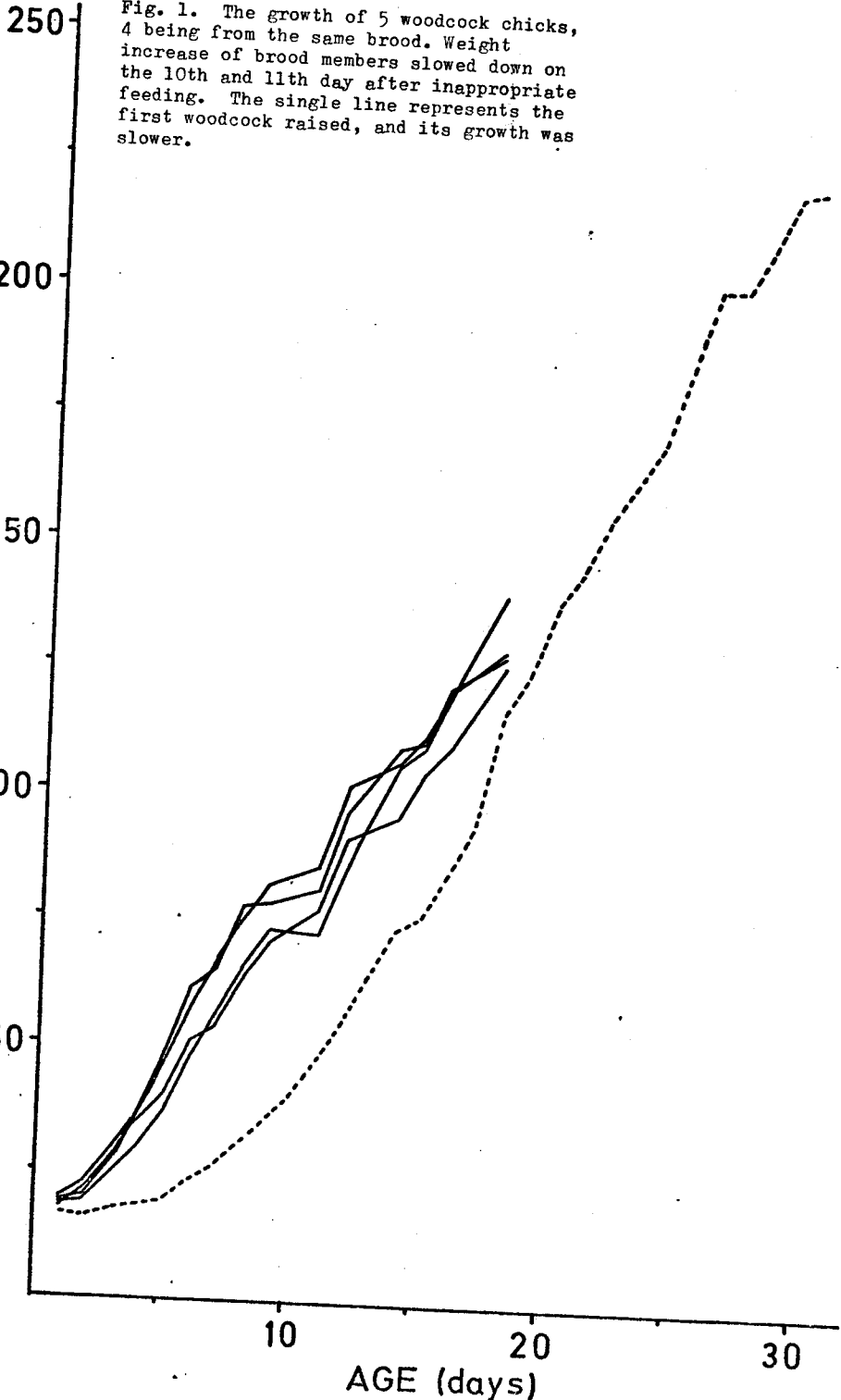
The woodcock chickens

The weight at hatching is usually between 16 and 20 grams. The newly hatched chickens are rather forward fellows that can stand on their legs as soon as they have dried. After a few hours they leave the nest under guidance of the mother. Their excellent protection colour is very handy then, and the capability of the female to attract attention when danger is threatening and by diversion behaviour lead the enemy astray is well known. Woodcock chickens are not so sensitive to cold.

Growth and development

Reports about food search of the small woodcock chickens are very diverging in literature. Referring to the behaviour of many other waders it has often been assumed that woodcock chickens can search for their own food as soon as they are hatched. However, our experiments have shown that the newly hatched woodcock chickens cannot take up food themselves, but they must be fed. It is true that they can lean their bills on the ground or put it down into the moss on the first day, but efficient food search is not developed until the age of more than a week.

The appetite is ravenous and the growth in proportion to it. Our data are based on experiences from breeding in captivity, but comparisons with woodcock chickens in nature indicate a similar growth there. Already at the age of about 10 days the body weight can be almost 5-fold, and at the age of one good month it begins to approach the weight of adult woodcocks (Fig. 1).



Names and Addresses of members.

- CLAUSAGER, Dr. I., Vildbiologisk Station, Kalø, DK 8410 Rønde, Denmark.
- ERRINGTON, Mr. F.P., White Gables, Middle Winterslow, Salisbury, Wiltshire, England.
- FADAT, Prof. C., La Mordorée, ^{Quai Côté} ~~La Soue~~, Clermont l'Hérault 34800. France.
- FORGES, Mr. G. des. Bowers Farmhouse, Balcombe, Haywards Heath, Sussex RH17 6QT England.
- FRAGUGLIONE, Dr. D., 1206 Geneve, Rue du Mt-de-Sion, 12 Switzerland.
- HARBERG, Mr. J., Ålands landskapsstyrelse, Forstabelningen, 22100 Mariehamn, Åland.
- KALCHREUTER, Dr.H., 7821 Glashütte, Post Gundelwangen, West Germany.
- KISS, Dr. J.B., Tulcea, 23 August Bloc HI ap 3, Romania.
- KRAFFT, Mr. A., Direktoratet for vilt og ferskvannsfisk, Elgesetergt 10, 7000 Trondheim, Norway.
- KUIPER, Dr. F.J., Pieter de Hooghlan 2, flat B16, Bilthoven, Holland.
- T KUYKEN, Dr. E., K.L. Ledeganckstraat 35 B 9000 Gent, Belgium.
- T LOPES, Eng. F., Serviço de Inspeção da Caca e Pesca, Direcção Geral dos Serviços Florestais e Aquícolas, Av. João Crisóstomo 26-28 Lisboa 1, Portugal.
- MANSOORI, Mr. J., c/o Ornithology Unit, Division of Parks and Wildlife, Dept. of the Environment, P.O. Box 1430, Tehran, Iran.
- MARCSTRÖM, Dr. V., Zoofysiologiska Institutionen, Box 560, 751 22 Uppsals 1, Sweden.
- MATIES, Dr. M-M., Muz-pr, Pitesti, R.S. Romania. Muzeul judetean Arges, str. Horia, Closca si Crisan nr. 44.
- MIKUSKA, Mr. J., 54000 Osijek, Gunduliceva 19a, Yugoslavia.
- MORITZ, Dr. D., Inselstation Helgoland, Instiut für Vogelforschung, 2192 Helgoland, F.R.G.
- MUNTEANU, Dr. Dan., Centrul de Cercetari biologice, str. Republicii Nr. 48. Cluj, Cod Post Nr 3400, Romania.
- NEMETSCHKEK, Hr. G., I Zoologisches Institut der Uniuersitat Gottingen, 34 Gottingen, Berliner strasse 28, Bundesrepublik Deutschland.
- ROBBANA, M. Mohmond, 17 Rue Charles de Gaulle, Tunis, Tunisia.
- T SCHMITT, M. Rene, 27 Rue Gutenberg, Luxembourg-Gasperich, Luxembourg.
- T SOIKKELI, Dr. M. Turun yliopisto, Elaintieteen laitok, 20500 Turku 50, Finland.
- STRONACH, Mr. B., Forest and Wildlife Service, Wildlife Research, Sidmonton Place, Bray, County Wicklow, Ireland.
- SWIFT, Mr. J., ^{Marford Mill, Rossett, nr. Wrexham, Clwyd, Wales} ~~Gresvenor House, 104 Watergate Street, Chester, CH1 2LF, England.~~
- SZABOLCS, Ing. J., Gynlaji, A'llanic Erdo-az Vadgurdorag, 7090 Tamasi, Miklos var 1 Hungary.
- VIZOSO, Mr. A., Avenida America 51, Madrid 2, Spain.
- VIZOSO, Mrs. M. Shorten, ^{12 Hayward Road} ~~c/o Unit of Invertebrate Virology, South Parks Road, Oxford, England. (temporary address only.)~~
- WILSON, Mr. J., Forest and Wildlife Service, Dept. of Lands, Sidmonton Place Bray, County Wicklow, Ireland.

T = Temporary member, until a specialist is found.

Woodcock Research Group

Late communication for the Newsletter.

The WRG of the IWRB is conducting a survey of the woodcock populations of Europe and would like your co-operation.

The intention is to assess annually the status of these populations by using Dr. Ib Clausnager's ageing technique. This will give statistics on age ratios, and an indication of breeding success trends. Part of the wing will be used to detect any trace of toxic chemicals.

This is a plea to all of you to contact your woodcock shooting friends and ask them to forward to us one wing from each bird shot. Each wing should be placed in a plastic bag. To each wing attach a label with the place and date of shooting. To avoid any smell in the post hold the wings for two weeks before posting them. This will give them time to dry out.

Please send the wings to either Brian Stronach or John Swift, or to your national representative

Their addresses are as follows:-

Brian Stronach,
Wildlife Research,
1, Sidmonton Place,
Bray,
CO. WICKLOW,
IRELAND

John Swift,
WAGBI Headquarters,
~~Grosvenor House,~~ Marford Mill
104 Watergate Street, Rossett
~~CHESTER CH1 2LF~~ Nr. WREXHAM
ENGLAND Clwyd
United Kingdom