

CRANE RESEARCH IN FINLAND IN 1983

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Finland

Introduction

The Finnish working group on cranes was formed in 1983 (chairperson Dr. *Juhani Rinne*) and it is supervised by the Association of Ornithological Societies in Finland (AOSF). Our main questions are:

1. Where do the Finnish cranes winter and where do they moult?
2. How many non-breeding cranes stay in Finland in summer and where do they stay?
3. What is the exact size of the crane population in Finland?
4. What is the proportion of juvenile birds in autumn flocks?
5. How much damage do the cranes cause to agriculture?

AOSF chose the crane as its project species for the year 1983. The aim of the study was to get information from amateur ornithologists on migration, breeding biology and the size of the crane population in Finland. In addition, the most important resting areas and the number of non-breeding birds were recorded, as well as damage to agriculture caused by cranes. In this paper we shall concentrate mainly on breeding biology; migration will be discussed only broadly.

Material and methods

Finland is divided into 26 areas, in each of which there is an active local ornithological society (Fig. 1). In most areas a local organizer collected observations from bird-watchers and this paper is based on those local reports. Further information has been obtained from old breeding records and literature, as well as through a campaign organized for school children.

The distribution of the crane in Finland

The distribution of the crane in Finland is rather well known. According to the Finnish bird atlas (*Hyttiä et al.*, 1983) the crane breeds all over Finland. The population seems to be most abundant in the large peatland areas of western and northern Finland. In the southern and eastern parts of the country the population is rather sparse (*Hyttiä et al.*, 1983 and the unpubl. line transect data of *O. Järvinen* and *R. A. Väisänen*). The crane breeds occasionally as far as northern Lapland. The northernmost limit of the distribution follows the northern limit of the mixed birch-coniferous forests (Fig. 2).

Population size

According to our data, at least 3500 pairs of cranes breed in Finland. It is very difficult to estimate the exact size of the population because of the many non-breeding birds. Hölsä (pers. comm.) has estimated that there are about 300—350 non-breeding cranes in South Karelia (area 6 in Fig. 1) during summer, i. e. more than breeding cranes in the same area (104 pairs). In June and July 1983, 26 flocks (each at least 5 individuals), about 400 cranes in total, were reported from Finland, but this is presumably an underestimate. It seems quite likely that more than 1000 non-breeding individuals spend the summer in Finland.

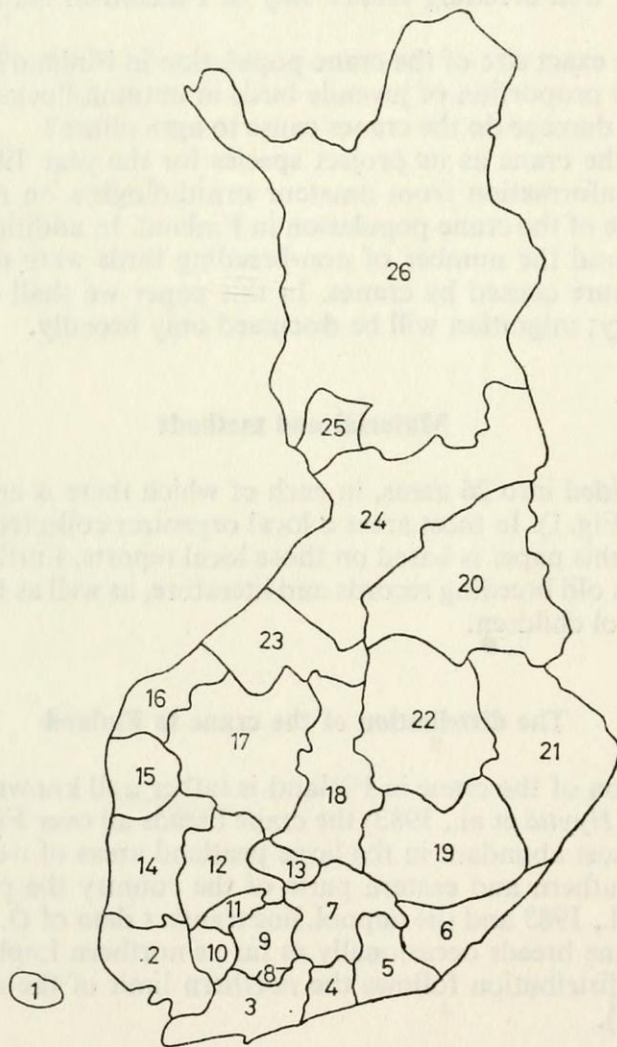


Figure 1. The areas of the ornithological societies in Finland

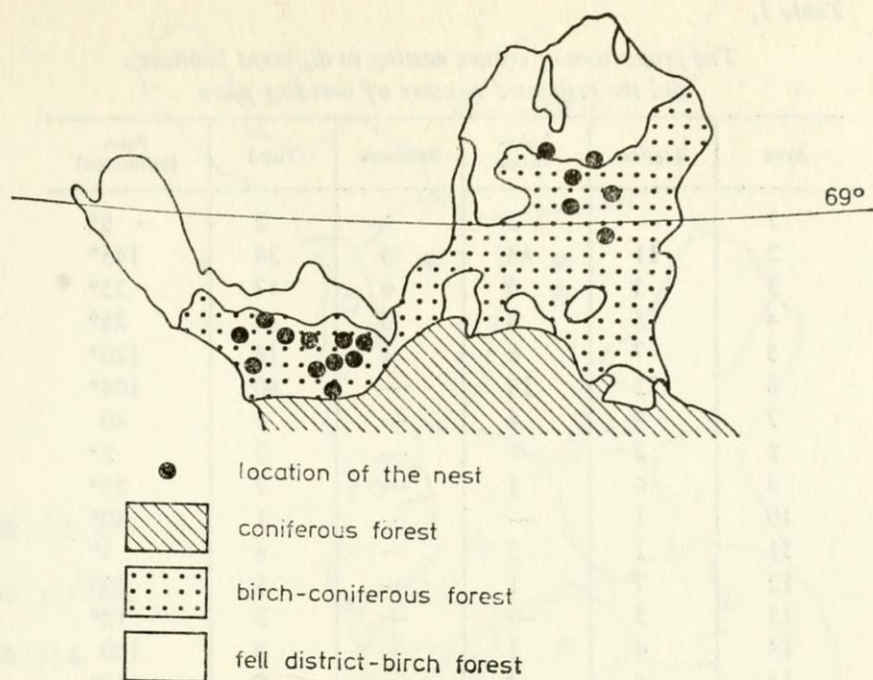


Figure 2. Nests of the crane found in N-Finland

Breeding habitat

Different kinds of mires (peatlands) are the most common nesting sites for cranes. During the last twenty years, however, an increasing proportion of cranes have been found nesting in reed-beds and shore meadows overgrown with sedges, especially in the southwestern part of Finland (e. g. *von Haartman et al.*, 1963—1972; *Hyytiä et al.*, 1983). It has been estimated that 30% of the crane population in South Karelia breed in such habitats along lakeshores (*Hölsä*, 1981). The proportion of cranes nesting in different habitats is presented in Table 1. The proportion in bogs and fens is certainly underestimated, because cranes are easier to detect in shore habitats near human dwellings than in large and often inaccessible peatland areas.

Draining of bogs and fens has destroyed many former breeding habitats. In southern Finland as much as 80% of the area of the peatlands have been drained, the corresponding figure for all of Finland being 55%. The cranes have therefore been forced to change their breeding habitats, shifting to large reed-beds and damp meadows along sea- and lakeshores.

Egg-laying and clutch size

In southern Finland egg-laying starts in the second half of April, in the Oulu district (area 24 in Fig. 1) in the beginning of May (*von Haartman et al.*, 1963—1972). The earliest clutch so far recorded was found on 16 April in southern Finland. According to this and earlier records from the literature, nine clutches from April are known so far. In northern Finland laying begins in June (Fig. 3).

Table 1.

*The proportion of cranes nesting in different habitats
and the estimated number of breeding pairs*

Area	Bog/fen	Lake-shore	Seashore	Total	Pairs (estimated)
1	—	2	—	2	5*
2	11	18	5	34	145*
3	5	6	6	17	35*
4	5	8	5	18	25*
5	7	6	1	14	120*
6	22	18	—	40	104*
7	2	4	—	6	40
8	2	—	—	2	2*
9	6	1	—	7	35*
10	1	—	—	1	30*
11	1	3	—	4	3*
12	7	1	—	8	20*
13	3	—	—	3	12*
14	4	1	—	5	150
15	4	4	—	8	135*
16	1	—	—	1	110
17	3	8	—	11	170
18	—	—	—	—	70
19	4	—	—	4	150
20	1	—	—	1	170
21	2	2	—	4	150
22	18	5	2	25	400
23	5	—	—	5	500
24	7	—	—	7	200
25	1	—	—	1	110*
26	9	—	—	9	500*
Total	131	87	19	237	3391
%	55	37	8	100	

* Fairly exact

In published accounts there are no records of re-laying. In the south of Finland, however, two exceptionally late clutches have been found, on 26 June and 13 July. Re-laying seems to be very uncommon because no flightless young have ever been observed at the end of August or in September.

The crane generally lays two eggs, one egg is rare and clutches of three are exceptional. So far only three clutches with three eggs are known from Finland. In all cases the third egg was a so called dwarf egg (Table 2).

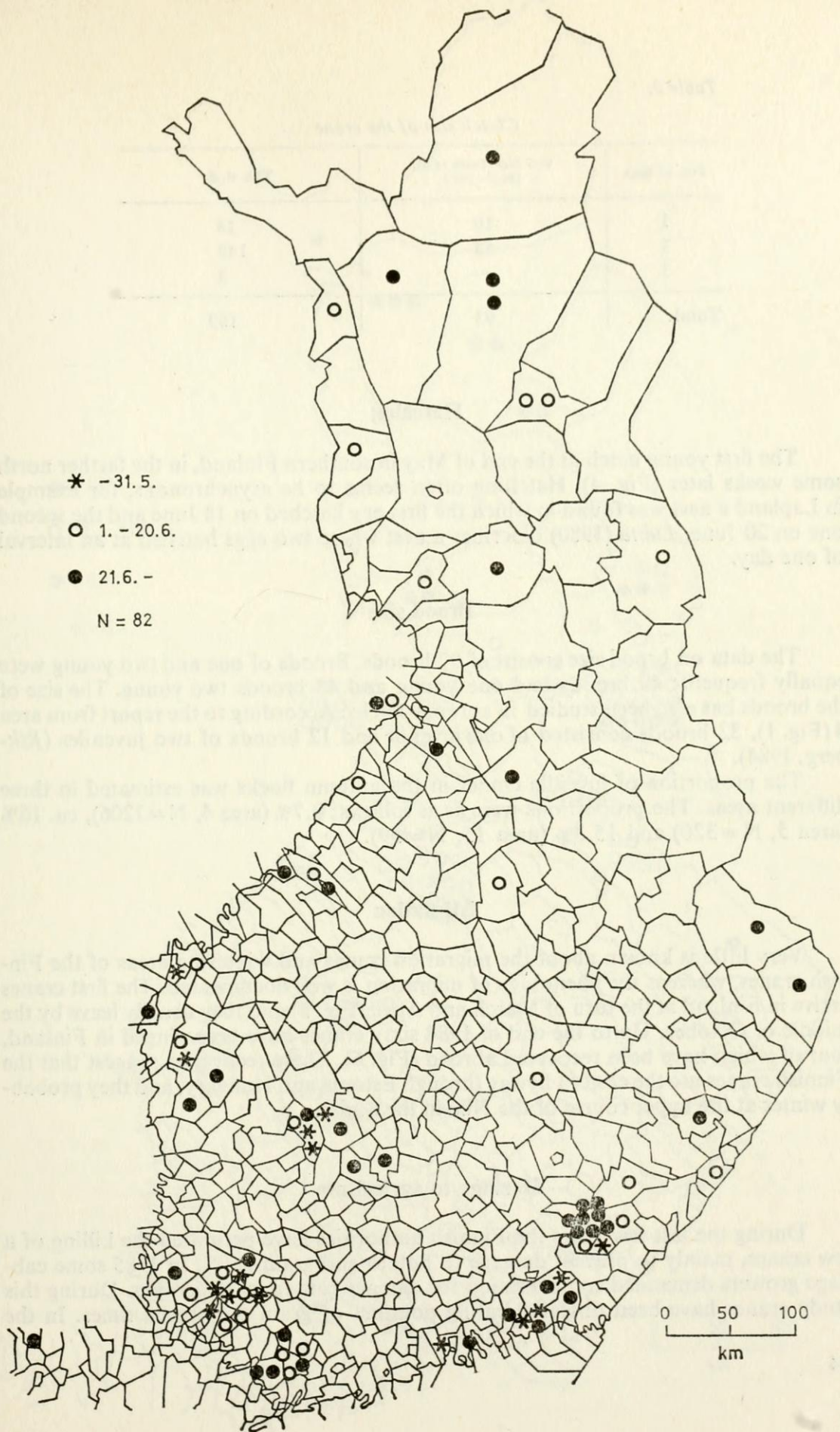


Figure 3. Clutches of the crane found in Finland

Table 2.

Clutch size of the crane

No. of eggs	von Haartman et al. 1963—1972	This study
1	10	18
2	83	148
3	—	3
Total	93	169

Hatching

The first young hatch at the end of May in southern Finland, in the farther north some weeks later (Fig. 4). Hatching often seems to be asynchronous, for example in Lapland a nest was found in which the first egg hatched on 18 June and the second one on 20 June. *Luhita* (1980) describes a nest where two eggs hatched at an interval of one day.

Brood size

The data on brood size consist of 97 broods. Broods of one and two young were equally frequent: 49 broods had one young and 48 broods two young. The size of the broods has also been studied in autumn flocks. According to the report from area 4 (Fig. 1), 32 broods consisted of one juvenile and 12 broods of two juveniles (*Rikberg*, 1984).

The proportion of juvenile cranes in the autumn flocks was estimated in three different areas. The proportions were as follows: 9.7% (area 4, N=1206), ca. 16% (area 5, N=320) and 15,3% (area 15, N=59).

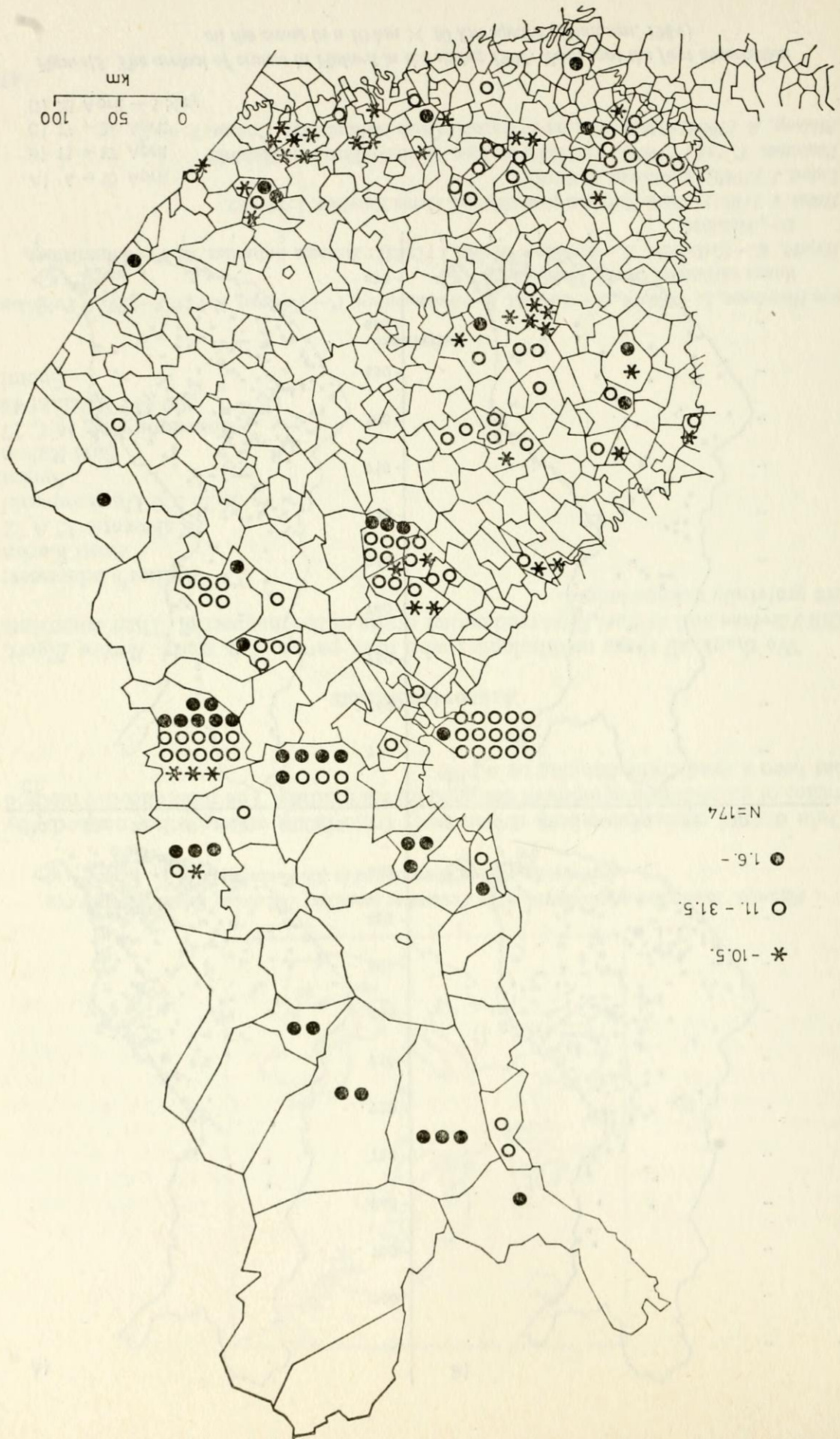
Migration

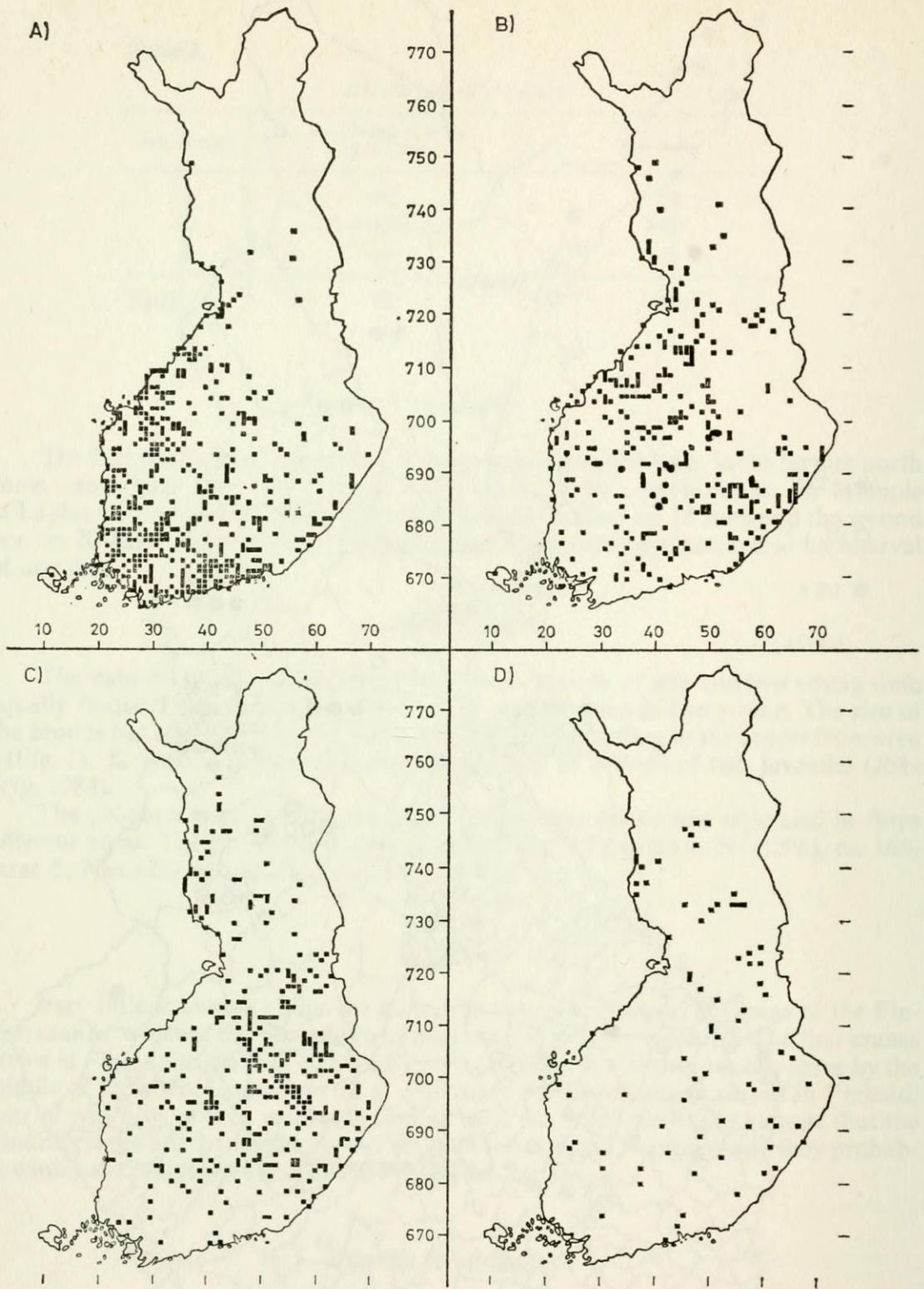
Very little is known about the migration routes and wintering areas of the Finnish cranes, whereas the phenology of migration is well documented. The first cranes arrive in Finland at the turn of March and April (Fig. 5) and they usually leave by the middle of October. Up to the end of 1984 sixty cranes have been ringed in Finland, four of which have been recovered abroad (Fig. 6). These recoveries suggest that the Finnish cranes use the eastern flyway through Estonia and Hungary, and they probably winter at the upper course of the Nile in the Sudan.

Damage to agriculture

During the last few years the Finnish authorities have permitted the killing of a few cranes, mainly to prevent damage to potato and grain fields. In 1985 some cabbage growers demanded compensation for damage caused by the cranes. During this study cranes have been observed eating potatoes or grain only seven times. In the

Figure 4. Broods of the crane found in Finland





- A) 4 – 10 April
- B) 11 – 17 April
- C) 17 – 24 April
- D) 25 April – 1 May

Figure 5. The arrival of cranes in Finland in the spring 1983. Each spot the first observation on the crane in a 10 km × 10 km square (Poutanen, 1984)

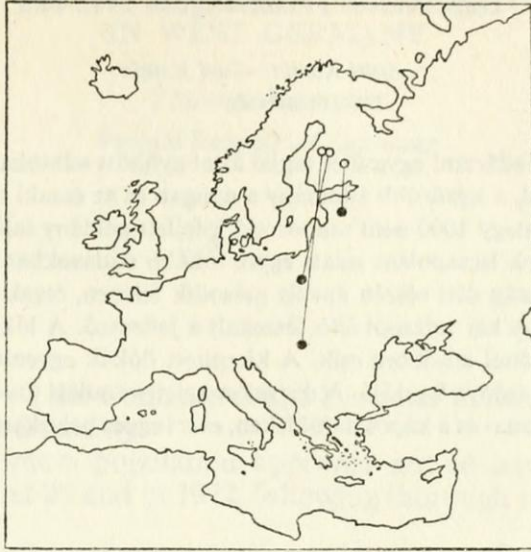


Figure 6. Recoveries of cranes ringed in Finland as juveniles. The dot in Estonia denotes two individuals, both of them ringed in SE-Finland

Oulu district cranes have been driven away from fields, among other methods, by means of intimidation equipment designed for elk hunting. The most effective method has been a dead crane hanging on a pole.

Acknowledgements

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Darukutatás Finnországban 1983-ban

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Finnország

A szerzők 26 helyi madártani egyesület tagjai által gyűjtött adatokat elemezték. A daru az ország egész területén fészkel, a legsűrűbb állomány a nyugati és az északi részeken van, kb. 3500 párban, ezek mellett még mintegy 1000 nem szaporodó kifejlett példány található. Elsősorban tőzeges területeken fészkel, de azok lecsapolása miatt egyre inkább nádasokban, tó- és tengerparti nedves réteken. A költés Finnország déli részén április második felében, északon június elején kezdődik, kivételes esetben később. A két tojásból álló fészkealj a jellemző. A kikelés a déli részeken május elejére, északon néhány héttel későbbre esik. A kirepített fiókák egyenlő arányban álltak 1, ill. 2 fiatalból. Az őszi juvenilis aránya 9—15%. A darvak a keleti vonulási útvonalat követik. Kárt okozhatnak a burgonya-, a gabona- és a káposztaföldeken, ezért egyes helyeken riasztásukról kell gondoskodni.