

crawling on the bottom with many *Chironomidae*, *Pisidiae* and *Lumbriculus variegatus*. The density of the species per m² was in many places much greater than in Kevojärvi. Because the ponds are shallow and the climate very hard at these altitudes it seems almost impossible that such dense *lacustris* — populations can survive there in winter. However the eggs found in the brood pouches of the females prove that the species was well implanted there.

Summary. The density of *Gammarus lacustris* in Lakes Kevojärvi and Jomppalanjärvi and some adjacent ponds probably proves that it is spread much wider in Finnish Lapland, especially in waters flowing to the Arctic Sea, than has hitherto been supposed. It belongs in Utsjoki to the same fauna type as *Salmo salar*, *Gasterosteus aculeatus*, *Anguilla vulgaris* etc. which have come there via the Teno River.

REFERENCES

- GRIMÅS, U., 1961: The bottomfauna of natural and impounded lakes in Northern Sweden (Ankarvattnet and Blåsjön). — Rept. Inst. Freshw. Res. Drottningholm 42, 183—237.
- HYNES, H. B. N., MACAN, T. T. and WILLIAMS, W. D., 1960: A key to the British species of Crustacea, Malacostraca occurring in fresh water. — Freshw. Biol. Assoc. Scient. Publ. 19, 1—36.
- SEGERSTRÅLE, S. G., 1956: The freshwater Amphipods, *Gammarus pulex* (L.) and *Gammarus lacustris* G. O. Sars, in Denmark and Fennoscandia — a contribution to the late- and postglacial immigration history of the aquatic fauna of Northern Europe. — Comm. Biol. Soc. Scient. Fenn. 15, 1—91.
- STUBE, M., 1958: The fauna of a regulated lake. — Rept. Inst. Freshw. Res. Drottningholm 39, 162—224.

NOTES ON SOME SOUTHERN BIRD SPECIES FOUND IN
THE VICINITY OF KEVO IN UTSJOKI,
FINNISH LAPLAND

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In the present paper are reported some ornithological observations made in recent years in the vicinity of the Kevo Subarctic Research Station in Utsjoki, Finnish Lapland (69°45'N). All the observations relate to bird species whose normal distribution area is in southern Finland, and does not extend to the zoological region of Fjeld Lapland (see MERIKALLIO 1958). These observations are of purely faunistic interest, because they reveal, as far as I know, the northernmost places in Finland where the species are encountered. In addition, they show that the commonly known phenomenon of many southern bird species moving gradually northwards is still in operation and that explorers of some of these species are reaching rather northern latitudes. Generally, the first newcomers are individuals whose spring migration has been prolonged. Most of the following observations deal with cases of this type.

Just as in Finland, the spread of southern birds northwards has also been considerable elsewhere in Scandinavia. Especially this can be said about the coastal areas of northern Norway, where the average rise of temperature and the climate's changing to a more maritime one, which are the principal reasons for the spread (KALELA 1949), have been relatively more marked (HESSELBERG & BIRKELAND 1940, HAFTORN 1957 b). It is therefore of interest when reviewing observations at Kevo, to compare the distribution of the species in Finland and in Norway, respectively. At the same time it can be speculated from what directions the specimens have come to Kevo.

1. Heron (*Ardea cinerea* L.)

On May 23rd 1960 a bird of this species rose from an islet in the mouth of the Kevojoki River at 21.10 and hovered over the Kevojoki valley and Lake Kevojärvi for about two hours. Every now and then it alighted to stand in the shallow waters near the promontories of Kevonniemi and Kutuniemi. I did not see when the bird left the lake, nor was I able to estimate its age.

This observation is rather surprising because the distribution of the Heron in Finland is conspicuously southern. Its principal nesting area lies in the southwestern part of the country and even there it is quite haphazard (MERIKALLIO 1958, HILDÉN & LINKOLA 1962). The northernmost known nesting places are in Parkano, Heinola and Liperi (v. HAARTMAN et. al. 1963). However, the bird has been seen outside this region several times, usually in May, at the time of spring migration, and in late summer, after the breeding season. The northernmost places where it has been observed are Ii (MERIKALLIO 1958), Rovaniemi (UINO in ALAPULLI et. al. 1962) and Sodankylä (v. HAARTMAN et. al. 1963). Consequently Kevo lies far outside the usual Finnish distribution area of the species.

In Norway the limit of the distribution area lies noticeably farther north than in Finland. In Norway the Heron is one of those species which have spread their distribution areas to the greatest degree northwards in the course of the last hundred years. The limit has moved a good 450 km north and today the northernmost nesting places are in Røst (WAGNER 1958) and Hamarøy (HAFTORN 1958).

In trying to determine what direction the bird seen at Kevo came from, one is inclined to draw the conclusion that it came from Norway. It is very likely, since the nesting areas are so near, that stray birds are in the habit of flying about over the areas of Troms and Finnmark during spring migration and also late in summer after breeding. There are some reports of this, too (LØVENSKIOLD 1947). It is also my opinion that the bird seen in Kevo is an obvious example of such a rover. As a result of the prolongation of the migration, the bird has first come to the northern parts of Norway whence it has moved up to Kevo along the waterways. Two years later, on May 18th 1962, a Heron was again seen on Lake Kevo (Miss ELSA KÄCK, pers. comm.). This last observation implies that straying may even have some regularity on the Finnish side of the frontier as well. Of course, there remains another possibility to explain the presence of the Heron at Kevo. The birds may have come here directly from the south, perhaps from the Baltic countries or southern Finland which would mean a very considerable leap. In fact, corresponding observations have been made even in the most northerly parts of Europe regarding the Purple Heron (*Ardea purpurea* L.), a far more southern species of the genus (VOIPIO 1954). However this possibility seems less probable; the appearance of the Heron twice in Kevo in the course of a short period suggests that the starting point of the visits lies nearer. In my opinion, as pointed out before, it is from the nearby population of northwestern Norway that the birds came.

2. Chaffinch (*Fringilla coelebs* L.)

In June 1962 a pair of Chaffinches lived in the yard of the Kevo station.

Between the 1st and 9th of June I saw them almost every day. At that time cold and unsettled weather conditions with northerly winds and occasional snow squalls prevailed. Perhaps it was for this very reason that I did not hear the male sing. Merely "hyit"-enticing calls were heard. From other persons at the station I heard that the birds had been there since the last days of May and remained there at least until the middle of June. No nesting was observed.

The nesting area of the Chaffinch in Finland extends to the southern parts of the parishes of Enontekiö and Inari where the bird is found rather scattered and mainly concentrated in the neighbourhood of the houses (HILDÉN & LINKOLA 1962). However, in recent years, recurring observations have been made of its appearance even further north in Inari (e.g. MUSTAKALLIO 1960) and also in Utsjoki parish (HILDÉN & LINKOLA 1962) which shows that the species is spreading into new areas. This is the case in Norway, too. Here the Chaffinch is found nowadays as a common nesting bird at the level of Målselv at latitude 69° (HAFTORN 1958). Isolated nest finds and observations in the breeding season have been made farther north, as far as the North Cape (LØVENSKIOLD 1947), such observations being more numerous than in Finnish Lapland. The newest books on the distribution of birds (PETERSON et. al. 1955, VOOUS 1960) consider the distribution area in northernmost Norway to be a narrow strip extending from the coast to Sør-Varanger through Finnmark roughly along the 70th parallel. Sør-Varanger has long been known as a nesting place for the Chaffinch (e.g. WESSEL 1906). Thus it is very probable that the pair of Chaffinches seen in Kevo came from the Norwegian population. On the other hand, it is by no means impossible that it had come from the south over the areas of Inari and Utsjoki. In any case a spreading of the distribution area is perceived both in Norway and Finland and the nesting of the Chaffinch in Utsjoki is to be expected in the near future.

3. Bullfinch (*Pyrrhula pyrrhula* (L.))

On 20th August 1963 two specimens alighted in the birch forest near the station for some minutes. I was not able to identify the sexes.

Obviously, like the Chaffinch, the Bullfinch has come to Utsjoki from Norway. Since the turn of the century it has lived there permanently as far north as Alta (HAGEMANN 1899 according to HAFTORN 1957 a) where the borderline of its nesting area runs even today (VOOUS 1960). Several summer observations have also been made farther off in the northern and eastern parts of Finnmark; e.g. in three different places in the valley of the Tana River (HAFTORN 1957a). In Finland the permanent distribution area extends as far as the borderline between the zoological regions of Peräpohjola and Wood-Lapland, and the species nests sporadically also in the lastmentioned

area (MERIKALLIO 1958). In Utsjoki, too, the Bullfinch is perhaps a sporadic nester in the scattered pine forests of the Kevojoki and Utsjoki Rivers. The two examples mentioned by MERIKALLIO (1958) were both observed in such a habitat and that made in the valley of Kevojoki River concerned a pair whose behaviour gave an intimation of nesting.

4. Siskin (*Acanthis spinus* (L.))

21st June 1961 a singing male was observed in a pine forest at Linkka-pahta in the valley of the Kevojoki River. On 26th June 1961 a male was seen in a pine forest beside the road on the eastern shore of Lake Kevojärvi about 1 km north of the Tshieskuljoki River. (Mr. T. RÄSÄNEN, M.Ph. personally gave me details of a brood observed at Kōnkääniska on Kevojoki on August 1st, 1961).

As the Siskin is known to fluctuate greatly in number, it is difficult to outline its distribution precisely. Thus one cannot get any exact information regarding its occurrence in Finnish Lapland or in the northernmost parts of Norway. In fact the average northern distribution limit seems to run close to the Arctic Circle in both countries. Likewise, in both countries the species is continuously spreading farther to the north. In some favourable years it may nest even in the southern parts of Finnish Fjeld Lapland (MERIKALLIO 1958), and observations of the same kind have also been made on the Norwegian side (HAFTORN 1957a). Because the observations referred to in the present paper were all made in the same year—1961—it may be that the year in question should be considered as a peak year for the occurrence of the Siskin. In the vicinity of the Kevo station, ornithological excursions have been made every year since 1955, and as far as is known, no other observations of the Siskin have been made.

It is not possible to determine in what direction the Siskin arrives. The possibilities of its coming from the south, over Finnish Lapland, or from the westerly directions from the northern Norway, respectively, seem to be equal. Even such an occasional sojourn of the species in Utsjoki is very probably to a great extent due, as in the case of the Bullfinch, to the existence of scattered pine forests in the river valleys.

5. Chiffchaff (*Phylloscopus collybita* (Viell.))

On 5th June 1962 a male lingered on the trees of the station yard for a couple of minutes and sang weakly and briefly.

It is difficult to know where the Chiffchaff had come from. Both in Finland and in Norway the permanent distribution line runs roughly along the 68th parallel and in both countries only a few observations have been made north of this borderline (MERIKALLIO 1958, HAFTORN 1957a).

6. Black-headed Gull (*Larus ridibundus* L.)

On 29th May 1962 a young bird flew about over the open water of the delta of the Kevo River and left along the river valley. Later on, on the same day, another young bird came from the river valley and flew straight on north-northeast. On 11th June two young specimens hovered over the delta of Kevojoki where they stayed the whole day. Because of different patterns in the plumages, it was possible to conclude that at least one of these birds was not one of those mentioned above. The total number of birds was at least three, maybe even four.

The northern borderline of the continuous nesting area of the Black-headed Gull in Finland as well as in Norway is well known. In Finland it runs just north of Kemi, near the north corner of the Gulf of Bothnia (MERIKALLIO 1958). In Norway the remotest colonies are situated in the neighbourhood of Trondheim (HAFTORN 1958). In Finland, however, Black-headed Gull is seen regularly also in more northern areas, especially during the spring migration. Thus it visits, e.g., Rovaniemi and the valley of the Tornionjoki River as far north as Pello every spring (KOMONEN 1962, A. KOMONEN, pers. comm.). Whole flocks (about 20 birds) have recently been seen in the wild tract of Koitelaiskaira in Sodankylä even in the middle of summer (Mr. J. TERHIVUO, pers. comm.). Also in Norway a corresponding tendency has been noticed. As early as in 1918 it was observed near the North Cape (LØVENSKIOLD 1947), but especially during recent years, the bird has several times been observed in northern Norway in the spring; small flocks have visited Sandnessjø on the 66th parallel in several successive springs (MYRBERGET 1961) and in Balsfjord, 69°12'N, a surprisingly northern nesting find has been made (LÅTUN 1960). In 1962, when the Kevo observations were made, the strayings seem to have been more frequent than usual and extended exceptionally far, showing features of an expansion, at least as far as Finnish Lapland is concerned (the occurrence in northwestern Norway is not familiar to me). In that year the number of birds seen in Rovaniemi was unusually great (Mr. A. KOMONEN, pers. comm.) and in Utsjoki birds were seen not only at Kevo, but also in the Tana River region (Mr. M. LEHTOVUORI, pers. comm.). A couple of birds were observed even as far as in Vardø on the Arctic Ocean in northeast Norway (Mr. H. BETTEN, pers. comm.).

REFERENCES

- ALAPULLI, J., KOMONEN, A. & UINO, K., 1962: Lintuhavaintoja Rovaniemen seudulta. — *Ornis Fenn.* 39, 77—78.
 V. HAARTMAN, L., HILDÉN, O., LINKOLA, P., SUOMALAINEN, P. & TENOVUO, R., 1963: Pohjo-
 lan linnut värikuvain, 1. — Helsinki.

- HAFSTORN, S., 1957 a: Grenseforskyvninger i den nordnorske fuglefauna og andre resultater fra en reise i 1955. — Det Kgl. Norske Videns. Selsk. Museet Årbok 1956—57, 15—47.
- „ 1957 b: Kjøttmeisas (*Parus m. major* L.) innvandring og nåvaerende utbredelse i Nord-Norge. — Det Kgl. Norske Videns. Selsk. Forhandl. 30, 14—21.
- „ 1958: Populasjonsendringer, spesielt geografiske forskyvninger, i den norske avifauna de siste 100 år. — *Sterna* 3, 105—137.
- HAGEMANN, A., 1899: Bemaerkninger om de i Alten forekommende Vertebrater. — Tromsø Museums Aarsh. 20, 113—140.
- HESSELBERG, TH. & BIRKELAND, B., 1940: Säkulare Schwankungen des Klimas von Norwegen. Die Lufttemperatur. — *Geofys. publ.* 14: 4, 1—106.
- HILDÉN, O. & LINKOLA, P., 1962: Suuri lintukirja. — Helsinki.
- KALELA, O., 1949: Changes in geographic ranges in the avifauna of Northern and Central Europe in relation to recent changes in climate. — *Bird-Banding* 20, 77—103.
- KOMONEN, A., 1962: Muuttolintujen saapuminen Rovaniemelle vv. 1947—1961. — *Ornis Fenn.* 39, 102—112.
- LÅTUN, O., 1960: Noen nord-norske funn av hettemåke og hornedykker. — *Sterna* 4, 74—75.
- LØVENSKIOLD, H., 1947: Handbok över Norges fugler. — Oslo.
- MERIKALLIO, E., 1958: Finnish Birds. Their distribution and numbers. — *Fauna Fenn.* 5.
- MUSTAKALLIO, P., 1960: Lintuhavaintoja Inarista ja Utsjoelta. — *Ornis Fenn.* 37, 94.
- MYRBERGET, S., 1961: Fuglenotater fra Nordland. — *Sterna* 4, 258—259.
- PETERSON, R., MOUNTFORT, G. & HOLLOM, P., 1955: Europas fåglar. (Edited by C.-F. LUNDEVALL.) — Stockholm.
- WAGNER, G., 1958: Die Brutvögel von Röst (Lofoten). — *Sterna* 3, 59—72.
- WESSEL, A., 1906: Ornithologische meddelelser fra Sydvaranger. — Tromsø Mus. Aarsh. 27, 20—126.
- VOIPIO, P., 1954: Ruskohaikara (*Ardea purpurea* L.) tavattu Suomessa. — *Ornis Fenn.* 31, 18—21.
- VOOUS, K., 1960: Atlas of European Birds. — Amsterdam.

ÜBER DIE ZUSAMMENSETZUNG DES ÄTHERISCHEN
ÖLES VON THYMUS SERPYLLUM SSP.
TANAËNSIS (HYL.) JALAS

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Thymus serpyllum L. ist in Fennoskandien weit verbreitet. Nach JALAS 1947 ist diese Kollektivart aber in viele Untereinheiten aufzuteilen. Von diesen ist *Thymus serpyllum* ssp. *angustifolius* (Hyl.) Jalas die in Fennoskandien häufigst vorkommende Art, deren Verbreitung Süd-Schweden von der Gegend von Göteborg im Westen bis zur Gegend von Gävle im Osten umfasst und weiter dem Botnischen Meerbusen entlang bis nach Örnköldsvik vorkommt. In Finnland kommt diese Unterart in Süd- und Mittel-Finnland auf Sandboden häufig vor, wird aber nördlich des 62.° Breitenkreises seltener. Entlang des Tana-Flusses in Nordfinnland (und Norwegen) sowie in Kuusamo kommt eine andere Unterart, *Thymus serpyllum* ssp. *tanaënsis* (Hyl.) Jalas vor. Die Verbreitung ist in Abb. 1 veranschaulicht. Es gibt in Fennoskandien noch eine dritte Unterart, *Thymus serpyllum* ssp. *arcticus* (Hyl.) Jalas, die in Norwegen in der Gegend von Trondheim vorkommt.

Die erstgenannte Unterart, *Thymus serpyllum* ssp. *angustifolius* lässt sich noch nach pflanzenorganologischen und anatomischen Merkmalen in viele verschiedene Sippen einteilen. JALAS nennt folgende: var. *linneanus* Gren. & Godr., die als Hauptform zu betrachten ist, f. *medelpadensis* Lyka und f. *empetroides* Wimm. & Grab., die nur aus Schweden (Gtl. Upl. Med.) bekannt sind; f. *silvicola* Wimm. & Grab., var. *lineatus* Endl., var. *ericoides* Wimm. & Grab., var. *rigidus* Wimm. & Grab. und f. *linearifolius* Wimm. & Grab., die sowohl in Schweden als auch in Ostfennoskandien vorkommen.

Alle diese Sippen sind jedoch wegen der mannigfaltigen Form und der grossen Variationsbreite der verschiedenen organologischen Merkmale sehr schwierig von einander zu unterscheiden.

Vom pharmakognostischen Standpunkt aus bildet die Gattung *Thymus* sehr interessante Objekte für Studien über Vorkommen und Bildung der Terpene im Pflanzenreich. Es ist schon seit jeher bekannt, dass die ätherischen Öle von *Thymus*-arten antiseptische Wirkung haben, und *Thymus*-Drogen wurden schon im Altertum als Hustenmittel in der Pharmazie verwendet. Früher wurden auch Drogen von *Thymus capitatus* L. und *Satureja acinos* L.