

Norwegian records of Yellow-browed Warblers *Phylloscopus inornatus*

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Up to 1990 a total of 317 Yellow-browed Warblers had been recorded from Norway, nearly all between late September and early October. Records from northern parts tend to be earlier than in the south. There had been a steady increase in the numbers recorded, especially during the 1980's. It is suggested that a shift in migration patterns reinforces the general occurrence pattern primarily caused either by random post-juvenile dispersal or reversed migration.

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INTRODUCTION

The Yellow-browed Warbler breeds in vast areas of the eastern Eurasia, from the Ural mountains and eastwards to the Pacific Ocean, with a southwards extension into northern India. An isolated breeding area is located in western China (Simms 1985, Glutz von Blotzheim & Bauer 1991). Winter range is southeast Asia westwards to Iran (Hjort 1971, Glutz von Blotzheim & Bauer 1991). The species is divided into three subspecies (Mayr et al. 1986), of which two, *P. i. inornatus* and *P. i. humei*, are recorded as vagrants to Western Europe (Lewington et al. 1991, Glutz von Blotzheim & Bauer 1991). The majority of records are from autumn, when the species has been recorded from most countries in Europe (Lewington et al. 1991). In Norway, no survey has been carried out on the occurrence of the species since that of Michaelsen & Ree (1975). This study deals with all Norwegian records up to 1990.

The species is presently regarded as a «sub-rarity», and records are to be submitted to the local rarities committees (LRSK). Up to 1975 it was regarded as a great rarity, and records needed formal verification from the national rarities committee (NNKF/NSKF). At a single locality, Utsira, co. Rogaland, the species was so frequently recorded that no detailed description of the birds was required from 1986 onwards.

MATERIAL

The material has been collected through personal communication with the local LRSK's. This would give a thorough picture of the individuals recorded in all parts of Norway, except from the county of Rogaland. This is mainly due to the fact that records from the «hotspot» for the species, the tiny island of Utsira, have had a very low submission rate. Relevant literature has been examined in order to clarify the picture. These records have never been formally evaluated. However, most of the records are probably acceptable.

For the years 1984—89 records from Utsira have been extracted directly from «Siste nytt» (Recent records) in the journal «Vår Fuglefauna». To further confirm these figures I have viewed the daily log-book from Utsira for the last two years, and it seems the numbers are in good correspondence. Tore Berg (pers. comm.) has, in addition to giving me some unpublished records from Utsira, commented that these figures are rather on the low side of the actual occurrence.

Very few birds have been properly aged, but the majority are juveniles, even though adults have also been noted (pers. comm. LRSK Vestfold).

REGIONAL RECORDS

A total of 317 individuals have been recorded from Norway. Of these, only 2 are accepted



Fig. 1. The number of Yellow-browed Warblers recorded from each Norwegian county.

as belonging to *P. i. humei*. (2 ind. 06.11.1984 at Orre, co. Rogaland, Bentz 1986). The records are from most counties, except Finnmark, Sogn & Fjordane, Aust-Agder and Oslo & Akershus (Fig. 1).

Most records are from the counties of Rogaland and Vest-Agder, probably due to both high field-activity and high numbers of observers.

The concentration of records along the western coastline (Fig. 1) is very pronounced.

YEARLY OCCURRENCE

The first record for Norway was an individual at Utsira in 1937, followed by a second, also at Utsira, in 1950 (Haftorn 1971). Prior to 1970 there were only 11 records, but numbers increased rapidly during the early 70's. The species has been annual since 1972. The largest number hitherto reported was in 1985 (64 individuals). The total numbers recorded in Norway each year from 1970 onwards are shown in Fig. 2.

Some years are obviously better than others in bringing Siberian passerines into

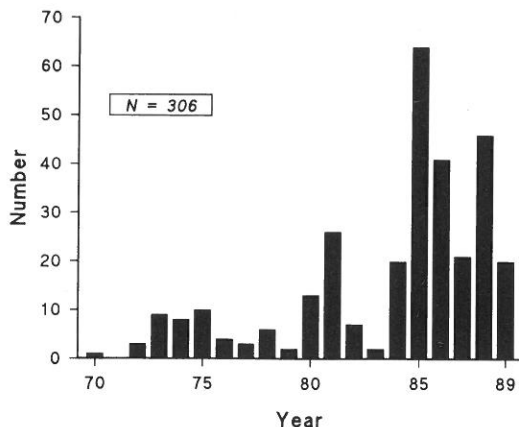


Fig. 2. Yearly occurrence of Yellow-browed Warblers in Norway after 1970.

northwestern Europe. In Norway the peak years for the species have been 1985, 1988, 1986 and 1981 (in this sequence, Fig. 2).

SEASONAL OCCURRENCE

236 individuals were assigned to a known period of arrival (Fig. 3). There is a distinct migration peak in the last ten days of September and first ten days of October. All Norwegian records are from autumn. A puzzling record is an individual in co. Nordland 4 Aug. 1988 (pers. comm. LRSK-Nordland). This seems to be unprecedented in Europe.

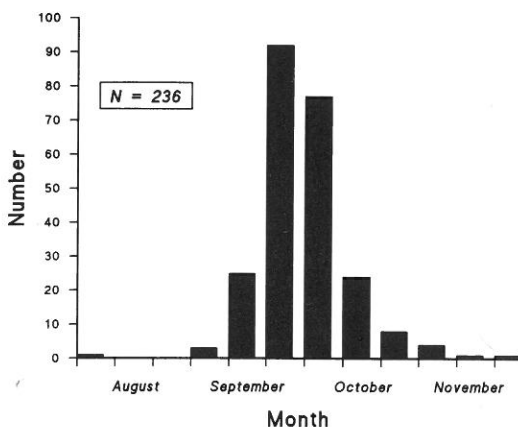


Fig. 3. Seasonal distribution of the Yellow-browed Warblers in periods of ten days (except for the last one in Oct., 11 days). All Norwegian records possible to assign to a known period of arrival are shown.

The second earliest record is of an individual 2 Sept. 1981 in co. Nord-Trøndelag. The hitherto latest observation was made at Revtangen Bird Observatory, co. Rogaland, 30 Nov. 1976.

In Norway, main arrivals south of Møre & Romsdal are in the last week of September/-first week of October, from Møre & Romsdal northwards in the two last weeks of September. Median arrival dates are 1 Oct. and 25 Sept. respectively.

DISCUSSION

Norwegian occurrence seen in perspective

The pattern of occurrence in Norway closely matches that in Sweden, but differs to a certain extent from what is known from the British Isles. The lack of records from some counties is probably mostly due to low field activity and low number of observers in the species' migration period. Another reason for Finnmark might obviously be the northerly location. A comparison with Swedish records (Breife et al. 1990) also reveals low numbers in the northern counties. This might be seen as evidence that birds mostly reach only as far north as mid-Scandinavia. However, this must not be taken too conclusively, because there is a tendency for observers to concentrate in a few major areas in both southern Norway and Sweden in autumn (For instance Utsira, Jæren and Lista in Norway, Falsterbo and Ottenby in Sweden). This would greatly overestimate the relative occurrence of the species at these localities. With increased activity in northern Sweden recently it has become apparent that the species frequently occurs along the Baltic coastline (Tyrberg 1988, 1989, 1990, 1991).

The coastal pattern seen in Norway is also observed in both Sweden (Breife et al. 1990) and Great Britain & Ireland (Dymond et al. 1989). However, in these countries the concentration of records is on the east coast. Huge landfalls of regular migrants on the east coast are well known phenomena during favourable weather conditions in these countries. Probably Yellow-browed Warblers also arrive in such landfalls. The west coast pattern observed in Norway might be due to reluctance to migrate over open bodies of water. Instead they spend a few days along the Norwegian coast before continuing migration.

The numbers recorded from Norway are higher than in Denmark (c. 215 records up to 1990, Olsen 1991), but slightly lower than the numbers recorded from Sweden (c. 370 records up to 1990, Tyrberg 1990). Compared with Great Britain & Ireland (approximately 2650 individuals up to 1985, Dymond et al. 1989) the numbers recorded from these countries are low. This might be attributed to differences in field activity, but probably the British Isles are influenced by two migration routes: a northerly, where individuals migrate across the North Sea (this route probably accounts for most Scandinavian records), and a southerly, where individuals immigrate across the English Channel from the Netherlands/Belgium/Germany. These birds probably have a route south/southeast of Scandinavia. The general picture is that the species occurs on approximately the same scale in all the Scandinavian countries, and that migration is mainly on a broad front covering most of this region in autumn.

The pattern of peak years in Norway closely matches the situation in Sweden (Breife et al. 1990, Tyrberg 1988, 1989, 1990), except for a marked Swedish peak in 1988 and also high numbers in 1987 and 1989.

These discrepancies are probably mostly due to coincidence. The numbers from Utsira, Norway, are probably underestimated, at least for the year 1987, and possibly also 1989. A close match between the numbers occurring in these two countries seems apparent. However, a southerly concentration of records in Sweden in 1989 (Tyrberg 1990) might explain the observed discrepancy for this year. These birds were apparently not en route to Norway. Records from the British Isles deviate to a certain extent from this picture (Dymond et al. 1989). Distinct peaks in 1975 and 1984 were matched neither in Norway nor in Sweden, further pointing to the possibility that the British Isles are influenced by two different migration routes.

The seasonal distribution exactly matched the Swedish records (Breife et al. 1990). Peak arrival time in the British Isles is approximately a week later (Dymond et al. 1989). This corresponds well if travel distance is taken into account. If this speed of migration is extended eastwards, it indicates that most birds occurring in western Europe leave the breeding areas 3–4 weeks earlier, depending on their exact origin. This fits well with the peak departure time noted by Glutz von

Blotzheim & Bauer (1991) as being late August.

Peak arrival time is somewhat earlier in northern parts than in southern. The same is also seen in Sweden, with median dates 26 Sept. in Västerbotten and 3 Oct. on Öland (Ullman 1989). This was explained as being caused either by shorter great circle distance to northern Sweden or increased speed of migration in northern latitudes where climate is harsher in late autumn (Ullman 1989). These plausible explanations will also apply to the Norwegian situation.

The exceptional early August record from co. Nordland is probably too early for any autumn migration to have started. According to Glutz von Blotzheim & Bauer (1991) the first birds leave the breeding areas in late July. Peak departure takes place in late August in the northernmost breeding areas. The first birds arrive in their winter quarters (Hong Kong and Burma) as early as the first half of August (Glutz von Blotzheim & Bauer 1991). The individual from Nordland was probably summering outside its normal breeding area. Only a single August record is known from elsewhere in western Europe (Sweden, 19 Aug. 1990, Tyrberg 1991).

General comments on vagrancy in Yellow-browed Warblers

Vagrancy is known to occur in many species. This phenomenon is more easily perceptible in rare birds, such as the Yellow-browed Warbler, than in more common species. However, also common European species are known to occur far outside their normal range (e.g. in North America and eastern Asia).

Different theories exist regarding the causes of westward vagrancy in Siberian species, but probably no single factor can explain the observed pattern. Rudebeck (1956) proposed that parts of the population have a regular westward element of migration. Rabøl (1969, 1976) advocated the theory of reversed migration as an explanation of the phenomenon. His views were that some, mainly first-year birds, deliberately migrate in the opposite direction of what is normal in the species. Alerstam (1982) favoured a theory based on random post-juvenile dispersal away from natal areas, possibly influenced by prevailing weather conditions. The high numbers occurring in northwestern Europe

were simply attributed to high numbers of ornithologists. Alerstam suggested that increased activity in southern Europe would increase the number of individuals recorded. The concept of initial post-juvenile dispersion was also favoured by Baker (1977), Howey & Bell (1985), and Baker & Catley (1987). The degree of drift and extension into western Europe depends largely on (a) the size and persistence of anticyclones over or near the breeding areas and the strength of their associated airstream, and (b) cyclonic activity across the northern maritime zones of Europe (Baker & Catley 1987).

The following facts about the vagrancy of Yellow-browed Warblers seem to have been established: (1) Birds occurring in western Europe are on a steady W-SW orientation. This east-west pattern of occurring is apparent when comparing peak arrival times in Scandinavia and Great Britain & Ireland (Fig. 3, Dymond et al. 1989, Breife et al. 1990). The sole ringing recovery also indicated the same: An individual ringed in co. Hedmark, Norway in 1990 was recaptured five days later on Fair Isle, Scotland (Anon. 1991). A SW-orientation was shown by Rabøl (1976) to be present in the Pallas's Warbler *Phylloscopus proregulus*. (2) Mass occurrences primarily take place during weather conditions explainable by the wind-drift hypothesis (see synoptic charts in Baker 1977, Howey & Bell 1985, Baker & Catley 1987). (3) The number of individuals recorded from western Europe has been steadily increasing. Norway, Sweden and the British Isles have all seen a totally new scale of arrival, especially since the mid-80's (Fig. 2, Dymond et al. 1989, Breife et al. 1990, Tyrberg 1988, 1989, 1990). The increase in number of observations recently could be attributed to one or two main reasons: It could be seen either as a product of an increase in the number of observers combined with increased use of mistnets for capturing passerines, or as an increase in the number of individuals actually moving into Europe. There is no evidence that the population of the species is increasing in numbers. Neither has any westward expansion of the breeding range been reported (Glutz von Blotzheim & Bauer 1991). However, there are reasons to believe that there has been an increase in the number of Yellow-browed Warblers moving into Europe. There seems no reason to believe that the number of observers or observer aware-

ness has increased correspondingly. Permanent coverage at Utsira during 1972–77 (Ree 1977) produced only small numbers of the species compared to recent influxes there. (4) There has been an increase in spring and winter records (Dymond et al. 1989, Breife et al. 1990, Tyrberg 1990, Olsen 1989). Probably this increase is genuine, as bird observatories have existed for a long period of time (e.g. Fair Isle, Revtangen, Falsterbo and Ottenby, to mention some of the best known), and there should have been possibilities of detecting spring Yellow-browed Warblers previously. Most interesting is the possibility of regular wintering in Portugal (Anon. 1992). (5) The number of individuals involved in westward dispersion varies between different years (Fig. 2, Dymond et al. 1989, Breife et al. 1990), indicating that no regular pattern exists in many of the records. (6) Peak arrival time seems to vary between years. This apparent pattern might be an illusion however, because several peaks of different magnitude often exist within a season (Baker & Catley 1987). A protracted period of arrival (e.g. Baker & Catley 1987 p. 101) does not support the general wind-drift hypothesis, as these special weather patterns seldom prevail over a long period of time. (7) Birds occur earlier in northern areas than in southern (Fig. 4, Douhan 1987, Ullman 1989).

If birds wintering in Europe are able to reorientate and to perform a spring migration, this probably will, in time, lead to small, but regular, numbers actually migrating into Europe. For this behaviour to spread in the population a genetic base of this «abmigration» must be present, and heritable. Such a pattern could explain why the species has become annual. Unfortunately, neither the genetic aspect nor the reorientation capabilities have yet been investigated. Any spring passage is likely to be routed more directly to the breeding areas, possibly south of Norway. If this hypothesis holds true, it can be postulated that the number of winter and spring records will continue to increase, most likely in eastern Europe and the Baltic Sea area. An analogue to this situation is possibly seen in Richard's Pipit *Anthus novaeseelandiae* where a small wintering population has been discovered in southern Spain (Cramp 1988). Ringing of wintering Yellow-browed Warblers would possibly be informative, as site fidelity in winter quarters has been shown to occur in many passerines (Curry-Lindahl 1981).

Much is obviously still to be learned about the causes of vagrancy, but further analysis might shed new light on the phenomenon, and aid increased knowledge and understanding of navigation and navigational errors in birds.

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SAMMENDRAG

Totalt finnes 317 sikre funn av gulbrynsanger fra Norge opp til 1990. Flest funn foreligger fra Rogaland (205) og Vest-Agder (35). Spesielt etter 1980 har arten vist tendens til en stadig hyppigere opptreden både i Norge og ellers i Europa. Forekomsten i Norge faller nøye sammen med den svenske, men avviker til en viss grad fra den britiske. Trolig skyldes dette i hovedsak at De britiske øyer er influert av to trekkruiter.

Langt de fleste funn foreligger i perioden ultimo september/primio oktober. Dette sammenfaller godt med litteraturopplysninger om maksimal intensitet i trekkaktivitet når distansen taes i betraktning. Funn fra nordlige regioner både i Norge, Sverige og på De britiske øyer viser en tendens til å foreligge tidligere enn i sør. Dette skyldes muligens kortere storsirkeldistanse fra hekkeområdene eller økt trekkhastighet grunnet barske værforhold.

Tegn tyder på at antall vinter- og vårfunn av arten øker, uavhengig av den økning i antall ornitologer som også har funnet sted i perioden. Dette kan ha ført til at deler av populasjonen har skiftet trekkvei. Hvis de overvintrende individer har evne til å reorientere, samt at den faktor som styrer denne «abmigrasjon» er genetisk betinget, kan dette på sikt føre til en fortsatt økning i antallet gulbrynsangere i Europa. Trolig vil de fleste funn under vårtrekket foreligge fra de østlige deler av Europa, da et vårtrekk vil være rettet mer direkte mot hekkeområdene.

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