

The history and spread of the Moorhen *Gallinula chloropus* in Finland¹

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The history and spread of the Moorhen in Finland was studied on the basis of all the data available. Since the first record was made in southernmost Finland in 1842, the numbers of observations and localities have increased, especially from 1950 onwards. To some extent, these trends reflect the increased intensity of birdwatching, but it appears that the numbers of birds migrating into Finland each year have in fact increased. Migrants have been recorded in Lapland, in April, as far north as 67°39'N, and have nested at 64°40'N. The Moorhen prefers highly eutrophic waters, even living in sewage ditches and basins, habitats which have increased in number in the settled areas of Europe in recent times. This has promoted the spread of the Moorhen in Finland, other contributory factors being the high breeding potential of the species, its low site tenacity, prolongation of spring migration and the ability to benefit from man-made habitats. The species has also wintered on the southern coast of the country.

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Introduction

The Moorhen *Gallinula c. chloropus* was first observed in Finland on 20 May 1842 at Kirkkonummi, on the south coast (Anonymous 1915). A review of its occurrence up to the year 1938 was provided by Toivari (1938), and the reasons for its spread in 1890—1940 were discussed by Kalela (1940) and Siivonen (1943). Information on its subsequent history in Finland is given in the handbook of v. Haartman et al. (1963—72) and a number of local faunistic reports (e.g. Lehtonen 1945, Iik- kanen 1975, Helminen & Eriksson 1978, Löfgren 1978a, b, Salmela 1979, Sam- malkorpi 1979), and data on the num- ber of broods, fledging success and

autumn migration have been published by Karhu (1973). The present paper sets out to give a more up-to-date survey of the history and spread of the Moorhen in Finland.

Material

This paper is based on reports of the occurrence of the Moorhen in Finland published in the years 1842—1979. Additional information was obtained from the Merikallio archives of the Zoological Museum of the University of Oulu, and from notes in newspapers. The impulse for this study was given by some photographs of Moorhens in late autumn and winter, published in northern newspapers in recent years. All these observations were checked by ornithologists and/or by reference to good-quality photo- graphs.

¹ Report No. 103 from the Värriö Subarctic Research Station of the University of Helsinki.

The complete list of references is available at the Library of the Department of Zoology of the University of Oulu, SF-90100 Oulu 10.

Results

The maps (Figs. 1—7) show the occurrence of the Moorhen in Finland in the years of 1842—1979 according to the data available. The year is divided into four seasons as follows: spring — 1 March to 31 May, summer — 1 June to 31 July, autumn — 1 August to 30 November, and winter — 1 December to 28 (29) February.

Spring migration. The Moorhen migrates by night (v. Haartman et al. 1963—72). The earliest arrivals in Finland have been recorded in late March (e.g. 27 March 1915 in Kempele, and 29 March 1931 in Lahti) and April. It is noteworthy that not all migrants have stopped at the south coast, but many have proceeded directly to the north, where real winter conditions, with a deep snow cover, frozen lakes and rivers, and low temperatures still prevail. In 1915 a Moorhen was recorded in Kempele, c. 460 km north of the south coast before many records had been made for that summer in the southernmost part of the country (Fig. 2). In recent years observations have been made more frequently and further north in Finland, several even north of 65°N (Fig. 7).

Fig. 8 shows the spring migration of the Moorhen in Finland in 1977. The first scattered individuals were observed on 3—5 April at Lahti (Kunttu 1978), Mäntyharju (Kunttu 1978) and Jyväskylä (Kuitunen 1979). On 17 April others were found as far north as Raahe (Karjalahti 1978), Kuusamo and even Sodankylä. The first observation in Rovaniemi was made on 18 April. On 21 April one individual was

observed at Kemi, and on 27 April two were seen at Kittilä, the northernmost observation made so far (67°39'N, 24°54'E). On the next day one bird was seen sitting on the roof of a stable at Ylitornio.

Winter conditions still prevailed in northern Finland on 17—28 April, and the Moorhens had to seek food and shelter in various man-made environments, like yards of houses, building sites, factory areas, etc. In an extreme case, a Moorhen went into a cowshed and fed on cow dung. Some of these birds died, but others survived and stayed in Lapland for weeks. For instance, there was still a flock of six at Rovaniemi on 18 May.

In 1979 the first observation of a Moorhen was made at Sodankylä, in Lapland, as early as 3 April. For two days it was seen moving about in yards in the centre of the village.

In southern Finland there are usually snowless places in April where Moorhens can feed, but one individual was seen on 8—12 April 1965 living in a hay barn and feeding on seeds (Storteir 1966). On 6 April 1962 a Moorhen was found seeking shelter under parked cars in the main market place of the city of Helsinki (SLY:n nuorisajaosto 1965).

Summer. Moorhens are fairly easy to observe in snow and when moving in the yards of houses and similar places, but when the snow and ice melt, and shore and aquatic plants grow up, they live a concealed life in dense eutrophic vegetation (see also Anfinnsen 1961, Karhu 1973).

FIGS. 1—8. The occurrence of the Moorhen in Finland in the years 1842—1910 (1), 1911—30 (2), 1931—40 (3), 1941—50 (4), 1951—60 (5), 1961—70 (6) and 1971—79 (7). Fig. 8 shows the arrival dates (in April) of the first Moorhens in different parts of Finland in spring 1977.

Toivari (1938) knew four places where the Moorhen had nested and 17 other localities where it had been observed. In 1951 Lehtonen considered that the permanent breeding area of the species covered a zone no more than 100 km wide in southernmost Finland. A number of new nesting records have been reported from that area in later years, especially in the 1970s, but there are also many made further north (Figs. 5—7). The northernmost nests so far found in W and E Finland, respectively, are from Kuljunnemi, Kalliolahti near Raahe ($64^{\circ}40'N$, $24^{\circ}30'E$) in 1969 (Fig. 6; Karjalahti 1977) and Riistavesi ($63^{\circ}N$, $28^{\circ}10'E$) in 1976 (Fig. 7; Sammalkorpi 1979).

The Moorhen nests among dense vegetation, mainly in coastal bays and in lakes (e.g. Lehtonen 1945, Löfgren 1978b), but also in water bodies where human influence is strong, e.g. receiving sewage and industrial waste water (Karhu 1973), clay pits (Helin 1962, v. Haartman et al. 1963—72, Karvonen & Niiranen 1975), and pools by rubbish tips (Paasivirta 1967). Colonies of *Larus ridibundus* (Toivari 1938, Helin 1962, Hildén et al. 1968) and *L. minutus* (Leskelä & Miettinen 1962) are often favoured.

Autumn migration may begin at the end of July (v. Haartman et al. 1963—72), but the majority of the birds seem to disappear during September and October, "before the weather becomes cold" (Karhu 1973). However, Moorhens, especially young ones, have still been observed in different parts of the country in November and December. The most interesting of these sightings are those made north of the supposed main nesting area, e.g. Kokkola 9 November 1932 (a young female), Rovaniemi 9 November 1976 (a young male), Kemijärvi 13 December 1977 and Ka-

jaani 4 November and 18 December 1976 (separate ind.). In each of these cases, which either point to reversed migration to the north from the breeding area or nesting in the north, the birds were inactivated by the cold and easily caught.

Wintering in Finland. Moorhens have overwintered in Helsinki in the winters of 1953/54 (Häyrinen & Mikkola 1959), 1954/55 (SLY:n nuorisajaosto 1965), 1972/73, 1973/74, 1974/75 (Munne & Sammaliisto 1975), 1976/77 and possibly 1977/78 (Karvonen 1978), and in Turku in the winters of 1972/73 and 1974/75 (Gustafsson & Peltola 1977). A typical wintering place seems to be a sewage ditch or basin. Karhu (1973) assumes that Moorhens wintering in Finland are birds that have been injured and are therefore unable to migrate. The notes cited do not fully support this conclusion, however.

Discussion

It is evident from Figs. 1—7 that the number of observations of the Moorhen have increased in Finland in all four seasons during the past century. This may be due mainly to increased bird-watching activity, as suggested by v. Haartman et al. (1963—72), or it may be evidence of a real expansion to the north. The increasing trend of observations — in the 1880s 6, 1890s 3, 1900s 2, 1910s 5, 1920s 10 and 1930s 35 — led Kalela (1940) and Siivonen (1943) to conclude that the amelioration of the climate, which culminated in the 1930s, had promoted the expansion of the Moorhen in Finland during this period.

Since the relatively cold decade of

1940—49 (21 obs.; Fig. 4), when the Norwegian population declined, for instance (Haftorn 1971), the number of observations of the Moorhen has again clearly increased: in the 1950s 72, the 1960s 182 and the 1970s 296. It is evident that intensification of field studies in the summertime in southern Finland may have greatly increased the proportion of Moorhens observed (e.g. Karhu 1973, Löfgren 1978b), but the recent appearance of Moorhens in northern Finland in spring (the first records were not made by ornithologists!) and the general increase of observations in spring and autumn, when the birds are relatively easy to detect, suggest a real increase and expansion since the 1950s, and especially in recent years (see also Karhu 1973, Helminen & Eriksson 1978, Löfgren 1978b).

The Moorhen has many characteristics which contribute to its survival and spread in industrialized areas and areas of intensive agriculture. It prefers highly eutrophic waters (see also Klemetsen 1970, Karhu 1973), even sewage ditches and basins, which have increased in the settled areas of Europe during recent decades. It also has a good breeding potential, at least two broods per summer having been recorded in Finland (Karhu 1973), and even three (Hoehl 1949, Lenz 1967, Muthorst 1971) or four (Bentham 1931, Hoehl 1949) in more southerly areas. The biggest clutch known in Finland consisted of 14 eggs (Löfgren 1978b). Hence, under favourable conditions populations can be expected to produce surplus individuals for emigration. Their spread is promoted by the low site tenacity of the species (Karhu 1973). In fact, the prolongation of the spring migration can be of considerable magnitude, birds with substantial fat deposits being able to migrate hundreds of kilometres over the snow-covered

areas of Finland to reach the northern parts of the country. The ability of the species to take full advantage of man-made habitats (even cowsheds in Lapland!) has aided its survival under northern winter conditions. Along the Norwegian coast Moorhens have probably migrated as far north as Finnmark (Anfinnsen 1961).

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Selostus: Liejukanan historiasta ja leviämisestä Suomessa

Kirjoituksessa käydään läpi aikakaus- ja sanomalehdissä julkaistujen sekä Merikallion arkistoon tallennettujen havaintojen perusteella liejukanan historiaa ja leviämistä Suomessa. Aineisto on esitetty kartoissa (kuvat 1—7). Ensimmäinen liejukanahavainto tehtiin maassamme v. 1842. Vv. 1880—1979 on eri vuosikymmeniltä löydetty havaintoja seuraavasti: 1880—89 6, 1890—99 3, 1900—09 2, 1910—19 5, 1920—29 10, 1938—39 35, 1940—49 21, 1950—59 72, 1960—69 182 ja 1970—79 296. Ensimmäinen lisääntyvien havaintojen jakso huipentui 1930-luvulla, minkä Kalela (1940) ja Siivonen (1943) arvelivat johtuneen ilmaston lämpenemisestä. Kylmällä 1940-luvulla, jolloin Haftornin (1971) mukaan Norjan liejukanakanta romahti, havaintoja tehtiin jälleen vähemmän, mutta 1950-luvulta lähtien havaintojen määrät ovat selvästi kasvaneet.

Liejukanahavaintojen viimeaikaiseen runsastumiseen on varmasti vaikuttanut osaltaan lisääntynyt lintuharrastus ja havaintojen tehokas julkistaminen lintutieteellisissä paikallislehdissä, mutta liejukanahavaintoja on myös tehty muuttoaikoina ei ornitologien toimesta aiempaa pohjoisempana, jopa Kittilän ja Sodankylän pohjoisosissa huhtikuun talvisissa olosuhteissa. Tämä sekä kevät- ja syyshavaintojen lisääntyminen muutoinkin viittaavat puolestaan siihen, että laji olisi myös todella levinnyt Suomessa viime aikoina.

Liejukanan viihtyminen eutrofisissa vesissä, jopa jätevesipuhdistamoiden altaissa ja likaviemäreissä sekä savennostoalueiden lammikoissa, sen suuri lisääntymispotentiaali (Suomessa 2,

muualla jopa 4 pesyettä kesässä), vähäinen koptipaikkaukkaisuus, merkittävä muuton prolungaatio (kuva 8) sekä kyky hyödyntää tehokkaasti ihmisen tarjoamia ravinnonsaantimahdollisuuksia (Sodankylässä liejukana kevättalvella hakeutui navettaan ja söi lantaa!) luovat pohjan lajin runsastumiselle ja menestymiselle yhä eutrofisemmiksi muuttuvissa kulttuurialueiden vesissä.

Liejukana on pesinyt maassamme Raahessa saakka pohjoisessa. Etelärannikolla laji on talvehtinut 1950- ja 1970-luvuilla etenkin jätevesien laskupaikoissa.

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