Tiedonantoja • Brief reports

Poor breeding success in the Spotted Flycatcher *Muscicapa striata* in 1981 due to bad weather

ARTO MARJAKANGAS

In Finland, the second half of May 1981 was mostly warm and fine, but at the beginning of June the weather changed drastically and remained cold and rainy for the rest of the summer. This paper reports the effect of the bad weather on the nesting of the Spotted Flycatcher at Ylivieska and Nivala (64°N, 25°E), and Utajärvi (65°N, 27°E), in the province of Oulu, N Finland.

According to daily precipitation measurements in the Utajärvi study area in summer 1981 (E. Ahti, unpubl.), the rainiest period during the breeding season was the first half of June; on 2—16 June, for instance, there were only two rainless days, and the precipitation during this period totalled 81.3 mm, while the long-term mean of June in this area is about 60 mm. The daily minimum temperatures on the ground (also representative of the air temperatures under an overcast sky) were also low, particularly in the middle of the month. During and after the second half of June it was somewhat rainy and warmer.

A total of 24 nests of the Spotted Flycatcher were found and checked 2—5 times each. Of the 20 nests completed by 15 June, i.e. during the normal nest-building and egg-laying period of the species in the study areas (e.g. v. Haartman et al. 1963—72), only one was successful, while 17 nests were abandoned (Table 1). This differs considerably from the observations made in 1965—80 in Central Ostrobothnia, including Nivala and Ylivieska (see Marjakangas 1980), where out of 34 nests of the Spotted Flycatcher, 22 produced fledglings, 11 were robbed, but only one was deserted. In 1981, the birds abandoned their nests mostly in the middle of June, more than half of them prior to incubation, and the others before hatching was completed (Table 1).

These observations show that the cold rainy weather made life very difficult for the Spotted Flycatchers, evidently by increasing heat loss and thereby raising their energy requirements, while decreasing the availability of their main food, flying insects. Although no dead individuals were found, it may be noted that at Nivala, for instance, tens of adult House Martins *Delichon urbica* were found

TABLE 1. Nesting success of the Spotted Flycatcher at Ylivieska, Nivala and Utajärvi, N Finland, in the rainy summer of 1981.

Nesting success	The nest completed by 15 June	The nest completed after 15 June
Young fledged	1	1
The nest robbed during the laying or incubation phase	2	3
The nest deserted		
— after its completion	7	—
— during the laying phase	3	—
— during the incubation phase	5	—
— during the hatching phase	2	—
Total	20	4

perished in the middle of June (see also Pulliainen 1978).

Repeat nesting was to be expected in the second half of June, when the weather improved slightly, but in spite of equally intensive searching, I was able to find only four nests completed after 15 June (Table 1). Young fledged in one of them, but the others were robbed at the end of the incubation phase. However, this may indicate somewhat better breeding success in the late nests in general.

All but one of the nests were situated in natural habitats, where the Spotted Flycatcher normally breeds more successfully than in "man-made" ones (Marjakangas 1980). However, the bad weather in summer 1981 seems to have been more disastrous for the pairs nesting in natural sites, since at Nivala and the neighbouring Sievi, young fledged from 9 out of 23 nests in human constructions (K. Huhtala and J. Latvala, pers. comm.). This might be due to the fact that the "man-made" nest-sites of the species are often adequately protected against the weather. Nevertheless, the breeding population of the Spotted Flycatcher is likely to be smaller in 1982 than in 1981.

Acknowledgements. I wish to thank Messrs. Erkki Ahti, Kauko Huhtala and Juhani Latvala for their valuable information. At Utajärvi, the bird observations were made in connection with a wildlife study (part of the "Latvavesi-project") financed by the Academy of Finland.

Selostus: Harmaasiepon heikko pesimistulos huonon sään takia kesällä 1981

Kesän 1981 poikkeuksellisen sateisen sään vaikutuksia harmaasiepon pesintään seurattiin Ylivieskassa, Nivalassa ja Utajärvellä. Pesimäkauden sateisin jakso oli Utajärvellä tehtyjen säähavaintojen mukaan kesäkuun alkupuolisko, jolloin ilma myös pysytteli viileänä. Kuukauden 15. päivään mennessä valmistuneista 20 pesästä vain yksi onnistui, mutta peräti 17 hylättiin viimeistään kuoriutumisvaiheessa (taul. 1), vaikka Keski-Pohjanmaalla aiemmin kerätyn aineiston mukaan harmaasieppo hylkää harvoin. Tämä osoittaa huonon sään vaikeuttaneen huomattavasti aikuisten lintujen toimeentuloa, mm. ravinnonsaantia. Kesäkuun 15. päivän jälkeen valmistuneet eli pääasiassa uusintapesät saattoivat menestyä ensimmäisiä paremmin.

Tutkitut pesät olivat yhtä lukuun ottamatta luonnonbiotoopeissa, joissa harmaasiepon pesintä aiempien havaintojen mukaan onnistuu parhaiten. Kuitenkin kesällä 1981 asutuksen piirissä pesineet parit näyttävät, ilmeisesti suojaisempien pesäpaikkojensa ansiosta, selviytyneen hiukan paremmin. Tästä huolimatta kesän 1982 pesimäkanta tullee olemaan pienempi kuin kesän 1981.

References

v. HAARTMAN, L., O. HILDÉN, P. LINKOLA, P. SUOMALAINEN & R. TENOVUO 1963—72: Pohjolan linnut värikuvin II. — Helsinki.

MARJAKANGAS, A. 1980: Harmaasiepon pesimisbiologiasta Keski-Pohjanmaalla. — Keski-Pohjanmaan lintutieteellinen yhdistys, jäsentiedote 3/80:10—15.

PULLIAINEN, E. 1978: Influence of heavy snowfall in June 1977 on the life of birds in NE Finnish Forest Lapland. — Aquilo Ser. Zool. 18:1—14.

Snow Buntings *Plectrophenax nivalis* roosting in the snow

WALTHER THIEDE

Marjakangas (1981) has just published his observations of Snow Buntings burrowing in snow and remarks that only Welty (1962) so far has referred to this behaviour. I would therefore like to add four more references without excluding the existence of others in the vast ornithological literature.

In our paper on the "Bird-life in winter at the Ochotsk Sea coast of Hokkaido" (1974) we mention the year-long experience of one of us (M. Taketatsu) that Snow Buntings "are sleeping in the snow on the ground". The area where this is observed is the agricultural plain of Koshimizu village (Abashiri area) at the east coast of Hokkaido, Japan. There, the temperature in winter can also drop to —20 to —25°C.

Nethersole-Thompson (1965) cites on p. 274—275 roosting observations by D. Parmelee and S. MacDonald from Ellesmere Island.