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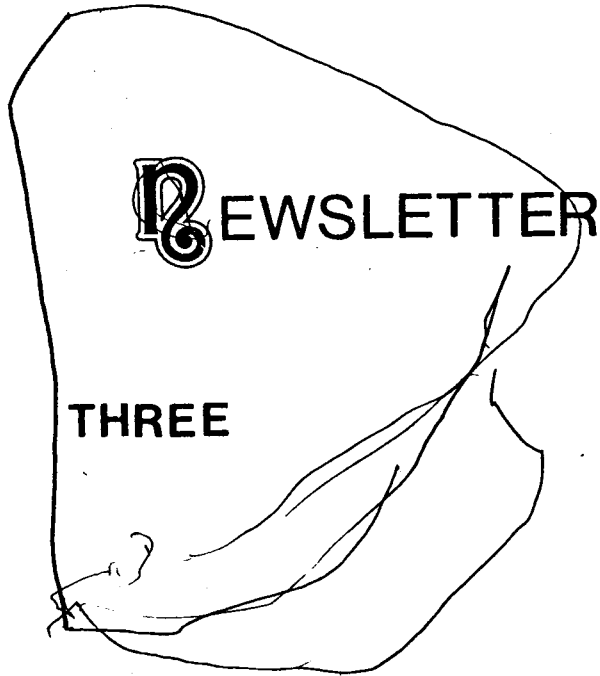
WOODCOCK & SNIPE RESEARCH GROUP



NEWSLETTER

NUMBER THREE NOVEMBER 1977

INTERNATIONAL WATERFOWL RESEARCH BUREAU.

WOODCOCK AND SNIPE RESEARCH GROUP

(formerly WOODCOCK RESEARCH GROUP)

NEWSLETTER NUMBER THREE. NOVEMBER 1977.

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EDITORIAL

When Monica decided last year to give up the leadership of our group, I was elected at Alushta as our new coordinator. We decided like the North Americans, to include snipe into our group. This seemed logical as they are very closely related to woodcock and they had no home within the IWRB system.

Our ~~perogative~~ objective within the group as Monica stated clearly on a number of occasions, remains the same. The Newsletter is our only way of communicating with one another and you will see that this is by far the biggest one so far. I believe that more people are becoming interested and certainly we have more contributors.

I am not however happy about our research programmes nor the progress we are making. I believe we need a research seminar where you can present not only the advances of your work but your ideas on what we should be doing. I will be grateful if you could let me know which month you would consider most convenient. I suggest Paris as the venue as it is a most central place. Please treat this as urgent.

I would like to take this opportunity of wishing you the very best of good fortune for 1978.

Brian Stronach.

NATIONAL RESEARCH REPORTS AND NEWS.

GREAT BRITAIN.

Graham Hirons.

The three-year field study of breeding behaviour of woodcock whi Graham Hirons started this year has been concentrated on methods live-capture and marking and the possibility of using vocal characteristics to identify individual male birds. In the study area calling woodcock were recorded from the start to the end of the roding season, and recordings were also made for comparison on another area. The unaided human ear can distinguish differen in the calls of woodcock flying overhead during an evening at on observation point, and one aim of this study is to determine if males are self-marked by voice throughout their display activity. Analysis by sonograph is being used to test field identification. During the earliest stage of the breeding season birds were captu in mist nets for marking, but later all attempts failed, in spite intensive effort. Windy conditions were frequent. No broods wer seen on the study area this year. Dr. Hirons will be discussing work with American woodcock researchers when he attends the Sixth American Woodcock Workshop at Fredericton, New Brunswick, this autumn.

John Swift.

For the second year the Game Conservancy circulated questionnaire among sportsmen about the results of the 1975-6 woodcock season i Britain, and this enquiry covered shoots totalling a quarter of a million acres. The annual bag on this area was 5% above average, but this was mainly due to large yields from southwestern England The average number of woodcock shot per 1,000 acres was 7.4. Mor than threequarters of those returning the completed questionnaire (161) expressed willingness to help in some way with woodcock research. Many of the wings collected for the 1976-7 survey were sent in from their shoots.

The 1,790 wings were sorted and analysed by John Swift (WAGBI) whose report is given below.

WOODCOCK PRODUCTION SURVEY.

Introduction.

During the 1975-6 and 1976-7 woodcock shooting seasons sportsmen were encouraged to send one wing from each woodcock they shot to John Swift (WAGBI). The age of the woodcock from which the wings came could then be ascertained by methods first described by Clausager (1973). This information, together with the date and p of shooting was then recorded for subsequent analysis. The objec was to establish the distribution of first winter woodcock throug the country and to obtain some idea of the number of young birds which was being recruited into the adult population. Since woodc

migrate throughout Europe similar programmes were run in a number of other countries to give an international perspective.

Yearly analyses of the age groups found in shot samples of woodcock in Europe began several years ago in Denmark at the Game Biology Research Station, Kalo. The Forest and Wildlife Service of the Department of Fisheries in Ireland soon started their own regular collections of wings and shortly after our British operation began a number of other countries joined in: The Office Nationale de la Chasse collects wings in France, the Club della Beccaccia in Italy, the Institut fur Vogelforschung in West Germany and the Department of Environmental Conservation in Iran. Wings have been sent to us from private shoots in Holland and from hunting associations in Spain. Co-ordination at the international level is carried out throughout the 'Woodcock and Snipe Research Group' of the International Waterfowl Research Bureau. Within Britain The Game Conservancy and WAGBI worked together to recruit collectors. All wings were sent to WAGBI HQ, where they were examined and this report was prepared.

Method.

As the wings arrived at WAGBI they were immediately catagorized as being from either first winter or older woodcock. Records from different shoots were built up and kept separately. Thus a figure could be filed for each age class in each month of the shooting season for each shoot. All other information was kept separately. All wings were sent in at the expense of the sportsman, except where a specific request was made for us to cover postage and packing. It is a tribute to sportsmen in the U.K. that no such requests were received. Publicity for the project was conducted in the sporting press: notably The Field, Shooting Times and Country Magazine, and Shooting Magazine. Many contributors were attracted by the Game Conservancy's Woodcock Enquiry appeal and other publicity was provided by display boards at country shows: notably by The Game Conservancy and WAGBI at the Country Landowners Association's Game Fairs. 'Word of mouth' requests were also important.

Analysis.

For final analysis the U.K. is divided into six major regions: Scotland; England, north of 53 N Latitude; England, east of 0 Longitude; England, west of 3 W Longitude; England, midlands and central southern (i.e. the remainder); Wales. Ratios of first winter to adult birds are expressed as the number of first winter woodcock to one adult for each contingency where this appears reasonable.

Results.

The results are set out in Table 1. It can be seen that the Juv: 1 Ad ratio for 1976-7 was 0.90, in comparison to 1.05 for 1975-6. It can also be seen that the proportion of Juveniles was above the average in both years in the South West of the U.K.; with 2.68 in

TABLE 1

1975-6	Scotland Ad	Scotland Juv	England North Ad	England North Juv	England East Ad	England East Juv	England West Ad	England West Juv	England Midlands & Central South Ad	England Midlands & Central South Juv	Wales Ad	Wales Juv	Total Ad	Total Juv	Tot Ju
Oct.	0	0	1	1	1	1	0	5	0	0	0	1	2	8	
Nov.	0	0	8	3	10	11	5	15	14	9	4	7	41	45	
Dec.	0	0	15	9	29	21	17	38	11	18	7	2	79	88	
Jan.	1	0	27	28	29	25	0	1	11	8	4	5	72	67	
Total	1	0	51	41	96	81	22	59	36	35	15	15	221	231	
Undated	(-)	(-)	(-)	(-)	(27)	(23)	(-)	(-)	(-)	(-)	(-)	(-)	(27)	(23)	
Juv: 1Ad	-		0.80		0.84		2.68		0.97		1.00		1.05		
1976-7	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ju
Oct.	1	1	0	1	3	0	0	0	0	0	0	1	4	3	
Nov.	0	3	33	20	22	22	29	56	1	4	6	2	91	107	
Dec.	21	23	58	50	86	78	67	111	5	7	19	8	256	277	
Jan.	42	41	108	62	175	112	78	79	31	23	31	20	465	337	
Total	96	102	213	149	292	217	174	246	37	34	64	41	876	789	
Undated	(32)	(34)	(14)	(16)	(6)	(5)	(-)	(-)	(-)	(-)	(8)	(10)	(60)	(65)	
Juv: 1Ad	1.06		0.70		0.74		1.41		0.92		0.64		0.90		

The number of wings from shot woodcock, for each contingency of region and date of shooting, and falling into either adult or juvenile age classes, in the months of shooting of 1975-6 and 1976-7: and with the ratio of juveniles:1 adult calculated where this appears reasonable.

1975-6 and 1.41 in 1976-7. The proportion of juveniles in the ba declined during both seasons; from 1.10 to 0.93 in 1975-6 and fro 1.18 to 0.72 in 1976-7. From the overall return of wings (Table the number of woodcock shot in October is very low in comparison to the numbers shot in other months.

Discussion.

It would not be profitable to concentrate too closely on possible chance-generated variability within the data. Very little is yet known about how woodcock of different ages respond to changes in

TABLE 2

	Oct.	Nov.	Dec.	Jan.	Total
75-6	2.5%	21.4%	41.5%	34.6%	100.0%
76-7	0.5%	12.9%	34.6%	52.1%	100.1%

The numbers of wings from shot woodcocks, for each month of shooting in 1975-6 and 1976-7, expressed as a percentage of the total number of wings for the relevant season.

the weather, or about patterns of post-fledging dispersal and post breeding migration. An analysis of variance would only indicate whether chance is the sole reason for variability within the data.

Not enough is known about relevant aspects of woodcock biology. The relative likelihood of shooting young or older woodcock may vary with the shooting technique or shooting efficiency - we do not know. It is debatable whether the high proportion of youngsters shot in the South West of England is due to a genuine abundance of juveniles there for some reason, or if the specialist shooting in that region harvests more young birds. The figures suggest that the proportion of young birds in the bag declines as the season progresses. A number of factors might produce this result and it is impossible at this stage to say which is most important: perhaps young birds become less susceptible to shooting as they gain experience, perhaps they suffer mortality unconnected with shooting or perhaps earlier in the season a greater proportion of the adults escape being shot.

A better understanding of the British results may be possible when we have a larger run of figures, and when these can be compared with findings in other countries where conditions vary. Reports of all recoveries of ringed birds of known age and source (i.e. ringed as pulli) will obviously be important in constructing an overall picture of the international flyways and concentrations of young birds may become easier to explain.

Conclusions.

1) The percentage of first winter woodcock in the shot sample of the U.K.'s wintering population is certainly not greater than 50%.

2) The proportion of juveniles was very probably no higher in 1976-7 than in 1975-6; and it is interesting to note that 1976-7 was held by many sportsmen to be the best woodcock year in living memory. (- in parts of the U.K. A very poor season for woodcock in France, Spain and Ireland. Ed.)

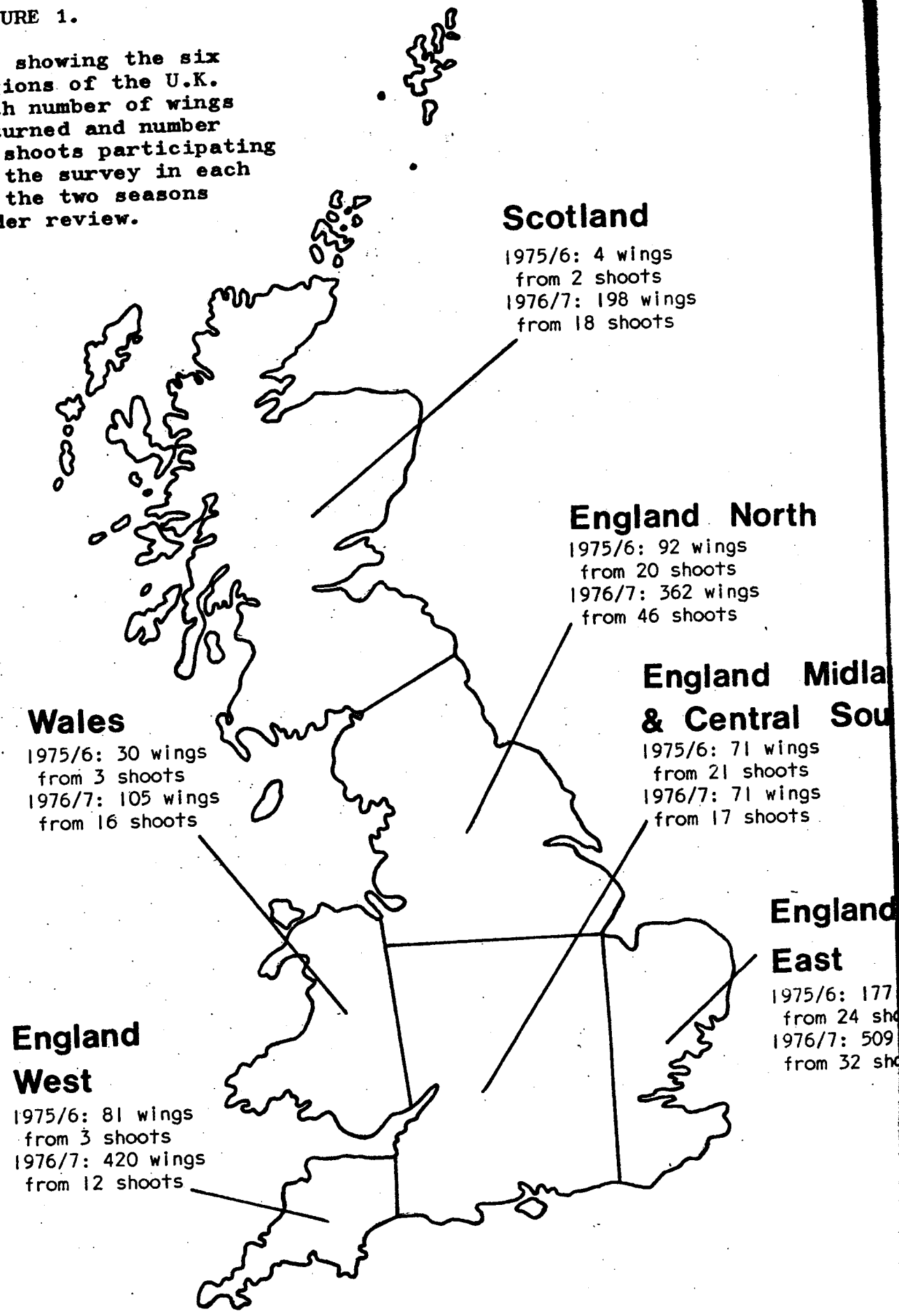
Reference.

Clausager, I. (1973) Age and Sex Determination of the Woodcock (Scolopax rusticola). Dan.Rev.Game Biol. 8(1):1-18.

WOODCOCK PRODUCTION SURVEY.

FIGURE 1.

Map showing the six regions of the U.K. with number of wings returned and number of shoots participating in the survey in each of the two seasons under review.



Graham des Forges.

Graham des Forges has abstracted all records of woodcock ringed in Britain from the BTO Ringing Office and has made more observations on incubation (report below). The U.K. Newsletter has been discontinued.

FURTHER OBSERVATIONS ON INCUBATING WOODCOCK.

Nest site and nest.

The immediate area round the nest is c. 3 acres of mature standard oak with poor derelict hazel coppice. The shading has resulted in a bare floor with only a little bramble. The oak leaf litter is quite deep. To the north is some rhododendron. On three sides are rides of mown grass (swiped in late autumn) with bare earth patches. On the fourth side a narrower ride seperating the oaks from a plantation of larch. The nest was about 30 yards from the last mentioned ride, 40 yards from the rides to the W. and E. and further still from that on the N. The nest was a raised pad of oak leaves in which the nest cup was hollowed out. As observed during incubation, the sitting bird pulled leaves within reach up to her body adding daily to the nest. There were no overhead bramble stalks and thus unusually open. The nearest oaks were about 5 yards, 5 yards and 6 yards. A coppiced hazel stump was within a yard. On March 17 at about 1745 hrs. I walked through the wood and flushed two woodcock from about two yards apart and about 10 yards in from the ride alongside the stream on the west side of the wood. This would be within 30 yards of where the nest was found at 1730 hrs. on March 19.

Observational Methods (Times given in BST).

I put up a hide on March 21 about 10 yards S. of the nest. On March 22, I observed the sitting bird leave the nest and I then fixed a thermistor in the nest without having to flush the bird. It was not in fact flushed after the initial occasion. The chart recorder worked from March 23 to 27 inclusive but thereafter was not reliable and the results discarded. Whilst working there was no significant discrepancy between observed departure and return of bird and that shown on the chart. I visited the hide daily until the young left the nest and spent about 27 hours watching the bird for periods of up to three hours. With X10 binoculars it was possible to see what was happening though there was not an unimpeded view because of bramble stalks and leaves. The bird appeared to take no notice of the hide when occupied though it was noticeably still after my first arrival due, no doubt, to noise caused by walking to the hide. With the hide between the bird and myself I do not think it ever saw me enter or leave; but I am not certain.

Observations.

I did not see a second bird at any time although the open site was rather favourable. I saw the bird leave the nest 10 times in all but only return twice. Except on April 7 and 8 the bird walked

away either N. or W. and was visible for some yards before concealed by brambles. It returned also on foot and from the W. On March 23 it left the nest at 1915 hrs. But on April 7 and 8 it left at 2005 hrs (sunset 1944 hrs.) and 2003 hrs.(sunset 1945 hrs.) respectively when I heard the full roding calls overhead. It walked S. towards t hide about two yards and then flew, as it seemed to me, upwards rath than close to the ground. Before leaving the nest the bird always became more active over the previous five - 10 minutes, the head moving left and right and at the end with the neck upstretched, the whole suggesting a good look around before leaving. At the beginnin of this period it sometimes pulled leaves to the nest. A reduced but similar period of looking about preceded an alteration of body position. In general this bird was less active on the nest than a previous bird observed. It did not preen on the nest for example and changed position less often. The main purpose of visits to the hide was to check the chart recorder and to find out when the eggs were chipping. On April 8 I examined the eggs in halflight and one was just broken through close to the cap.

Hatching and Departure.

I did not expect the chicks to have hatched before midday and so did not watch until 1915 hrs. on April 9. After a short time the bird began raising its breast in jerks. The wings were held loosely and also now and again jerked. The bird's head was held high and turned from side to side. There were also short spells of relative quietness. At 1003 it walked off a few steps to the E. I could then see four chicks standing in or by the nest. The old bird walke back to the nest and a few steps beyond it to the W. The chicks followed. She squatted by the base of the hazel coppice stump and brooded the chicks. The eggshells were left in the nest. At 1025 hrs. the woodcock walked another three yards W. probing the ground as she went and again squatted down and brooded the chicks. One chick was not covered and walked round before being covered. At 1033 hrs. one chick was uncovered for a moment. At 1035 hrs. there was a period of quiet brooding followed by head turning with upstret ed neck. At 1103 hrs two young were uncovered. The female rose and walked further to the W. probing the ground, moving slowly, the young with her. She then passed out of sight into increasingly obscu ing brambles. Three of the eggs had hatched by the removal of the blunt end (the usual method), the fourth also had the blunt end re- moved and had a split in the other direction but this could have bee the result of the bird stepping on the shell after hatching. April 9 was Easter Sunday so I decided to dismantle the hide and leave the birds alone. In the afternoon there were quite heavy snow squalls. The young were not seen again.

Comments.

The bird showed very similar behaviour to the two studied in 1975 (751) and 1976 (762). The most interesting observation was the presence of two woodcock so near the nest on March 17 when it probab

TABLE 1. Chart Records.

Date	Time of Departure	Period of Absence	Date	Time of Departure	Period of Absence
March 23	1916 (BST)	26 mins.	March 25 (contd.)	0944	23
				1148	28
24	0605	37		1401	33
	0909	14		1619	40
	1002	18		1940	42
	1128	14			
	1411	26	26	0604	35
	1655	86*		0858	51**
	1923	23		1127	27
				1352	58*
25	0548	34		1622	32
	0840	22		1916	24

* Nest visited when bird off eggs.
** Reason for length of absence unknown.

had three eggs or possibly four. This association of two birds together on the ground was also seen in this wood about 250 yards to the NE. on February 28 at 1720 hrs. in an open area. They were within a yard of each other and between them a woodcock egg, cold to the touch. It was simply dropped on the ground vegetation. I saw no woodcock here over the next two days and I removed the egg. It was markedly different from the four found on March 19 and I do not think that the same female was involved. Both ground colour and markings were different. On March 3 at 1615 hrs. I flushed two birds close together in some thick scrub about 150 yards from the odd egg.

It was interesting to see the woodcock fly from near the nest on the last two evenings of incubation very much as if in response to the roding calls overhead; this did not seem to occur when the bird left at1915 hrs. on March 23. At a previous nest a colleague who usually watched until dusk saw the incubating bird fly from the nest only once on March 7 at 1808 hrs., which could well be within the roding period on that evening.

The nest site itself was interesting. It was not near a ride or a damp area (though the whole floor of the wood might well be a good feeding place). It was about as far from a tree as possible although near a hazel coppice stump.

BELGIUM.

Count Léon Lippens.

The following is an account by Count Leon Lippens, of population changes of Woodcock in Flanders, Belgium between 1865 and 1973, based on the shooting records from three excellent shoots. It is here in the original French and will also be published (in French and Dutch) in the Bulletin of the Royal St.-Hubert Club de Belgique.

LES BECASSES DIMINUENT-ELLES EN EUROPE OCCIDENTALE ? *

La Bécasse (Scolopax rusticola) a toujours suscité l'intérêt et la curiosité des naturalistes et des chasseurs. Ses moeurs crépusculair assez mystérieuses, sa façon (tellement controversée mais à présent vérifiée et admise) de transporter ses jeunes, ses migrations variables et toujours inattendues, ses arrivées soudaines en "boutées et ses départs tout aussi rapides, ses cantonnements d'hiver, son mimétisme, sa suppression d'odeur, sa croûle, en font un oiseau fascinant dont on parle beaucoup, au sujet duquel de nombreux livres ont été écrits, mais dont on connaît en fin de compte fort peu de choses certaines, et qui demeure donc toujours mystérieux.

Ainsi on discute à perte de vue quant à savoir si le cheptel bécassie augmente ou diminue et si des mesures légales nouvelles ne seraient pas nécessaires pour protéger ce bel oiseau, ce merveilleux gibier, cette excellente délicatesse culinaire. Pareil problème ne peut être élucidé que si on possède des données comparatives s'étendant sur une longue période. En effet, il se produit toujours des augmentations et des diminutions momentanées; ainsi après plusieurs hivers doux et après des saisons de nidifications favorables on enregistre une notable augmentation, alors qu'après un hiver rigoureu comme 1963 p.ex., on enregistre une diminution brutale du cheptel bécassier.

Je dispose des chiffres annuels des bécasses tirées sur treis vastes territoires de chasse particulièrement favorables, en Flandres (Belgique), et ceci depuis pas mal d'années. Ces territoires boisés sont demeurés quasi inchangés au cours des cent dernières années et la chasse s'y pratique surtout en battue.

Voici ces données, que je commenterai par la suite:

TABLE 1. (page I3)

Ces chiffres permettent d'émettre certaines considérations qui donnent une image certainement valable pour les Flandres, sans doute aussi pour la Belgique entière et peut-être même pour toute l'Europe Occidentale.

1. Entre 1865 et 1914 on tirait nettement moins de bécasses qu'entre 1920 et 1976, alors qu'on chassait à peu pres de la même façon et

* Is the Woodcock decreasing in Western Europe ?

dans des bois similaires. L'explication peut se trouver dans les 3 considérations suivantes:

a) Le pays en général était plus fortement boisé, ce qui occasionnait un éparpillement des oiseaux;
b) Les lapins étaient très nombreux et la faisan plutôt rare. On chassait donc aux lapins ce qui nécessitee un postage en sous-bois peu favorable au tir de la bécasse. Enfin ces nombreux lapins rongeaient la végétation et dénudaient les sous-bois ce qui n'est pas favorable à la bécasse qui affectionne les bois chauds;
c) Les prélèvements de la chasse en Europe étaient trop élevés du fait qu'on pratiquait partout l'affût à la passée (même les gardes) et que la croûle au printemps, en mars, avril et mai détruisait trop de nicheurs dans l'Europe entière.

2. Les hivers rigoureux sont généralement suivis d'années creuses (1890, 1929, 1946 et surtout 1963). Car non seulement le froid anéantit des milliers d'oiseaux, mais des "chasseurs", indignes de ce nom, ont fait dans les pays méditérranéens et surtout en France et en Italie, des massacres honteux d'oiseaux épuisés et incapables de se défendre. Il a fallu plus de dix ans pour réparer le désastre de 1963.
3. Une succession d'hivers doux et humides apporte toujours une augmentation notable du chaptel bécassier. C'est logique, les oiseaux hivernant alors dans le nord-ouest de l'Europe où la pression de la chasse n'est pas excessive, et peu d'oiseaux succombant au froid.
4. La suppression du tir de la bécasse au printemps, l'interdiction du tir à la passé, la fermeture de la chasse au 31 janvier, sont des mesures positives, demandées par les chasseurs et qui ont nécessairement provoqué une augmentation du cheptel. La myxomathose qui a exterminé les lapins après 1954 fut aussi un élément favorable. Le professeur Isakov a affirmé lors d'un congrès international du B.I.R.S. (Bureau International de Recherche sur la Sauvagine) à Noordwijk en 1965, qu'en U.R.S.S. on tirait 1 million de bécasse par an, dont 400000 au printemps. Il a jouté que cette chasse au printemps avait été à présent abolie. En Suède on tirait 25000 bécasses par an, dont 22000 au printemps. Cette chasse de printemps a été abolie, comme elle le fut en Hollande, en Belgique au Danemark, dans les Iles Britanniques, et dans beaucoup de régions d'Allemagne Fédérale. Inutile de dire l'influence considérable de pareilles mesures sur le cheptel bécassier d'Europe Occidentale.

Conclusions

1. Les chiffres des bécasse tirées dans trois territoires belges favorables, durant les cent dernières années, indiquent que la bécasse ne diminue pas, au contraire.
2. Dès qu'un hiver rigoureux débute, il faut fermer immédiatement la chasse à la bécasse de peur de voir s'effectuer des massacres qui cumulés avec les effets du froid, entraînent une catastrophique ponction sur le cheptel bécassier, comme on l'a vu en 1963.

3. Toute chasse au printemps doit demeurer abolie, ou le devenir là où elle ne l'est pas encore. La bécasse niche en mars. Par hiv doux elle se trouve déja accouplée sur (ou a proximite) des lieu de nidification en février. Il faut donc, dans tout l'Europe, fermer la chasse au 31 janvier. C'est une question de solidarit cynégétique européenne. Il ne faut pas qu'il y ait des pays égoïstement profiteurs.
4. La bécasse est un merveilleux gibier qui doit se chasser à la botte, au chien d'arrêt ou en battue. Le tir à la passé, le soi après le coucher du soleil ou le matin, est aujourd'hui totaleme inadmissible. Je pense à la France, où plusieurs dizaines de milliers de "chasseurs", parmi les 2500000 que compte ce pays, pratiquent la passeé le soir. D'après des chiffres récemment cités, 75% des bécasses tuées en France le seraient à la passée. Cela fait plusieurs centaines de milliers. Signalons que cette passée est légalement interdite en France depuis environ dix ans mais qu'on la tolère partout. Heureusement qu'on mouvement de protestation, suscité et soutenu par M. L. Guizard, Président du Club National des Bécassiers de France, prend de plus en plus d'ampleur. Il faut, en effet, que la loi soit appliquée et qu'u mode de chasse illégal cesse de mettre à néant les efforts et le sacrifices faits partout ailleurs en Europe.
5. Pour la Belgique il est souhaitable que cette passée du soir, encore autorisée pendant un mois, du 15 octobre au 15 novembre, soit abolie, ne fut-ce qur par solidarité européenne.

Voilà quelque considérations personnelles dans je prends volontiers toute la responsabilité. Elles répondent à mon sentiment et à mon expérience de la bécasse depuis cinquante ans. Ces considérations modestement subjectives, sont emises sans aucune prétention de parl ex cathedra ou de détenir le monopole de la vérité. Puissent-elles susciter chez d'autres des études plus poussées et parfois aussi un loyal examen de conscience.

Nidification de la bécasse en Belgique et en Europe Occidentale.

En 1970 un recensement mentionnait 600 nids pour la Belgique, dont 450 au sud du sillen Sambre et Meuse. Suite aux mesures de pretect (suppression de la chasse à la croûle, fermeture générale au 31 janvier) le nombre de nicheurs, favorisés par une succession d'hive deux, doit à présent dépasser le millier. En Hollande on avait rec très exactement 335 couples nicheurs en 1962 et 320 dans le Grand-Duché de Luxembourg. Ces chiffres sont probablement plus élevés en 1977. Dans les Iles Britanniques l'Atlas des Oiseaux Nicheurs donn entre 10000 et 100000 couples nicheurs, sans doute donc environ 50000. En France entre 1000 et 10000 couples nicheurs répartis sur le territoire sauf dans l'extrême ouest (Bretagne). Ce chiffre pour fortement et rapidement augmenter si les mesures de protection adéq étaient prises (fermeture de la chasse le 31 janvier; suppression d meurtrière chasse à la passé). Enfin au Danemark on a recensé envi 1500 couples nicheurs.

Léon Lippens/juillet 1977.

TABLE 1.

Annees	Territoire I	Territoire II	Territoire III
1865	-	22	-
1866	123	20	-
1867	24	11	-
1868	9	-	-
1869	21	7	-
1870	25	9	-
1871	-	10	-
1872	-	13	-
1873	-	6	-
1874	-	7	-
1875	-	10	-
1876	-	4	-
1877	-	7	-
1878	-	11	-
1879	26	2	-
1880	20	8	-
1881	16	5	-
1882	-	9	-
1883	-	12	-
1884	-	18	-
1885	-	15	-
1886	-	2	-
1887	-	20	-
1888	-	12	-
1889	-	12	-
1890	-	27	-
1891	-	-	-
1892	-	1	-
1893	-	-	-
1894	-	20	-
1895	-	65	-
1896	-	13	-
1897	-	1	-
1898	-	10	-
1899	-	23	-
1900-03	-	-	-
1904	-	-	19
1905	-	-	79
1906	-	-	32
1907	-	-	28
1908	-	-	53
1909	-	-	48
1910	-	-	73
1911	-	-	53
1912	-	-	74
1913	-	-	100
1914-19	-	-	-
1920	-	130	87

Annees	Territoire I	Territoire II	Territoire III	Total
1921	-	144	30	
1922	-	132	9	
1923	-	172	76	
1924	-	142	91	
1925	-	96	72	
1926	-	50	94	
1927	-	149	52	
1928	-	78	60	
1929	-	102	104	
1930	-	82	64	
1931	-	86	121	
1932	-	72	96	
1934	-	45	43	
1935	28	96	83	207
1936	40	79	123	242
1937	41	81	119	241
1938	15	58	75	148
1939	10	74	59	143
1940-43	-	-	-	neant
1944	31	145	25	201
1945	26	119	101	246
1946	12	64	91	167
1947	36	117	53	206
1948	38	69	32	139
1949	43	104	65	222
1950	40	105	67	212
1951	44	100	61	205
1952	72	222	109	403
1953	118	93	140	351
1954	69	46	116	229
1955	80	61	103	244
1956	49	67	73	189
1957	37	71	75	183
1958	67	157	115	339
1959	62	113	132	307
1960	62	188	17	267
1961	108	259	85	452
1962	115	159	108	382
1963	43	68	49	160
1964	32	44	34	110
1965	52	80	18	150
1966	52	63	24	139
1967	9	50	50	109
1968	50	73	21	144
1969	70	60	52	182
1970	62	73	38	173
1971	36	65	42	143
1972	60	54	20	134
1973	116	96	-	
1974	80	137	-	
1975	91	109	-	
1976	104	98	-	

In reply Mrs. Monica Shorten de Vizoso writes:

I must confess that I am bothered that although over 90% of all recov of ringed Woodcock come from shot birds, this never amounts to more than 8% of the birds ringed. For the sake of arguement let us assume that only half the ringed Woodcock shot are reported - that still accounts for only 16% of the total dying. Does this not imply that o a small proportion of Woodcock die from shooting? What is the main source of mortality? Could it be that bad weather conditions during migration and winter account for most deaths? Birds blown off course and failing to make a landfall would certainly disappear without trac and how can one explain the population on the islands of the Azores if the south-westerly migration is not sometimes prolonged out into t Atlantic Ocean? Is it possible that over extended migration, rather than criminal over-hunting, explains the great decrease after hard winters.

CZECHOSLOVAKIA.

Karel Šťastný.

The map (page 15), showing the breeding distribution of the woodco in the provinces of Bohemia and Moravia, Czechoslovakia, was sent in December 1976 by Dr. Karel Šťastný, WSRG representative in Czechoslo and Bird Atlas Organiser for that country. Breeding data for the th province, Slovakia, should be available shortly. (Similar distribut maps have been published for Britain, Ireland, France, - but while these show how widespread the woodcock is in Europe they tell us lit of its breeding habitat preference or population size. Ed.)

Dr. Stastny further promised to provide data on woodcock hunting in Czechoslovakia during 1977 and was requested by the WSRG to begin a wing-collection program in the country.

RUMANIA.

Dan Munteau.

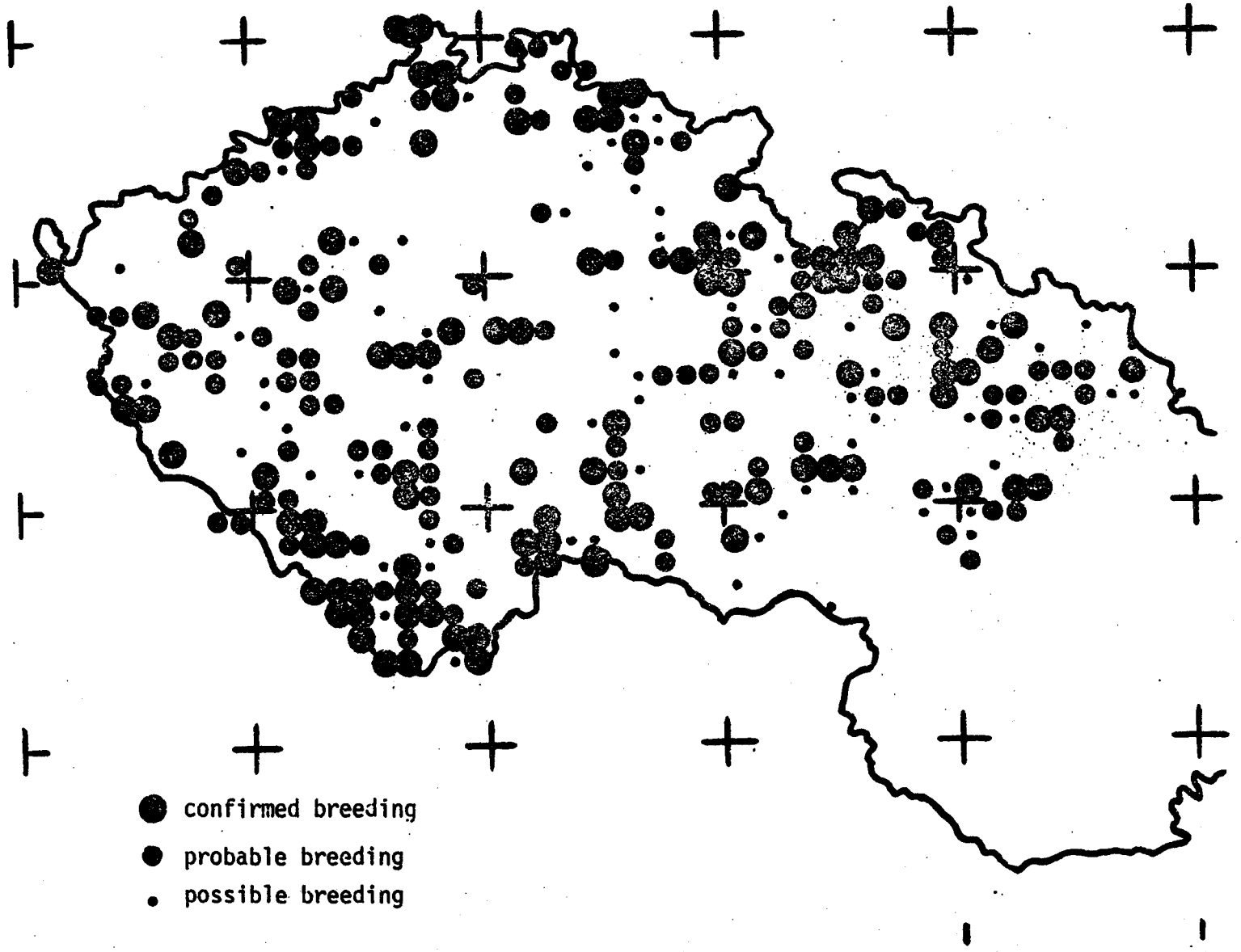
Dr. Dan Munteau has completed his work on the migration of the wood- cock in Rumania (approx 22 pages with 15 figures) and this is now awaiting publication. A short paper on the subject was published by Dr. Munteau and his colleague Dr. Măties in the review 'The sporting hunter and angler'.

Dr. Munteau has been urged to start a wing-collection survey in Rumania.

FIGURE 1.

CZECHOSLOVAKIA (Bohemia and Moravia)

Breeding distribution of the Woodcock (Scolopax rusticola) 1973-75.



SWITZERLAND.

Dante Fraguglione.

In May of this year Dante Fraguglione wrote to inform us that he intends to undertake a study of woodcock with short bills. For this he requires the following information on such birds:

Date shot/taken.
Locality.
Age and sex.
Weight.
Length of bill (mm) - noting any sign of damage to the bill, whether recent or old. He would also like, if possible, to borrow some specimens for radiographic examination. In response to this appeal, Mrs Monica Shorten de Vizoso inserted a letter in Shooting Times and Country Magazine and The Field, in June 1977, asking for such records.

Earlier M. Fraguglione published an article in 'La Diana' (organe officiel de la societe suisse de chasseurs) describing the WRG and its aims and called a meeting of those interested in woodcock to explain the groups work and in particular the wing-collection study.

DENMARK.

Ib Clausager.

Dr. Ib Clausager sent the following report on the 1976 woodcock season in Denmark, covering the period from 24 September to 31 December.

1. Extremely good bags were obtained in the southeast of the countr sever sportsmen indicating that it was the best season for 30 - 40 years. In the rest of the country bags were more normal.

2. The influx started in mid-October and peaked at the end of the month. By the end of November most migrant woodcock had passed Denmark, but the birds could be flushed in all parts of the country until the end of the season. A small number stayed in Denmark all winter.

3. The outermost three primaries from one wing were collected. Before the season opened Dr. Clausager sent forms and envelopes to 300 forest estates, gamekeepers and sportsmen. Before, durin and after the season announcements appeared in sporting magazine about the woodcock wing collection.
Feathers from 2,283 woodcock were received; only five lacked the exact date of shooting. In addition information was receive about 570 woodcock with exact date of shooting but no feathers. Game dealers provided feathers from 101 birds with dates of arrival at the dealers. Thus for autumn 1976 a total of 2,954 bagged woodcock provided information. -

Results are shown in Table 1, below. The juvenile proportion is much smaller than in 1970 and 1971 (2.55, 2.73). The reason for this is unknown, but is probably related to breeding success. The ratio of juveniles to one adult declines as the season progresses.

Period	The Islands			Jutland			Game Dealers			Denmark		
	ad	juv	juv:ad	ad	juv	juv:ad	ad	juv	juv:ad	ad	juv	juv:ad
24/09-30/09	0	10	--	0	0	--	--	--	--	0	10	--
01/10-07/10	0	9	-	4	7	1.8	-	-	-	4	16	4.00
08/10-14/10	2	13	6.5	1	11	11.0	-	-	-	3	24	8.00
15/10-21/10	33	89	2.7	10	22	2.2	7	4	0.6	50	115	2.30
22/10-28/10	48	128	2.7	22	43	2.0	-	-	-	70	171	2.44
29/10-04/11	145	221	1.5	87	85	1.0	-	-	-	232	306	1.32
05/11-11/11	88	169	1.9	91	87	1.0	36	42	1.2	215	298	1.39
12/11-18/11	97	143	1.5	60	58	1.0	-	-	-	157	201	1.28
19/11-25/11	15	36	2.4	44	41	0.9	-	-	-	59	77	1.31
26/11-02/12	29	42	1.4	39	33	0.8	6	6	1.0	74	81	1.09
03/12-09/12	14	17	1.2	23	21	0.9	-	-	-	37	38	1.03
10/12-16/12	9	17	1.9	33	17	0.5	-	-	-	42	34	0.81
17/12-23/12	3	7	2.3	9	13	1.4	-	-	-	12	20	1.67
24/12-31/12	8	3	0.4	10	12	1.2	-	-	-	18	15	0.83
Autumn 1976	491	904	1.84	433	450	1.04	49	52	1.06	973	1406	1.45
September	0	10	-	0	0	-	-	-	-	0	10	-
October	218	415	1.90	70	136	1.94	7	4	0.60	295	555	1.88
November	239	433	1.81	278	243	0.87	42	48	1.14	559	724	1.30
December	34	46	1.35	85	71	0.84	-	-	-	119	117	0.98

TABLE 1.

4. The total bag of woodcock in Denmark during 1976 will not be available until January 1978.

PORTUGAL.

Lois Matos.

Mr. Lois Matos of the Portugese Hunting Department, WSRG representative in Portugal, wrote in August of this year outlining his department's plans concerning woodcock.

Commencing in October with the start of the hunting season the department is organising a wing collection survey. An enquiry will

also be made among the local hunting department personnel, to obtain information on the wintering grounds and, if possible, the numbers of woodcock in the country.

SWEDEN.

Vidar Marcström.

The following paper by Vidar Marcström and Folke Sundgren has been published in Viltrevy - Swedish Wildlife 10 (2) : 27 - 40 (1977).

ON THE REPRODUCTION OF THE EUROPEAN WOODCOCK.

Introduction.

The woodcock Scolopax rusticola is highly coveted as a game species and the roding flight is well known to many people. Since its Habit are otherwise rather secretive, many details of its life history are still unknown. The present paper gives some data about breeding biology. A number of nests found in central Sweden were studied wit respect to situation, number of eggs, egg weight, incubation period, etc. Some clutches were hatched in an incubator, and the chicks reared in captivity. Growth, development, and behaviour were record in detail.

Mr. Folke Sundgren hatched and reared all the chicks. We would like to thank Mr. Kurt Ellstrom and the staff at the Boda Game Research Station for valuable cooperation. We are indepted to Mrs. Ingrid Lukell for technical assistance, while we are also most grateful to all landowners involved in the study and to others who provided informationon the location of nests, etc.
The work was financed by the Swedish Sportsmen's Association.

The Nest.

The woodcock is found in forested areas during the reproduction period and its nest sites are also located there. Of 33 nests studi in the present investigation, only one was found in open terrain. The female concerned had laid her eggs on a grass covered strip between two newly sown fields, about one metre from some small bush and the nest was 75 metres from the nearest woodland.
Most of the nests studied were found by people working in the woods. As the activity of these people was not distributed evenly with resp to forest types and successional stages, it cannot be claimed that the situation of the located nests was representative of all the nes present in a certain area. However, the distribution of the report

nests showed some pronounced characteristics, which make it possible to draw certain conclusions about the nest site-selection of woodcock in central Sweden.
When nests were present in different types of woodland, deciduous and mixed stands were clearly preferred to pure conifer stands, as shown by Clausager (1972) in a Danish investigation. Since coniferous forest dominates in the part of Sweden where the nests were recorded, however, many of the woodcock nests were found there. Middleaged and dense stands of spruce were least preferred, and dense monocultures of pine were also little used for nesting.
Clausager also found that in deciduous woodland the woodcock prefers stands of some species more than others. The number of nests studied in Sweden was too small to give adequate information on that point.
The age of the stands seemed to be of some importance, however. Young deciduous forest was greatly preferred, but stands with a mixture of age classes were also frequently selected as nesting sites.
More than half of the nests studied were located close to the foot of a tree, or near bushes, fallen trunks, etc. Others were placed more openly. In rare cases the woodcock may nest out in the open, without any undercover at all. None of the nests studied was lined with more than a few leaves, bark flakes, pine needles, or dry grasses.
There were 4 eggs in all of the 33 nests studied, apart from one nest with 5 eggs and one with 2 eggs. Although incubation had started in the latter case, the number of eggs may already have been reduced by predation. An ermine Mustela erminea was observed 40 metres away on the same day that the nest was found, and all the eggs were gone a few days later.
The interval between egg-laying was estimated in only two cases. Somewhat more than 3 days elapsed between the laying of the second and the fourth egg in one case, and another bird maintained an interval of 4½-5 days between the first and the fourth egg.

The Eggs.

The weight of the woodcock egg is usually between 23 and 28 g at laying. All the eggs in a clutch are of about the same size - the difference between the lightest and heaviest egg often being less than one gram. One of our study clutches was exceptional, however, in showing a considerable size variation. The nest was found a few days after egg laying, and the weights of the four eggs were 24.5, 21.8, 15.0 and 13.6 g. The two smallest eggs did not hatch.
The shell of the woodcock egg is fairly thin and brittle and therefore must be handled with great care. The thickness may differ between eggs, and the shell is usually thinnest at the blunt end. A few egg-shells measured have been from 0.14 to 0.20 mm thick. The thickness of a poultry egg is roughly 0.35 mm. The colouring of the woodcock egg is variable, but reddish-brown markings on a pale buff shell were most common.

Incubation.

The woodcock has a certain tendency to abandon the nest if it is considerably disturbed during egg-laying or at the beginning of incubation. On the other hand, some individuals may sit so close that they can be caught on the nest (cf also Steinfatt 1938).

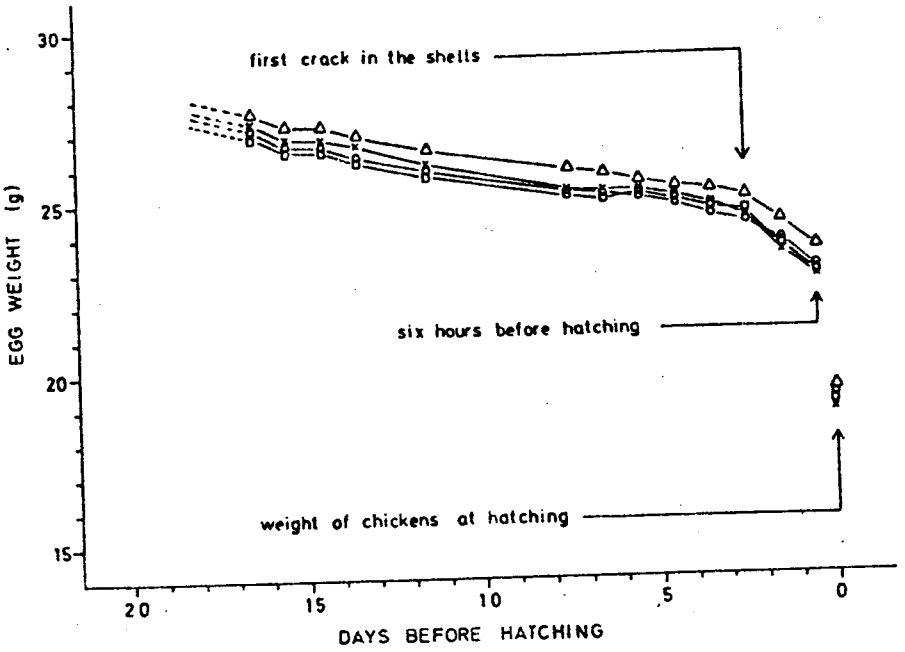


FIGURE 1. Weight decrease of 4 eggs in a clutch during the last 16 days of artificial incubation.

According to records in the literature, the length of the incubation period varies from 20 to 24 days (for ref cf. Shorten 1974 and Morga and Shorten 1974). A five day difference seems to be remarkably larg with respect to the moderate average length of the incubation period. Incubation temperature and humidity might be expected to influence th rate of embryonic development and thus the duration of incubation. O the other hand, delayed development during one embryonic stage may be compensated by a higher growth rate towards the end of incubation (Landauer 1967).
In the present investigation, period of incubation was determined precisely in two cases. A watched female sat for 21 days and 4-8 hours between laying the last egg and hatching all the chicks. Anothe egg clutch was hatched after nearly 22 days of rtificial incubation. In two other cases, incubation was found to last more than 20 but les than 22 days.
Egg weight decreases considerably during incubation. The weight of the 4 eggs in a clutch during the last 16 days of artificial incubation is shown in Fig. 1. The decrease was more or less uniform during the main part of the period studied. At the time of chipping the weight loss was increasing, most likely as a result of improved exchange of air and greater development of the embryo. A similar weight decrease seems to occur during natural incubation. This consid erable weight change should be taken into account when dealing with egg weights.

Hatching.

The time between chipping and the emergence of the chick sometimes seemed to be longer than that found for many other bird species. According to Steinfatt (1938) the whole clutch had hatched 31 hours

after the first egg chipped, but Nethersole-Thompson (1951) gives 36-60 hours as the time between chipping and a chick's emergence. When using artificial incubation we observed that the first small crack in the shell usually appeared two days before hatching. The woodcock chick usually starts the hatching process by cutting off a lid in the blunt end of the egg, as is usual in other bird species. A number of small cracks or holes are often made around the egg instead of a continuous slit, and the resulting lid is more or less regular in shape. The chick cannot get out through this aperature, because of its remarkably small size, and the egg shell usually ruptures lengthwise too (Fig. 2). The longitudinal splitting,

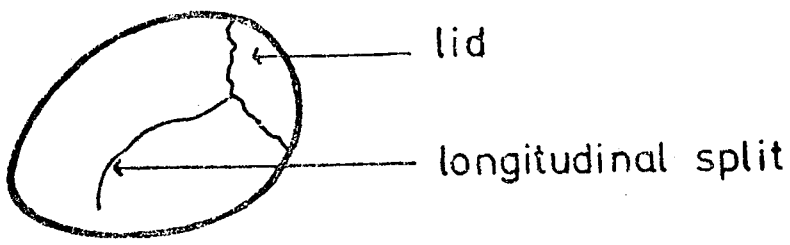


FIGURE 2. Schematic picture of the most common ruptures of the woodcock egg shell at hatching.

facilitated by the fragility of the shell, seems to be caused by pressure from the back of the chick, which thus emerges head and back first. After hatching, the longitudinal split usually closes, and the rupture may be difficut to observe without closer examination. Sometimes hatching does not follow the normal pattern. Faulty incubation conditions and malposition of embryo may result in various abnormalities or low hatchability.
Hatching of the whole clutch may be extended over a few hours. Prolongation of the hatching process, or a long delay between the emergence of the first and the last chick is often a result of incorrect incubation conditions. In one case, all four chicks in a clutch hatched within a period of 10 minutes.

The Chicks : Feeding.

Hatching is a difficult and energy consuming activity (Lindahl and Marcstrom 1956). The chicks in our study therefore rested and recuperated for a few hours after emergence, but then rapidly became more active and were soon on their feet. There has been uncertainty as to whether woodcock chicks are fed by their parents and it has been assumed that they feed themselves after 2-3 days (for ref. cf. Shorten 1974). These chicks had to be fed and took food 6-7 hours after hatching. They were unable to search for food by themselves When offered worms and other food items with a pair of tweezers they instinctively tried to grip the food with the beak. These attempts were fairly ineffective at first, but their co-ordination soon improved. On the second, some chicks were able to pick up small pieces of worms that were dropped from the tweezers. They began sporadic,

Clutch	Body weight of individuals (g)	Mean
1	15.9, 16.8, 17.0, 17.5	16.8
2	16.8, 16.9, 17.8, -	17.2
3	17.5, 17.9, 18.5, 18.5	18.1
4	17.8, 18.4, 19.1, 19.5	18.7
5	18.2, 18.7, 18.9, 19.4	18.8

TABLE 1. Body weight at hatching in five broods of woodcock.

fumbling probing with their beaks in moss and soft soil in the cag within the first few days, but without any success. Their probing was better developed by the end of the first week, and at 12-13 da the chicks were searching for food quite methodically. Some were probing in the soil layer of the cage in a very regular way.
During the first few days the chicks were fed many times per day. They had a quite remarkable appetite. The weight of the earthworm consumed per day easily exceeded their own body weight when they w two weeks old, if no other food was given. Earthworms were diffic to obtain in such large amounts, so other food sources also had to used in the long run. Insects were tried, as well as their larvae, many other invertebrates, and also beef. Sometimes these were mix with meal products.
Because of the great demand for food, long periods of dry weather may well be a problem for young woodcock in the wild. During the extremely long and severe drought in central Sweden in the summer 1971, two young woodcock in very bad shape were collected. Other woodcock were seen on sandy lake shores, and in other more or less unusual habitats.

Growth and Development.

The difference between egg weight just before hatching and the wei of the newly hatched chick, roughly 3.5 g (Fig. 1), can to a large extent be attributed to egg shell, membranes, and moisture. The body weight at hatching ranged from 15.9 to 19.5 g in 5 broods stu the range within a brood being 1-1.7 g (Table 1).
The body weight of all chicks decreased during the first few hours after hatching, when no food was consumed (Fig. 3). The first bro hatched by us had a fairly slow weight increase during the first t weeks of life because of our originally poor rearing ability. Lat broods grew rapidly right from the start, and it is likely that th growth rate is at least as fast in the wild. Lonnberg (1921) foun that 9-10 day-old chicks weighed about 100 g and Krafft (1972) rep 140 g for woodcock 15 days old. A couple of our observations in t field seem to show that $3\frac{1}{2}$-week-old chicks weigh almost 200 g, and the time they are $1\frac{1}{2}$ months old the young may approach the weight adult males in summer.
The beak was no more than about 1.5 cm long at hatching, and there could not be used for effective searching for earthworms, even if small chicks had been sufficiently co-ordinated. Since the beak g very rapidly it had attained a length that permitted rather effect probing in deeper soil at an age of two weeks. Full bill length w not reached until some weeks later.
In the full-grown woodcock the mean length of the bill seems to be

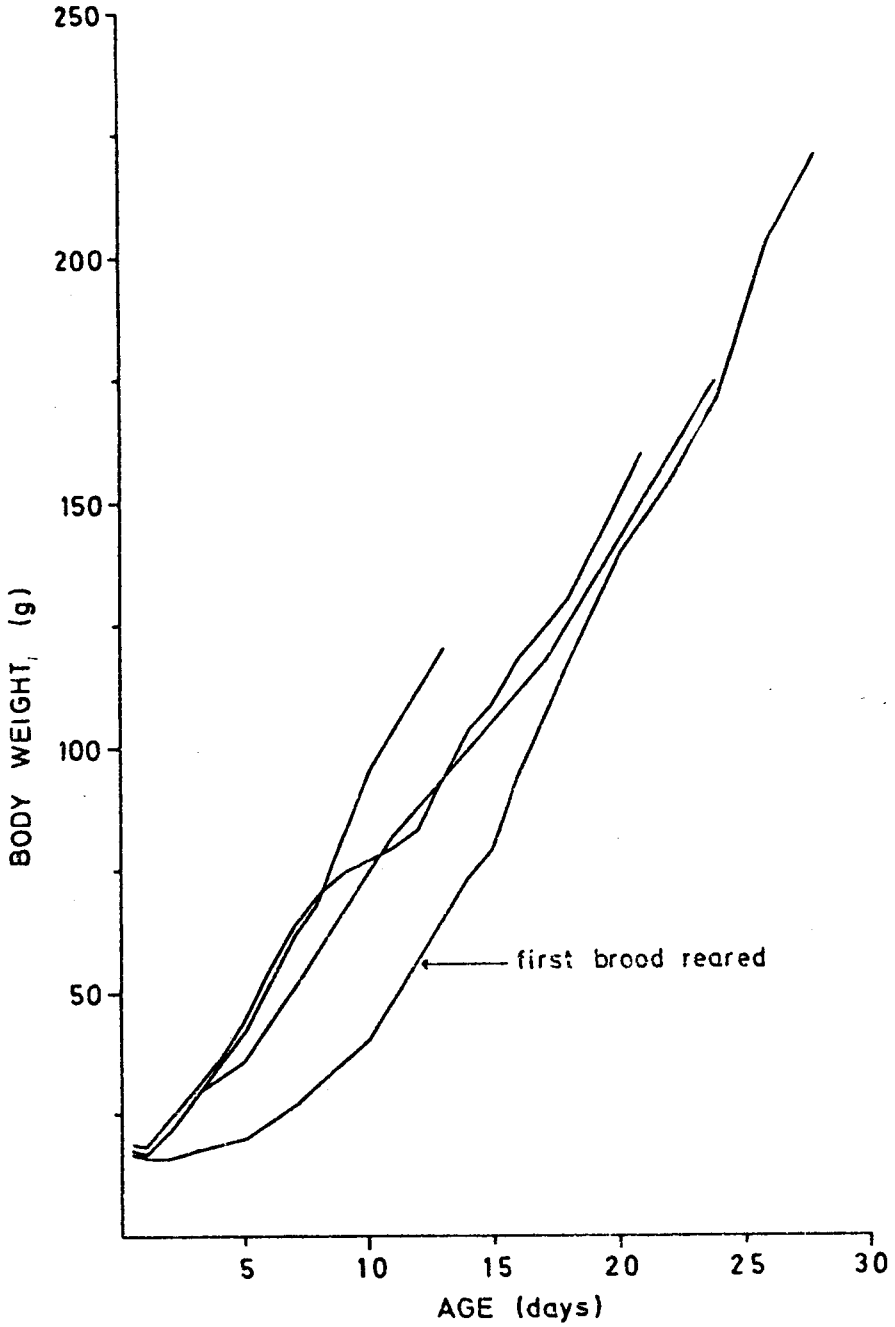


FIGURE 3. The growth of 4 woodcock broods.

somewhat greater in females than in males (Ogilvie-Grant 1912, Witherby et al. 1940, Dement'ev et al. 1951, McCabe and Brackbill 1971, Fadat 1973, Clausager 1973). In our experience total bill length is difficult to measure precisely in woodcock and is therefore unsuitable for regional comparisons based on data collected by different authors. An unambiguous measure is the length from the tip of the bill to the nostril, which can be taken fairly easily with dividers or calipers. The mean distance from the tip of the bill to the nostril was 64 mm in 34 females and 62 mm in 113 males. The difference was statistically significant ($t=3.8$, $f=145$, p 0.001) but the overlap was considerable.

Imprinting was obviously strong during the first hours after hatchi
Chicks handled soon after hatching were less shy and easier to rear
than chicks left alone in the incubator for many hours. The small
chicks had a high-pitched and rather gentle contact call when they
were feeding or resting together. The distress call was piercing a
importunate. The small chicks usually leaned their beak on a piece
of moss or other elevation in the cage when resting. After a week
so, a bird often turned its head backwards and put it under its win
Fledging proceeded as they grew in size. They often exercised thei
wings in the cage and could fly quite a distance when 2-3 weeks old
Strong flight was not observed until the birds approached full size

Remarkable Behaviour.

Three of the chicks in a woodcock brood died in an accident. The
fourth one was reared alone in a cage, until four newly hatched chi
were put in its company. We started to feed the young as usual, bu
then something quite unexpected happened : the 26-day-old chick beg
to feed the small ones. When the older chick was probing for earth
worms in the cage the young ones attended it and begged for food,
which obviously stimulsted it to feed them. Worms were found one
one and held up in front of the young chicks, which were not slow
take them. If the earthworm was dropped before the younger chicks
could take it, the older chick picked it up and offered it to the
young again. While the four chicks were small the larger chick pr
methodically for worms until they all had eaten their fill. In fa
it became so absorbed in feeding them that the smaller chicks seem
to take priority over its own needs. One day when the soil layer
the cage was not supplied with enough earthworms the foster mother
lost weight, while the foster chicks gained considerably. Somethi
quite interesting occurred a few times, when the small chicks were
resting together after a good meal. The older chick went up to th
resting ones after a while, pushing them with its bill, and starte
probing as if it wanted to feed them again. This woodcock was lat
found to be a female.
In later experiments other woodcock also started to feed their new
born relatives. Even two males, 10 months old, became very absorb
in feeding when young chicks were put in their company.

Summary.

1. Of 33 nests studied, all were in the forest except one, which
75 metres from the nearest woodland and without any cover. Most n
were located near the foot of a tree, or near bushes, fallen trees
etc.
2. The birds prefered to nest in deciduous and mixed woodland rat
than in pure coniferous forest. Many nests were found in young st
of deciduous trees but mixed age classes were also selected. No n
were located in dense, middle-aged monocultures of spruce.
3. The clutch size was 4 in 31 cases. One clutch of 5 eggs was f
and another with 2 eggs, the latter most likely reduced by predati
4. The egg weight was very much the same in all clutches except o
in which it ranged from 24.5 to 13.6 g. The egg shell was fairly
and varied from 0.14 to 0.20 mm.
5. The mean interval between egg-laying in two nests studied was
roughly 1½ days. The incubation period lasted between 21 and 22 d
in two cases and was more than 20 but less than 22 for two other
clutches.

. The weight loss of eggs was rather uniform during most of the ncubation period, but increased after chipping.
. Woodcock chicks apparently have to be fed by their parents. A emale started to feed younger chicks when she was only 26 days old erself, and so did 2 males when they were about 10 months old.
. The body weight at hatching ranged from 15.9 to 19.5 g in five roods studied. The young grew very fast and approached adult size hen 1½ months old. They could flw when they were a couple of weeks ld, and strong flight was observed two weeks later.
. Mean length from tip of bill to nostril was 64 mm in females and 2 mm in males.

eferences.

lausager, I. (1972) Skovsneppen (Scolopax rusticola) som ynglefugl i Danmark. (The breeding population of the woodcock in Denmark.) Danske Vildtundersøgelser 19 : 1-39.

lausager, I. (1973) Age and sex determination of the woodcock (Scolopax rusticola). Danish Rev.Game Biol. 8 : 1-18 (summaries in Danish and Russian).

ement'ev, G.P., Gladkov, N.A. and Spangenberg, E.P. (1951) Birds of the Soviet Union, vol. 3, 756 pp. Moscow (in Russian but translated into English (1969) Israel Program for Scientific Translations).

adat, C. (1973) Male ou femelle? La Mordoree 107 : 9-18.

rafft, A. (1972) Rugdon i Hurdal - Trekk og Vinterkvarter. Jakt-Fiske, Friluftsliv 1 : 28-29.

andauer, W. (1967) The hatchability of chicken eggs as influenced by environment and heredity. Storrs Agricultural Experiment Station Monograph 1, Storrs. 315 pp.

idahl, P.E. and Marcstrom, V. (1956) On the body temperature of Tetrao urogallus (Lin.) at hatching, and its immediately following drop. Acta Zool.(Stockholm) 37 : 43-51.

onnberg, E. (1921) Bidrag till morkullans biologi. Fauna og Flora 16 : 164-174.

lcCabe, R.A. and Brackbill, I.M. (1973) Problems in determining sex and age of European woodcock. Int.Un.Game Biol.10th Congress 1971, Paris : 619-637.

lorgan R. and Shorten. M. (1974) The breeding of Woodcock in Britain. Bird Study 21 : 193-199.

ethersole-Thompson, D. (1951) The Greenshank. Collins, Lond. 244 pp.

gilvie-Grant, W.R. (1912) British Game Birds and Wildfowl (The Gun at Home and Abroad).

horten, M. (1974) The European Woodcock. The Game Conservancy report no. 21. 95 pp.

teinfatt, O. (1938) Das Brutleben der Waldschnepfe. Journ.fur Ornithologie 86 : 399-424.

itherby, H.F., Jourdan, F.C.R., Ticehurst, C.B. and Tucker, B.W. (1940) The Handbook of British Birds, vol. 4 : 184-192. Also 1958 ed.

Vidar Marcström & Folke Sundgren.

FINLAND.

Lennart Saari.

During the year, Lennart Saari, a postgraduate research student at the University of Helsinki, replaced Dr. M.Soikkeli as WSRG representative in Finland. He has begun to organise practical research on the woodcock in southwestern Finland and has obtained funds to pay a student, who is writing an M.Sc. thesis on the woodcock in Finland, to carry out some work there on an island of approximately 15 Km^2. Observations in the area have been carried out since 1966 and intensively during the period 1975-7. During the summer season 1977 they concentrated on mapping territory based on display flight.

The density of woodcock on the island appears quite high at 3-4/ Km^2. (This figure is based on the number of roding birds seen simultaneously at different points on the island - the validity of this method of estimation has yet to be considered but it is their opinion that it is the only way of getting some form of density data.) Timing of roding and habitat preference is also being recorded.

The full program of research will be based on woodcock breeding biology and will cover; spring arrival, onset and occurrence of roding, including the effects of weather conditions, density of breeding pairs, analysis of nest record cards collected by the Finnish Society of Science, and autumn departure. They also intend to collect hunting statistics. Further possible research may look at ringing recoveries and the migration of woodcock through Finland and a wing collection survey may be started. (The latter has been strongly urged by WSRG.)

POLAND.

Ludwik Tomialoje.

During the year Dr. Ludwik Tomiałojé of the Museum of Natural History, Wrocław University agreed to become a representative of the WSRG in Poland. In July he wrote outlining the situation in that country.

With fewer than 50 ornithologists in the country and about 230 breeding bird species they have tended to concentrate their efforts on easy to observe species and total bird communities. Consequently there is nobody currently working solely on the woodcock. A breeding distribution Atlas survey is being undertaken, however, and there are plans for a form of Common Bird Survey (a monitoring system for recording changes in common bird populations).

From current knowledge, based on the two books, Tomiałojć,L. (1972) The Birds of Poland - a list of species and their distribution. Warszawa 303pp., and Kulezycki,A. (1973) Słonka (The Woodcock). Warszawa 60pp. - a population monograph for hunters, the woodcock occurs over the whole of Poland wherever there are forests of over 100 ha and also in mountain forests. Table 1, below, from Kulezycki (1973), presents data on a provincial basis from questionnaires collected in 1969-70 by the Institute of Applied Zoology, Krakow University.

Province	No. questionnaires issued	No. questionnaires returned	% questionnaires returned	No. returned with no woodcock sighted.	No. returned with 1 sighting	No. returned with 1 - 3 sightings	No. returned with 3 or more sightings	Total No. returned with woodcock sighted	No. sites with records in breeding season	No. records for autumn migration period
Bialystok	59	48	(80.3)	4	5	11	28	44	27	23
Gdańsk	43	35	(81.3)	3	7	18	7	32	24	22
Katowice	43	41	(93.0)	7	14	11	9	34	23	28
Kraków	51	44	(86.2)	5	4	16	19	39	30	29
Lublin	50	38	(76.0)	5	11	10	12	33	14	17
Łódź	38	32	(84.2)	18	4	7	3	14	4	12
Olsztyn	61	56	(91.7)	4	7	23	22	52	42	38
Opole	40	32	(80.0)	2	6	11	13	30	17	20
Poznań	81	70	(86.4)	7	18	27	18	63	45	52
Przemyśl	67	59	(88.0)	1	5	23	30	58	37	35
Radom	62	51	(82.2)	14	13	17	7	37	17	22
Siedlce	48	32	(66.0)	7	16	9	-	25	9	16
Szczecin	46	33	(71.7)	6	1	13	13	27	14	23
Szczecinek	81	69	(85.1)	4	9	30	26	65	50	43
Toruń	63	35	(55.5)	11	8	11	5	24	15	16
Wrocław	69	52	(75.6)	7	21	12	12	45	21	34
Zielona Góra	88	65	(73.6)	15	11	18	21	50	32	28
Total	990	792	(80.0)	120	160	267	245	672	421	458

TABLE 1. Distribution and sbundance of the Woodcock in Poland 1969-70 shown by forest administrative areas (roughly equivalent to provinces).
(It should be kept in mind that all figures are relative values and not absolute numbers. Dr. Tomiałojć is very sceptical of the value of this sort of data.)

Based on his own observations, Kulezycki (1973) suggests that 1 - 3 woodcock per evening per site represents 10 displaying males per 1,000 ha of forest. Based on this assumption, he calculated the total number of woodcock in the country by multiplying the number of males per ha by the number of ha per local forest administrative area (average 8,000 ha) by the total number of such areas in the country (272). Assuming a 1 : 1 sex ratio and a 30% increase in population due to reproduction, the autumn native population would be in the order of 55,000 birds. Nowak,E. and Pilipiuk,J. (1967) and Olech,B. (1972), both in Łowiec Polski - Polish Hunter, have shown that between 12,800 and 13,600 woodcock are taken annually by Polish hunters, including an unknown number of migrant birds, so Kulezycki concludes that the annual hunting totals do not exceed the annual production of young and consequently hunting pressure cannot be responsible for a decrease in the woodcock population in Poland. Rather, he suggests that the main causes of such a decrease are the alteration of the breeding grounds eg. the reduction of forest areas, (Dr. Tomialoje disagrees - he has shown that, as in most European countries, the afforested area of Poland has been increasing in recent years - 24% in 1947 to 28% in 1975), and the drainage of fore (considered more important by Dr. Tomiałojé), hunting pressure in Western Europe, wire accidents and possibly the use of insecticides.

ITALY.

Drs. Alberto Chelini & Silvio Spano.

(The following report was received in July 1977. It has been translated from the original Italian.)

During the 1976-77 hunting season 547 wings were received from members of the Club delle Beccaccia and other, non club-member, hunters. Of these 547 wings, 175 were from adults and 372 from first winter birds (ratio 2.12).
Most wings were received in November and December and the greatest number came from Tuscany.

Low ratios of juveniles/adults are particularly evident in the following regions; Emilia (1.06), Tuscany (1.5), Marche (1.2), and Lucania (1.4) while on the other hand rather higher ratios came from Campania (5), Puglia (5.6) and Calabria (4.6).

Wings have not been returned by hunters for all woodcock shot, so in order to obtain relevant information on the hunting rate data from a hunting return-slip enquiry, promoted by the club, have been used. Returns were made for 676 woodcock shot by 52 hunters and of the woodcock located the proportion shot was 45.85%.

All the woodcock were shot using dogs. Nevertheless the negative practice of shooting flighting birds is more widespread (among non-woodcock hunters) but the new legislation, awaiting parlimentary approval, will probably prohibit this form of hunting.

Therefore most of the woodcock were not taken in the breeding period. (In many Italian regions hunting is prohibited after December, while in others many woodcock hunters do not hunt in March with the same intensity as in autumn).

An estimate of the number of woodcock killed per unit area has been submitted by many members and has shown for some provinces in the central north region (Milan, Pavia, Bologna, Alessandria, Genoa and Pistoia) a density of approx. 10 woodcock per 1,000 ha. In other central southern regions (Ancona, Bari, Taranto, Palermo, Potenza) the density is approx. 60 per 1,000 ha. However insufficient information has been obtained to attach any relevant statistical value to it.

A fairly general calculation has given some idea of the status of woodcock in more than 1,000,000 ha. of Italian agricultural and forestry land, almost 4% of the national total of such land, which is used by woodcock and which to some extent is protected from hunting. (Data extracted from Pavan,M. (1975) Natural equilibria altered by man. Hunting in Italy. Collana Verde (Min.Agr.For. 38: 5-44).)

As for sex, the information taken all together would indicate a slightly lower mortality for males (45%) than for females. Tentative results from correlations of sex-weight-date and weight-bill length have not yet yielded any information worth mentioning.

In conclusion, the percentage of replies sent in (17%) underlines the modest success of the initiative undertaken by the club; a similar enquiry undertaken with the help of the Provincial Committee for Hunting in Genoa, when a questionnaire was printed on the back of the Hunting Control Passes, has given disastrous results - from almost 40,000 passes distributed there was only one reply (and that was from a member of the club). This shows the difficulty of obtaining statistically useful information with the help of hunters and emphasises the positive action taken by the club.

(See also Tables 1-3, pp 30 - 32).

Guiseppe Siletti.

In May 1977 Guiseppe Siletti of Milan sent details of his current woodcock research program. His research priorities include locating nest sites and recording nesting data, collecting hunting statistics in his region, studying spring behaviour, collecting biometric data on the birds he obtains, analysing the age structure of the population from the wings of shot birds and examining gut contents to determine the food of the woodcock.

TABLE 1. Results of the 1976-77 season (divided by months and week

Italy = Regions: Lombardy, Piemonte, V.Aosta, Eimilia, Appennino (Liguria-Lombardy-Piemonte), Trentino, Tuscany, Umbria, Marche, Lazio Campania, Puglia, Lucania, Calabria, Sicily, Sardinia.

Number of hunters who replied: 76
Ratio of woodcock found/woodcock shot: 2.18 (45.85% shot)
Class (woodcock shot per hunter):*
1 - 5 woodcock: 15
6 - 10 woodcock: 17
11 - 30 woodcock: 16
over 30 woodcock: 4

*(These data are based on returns with not all of which wings were sent and are therefore not representative of all woodcock killed. They refer to 676 woodcock shot by 52 hunters.)

Total wings sent: 547 (adults: 175 - young: 372 - ratio: 2.

Month	Week I				Week II				Week III			
	Ad	Juv	Tot	%	Ad	Juv	Tot	%	Ad	Juv	Tot	%
October					2	1	3	0.5	2	2	4	1.0
November	12	27	39	2.2	18	24	42	1.3	7	30	37	4.2
December	8	21	29	2.6	9	33	42	3.6	7	15	22	2.1
January	5	15	20	3.0	1	6	7	6.0	4	9	13	2.2
February	2	1	3	0.5	2	3	5	1.5	3	2	5	0.6
March	1	1	2	1.0	4	5	9	1.2	3	5	8	1.6
Total wings sent with shooting data	28	65	92		36	72	106		26	63	89	
Total wings sent - no shooting data												
Grand Total												

Month	Week IV				Week V				Total			
	Ad	Juv	Tot	%	Ad	Juv	Tot	%	Ad	Juv	Tot	%
October	1	1	2	1.0	3	5	8	1.6	8	9	17	1.1
November	14	31	45	2.2	6	10	16	1.6	57	122	179	2.1
December	5	15	20	3.0	9	8	17	0.8	38	92	130	2.4
January	2	6	8	3.0	1	0	1	0	13	36	49	2.7
February	2	4	6	2.0	1	0	1	0	10	10	20	1.0
March	1	1	2	1.0	0	0	0	-	9	12	21	1.3
Total wings sent with shooting data	25	58	83		20	23	40		135	281	416	2.0
Total wings sent - no shooting data									40	91	131	
Grand Total									175	372	547	2.1

TABLE 2. Results of the 1976-77 season (divided by months and regions).

	1976												1977																	
	Oct.			Nov.			Dec.			Jan.			Feb.			March			Total			wings sent without shooting data.			Grand Total			Total wings sent.
	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	Ad	Juv	%	
Piemonte	1	1	1	9	20	2.2	0	3	oo										10	24	2.4	0	0		10	24	2.4	34
Valle d'Aosta				0	1	oo													0	1	oo	0	0		0	1	oo	1
Appennino Lig.	1	2	2	1	2	2	2	3	1.5	1	3	3							5	10	2	3	15	5	8	25	3.1	33
Lombardy	1	00	0				1	0	0										2	0	0	0	0		2	0	0	2
Emilia	1	4	4	14	13	0.9	1	3	3							5	5	1	21	25	1.1	10	8	0.8	31	33	1.06	64
Trentino				0	3	oo													0	3	oo	0	0		0	3	oo	3
Tuscany	3	1	0.3	23	35	1.5	7	11	1.5	0	2	oo				0	1	oo	33	50	1.5	0	0		33	50	1.5	83
Umbria				1	12	12	3	6	2	1	1	1							5	19	3.8	0	0		5	19	3.8	24
Marche							3	4	1.3							2	4	2	5	8	1.6	8	8	1	13	16	1.2	29
Lazio	1	1	1	2	8	4	0	4	oo	0	2	oo	1	0	0				4	15	3.75	3	10	3.3	7	25	3.5	32
Campania				2	4	2	0	5	oo	0	1	oo							2	10	5	0	0		2	10	5	12
Puglia				0	3	oo	0	2	oo	3	8	2.66	1	4	4	1	0	0	5	17	3.4	3	28	9	8	45	5.6	53
Lucania				5	12	2.4	13	16	1.2	7	9	1.2							25	37	1.4	0	0		25	37	1.4	62
Calabria				0	4	oo	3	24	8	1	6	6	2	4	2	1	2	2	7	40	5.7	2	2	1	9	42	4.6	51
Sicily							1	0	0										1	0	0	11	20	1.9	12	20	1.8	32
Sardinia				0	5	oo	4	11	2.7	0	4	oo	6	2	0.3				10	22	2.2	0	0		10	22	2.2	32
Total	8	9	1.1	57	122	2.1	38	92	2.4	13	36	2	10	10	1	9	12	1.3	135	281	2.08	40	91	2.3	175	372	2.1	547

TABLE 3. Wings received from Sardinia after Tables 1 and 2 had been compiled.

	Ad.	Juv.
28.11.1976	0	2
12.12.1976	0	3
16.12.1976	1	1
19.12.1976	1	3
23.12.1976	1	4
Total	3	13

38 wings were also sent by 2 hunters from Yugoslavia. They were fro 5 adults and 26 juveniles (ratio 5.2) - it was not possible to classify 7 wings.

USSR.

Marina Akimushkina.

In April, after consultations between Mr. Brian Stronach and Prof. V.Y.Flint, Marina Akimushkina, of the Central Laboratory for Nature Conservation, USSR Ministry of Agriculture, became WSRG representative for Russia . The following report was sent in May 1977.

Study of the biology and distribution of the woodcock in the Soviet Union is not being carried out in one scientific institution, and all data are received from seperate researchers. Attached (see p) is a list of works written in the past few years, in russian on the subject of the woodcock. Additions to this list are possible. Also significant information is held in the faunal monographs on ornithological fauna in the USSR.

The marking of woodcock is not specially being carried out, but some birds have been marked by chance. Information concerning this can be found in M.I.Lebedyeeva's article of 1965. We will send more recent data concerning our work in the Bird Ringing Centre, when we have processed its material. We set about processing just several days ago. Noone in our country has studied the problem of sex distinction without dissection nor has the age distribution of the population been studied.

According to the last report on the systematics of birds in the USS (Stepanyan 1975), only a nominal subspecies of woodcock dwell in the USSR. True, there are indications of the existence of some races, the systematic status of which are unclear (see work of V.C. Grekov, et al. 1973). In this work parasites of the woodcock are also discussed. Pesticides in the tissues of the woodcock have not been discovered - noone has been studying this question. Informati on the feeding is scattered (V.C.Grekov, et al. 1973).

For information on the reproductive habits see the work of V.E. Flint (1975), however this information is in the character of a hypothesis. Again note that ringing and marking for purposes of

observation of the birds is not being carried out.

The main reasons for death are hunting and death from hibernation in the Transcaucasus in the case of strong, deep snows. However, we cannot discuss the quantitative indicators of death.

The woodcock is a popular object for hunters. In the USSR it is neither imported nor exported and is not traded internally. Special measures for the preservation of the species are not taken. Of course the general rules of hunting apply; regulation of season and types of hunting. In general in the asiatic part of the USSR the woodcock is not hunted. Spring hunting of woodcock in the central regions of the european USSR is the most popular of all. Hunting takes place in these central european regions towards the second half of April; in the more northern and eastern regions in the first half of May. The hunt lasts 10 days - this period is dependent on the character of the spring, but in general varies little. Two woodcock to each hunter is the limit on the catch for an evening. In the springtime there is no seasonal limit on the catch. In some years hunting is closed on all wildfowl, including woodcock. For example spring hunting was completely closed in 1968, 1969 and 1970. However, this did not significantly increase the number of wildfowl and since 1972 spring hunting has been open. Autumn hunting of the woodcock with setters in the central european regions of the USSR is practiced on a very small scale. Usually it occurs in the middle of October, at the time of mass migration, and lasts only a few days. At this time there is neither regulation of period nor regulation of catch norms. The average catch for a season does not exceed 5-10 birds. However in the southern and western regions where there is no spring hunting autumn hunting takes precedence. It is short because of the conditions of nature, but very popular, no more than 20-30 birds to a hunter in one day. Catch norms and the period of the autumn hunt are not regulated by law. In the winter-stay in the Transcaucasus woodcock are shot during the whole winter in disregard of existing legislation. Besides this in winters of heavy snowfall when birds are weak and emaciated not only hunters exterminate them in spite of the fact that catching is officially forbidden at this time. In our country no special measures are being taken for the attraction of woodcock or the expansion of the biological capacity of the possible habitats for them. Preservation of the woodcock is not provided by international conventions.

Statistical information on the catching of woodcock is being gathered only along with other data on sport hunting and is incomplete. Three million sport hunters are officially registered in the USSR, How many of these hunt woodcock is unknown but probably not more than 10%. In RSFSR in 1973 the catch was 541,000 woodcock, in 1974 it was 427,100. In Latvia in 1975 17,000 woodcock were taken. Additional statistical data is available in the works of A.Volkov (1967) and V.Gavrin and M.Gerasimova "Catching of Feathered Fowl and Hares", in Okhota y Okhotnichye khozyaistvo, No.8, 1976. More detailed analysis of statistical data does not exist.

For the period of reproduction of the woodcock see the work of

P.I.Volkov (1968), B.Podkovirkin (1972) and M.A.Rodionov (1973). Such is the primary volume of information which we can offer. We hope to widen the available information in the future.

Our plans include the following:

1. Continuation of the analysis of literature and materials of the Bird Ringing Centre for the compilation of a complete sketch of biology, distribution and migration of the woodcock.
2. Organisation of the collection of wings for determination of age composition of the population.
3. Form collection of material on statistics of shooting. This work will be appearing in the journal 'Okhota y Okhotnichye khozyaistvo'.
4. An examination of museum collections of woodcock in an effort to determine age and sexual variability of exterior characteristics.

We will be very glad in the future to receive information from the woodcock researchers of the IWRB.

Marina Akimushkina.

GERMANY (BRD).

Dr. W.Keil.

The following report from Dr. W.Keil of Staatliche Vogelschultzwarte fur Hessen, Rheinland-Pfalz und Saarland (Institut fur Angewandte vogelkunde) was sent in autumn 1976 but arrived just too late to be included in Newsletter No. 2.

A three year research program was begun at the institut in 1975. There had been for some time in Germany a difference of opinion between hunters and biologists concerning spring hunting of woodcock At the request of the local authorities a program of research was developed to look at spring migration and hunting, and population dynamics. The program can be divided as follows:

1. Influence of spring hunting in the migrating woodcock population (and breeding population).
2. Population dynamics during the breeding season.

In both provinces of Rhineland and Hessen 16 forestry districts were selected as study areas. In these areas a certain number of woodcock were shot in spring and examined at the institute. (Resear on parasites is being done by a student in the University of Giessen In the same areas breeding biology, ecology and population dynamics is being investigated since 1976. Special studies of pesticide levels, phytosociological and environmental problems (influence of forestry management on woodcock population and ecosystem) are being carried out in close co-operation with universities.

A full progress report will be available shortly (July 1977).

(See short note p 54 - Ed.)

Prof. Rutschke.

REPORT TO THE WOODCOCK RESEARCH GROUP ON THE PRESENT SITUATION OF WOODCOCK RESEARCH IN THE GERMAN DEMOCRATIC REPUBLIC - OCT. 1977.

From a hunting point of view the woodcock has no importance in the German Democratic Republic. After the prohibition of spring shooting, the open season is restricted to autumn (1st September until 31st December). Bagged woodcock are not officially counted but their numbers must be roughly of the order of a few hundreds. This has the result on one hand that the population of woodcock has probably increased in recent decades: on the other hand interest of hunters and game biologists in biological research over woodcock is very low. At present no systematic enquiries are known either from the ranks of ornithologists not orientated towards hunting. All observations are proceeding in the framework of original avifaunal lists and are restricted to records of place and time, to habitat and to attempts to estimate size of population.

Numbers ringed are very low. In the twelve years from 1964-75 a total of only 17 woodcock were ringed. From 1977 onwards Dr. G. Creutz of Neschwitz has begun a research contract under the auspices of the Institute for Forest Science in Eberswalde. In the coming years distribution and breeding, migration and biology are to be studied so that the present unsatisfactory state of knowledge should soon be overcome.

Reference:

Wadewitz,O. (1977) Einiges uber die Waldschnepfe, Scolopax rusticola, Beitr.Vogelkd.Leipzig 23:101-106.

Dr. H.Kalchreuter.

The following is a translation of a paper read by Dr. Kalchreuter, in German, at the meeting of the International Union of Game Biologists in Lisbon in October 1975.

CONSIDERATIONS FOR MANAGEMENT OF THE EUROPEAN WOODCOCK (SCOLOPAX RUSTICOLA)

From time immemorial, the woodcock has been a very coveted and frequently hunted wild bird all over Europe. In Southern and Western Europe, the woodcock is prominent as a source of food, while in Central Europe, more ideal values are in the foreground, including an interest in woodcock biology. Nevertheless, many essential aspects in the way of life of this bird remained a mystery for a long time owing to its crepuscular and tawny colouring. What were needed above all were some systematic investigations which had been rather neglected by ornithologists. However, the observations of interested hunters as well as findings for the very closely related and thoroughly investigated Philohela Minor have supplied some important clues,

Present Knowledge: Reproduction.

Even if we still do not have any direct proof, it can nevertheless be assumed on the basis of pairing activity and gonad development, that the birds already start to reproduce at one year old. Woodcocks live polygamously, and have never yet been observed to remain with one mate. Moreover, females eager to pair attract one of the males flying overhead. Co-habitation of the sexes can be restricted to the few moments of pairing. Theoretical considerations point to a lower proportion of males (35,40%) than females in the breeding population, as verified by direct finds with Philohela. Dead males are quickly and abundantly replaced, however, which suggests a 'standby population' of males who move in on vacated territories. On the other hand, it could be assumed that one male mates with several females. Males do not participate in incubation, but continue to indulge in evening pairing flight with any other willing females until the middle of July. In this way, losses during the hatching period can be quickly replaced and 2 broods are possible. These were necessary in theory for population equilibrium reasons, and have now been verified by observation. The proportion of 2nd broods is unknown, however, but is probably mainly dependent on the quality of biotope.

Environment.

From the ecological point of view, the woodcock is a highly specialised bird and is therefore extremely dependent on biotope. All previous observations seem to indicate that the quality of the hatching, resting and wintering biotope is responsible for the density of the woodcock population. For this reason, a study of the biotope should be foremost in woodcock research. Clausager's detailed analysis in Denmark is very informative and its findings seem to tally with the individual observations of other authors (Alexander, Kozlowa, etc.). In accordance with this analysis, fresh to damp soils with a high earthworm content are of varying significance; drier areas offer insects and other areas anthropods and molluscs. Accordingly, the peak of woodcock distribution lies in the area of the boreal, suboreal and Atlantic climate. Central and Southern Europe are predominantly mountainous regions where chalk mountains are only thinly populated owing to their dryness (e.g. the Swabian Alb (sic) only on flint lime layers). In wet years, the population density rises here, too, which, on the one hand emphasises the importance of damp soils, and, on the other, the elasticity of distribution when favourable biotopes are available. An analysis of the Edophone (sic) and the food acceptable to the woodcock would be urgently needed to have a more exact knowledge of their requirements.

Deciduous and mixed forests are generally preferred to purely coniferous ones in distribution areas. It is possible that the poorer soil life in the acidified upper soils of the latter are responsible for this. The type of tree itself does not seem to have any direct bearing, except in as much as it characterises the area. Therefore, the mainly dry beech woods are more thinly populated than oak, ash and other deciduous woods. Sufficient soil vegetation, i.e. brushwood, scrub or, at least, grass and shrubs, is decidedly important for sufficient shelter and possibly also for rich soil life

apling forests of all typres of trees in the planting stage or irst year of growth, therefore constitute the best biotopes; even ir plantations are often populated. Middle-aged forests, however, wing to their density, are poor in soil vegetation and therefore atching areas. Not until old age has thinned them out will they ffer favourable conditions again, even in the case of fir trees. forest area richly comprised of different age groups, tracks and aths, clearings, lakes and streams provides the borderlands which re clearly very important for successful pairing and breeding. The ales fly preferably along the edges of the forest and most hatchings re found near here. The choice of young plantations and old orests is possibly also made from the point of view of a successful airing.

his biotope is also preferred during migration, although woodcocks and almost everywhere owing to their broad front migration, even in reas completely unsuitable from the poin of view of food and helter.

Hunting.

he woodcock is hunted to a lesser or greater degree all over Europe, hich has led to discussions lasting over decades in several countries s to the biologically correct hunting season. This species is decimated y long migration flight and sojourns in unsuitable biotopes much ore often than by hunting, which, at least in Central Europe,,plays subordinate role (under 10% of total mortality). In the southern uropean wintering quarters too, with mass gatherings in unfavourable iotopes, hunting gives way to some extent to other mortality factors. e must assume the same for the a la croule hunting practised in everal Central and Eastern European countries, since the lower roportion of males mentioned for the breeding population is also ound in the Spring among the Philohela Minor, which are not hunted. here are no observations of disturbances in pairing caused by enerally sparing hunting (no mass slaughters) of the roaming males. either is incubation and rearing of the young disrupted since the ale takes no part whatsoever in it.

hunting prohibition would be very disadvantageous, as it would emove any check there is on the woodcock population, as the oodcock evades ornithologists almost completely owing to its hereabouts and way of life. As with scarcely any other type of ird, the annual hunting reports are the most reliable indicators or population growth (e.g. for the Federal Republic of Germany hey indicated a tendency to remain roughly steady over the past 5 years). Owing to insufficient wildlife biologists in Europe, he hunters' information saves considerable expense. In addition, hey offer the advantage of representative rendom checks over large reas.

hese advantages would be lost if hunting was prohibited. Then the bservations still carried out by hunters would certainly become very uch more irregular, and, without the compulsion to publish them in he hunting statistics, they would be largely lost. However, the reatest danger lies in the assumption that hunting prohibition would

contribute considerably to the protection of the woodcock, since the many essential biotope improvements would then be pushed into the background, and further deterioration would result in a decline of the woodcock population, which would no longer be discernible.

Suggestions

In accordance with present knowledge, we would suggest the following measures for the protection of woodcock;

a) Biotope Structure

1. Wherever possible, drainage of damp forests should cease if a good woodcock biotope is involved.

2. Acquisition and planting of deciduous and mixed forests where this is financially viable.

3. Thinning out the tree population in all age-groups to encourage soil vegetation and facilitate pairing activity. The reduced vegetation density will be largely compensated for by a higher growth capacity of remaining trunks and greater security of the forests, so that hardly any economic losses will arise.

4. Re-structure the forests by adding ponds, clearings (wild meadows) and smaller areas of a particular age group where this is economically viable.

5. Improvement of wintering biotope. Basic investigations are still needed to be able to do this. Shelter in particular is possibly a minimum factor.

Most of the measures listed agree with modern ecological concepts and are beneficial for other animal species. In the upper Black Forest, in the extensive controlled damp areas, not only woodcock, but also wood grouse (sic) populations can be found.

b) Hunting

1. With the high reproduction potential of the woodcock, the population density is dependent promarily on biotope; losses are quickly cancelled out. On the other hand, this capacity cannot be exceeded, and a population increase is scarcely to be expected even if hunting were eliminated.

2. If hunting restrictions are imposed, they should strike at areas where the majority of woodcock are killed, i.e. in the Southern and Western European wintering quarters. Controls on bag limits will be frustrated on the whole, owing to lack of personnel; prohibitions or restrictions on the selling of woodcock (market hunting) however, could lead to a reduction in mass slaughter.

3. Hunting a la croule has no decimating effects for the reasons given above, as no mass slaughter occurs and mainly males are killed. Peculiarities in the woodcock way of life justify hunting even during the hatching period. It has the advantage

that no more females are killed (e.g. Sweden before 1960). This would also warrant a change in the International Bird Protection Treaty for the case of woodcock, for if this type of hunting has any decimating effect whatsoever, it should be reduced by sparing the female as much as possible. For this reason, hunts in late spring, when laying females are more easily shot owing to their restricted flight distances, should be abolished.

eferences.

alchreuter,H. (1974) Woodcock migration based on european ringing results. Die Vogelwarte. 27:153-166.
alchreuter,H. (1975) Population dynamics of woodcock based on european ringing results. Zeitschrift fur Jagdwissenschaft 21:1-14.
alchreuter,H. ( ) in Blotzheim,G.v., Bezzel,E. et al. Handbook of Central European Birds Vol VII. (under revision)

RANCE.

harles Fadat.

he following is a translation of a report received in October 1977 rom Prof. Charles Fadat, WSRG representative for France.

REPORT ON THE ACTIVITY OF THE WOODCOCK SECTION DURING 1977

wo aspects of the biology of the woodcock were looked at this year: he migration and overwintering and the nesting.

tudy of migration and overwintering.

he network of corresponding hunters, set up in previous years in he principal regions of France (except the North-East) allowed sample of 1,070 woodcock to be collected, for which biometric ata and samples of wings and tails were furnished. More than 63 birds were sexed by dissection. The techniques perfected in revious years both in France and abroad allowed the following onclusions to be drawn.

Sex Ratio

) The females and males migrate separately and this segregation increases with time (not obvious in Denmark in Autumn, clear in l'Herault and the eastern Pyrenees in the same season, very clear in winter in l'Herault and Morocco).
The females depart earlier (Denmark) for their winter quarters, and consequently arrive earlier (France) and return later to the breeding grounds (Denmark). Thus they spend more time on the wintering grounds.
However the entire population (male and female) migrates a very long distance (Morocco) showing a very prominent migratory character.

2) The females and males selectively locate themselves in different biotopes during winter (Central and North-Central regions, Basse-Normandie, inland regions of Aquitaine and Brittany for males). The cause of this phenomenon is unknown, but there is a clear tendency for males to withstand colder temperatures in winter. On autumn and spring migration, males and females can be found in the same biotopes but not at the same time (Herault, Morocco), although the males are preferentially found in mountainous areas (Tarn, Aveyron, Eastern-Pyrenees) or in obvious ecologivally equivalent biotopes (Basse-Normandie, interior region of Aquitane)

3) At the beginning of winter the population of males moves towards the South and South-West of France and the females move back towards the Atlantic regions.

4) It is the female population which supports the heaviest hunting pressure (spends most time in that area where the woodcock hunting season is open the longest, and which is, at the same time the area with the greatest density of hunters). The national sample of birds killed in 1976-77, although not representative of hunting pressure, indicates this: 58% females, 41% males.

5) In view of the preceding results, it is very difficult, almost impossible, to define precisely the sex ratio of the birds visitin France. To do that, in effect, it would be necessary to precisely define the wintering areas of the males and those of the females t show the total migratory area, to calculate their density and to deduce the total sex-ratio.
Consequently, only a sample on the breeding grounds, taken by a method other than hunting a la croule will show more easily the sex ratio of the breeding population.
Therefore, on the hypothesis that woodcock are faithful to their wintering quarters one could appreciate variations of the sec-rati from year to year, and that would be a great help in understandin variations of the age ratio and reproduction.

6) The great majority of birds killed a la croule are males (from 80-100%).

Age Ratio

The parallels between the variations in sex-ratio and those of th age-ratios are great and those of the first influence and compoun the latter. Likewise it is normal to draw a similar series of conclusions:

1) Young females, young males, adult females and adult males migrate separately not only in France but also in Morocco and Denmark whe this problem has been studied. Their separation, especially between young and adults increases with distance from the breedin grounds. They move apart in autumn and together in winter. This change-over takes place at the beginning of January in l'Herault and coincides with the start of the pre-nuptial migration and sex activity (gonad development, roding).

The young (females and males) are more concentrated in some regions than in others (Southwest and West) and than the adults (Centre, Rhone-Alpes). They can however frequent the same biotopes; though at different times. This pattern of migration is not affected in l'Herault by bad weather conditions (cold spells, drought).

2) The mortality of the young is greater than that of the adults, in autumn (falling to 24% of the age ratio for all of France from 3rd January). This is a direct consequence of the fact that the young spend longer on the wintering grounds than the adults but also that some, which are rapidly eliminated, are more vulnerable. The national hunting picture for 1976-77 reflects this well, in which one finds 33% young females, 26.7% young males, 24.9% adult females and 15.4% adult males.
The greatest mortality of young in proportion to adults is obvious until the beginning of January, throughout France. From then on, young and adults are killed at the same rate, since the age-ratio, until the end of the hunting season remains lower than in autumn. This shows therefore that the selection of the young is over and that at the beginning of January, young and adults have the same potential value.

3) The direction of migration allows for the passage through France of many populations separated in time, both on post and pre-breeding migration. Their geographic origin is not precisely known, but hunting data on the one hand and date of departure from the breeding ground on the other (Clausagen 1974) indicate that the first to pass are the Finnish population, then the Swedish and Norwegian and finally the central European and sedentary population (erratic movements). The dates on which these populations pass through l'Herault are fixed but they vary from region to region.

4) The study of the variation in the age-ratio in France suggests the existence of sedentary populations which provide a positive fraction of the national picture (20 to 30% in 1976-77). They are localised in the Massif Central, the regions of Rhone-Alpes, and Centre-Nord; but throughout (including Brittany and the Midi Mediterraneen) one can show evidence of the existence of sedentary birds. Quantative analysis of the hunting picture in Lozere and the breeding study in the forest of Compiegne confirm this hypothesis.

5) It is practically impossible, with the present state of knowledge, to work out the productivity (number of young fledging) from the study of the winter age ratio. As for the sex ratio, it will be necessary to delimit the total wintering areas of young and adults to calculate the total migratory area, calculate their density and deduce the total age ratio; it is therefore much simpler to attempt this calculation on the breeding grounds before the migratory departure.

Table 1. Sex and Age Variations in Different Regions of France 1976-77.

Region	No W/C examined	No W/C sexed by dissection	No Males	No Females	Sex Ratio - 10th Jan.	Sex Ratio 10th I - 7th III	Sex Ratio after 7th Mar.	Overall Sex Ratio	No J (M + F)	No A (M + F)	Males J	Males A	Females J	Females A	Age Ratio - 3rd Jan.	Age Ratio after 3rd Jan.	Variation in age ratio before & after 3rd Jan.	Overall Age Ratio	No. J tails	No. J tails/ wings not abraded	% J without abraded wings.
West except FREAU	168	101	45	56	0.9	0.65	-	0.80	119	47	31	14	40	16	2.77	2.2	less 21%	2.53	32 (27%)	9 (7.6%)	28%
FREAU (West region)	105	d 17 i 81	d 6 i 31	d 9 i 50	0.66 0.68	4 0.35	- -	0.88 0.62	29	74	d - i 10	d 9 i 21	d - i 18	d 9 i 32	0.49	0.22	less 64%	0.39	5 (17.2%)	1 (3.4%)	20%
South West	169	101	43	58	0.8	0.28	1	0.74	134	35	38	5	47	11	3.90	3.25	less 17%	3.83	27 (20%)	2 (1.4%)	13.4% (2)
Centre Medit	170	131	59	72	0.74	1.55	0.5	0.82	106	64	39	20	38	34	2	0.9	less 55%	1.66	21 (20%)	7 (6.5%)	20.5% (3)
Centre, Massif Central	228	177	74	103	0.61	1.69	0.54	0.73	117	99	41	33	49	54	1	1.64	more 64%	1.18	24 (20%)	4 (3.4%)	20.5% (4)
Centre North	119	55	22	33	0.47	7	-	0.66	45	24	11	11	22	11	2.43	0.75	less 69%	1.84	9 (20%)	3 (6.6%)	33%
Rhone, Alpes	111	81	28	53	0.48	2	0.5	0.53	58	53	17	11	23	30	1.02	2.33	more 130%	1.09	13 (22%)	6 (10%)	35% (5)
Total	1070	663	279	384	0.66	1.2	0.5	0.72	608	396	177	102	219	165	1.64	1.25	less 24%	1.53	131 (21.5%)	32 (4.7%)	21.7%
											279		384								

J Juvenile; A Adults; M Males; F Females; W/C Woodcock; No Number

i sexed by the 'sex index'
d sexed by dissection
(2) 13.4% for the last four years

Study of Nesting

One aspect of nesting was particularly followed in Spring 1977 by two students of the O.N.C. , Mm. G. Chantrel and J. Martinel; in the forest of Compiegne (Oise). This work took place from 1st March to 15th July 1977 and many aspects were dealt with, biology and significance of roding; nesting in the strict sense; capture of the birds for ringing.

Biology and significance of roding.

Roding was observed daily in the evenings at one or two fixed points in the forest. In addition to the calls, weather conditions and daily intensity of roding were recorded and as a result it was noted that the number of birds passing a fixed point each evening (15 to 30) is of the same order as that observed in Great Britain, Germany and Scandinavia. It is therefore probable that the nesting is consequently also of the same order as in these countries.
The nuptial display of the male during which mating was sometimes observed, will be described in a special publication.
A sample of 27 birds killed a la croule before 20th March was composed of 85% males and 15% females.

Nesting.

The research of the students was carried out with the aid of a hunting dog (after it was found that direct observations had given deceiving results). Fourteen broods were recorded, the date of laying of the first egg was usually between 1st and 20th March (see Figure 1). A study of all nests and broods, discovered in France during more than 50 years and reported in the ornithological literature have shown that most first eggs were laid between 10th and 20th March (see Figure 2).

Capture of birds, Ringing.

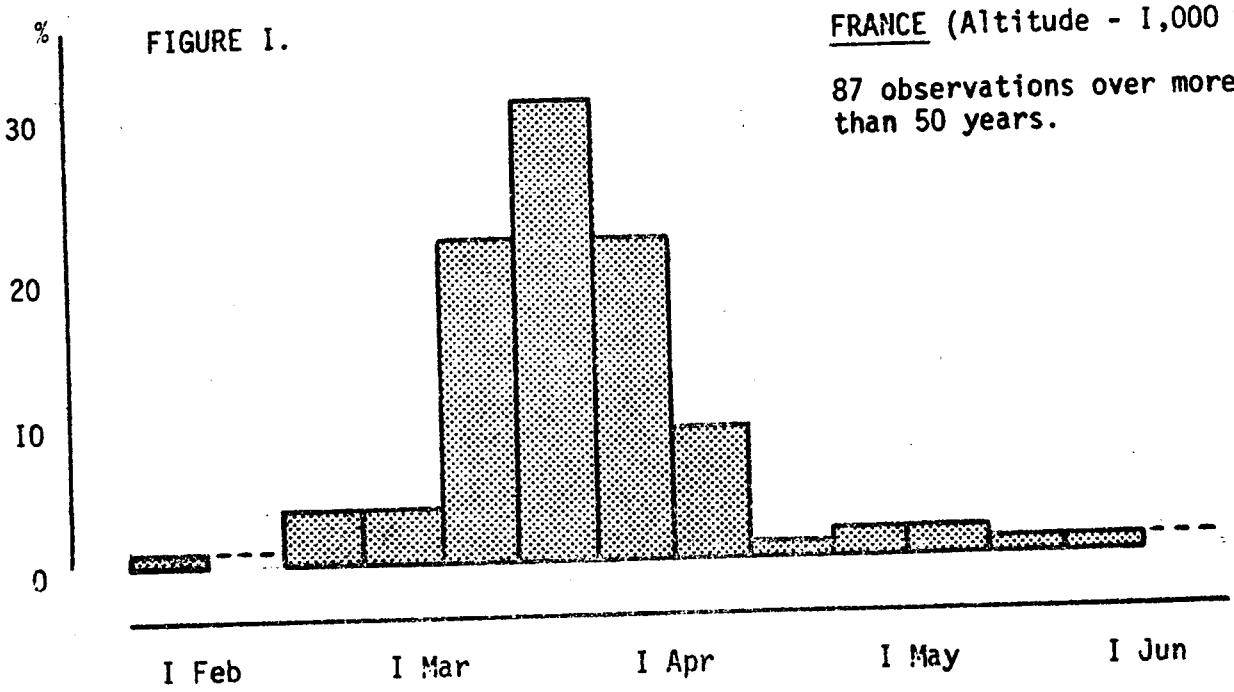
Various methods of catching roding birds were tried daily. Birds reacted very regularly both to calls (tape recordings of woodcock calls - whistling) and to lures (pigeons, etc. near the nets) but they used see the nets at several metres and avoid them. The main effort in the future will be concentrated on camourflaging the nets and make them less obvious.
Only six birds were ringed although every day one or two birds responded to the lure, occasionally a pair (two birds flying together).
In addition, three pulli found by a dog were ringed bringing to nine the total for this stage of the study.

Percent Birds laying first egg (y) by Date (x).

FIGURE I.

FRANCE (Altitude - I,000 m)

87 observations over more than 50 years.

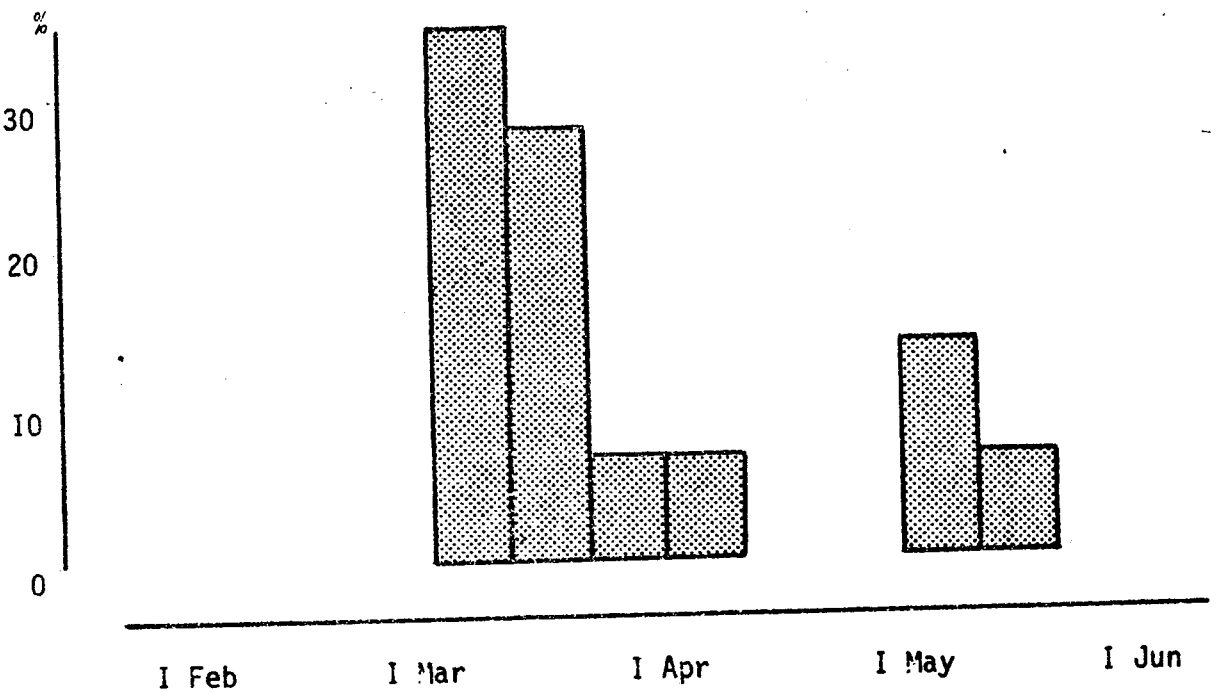


Date (in ten day periods).

FIGURE 2.

COMPIEGNE 1977

I4 observations.



Date (in ten day periods).

IRELAND.

John Wilson.

Woodcock wings were collected from sportsmen during the 1976-77 shooting season. The total number of wings collected (1,355 wings, including 281 wings from birds shot for dissection purposes) did not surpass the totals for 1975-76 (1,359) despite an increased network of hunters.

Table 1 shows the adult to immature ratios for the months November to March for the seasons 1975-76 and 1976-77.

TABLE 1.

Period	1975-76 Ad:Imm	1976-77 Ad:Imm
November	1:0.48 (185)*	1:0.57 (155)
December	1:0.57 (326)	1:0.51 (369)
January	1:0.64 (404)	1:0.69 (513)
February	1:0.56 (398)	1:0.86 (179)
March	1:0.30 (17)	1:1.00 (28)
Overall	1:0.55(1359)	1:0.63(1355)

* Figures in parenthesis indicate sample size.

Table 2 summarises (a) the overall adult female to immature ratio obtained for both seasons and (b) details the sex ratio resulting from the dissected sample of birds.

TABLE 2.

	1975-76	1976-77
(a)	Ad ♀ : Imm 1 : 1.10 (332)	Ad ♀ : Imm 1 : 1.80 (183)
(b)	♀ : ♂ 1 : 1.07 (513)	♀ : ♂ 1 : 1.16 (281)

The adult to immature ratios for 1976-77 show little variation from the 1975-76 results (March excluded due to small sample size) confirming the belief that small numbers of immature woodcock winter in Ireland. The reasons for the rise in the adult female to immature ratio in 1976-77 remain unclear due to the absense of data on the breeding success of the species in Continental Europe and also the smaller sample of dissected birds made available in 1976-77.

John Rochford.

Woodcock research at the Department of Zoology, Trinity College Dublin continued in 1976-77 along the lines set out in Newsletter Number 2 (p 21).

Full biometric data was obtained for over 200 birds which were aged and sexed by dissection, an techniques being developed to sex birds externally from body measurements are showing moderate success.

Tissues were collected from a sample of these birds for electrophoretic analysis to determine the presence, if any, of biochemically distinct races. Samples of breeding birds were taken under licence in Ireland and Sweden to provide geographical controls.

Analysis of roding calls has begun in an attempt to differentiate between individual males and will be continued in the coming season, but radio-telemetry work has been temporarily halted due to lack of equipment and expertese.

The testes from over 350 male woodcock, taken between 1975 and 1977 are being looked at in Association with Brian Stronach to determine the timing of the onset of gonadal development (spermatogenesis) in relation to the start of the breeding season.

IRAN.

Jamshid Mansoori.

The following report, dated October 1976, was received recently from Jamshid Mansoori of the Ornithological Unit, Division of Nature Conservation, Iranian Department of the Environment.

A SURVEY OF THE DISTRIBUTION AND ECOLOGY OF THE WOODCOCK (SCOLOPAX RUSTICOLA) IN GILAN, N.W. IRAN.

Introduction.

During the period 27th Bahman - 16th Esfand 1354 (17th Feb. - 7th Mar. 1976) studies were carried out on the woodcock (Scolopax rusticola) in the Province of Gilan in N.W. Iran where the species is a common winter visitor. The main objectives of the studies were to collect data on the distribution, migration, density, habitat selection, habitat requirements and the age structure of the woodcock population in the area.

Personnel.

The work was carried out by J. Mansoori with help from L. Cornwall for the period 8-10 Esfand 1354 (27-29 Feb. 1976).

Migratory Status.

At present only general information is available on the migratory status of the woodcock in Iran.
No woodcock have yet been ringed in Iran, nor have any foreign ringed birds been recovered in the country, The woodcock is a common winter visitor to the south Caspian Lowlands where it arrives mainly in the second half of October and leaves again for Russia in March. Particularly in hard winters small numbers reach as far south as the lowlands of Khuzistan, Fars and Baluchistan (Scott 1974).

Distribution.

Woodcock are common-abundant throughout the Caspian lowlands from Astara in the west to at least Mohammad Reza Shah National Park in the east (48.50'-57'E and 36-38N).
It may occur as a winter visitor in deciduous forests of the Aras river watershed for example in the Kalibar Mountains in the extreme north of Azarbayjan (Scott 1974). It is regular in small numbers along the south slope of Alborz, and forested areas of the Zagros Mountains (Map 1).

Habitat Selection.

The habitat selected by woodcock in Gilan was investigated in a number of study areas. The habitat in each area was described and an indication of its suitability for woodcock was gained by measuring the density of the birds using the line transect technique. The study areas are marked on Map 2 and details of the censuses are summarised in Table 1.

Results.

The results of these surveys, casual observations and comments by local people suggest the following conclusions about the habitat requirements and utilization of the woodcock in Gilan:

1. Local people report that woodcock spend the day in moist woodland and flight out into nearby rice paddies to feed at night. This observation is supported by the following evidence:
   a) No woodcock were seen during extensive walks in rice paddies during the day.
   b) However, when rice paddies were visited at night woodcock were seen by torch-light. Furthermore, woodcock-netting in Gilan was traditionally carried out at night in rice paddies.
   c) Woodcock are found in woodland during the day.
2. Woodcock tended to be found in woodland with good underbrush, which usually includes brambles, low bushes and clumps of rushes (Juncus sp.)(Table 1) This is probably because such underbrush provides cover from predators and shelter from wind and sun.
3. The highest densities of woodcock were found in woods close to rice paddies (Table 1). This is presuamably because it is an advantage to spend the day close to the rice paddies where they feed at night.
4. It seems that the natural habitatof the woodcock in Gilan is damp, deciduous forest with underbrush. They are also found in the newly planted conifer plantations.

Feeding.

Woodcock are difficult to observe while they are feeding this usually takes place at night or in heavy cover. Hence the only data that was obtained on the feeding of the woodcock was from the analysis of the gut contents of the 16 shot birds. The results are summarised in Table 2.

Age Structure.

Information on the age structure was gained by studying birds killed on shoots organised by a local hunting firm, Iran Shikar Ltd. 158* specimens were examined and the measurement taken. Birds were aged using the method of Clausager (1973) namely the amount of wear on the primaries and the width and colour of the terminal band on the primary coverts as follows.
This showed that 63.7% were first year birds and 36.3% were adults which indicates that the population has healthy breeding potential.

Sex Ratio.

Similar treatment to age structure (24.74% were male, and 75.26% female) Only 16 birds were opened and sexed by dissection.

Hunting Pressure.

Previously woodcock were hunted by local people in the south Caspian lowlands using various kinds of nets and traps. However nowadays these methods are illegal and shooting is the only legitimate way of hunting woodcock. In the north of Iran woodcock are not greatly sought after as game birds except as hunters, Mainly from abroad, who participate in shoots organised by Iran Shikar Ltd. This firm arranges shoots in a few areas, chiefly near Bandarpaplavi in Gilan, where hunting is intensive and must have s significant local effect on the population. However it is not thought that hunting presents a serious threat to the woodcock in Iran at present. Nevertheless it is hoped to collect bag records from Iran Shikar during the 1976-77 winter.

Local Methods of Catching Woodcock.

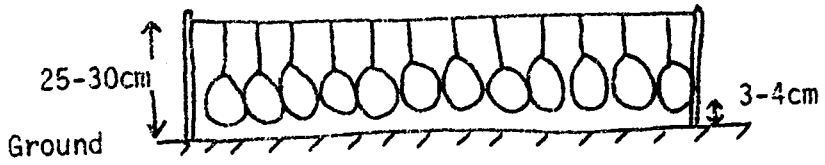
Methods of trapping woodcock that were used by local people in the North of Iran were studied. The most interesting techniques include the following:

1. A flare and a net.

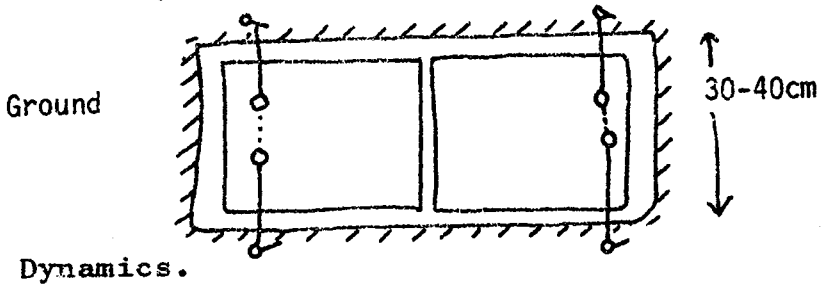
This method employs a storm lantern or parafine pressure lamp and a net whicw is used on dark and cloudy nights in Rice Paddies. The hunter holds the light in front of himself and captures the woodcock which become mesmerized by the light, with a long handled net

* Wings from 101 of these were sent to England for laboratory tests for the detection of traces of toxic chemicals

2. The Doom trap.
The doom trap consists of slip nooses suspended from a wire.



3. Barreh talleh.
The Barreh talleh works as a pitfall trap and box with spring trap doors which is dug into the ground and concealed.



Population Dynamics.

No accurate data is available on the population dynamics of the woodcock in northern Iran. However it is known that the population that winters in the Caspian lowlands was largely wiped,out in the severe winter 1970-71 and that since then it has gradually increased to the health levels recorded in this report.

References

Clausager, I. (1973) Age and sex determination of the Woodcock (Scolopax rusticola). Danish Rev. Game Biol. 8: 1 - 18.

Scott, D.A. (1974) The status and distribution of the Woodcock (Scolopax rusticola) in Iran. Iran Dept. of Environment. Mimeographed Report.

Shorten, M. (1974) The European Woodcock (Scolopax rusticola). Game Conservancy Report No. 21.

IWRB Woodcock Research Group Newsletter No. 1. (1975).

Witherby, H.F., Jourdain, F.C.R., Ticehurst, N.F. and Tucker, B.W. (1949) The Handbook of British Birds. Vol 1. H.F. Witherby Ltd. London.

TABLE 1. Details of Study Areas and Results of Censuses.

Number	1	2	3	4	5.	6	7	8	9	10
Study Area	Abbassabad	South of Kanrud	Rudsar	South of Havigh	Talarud	North of Hashtpar	Khalehsara	Nahalestan	Sheikh-neshin	Siahkhal-chsar
Location	37.25'N 48.50'E	37.15'N 48.50'E	37.10'N 48.50'E	37.05'N 48.50'E	36.40'N 48.50'E	36.38'N 48.55'E	36.25'N 49.00'E	36.20'N 49.00'E	36.15'N 49.00'E	36.16'N 49.15'E
Area	¼ ha + 4 ha	10 ha 5 ha	20 ha + 2 ha	2 ha 2 ha	+ 3 ha 3 ha	5 ha	15 ha 10 ha	3 ha, 3 ha 1 ha	18 ha, 10 ha, 3 ha	6 ha, 1 ha 1 ha
Main Tree spp.	E P A	E P O	E P A	P A E	-	E A O	E A P	Softwood***	E A P	E Spruce
Height of most Trees	5 m	15 m	5 m	6 m	-	20 m	15 m	3 m	10 m	4 m
Tree Cover %	20	35	60	40	-	60	50	2	50	60
Main ** Underbrush spp.	++ J	++	++	++	-	++	++ J	B J	++	B
Underbrush Cover %	60	40	30-40	45	-	25	40	70	30	10
Ground Veg. %	10	15	30	30	-	30	35	35	25	10
Ground: Dry/Hard Moist	"	"	"	"	"	"	"	"	"	"
Distance to nearest rice paddies	100 m	10,000 m	2,000 m	50 m	0	200 m	2,000 m	near	near	near
Transect Data:										
1) Length	3 Km	2.5 Km	2.5 Km	1 Km	0.5 Km	3 Km	2 Km	1.5 Km	3 Km	1.5 Km
Time	0800-1100	0800-1130	0800-1030	0930-1030	1900-2000	1430-1625	1030-1230	0900-1030	0800-1200	0800-0930
No. Woodcock	-	-	1	1	1	3	1	1	3	-
2) Length	500 m	1,500 m	500 m	-	1 Km	-	1,500 m	1,500 m	2,000 m	2.5 Km
Time	1900-2015	1330-1530	1830-2030	-	0800-1100	-	1330-1500	1030-1230	0900-1330	1110-1200
No. Woodcock	1	-	-	-	-	-	-	3	5	1
3) Length	-	-	-	1 Km	-	-	-	500 m	1.5 Km	500 m
Time	-	-	-	1100-1330	-	-	-	1400-1600	0845-1100	1400-1600
No. Woodcock	-	-	-	-	-	-	-	2	3	1
Av. No. Woodcock seen / Km Trans.	0.28	0.00	0.33	0.50	0.66	1.00	0.23	1.70	1.69	0.44

* Study Areas are marked on Map 2.

E Elm; P Poplar; A Alder; O Oak; B Bramble; J Juncus sp.

TABLE 2. Gut Analyses of woodcock from Gilan, N.W. Iran.

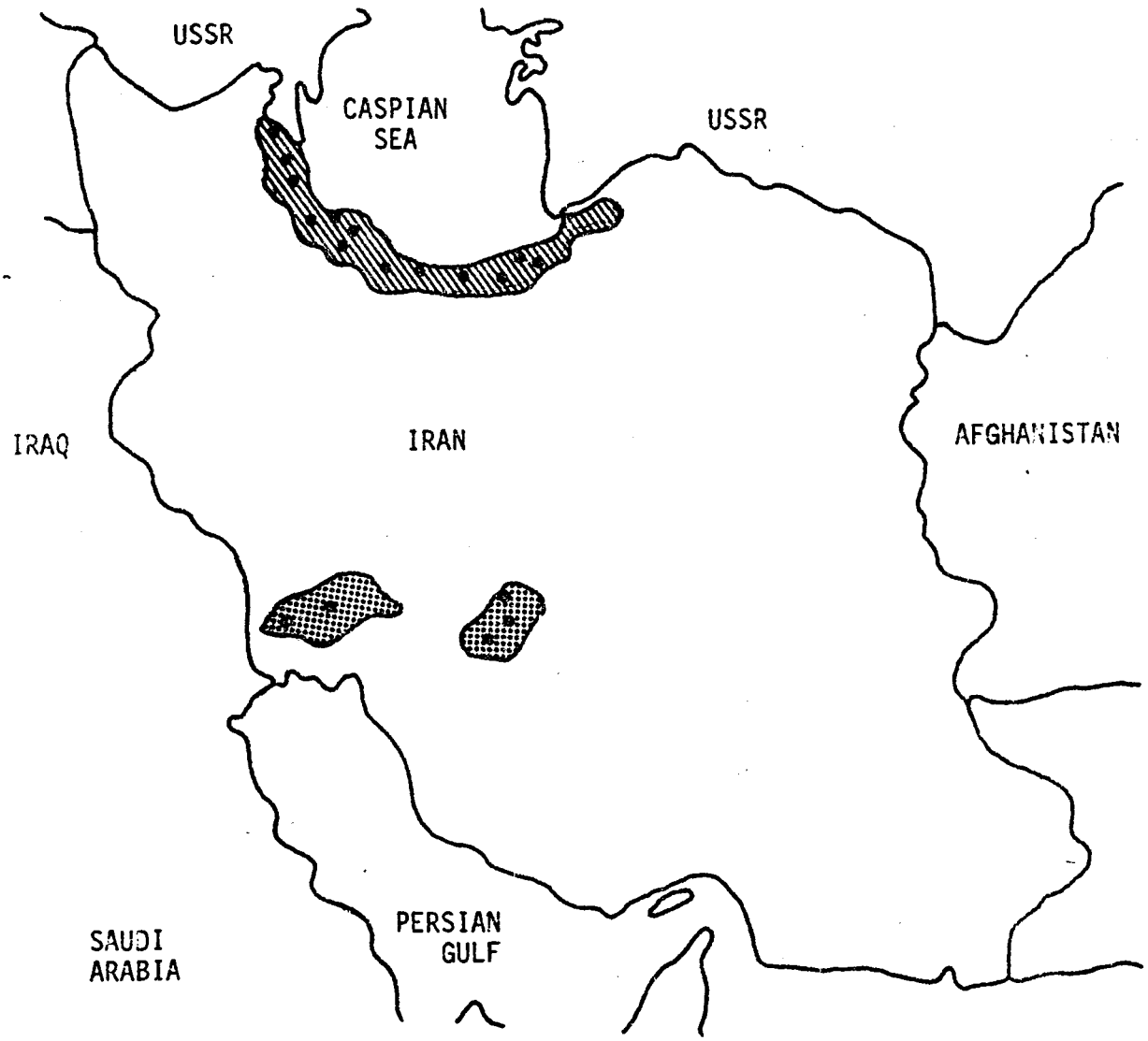
Gut Number	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158
Age*	1Y	Ad	1Y Bur 6 mm	1Y	1Y	Ad	Ad Bur	1Y Bur	1Y	1Y Bur 6 mm	Ad	?	Ad Bur 10 mm	Ad	Ad	Ad Bur 4 mm
Sex	♀	♀	♂	♀	♀	♀	♀	♀	♂	♂	♂	♀	♀	♀	♂	♂
Locality**	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+	S+
Date***	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Gut Content:																
Fragmented remains of Insects	+			+		+	+		+	+						
Myriapoda									2							
Limnea sp. (Gastropoda)				+												
Seeds													+			
Cestoda (Endopara.)	+	+					+				+				+	

* 1Y First Year Bird; Ad Adult Bird; Bur Bursa present.

** S+ Sheikh-neshin Woods.

*** 26 February 1976

FIGURE I. The Distribution of the Woodcock in Iran.



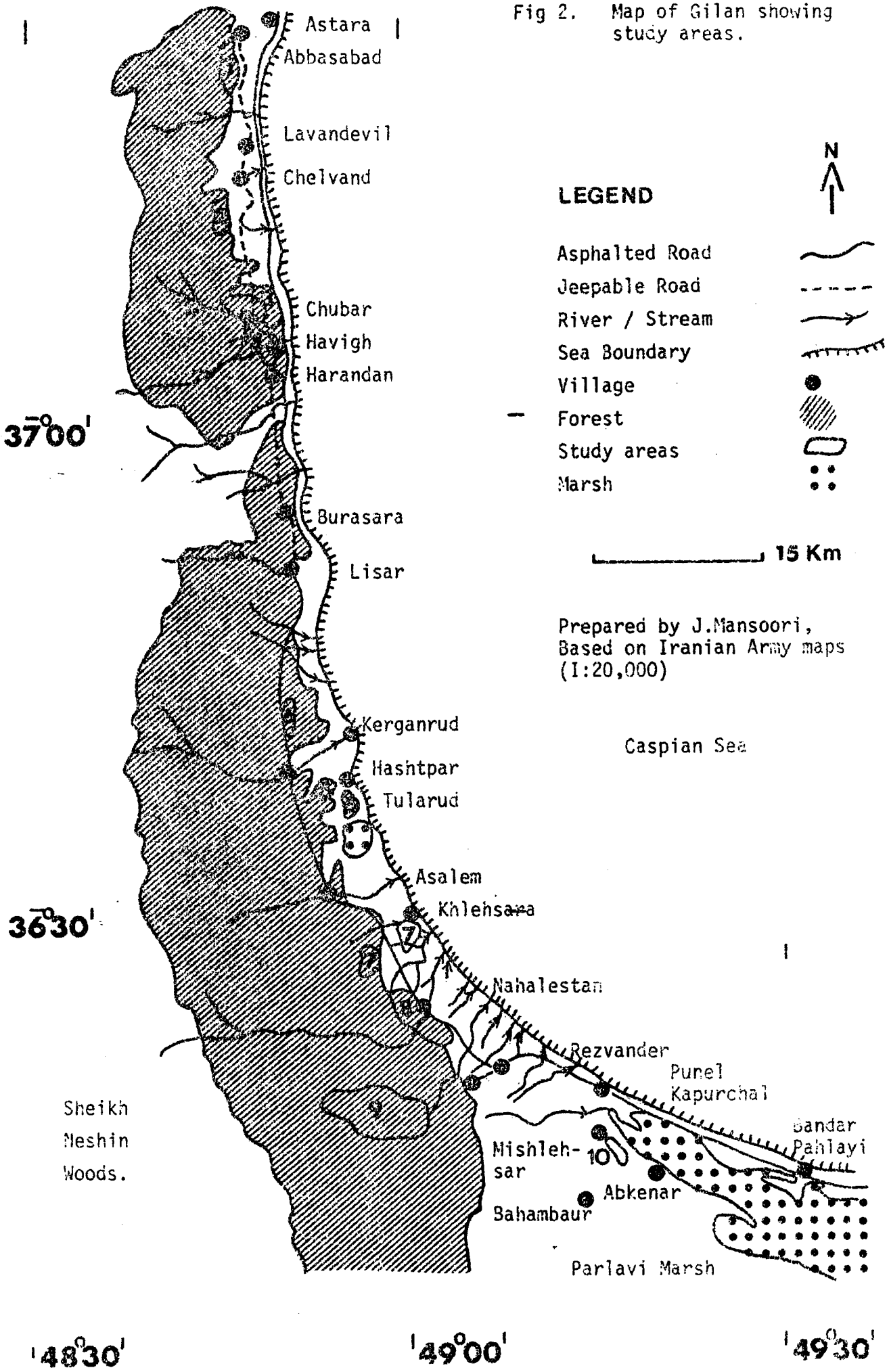


Fig 2. Map of Gilan showing study areas.

SHORT NOTES.

1. The Spanish Hunting Associations are trying to stop the shooting of Woodcock a la passee: In the north of Spain anyone caught doing this has his permit taken away, is trown out of the Associa and neighbouring Associations are warned not to accept him. The practice is also condemned by the Italian Club della Beccaccia. (See Newsletter No. 1, pp. - , for hunting practices and regulati in other countries.) MSdeV.

2. Nowak, E. & Pilipiuk, J. (1967) and Olech, B. (1972) both in Lowiec Polski - Polish Hunter, have shown that the annual totals of Woodcock shot by Polish hunters fluctuate between 12800 and 13600. Dr. Krupka, chairman of the Polish Hunters Association (pers. comm. to Pal Mariassy) said that the total yearly bag was a couple of hundred (200 - 300) as this sort of shooting lacks tradition in todays Poland.

3. French hunters kill as many as (nearly) one million Woodcock annually. BdeC.
Charles Fadat states that it (the annual bag) must be several hundred thousand but they do not have exact figures. PM.

4. The total number of Woodcock shot in Austria in 1975/76 was 3847. PM.

5. For some time now there has been a problem in Germany regarding the spring hunting of Woodcock. Various hunters and biologists have held very different views on this subject (see Woodcock New letter No. 2, pp. -). However in March 1977 the legislation wa changed and spring hunting is no longer allowed. The new huntin season is from 16 October to 15 January. GN.

6. Relaying after loosing a clutch.
How quickly will a Woodcock lay a new clutch if the first is los If the eggs are already in an advanced stage of incubation, does a bird begin to lay again as quickly as after loosing a freshly laid set of eggs? A short note by W.M.Congreve (Brit. Birds 18 139) was published in 1924-5 describing an experiment to test this point. The author took two clutches, each of four eggs, on 13 April. Clutch A was much incubated, and clutch B was fresh. At site A a Woodcock was found sitting on four fresh eggs fourte days later within eight yards of the rifled nest, suggesting tha complete replacement of a well-incubated clutch may have occurre within that time. At site B a Woodcock had laid one egg within ten yards by the seventh day, and the complete clutch of four we slightly incubated when examined on the fourteenth day. The author concluded that these were cases of re-laying, and points out that the interval varied only slightly.
One has to be able to identify the sitting birds before one can be certain, of course. This summer John Ellis (Nottinghamshire found a Woodcock sitting on a nest within two feet from a nest which had hatched off fourteen days before, and he had seen the brood from the first nest several times in the interval, togeth with the adult bird.
One Woodcock looks much like another !

7. Courtship and copulation of woodcock.

During a visit to Morang Forest, Beauly Firth, Inverness on 24 June 1976 I was driving along a ride in the forest at 9.0 pm when I sighted two woodcock in the ride in front of me. I stopped the car about thirty yards away from them to observe what they were doing. One bird, the male was walking around the female doing a complete circle of her, stopping now and again and lowering his head. At times it looked as if he was placeing his bill into the ground but he never seemed to sink his bill into the soil. I watched the performance for about four to five minutes and then the male stopped at the rear of the female which then crouched down, the male then proceeding to walk around her again dipping his head all the time. After about four circles he stopped at the rear of the female again, but this time she only did a half crouch, and the male then proceeded to copulate with her for about five to ten seconds, then started doing his circling of the female once again. By this time I thought I would be able to get a shot of them on film so I rolled the car towards them, stopping about six yards away. This stopped the male bird's display and both birds stood looking at the car. I managed to get a shot of them together after waiting to see if he would display again, but he would not oblige and they then flew away together.

The drive was very narrow with just enough room for a car. It was grassed in the centre, bare at the sides and enclosed by tall firs, about fourty feet high.

J.Ellis.

8. Male woodcock taking care of young.

The following facts make me believe that the male woodcock will take care of the young while the female sits on a second clutch of eggs: On 9 April 1977 I found a woodcock's nest with three eggs in it. No more eggs were added to this clutch and they hatched on 15 April. While searching for other nests I came upon these three chicks many times with just one bird in attendance, never more than 250 yards from the nest site. I could not ring the chicks as I had no rings in stock. On 1 May I came upon the three chicks again and this time I was carrying rings with me. When I flushed the old bird the chicks managed to fly about 20 yards, and I was able to catch two out of the three. On 3 May I was searching near the previous nest site of the three chicks and chanced to look at the nest. To my supprise I spotted a woodcock sitting on four eggs about two feet from the first nest. Maybe it was a different bird, but I think the odds are too great for a second woodcock to choose this same very small patch of bramble cover.

The method I use early in the season to find woodcock nests is to search very sparse bramble patches only and places with very little cover, for I have never found a nest in thick coveror near the base of a tree in all the years I have been searching for woodcock. Later in my wood they seem to like nesting in bluebells. Two nests this year were found in thick beech cover, the trees about sixteen feet in height but no ground cover except dead beech leaves. (Fourteen nests were found in 1976 and seventeen in 1977).

J.Ellis.

9. Woodcock carrying young.

I had always believed that when a woodcock was flushed while brooding its chicks it was possible for a chick to be snugged under the flank, and when the old bird lifted it might be held by the drooped tail feathers that the woodcock uses for a distraction when flying from young. After an experience I had on 3 June 1976 I no longer hold this view. Whilst sitting talking to two birdwatchers from Doncaster at the top end of Whitwell Wood, I saw a woodcock walk out of thick cover to the drive side, then fly across the drive moving down about twenty yards to the opposite side. All three of us clearly saw a chick held to her lower body and upper thighs plus tail tucked well back to her legs. We were about eight yards away when this happened, and judging by our reactions we must all have seen it happen at the same time. In my excitement I jumped to my feet and crept to where the bird had dropped. There I heard the woodcock making soft calls to the chick but I could not see the chick. I listened for about a minute and then moved to where they were. The old bird then lifted, and to my surprise still held the chick. This time I was about three yards away and got a much better view of the chick; it was about the size of a young song thrush. As the bird flew away it just managed to clear a patch of bracken and looked to be under great pressure to keep on the wing. I lost sight of her in the trees about a hundred yards away. This is the second time I have seen a woodcock carrying its young.

J.Ellis.

10. Observations on the feeding of woodcock.

Whilst driving around a hayfield near Salthouse Heath, Norfolk, from 1800 to 1900 hrs. during darkness on 18 December 1976, in the hope of seeing woodcock (Scolopax rusticola) which had been reported there in good numbers the following observations were made.

Generally, because of the cover and the fact that the birds tended to squat readily at the approach of the car the birds were flushed and only flight views were obtained in the headlamps. However, if the birds were then watched carefully (they usually only flew a few yards) the point at which they landed was seen and if I drove carefully up it was then possible to see the birds on the ground. It was then observed that the birds were feeding, not roosting as suspected, several birds were seen probing the ground, some for several minutes until they were out of range of the lights. Of a total of about 12-15 birds seen at least 6-8 of these were observed probing the ground.

I have shown this note to my colleagues who were with me and they totally agree.

T.W.Parmenter.

11. Woodcock eyes.

The following is a preliminary report on the structure of the woodcock eye by Dr. D.R.Barry, Consultant Pathologist at Birmingham and Midland Eye Hospital sent in by Dr. K.W.Brewster.

'On macroscopic examination the globes were removed from the orbits: extra-ocular muscles were present but the range of movement of the globe within the orbit seemed to be very small. The fixativesolution, in spite of precautions taken, had penetrated

very poorly, in particular the brain was unfixed.
'On microscopy the right eye seems intact but the left eye shows collapse of the cornea with a perforation. The left eye is somewhat disorganised by retinal detachment and haemorrhage, especially in the suprachoroid. In the right eye structures are normal in their relationship, and the lens is present in the sections studied. The retinae of both eyes have been studied in routine haematoxylin and eosin sections, embedded in celloidin and paraffin, and with various stains intended to show up the visual elements to their best advantage. No clear macula or macular area can be demonstrated. The retina shows numerous rods and some of these appear to be thicker than their human counterpart. It is difficult to exclude dogmatically the presence of cones as, owing to delayed fixation, some autolytic changes have taken place, giving rise to globules, some of which might be considered to be distorted cones.'
...It would appear that the woodcock has a high rod content in the retina but the presence of cones cannot be excluded...This would fit with the general rule that unless a bird is entirely nocturnal, one should not expect an exclusive rod retina.

D.R.Barry.

...It suggests that the woodcock is adapted to a crepuscular existence, most active on moonlit nights, with a keen sense of movement, and average to poor daylight vision plus possibly a diminished colour sense (?) the two latter being due to the poor supply of cone type cells. Its vision is alround to avoid attack from the rear while feeding, and its low placed ear would pick up ground vibrations at some distance...

K.W.Brewster.

BIBLIOGRAPHIES.

Papers and short articles on the woodcock read since the last Newsletter.

Berndt,R. & Winkel,W. (1977) Die Jagd als Uberlebensproblem fur die Waldschnepfe. (The effect of hunting on the woodcock population. Natur und Landschaft 52(4):105-106 In German.

Buhler,M. (1976) Stoppt die Fruhjahrsjagd auf die Waldschnepfe. (Stop spring hunting of the woodcock.) Wir und die Vogel 8(2):4-6 In German.

Davison,G.W.H. (1976) Function of the tail pattern in game birds. Brit.Birds 69(9):371-372

Forges,G.des (1977) Behaviour of an incubating woodcock. Brit. Birds 70(3):121

Fraguglione,D. (1976) Contribution a la connaisance des ecto et endoparasites de la Becasse des Bois (Scolopax rusticola L.). Richerche di Biologia della Selvaggina 7:359-380 (supplement in memory of Augusto Toschi). In French, with Italian summary; 17 Figures and bibliography of 75 titles.

Grekov,V.S. et.al. (1973) (On the biology of the woodcock in south-western Ukraine.) Moscow Soc.Nat.Symp. 29-30 March 1973 Fauna i ekologiya kulikov 1:34-36. 328 woodcock collected 1959-72 examined for age, fatness, sex and plumage; organs and blood examined serologically and virologically. In Russian, English translation available.

Haartman,L. (1976) Anteckninger om morkullan Scolopax rusticola sarskilt om dess spelflykt. (Notes on the display flight of the woodcock.) Ornis Fennica 53:53-55 In Swedish, English summary.

Hirons,G. (1977) The Game Conservancy Woodcock Project. Game Consv.Ann.Rev. 1976 8:74-75

Hughes,S.W.M. (1976) The woodcock in Sussex - a review of recent records. Sussex Bird Report 1975 28:66-79. 1 map, 1 figure and 1 table.

Lampio,T. (1977) Changes in the protection of waterfowl in Europe in 1969-75. Riistatieteellisia Julkaisuja (Finnish Game Review) 36:1-13. In English.

Lippens,Count L. (1977) Les becasse diminuent-elles en Europe occidentale? (To appear shortly in French and Dutch in Bull. Royal St.-Hubert Club de Belgique).

Marcstrom,V. (1977) Notes on woodcock reproduction in Sweden. Viltrevy (Swedish Wildlife) 10(2):27-40. In English, Swedish summary.

Moritz,D. & Nemetschek,G. (1976) Der zug der Waldschnepfe (Scolopax rusticola) auf Helgoland. (Migration of the woodcock on Heligoland). Corax 5(4):176-191. In German, short English summary; 7 figures, 2 tables and bibliography of 30 titles.

Nemetschek,G. (1977) Beobachtungen zur Flugbalz der Waldschnepfe (Scolopax rusticola). (Observations on the display flight of woodcock). J.Ornithologie 118(1):68-86. In German, English summary. Full English translation available. 9 figures and 2 tables.

odionov,M.A. (1973) (Some features of woodcock biology). Moscow Soc,Nat.Symp. Fauna i ekologiya kulikov 1:92-93. In Russian, full English translation available.
horten,M. (1977) Woodcock Enquiry 1975-76. Game Consv.Ann.Rev. 1976 8:70-73
auk,G. & Nemetschek,G. (1977) Masse und Gewichte Helgolander Waldschnepfen (Scolopax rusticola). (Sizes and weights of Heligoland woodcock). Z.Jagdwiss 23:12-19. In German, brief English summary. 3 figures and 4 tables.
vgenov,D.N. & Kuzyakin,V.A. (1973) (Courtship behaviour of woodcock and boundaries of geographical complexes. Moscow Soc.Nat.Symp. 29-30 March 1973. Fauna i ekologiya kulikov 1:39-41. In Russian, full English translation available.

RUSSIAN BIBLIOGRAPHY ON WOODCOCK (Compiled by Prof. Flint, 1977).

Bakeev,N.N. (1973). Woodcock distribution, population and hunting in various parts of the European USSR. Fauna i ekologiya kulikov 1 : 25 (Moscow Univ.)

Bel'skii,P. (1959). Woodcock roding. Okhota i okhotnich'e khozyaistvo 4 : 21

Volkov, P.I. (1968). Early and late egg-laying of woodcock. Ornithologiya 9 : 342

Vorob'ev,K. (1971). Woodcock nesting. Okhota i okhotnich'e khozyaistvo 10 : (no page)

Voronin. (1967). Let us preserve the woodcock in the central zone Okhota i okhotnich'e khozyaistvo 4 : 20-21

Grevkov,V.S. et al. (1973). Woodcock biology in southwestern Ukraine. Fauna i ekologiya kulikov 1 : 34-36 (Moscow Univ.

Kusmin,I.F. (1967). Dependance of woodcock roding on topography and climate in the Moscow area. Ornitologiya 8 : 160-164

Lebedeva,M.I. (1965). Migration of Scolopacidae, from ringing data. Ornitologiya 7 : 339-340

Loshkarev,G. (1971). The woodcock in the foothills of the Caucasus. Okhota i okhotnich'e khozyaistvo 2 : (no page)

Rodionov,M.A. (1973). Some aspects of woodcock biology. Fauna i ekologiya kulikov 1 : 92 (Moscow Univ.)

Romanov,Yu.M. (1963). Woodcock distribution in the Moscow region and some features of springtime ecology of woodcock. Ornitologiya 6 : 96-100

Pavlov,M.I. (1973). Nature and extent of the effects of hunting on Scolopacidae in lands of the middle Volga basin. Fauna i ecologiya kulikov 1 : 121-124 (Moscow Univ.)

Podkovyrkin,B. (1972). Late nesting of woodcock. Okhota i okhitnich'e khozyaistov 4 : 43

Ustinov,S.K. (1963). Woodcock roding in the Baikal region. Ornitologiya 6 :161-164

Flint,V.E. (1975). Woodcock roding : the ethological aspects. Okhota i okhotnich'e kulikov 1 : 16

Shmit,E. (1975). More about roding. Okhota i okhotnich'e kulikov 8 : 17

Shmit,E. (1962). Is the woodcock polygamous? Okhota i okhotnich'e kulikov 4 : 21

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Helsinki 12 December 1977

FINNISH WOODCOCK RESEARCH GROUP REPORTS:

FIELD OBSERVATIONS

Observations in the field were continued in our study area during 1977. The earliest individual was observed on March 24th and one was still observed then on November 19th. The roding flight was first observed on April 20th and the last time on August 5th. The mapping of territories went on during the whole breeding season, but the material has not yet been fully analysed. If our method is reliable, the density of woodcock exceeds 3 pairs/sq. km. in the study area. The timing of the roding flight was studied closely in 1977. Display was going on more intensively in the evening than in morning hours. Usually the display flight continued less intensively through the whole night. The weather did not seem to affect the display activity to any great extent.

On June 30th a woodcock in display flight was observed showing aggression towards a flying Mallard male. On another occassion a flushed woodcock started its roding flight in the middle of the day (11.39 hrs. on July 6th).

THE NEST RECORD CARDS

The nest record cards accumulated since 1963 (altogether 122 cards) have been analyzed according to the methods used by Robert Morgan and Monica Shorten. The results correspond well with the English ones. There are some unconfirmed records on shorter incubation periods in Finland than the handbooks state. It also seems the woodcock tends to lay eggs more often than once in two or three days. Hatching success was lower than in the English study but fertility was higher. The breeding habitat was usually mixed forest but groves were favoured too. Most nests were situated beneath a tree (mainly a spruce) or bush. The rest of the nest record cards will be analyzed in 1978.

HUNTING

The open season for woodcock in Finland lasted from September 10th to October 15th in 1977. In Ireland hunting is also permitted in spring during the roding time. The Game Research Institute collected 110 wing samples and sent them to Denmark to be analyzed by Dr. Clausager. After determining age we can compare the age ration with the age ration

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in other countries. Most wing samples came from Kuopio administrative district where the woods have been burnt for cultivation mainly in the 19th century and now are birch-dominated. Very few people in Uusimaa, southern Finland go especially for woodcock hunting with pointers. Most birds are shot when a hunter or his dog accidently meets a woodcock and flushes it. The Hunters Central Organisation and the Game Research Institute estimate that 500-1000 woodcocks are shot in Finland annually.

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