

SNOW-BUNTINGS IN THE CAIRNGORMS

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THE snow-bunting (*Plectrophenax nivalis*), a passerine slightly smaller than the skylark, and with broad white wing-patches which make it readily identified, is a bird which most readers will probably have encountered on the hills in winter. At this season the species is relatively common in parts of Britain, occurring both along the coasts and on the inland hills in parties varying from small family groups to flocks containing upwards of a thousand individuals. These birds are mostly winter visitors from the Arctic, where the snow-bunting is the most numerous breeding passerine; but among them may be a few which have been hatched and reared in the Scottish Highlands. But only a very few, for the snow-bunting ranks among our rarest nesting birds. In Scotland—where it reaches the southern limit of its breeding range, and where breeders are usually regarded as relicts of the last Ice Age—only a few places apparently meet its rather exacting requirements. Nesting has been recorded on several occasions in the Shetlands, and once in St Kilda, but of the less than fifty nests or broods discovered in Scotland in the past hundred years most have been located on the high hills of the mainland.

The snow-bunting was suspected to breed in the Highlands for many years before the nest was actually found. In his "A Tour in Scotland, 1769," Pennant, in his description of upper Deeside, remarks that "snow-flakes breed here," while in August 1830 Macgillivray saw a family party on Lochnagar some three weeks before the usual arrival date of the first Arctic migrants. Adults were also seen in summer on various hills, but it was not until 1886 that the first definite mainland nest was recorded in Sutherland by Hinxman and Peach. In 1893 Hinxman, in company with Eagle-Clarke, also discovered the first nest recorded from the Cairngorms. Since then, more nests or broods have been found in the Cairngorms than elsewhere in Scotland, and there appears to be some justification for Harvie-Brown's statement in "A Vertebrate Fauna of the Moray Basin" (1895) that "the headquarters of the nesting haunts of the snow-bunting is among the highest of the Cairngorms." Despite this, however, the number of snow-buntings nesting in the Cairngorms appears to be very small, probably never more than a maximum of four to six pairs in any year, and often less, in some years none perhaps breeding at all.



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MALE (LEFT) AND FEMALE SNOW-BUNTING IN CAIRNGORMS: SUMMER

Since 1893 at least twenty-two nests or broods have been found in the Cairngorms. Though twelve of these occasions date from 1945 onwards, the apparent greater frequency of nesting in recent years is due probably to increasing activity among ornithologists rather than to an increase in the number of nests or nesting birds. The nest is built of grasses and moss on a foundation of mud, and lined with deer hair and fine feathers, chiefly of ptarmigan. It is very difficult to find, usually being sited above 3,000 feet among screes or in broken crags and placed well out of sight in a niche or hole, with the entrance too small to allow admission of an exploring hand. The normal clutch in the Cairngorms appears to be four to five eggs, with an occasional three, though in the Arctic the average clutch is approximately six eggs.

The breeding season may extend from the end of May until early July, as I discovered when I began to study the snow-bunting seriously and added my own observations to existing information. In 1955 I found two nests, one at the beginning of July containing two (addled) eggs and one nestling, and the second on July 28 with four eggs. Circumstances, however, were exceptional at the latter nest. From observations in June and early July it appeared that only one hen was present in the nesting corrie; she had nested once, deserted when the solitary nestling was well grown, leaving its rearing to be completed by her first mate, and then I had seen her mating with a second cock while the first was actually feeding his chick. The exceptionally late clutch was therefore her second one, but by a different mate. Some time between July 31 and August 5 she deserted this nest also, but with good reason, for when the eggs were removed for examination they proved to be infertile.

In 1957, when I found another two nests, the chicks at one nest were just about fledged when I finally left the site on July 24, after observations carried on over a period of eight days. As incubation occupies some twelve to thirteen days and fledging about another twelve, on reckoning back it is obvious that the eggs in this nest must have been laid at the end of June.

During the breeding season the food of the snow-bunting consists largely of insects, chiefly craneflies, which it collects from the patches of Alpine vegetation which dot the nesting corries. At one nest I watched, the incubating hen was fed at intervals by the cock; at other times she left the nest and foraged for herself. The brood is fed by both parents; during sixteen hours of observation at one nest, spaced over three days, each chick received on an average one feed

every fifteen minutes. Food is collected at varying distances from the nest. In 1955 the three cocks and one hen seen in the nesting corrie fed quite often together on a communal feeding ground, a grassy slope about 600 yards from the nesting screes. Food was frequently carried from this slope to an incubating hen and to the solitary unfledged chick, though insects were also collected from mossy patches among the nesting screes and from small grass patches within 50 yards of the nests.

At the two 1957 nests (which were located on a different mountain some miles from the 1955 sites) food was collected much nearer at hand as a rule. The nests were about 500 yards apart, at a height of 3,650 and 3,600 feet respectively, and close to each lay a small snow-patch on which the parent birds frequently foraged for wind-blown flies. No opportunity appeared to be missed to snatch easily obtained food for the chicks. On several occasions a bird, which had just finished giving a chick a feed, checked itself as it was about to fly back to the vicinity of the snow-patch, ran rapidly over the flat slabs outside the nesting crack, snapped up a house-fly, crane-fly, or other insect that had just alighted nearby, and immediately ran back to the nest to feed an ever-hungry mouth.

From my limited observations and the scanty data published it is difficult to draw conclusions about rates of hatching and fledging success in the Cairngorms snow-buntings. In 1955 the two nests I found contained a combined total of six eggs which did not hatch and one chick which successfully fledged. Of the 1957 nests, one contained two nestlings and one egg and the other four nestlings when I discovered them. Only one of the two nestlings fledged and two of the four, the others being found dead, apparently drowned, among the screes within a foot or two of the nest. In 1958 I found a solitary chick, barely able to fly, in the 1955 nesting corrie. It was being fed by an adult cock, but despite intensive searching I was unable to locate the nest or any other fledglings—hardly surprising, perhaps, when one considers the countless thousands of chinks and crannies in a scree-field. Neither did I find the hen.

Adult snow-buntings were also present in the Cairngorms in the summer of 1959 and 1960, but shortage of time prevented me from making an adequate search for nests or broods. A brief account of my method of nest-finding may prove helpful to anyone interested. A very large area of high, rough ground has to be covered, but, using Derry Lodge, Corrour bothy, or some other mountain hut as a base, I make a preliminary reconnaissance of the high corries, preferably

about mid-June but not earlier than mid-May, because any buntings seen before then may be Arctic migrants which have delayed their departure northwards. If present, cocks with their black-and-white breeding plumage are readily enough located early in the season; they sing loudly and constantly from early morning until late at night, both on the wing and from song-posts (these are particularly large blocks of rock inside their territory). The rather sparrow-like hens are more difficult to spot, but once I have found the cocks I set up camp in their corrie and with high-powered binoculars watch their movements throughout the daylight hours. This method will certainly reveal nests if breeding has taken place, but it requires time and patience and a fair supply of food and fuel—in 1957 my camp stood at 3,750 feet for twelve days.

Such high camps mean that if photography is to be attempted, light-weight camera equipment is preferable. Many bird-photographers deride the small negatives obtained with a miniature, but such a camera has at any rate obtained the first reasonable set of photographs of the snow-buntings at their nesting sites in Scotland. For all my 1955 and 1957 bunting photographs were taken with a Leica fitted with a Telyt 20 cm. telephoto lens and a reflex housing, not particularly light equipment perhaps, but about the lightest and most robust and reliable in the circumstances prevailing.