

Tiedonantoja • Brief reports

Snow Buntings *Plectrophenax nivalis* burrowing in the snow

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On 2 March 1980 at 13.25, when visiting the winter feeding place for Black Grouse *Lyrurus tetrix* at the Kauhaneva fen (63°58'N, 24°36'E) at Ylivieska, W Finland, I discovered small, open hollows in the snow. They were like roosting hollows of tetraonids in miniature (see Marjakangas 1980), and on closer investigation really appeared to have been burrowed by some small birds. The details of the case are reported here.

The hollows were in three clusters, 25 m from the automatic feeders (supplied with oats), and totalled about 120. The distances between adjacent clusters were 10 and 15 m. Each was c. 3 m in diameter, and consisted of tens of hollows, 15–20 cm apart. Many of the birds had walked to the sites from different directions. The snow surface between the hollows was intensely trampled.

Several features indicated that the birds were Snow Buntings. This species winters and migrates in large flocks, often visiting winter feeding places in open habitats. The birds had walked or run over the snow; only a few small Finnish passerines walk and the Snow Bunting is the only one of these that could conceivably occur in this habitat and this season. For example, the Yellowhammer *Emberiza citrinella*, a common visitor at winter feeding places, the Redpoll *Carduelis flammea*, which may roost in a snow burrow, at least in cold weather, and the Bullfinch *Pyrrhula pyrrhula*, which evidently does so, too (Sulkava 1969), travel over the ground by hopping. The width and the length of the five hollows measured (5–6 and 10–11 cm, respectively) fit well with the Snow Bunting, and the droppings found in the hollows were of same size as those of the Yellowhammer, which is equal in body size to the Snow Bunting. Moreover, during February and March 1980, a flock of tens of Snow Buntings

was seen twice at the Kauhaneva feeding place (V. Huhtakangas and V. Nikula, pers. comm.).

The birds had burrowed after the snowfall on the previous afternoon, though the exact point of time remained unknown. When the hollows were found the air temperature was -12°C , but at night-time, including the evening and early morning, it had probably been -20 to -25°C . The Buntings may have tried to penetrate deeper, since the floors of most hollows had two grooves dug by their feet. The depth of the five hollows measured was 4.5–5.5 cm. At this level the vertical bearing capacity (measured with the Canadian snow hardness gauge) was 55 g/cm^2 , which would make it fairly difficult for small birds to burrow. Deeper, the snow was harder and at the surface it was softer, $2\text{--}10\text{ g/cm}^2$. Some birds had constructed long furrows with grooves in the floors, but evidently without resting in them, and even in the hollows the birds had probably spent rather a short time, since most contained only 1–2 droppings, while the rest were empty.

Snow Buntings roosting in the snow have been mentioned briefly earlier by Welty (1962). According to him, in severe cold they may burrow both at night and in the daytime. Of the small Finnish passerines, the Snow Bunting is evidently the fourth now known to be able to make use of the insulation and shelter of the snow cover by burrowing into it (see Sulkava 1969, Helle 1980). Some birds may also roost in holes formed under the snow (e.g. Lagerström 1979). In spite of this information, the snow roosting of small birds is still poorly known.

Selostus: Pulmusten kaivautuminen lumeeen

Ylivieskan Kauhanevalla sijaitsevalta teerien ruokintapaikalta löytyi 2.3.1980 lumesta n. 120

metsäkanalintujen avokieppien kaltaista pikkulintujen kaivamaa kuoppaa, jotka mm. määränä, kokonsa, niistä löytyneiden ulosteiden sekä ennen kaikkea lintujen lumella käyttämän vuoroaskelkäynnin perusteella todettiin pulmusten tekemiksi. Avokiepit olivat kolmena rykelmänä, joissa vierekkäisten väli oli 15—20 cm. Ne oli kaivettu ajanjaksona, jolloin lämpötila oli enimmäkseen 20—25 pakkasasteen tienoilla. Kaivuyrityksistään huolimatta pulmusten ei ollut onnistunut tunkeutua n. 5 cm:iä syvemmälle lumen kovuuden vuoksi, eivätkä linnut näyttäneet viipyneen kiepeissään kuin lyhyehkön tovin, sillä ulosteita niissä oli enintään kaksi. Jo entuudestaan pulmusten tiedetään voivan katkeytyä kieppiin kovalla pakkasella, mutta Suomessa tätä ei ole aiemmin ilmoitettu havaitun.

References

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A singing Chaffinch *Fringilla coelebs* in female plumage paired with another female-plumaged Chaffinch

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Female Chaffinches can be artificially induced to produce song similar to that of the male (Kling & Stevenson-Hinde 1977), but there are also observations on female Chaffinches singing in natural conditions (e.g. Lack 1943, Halliday 1948, Marler 1956, Jokinen 1968). Most of these females exhibited normal sexual behaviour. In the following, a report is given of a Chaffinch in normal female plumage singing and otherwise behaving like a male.

The bird was observed at Ylivieska, western Finland, in a small mixed forest (64°01'N, 24°44'E) on 13 May 1980 at 06.00, and watched for two hours at a distance of 2—20 m, also through binoculars. The bird sang repeatedly, and in duration and loudness the song was similar to that of the males, although in a somewhat slower tempo. The phrase could be described as *chi-cha-cha-cha-cha-cha-cha-cha-chi-u-chi*. The pitch descended slightly from the first to the eighth note, and as in male song, the phrase terminated with a flourish of an "inverted-U shape" (see Kling & Stevenson-Hinde 1977). Though also present in the artificially induced songs of female Chaffinches, the flourish has seldom been heard in females singing in natural conditions (see the literature cited above). Further, the tone was not as ringing as in male song, but resembled greatly that of the Redwing *Turdus*

iliacus. On the whole, the song had much in common with earlier descriptions of female singing (e.g. Lack 1943, Halliday 1948), and with slightly unaccomplished male song (see Marler 1956). Between bursts of singing the bird gave the ordinary *chink* call, but also separate notes of the phrase.

The Chaffinch delivered its song like the males, with its head thrown up and perching conspicuously on trees and bushes. A neighbouring male at a distance of 10—20 m did not react to its song, whereas the female-plumaged bird responded to the male's song by countersinging. Surprisingly, the bird appeared to be paired with another female-plumaged Chaffinch, with which it played the male role, while the other took the female role. Their partnership included apparent sexual chases (see Marler 1956). There was, however, also something abnormal in the behaviour of the "female" of the pair, because it sometimes tried to sing when the "male" began singing. Yet it was able to produce only 2—3 notes similar to those of the "male's" song.

On 16 May in the afternoon the place was revisited. The two birds were still there, behaving like a pair, and the one sang as previously. For a moment the pair was accompanied by the neighbouring male, and when he began to sing, the female-plumaged bird replied once, but neither showed any aggress-