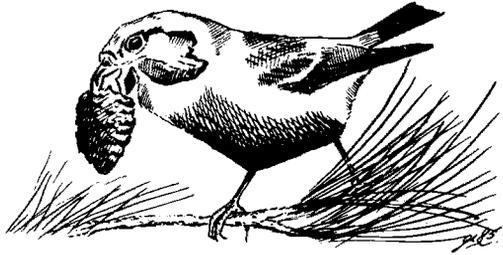




Parrot Crossbills in Britain

Graham P. Catley
and David Hursthouse



Following an exceptional influx of Parrot Crossbills *Loxia pytyopsittacus* into Britain in the autumn of 1982 (*Brit. Birds* 76: 46, plates 12, 13 & 220) and subsequent wintering records, we decided to summarise all known past records of this species in Britain and to analyse the 1982/83 influx in the light of previous records and information from other European countries. Notes on those observed in 1982/83 also led to points regarding field identification and behaviour.

Status of the species

The Parrot Crossbill's breeding range is generally quoted (e.g. Vaurie 1959) as extending from Norway, Finland and Sweden east to northern Russia and sporadically south to the Baltic provinces, Poland, the German Democratic Republic and occasionally Denmark. It is nowhere very common, and in the USSR is comparatively common only in the northwest (Dementiev & Gladkov 1954). Breeding densities, like those of the Crossbill *L. curvirostra*, tend to be higher where there is a good crop of the preferred food source, in the case of Parrot Crossbills cones of pines *Pinus*. As the pine has a more consistent cone crop than the spruce *Picea*, the preferred food of the Crossbill, however, Parrot Crossbills can usually adjust to local food shortages by making smaller migratory movements than the highly migratory Crossbill (Nethersole-Thompson 1975). Thus, the Parrot Crossbill may be described as more of a resident or partly erratically eruptive species than the eruptive Crossbill. Migrants regularly reach southern Sweden and Denmark, mostly in late autumn and winter, and occasionally the Federal German Republic, and the species has been recorded exceptionally as far west as Britain and central Europe and also east into Siberia.

Parrot Crossbills usually breed from March to May, and are occasionally double-brooded, nesting through to August-September if there is a good cone crop. Breeding is timed so that hatching coincides with the opening of the pine cones, which facilitates feeding of the young.

Status in Britain

Many past references to the status of the Parrot Crossbill in Britain were confounded by the earlier classification of the Scottish Crossbill *L. scotica* as

a race of Parrot Crossbill. All records of Parrot Crossbills in Britain from 1958 onwards have recently been assessed by the Rarities Committee, following requests in *British Birds* (71: 525). Of earlier records published elsewhere, notably in *The Status of Birds in Britain and Ireland* (British Ornithologists' Union 1971) and in Davis (1963, 1964a), those for which no details could be traced have been omitted. All acceptable pre-1958 records for Britain are given in table 1. All the dated records, involving 13 occurrences and 18 individuals, fall in the period September-March.

There were no further records until a notable influx in the autumn of 1962, with subsequent winter records (Davis 1963, 1964a). The full details of this influx have not previously appeared in one place and a full account is therefore given below; all records have now been accepted by the Rarities Committee, except those marked with an asterisk(*), which we, however, consider acceptable.

Table 1. Apparently acceptable records of Parrot Crossbills *Loxia pytyopsittacus* in Britain before 1958

County	Locality	Date	Remarks	Source
Suffolk	Blythburgh	1818	Female taken	Payn 1978
Suffolk	near Bury St Edmunds	Nov. 1850	Male shot	Payn 1978
Norfolk	Riddlesworth	about 1851	Male shot	Seago 1977
Gloucestershire	near Cheltenham	late Nov. 1861	Male and female killed	Swaine 1982
Essex	near Colchester	on/just before 21.2.1862	Male and two females shot	Cox 1984
Middlesex	Southgate	Nov. 1864	Imm. male shot; female also shot, but unfortunately prepared for the table (!)	Glegg 1935
Kent	near Plumstead (Bostal Common)	Jan. 1868	Female obtained	Ticchurst 1909
Sussex	St Leonard's Forest	Mar. 1870	Shot	Shrubbs 1979
Norfolk	Earlham	22.3.1888	Two females shot from a flock of seven 'crossbills'	Seago 1977
Devon	Marley, near Exmouth	1892 ¹	Male obtained	D'Urban & Mathew 1892; Lowe 1939
Norfolk	Langham	Sept. 1907	Male	Seago 1977
Fife	Isle of May	18.9.1953	Female, trapped	Eggeling 1960
Northumberland	near Catcleugh	16.9.1954	Imm. male killed by car; in company with another red and two green 'crossbills'	Temperley 1955

1. *The Handbook* gives this Devon record as 1892, quoting from *Ibis* 1939; it may, however, refer to January 1888, when several were shot from a large flock that remained for a few weeks (*Zoologist* 1888: 105).



221. Male Parrot Crossbill *Loxia pytyopsittacus*, Netherlands, February 1983 (*Jan AM van Laar*)

The 1962/63 influx

This influx was concentrated initially in the Northern Isles, with 33, including 16 trapped, on Fair Isle, Shetland, during 27th September-10th October. A single male was trapped from a party of four (three females, one female*) at Quendale, Shetland, on 7th October, with one remaining until 13th; and two birds were seen on North Rona* on 9th October, with one still present on 11th (Dennis & Waters 1968). Another influx occurred on Fair Isle on 11th October, when 25, including 20 trapped, arrived; some were still present on 19th. Four Parrot Crossbills were on Uig, Western Isles, from 11th to 13th October: two males being trapped on 11th, and a male and a female trapped on 13th (Davis 1964b; Reynolds 1964). Also on 11th, a first-winter male and a female were trapped at Spurn, Humberside, the male being found dead on 12th. A male was found dead at Spiggie*, Shetland, on 12th October; and a single male occurred on Fair Isle on 29th.

There were no further records until a male was found dead at Hartsholme Gravel-pits, Lincoln, on 16th January 1963. Subsequent observations showed there to be a flock of up to nine at this site in January, with three to four through February and a pair to at least 25th May. During this period, a female was found dead on 17th March and another female with an injured wing was taken into care in mid March. It escaped, and was still in the area up to early 1964. (It seemed likely that local youths with air-guns were responsible for the dead and injured birds.) (Atkin 1964)

Two further 1963 records concerned two presumed emigrants on Fair Isle on 20th March, and a female, trapped (with two Crossbills), at Wisley, Surrey, on 15th May.

All 1962-63 records fell in the period from 27th September to 25th May. The vast majority, 61 out of a total of 85, were on Fair Isle.

Records during 1963-82

During 1963-82, there were only four records of Parrot Crossbills in Britain, despite the huge increase in the number, and competence, of observers over this period. A male was discovered in Wells Wood, Norfolk, on 10th-12th November 1966 (details of a male there on 28th September 1966 are required by the Rarities Committee). In 1975, three occurred within two days: a male killed by a cat at Grutness, Shetland, on 22nd October; a male on the same day at Spurn; and a female, found injured at Tophill Low, Humberside, on 23rd, which subsequently died.

The real absence of records at well-watched coastal localities and bird observatories during 1963-82 does suggest that there was no marked influx into Britain in this period.



222. Male Parrot Crossbill *Loxia pytyopsittacus*, Norfolk, November 1983 (Roger Tidman)

The 1982/83 influx

All of the early 1982/83 records were on the British east coast or in the Northern Isles. The first was a male on Fair Isle on 7th October*, followed by six there on 8th and another male on 10th*. A first-winter individual trapped at Spurn on 11th died overnight. A male was found at Humberston Fitties, Humberside, on the same day and there were two males there on 12th, the first staying to 15th and the second to 23rd. Other connected arrivals on 12th included single males in Lincolnshire, at Grainthorpe and Ingoldmells (both found exhausted, and subsequently died); two females on Fair Isle, one of which was trapped and stayed until 29th; and another male trapped at Catfirth, Shetland. On 16th, there was one on Burray*, and a party of six was found at Voxter, Shetland, where three males and a juvenile were trapped and two additional females seen on 18th, with another male on 19th and at least one male to 25th. Despite many claims, the only Norfolk record accepted concerned an immature male at Wells Wood on 16th-17th October. A male was trapped at Wick, Caithness, also on 17th, and on 18th there were females at Voe and Strand, both Shetland,



223. Male Parrot Crossbill *Loxia pytyopsittacus*, Humberside, October 1982 (Graham P. Calley)

the latter also being seen on 19th. There was then a record from the Western Isles, a female and four juveniles at Langass on 21st, with a female found dead at Lyrawa Plantation, Orkney, on 29th.

Following these coastal records came a series of reports of wintering flocks from inland localities. Parties were first noted at Howden Reservoir, Derbyshire/South Yorkshire, and Hollingdale Plantation, South Yorkshire, on 30th October, and at Wyming Brook, South Yorkshire, on 31st. At Howden, numbers increased from seven (four males, three females) on 30th October to a maximum of 25 (ten males, 11 females, four immatures) from 15th November to 10th January 1983; thereafter, there were 20 until 3rd February and then a rapid dispersal, with the last (a male) on 13th February. At Hollingdale, there were 12 on 30th October, with up to 12 until 10th January and two pairs still present on 13th February. The Wyming Brook party numbered 14 (seven males, seven females) from 31st October to 22nd December. After the main dispersal from these three closely associated sites, there was a series of records at Langsett, South Yorkshire, with a minimum of 11 individuals from 23rd February to 7th May; these were regarded as additional to the other South Yorkshire records by the Rarities Committee (Rogers *et al.* 1984), but are here counted as partly the same birds.

Away from this main concentration, there were two Parrot Crossbills in Hamsterley Forest, Tyne & Wear: a female from 28th December to 2nd January and a male on the latter date. At North Winksley, North Yorkshire, another wintering party of up to 12 (three males, nine immatures) was found on 29th January, remaining until 24th February. In Speyside,



224. Male Crossbill *Loxia curvirostra*, Suffolk, March 1974 (Simon Cox)

Highland, there were a male and two females on 11th April*.

Assuming that the Langsett crossbills relate to some of the dispersing Howden/Hollingdale individuals, the minimum total for the influx from October 1982 to May 1983 is 104 individuals.

Following this major influx, there were two records in autumn 1983: a first-winter male was trapped on North Ronaldsay, Orkney, on 2nd October*, and a party of seven (four males, two females, one immature male) was discovered at Wells Wood on 26th October. Most of the latter were present until 20th November, with at least three (a male, a female and the immature) staying into 1984 and subsequently rearing two broods of young, the first fully proven breeding record for the species in Britain. These may have been autumn immigrants, or just possibly birds 'left over' from the previous influx. These last eight birds take the grand total for Britain to 219: 18 before 1958; 85 in 1962/63; four during 1963-82; 104 in 1982/83; and eight in 1983/84.

Additional 'crossbill' records in 1982/83

Once it was appreciated that an influx of Parrot Crossbills had taken place, there were a number of claims of birds looking 'large-billed'. This alone was of course not sufficient for formal acceptance as Parrot Crossbills, but there were no doubt some of this species which were missed, or just not fully recorded. The following were probably Parrot Crossbills, but were not seen in enough detail to be acceptable as such. On Fair Isle, in addition to those noted, there were 22 crossbills on 8th October and three on 12th. At Gibraltar Point, Lincolnshire, there were singles on 13th and 24th October and three on 14th November. Six crossbills at Knapp Inchtute, Perthshire, on 21st October were possibly Parrots. A flock of 25-30 at North Walsham,



225. Adult female Crossbill *Loxia curvirostra*, Suffolk, February 1974 (Simon Cox)

Norfolk, from 6th to 11th March may well have included Parrots; the rapid disappearance of this flock suggested that they might have been departing winter visitors.

The number of Crossbills involved in the 1982/83 influx was impossible to determine. Very few were reported in response to a request in *British Birds* (76: 237), and several of those that were, notably birds seen only in flight, appear not to have been seen well enough to determine that they were definite Crossbills as opposed to Parrot Crossbills. In Wells Wood, only one bird from a flock of nine was accepted as a Parrot, but others were described as large-billed, although evidently some were definite Crossbills. Also at the time of the influx, in North Norfolk, five birds at Sheringham on 17th October and one flying west at Titchwell were noted as Crossbills. There were also two or three at Lound, Essex, on 6th October and a single identified as a Crossbill at Hornchurch, Essex, from 2nd to 6th October which fed on crab apples in a suburban garden. At Foreness, Kent, three individuals during the main influx were recorded as Crossbills: on 8th, 15th and 24th October.

Further records of Crossbills during the 1982/83 winter were mainly from the South Yorkshire/Derbyshire sites, where they are relatively infrequent, and also from a few other inland areas where they are irregular. There is no way of ascertaining how many of these may have been involved in the initial late-autumn influx.

Records outside Britain

Information from Scandinavia and the rest of Europe gives a good idea of the extent of the irruption, but little clue to its cause. Reports suggested that

there were no unusually high breeding numbers of Parrot Crossbills in Norway and Sweden in 1982. In Norway, though, there was an almost total failure of the pine-cone crop in 1982, which 'maybe meant that birds migrating south passed through without stopping' (Geoffrey Acklam *in litt.*). If the failure extended farther east, it could also have been a factor in instigating the irruption. Evidence from Sweden suggested a north Scandinavian origin for the majority of the irrupting crossbills, and Lennart Risberg (*in litt.*) noted: 'I doubt if the influx had a very easterly origin.' At Ottenby Bird Observatory, in the Baltic, only two Parrot Crossbills were ringed in autumn 1982, but this equalled the total ringed there during 1945-81. There were other reports from the area around Stockholm, on the east coast of Sweden, but most reports came from the south and centre.

Geographically, the irruption was concentrated in southern Sweden, Denmark, the Netherlands and Britain. There were no records from France, Austria or Switzerland. Few were reported from south Norway, although those that were were considered highly unusual; as noted above, the lack of pine cones may have led to birds passing over quickly without halting. Notable Norwegian records were of singles at Molen Bird Observatory, Vestfold, on 13th and 17th October; and of five trapped on the island of Utsira during 9th-13th October, compared with only one Crossbill (there had previously been only two Parrots caught on Utsira). Note the coincidence of these dates with arrivals on the British east coast and in the Northern Isles.

In the southern Swedish province of Skåne, the influx of Parrot Crossbills was described as 'magnificent'. Little information on actual numbers is available, but 180 were noted in the adjacent province of Blekinge in November-December, which was more than usual. At a bird observatory on the north shore of Lake Vänern (59° 30' N), 1,400 crossbills were counted

226. Female Parrot Crossbill *Loxia pytyopsittacus*, Norfolk, December 1983 (Roger Tidman)





227 & 228. Male Parrot Crossbill *Loxia pytyopsittacus*, Humberside, October 1982 (Graham P. Catley)

migrating in the autumn, but true numbers were estimated at twice that figure. At Falsterbo Bird Observatory, Skåne, 1,200 migrant crossbills were noted from October, an estimated 90% being Parrots; again, these numbers were higher than usual.

In the Netherlands, where up to 1982 there were only nine confirmed records of Parrot Crossbill, a marked invasion occurred from the second half of October. The first report was on the isle of Terschelling on 23rd September, but few others were identified until several groups of tens of individuals were recorded on the Waddensee islands from the second half of October. Several parties were then discovered on the mainland coast in the first half of November, and maximum numbers were recorded from December to early March. At most wintering sites, numbers remained fairly constant through the winter. Flocks left the southern mainland coast from January, all having gone by mid February. Those on the Waddensee islands stayed until late April, and there were several instances of breeding behaviour, including nest-building, but 'no real breeding attempts seem to have been made' (Hans Schekkerman *in litt.*). The few reports from inland sites were mostly during February-March in Drenthe and the Veluwe area, where there are large areas of pine forests. In the latter area, however, there was successful breeding by more than one pair in both 1983 and 1984. The total number of Parrot Crossbills involved in the Netherlands was estimated at 275-325. Most were in the coastal pine forests: 70 and 100 in Zuid Holland and Noord Holland, respectively, and 100-120 on the Waddensee islands.

In Denmark, 1982/83 produced the biggest invasion ever recorded, far

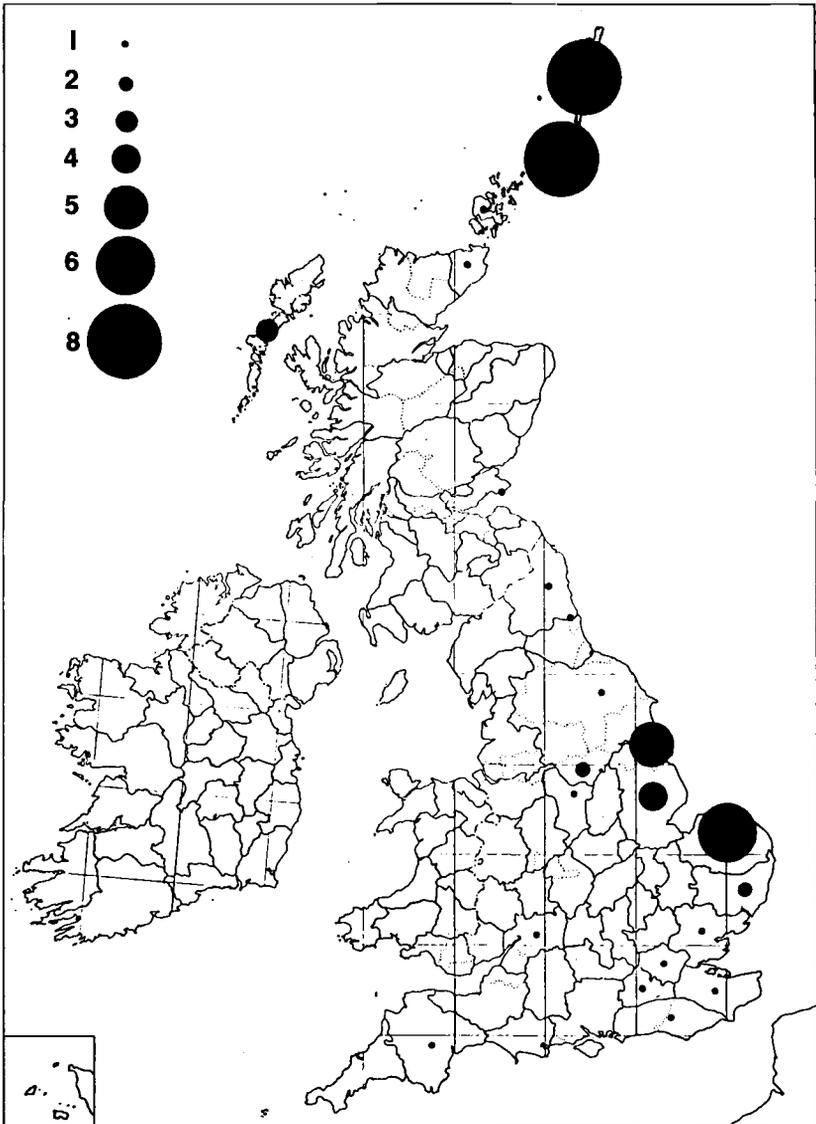


Fig. 1. Geographical distribution of records of Parrot Crossbill *Loxia pytyopsittacus* in Britain

exceeding the previous largest (300 individuals in 1975/76). Parrot Crossbills were noted from 2nd October until 13th May, with the following monthly pattern: October, 81; November, 697; December, 775; January, 486; February, 3,746; March, 683; April, 43; May, three. The largest flocks were of 140, at Gardbogard, Vendyssel, on 29th December; then 480 on 15th February, 570 on 25th February, and 285 on 12th March, all at Skagen, Vendyssel. Following the influx, Parrots bred in more places in

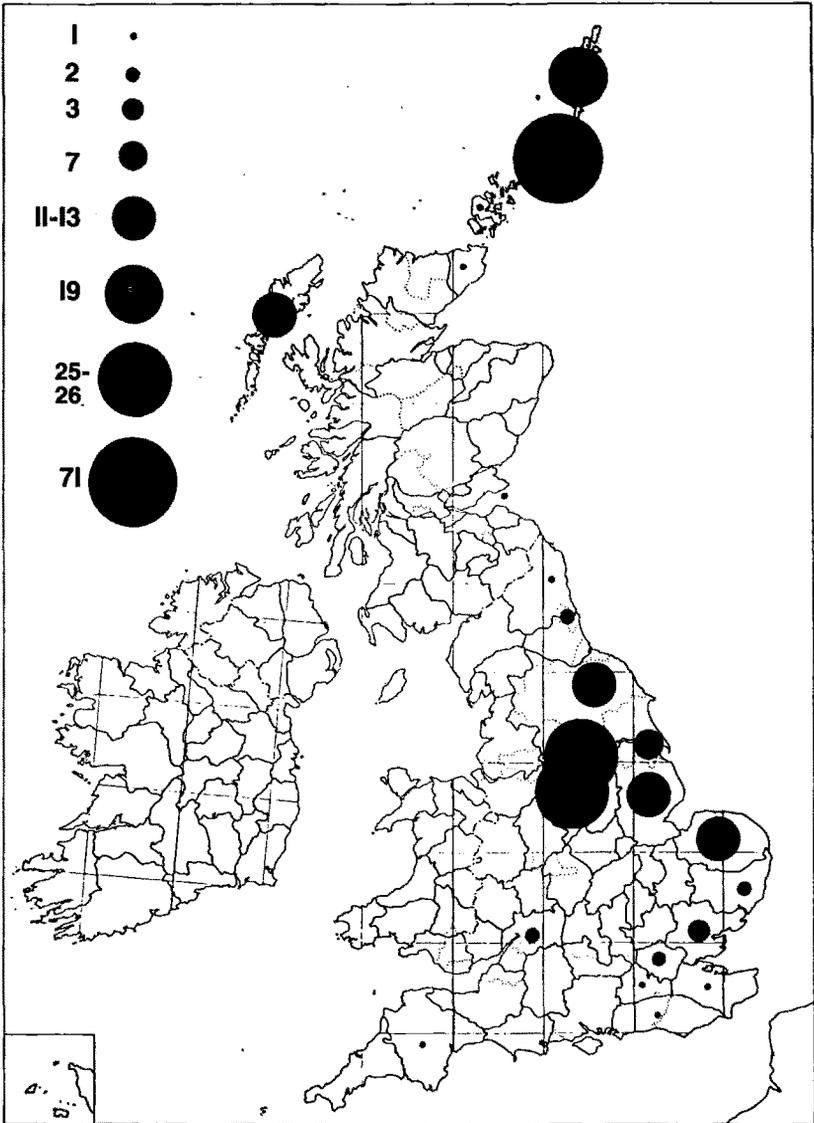


Fig. 2. Geographical distribution of number of individuals of Parrot Crossbills *Loxia pytyopsittacus* in Britain

Denmark in spring and summer 1983 than before, although previous breeding records were rather few (A. P. Moller *in litt.*).

Pattern of occurrence in Britain

The geographical distribution of all Parrot Crossbill records in Britain is shown in fig. 1, and of numbers of individuals in fig. 2. All records are plotted by current county boundaries, apart from Fair Isle, which has been

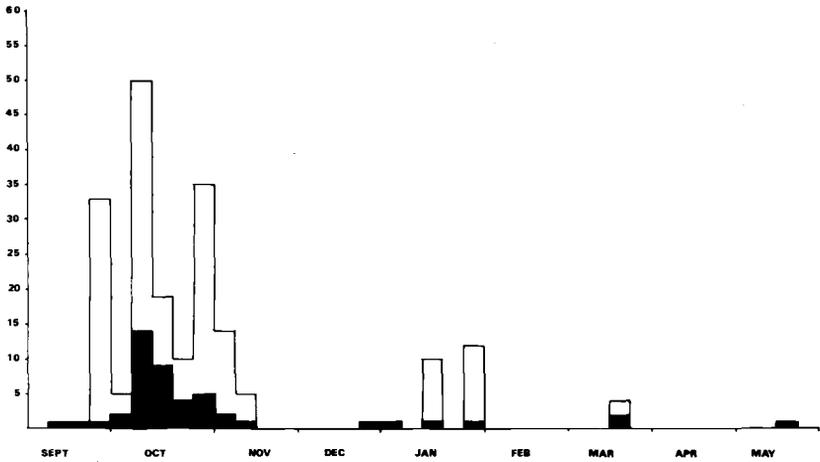


Fig. 3. Monthly distribution of all dated records of Parrot Crossbill *Loxia pytyopsittacus* in Britain. Only first date of occurrence plotted. Open columns = total number of individuals; filled columns = number of different records

plotted separately from Shetland. The temporal distribution of all dated records is shown in fig. 3, with the two major influxes, 1962/63 (fig. 4) and 1982/83 (fig. 5), also given separately. In all cases, only the first date of each occurrence is plotted.

A study of the accepted records reveals a clear-cut pattern, with initial arrivals on the East Coast and in the Northern Isles in late autumn (September-November), followed by sporadic wintering of small flocks inland. About 80% of all records fall between 16th September and 15th November, and it is most probable that the two wintering flocks located in January 1963 and January 1983 had already been in the areas from the previous autumns. Compared with the Crossbill, the majority of which usually arrive in June-August in irruption years, the Parrot Crossbill is therefore a late immigrant, often associated with major arrivals of Scandinavian winter visitors and the occurrence of Asiatic vagrants on the East

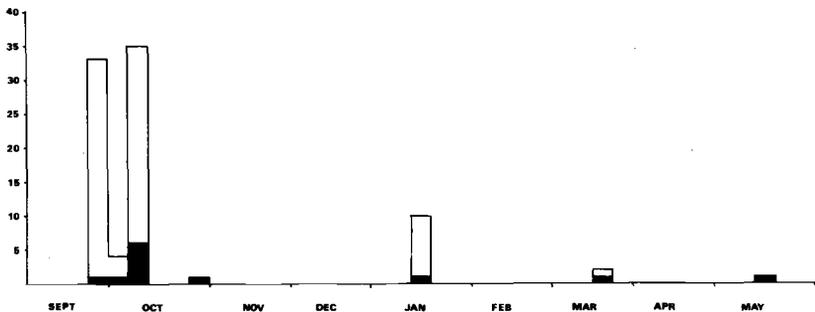


Fig. 4. Monthly distribution of records of Parrot Crossbills *Loxia pytyopsittacus* in Britain in 1962/63. Only first dates plotted. Open columns = total number of individuals; filled columns = number of records

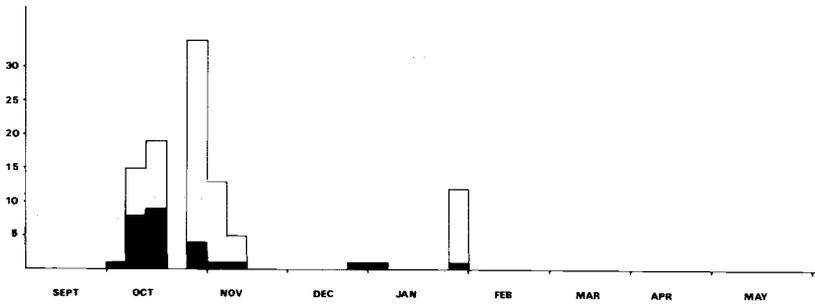


Fig. 5. Monthly distribution of records of Parrot Crossbills *Loxia pytyopsittacus* in Britain in 1982/83. Only first dates plotted. Open columns = total number of individuals; filled columns = number of records

Coast. This pattern is similar to that in Denmark, where Parrot Crossbills are more regular in winter and most arrive from October-November, with varying numbers remaining to March-April (Moller 1979).

In Britain, the wintering flocks, once established in an area, were very stable in numbers during November-January, but thereafter became less compact as birds began to depart by February-March (cf. Netherlands data for 1982/83).

Comparison between 1962/63 and 1982/83 influxes

The precise timings of the two major influxes of Parrot Crossbills into Britain were very similar, with most arriving during October and being concentrated from Lincolnshire north to Shetland (see figs. 4 and 5). The bulk (71%) of the 1962/63 records, however, were on Fair Isle, and only 13% came from inland sites; by contrast, only 10% of those in 1982/83 were on Fair Isle, but 65% came from inland localities. These figures are, of

229. Male Parrot Crossbill *Loxia pytyopsittacus*, Norfolk, March 1984 (Roger Tidman)





230. Adult male Crossbill *Loxia curvirostra*, Suffolk, March/April 1974 (Simon Cox)

course, based on the numbers of individuals recorded. The high total found inland in 1982/83 was almost certainly partly a result of the huge increase in the number of active observers, and the increased knowledge of field identification, between 1963 and 1982. Thus, no real comparison of numbers of birds involved in the two influxes is possible; indeed one is tempted to suggest that many more Parrots than those recorded must have been present in 1962/63, especially as there were marked invasions of Crossbills in both 1962 and 1963, the presence of which probably also served to mask the occurrence of Parrots. Nevertheless, Parrot Crossbills are still not easy birds to identify in the field, and undoubtedly there were other records in 1982/83 which were not formally verified.

That several of the 1982 Parrot Crossbills arrived at the same time as a pronounced East Coast 'fall' of Goldcrests *Regulus regulus* and Asiatic passerines (Howey & Bell 1985) suggests that they had been caught up in a general westward migration associated with easterly winds blowing around a huge high-pressure system situated over Scandinavia and Russia during October. The proximate factor which led to the initial movement of Parrot Crossbills remains unclear. Evidence from Scandinavia and other European countries suggests that there was not just a postulated shift of wintering area, as shown by the Rough-legged Buzzard *Buteo lagopus* in 1973/74 and 1974/75 (Scott 1978), but a definite irruption.

Identification of Parrot Crossbills

The identification of large-billed crossbills noted in Britain from autumn 1982 to spring 1983 as Parrot Crossbills rather than Scottish Crossbills was based on a number of factors: (i) measurement of trapped birds; (ii) photographs of individuals involved; (iii) arrival on the East Coast suggestive of Scandinavian origin; (iv) the large-scale influx of Parrot Crossbills into other West European countries; (v) the fact that the Scottish Crossbill

population is relatively small and sedentary, and has never been recorded south of Perth (56°21'N) (Dr A. G. Knox *in litt.*). No attempt has been made to compare Parrot and Scottish Crossbills below; all comparisons are with Crossbill.



231. Male Parrot Crossbill *Loxia pytyopsittacus*, Humberside, October 1982 (Graham P. Catley)

Field identification

The following summary is a compilation of criteria which became apparent during extensive observations of Parrot Crossbills in Britain in 1982/83, with appropriate reference to previous works. It is not intended as the 'last word' in Parrot Crossbill identification, but as a guide to assist observers confronted by possible Parrots in the future. Like several other closely related species, for example Reed *Acrocephalus scirpaceus* and Marsh Warblers *A. palustris*, identification is not easy and depends on good views, close study, skill, and experience of the commoner species. Like many of the species breeding in the northern boreal forests, however, Parrot Crossbills are frequently very tame away from their native habitat, and so are often easy to photograph: a good photograph of a suspected Parrot will enable much easier confirmation of identity than an attempt to quantify certain characteristics in words.

PLUMAGE

Reliable differences in plumage between adult Parrot Crossbill and Crossbill do not exist. From our experience in Britain in 1982/83, we would suggest, however, that: male Parrots usually appear duller, deeper crimson-red, with a more pronounced greyish nape and mantle; while females tend to appear duller and greyer in colour than Crossbills, especially about the head, neck, nape and mantle, and thus show a more contrasting brighter back and rump (this area tends to be greener than the even brighter yellow-green of Crossbill).

The moult patterns of crossbills and their adoption of yellow- and

orange-type plumages are rather complex and not fully understood. Individuals with orange or yellow feathers need not be immatures, and likewise red males may be in first-winter plumage. A narrow white or buffish wingbar, formed by the pale tips to the outer three to five greater coverts, is sometimes present on Parrot Crossbills. This feature was noted as species-diagnostic by Newton (1972) and Davis (1963). It is, however, also found on Crossbill, and Ticehurst (1915) considered it a reliable means of distinguishing Crossbills in first-winter plumage. The outer one to five greater coverts are sometimes retained after the post-juvenile moult, and if present their pale tips are a means of ageing first-year Crossbills, until they are worn off or the feathers are moulted in the following summer. There is no reason to suppose that the same is not true also of Parrot Crossbills, and thus this feature cannot be regarded as species-diagnostic.

STRUCTURE

Measurements clearly show that Parrot Crossbills are bigger than Crossbills, having larger body size, greater weight, longer wings and tails, and deeper bills. In the field, Parrots do tend to look 'bigger' when Crossbills are present for comparison; they look bulky and big-headed. They

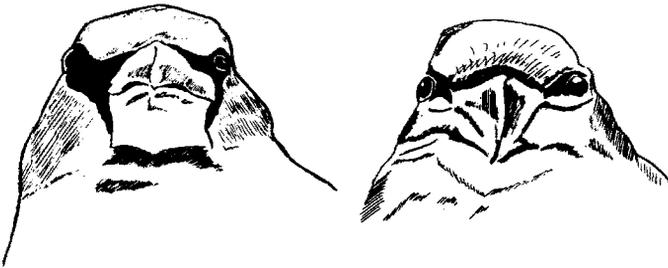


Fig. 6. Head-on views of Hawfinch *Coccothraustes coccothraustes* and Parrot Crossbill *Loxia pytyopsittacus* (Graham P. Catley)

have been noted as looking about 10% larger than Crossbill and have even been likened to a small Starling *Sturnus vulgaris* in structure. The accompanying drawings (figs. 6-10) are based on photographs and field observations.

HEAD AND NECK

The appearance of a Parrot Crossbill's head and bill often draws comparison with that of a Hawfinch *Coccothraustes coccothraustes*, especially when seen head-on (fig. 6). Parrots look heavy, strong, thickset, bulky and lacking a pronounced forehead, an effect heightened by the flatter crown. The bird seems to have its greatest bulk at the front, but the breast can also appear deep and full. The heavy front is emphasised when seen head-on, as the flat crown, broad, wide forehead, full 'cheeks' and broad-based bill all combine to create this effect (fig. 6). When alarmed, in threat display, and sometimes when singing, the crown feathers are raised in a semi-crest which gives the crown a more dome-shaped appearance (plate 221); they

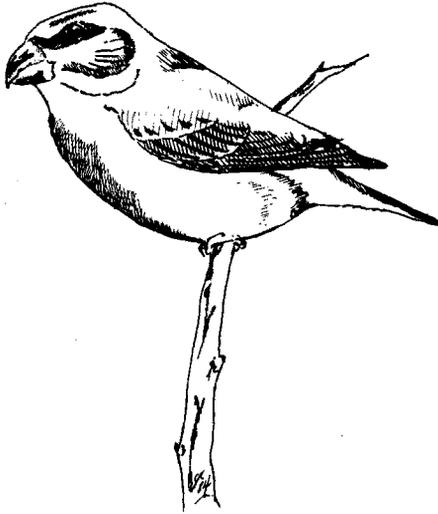


Fig. 7. Parrot Crossbill *Loxia pytyopsittacus* perched (Graham P. Catley)

do not, therefore, always show a flat forehead. The neck is often hunched and may give the impression of loose feathering, creating a ruff-like effect.

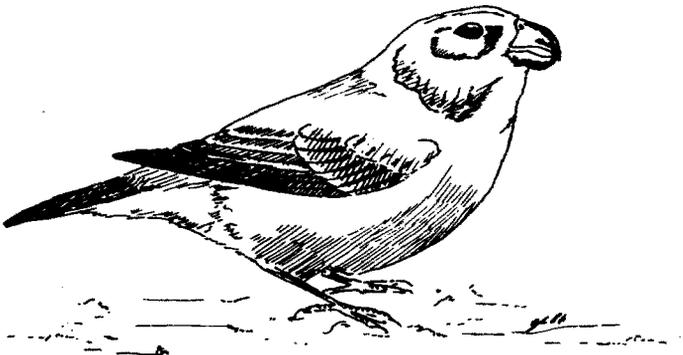
WINGS

Parrot Crossbills do sometimes appear long-winged in the field, and the effect of the flight feathers cloaking the tail again tends to add more bulk to the front of the bird.

BILL

Adult type The bill of Parrot Crossbill is indeed more like that of a parrot (Psittaciformes), being deeper and broad at the base and hefty-looking. On most individuals, the upper mandible curves down smoothly and evenly along its whole length; but on some the culmen at the base levels out, being flatter for the 2-3mm near the skull. The tip only just projects beyond the

Fig. 8. Parrot Crossbill *Loxia pytyopsittacus* on ground (Graham P. Catley)



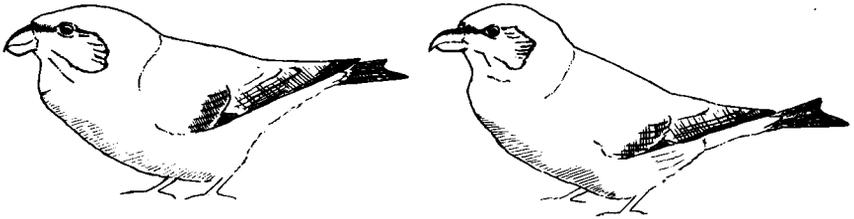


Fig. 9. Parrot Crossbill *Loxia pytyopsittacus* (left) and Crossbill *L. curvirostra* (right) to show comparative jizz on the ground (Graham P. Calley)

lower mandible, if at all, but odd individuals, apparently mostly first-years, do show more extension. Adults' bills are possibly more worn after the breeding season and thus less pointed. The lower mandible has a distinct shape, with a pronounced bulge at the base of the gonys and a rather blunt tip, which again seldom projects above the ridge of the upper mandible. The cutting edge of both mandibles is a pale ivory colour, much more pronounced than on Crossbill.

The bill may look almost as deep as it is long, an effect heightened by the bird often holding the mandibles slightly opened while eating (often a good time to observe bill shape, as the head is held still). The bill of Crossbill is not so bulky, but is more elongated, with the tips usually more sharply pointed, and often more crossed.

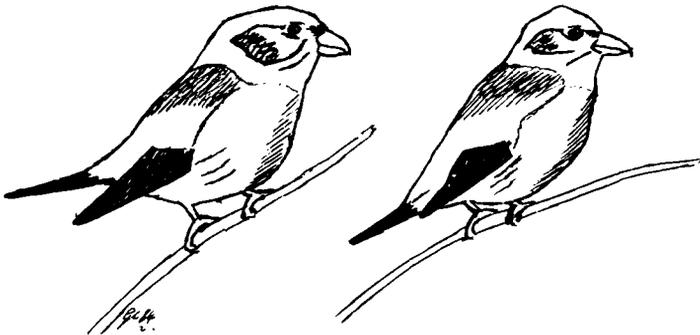


Fig. 10. Parrot Crossbill *Loxia pytyopsittacus* (left) and Crossbill *L. curvirostra* (right) to show comparative jizz when perched (Graham P. Calley)

Photographs of Parrot Crossbills may show an exaggerated bill shape, presumably owing to foreshortening caused by telephoto lenses and the differing angle of the bill to the camera. Measurements taken from photographs tend to reduce the length to depth ratio of the bill. Thus, birds in the field may give the impression of having less striking bills than those in published photographs, a point mentioned by several observers in 1982/83. Another explanation for this anomaly is the distinct possibility that photographs only of Parrot Crossbills with really striking bills are published, since others may have been less confidently identified. A photograph of a female published in *British Birds* (71: plate 6) shows an individual with extreme bill proportions: observers tended to use this as a reference in 1982/83, but comparison of some birds with this individual may have led to a number of failures to identify Parrots.

Non-adult type All species of crossbills have uncrossed bills when they leave the nest. Juvenile Parrot Crossbills, therefore, take some time to develop a bill of full adult-type proportions. One trapped on Fair Isle, in autumn 1962, was well advanced in moult to first-winter plumage, but had a bill depth of only 11.5mm. It follows that in normal winter populations there will be Parrot Crossbills without the full massive bills of adults, and it seems to be these which create most identification headaches. They should, however, still be identifiable, using the structural characteristics noted above, and by voice. The bill has the same general shape as that of adults, although not the same proportions, and is thus still a useful feature.

CALLS

Parrot Crossbills have quite a varied vocabulary, but the most regularly heard call is a single repetitive note, variously transcribed as 'tsyup', 'tschiup', 'tyup', 'jup', 'quip' or 'tiyup'. It is generally agreed to be similar to Crossbill's, but slightly deeper, coarser, more resonant, harsher or more metallic. When heard well, it is distinctive. An observer's appreciation of differences in call obviously depends on his or her experience of the varied vocabulary of Crossbill, and on hearing and ability to listen closely to call notes.

Another version of this call is a very deep 'tyoop'. This is sometimes given in flight and occasionally when perched, and is the most diagnostic call of all. It is also much deeper than the call of Scottish Crossbill, as well as of Crossbill. Parrots regularly give a further call, mostly when perched, transcribed as 'quop', 'gop', 'quap' or 'kop'. This note may be confused with the deeper calls of Crossbill.

Jonsson (1979) noted that, when in flocks, Parrots give calls of varying

232. Female Parrot Crossbill *Loxia pytyopsittacus*. Norfolk, March 1981 (Roger Tidman)





233. Male Parrot Crossbill *Loxia pytyopsittacus*, Derbyshire, January 1983
(Gary Palmer)

pitch. In 1982/83, several observers claimed to hear Crossbill calls from mixed Parrot Crossbill/Crossbill flocks, especially in flight; it would seem, however, that the flocks, although possibly mixed, may in fact have consisted purely of Parrots.

An additional complication is provided by juveniles. Those on Fair Isle in 1962 gave a call similar to that of adults, but slightly higher in pitch, and Davis (1963) suggested that this may be related to the development of the size of the bill/mouth area.

In 1982/83, those in large parties were noisier than those in small groups, with much squabbling, calling, and uttering of unusual noises. Several males were heard to give song and sub-song, when perched, from October right through to April.

Food and feeding habits

The regular food of Parrot Crossbills is given by Dementiev & Gladkov (1954) as the seeds of pine and other conifers and, very rarely, seeds of crowberry *Empetrum* and of bilberry *Vaccinium*. Those in Britain in 1982/83 had either found suitable coniferous feeding habitat or were migrants at coastal sites devoid of preferred food. The necessity for such migrants to locate a suitable food source quickly after an exhausting flight was shown

234 & 235. Male (left) and female (right) Parrot Crossbills *Loxia pytyopsittacus*, Norfolk, December 1983 (Roger Tidman)





236 & 237. Male Parrot Crossbill *Loxia pytyopsittacus*, Humberside, October 1982 (Graham P. Catley)

by the weak condition of some on the East Coast. Two were searching for seeds on the ground, and one was feeding on thistles *Cirsium*; all three eventually died. Parrot Crossbills on Fair Isle in 1962, deprived of suitable food, fed on the seeds of thrift *Armeria*, oats *Avena* and thistles.

Individuals which had located suitable coniferous feeding habitat fed mostly on pine seeds, but also to an extent on seeds of larch *Larix*. The wintering flock in Derbyshire/South Yorkshire fed mostly on pine, occasionally on larch, but never on spruce. The two individuals at Humberston fed exclusively on seeds of Scots pine *Pinus sylvestris*, and not on any of the introduced species of pine present. Birds in the coastal conifers in the Netherlands in 1982/83 showed a preference for seeds of Austrian pine *P. nigra nigra*, as opposed to those of Corsican pine *P. n. maritima*; in February and March, some were seen feeding on the leaf buds of poplars *Populus*.

The British Parrot Crossbills, while feeding in a particular tree, were very acrobatic in their search for cones. Once located, a cone was invariably snipped off at the stalk, carried in the bill to a stout branch, and held in one foot while being opened. Cones were occasionally carried in the bill in flight, but it was not ascertained if this was because they were being taken to a favourite perch or whether it was due to disturbance or to some other cause. The cones, once held by a foot, were prised open with the bill; green cones were dealt with as easily as ripe ones, and the seeds then extracted with the tongue, the scales being discarded before the seed was eaten. Cones were opened very methodically, in most cases all the seeds being extracted from each one and thus some time being spent on each, as opposed to the more haphazard behaviour of Crossbills. While feeding on a cone, the Parrots were usually very still and quiet and could be rather difficult to locate in the foliage except by the noise of falling scales and discarded cones.

Instances of breeding behaviour in Britain

Most irruptive species occasionally show signs of breeding behaviour in areas far removed from their normal breeding range following irruptions. Indeed, many migrant species demonstrate such behaviour in spring prior to departure from wintering areas. It has been suggested that breeding far outside the normal range may be an ecological adaptation designed (a) to colonise new areas, or (b) to act as a survival mechanism for highly



238. Juvenile Crossbill *Loxia curvirostra*, Suffolk, 1974 (Simon Cox)

irruptive species in times of food shortage in the normal breeding range. The Crossbill in particular has spasmodically colonised widespread areas outside its regular range, for varying lengths of time, following large irruptions. Breeding in these distant regions is also probably related to the availability, quantity and quality of a suitable food supply.

As both large influxes of Parrot Crossbills into Britain have been in late autumn, followed by wintering of parties which have remained through to early spring, it is perhaps not surprising that breeding behaviour by this species has been observed in Britain. Males have been heard in song from late autumn (October) onwards, in some instances not connected with territories (i.e. by coastal migrants). The 1962/63 influx was probably very poorly documented, but even so there were two possible instances of breeding behaviour. At Hartsholme Gravel-pits, Lincoln, there were up to ten individuals from January and a pair was present from late February to 25th May, the male being heard in song (Atkin 1964); limited observations could well have failed to detect a breeding attempt. Near Wisley, Surrey, a female Parrot Crossbill was trapped on 15th May 1963; in the same area, there was also a record of 'a nest built in a pine on April 23rd, by a pair of

239. Male and juvenile Parrot Crossbills *Loxia pytyopsittacus*, Norfolk, April 1985 (Roger Tidman)



crossbills believed to have had abnormally large bills.' They were not, however, confirmed as Parrots, and the nest was not subsequently examined.

In 1982/83, following extensive wintering in South Yorkshire/Derbyshire, there were three records of pairs holding territories in March-May. Display and courtship-feeding were observed, and two pairs built nests. It is unclear whether any proven breeding took place. In spring 1984, following the wintering of seven individuals at Wells Wood, Norfolk, a pair nested and reared one young; the female later paired with another immature male and reared two young. This was the first confirmed breeding of Parrot Crossbills in Britain (we hope that full details will be published shortly).

Continuity of breeding outside the normal range by such spasmodically irruptive species is, however, unlikely without a good-sized nucleus population or regular influxes of new recruits, and it seems improbable that such small groups could sustain themselves for very long.

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Summary

All past records of Parrot Crossbill *Loxia pytyopsittacus* in Britain are summarised, with particular reference to the major influxes of 1962/63 and 1982/83. The latter influx is analysed in detail, and comparisons are drawn with the simultaneous occurrence of the species in the rest of northern Europe. The general pattern of occurrence in Britain, with a late autumn arrival and subsequent wintering parties, is discussed. Notes are presented on the species' identification, feeding, and breeding behaviour outside the normal breeding range. Parrot Crossbills were confirmed to have bred for the first time in Britain in 1984.

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