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De volgorde van vogels in Dutch Birding volgt in eerste instantie een klassieke 'Wetmore-indeling'. Binnen dit raamwerk worden voor taxonomie en naamgeving de volgende overzichten aangehouden: *Zeldzame vogels van Nederland* door A B van den Berg & C A W Bosman (1999, Haarlem) (taxonomie en wetenschappelijke, Nederlandse en Engelse namen van Nederlandse vogels); *Palearctic birds* door M Beaman (1994, Stonyhurst) (Engelse namen van overige Palearctische vogels); *Vogels van de wereld – complete checklist* door M Walters (1997, Baarn) (Nederlandse namen van overige vogels van de wereld); en *Birds of the world* door C G Sibley (1996, Version 2.0, Cincinnati) (taxonomie en wetenschappelijke en Engelse namen van overige vogels van de wereld). Afwijkingen van en aanvullingen op bovenstaande overzichten zijn gebaseerd op beslissingen van de CSNA (cf Dutch Birding 19: 21-28, 1997; 20: 22-32, 1998).

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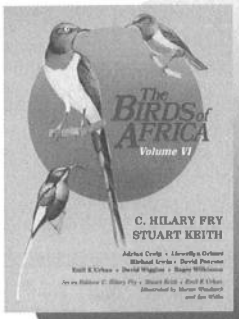

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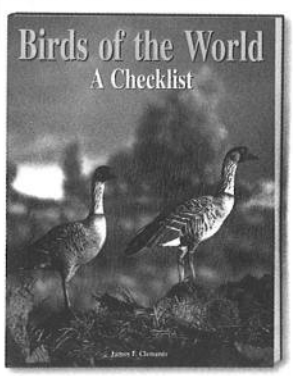

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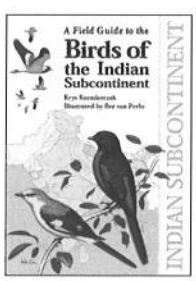

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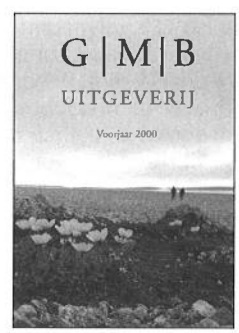

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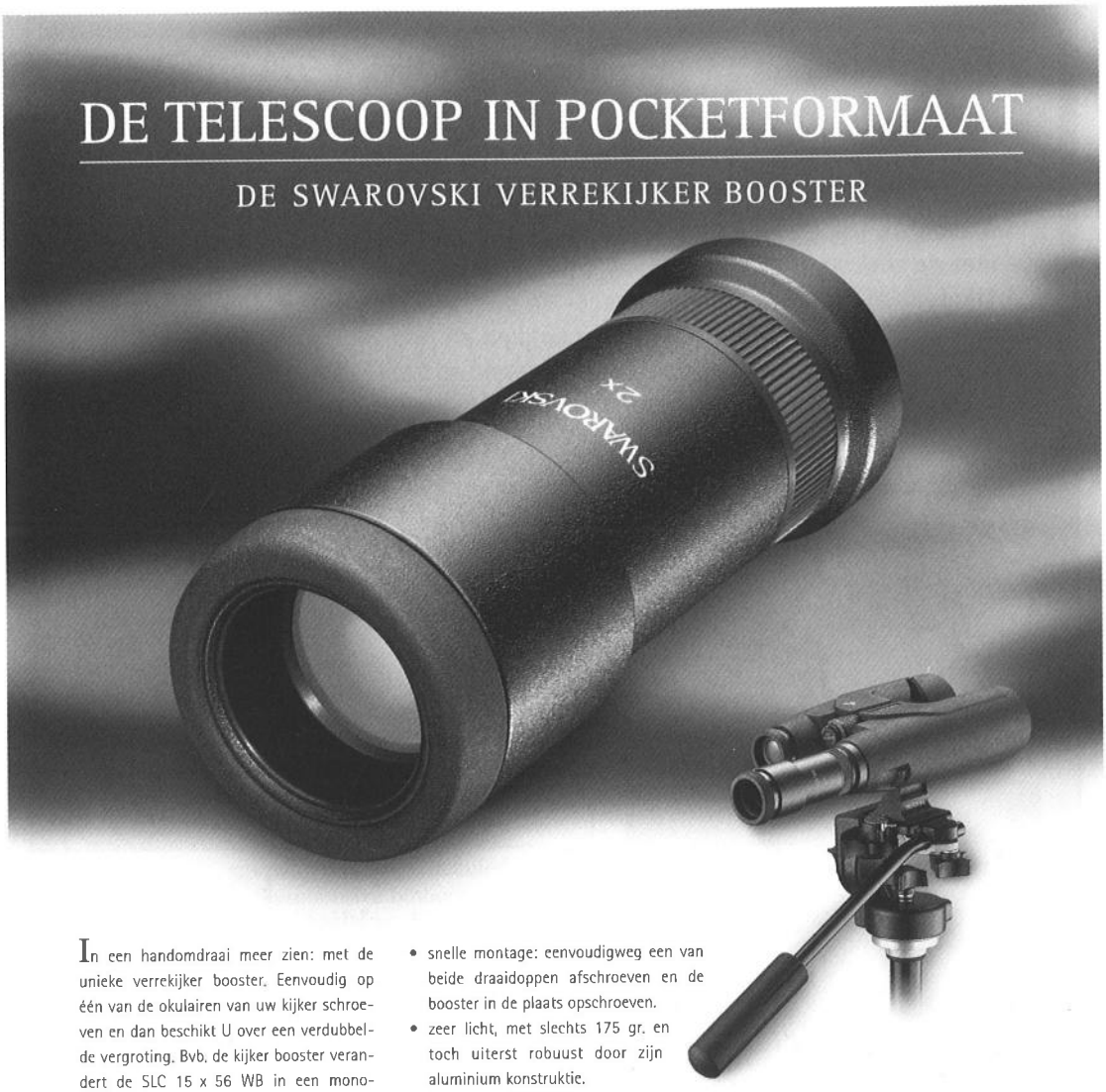

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Introduction to vocalizations of crossbills in north-western Europe

Magnus S Robb

During the last four years, I have been recording and studying the vocalizations of crossbills *Loxia*, mainly in the Netherlands and other north-western European countries. My interest began with Scottish Crossbill *L scotica*. I was curious whether it was possible to distinguish with certainty the vocalizations of Common *L curvirostra*, Scottish and Parrot Crossbills *L pytyopsittacus*. When I immersed myself in the subject, I soon realized that there were many unanswered questions, not least regarding the taxonomic status of various crossbill populations. It also became clear that the differences between the vocalizations of Common, Scottish and Parrot Crossbills were often being misinterpreted or, at best, greatly oversimplified.

On 30 October 1997, I came across a flock of Common Crossbills in De Kennemerduinen, Noord-Holland, the Netherlands, which had flight calls completely unfamiliar to me. These could be described as a sharp-sounding high-pitched *weet*. 'Weet' crossbill became my provisional name for them and I will discuss them at length below. By the time this encounter took place, I was aware of the remarkable work of Groth (eg, 1993a) in North America, summarized by Sangster (1996). Groth discovered that there are at least eight vocal types of 'Red Crossbill' (the American name for Common Crossbill) in the New World. These correspond to populations of crossbills occurring across a wide geographical range, each with a narrow range of morphological variation and a unique vocal repertoire. Groth believes that these vocal types are cryptic species and has argued that they fulfil the requirements of both the phylogenetic and biological species concepts. In Europe, the existence of a number of flight-call types in Common Crossbill had been noted by Curtis Adkisson and Alan Knox, and Knox (1992) had discussed their possible significance. In De Kennemerduinen, I soon noticed that 'weet' crossbills differed from other crossbills present not only in their flight calls but also in their excitement calls. They also seemed to have their own repertoire of song motifs. Not knowing where these 'weet' crossbills came from, I was intrigued whether they represented a distinct vocal type in the North American sense. I decided to study their vocalizations in greater depth and to document the repertoires of as many other crossbills as I could find. Between March 1996 and February 2000, I sound-recorded a total of at least 30 hours of all four currently recognized European crossbill species. In addition, I analysed a wide range of both private and commercially available recordings, including some obtained from the British Library National Sound Archive, London, England. In north-western Europe, I distinguished six vocal types of Common Crossbill, differing from each other across a wide range of vocalizations. Like their North American counterparts, Common Crossbills in north-western Europe showed discrete and highly regular patterns of vocal variation, raising the possibility that distinct populations or even cryptic species are involved.

In this article, vocalizations of six vocal types of Common Crossbill plus Two-barred *L leucoptera bifasciata*, Scottish and Parrot Crossbills are compared. First, general categories of crossbill vocalizations are discussed. Then, species and vocal types of crossbill are introduced and more than 100 examples on the accompanying CD serve to illustrate their vocal repertoires. Also, sonagrams and slowed-down recordings are used to elucidate structural differences between these vocalizations. Parallels and differences between the situations in North America and north-western Europe are discussed as is the assortative breeding of at least two vocal types of Common Crossbill in De Kennemerduinen in 1998.

This article and the accompanying CD do not aim to be a definitive guide to crossbill vocalizations in north-western Europe. Rather, I hope that they will serve as an introduction to crossbill repertoires in the region. In particular, I hope that they will form a foundation for further studies on Common Crossbill vocal types.

Looking for patterns in crossbill vocalizations

The most striking feature of the different crossbill vocal types is that their vocalizations differ con-

sistently across a range of the items in their vocabulary. Groth (eg, 1993a) discovered this in North America and it seems to apply equally in Europe. Flight calls are the most striking of a range of vocalizations which can be used for identification. Excitement calls, alarm calls, soft chitter calls and even motifs in the songs all differ between the various vocal types.

The way I distinguished the six vocal types was essentially through listening very carefully both in the field and later to my recordings, and through visual inspection of sonagrams of thousands of vocalizations using my computer. It soon became apparent that the variation in flight-call structures was not random. Flight calls fell into a number of clear and discrete patterns. I tried to establish whether there were flight calls which bridged the gaps between these different types. Some 'types' were soon abandoned if it became apparent that they were merely part of a range of continuous variation. As the extent of variation for each type became more apparent, so did the discontinuities. It also became clear that birds of a given flight call could often be heard in homogenous-sounding flocks consisting of males, females and often immature birds, indicating that the differences between the various flight calls were not merely a question of gender or age.

The next stage was to determine whether crossbills of a given flight-call structure also had other calls in their repertoire which they did not share with crossbills producing different flight calls. In addition to flight calls, I looked for differences in excitement and alarm calls in particular. These are the three categories of vocalizations Groth (eg, 1993a) used to establish differences between vocal types in North America. To my surprise, I also found that I could often predict the vocal type of a singing bird by listening for familiar motifs in the song.

If a whole array of vocalizations produced by birds of a particular flight call were also found to be characteristic of those birds, and produced consistently, I considered that I was probably dealing with a vocal type. More and more, I have found that the same correlations of calls and song motifs heard in my main study areas in De Kennemerduinen and at Baarn, Utrecht, could also be heard elsewhere. This applied not only to other locations in the Netherlands but also to other parts of Europe from which I have been able to obtain recordings or where I have made them myself.

Nomenclature and difficulty of transcribing bird vocalizations

Originally, I named the Common Crossbill vocal types phonetically, using descriptions of their flight calls. This simplified talking about them with other birders. These descriptive names have some disadvantages, however. For example, in the past, 'chip' has often been used as a generic and not inappropriate way of describing the flight calls of crossbills. If all of the known Palearctic and Oriental crossbill subspecies turn out to be vocal types in addition to the six described here, then we will soon run out of words remotely suitable to describe their flight calls. The differences are, after all, often very subtle to the human ear. Describing bird vocalizations phonetically is also, of course, highly subjective. A description which works for one person may confuse another.

The vocal types Groth (eg, 1993a) described from North America were given the numbers 1-8. A ninth, *L c mesamericana* from Central America, probably also represents an additional vocal type (Jeff Groth pers comm) and more may yet be described (eg, Benkman 1999). Partly for this reason, I felt it would be a bit presumptuous and confusing to try to fit the Palearctic vocal types into this number scheme, so I have used the letters A-F instead, in addition to the phonetic flight-call names. I feel these names are preferable to phonetic names, such as 'keep', 'jip' and trip', because the latter, based on a subjective description of the sound, are more likely to lead to confusion and mistakes, especially in an international context. The type A-F names are only provisional and, when the vocal types are better known and their taxonomic status better understood, more appropriate names can be applied.

The differences between the flight calls of certain vocal types are very difficult to describe phonetically. The name 'jip' (Type D), for example, might have been applied to Type E or F by a different observer. The phonetic transcriptions are based as far as possible on English spelling conventions. By necessity, these descriptions exaggerate the differences I hear. I have used the transcriptions 'keep', 'glip' 'jip' and 'chip' for three of the types because they seemed appropriate to the sound in question, and are already widely used. The two different vowels used – *ee* as in 'eel' and *i* as in 'fish' – are not intended to indicate different call durations. Rather, they are intended to indicate the prominence of the 'vowel' sound in the call as a whole. The 'keep' and 'weet' flight calls sound 'clearer' in tone than

the rougher, more fricative 'jip', 'chip', 'trip' and 'glip' equivalents. The order of the letters used as names (Type A, etc) reflects the chronological order in which I 'discovered' the different vocal types.

The name 'Common Crossbill' is used here to refer to all crossbills currently classified as *L curvirostra* and is not intended to reflect my own position on crossbill systematics (see the section on taxonomy). Two-barred Crossbill refers only to *L l bifasciata* here and not to either of the wing-barred crossbill taxa of the New World: White-winged Crossbill *L l leucoptera* of North America and Hispaniolan Crossbill *L l megaplaga* of Hispaniola. The latter two taxa probably deserve species status in any case (eg, Benkman 1992, Smith 1997).

Recording equipment

When I made the older recordings featured on the CD, I was using the analogue Sony WM-D3 Walkman as my tape recorder. Now, I use DAT recorders: a laptop-sized Sony TCD-D10 Pro II and a walkman-sized Sony TCD-D100. With both of these, it is possible to make high-quality digital recordings. I used a Telinga Pro 4 mono low-noise parabolic microphone for most of the recordings, and a stereo Telinga Pro 5 for the most recent. These microphones can pick up data on crossbill calls even when the birds are quite distant. For work on crossbill calls, even distant recordings can be used to make sonagrams as long as sufficiently sensitive software is used.

Sonagrams

The general availability of software to make sonagrams in recent years has made the analysis of bird vocalizations a great deal more accessible for the non-professional birding community. Nevertheless, the ability to relate shapes on a sonagram to vocalizations heard takes time to acquire. In the long term, studying sonagrams can actually help to refine the ear and, in particular, the ability to memorize vocalizations. It becomes much easier to remember a vocalization heard in the field when one is able to visualize the sonagram it would produce. Sonagrams were vital in establishing the various vocal types, showing that differences heard in the field corresponded consistently to differences in the structure of the calls.

When working with sonagrams, it is important to compare calls at the same scale. In this article, however, the two sonagrams of begging calls (sonagrams 6 and 28) are shown with a vertical scale which is different from that used in the other sonagrams. For these two sonagrams only, the vertical scale is from 0 to 12 kHz rather than the usual 0 to 8 kHz range because otherwise important higher frequencies would have been cut off. All sonagrams are shown at the same time scale (horizontal axis). It is important that fine details and quiet vocalizations are visible in sonagrams. For this, a 'grey-scale' viewing option is more useful than the more crude 'black-and-white' option which tends to 'filter out' the finer details. I used Sound Edit 16 version 2 by Macromedia, both for making sonagrams and for mastering the CD. This software is only available for Macintosh computers. A summary of sonagram software for computers of various platforms can be found on the Internet (at http://www.cisab.indiana.edu/CSASAB/index.html).

It should be noted that, in the sonagrams accompanying this article, the time interval between calls was often reduced in order to fit more examples into the space available. Where differences in the time intervals between calls are significant for the identification of certain vocalizations or vocal type, however, this is stated in the accompanying text. In the actual recordings presented on the CD, only the bare minimum of cuts was made.

Main categories of crossbill vocalizations

In studying crossbill vocalizations, it is essential to have a grasp of the different categories of vocalizations produced. This is as essential when interpreting vocalizations as understanding topography is when studying plumages. There is no point in ringing the alarm bells ('Parrot Crossbill!') on hearing the much deeper calls made by one crossbill compared with another one if you do not realize that you are, in fact, comparing the excitement calls of one Common Crossbill with the flight calls of another. I have witnessed this particular confusion in the field but misunderstandings can be found on published recordings too. On the bird-sound guide *Teach yourself bird sounds 8: coniferous/mixed woods* (Couzens et al 1996), an example is given of the 'feeding contact call' ('main call' in the spoken commentary) of Scottish Crossbill. The same vocalization is then used in a comparison of the flight calls of Common Greenfinch *Chloris chloris* and Scottish and Common Crossbills. The Scottish Crossbill calls illustrated are, in fact, begging calls which sound very different from flight calls and could only be described as the

'main call' for fledglings. If only it were that easy to distinguish between the 'main calls' of Common and Scottish Crossbills!

Flight calls

The best known of crossbill vocalizations, flight calls are the loud metallic calls heard most often when crossbills are passing overhead. They are similar in their general metallic tone for Common, Scottish and Parrot Crossbills. However, the homologous *chet* flight calls of Two-barred Crossbill sound less metallic and are sometimes said to resemble the flight calls of redpolls *Carduelis cabaret/flammea/hornemanni* more closely. With practice, the variants produced by the different species and vocal types can be recognized with increasing confidence.

Flight calls are produced both in flight and by perched birds, in which case, they are often a prelude to flight. Within each species and vocal type, the loudness of the flight calls can vary from fairly quiet to almost ear-splitting, partly of course depending on proximity to the listener. Just before a crossbill departs, there may be an increase in the calling rate and calls become louder, only to fade away as the bird disappears into the distance. According to Benkman (1992), 'It is conceivable and consistent with casual observations (CWB) that an individual calls when its foraging rate is low, but remains silent when the rate is high. If only a few birds call, implying a generally good tree, they then resume foraging, but if many call, increasing to a crescendo, implying a generally poor tree, then the flock flies off'.

Males and females do not show consistent differences in their flight calls. Within the pair bond, they can even match their flight calls (Mundinger 1979, Groth 1993b). The possibility cannot be excluded that a wild crossbill might adopt the flight calls of different vocal type within a mixed pairing. I have not encountered any mixed pair, however, and I have never known an individual crossbill to produce flight calls of more than one vocal type. Pairs of mixed vocal type would be extremely difficult to detect in the wild if one pair member adopted the calls of the other. Equally, an individual producing calls of more than one type could only be easily detected in the wild if it was alone and produced both call types one after the other.

It not known to what extent individual crossbills change their flight calls over long periods. Flight calls of a given vocal type do not appear to differ according to a seasonal pattern. For most of the vocal types presented here, the same basic flight calls have been recorded at various points during the reproductive cycle and outside the breeding season. Experiments with marked crossbills may be necessary to study call stability.

The range of flight-call variation between individuals within a vocal type or species can appear to be large (for instance, Scottish and Parrot Crossbills) or more limited (type C and D Common Crossbills). Also, the exact vocalization and structure of an individual crossbill's flight calls may vary slightly, presumably due to motivational factors and the exact behavioural context. Immatures sometimes produce flight calls which differ slightly from those of their parents and appear to be less consistent in structure (Groth 1993a, Alan Knox pers comm). It can be difficult to assign flight calls to a particular vocal type or species in the field but, when other important vocalizations are heard and sonagrams are made, few birds remain unclassified.

Excitement calls and trumpet calls

Often misleadingly referred to as alarm calls in field guides, excitement calls are also known as *toops* (eg, Groth 1993a). Excitement calls are probably indicative of motivational conflict in various social, sexual or territorial situations. One such situation is mobbing where the conflict is presumably between the escape and attack drives. These calls can often be elicited by 'pishing'. Excitement calls often precede fights between rival males. They are then accompanied by agitated tail- and wing-flicking. In breeding situations, the male sometimes *toops* before flying to the nest, for example, to feed a brooding female (Nethersole-Thompson 1975: 121-122).

Excitement calls can also function as a location call, used to attract conspecifics, and may sometimes be used by foraging crossbills to attract passing flocks. It has been shown that crossbills feed more rapidly in flocks than when alone, due to the improved ability to assess cone crop quality and detect predators (eg, Benkman 1992), so it is in their interests to attract conspecifics when the foraging flock is too small.

Excitement calls are, in most cases, just as characteristic of a given vocal type of crossbill as flight calls. They are generally produced by perched crossbills but, unlike alarm calls, they can also be given in flight. Although a particular vocal type will tend to have excitement calls of a certain mean pitch, this can vary according to the level and nature of excitement/tension. The lower the pitch, the more closely they come to

resemble alarm calls. A single bird can produce a range of variation from very low soft alarm calls to higher-pitched loud excitement calls depending on the situation. Alan Knox (pers comm) believes that the separation of these two categories may be artificial, the two calls representing opposite ends of a spectrum.

The striking Two-barred Crossbill trumpet call, a loud nasal-sounding *meep*, is described at greater length below. The equivalent *keck* call of White-winged Crossbill is known to be used by solitary birds to attract other crossbills (Benkman 1992). It seems highly likely that these calls are homologous to the excitement call of other crossbills.

I do not believe that male and female crossbills give different variants of the excitement/trumpet call. Nethersole-Thompson (1975), however, thought that male and female Scottish Crossbills produced slightly different variants of this call. With practice, most vocal types can be identified, or at least strongly suspected, on the basis of just the excitement call. However, it is always safest to use a combination of vocalizations to identify vocal type.

Alarm calls

Alarm calls are given by perched birds, most often when a bird of prey has been spotted. At times, they can also be elicited by corvids, large birds flying too close generally and possibly by some mammals. Sometimes, this call is heard once when the sudden arrival of, for instance, a Great Spotted Woodpecker *Dendrocopos major* 'spooks' a flock of crossbills. Alarm calls are similar in their general structure to excitement calls. There seems to be a continuum of variants possible between excitement and alarm calls. Generally, however, the two categories are quite distinct. The lower and quieter the call and the lower the rate of repetition, the more intense the alarm. In general, other crossbills in the vicinity respond to alarm calls with an immediate hush and the adoption of an alert posture. If the birds are very exposed – for example, at a drinking pool – or if an attack by a predator is imminent, an alarm call is often followed by a whirr of wings as the flock flees from the danger. Although distinctive for each vocal type of crossbill, alarm calls are less useful than flight and excitement calls for identification in the field, mainly because they are only audible from close quarters and heard rather less frequently. Indeed, despite Groth's clear definition (1993a), it took me some time to be certain which vocalizations were alarm calls. According to Groth, alarm calls are also the calls most frequently produced by crossbills in the hand, making them a useful identification aid for ringers. A warm day in spring, with many displaying or migrating raptors in the air above nesting crossbills, offers a good opportunity to hear them. I do not believe that male and female crossbills produce different variants of this call.

Chitter calls

This call is frequently the only vocalization heard in contentedly foraging crossbill flocks. In some cases (for instance, Type A Common Crossbill), the chitter call resembles a very quiet, generally lower pitched version of the flight call. They can also be very different (Type C Common Crossbill). Nevertheless, I believe this call is related to the flight call since it is sometimes possible to hear calls which are intermediate. Perhaps, crossbills use these calls to reassure each other and suppress aggression when they are in close proximity, keeping the distance necessary to ensure efficient foraging. One often hears an accelerated series of chitter calls accompanying short-distance flights, marked by a soft whirring of wings and the sound of abandoned pine-cones falling and hitting the lower branches. Alan Knox (pers comm) believes that chitters are low-intensity social contact calls, used when birds are feeding quietly. Chitter calls are also heard in a number of other contexts, including drinking and other non-aggressive situations when crossbills are in close physical proximity (cf Groth 1993a: 30-32). There seems to be a characteristic chitter call for some vocal types of crossbill, this often being the first indication of vocal type or species identity when encountering feeding birds. Groth (1993a), however, found chitters to be highly variable in structure. Not all soft calls produced by foraging crossbills belong to this category and, for some vocal types and species, no clear pattern has yet emerged for their chitter call. I do not believe that male and female crossbills give different variants of the chitter, as defined here, but there are other soft calls heard during the breeding season, such as calls associated with courtship-feeding and mating, which are only produced by either males or females (cf Nethersole-Thompson 1975: 122-125).

Threat calls

Shared by all crossbills, the threat call is a deep screeching vocalization, often accompanied by a whirring of wings as one bird flies at another.

Although actual physical contact often lasts only a split second, in extreme cases, crossbills will lock claws and tumble to the forest floor. When rivals are well matched, the threat call, usually consisting of two or three separate elements, becomes an extended series. I do not believe that there is significant threat call variation between species and vocal types. Rather, variation is according to intensity of aggression. Some *Carduelis* finches, notably European Goldfinch *C carduelis*, have very similar threat calls. I believe the crossbill threat call is directly related to the characteristic rattling trills of redpolls. Like redpolls, crossbills often include vocalizations very similar to these calls in their more belligerent short songs. Threat calls were only recorded from male crossbills but females are sometimes also involved in aggressive behaviour and possibly use them too.

Begging calls

I made the recordings of fledgling Type A Common Crossbills (included on the CD) as early in the year as the last week of March which is by no means exceptional for crossbills. Since crossbills can breed until at least late summer (the Parrot Crossbill begging calls on the CD were recorded in late September) and, exceptionally, also later in the year, the *chi-too* begging call is characteristically heard in crossbill flocks for about six months of each year. As the breeding season approaches, adult females will often use a very similar call when begging for food. Begging calls are very similar for all crossbills and differ only slightly in tone, pitch and duration. It is not clear whether they change gradually as the fledgling grows. Sometimes, either the *chi* or the *too* part of the call is repeated more frequently or produced in a sequence without the other part, the reason for which is not clear. Begging calls may be a fruitful area for further study since, of all crossbill vocalizations, these are the ones least likely to be learned and they are probably innate.

Choo-ie

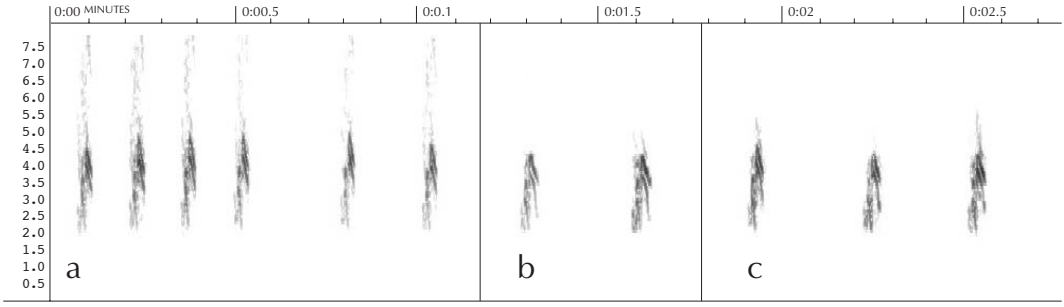
Very similar vocalizations, both of which can be described as *choo-ie*, were noted from Two-barred and Type B Common Crossbills. It is not clear what the behavioural context is but, in both cases, the *choo-ie* certainly seems to have a prominent place in the repertoire and is often incorporated into the song. Perhaps, it is best thought of as an important song element, sometimes heard on its own. On the other hand, it may be coincidence that it sounded like more or less the same call in both cases. The call may have quite different significance for Two-barred and Type B Common Crossbills. Whatever the function of the *choo-ie*, it is a useful aid to identification and worth including for this reason alone. The *choo-ie* is certainly produced by males but it was not observed whether females also produce it.

Song

Classifying crossbill songs into just a few categories (for example, loud song, quiet song and 'plastic song') is convenient but amounts to a drastic oversimplification. In fact, there are infinite different degrees of intensity between the most tentative and quiet of songs and the high-intensity, loud and aggressive songs of males at the height of the breeding season. Singing can be associated with a variety of different behaviours (cf Nethersole-Thompson 1975: 116-119). Factors which can be said to increase with general intensity include the loudness, the brilliance of the vocalization and the structural rigidity. The loudest songs are often the most repetitive. For quieter crossbill songs, 'subsong' is perhaps an inappropriate term to use. This term is better applied to quiet, loosely structured songs sung by territorial species but not in the context of defending territories. 'Plastic song' is perhaps the best way to describe some quiet songs, characterized by a very loose structure and the inclusion of, often slightly deformed, alarm/excitement and flight/chitter calls. The presence of one or two alarm calls in the song needs not indicate the presence of a predator although the singer does often seem to include more of these calls if a predator is in close proximity.

It should also be noted that crossbills are quite capable of imitation in their songs although this is not a striking feature. Species I have heard crossbills imitate or at least closely resemble have included Eurasian Coot *Fulica atra*, Wood Lark *Lullula arborea* and Crested Tit *Parus cristatus*. The possibility should be borne in mind that subjects of imitation in the song may include other crossbills (for instance, the flight calls of other vocal types). There is nothing remarkable about this: larks, for example, are also notorious for imitating vocalizations of other lark species in their songs. Nevertheless, the presence of a wide range of vocalizations in a crossbill song, characteristic of a given vocal type, is probably a reliable indication of the identity of the singer.

With the approach of the breeding season, and sometimes throughout the year, song-flights can



sonagram 1 Two-barred Crossbill / Europese Witbandkruisbek *Loxia leucoptera bifasciata*, flight calls *(Magnus S Robb)*. Call ends with two parallel sharply descending bands at c 3.5-4.5 kHz. **a** Baarn, *Baarn*, Utrecht, 13 March 1998 (track 1). **b** Huizen, *Huizen*, Noord-Holland, 6 December 1997. **c** Renkum, *Renkum*, Gelderland, 3 November 1997

be observed. Beating the wings in an exaggerated butterfly-like fashion and often flying a circular trajectory, the male usually selects a particular favourite phrase or two from his repertoire and repeats them several times. These songs often come across as highly aggressive in early spring when they may precede an attack on a conspecific. However, I have also heard individuals singing this kind of songs in flight while flying in large flocks in areas of high crossbill density, so perhaps this kind of song is associated with various situations of excitement and social tension.

All songs on the CD were sung by males unless stated. Female song does not seem to be fundamentally different from quieter varieties of male song (both neatly structured and more 'plastic') but females do not sing the loud and aggressive songs characteristic of males in the breeding season and also occasionally heard at other times of year.

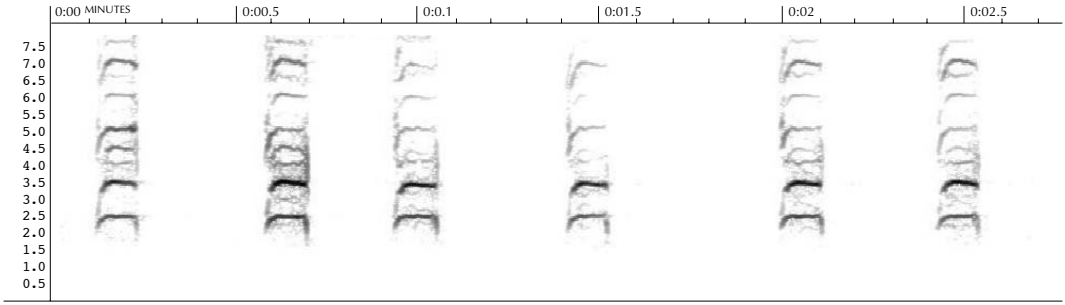
Two-barred Crossbill

Two-barred Crossbills are the easiest crossbills to identify in the Western Palearctic although the possibility of wing-barred Common Crossbills has to be borne in mind (cf van den Berg & Blankert 1980, Berthold & Schenkler 1982). Aural recognition is, however, made difficult simply due to a lack of good recordings. On the much used and generally useful CDs by Roché (1990), the song of the 'Two-barred Crossbill' is, in fact, a White-winged Crossbill from Canada (Elmberg 1993) and the calls presented are certainly not typical of what was recorded in the Netherlands. The older standard work Palmér & Boswall (1968-80) features a recording of a singing bird, supposedly a vagrant to England, which I seriously doubt to be Two-barred (or White-winged) Crossbill at all. The description of the Two-barred Crossbill seen at the time still stands up to scrutiny (Alan Knox pers comm), so the possibility exists that the wrong bird – a Common Crossbill – was recorded. I hope that, with the appearance of this article (including the inserted sonagrams) and the CD, the lack of widely available reference material for Two-barred Crossbill vocalizations has now been at least partly remedied.

Interestingly, during many hours of observation and recording, the third main call described for Two-barred Crossbill was not heard at all. This is Two-barred Crossbill call 2a in Cramp & Perrins (1994) where it is described as resembling the *pwit* call of Ortolan Bunting *Emberiza hortulana* or an individual note from the advertising song of Common Quail *Coturnix coturnix*. Recordings made in Germany by M Schubert (obtained from the British Library National Sound Archive) indicate that this *pwit* call is produced by Two-barred Crossbills with flight calls the same as those presented below. I know of no grounds to recognize more than one vocal type of Two-barred Crossbill. If there are others, the one presented here is clearly the commonest.

Flight calls

The Two-barred Crossbill flight call (sonagram 1; also Ebels et al 1999: figure 5) is perhaps best described as *chet*. It takes a little practice to separate this from the calls of certain Common Crossbill vocal types (in particular, Type D) and redpolls. Once the distinction has been learned, however, this call is almost as distinctive as the Two-barred Crossbill's trumpet call. It should also be noted that the flight call hardly varies at all between individuals. Sonagrams of flight calls recorded by Ruud van Beusekom, Roy Slaterus



sonagram 2 Two-barred Crossbill / Europese Witbandkruisbek *Loxia leucoptera bifasciata*, trumpet calls, Baarn, *Baarn*, Utrecht, 13 March 1998 (track 2) *(Magnus S Robb)*. Many bands (overtones) are typical of vocalizations with 'nasal' character. Pitch is more or less stable, except at beginning and end of each call

and myself at five locations in the Netherlands in 1997-98 were virtually identical. Flight and trumpet calls recorded by Teus Luijendijk in northern Finland in June 1999 were also very similar to those recorded in the Netherlands.

track 1 (0:00-0:12) Two-barred Crossbill *Loxia leucoptera bifasciata*, flight calls, Baarn, *Baarn*, Utrecht, 13 March 1998 (sonagram 1a) *(Magnus S Robb)*. Flight calls preceding and accompanying departure

Trumpet calls

The most distinctive and best-known call of Two-barred Crossbill, a loud nasal *meep*, is often called the trumpet call (sonagram 2; cf Ebels et al 1999: figure 4). It can indeed be compared with the sound of a toy trumpet or even calls of Trumpeter Finch *Bucanetes githagineus* although it is longer, less variable and less dissonant than calls of the latter species. Think of the cartoon character 'Roadrunner' and you will be on the right track! Two-barred Crossbills produce these calls singly or in groups of two to about five calls, often constituting a long series. Usually, the trumpet call is produced at a steady pitch but there can be some alternation between higher and lower pitches. The trumpet almost certainly shares its origin with the excitement call or *toop* of other crossbills although its greater length makes it sound quite different. The trumpet call is used either in flight or while the caller is perched and often in association with the *chet* flight call.

track 2 (0:00-1:14) Two-barred Crossbill *Loxia leucoptera bifasciata*, trumpet and flight calls, Baarn, *Baarn*, Utrecht, 13 March 1998 (sonagram 2) *(Magnus S Robb)*. Trumpet calls (0:00-0:52), then flight calls (from 0:53) before and during departure. *Background*: flight calls and song of Type D Common Crossbills *L curvirostra*

Alarm calls

The alarm call (cf Ebels et al 1999: figure 6) is structured in a similar way to the trumpet call but lower pitched, less rich in overtones and slightly longer in duration. It is delivered at a much slower rate than the trumpet call and is considerably quieter, thus showing similarities to the alarm calls of other crossbills.

track 3 (0:00-0:25) Two-barred Crossbill *Loxia leucoptera bifasciata*, alarm calls, Baarn, *Baarn*, Utrecht, 9 March 1998 *(Magnus S Robb)*. Series of alarm calls elicited by displaying Northern Goshawk *Accipiter gentilis* which is heard in background

Chitter calls

Chitter calls of Two-barred Crossbills (cf Ebels et al 1999: figure 7) show prominent overtones, like trumpet calls, but are much quieter and shorter than the latter calls. They show an overall descent in pitch. In the group of c 15 Two-barred Crossbills at Baarn in February-March 1998, this quiet conversational call was heard almost continually as the birds foraged. On long stretches of the recordings I made, this was the only vocalization to be heard. Although superficially similar to trumpet calls, I believe that these calls are structurally closer to flight calls.

track 4 Two-barred Crossbill *Loxia leucoptera bifasciata*, chitter calls, Baarn, *Baarn*, Utrecht, 9 March 1998 *(Magnus S Robb)*

a (0:00-0:21) Difference between chitter calls and soft version of flight call can be heard clearly. *Choo-ie* also heard

b (0:21-0:32) Chitter calls only

c (0:32-0:39) Chitter calls and flurry of wing-beats produced when flock was flushed at short distance. Also one or two trumpet calls

MAP 1 Type A ('keep') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg, Ruud van Beusekom, Teus Luijendijk, George Sangster and Roy Slaterus (cf map 2)

MAP 2 Type A ('keep') Common Crossbill *Loxia curvirostra*, distribution in Europe, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg, Ruud van Beusekom, Simon Elliott, Hans Groot, Fred Jèussi, Teus Luijendijk, George Sangster and Roy Slaterus (cf map 1)

Choo-ie

The function of the *choo-ie* (cf Ebels et al 1999: figure 8) is not clear but it featured prominently in the repertoire of the Two-barred Crossbills at Baarn. It may just be a favourite song motif which has gained some significance of its own and has come to be given independently or in association with chitter calls. Sonagrams in Mundinger (1979) indicate that White-winged Crossbill has a similar vocalization, described there as *tu tuee*, and Type B Common Crossbill has a similar but not identical vocalization in its vocal repertoire (cf track 20).

track 5 (0:00-0:25) Two-barred Crossbill *Loxia leucoptera bifasciata*, *choo-ie*, Baarn, *Baarn*, Utrecht, 9 March 1998 *(Magnus S Robb)*. A few chitter calls, then *choo-ie*s

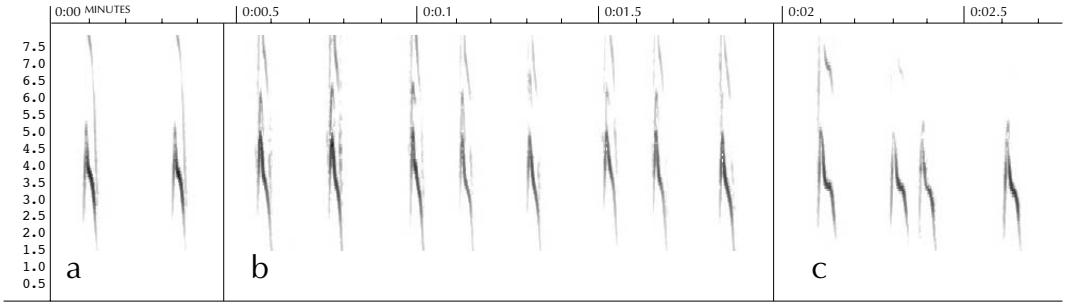
Song

The song (cf Ebels et al 1999: figure 10) of Two-barred Crossbill is, to my ears, quite different from that of other European crossbills (contra Elmberg 1993). It consists mainly of chattering notes, some resembling the various calls described above and each repeated fairly quickly a mean of six times. The tempo is much higher than for any other Western Palearctic crossbill. Nevertheless, it is generally slower than song heard in recordings of White-winged Crossbill (eg, Peyton 1999) and in recordings I made at Sierra de Baoruco, Dominican Republic, in July 1998 of Hispaniolan Crossbill. The song of Two-barred Crossbill, like that of the other two wing-barred taxa, creates a rather redpoll-like overall impression. More often than not, several birds can be heard singing at the same time.

track 6 (0:00-2:30) Two-barred Crossbill *Loxia leucoptera bifasciata*, song, Baarn, *Baarn*, Utrecht, 15 March 1998 *(Magnus S Robb)*. Singing alone in top of tall spruce *Picea*. *Background*: trumpet, alarm and *choo-ie*s of other Two-barred Crossbills

Type A ('keep') Common Crossbill

Types A and C are the commonest vocal types in the Netherlands and in most of northern Europe. I have made or obtained recordings indicating the occurrence of Type A in Belgium, Britain, Estonia, France, Germany, the Netherlands and Sweden. Clearly, this call type is widespread in Europe. While searching among large flocks of types A and C at Pijnven, Limburg, Belgium, in November 1999, the largest Common Crossbills I saw all turned out to be Type A. Larger individuals of this type were very slightly more 'bull-headed' and deeper billed than any Type C seen at Pijnven. The impression that Type A are slight-



sonagram 3 Type A ('keep') Common Crossbill / Kruisbek *Loxia curvirostra*, flight *calls (Magnus S Robb)*. Ascending initial part and especially overtone not always visible. Both are much softer than main part of call and easily lost in distant recordings. Main descending part of call can have more or less prominent step or levelling out of slope. Apex of call (c 5.0-5.5 kHz) much higher than, for example, in Type E, Scottish or Parrot Crossbill. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (track 7a). **b** De Kennemerduinen, 25 February 1998 (track 7c). **c** Koningshof, *Bloemendaal*, Noord-Holland, 27 November 1999 (track 7d)

ly larger than Type C was also gained on a number of other occasions but, so far, there have been no comparative measurements made to confirm this.

It is interesting that the Type A *keep* flight call is the most familiar one for birders in the Netherlands while observers from Fenno-Scandia seem to describe *glip* (Type C) as their 'default' Common Crossbill flight call. This leads me to suspect that Type C may be more strongly dependent on spruce *Picea* which is common in Fenno-Scandia but relatively rare in the Netherlands where it does not occur naturally. On the other hand, this may simply be due to call descriptions traditionally used in the field guides and ornithological literature of these respective areas, based on the vocal type the authors happened to be more familiar with. While Type A is regular, Type C is by no means scarce in the Netherlands.

Flight calls

The familiar Type A flight call (sonagram 3) is a bright, sharp, metallic vocalization, perhaps best described as a very abrupt *keep*. The main component of the call is a rapidly descending sweep across a wide frequency range. This can be heard easily in track 64 where the call is slowed down to 1/4 speed. Type A flight calls are not difficult to recognize. European Greenfinches are a possible source of confusion but their calls are delivered in faster series and sound much less metallic in tone. Type A flight calls often have a kink or step in the main descending part of the call (sonagram 3c, cf track 7d) and this can give them more of a ring and an identifiable pitch. Depending on the frequency where this step occurs, they can sometimes sound rather lower pitched than usual. Such calls could then potentially cause confusion with Type E, Scottish or Parrot Crossbill flight calls. Even when they sound lower pitched, however, Type A flight calls tend to sound thinner ('tinny' rather than 'brassy' in tone) than other similar-sounding crossbills. Occasionally, Type A flight calls (possibly, those of immature Type A in particular) can sound a little ragged and then suggest Type D flight calls. That type has, however, a totally different excitement call.

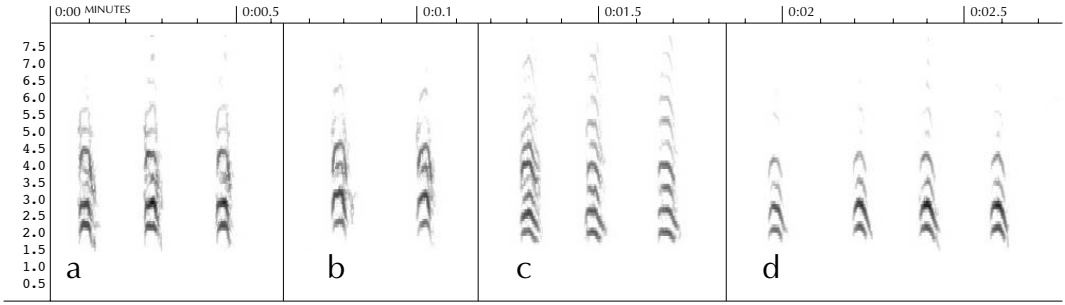
track 7 Type A ('keep') Common Crossbill *Loxia curvirostra*, flight calls *(Magnus S Robb)*
a (0:00-0:11) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (sonagram 3a)
b (0:11-0:24) De Kennemerduinen, 21 February 1998. This recording also includes Type A excitement calls (sonagram 4b). *Background*: Eurasian Siskins *Carduelis spinus* and a few Type B flight calls
c (0:24-0:37) De Kennemerduinen, 25 February 1998 (sonagram 3b). *Background*: a few Type C flight calls
d (0:37-1:00) Koningshof, *Bloemendaal*, Noord-Holland, 27 November 1999 (sonagram 3c)

Excitement calls

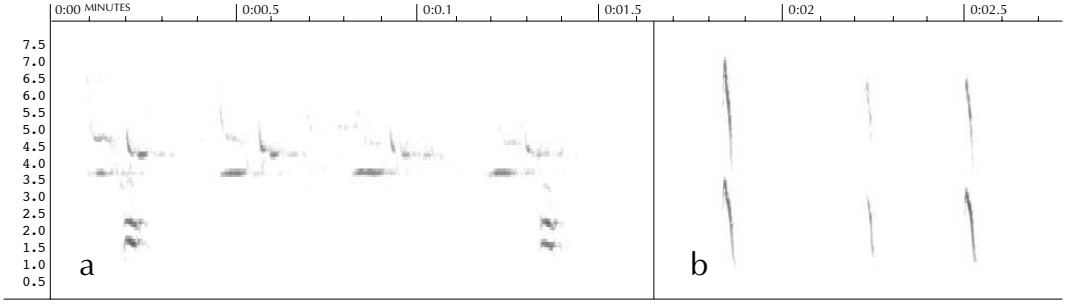
The excitement calls of Type A (sonagram 4) are less hard edged than those of many other crossbills. They have a highly characteristic timbre which is very difficult to describe. The sound is nasal but less so than Type B excitement calls; to me, they sound a bit 'woody'. The tone is similar to a familiar low-pitched nasal *geb* call given by Redwing *Turdus iliacus*. Compared with Type C, Type A excitement calls sound more nasal and,

64 Common Crossbill / Kruisbek *Loxia curvirostra*, type A ('keep'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*

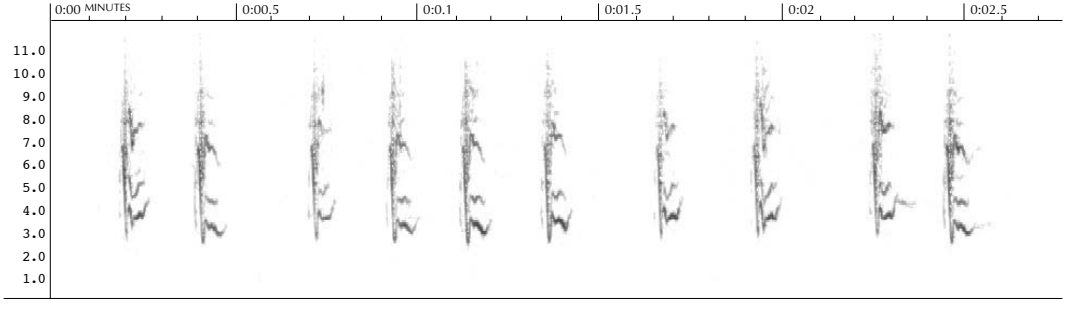
65 Common Crossbills / Kruisbekken *Loxia curvirostra*, type A ('keep'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 31 January 1998 *(Arnoud B van den Berg)*



sonagram 4 Type A ('keep') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls *(Magnus S Robb)*. Rounded form. Two strong lower bands, third one (in ascending order) always weaker and fourth one at double frequency of lowest band stronger than third. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 7 April 1998 (track 8a). **b** De Kennemerduinen, 21 February 1998 (track 7b). **c** Pijnven, Limburg, Belgium, 14 November 1999 (track 74). **d** De Kennemerduinen, 7 April 1998 (track 8b)



sonagram 5 Type A ('keep') Common Crossbill / Kruisbek *Loxia curvirostra*, alarm and chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*. **a** 29 March 1998 (track 9a). Two alarm calls. Time interval between calls preserved, typical slow delivery. Song of Great Tit *Parus major* in upper part of sonagram. **b** 26 January 1998 (track 10). Chitter calls



sonagram 6 Type A ('keep') Common Crossbill / Kruisbek *Loxia curvirostra*, begging calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 29 March 1998 (track 12b) *(Magnus S Robb)*. *Chi-too, chi-too-too-ti, chi, chi, chi-too*

often deceptively, deeper (cf track 74). To me, this is the easiest of excitement calls to identify although this may be partly because it is also the most familiar.

track 8 Type A ('keep') Common Crossbill *Loxia curvirostra*, excitement calls *(Magnus S Robb)*
a (0:00-0:14) (sonagram 4a) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 7 April 1998
b (0:14-0:47) (sonagram 4d). De Kennemerduinen, 7 April 1998. *Background*: Calls of Eurasian Jay *Garrulus glandarius* resembling or imitating Common Buzzard *Buteo buteo*
c (0:47-1:16) Strabrechtse Heide, *Mierlo/Someren*, Noord-Brabant, 20 February 2000

Alarm calls
Type A alarm calls (sonagram 5a) are of relatively long duration compared with the alarms of most other crossbills (with the exception of Two-barred Crossbill). They differ from Type A excitement calls in being much softer, a little deeper and more hollow-sounding.

track 9 Type A ('keep') Common Crossbill *Loxia curvirostra*, alarm calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 29 March 1998 *(Magnus S Robb)*
a (0:00-0:16) (sonagram 5a). Alarm calls elicited by Eurasian Sparrowhawk *Accipiter nisus*
b (0:16-0:52) Alarm calls elicited by Northern Goshawk *A gentilis* which calls as it flies past (0:39)

Chitter calls
Type A has, of all vocal types, the chitter calls which resemble their flight calls most closely (sonagram 5b). Like Type A flight calls, these soft calls consist mainly of a sharply and rapidly descending component. Besides being a great deal quieter than flight calls, they are much lower pitched and lack a metallic tone. In the sonagram, a strong overtone can be seen which is typical of chitter calls generally.

track 10 (0:00-1:09) Type A ('keep') Common Crossbill *Loxia curvirostra*, chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 26 January 1998 (sonagram 5b) *(Magnus S Robb)*. Proximity of these birds to sound-recordist apparent from loudness of wing-beats, showing how soft chitter calls are

Threat calls
The exact rhythm varies according to circumstances but the raucous tone is always the same.

track 11 (0:00-0:06) Type A ('keep') Common Crossbill *Loxia curvirostra*, threat call, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 January 1998 *(Magnus S Robb)*

Begging calls
Begging calls of all vocal types of crossbill are always easily recognizable as begging calls due to the characteristic irregular alternation of *chi* and *too* sounds. So far, I have only recorded a fairly small sample and I can say little about possible differences between the begging calls of different vocal types.

track 12 Type A ('keep') Common Crossbill *Loxia curvirostra*, begging calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 29 March 1998 *(Magnus S Robb)*
a (0:00-0:26) Very loud begging calls with trilling quality, then group departs. Flight calls produced by accompanying adults
b (0:26-end) More typical begging calls (sonagram 6)

Song
A large sample of Type A song has now been recorded, including many recordings made by Simon Elliott in Northumberland, England. Some characteristic song motifs, such as the one heard in track 13c, have now been heard at a number of different locations. Type A typically includes a few flight calls in its song although these are not always very prominent. Other crossbills can, however, also include vocalizations very closely resembling Type A flight calls in their songs. Similarly, vocalizations resembling Type C flight calls are also popular in the songs of vocal types other than Type C. Known instances of imitation of the flight calls of other types have so far been limited to song where imitations of other bird species can also sometimes be heard. Birds which imitate different vocal types in their song produce a range of other vocalizations which are completely normal for their vocal type.

track 13 Type A ('keep') Common Crossbill *Loxia curvirostra*, loud song *(Magnus S Robb)*
a (0:00-0:30) Typical loud song, Strabrechtse Heide, *Mierlo/Someren*, Noord-Brabant, 20 February 2000
b (0:30-1:03) More varied loud song, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 29 March 1998
c (1:03-1:55) More repetitive song, De Kennemerduinen, 29 March 1998. Song motif at 1:42, and in more extended version preceding that, is perhaps most characteristic Type A song motif in this recording. Extended version of this motif, starting at 1:18, could be said to resemble song of Wood Lark *Lullula arborea*. Sometimes Type A sings motifs resembling song of Wood Lark much more closely

track 14 (0:00-0:45) Type A ('keep') Common Crossbill *Loxia curvirostra*, quiet song, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 29 March 1998 *(Magnus S Robb)*. Male singing while female gathers nest material. This is same male heard in tracks 13b and 13c but here song is at lower intensity

MAP 3 Type B ('weet') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg and Roy Slaterus (cf map 4)

MAP 4 Type B ('weet') Common Crossbill *Loxia curvirostra*, distribution in Europe, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg, Michiel van der Bergh, George Sangster and Roy Slaterus (cf map 3)

track 15 (0:00-0:52) Type A ('keep') Common Crossbill *Loxia curvirostra*, 'plastic song', Pijnven, Limburg, Belgium, 14 November 1999 *(Magnus S Robb)*. Song contains many soft flight calls and has untidiness typical of 'plastic song' although this is not an extreme example

Type B ('weet') Common Crossbill

Type B is now known from France (Haut-Asco, Corsica), Germany (Böhmerwald, Bayern), Greece (Mount Olympus NP) and the Netherlands. This is the most distinctive-looking vocal type I have recorded in north-western Europe. In the field, Type B appear smaller and compacter than other Common Crossbills although their bill looks deep in relation to its length. Also, the male plumage seems to average a slightly darker brick-red compared with the bright scarlet of the commoner types A and C while the females have a light greyish cast and show less green than other crossbills. Their high-pitched flight calls make them quite easy to pick out and identify in mixed flocks and, thanks to their presence for many months in De Kennemerduinen, it was possible to record a broad repertoire of their vocalizations.

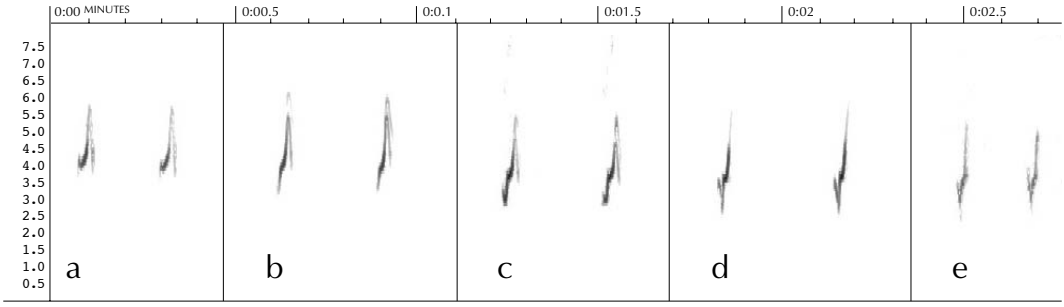
During the summer of 1999, Michiel van der Bergh made recordings of crossbills in the pine forests of Haut-Asco in north-western Corsica. To my considerable surprise, these could be identified as Type B, both by their flight calls and their excitement calls. When I discovered this, I scoured the literature for descriptions of the vocalizations, structure, bill size and plumage tints of the subspecies *L c corsicana*, the supposedly endemic crossbill of this island. The only information I could find on vocalizations was Clouet & Joachim (1996), showing a sonagram of a flight call from Corsica which was also identifiable as Type B. Comparison of biometric and plumage colour information for *L c corsicana* in Massa (1987) and Clouet & Joachim (1996) with my own field impression of Type B seemed not to discount the possibility that Type B was, in fact, *L c corsicana*. If this was the case, it would mean that this taxon is not endemic to Corsica but occurs more widely. A hypothesis which might account for this is that Type B may be crossbills principally associated with 'black pine'. This name is often used to refer to a complex of southern European pines *Pinus*, including both Corsican Pine *P nigra* var *maritima* (synonyms, according to Mitchell 1974, *P nigra* var *laricio, calabrica* and *corsicana*) of Corsica and southern Italy (including Sicily) and the closely related Austrian Pine *P n* var *nigra* of Austria, the

66 Common Crossbill / Kruisbek *Loxia curvirostra*, type B ('weet'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*

67 Common Crossbill / Kruisbek *Loxia curvirostra*, type B ('weet'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*

68 Common Crossbill / Kruisbek *Loxia curvirostra*, type B ('weet'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*

69 Common Crossbill / Kruisbek *Loxia curvirostra*, type B ('weet'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*



sonagram 7 Type B ('weet') Common Crossbill / Kruisbek *Loxia curvirostra*, flight calls *(Magnus S Robb, except sonagram 7e)*. Very distinctive. Step at c 3.5-4.0 kHz nearly always present. Slight hook at lower left and descending final part are not always present or visible. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (track 16a). **b** De Kennemerduinen, 29 March 1998 (track 16b). **c** De Kennemerduinen, 11 January 1998 (track 16c). **d** Mount Olympus NP, Greece, 26 July 1999 (track 16d). **e** Haut-Asco, Corsica, France, July 1999 *(Michiel van der Bergh)*

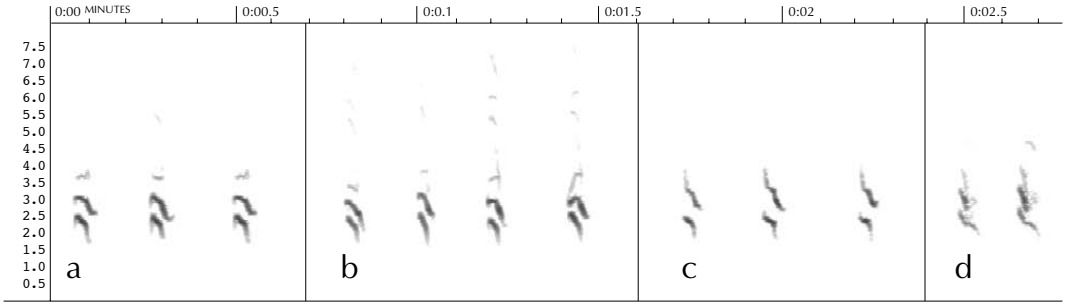
Balkans and central Italy. Further varieties of *P nigra* occur from the Pyrenees to Asia Minor, the Crimea and Cyprus. Both Austrian and Corsican Pines have been widely planted north of their natural range since the 19th century and are common in, for example, Belgium, Britain and the Netherlands. The affinity of Type B with pine is suggested by the deep bill, and the locations of the Type B recordings made so far are consistent with the distribution of 'black pines'. Perhaps, Type B is better adapted to survive on Corsican Pine than invading crossbills of other vocal types and is, therefore, always present on the island of Corsica.

Biometric data of Corsican crossbills with Type B flight calls were given by Clouet & Joachim (1996). The wing length (male: 96.14 mm, n=21; female: 94.18 mm, n=17) is short compared with that of the subspecies *L c curvirostra* from the Alps measured in the same study and measurements given for various northern European locations in Cramp & Perrins (1994). Interestingly, breeding crossbills from eastern Bayern in Germany (Niethammer 1937) were short winged and closest in measurements to Type B from Corsica, suggesting that they too, like crossbills sound-recorded in the same area by George Sangster in 1996 (Böhmerwald), may have been Type B. The bill structure given by Clouet & Joachim (1996) for the Corsican birds was short but deep and broad (male: culmen length 19.19 mm, bill depth 12.02 mm, bill width 12.23 mm; female: culmen length 18.9 mm, bill depth 11.65 mm, bill width 11.88 mm). This made them shorter, deeper and broader billed than Type C from the Alps. Biometric data of a smaller sample of crossbills from Corsica (Massa 1987) were very similar. Other crossbills collected in Corsica from November to April (Cramp & Perrins 1994) were, however, considerably longer winged, raising the possibility that these were the true *L c corsicana* and that Type B are different irrupting crossbills from further north, or that more than one non-endemic vocal type may occur in Corsica.

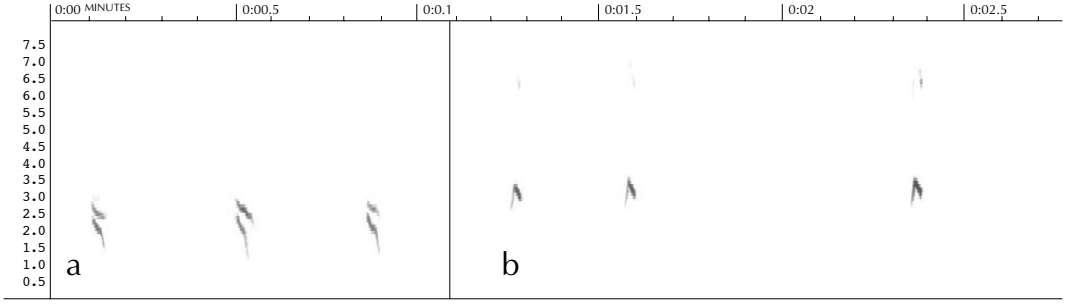
Flight calls

The highly distinctive Type B flight call (sonagram 7) is the opposite of Type A in terms of structure: the main part of the call is rapidly ascending in pitch (cf track 65: Type B flight call at 1/4 speed). In fact, this call can sound a little like the stroke of a small whip: a very abrupt *weet* or *wheet*. This is the highest-sounding European crossbill flight call I am aware of. There is perhaps some potential for confusion with the *pwit* call reported for Two-barred Crossbills which the ones involved in the 1997-98 invasion in the Netherlands did not seem to have in their repertoire. Some other crossbills, notably Type C, have a chitter call with a similarly rising contour (cf track 29). The Type C chitter call is not only softer in volume than the Type B flight call but has a softer timbre and a lower pitch, and is only produced while perched, or in flight over very short distances.

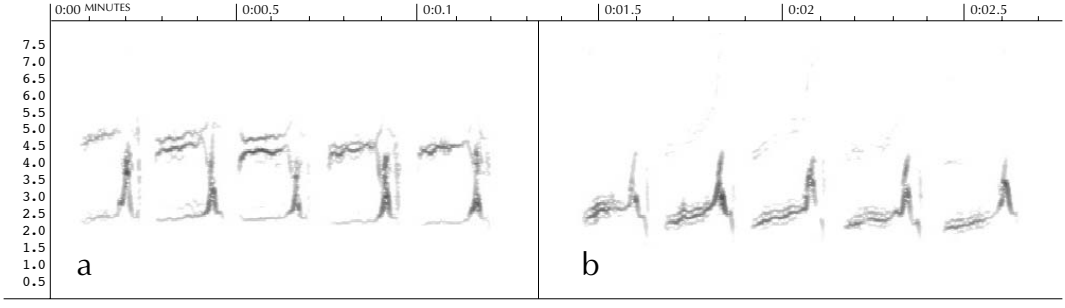
track 16 Type B ('weet') Common Crossbill *Loxia curvirostra*, flight calls *(Magnus S Robb)*
a (0:00-0:06) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (sonagram 7a)
b (0:06-0:22) De Kennemerduinen, 29 March 1998 (sonagram 7b). *Background*: Type C alarm calls at 0:15



sonagram 8 Type B ('weet') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls *(Magnus S Robb, except sonagram 8c)*. Descending structure. Lower two bands strongest. Third band weaker but always stronger than fourth band (if present). **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 (track 17a). **b** Loenermark, *Apeldoorn*, Gelderland, 17 November 1999 (track 17b). **c** Haut-Asco, Corsica, France, July 1999 *(Michiel van der Bergh)*. S-shaped second (upper) band of slightly longer duration than lowest band, also often seen in Dutch Type B excitement calls (cf sonagram 8a). Differences with Dutch birds include steep descent at start of upper band and larger frequency interval between bands. **d** Mount Olympus NP, Greece, 26 July 1999 (track 17d). Extended lower band is unusual feature not shown by all Greek Type B. Add-ons of this kind also occur in other crossbill excitement calls (cf sonagram 23c of Scottish Crossbill *L scotica* and sonagram 26a of Parrot Crossbill *L pytyopsittacus)*



sonagram 9 Type B ('weet') Common Crossbill / Kruisbek *Loxia curvirostra*, alarm and chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*. **a** 22 April 1998 (track 18). Alarm calls. Lower band typically slopes more steeply than upper band. **b** 25 February 1998 (track 19). Chitter calls



sonagram 10 Type B ('weet') Common Crossbill / Kruisbek *Loxia curvirostra*, *choo-ie (Magnus S Robb)*. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 23 March 1998 (track 20). **b** Loenermark, *Apeldoorn*, Gelderland, 17 November 1999 (track 17b)

c (0:22-0:27) De Kennemerduinen, 11 January 1998 (sonagram 7c). Slightly deeper-sounding individual
d (0:27-0:43) Mount Olympus NP, Greece, 26 July 1999. Type B flight calls recorded in Greece were slightly deeper than most recorded in the Netherlands (sonagram 7d). Soft excitement calls can be heard at 0:31 and 0:38

Excitement calls
The excitement call of Type B (sonagram 8) is higher pitched, more nasal and harder edged than that of Type A. It also tends to be produced in a faster sequence and generally sounds slightly more abrupt. Nevertheless, it is not always easy to tell the difference. Excitement calls of Type D sound very similar in the field although slight differences can usually be seen when sonagrams are made (cf sonagram 15). Type B excitement calls recorded in Greece in July 1999 (sonagram 8d) were slightly different from the ones recorded in the Netherlands: less nasal and hard edged and with a more variable structure. These would have been very difficult to separate in the field from Type D excitement calls. Type B excitement calls recorded in Corsica by Michiel van der Bergh (sonagram 8c) were closer to Dutch ones. If, as I suspect, Type B are 'black pine' specialists from central and south-eastern Europe, less inclined to wander than many of their more northerly relatives, they may perhaps also be more likely to show some slight regional differences in their vocalizations.

track 17 Type B ('weet') Common Crossbill *Loxia curvirostra*, excitement calls *(Magnus S Robb)*
a (0:00-0:22) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 (sonagram 8a)
b (0:23-0:40) Loenermark, *Apeldoorn*, Gelderland, 17 November 1999 (sonagram 8b). Short series of *choo-ie*, characteristic of Type B, heard in short snatch of song at 0:49. This was only Type B encountered among many 100s of crossbills recorded at various locations in Belgium and the Netherlands during autumn of 1999
c (0:40-0:58) De Kennemerduinen, 19 April 1998
d (0:59-1:29) Mount Olympus NP, Greece, 26 July 1999 (sonagram 8d). Type B excitement calls recorded in Greece sounded similar to Type D excitement calls, sometimes much more so than this recording suggests

Alarm calls
The same differences, which apply to the excitement calls of types A and B, also apply to their alarm calls, ie, Type B alarm calls are slightly harder edged and more nasal than those of Type A. Type B alarm calls (sonagram 9a) are higher pitched than those of most other crossbills. Alarm calls of both vocal types are deeper and much softer, with a less hard edge and less nasal tone than their respective excitement calls. In Greece, no recordings of Type B alarm calls were made.

track 18 (0:00-0:15) Type B ('weet') Common Crossbill *Loxia curvirostra*, alarm calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 22 April 1998 (sonagram 9a) *(Magnus S Robb)*. Two Type B are alarm-calling in this recording. Constant crackling sound due to pine-cones opening in warm sunshine. *Background*: distant European Green Woodpecker *Picus viridis*

Chitter calls
The chitter calls of Type B (sonagram 9b) do not resemble their flight calls at all. Pure renditions of this call lack a strongly ascending component and are concentrated around a fairly narrow frequency range. The loudest renditions of this Type B call, and a similar vocalization sometimes heard in the song, could even be suggestive of soft flight calls of Type E and Parrot Crossbill. Type B chitters are, however, often barely audible. Vocalizations intermediate between chitter and flight calls can also sometimes be heard and these do have a more prominent ascending component.

track 19 (0:00-0:22) Type B ('weet') Common Crossbill *Loxia curvirostra*, chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 (sonagram 9b) *(Magnus S Robb)*. This recording also features quiet flight calls. *Background*: distant Type A flight calls

Choo-ie
The *choo-ie* (sonagram 10) is a very prominent item in the vocabulary of Type B in the Netherlands although its function is not clear. It may just be a favourite song motif although it is sometimes heard on its own. I recorded it many times in De Kennemerduinen in 1997-98 and also at Loenermark, Gelderland, in November 1999 (cf track 17b). This vocalization can also be heard in Ruud van Beusekom's recordings from Huizen, Noord-Holland, in 1997-98. Compared with the similar vocalization produced by Two-barred Crossbills (track 5), the Type B *choo-ie* sounds faster and monosyllabic. Sometimes, however, Type B delivers the *choo-ie* more slowly than in the recording presented here. In Greece, this sound was not heard. The small sample of Type B recordings from Corsica by Michiel van der Bergh also lacked this call.

track 20 (0:00-0:14) Type B ('weet') Common Crossbill *Loxia curvirostra*, *choo-ie*, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 23 March 1998 (sonagram 10) *(Magnus S Robb)*. *Choo-ie* produced in context of simple song phrase. It is not always preceded by *chik chik chik*s heard in this recording

Song

A number of characteristic Type B song motifs recorded in De Kennemerduinen were also recorded at other locations in the Netherlands during the 1997-98 invasion and also in both the spring and the autumn of 1999 in the Veluwe, Gelderland. The only Type B I located in the Netherlands during the autumn of 1999 was excitement-calling when I found it. Its identity was put beyond any doubt when it started to sing and several familiar Type B motifs, including *choo-ie*, were heard in the song. Apart from the inclusion of *weet* calls, no motifs which were familiar from my recordings made in the Netherlands were heard with certainty in the small sample of song recorded in Greece.

Weet calls can often be heard in the song of Type B. This high-pitched call, or similar sounds, can often be heard in rather fast series alternating with lower sounds. Examples of this can be heard at, for instance, 0:26 and 0:57 in track 21b (a very fast *weet-chu-weet-chu-weet-chu-weet-chu-*…) and throughout most of track 21c. Songs of this kind are not the exclusive property of Type B but do appear to be particularly characteristic of this vocal type. Note that Type B sometimes includes vocalizations similar to Type C flight calls in its song. This can be heard frequently in track 22 where *weet* calls and vocalizations resembling Type A flight calls can also be heard.

track 21 Type B ('weet') Common Crossbill *Loxia curvirostra*, loud repetitive song *(Magnus S Robb)*
a (0:00-0:24) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 17 April 1998
b (0:24-1:20) Mount Olympus NP, Greece, 26 July 1999
c (1:20-2:24) De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede,* Gelderland, 6 March 1999

track 22 (0:00-0:59) Type B ('weet') Common Crossbill *Loxia curvirostra*, more varied loud song, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 23 March 1998 *(Magnus S Robb)*. This recording includes *glip*-like motif and very soft *choo-ie*

track 23 (0:00-0:48) Type B ('weet') Common Crossbill *Loxia curvirostra*, quiet song, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 *(Magnus S Robb)*. This recording includes a few alarm-like calls. *Background*: distant Type B excitement calls

70 Common Crossbills / Kruisbekken *Loxia curvirostra*, type B ('weet'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 31 January 1998 *(Arnoud B van den Berg)*

MAP 5 Type C ('glip') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg, Ruud van Beusekom, Teus Luijendijk and Roy Slaterus (cf map 6)

MAP 6 Type C ('glip') Common Crossbill *Loxia curvirostra*, distribution in Europe, based on field observations and/or recordings by Magnus Robb, and Arnoud van den Berg, Ruud van Beusekom, Clouet & Joachim (1996) (published sonagram representing birds from 'central and southern Alps' in France), Simon Elliott, Lorenz Ferdinand (Andersen et al 1973), Alan Knox, Teus Luijendijk and Roy Slaterus (cf map 5)

track 24 (0:00-1:15) Type B ('weet') Common Crossbill *Loxia curvirostra*, 'plastic song', De Kennemerduinen, *Bloemendaal*, Noord-Holland, 30 October 1997 *(Magnus S Robb)*. My first encounter with Type B. Characteristic motifs in this recording include rising trill at 0:03, similar to sound included in Type C song (tracks 30-33). Equivalent Type C motif is usually softer, shorter and less rough-sounding, and has less emphatic crescendo

Type C ('glip') Common Crossbill

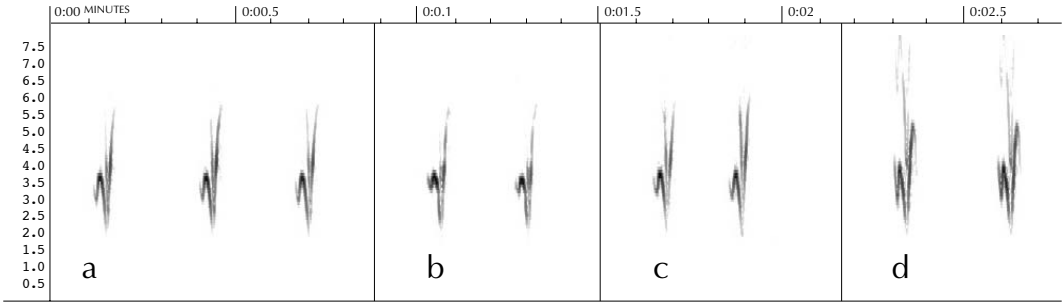
Flight calls of types C and A are the most commonly heard crossbill vocalizations in northern Europe, so it seems surprising that the distinction between these two calls is not common knowledge. At least four of the most important vocalizations in the repertoire of Type C differ completely from the equivalent Type A vocalizations and I believe that these differences are easy to hear. I have recorded Type C in Belgium, Britain, the Netherlands and southern Sweden. Other recordings and sonagrams indicate they occur in the Alps (Clouet & Joachim 1996), Denmark (Andersen et al 1973) and Fenno-Scandia (Alan Knox: recordings made in Finland). Measurements of Alpine birds producing Type C flight calls given in Clouet & Joachim (1996) show that Type C is short-winged (male: 97.8 mm, n=15; female: 94.8 mm, n=13) compared with other Common Crossbills. Even bearing in mind that different authors may vary slightly in the way they measure wing length, this is towards the lower end of the scale for northern European Common Crossbills (cf Cramp & Perrins 1994: 705) although Type B from Corsica (see above) had even shorter wings. Clouet & Joachim's (1996) Alpine Type C also had a long culmen (male: 19.85 mm, n=18; female: 19.27 mm) compared with birds measured in the same study from Corsica and the Pyrenees. This does not conflict with my impression that Type C has a bill which is not very deep and has long tips. I have not yet encountered any strikingly large, deep-billed or 'bull-headed' example of this vocal type.

Flight calls

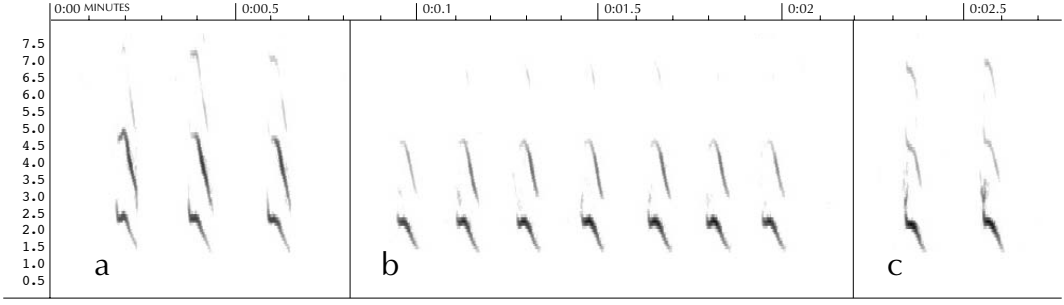
Once learned, Type C flight calls (sonagram 11) are among the most distinctive of Common Crossbill flight calls. Lars Svensson (Svensson et al 1999) is clearly thinking of this flight call *('glipp')* when he writes: "generally sounds 'clipping', as if an 'l' is inserted after a rather soft initial consonant". Compared with other Common Crossbill flight calls, these can sometimes sound a little lower pitched. The 'soft initial consonant' – 'g' as in English glass – is the low part, usually corresponding to a rounded shape in sonagrams.

71 Common Crossbill / Kruisbek *Loxia curvirostra*, type C ('glip'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 13 February 1998 *(Arnoud B van den Berg)*

72 Common Crossbills / Kruisbekken *Loxia curvirostra*, type C ('glip'), De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 31 January 1998 *(Arnoud B van den Berg)*



sonagram 11 Type C ('glip') Common Crossbill / Kruisbek *Loxia curvirostra*, flight calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*. Rounded first part with apex at c 3.5-4.0 kHz but occasionally much higher or call starts at this apex. Deep central V-shaped structure with near-vertical 'tongue' diagnostic. Final strongly ascending part of call can reach c 6 kHz. **a** 25 February 1998 (track 25a). **b** 25 February 1998 (track 25b). **c** 4 February 1998 (track 25c). **d** 11 November 1999 (track 26)



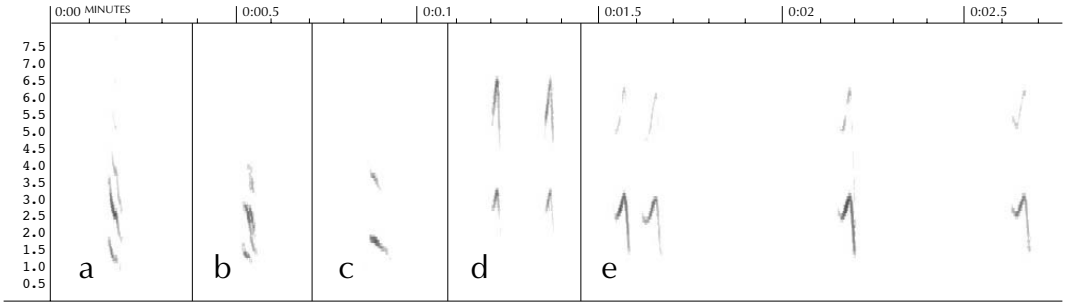
sonagram 12 Type C ('glip') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls *(Magnus S Robb)*. Usually steeply descending contour but occasionally more arched structure. Lowest band has prominent step which can ascend slightly before final descent. Two bands far apart (upper band is first overtone of lower one). Sometimes faint third band (second overtone); sometimes only lowest band visible. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 November 1999 (track 26). **b** Pijnven, Limburg, Belgium, 14 November 1999 (track 27). **c** Pijnven, 14 November 1999 (track 74)

The sound *lip* represents the rapidly ascending second part, the right half of the approximate V shape seen in sonagrams. The shape of these different parts of the call can be appreciated best when the calls are slowed down (cf track 66). When the call is heard from close by, the *lip* part may be more prominent, making the call seem higher pitched than when the same call is heard from further away. Lower frequencies project better than higher ones over long distances, meaning that the lower first part of the call is more obvious at a distance. Type C flight calls can occasionally be extremely loud. This, or a perceived lower pitch, could trick birders unfamiliar with Type C into thinking they had heard one of the larger species of crossbill. To the experienced ear, 'glip' flight calls are very different from Parrot Crossbill flight calls. A minority of Scottish Crossbills do have a superficially similar-sounding but differently structured flight call (track 49d).

track 25 Type C ('glip') Common Crossbill *Loxia curvirostra*, flight calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*
a (0:00-0:15) 25 February 1998 (sonagram 11a). Fast series of flight calls leading to departure. *Background*: Type B flight calls
b (0:15-0:37) 25 February 1998 (sonagram 11b)
c (0:37-0:52) 4 February 1998 (sonagram 11c)

Excitement calls

The excitement calls of Type C (sonagram 12) are very distinctive although excitement calls of the scarcer Type F sound almost identical (for – slight – differences, see that vocal type). To my ears, excitement calls of Type C lack a nasal quality. Because they have fewer overtone bands than



sonagram 13 Type C ('glip') Common Crossbill / Kruisbek *Loxia curvirostra*, alarm and chitter calls *(Magnus S Robb)*. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 (track 28a). Alarm calls. **b** De Kennemerduinen, 11 January 1998 (track 28b). Alarm calls. **c** Baarn, *Baarn*, Utrecht, 21 November 1999 (track 28c). Alarm calls. **d** De Kennemerduinen, 11 January 1998 (track 29a). Chitter calls. **e** De Kennemerduinen, 27 January 1998 (track 29b). Chitter calls

most other excitement calls, they sound purer in tone (more flute-like) and this gives the effect, often falsely, that they are also higher pitched. Ruud van Beusekom (pers comm) described the tone as being similar to that of Eurasian Bullfinch *Pyrrhula pyrrhula* but this is a briefer vocalization than most Eurasian Bullfinch calls. Sharp-eared listeners may be able to hear that the overall pitch is descending.

track 26 (0:00-0:33) Type C ('glip') Common Crossbill *Loxia curvirostra*, flight calls (sonagram 11d), then excitement calls (sonagram 12a), De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 November 1999 *(Magnus S Robb)*. *Background*: high-pitched *sree* calls of Short-toed Treecreeper *Certhia brachydactyla* towards end

track 27 (0:00-0:21) Type C ('glip') Common Crossbill *Loxia curvirostra*, excitement calls, Pijnven, Limburg, Belgium, 14 November 1999 (sonagram 12b) *(Magnus S Robb)*. *Background*: flight calls of Type C, unidentified crossbill song and Type A alarm calls at 0:02 and 0:10

Alarm calls

As with all crossbills, the alarm calls of Type C (sonagram 13a-c) are basically a lower and softer version of their excitement call. In the case of Type C, they usually also sound slightly more abrupt. When the alarm call is particularly low and abrupt (cf tracks 28a-b), it can resemble a quiet version of the flight call of Brambling *Fringilla montifringilla*.

track 28 Type C ('glip') Common Crossbill *Loxia curvirostra*, alarm calls *(Magnus S Robb)*
a (0:00-0:06) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998 (sonagram 13a). *Background*: Type C chitter and flight calls
b (0:06-0:11) De Kennemerduinen, 11 January 1998 (sonagram 13b). Reaction to Eurasian Jay *Glandarius garrulus*
c (0:11-0:19) Baarn, *Baarn*, Utrecht, 21 November 1999 (sonagram 13c)

Chitter calls

Of all the vocal types, Type C has the most distinctive chitter call (sonagram 13d,e) which is quite a useful aid to identification. This call has a soft timbre and the main part has a clearly rising contour. Compared with a soft flight call of Type B, it is softer, has a non-metallic timbre and rises less abruptly. Some other crossbills, such as Scottish Crossbill (track 52), also have a rising soft call in their repertoire but, when heard in the Netherlands, a call of this description is nearly always Type C.

track 29 Type C ('glip') Common Crossbill *Loxia curvirostra*, chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*
a (0:00-0:18) 11 January 1998 (sonagram 13d). One or two soft Type C flight calls can also be heard
b (0:18-0:44) 27 January 1998 (sonagram 13e). Song motif at 0:28 is frequently heard Type C motif

Song

To me, the song of Type C seems slightly more warbling and softer toned than that of other vocal types although this may not apply to high-intensity songs produced by unmated males. I have not had much opportunity to study this vocal type in the breeding season. Tracks 30-33 illustrate several different types of song and a couple of characteristic Type C song motifs. When I heard the striking 'machine-gun' motif

(track 30a) in Scotland, I was sure I had heard it before. I looked it up later and found the same figure, without the rest of the phrase heard in track 30a, in a recording from the year before made in De Kennemerduinen (track 30b). The recording from Scotland is of a phrase the same bird liked to use in song-flights. In the Kennemerduinen recording, a Type C in the foreground is singing a rising motif which can also be heard in track 31 (recorded in Belgium). This motif is usually shorter, less rough-sounding and softer than the similar rising trill I sometimes heard in the song of Type B (track 24). Type C is so far the only vocal type which I have heard singing 'duets'. In tracks 32a-b, a loose heterophony can be heard, with two birds singing the same motif at roughly the same time but not quite exactly together. In track 32a, this happens near the beginning. In track 32b, the motif the birds use to 'duet' with sounds like a lower more warbling variant of the rising motif heard in tracks 30b and 31. Unfortunately, I did not record whether two males or a pair were involved in these duets. My own guess is that duetting may be the simplest form of 'community-singing' (cf track 75).

track 30 Type C ('glip') Common Crossbill *Loxia curvirostra*, 'machine-gun' song motif *(Magnus S Robb)*
a (0:00-0:05) Loch Baa, Highland, Scotland, 23 February 1999. This Type C was associating with small flock of Scottish Crossbills *L scotica* (not in recording). Besides flight call and 'machine-gun' motif heard in the recording, this individual betrayed its identity with excitement calls
b (0:05-0:23) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 25 February 1998. Type A Common Crossbill is producing flight calls in foreground while Type C sings in background. Then Type A flies off and Type C carries on singing. 'Machine-gun' motif heard in background at 0:08 and immediately repeated by Type C in foreground

track 31 (0:00-0:45) Type C ('glip') Common Crossbill *Loxia curvirostra*, song, Pijnven, Limburg, Belgium, 14 November 1999 *(Magnus S Robb)*. Rising motif, with which recording commences, also heard in track 30b

track 32 Type C ('glip') Common Crossbill *Loxia curvirostra*, motif-matching or duet *(Magnus S Robb)*
a (0:00-0:27) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 27 January 1998
b (0:27-1:25) Pijnven, Limburg, Belgium, 14 November 1999. *Background*: Great Spotted Woodpecker *Dendrocopos major*

track 33 (0:00-1:07) Type C ('glip') Common Crossbill *Loxia curvirostra*, 'plastic song', De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 November 1999 *(Magnus S Robb)*. Also in this recording, 'plastic' version of rising motif heard in last three tracks can be found at, for example, 0:03-0:04

Type D ('jip') Common Crossbill
During the winter of 1997/98, Type D were to be found at a number of locations where Two-barred Crossbills were in temporary residence. These are the vocal type of Common Crossbill with flight calls most likely to cause confusion with Two-barred Crossbill although the difference can easily be learned. So far, I have not encountered these crossbills outside the Netherlands although their presence has now been recorded here during two different invasions. Besides my own recordings from 1997-98, Hans Groot made recordings of Parrot Crossbills in De Kennemerduinen in March 1991 in which Type D could be heard in the background. Outside the Netherlands, the only possible recording I am aware of is a singing bird from Sweden (Palmér & Boswall 1968-80), recorded by Sture Palmér in June 1965, which includes 'jip' calls in its song. Unfortunately, I paid little attention to the physical appearance of Type D. Like most other birders at the time, I was preoccupied with Two-barred Crossbills at the same locations although I did manage to make some good recordings of Type D. The fact that Type D were only found in areas where Two-barred Crossbills were also present may suggest an affinity with larches *Larix*. On the other hand, at the time these recordings were made, many other crossbills (including types A-C) were also feeding on larches. Ruud van Beusekom (pers comm) found that there were few red males among the Type D he saw at Huizen. Since March 1998, I have not recorded any more individuals of this vocal type with certainty.

Flight calls
Type D flight calls (sonagram 14) sound like a ragged high-pitched version of the Type A flight call. The raggedness is explained by a double in place of a single descending sweep in frequency as the loudest part of the call. The resulting friction in the sound is the reason why I replaced the 'k' of 'keep' with a 'j' when naming this type 'jip' (English 'j' as in 'jay', resembling Dutch 'dj'). Compared with the flight calls of Two-barred Crossbill, which also feature a prominent double descending structure (cf sonagram 1), Type D flight calls sound lighter, more metallic and 'cracked'. In sonagrams, Type D looks very similar to Type F and indeed for some time I thought

MAP 7 Type D ('jip') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb, and Ruud van Beusekom, Hans Groot and Roy Slaterus (cf map 8)

MAP 8 Type D ('jip') Common Crossbill *Loxia curvirostra*, distribution in Europe. No positive identification so far outside the Netherlands (but none observed in the Netherlands since March 1998) (cf map 7)

types D and F were one and the same. There are, however, consistent differences (for which, see type F).

track 34 Type D ('jip') Common Crossbill *Loxia curvirostra*, flight calls, Baarn, *Baarn*, Utrecht, 15 March 1998 *(Magnus S Robb)*
a (0:00-0:16) (sonagram 14a). *Background*: Song Thrush *Turdus philomelos* and Willow Tit *Parus montanus*
b (0:16-0:21) (sonagram 14b)
c (0:21-0:28) (sonagram 14c)

Excitement calls
Type D excitement calls (sonagram 15) sound similar to those of Type B. If anything, they are more abrupt and less resonant than Type B. Type D excitement calls also tend to be given in rather faster series. The excitement calls of Type F, which has flight calls similar to Type D, sound very different (cf sonagram 20) and have a very different structure.

track 35 Type D ('jip') Common Crossbill *Loxia curvirostra*, excitement calls, Baarn, *Baarn*, Utrecht *(Magnus S Robb)*
a (0:00-0:05) 15 March 1998. Flight and excitement calls (sonagram 15a)
b (0:05-0:07) 13 March 1998 (sonagram 15b)
c (0:07-0:15) 13 March 1998 (sonagram 15c). Fast series of distant excitement calls

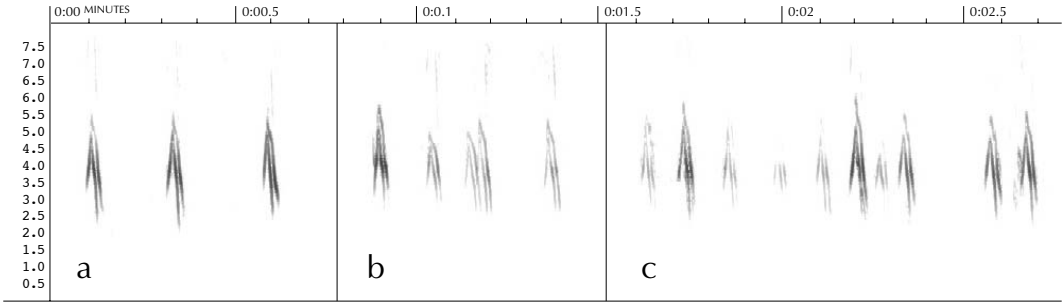
Alarm calls
As expected, the Type D alarm call (sonagram 16a) is a lower pitched version of the excitement call, less rich in overtones.

track 36 (0:00-0:10) Type D ('jip') Common Crossbill *Loxia curvirostra*, alarm calls, Baarn, *Baarn*, Utrecht, 9 March 1998 (sonagram 16a) *(Magnus S Robb)*. Response to passing Common Buzzard *Buteo buteo*

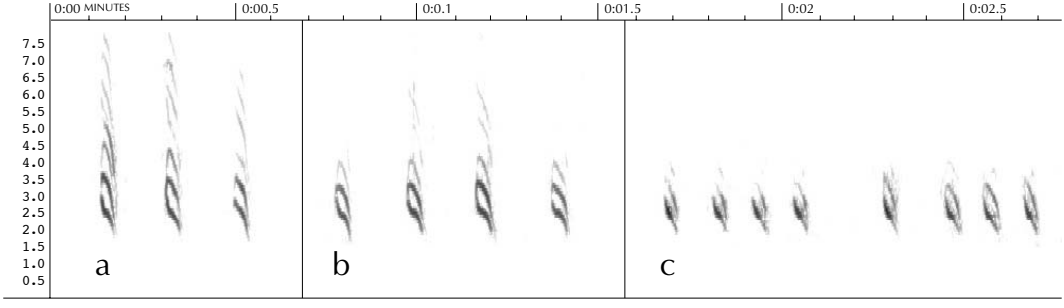
Chitter calls and other soft calls
Type D appears to have a chitter call (sonagram 16b) resembling a lower, softer and less ragged-sounding version of the flight call.

track 37 Type D ('jip') Common Crossbill *Loxia curvirostra*, various soft calls, Baarn, *Baarn*, Utrecht *(Magnus S Robb)*
a (0:00-0:28) 13 March 1998 (sonagram 16b). Some vocalizations heard are probably just very quiet flight calls
b (0:28-0:41) 9 March 1998. This is probably chitter call or short-distance flight call, only slightly lower pitched than soft renditions of main flight call

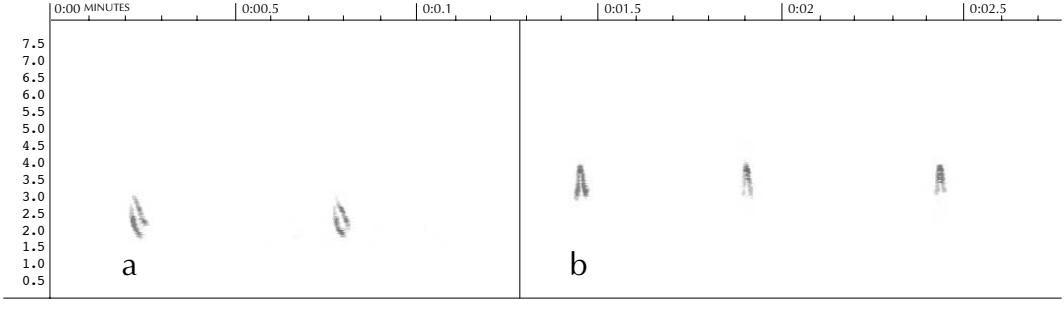
Song
The song of Type D is characterized by a fast tempo. In the small sample I recorded, a low buzzing trill was prominent but this may just be an example of a stylized threat call being incorporated into more aggressive variants of the



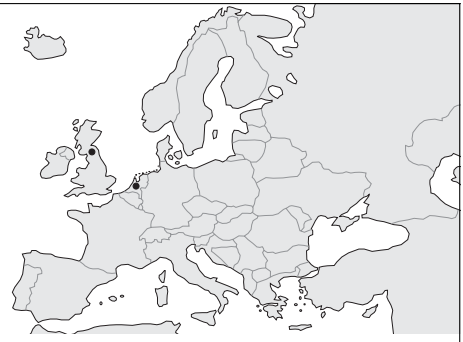
sonagram 14 Type D ('jip') Common Crossbill / Kruisbek *Loxia curvirostra*, flight calls, Baarn, *Baarn*, Utrecht, 15 March 1998 *(Magnus S Robb)*. Shaped like three-pronged fork: middle and right-hand prongs more or less parallel and usually longer than left-hand prong. Apex at c 5.0-5.5 kHz higher than in Type F. Little variation encountered so far. **a** (track 34a). **b** (track 34b). **c** (track 34c)



sonagram 15 Type D ('jip') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls, Baarn, *Baarn*, Utrecht *(Magnus S Robb)*. Steeply descending. Lowest and second bands differently shaped (concave and convex curves) but of roughly same duration. Third band weak but stronger than fourth. Sometimes produced in fast series. **a** 15 March 1998 (track 35a). **b** 13 March 1998 (track 35b). **c** 13 March 1998 (track 35c). Part of very fast series recorded at a distance. Upper bands missing due to distance



sonagram 16 Type D ('jip') Common Crossbill / Kruisbek *Loxia curvirostra*, alarm and chitter calls Baarn, *Baarn*, Utrecht *(Magnus S Robb)*. **a** 9 March 1998 (track 36). Alarm call. **b** 9 March 1998 (track 37b). Chitter call



MAP 9 Type E ('chip') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb and Roy Slaterus (cf map 10)

MAP 10 Type E ('chip') Common Crossbill *Loxia curvirostra*, distribution in Europe, based on field observations and/or recordings by Magnus Robb, and Simon Elliott and Roy Slaterus (cf map 9)

song. Other crossbill vocal types had similar trills (cf tracks 21a and 53b) but none seemed to use them as much as Type D did at the time when these recordings were made. The Type D trill is probably the longest of this type of trill I have heard so far. It may not be used by all Type D or in all variants of the song but was present in the quiet song heard in track 39.

track 38 (0:00-1:39) Type D ('jip') Common Crossbill *Loxia curvirostra*, loud song, Baarn, *Baarn*, Utrecht, 13 March 1998 *(Magnus S Robb)*

track 39 (0:00-1:00) Type D ('jip') Common Crossbill *Loxia curvirostra*, quiet song, Baarn, *Baarn*, Utrecht, 15 March 1998 *(Magnus S Robb)*. Soft version of buzzing trill can be heard at, for instance, 0:03 and 0:36

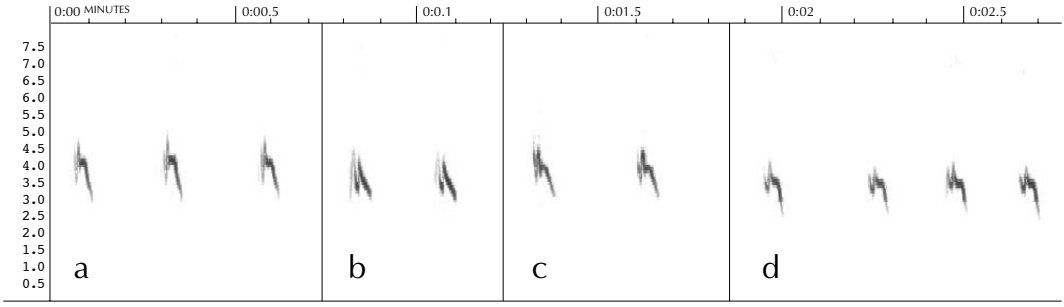
Type E ('chip') Common Crossbill

Now known from Britain and the Netherlands, Type E are the Common Crossbills with flight calls most strongly suggestive of some Scottish and Parrot Crossbill flight calls. On flight calls alone, it can be very difficult to distinguish Type E, Scottish and Parrot Crossbills in the field. Most Scottish and Parrot Crossbills have flight calls which are distinct enough to be recognized as such but a minority of each can resemble Type E so closely that even sonagrams do not always help to distinguish them. However, excitement calls of Type E have generally proven to be quite distinctive, helping to distinguish this vocal type from Scottish and Parrot Crossbills in the field.

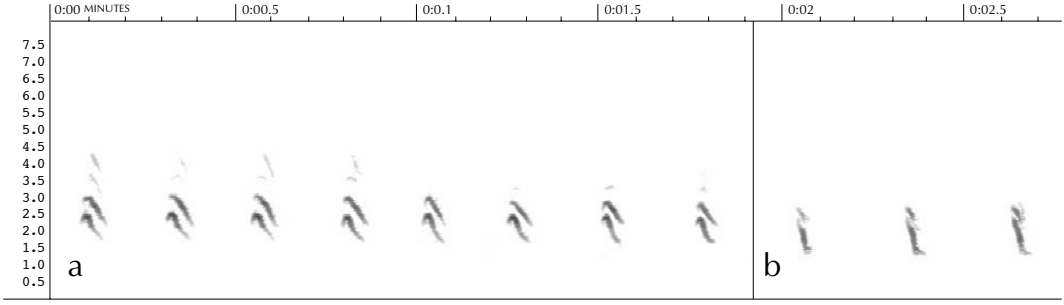
So far, Type E has proven to be rather scarce in the Netherlands and the recordings on the CD are from a sample of perhaps as few as a dozen individuals or less. Many similarities were found with vocalizations of crossbills, which were clearly also Type E, recorded by Simon Elliott in the Kielder Forest in Northumberland. Some of these recordings were obtained from the British Library National Sound Archive. Later, Elliott supplied me with a much larger sample. He recorded good numbers of Type E in Northumberland in 1988, 1990-91 and 1994-95, so clearly this is a regularly occurring vocal type there where it occurs alongside Type A and smaller numbers of Type C. It is worth noting that spruce constitutes 93% of the Kielder Forest (Summers et al 1996).

Flight calls

It is extremely difficult to describe the Type E flight call (sonagram 17) and to explain how to distinguish it from Type F, Scottish and Parrot Crossbill flight calls. The call could be described as varying between a resonant brassy *chip* and a



sonagram 17 Type E ('chip') Common Crossbill / Kruisbek *Loxia curvirostra*, flight *calls (Magnus S Robb)*. Initial V-shaped structure variable, sometimes preceded by faint upslur (sonagram 17b). Apex (top right of V) usually at c 4.5 kHz but can be much higher or a little lower. Longest and loudest structural element is descending part following apex, sometimes having clear step or at least levelling off slightly at c 3.6-4.2 kHz (lacking in sonagram 17b). Step is responsible for perceived pitch of call, probably on average lower than in Scottish Crossbill. Without it, call sounds more 'cracked', less clear and ringing. Initial V also confers 'cracked' sound when prominent. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (track 40a). **b** De Kennemerduinen, 21 February 1998 (track 40b). **c** De Kennemerduinen, 21 February 1998 (track 40c). **d** De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede*, Gelderland, 13 February 1999 (track 40d)



sonagram 18 Type E ('chip') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls *(Magnus S Robb)*. Always clearly descending overall contour. Lowest two bands strongest. Third and fourth bands both generally weak. Characteristic often seen in sonagrams is that upper band (or bands) begins slightly later than lowest band. This feature is often much more obvious than in sonagram 18a and is lacking in 18b. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 21 February 1998 (track 41a). **b** De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede*, Gelderland, 14 February 1999 (track 41b)

slightly more fricative *krip*. These calls are quite variable, generally sounding rather loud and ringing, with a slightly 'cracked' edge although this is sometimes not obvious. In my experience, Type E flight calls are heavier sounding than any other Common Crossbill flight call. They can sound deep pitched, sometimes as deep as Parrot Crossbill but I believe that a statistical analysis would show them to be on average significantly higher pitched than Parrot Crossbill flight calls. Type E flight calls generally have a strong ring to them but are usually slightly less ringing and of a less easily defined pitch than Scottish or Parrot Crossbill flight calls. In sonagrams, Type E flight calls are generally more peaked and are of shorter mean duration than most Parrot Crossbill flight calls (cf sonagram 25). In Simon Elliott's recordings, Type E often sound higher pitched and less brassy than the examples presented here and consequently less similar to the two larger species of crossbill. In sonagrams of his recordings, the shape of the call was often much more peaked and less concentrated around a certain pitch. On occasions, they can be a little reminiscent of Type D flight calls although they generally sound less ragged and much fuller. There is a considerable risk of confusion with Type F (for differences, see that vocal type).

track 40 Type E ('chip') Common Crossbill *Loxia curvirostra*, flight calls *(Magnus S Robb)*
a (0:00-0:08) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 14 March 1998 (sonagram 17a). Rather high-pitched and pure-sounding example
b (0:08-0:20) De Kennemerduinen, 21 February 1998 (sonagram 17b). This rougher example sounds like deeper version of Type F flight call
c (0:20-0:42) De Kennemerduinen, 21 February 1998 (sonagram 17c). Similar to track 40a but slightly more 'cracked'. This individual produced range of flight calls with varying degree of roughness; sometimes sounding like track 40a and sometimes closer to Type F in terms of roughness
d (0:42-0:59) De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede*, Gelderland, 13 February 1999 (sonagram 17d). Flight calls becoming louder as prelude to departure, very similar to some Scottish Crossbill *L scotica* flight calls (cf track 49, especially 49e)

Excitement calls
All the excitement calls heard from Type E, when they were present in De Kennemerduinen, were quite distinctive. Type E excitement calls I recorded were very similar to examples recorded by Simon Elliott in Northumberland. These calls sound moderately nasal and fairly low pitched. They have a clearly descending contour (sonagram 18) and can be very abrupt to long in duration. The characteristic I listen for is the changing 'vowel' which tends to sound like a high vowel sliding down to a low one: a sound perhaps describable as dyu. The 'tail-end' of the call, where the descending slope levels out, is responsible for the illusion of a second lower vowel.

In February 1999, De Hoge Veluwe NP, Gelderland, became the second location where I encountered Type E (the first was De Kennemerduinen). On hearing the ringing flight calls, I had a good look at the two birds to make sure they were not Parrot Crossbills. They did not strike me as large enough to be candidates for this species and there had been no sign of an invasion of Parrot Crossbills that winter. I spent a long time with these birds, waiting to record their excitement calls, and was only successful on a second visit to these crossbills a few days later. These were deeper and more abrupt than the Type E excitement calls I had previously recorded, sounding superficially similar to the excitement calls of Scottish and Parrot Crossbills. Sonagram 18a (track 41a) shows, from left to right, the slight variation in excitement calls (becoming more abrupt towards the right) for an individual Type E in De Kennemerduinen. Track 41b, recorded in De Hoge Veluwe NP, probably shows a call which is transitional between excitement and alarm calls. These calls were a clear response to disturbance by the observer. A possible vestige of the second 'vowel' can still be seen (sonagram 18b) but the low hook in sonagram 18b can also be interpreted as an archaic or immature feature, sometimes seen in excitement calls of other crossbills (cf sonagrams 8c, 23c and 26a). This is an area requiring more study.

track 41 Type E ('chip') Common Crossbill *Loxia curvirostra*, excitement calls *(Magnus S Robb)*
a (0:00-0:30) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 21 February 1998 (sonagram 18a). *Background*: Type A excitement calls
b (0:30-0:48) De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede*, Gelderland, 14 February 1999 (sonagram 18b)

Song
I have recorded few Type E songs. There are some similarities between motifs in my own recordings from De Kennemerduinen, De Hoge Veluwe NP and Simon Elliott's recordings from in Northumberland. Type E seems to have a taste for motifs with three-part cyclical motifs which it shares with Scottish Crossbill and probably also Parrot Crossbill. Examples of this can be heard in track 42, at 0:09-0:10, and track 43, at 0:31.

track 42 (0:00-1:37) Type E ('chip') Common Crossbill *Loxia curvirostra*, quiet song with recurring loud motif, De Hoge Veluwe NP, *Apeldoorn/Arnhem/Ede*, Gelderland, 13 February 1999 *(Magnus S Robb)*. Beautiful song recorded on very frosty day. This was one of very few crossbills I was able to locate during winter of 1998/99. Recording shows extreme contrasts of loudness possible in crossbill song

track 43 (0:00-0:59) Type E ('chip') Common Crossbill *Loxia curvirostra*, 'plastic song', De Kennemerduinen, *Bloemendaal*, Noord-Holland, 26 January 1998 *(Magnus S Robb)*. Rather unshapely song by orange male which may have been in its first year. Contains large number of 'plastic' or slightly deformed examples of flight, excitement and alarm calls

Type F ('trip') Common Crossbill
Type F was distinguished during the autumn of 1999. This vocal type has been recorded with certainty in Belgium at Pijnven, Limburg, and in the Netherlands at Baarn and Lage-Vuursche, Utrecht, in De Kennemerduinen and Koningshof, Noord-Holland, and at Strabrechtse Heide, Noord-Brabant. During a visit to Strabrechtse Heide on 20 February 2000, a pair was observed nest-building in a forest of Scots *P sylvestris* and Corsican Pines where Type A were in the majority.

MAP 11 Type F ('trip') Common Crossbill *Loxia curvirostra*, distribution in the Netherlands, based on field observations and/or recordings by Magnus Robb and Roy Slaterus (cf map 12)

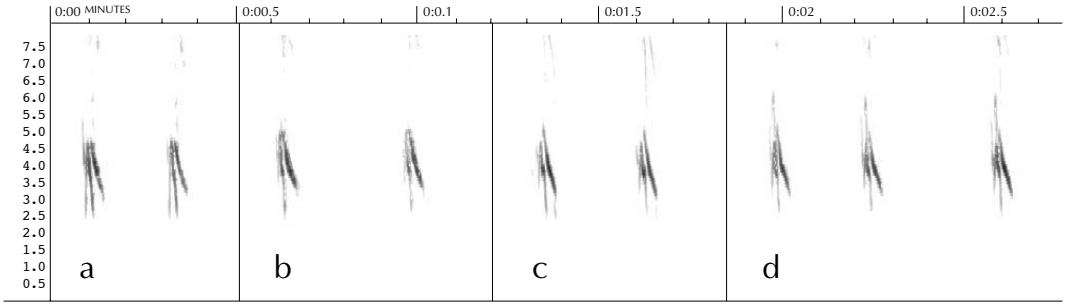
MAP 12 Type F ('trip') Common Crossbill *Loxia curvirostra*, distribution in Europe, based on field observations and/or recordings by Magnus Robb and Roy Slaterus. Only positive identification so far outside the Netherlands was in Belgium (Pijnven, Limburg) (cf map 11)

Flight calls of Type F sound intermediate between those of types D and E, making them very difficult to separate in the field on the basis of these calls alone. Type F excitement calls are, however, very different from those of types D and E.

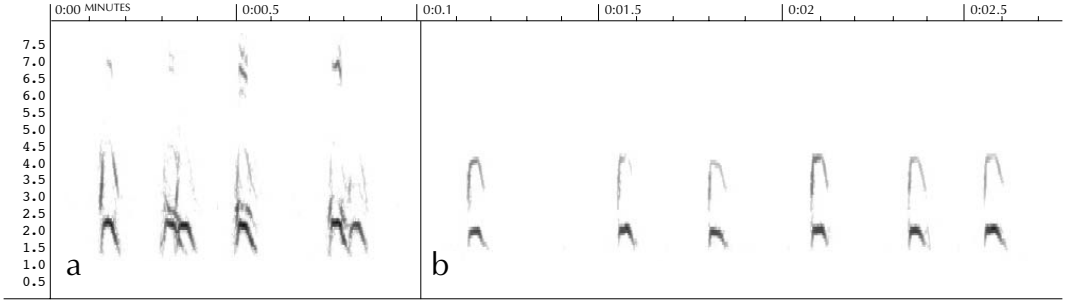
Flight calls

The flight calls of Type F (sonagram 19) are extremely similar to those of Type D but lower pitched and more ringing. They also have a slightly rougher quality which is why I describe the flight calls as *trip*. In spite of the close similarity to Type D, there does not appear to be an overlap. The flight calls of types D and F both show a three-pronged fork-like structure but Type D is slightly higher pitched and they differ in other respects too. For example, in Type D (cf sonagram 14), the middle and right-hand prongs of the fork are more or less parallel and slope to the right and, therefore, the middle prong is closer to the right-hand one than to the left-hand one. In Type F, on the other hand, the middle and right-hand prongs are not parallel and the middle prong is closer to the left-hand prong than to the right-hand one. The fact that these calls are different can be appreciated best when they are played at lower speed (tracks 67 and 69). The difference between type F and E flight calls is less clear-cut although, at first sight, it may appear to be more obvious. There appears to be a slight overlap in structure and pitch but the difference between the flight calls of types E and F is that Type F generally sounds rougher and more 'cracked'. Most flight calls of Type E (cf sonagram 17) sound purer toned than those of Type F and more ringing, closer to Scottish and Parrot Crossbills, but a minority of flight calls of Type E do seem to be very similar to those of Type F (for example, track 40c). The fork-like structure and the corresponding roughness of tone are generally much more pronounced for Type F. I have never recorded a Type F flight call *lacking* this roughness of tone whereas Type E often lacks it (cf track 40a). Nevertheless, the apparent overlap with rougher calls of Type E makes it difficult to identify Type F on flight calls alone. Were it not for the fact that types E and F have different excitement calls, I would probably consider the differences between their flight calls to be too ambiguous to warrant recognizing an additional vocal type.

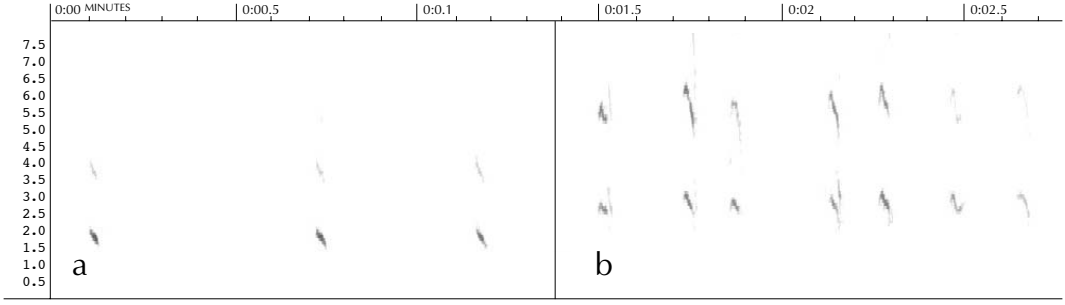
track 44 Type F ('trip') Common Crossbill *Loxia curvirostra*, flight calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*
a (0:00-0:07) 12 November 1999 (sonagram 19a). Example of extremely rough-sounding individual
b (0:07-0:13) 12 November 1999 (sonagram 19b).



sonagram 19 Type F ('trip') Common Crossbill / Kruisbek *Loxia curvirostra*, flight calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*. Shaped like three-pronged fork: middle and right-hand prongs not parallel; middle prong closer to left-hand prong than to right-hand one. Middle prong often longest. Apex at c 4.5-5.0 kHz, lower than in type D. **a** 12 November 1999 (track 44a). **b** 12 November 1999 (track 44b). **c** 27 October 1999 (track 44c). **d** 27 October 1999 (track 44d)



sonagram 20 Type F ('trip') Common Crossbill / Kruisbek *Loxia curvirostra*, excitement calls *(Magnus S Robb)*. Generally arch-shaped. Usually two or three bands present. Middle band c 0.3 kHz higher than lowest band and sometimes missing. Upper band is first overtone of lowest. Possibly sometimes less arch-shaped (more similar to Type C) than here. **a** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 27 October 1999 (track 45a). **b** Lage-Vuursche, *Baarn*, Utrecht, 21 November 1999 (track 45b)



sonagram 21 Type F ('trip') Common Crossbill / Kruisbek *Loxia curvirostra*, alarm and chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*. **a** 11 November 1999 (track 46). Alarm call. **b** 27 October 1999 (track 47). Chitter call

Slightly higher pitched than previous example
c (0:13-0:30) 27 October 1999 (sonagram 19c). Several birds, demonstrating very slight variations in flight call
d (0:30-0:38) 27 October 1999 (sonagram 19d). *Background*: distant Type F and one Type C

Excitement calls
Excitement calls of Type F (sonagram 20) are very different from those of types D (sonagram 15) and E (sonagram 18) and, in fact, sound similar to those of Type C (sonagram 12). Some excitement calls of Type F are inseparable from those of Type C while others have a slightly more nasal or even 'woody' quality but this is very hard to detect. Any difference can be more easily perceived in sonagrams: more bands may be visible and the shape of the call averages more arched than in Type C. Type F excitement calls could be said to approach the sound of a large *Dendrocopos* woodpecker with a rounded tone to its calls, such as White-backed Woodpecker *D leucotos*. The same cannot be said so easily for Type C excitement calls. Excitement calls of Type D sound higher pitched and have a harder-edged quality while those of Type E are more clearly descending in overall pitch and more nasal. These heard differences correspond to structural differences which can be seen in sonagrams.

track 45 Type F ('trip') Common Crossbill *Loxia curvirostra*, excitement calls *(Magnus S Robb)*
a (0:00-0:05) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 27 October 1999 (sonagram 20a)
b (0:05-0:29) Lage-Vuursche, *Baarn*, Utrecht, 21 November 1999 (sonagram 20b)

Alarm calls
Type F alarm calls (sonagram 21a) are similar to some alarm calls of Type C.

track 46 (0:00-0:09) Type F ('trip') Common Crossbill *Loxia curvirostra*, alarm calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 November 1999 (sonagram 21a) *(Magnus S Robb)*

Chitter calls
Type F chitter calls (sonagram 21b) lack the rough quality heard in the flight calls.

track 47 (0:00-0:35) Type F ('trip') Common Crossbill *Loxia curvirostra*, chitter calls, De Kennemerduinen, *Bloemendaal*, Noord-Holland, 27 October 1999 (sonagram 21b) *(Magnus S Robb)*. Calls are more like soft flight calls towards end of this recording

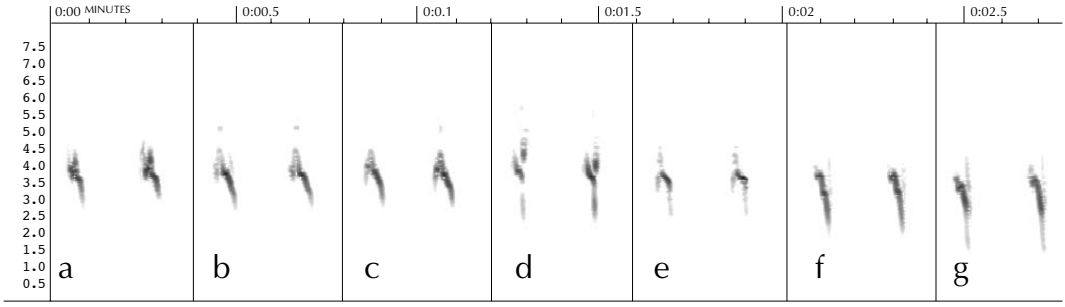
Song
I have recorded few Type F songs. The soft *clu-ee,* *clu-ee* motif at 0:05 in track 48a and at 0:45 in track 48b seems to be characteristic Type F motif which I have heard at more than one location.

track 48 Type F ('trip') Common Crossbill *Loxia curvirostra*, 'plastic song', De Kennemerduinen, *Bloemendaal*, Noord-Holland *(Magnus S Robb)*
a (0:00-0:11) 11 November 1999
b (0:11-0:57) 27 October 1999. This recording includes many soft flight calls

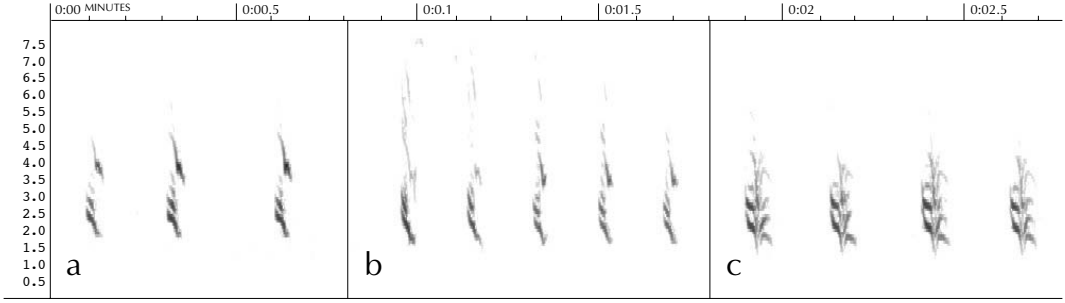
Scottish Crossbill
Most of the Scottish Crossbill recordings presented here (except for tracks 49a-c, 49e and 51) were made in the Scots Pine forest of Abernethy near Aviemore, Highland, Scotland, in February 1999. The identification as Scottish Crossbill was based on a combination of vocal characteristics and a visual assessment of size and structure, especially of the bill. In spite of Abernethy being a prime location for Scottish Crossbill, I did not take the identification of this species for granted. In addition to the endemic Scottish Crossbill, variable numbers of Common Crossbills can sometimes be found in Abernethy Forest and one or two Type C were also present when I made these recordings.

Reports of Parrot Crossbills from the Scottish highlands in recent years (cf Proctor & Fairhurst 1993) should be treated seriously, and separation of Scottish from Parrot Crossbill is no easy task. Vocal differences are discussed below. None of the birds seen well seemed to be a strong candidate for identification as Parrot Crossbill based on bill depth, 'bull-headedness' and overall size. However, most of the birds seen were clearly larger than the Common Crossbills of all vocal types of which I have seen so many in the Netherlands. Variation in vocalizations of the resident or only locally nomadic Scottish Crossbill seems to be greater than type-specific variation in most of the more nomadic Common Crossbill vocal types. As with Parrot Crossbill, variation seems to be continuous along certain lines rather than falling into discrete clusters. The apparently continuous nature of this variation does not, in my opinion, allow the recognition of different vocal types of Scottish Crossbill.

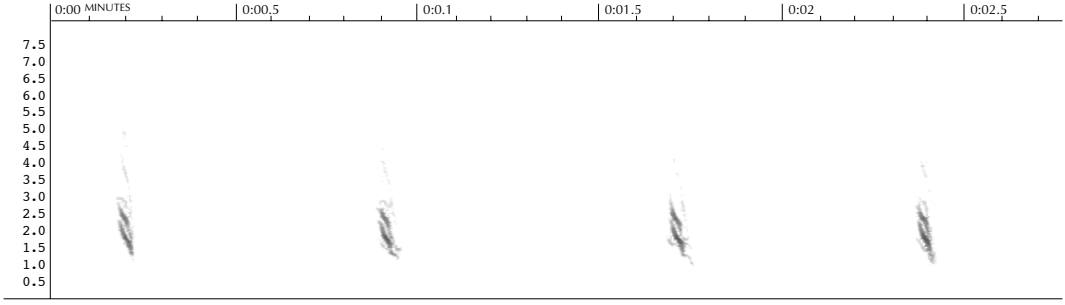
The most reliable source of Scottish Crossbill recordings for comparison is the extensive collection of recordings made by Alan Knox. Some of these recordings were obtained from the British Library National Sound Archive, and I recently received a copy of the entire collection from Alan Knox himself. A full analysis of these



sonagram 22 Scottish Crossbill / Schotse Kruisbek *Loxia scotica*, flight calls *(Magnus S Robb, except sonagrams 22a-c)*. Usually very brief first part consisting of shallow V which can appear as vertical line (most easily seen in sonagram 22a). When horizontal axis is stretched, detail and V shape become apparent. Apex of call is usually at c 4.6 kHz but in last two examples it is considerably lower at c 4.0 kHz. Most prominent part of call is slope descending from (to the right of) this apex. Main descending part of call usually shows clear kink or step (a brief levelling out of this slope), followed by further steep descent. Frequency of this step (usually c 3.7 kHz but as low as c 3.3-3.5 kHz in last two examples) chiefly responsible for perceived pitch of call. Additional structure appearing as more or less vertical line above and to the right of main structure of call may be present. When particularly prominent, it can make call sound more clipped. **a** Glen Tanar, Aberdeenshire, Scotland, 12 March 1984 (track 49a) *(Alan G Knox)*. **b** Glen Tanar, 18 April 1983 (track 49b) *(Alan G Knox)*. **c** Glencat, Aberdeenshire, Scotland, 25 April 1983 (track 49c) *(Alan G Knox)*. **d** Loch Baa, Highland, Scotland, 23 February 1999 (track 49d). High-pitched: extra structure (upper right) responsible for clipped sound. Initial V incomplete or indistinct. **e** Glen Tanar, 25 February 1996 (track 49e). **f** Loch Baa, 23 February 1999 (track 49f). **g** Loch Baa, 24 February 1999 (track 49g). Seems to lack initial V; 'step' appears more prominent than apex



sonagram 23 Scottish Crossbill / Schotse Kruisbek *Loxia scotica*, excitement calls, Loch Baa, Highland, Scotland *(Magnus S Robb)*. Steeply descending contour. Two strong lower bands. Third and fourth bands (where present) weak. Highest band in sonagram 23a is overtone of lowest band: this band typically very steeply descending, appearing almost vertical, but sometimes weaker (cf sonagram 23c). **a** 24 February 1999 (track 50a). **b** 23 February 1999 (track 50b). **c** 24 February 1999 (track 50c)



sonagram 24 Scottish Crossbill / Schotse Kruisbek *Loxia scotica*, alarm calls, Glen Tanar, Aberdeenshire, Scotland, 13 February 2000 (track 51) *(Magnus S Robb)*. Steeply descending. Time interval between calls preserved

recordings of Scottish, Parrot and Common Crossbills will be published at a later date. In the meantime, I am very glad that he agreed to allow the inclusion of three of his recordings of Scottish Crossbill flight calls. These are intended to illustrate the most typical form of the flight call which he encountered during his many years of fieldwork on Scottish Crossbill.

Flight calls

In general, Scottish Crossbill flight calls (sonagram 22) are very similar to those of Parrot Crossbill (cf sonagram 25) but sound slightly sharper and less brassy. Perceived pitch averages slightly higher than in Parrot Crossbill but there is considerable overlap. Scottish Crossbill flight calls can sound very similar to purer-toned versions of the flight call of Type E. A more clipped-sounding variant of the Scottish Crossbill flight call is sometimes heard (track 49d). This can sound reminiscent of Type C but has a different structure (sonagram 22d). Birds producing this variant can be easily distinguished from Type C when their excitement calls are heard. Clipped variants of the Scottish Crossbill flight call are more metallic and of more clearly defined pitch (more ringing) than any Type C flight call. I am not aware of the existence of a similar variant of the Parrot Crossbill flight call.

track 49 Scottish Crossbill *Loxia scotica*, flight calls *(Magnus S Robb, except tracks 49a-c)*
a (0:00-0:18) Glen Tanar, Aberdeenshire, Scotland, 12 March 1984 (sonagram 22a) *(Alan G Knox)*. Male calling from tree-top
b (0:19-0:38) Glen Tanar, 18 April 1983 (sonagram 22b) *(Alan G Knox)*. Loud flight calls of male
c (0:39-0:47) Glencat, Aberdeenshire, Scotland, 25 April 1983 (sonagram 22c) *(Alan G Knox)*. Adults and fledged young calling in flight
d (0:47-0:55) Loch Baa, Highland, Scotland, 23 February 1999 (sonagram 22d). Clipped-sounding variant
e (0:56-1:03) Glen Tanar, 25 February 1996 (sonagram 22e). Pure-toned example
f (1:04-1:18) Loch Baa, 23 February 1999 (sonagram 22f). Rounded fairly deep *kyüp*
g (1:19-1:54) Loch Baa, 24 February 1999 (sonagram 22g). Even deeper but otherwise very similar to track 49f

Excitement calls

Excitement calls of Scottish Crossbill (sonagram 23) sound, to my ears, less abrupt than those of Parrot Crossbill (cf sonagram 26), giving them a slightly less hard edge. Excitement calls of Parrot Crossbill are also perhaps a fraction deeper. One could exaggerate this difference as *doop* for Scottish Crossbill and *toop* for Parrot Crossbill. However, there is some overlap in excitement calls of Scottish and Parrot Crossbills. The differences are at best so subtle that I doubt whether they would be of much use in the field although studies of sonagrams suggest differences may be fairly consistent. A minority of Scottish Crossbills have quite distinct excitement calls (track 50c) which do not closely resemble those of any Parrot Crossbills I have yet encountered.

track 50 Scottish Crossbill *Loxia scotica*, excitement calls, Loch Baa, Highland, Scotland *(Magnus S Robb)*
a (0:00-0:12) 24 February 1999 (sonagram 23a). Very similar to Parrot Crossbill *L pytyopsittacus* excitement calls heard in track 56
b (0:12-0:21) 23 February 1999 (sonagram 23b)
c (0:21-0:32) 24 February 1999 (sonagram 23c). Same individual heard in track 50a is present in this recording but other birds with rather different excitement calls are also present. These birds may have been a pair and they are only ones audible after 0:27. Their excitement calls seem to have an additional ascending part tagged onto end of normal structure. Call as whole is so short that effect is to change timbre, making call sound a little hollower. I have occasionally heard other crossbills with similar but much less extreme extensions to type-specific excitement call (cf sonagrams 8c, 18b and 26a). *Background*: Common Chaffinch *Fringilla coelebs*

Alarm calls

The only Scottish Crossbill alarm calls recorded (sonagram 24) were very soft indeed. Presumably, they are little different from Parrot Crossbill alarm calls.

track 51 (0:00-0:50) Scottish Crossbill *Loxia scotica*, alarm calls, Glen Tanar, Aberdeenshire, Scotland, 13 February 2000 (sonagram 24) *(Magnus S Robb)*. Alarm calls caused by soaring Peregrine Falcon *Falco peregrinus*

Various soft calls

No clear pattern has yet emerged for the Scottish Crossbill chitter call. Both rising and descending soft calls have been recorded and a number of different soft calls are known to exist (cf Nethersole-Thompson 1975: 122-125).

track 52 Scottish Crossbill *Loxia scotica*, various soft calls *(Magnus S Robb)*
a (0:00-0:15) Loch Baa, Highland, Scotland, 23 February 1999
b (0:15-0:45) Loch Baa, 23 February 1999

Song

The following examples should not be taken to suggest that Scottish Crossbill song is any less rich and inventive than the song of other crossbills. These were the only examples I was able to

record during recent recording trips to Scotland. My impression from hearing Scottish Crossbills in the field and in recordings is that their louder songs tend to have a rather slow tempo and that, like Parrot Crossbill, they appear to be typified by the use of trisyllabic cyclical motifs, such as *che-du-dee, che-du-dee* and *chup-didi, chup-didi*. Similar motifs can also be heard in the song of Type E (for instance, track 42, at 0:09-0:10, and track 43, at 0:31).

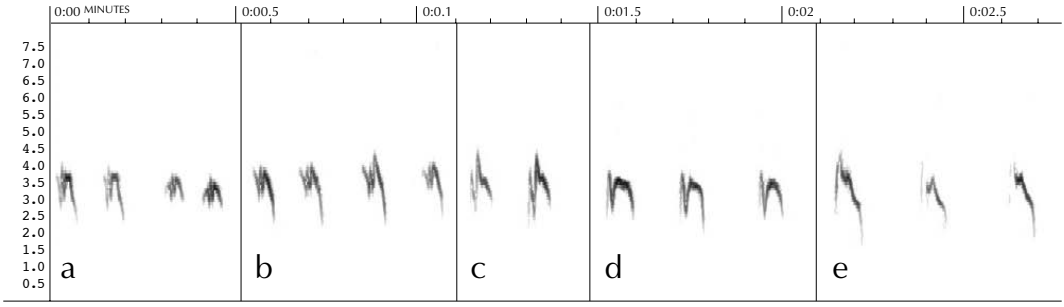
track 53 Scottish Crossbill *Loxia scotica*, simple loud song, Loch Baa, Highland, Scotland *(Magnus S Robb)*
a (0:00-0:20) 24 February 1999. Simplest possible crossbill song: structured series of *chip* calls (cf Nethersole-Thompson 1975: p 119)
b (0:20-0:44) 23 February 1999. Simple song containing raucous trills of type also produced by other crossbills from time to time (for example, Type D, track 38) and probably derived from threat calls

track 54 (0:00-0:48) Scottish Crossbill *Loxia scotica*, quiet song, Loch Baa, Highland, Scotland, 23 February 1999 *(Magnus S Robb)*. Rather fast, very quiet song by male of very unobtrusive pair which appeared to be prospecting for a nest site. This kind of song is particularly common in pairs at this stage in breeding cycle (Alan Knox pers comm). Song has much in common with quieter parts of Type E Common Crossbill *L curvirostra* song heard in track 42

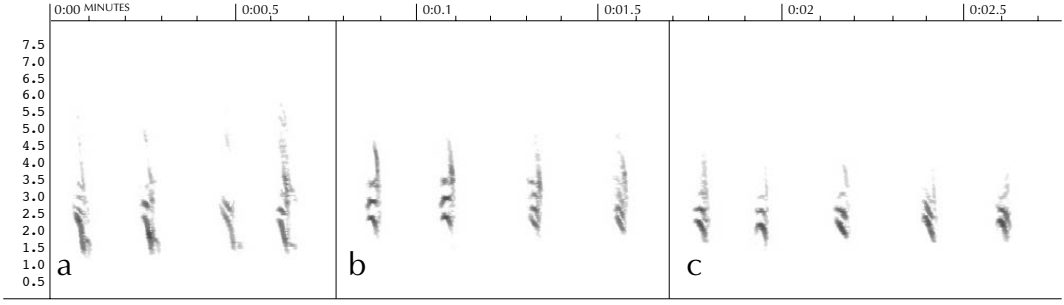
Parrot Crossbill
Without the benefit of an invasion in the Netherlands during the period when these recordings were made (I only found one Parrot Crossbill during the small 1997-98 invasion, for instance, and none in 1999-2000), most of the recordings presented here were made during three days in Sweden in September 1998. Many other recordings, both published and unpublished, were available for study. The degree of variation in Parrot Crossbill flight calls seems to be higher than for any Common Crossbill vocal type so far studied and similar to the extent of variation in Scottish Crossbill. In a given flock, a particular flight-call structure will tend to dominate. This may be due to the more sedentary nature of Parrot Crossbill populations, perhaps allowing for the formation of regional differences which are less likely to be maintained in the more nomadic populations of Common Crossbill. Alternatively, Parrot Crossbills may be under less selective pressure to distinguish themselves from other crossbills through their vocalizations, thanks to their large size. In addition to flight calls, Parrot Crossbill excitement calls also show slight but continuous variation. The fact that variation in Parrot Crossbill vocalizations seems to continuous along fairly well-defined lines leads me to believe that, for the meantime at least, there is no good reason to describe separate vocal types of Parrot Crossbill.

Flight calls
It is well known that Parrot Crossbill flight calls (sonagram 25) are loud and ringing and, on average, lower pitched than other crossbill flight calls. But what more can be said about them? In general, these calls do not modulate across a very wide range of frequencies. The main energy of the call is normally concentrated strongly in a narrow band at c 3.7 kHz and this helps to give the call its bold ring. The exact structure of the calls varies considerably but always sounds vaguely like a small brass bell, with a more or less 'cracked' edge. In sonagrams, the most distinctive of Parrot Crossbill flight calls resemble a lower case 'n', corresponding to a rounded tone and a fairly long duration. Examples of this most easily recognized variant can be heard on Palmér & Boswall (1968-80) and were the main flight-call variant heard during the 1990-91 invasion in the Netherlands, documented in recordings made by Hans Groot in De Kennemerduinen and Koningshof, Noord-Holland (cf sonagram 25d). An appropriate phonetic description of the Parrot Crossbill flight call is *küüp*, with a vowel, like *ee* as in *keep*, but pronounced with the lips rounded. To distinguish Parrot Crossbills from Type E and (in Scotland at least) Scottish Crossbill, it is necessary to listen to other vocalizations for additional clues and, of course, to have a good look at the bird(s) in question. Flight calls I recorded in Sweden were fairly unmistakable but Parrot Crossbills do not always sound as distinctive as this.

track 55 Parrot Crossbill *Loxia pytyopsittacus*, flight calls *(Magnus S Robb)*
a (0:00-0:32) Tyresta NP, Uppland, Sweden, 23 September 1998 (sonagram 25a). This recording of group of about eight birds shortly before take-off also includes *chi-too* begging calls of juveniles as do most of Parrot Crossbill recordings on CD
b (0:32-0:40) Tyresta NP, 27 September 1998. A few individuals taking off, including one with high-pitched call
c (0:40-0:59) Tyresta NP, 25 September 1998. Large noisy flock
d (0:59-1:17) Tyresta NP, 25 September 1998 (sonagram 25b). Same flock departing
e (1:17-1:34) De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 January 1998 (sonagram 25c). Flight calls were heard for several minutes before this bird, and flock of Common Crossbills *L curvirostra* with



sonagram 25 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, flight calls *(Magnus S Robb, except sonagrams 25d-e)*. Variable. Longest duration of all crossbill flight calls presented here (sonagrams 25d-e) but sometimes shorter (sonagram 25a). Generally more rounded than Type E Common *L curvirostra* and Scottish Crossbill *L scotica* flight calls. Main energy at c 3.7 kHz usually coincides with apex of call structure but sometimes peak frequency attained before loudest part of call (sonagram 25e). Less prominent step or levelling out after main descending part of call has started than Scottish Crossbill. Rather, most prominent frequency itself typically sustained longer before descent, hence rounded shape. **a** Tyresta NP, Uppland, Sweden, 23 September 1998 (track 55a). Four calls not necessarily from same individual. **b** Tyresta NP, 25 September 1998 (track 55d). **c** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 11 January 1998 (track 55e). **d** De Kennemerduinen, 2 March 1991 *(Hans Groot)*. Most distinctive variant, typical of birds involved in 1990-91 invasion in the Netherlands. **e** Rozendijk, *Texel*, Noord-Holland, 3 November 1982 *(Jan Mulder)*. Typical of birds involved in 1982-83 invasion in the Netherlands



sonagram 26 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, excitement calls *(Magnus S Robb, except sonagrams 26b-c)*. Short overall duration. Two or more bands present (typically three to five). Generally higher bands weaker. Lowest band often steeply descending, sometimes other bands also. Typically, however, lower bands more arched (sonagram 26b) than Scottish Crossbill. Characteristic feature is near-vertical line seen in upper right of each call, also shown by Scottish Crossbill. **a** Tyresta NP, Uppland, Sweden, 25 September 1998 (track 56). **b** De Kennemerduinen, *Bloemendaal*, Noord-Holland, 2 March 1991 *(Hans Groot)*. **c** De Kennemerduinen, February 1998 *(Roy Slaterus)*. Same female as in sonagram 25c (track 55e)

it, actually flew off. This female was present for a month and could be picked out among crossbill flocks of mixed vocal types thanks to its characteristic flight calls. Video-footage of this bird can be seen in Plomp et al (1999) and photographs (cf plate 74) were published in, for example, van den Berg & Bosman (1999). *Background*: Type B Common Crossbill excitement calls, then mixed flock of type A and B Common Crossbills as Parrot Crossbill departs

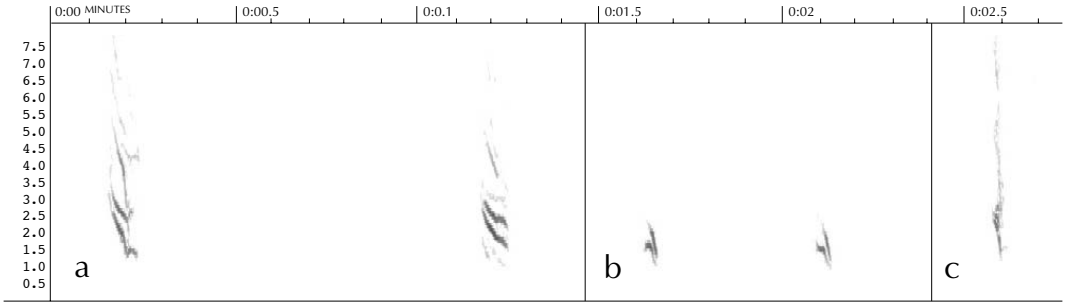
Excitement calls

The excitement call of Parrot Crossbill (sonagram 26) can be described as an abrupt, fairly deep and hard-edged *toop*. The recording presented here is of a small flock flushed by a Northern Goshawk *Accipiter gentilis*. Excitement calls could be heard as they flew in wide circle and into the distance.

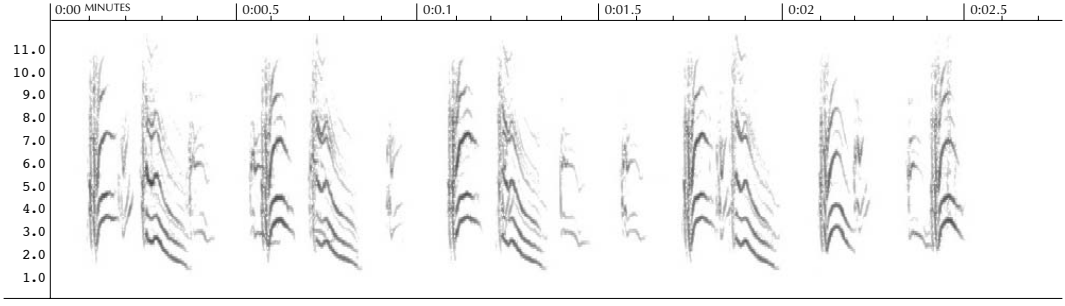
track 56 (0:00-0:13) Parrot Crossbill *Loxia pytyopsittacus*, excitement calls, Tyresta NP, Uppland, Sweden, 25 September 1998 (sonagram 26a) *(Magnus S Robb)*

Alarm calls

The Parrot Crossbill alarm calls (sonagram 27) on



sonagram 27 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, alarm calls, Tyresta NP, Uppland, Sweden, 25 September 1998 *(Magnus S Robb)*. **a** (track 57a). **b** (track 57b). **c** (track 57c)



sonagram 28 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, begging calls of juveniles, Tyresta NP, Uppland, Sweden, 25 September 1998 (track 60) *(Magnus S Robb)*. Longer duration and slower delivery than Type A Common Crossbill *L curvirostra* can be seen in sonagram. *Chi-too, chi-too, chi-too, chi-too, chi, chi*. Second individual in background

the CD are highly variable. Some are, in fact, quite close to excitement calls but the situations they were recorded in suggest they should be interpreted as alarm calls. In tracks 57a and 57c, the birds were clearly 'spooked'.

track 57 Parrot Crossbill *Loxia pytyopsittacus*, alarm calls, Tyresta NP, Uppland, Sweden, 25 September 1998 *(Magnus S Robb)*
a (0:00-0:06) (sonagram 27a). Birds in this recording were flushed by Northern Goshawk *Accipiter gentilis*. Two calls heard split second before birds flushed are very similar to excitement calls. Excitement calls were heard (track 56) as this group flew away. First two alarm calls in this recording almost certainly produced by juvenile
b (0:06-0:13) (sonagram 27b). Possible alarm calls. Assertion that these may be alarm calls based on similarity to alarm calls of other crossbill species and vocal types
c (0:13-0:22) (sonagram 27c). In this recording it was sudden arrival of Great Spotted Woodpecker *Dendrocopos major* that 'spooked' these Parrot Crossbills. They clearly only perceived danger at very last moment. Before that social interactions in full swing: threat calls can be heard

Threat calls
This is a more typical example of a threat call than the longer version heard in the recording immediately preceding this one (track 57c).

track 58 (0:00-0:07) Parrot Crossbill *Loxia pytyopsittacus*, threat call and *chit-too* begging calls, Tyresta NP, Uppland, Sweden, 25 September 1998 *(Magnus S Robb)*

Soft calls
The low descending call in track 59 was not the only soft Parrot Crossbill vocalization heard while the birds were foraging. It is not clear whether these were equivalent to the chitter calls of other crossbills.

track 59 (0:00-0:11) Parrot Crossbill *Loxia pytyopsittacus*, soft calls, Tyresta NP, Uppland, Sweden, 25 September 1998 *(Magnus S Robb)*

Begging calls
These begging calls of juvenile Parrot Crossbills

73 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, Koningshof, Bloemendaal, Noord-Holland, Netherlands, 17 January 1991 *(Arnoud B van den Berg)*

74 Parrot Crossbill / Grote Kruisbek *Loxia pytyopsittacus*, De Kennemerduinen, Bloemendaal, Noord-Holland, Netherlands, 31 January 1998 *(Arnoud B van den Berg)*

(sonagram 28) are lower pitched and slightly rounder toned than the example given for Type A (track 11) but otherwise very similar.

track 60 (0:00-0:30) Parrot Crossbill *Loxia pytyopsittacus*, begging calls, Tyresta NP, Uppland, Sweden, 25 September 1998 (sonagram 28) *(Magnus S Robb)*. At several points there are long series of only *chi* although soon returns to familiar *chi-too* pattern. *Background*: Common Raven *Corvus corax*

Most important calls compared

For each vocal type and species, I have chosen examples of the flight and excitement calls I consider to be representative. As far as flight calls are concerned, it was easy to choose typical examples for some vocal types but more difficult for others (for instance, type E and F and Scottish and Parrot Crossbills) for which this sequence may be of limited use. At least, it shows that the differences between the vocal types are often as great as those between the currently recognized species. Perhaps, however, this comparison only serves to show the inadequacies of phonetic transcriptions! Learning from only a single example can be misleading. For all crossbill populations, the pitch and timbre of flight and excitement calls can vary within certain limits.

track 61 Comparison of flight calls of Two-barred *Loxia leucoptera bifasciata*, Common *L curvirostra*, Scottish *L scotica* and Parrot Crossbills *L pytyopsittacus* (cf sonagram 29) *(Magnus S Robb)*
T (0:00-0:04) Two-barred Crossbill, *chet* (track 1)
A (0:05-0:11) Type A ('keep') Common Crossbill, *keep* (track 7a)
B (0:12-0:17) Type B ('weet') Common Crossbill, *weet* (track 16a)
C (0:18-0:23) Type C ('glip') Common Crossbill, *glip* (track 25a)
D (0:24-0:29) Type D ('jip') Common Crossbill, *jip* (track 34a)
E (0:31-0:37) Type E ('chip') Common Crossbill, *chip* (track 40b)
F (0:39-0:44) Type F ('trip') Common Crossbill, *trip* (track 44d)
S (0:46-0:54) Scottish Crossbill, *kyüp* (track 49f)
P (0:55-1:06) Parrot Crossbill, *küüp* (track 55a)

Differences between excitement calls of different vocal types and species are striking when the calls are compared directly. Descriptions given here describe the typical excitement call in each case and are only intended as a rough guide.

track 62 Comparison of excitement and 'trumpet' calls of Two-barred *Loxia leucoptera bifasciata*, Common *L curvirostra*, Scottish *L scotica* and Parrot Crossbills *L pytyopsittacus* (sonagram 30) *(Magnus S Robb)*
T (0:00-0:07) Two-barred Crossbill, *meep* (track 2)
A (0:09-0:15) Type A ('keep') Common Crossbill, *gep* (track 8b)
B (0:17-0:23) Type B ('weet') Common Crossbill, *tep* (track 17a)
C (0:24-0:29) Type C ('glip') Common Crossbill, high-pitched *pyü* (track 26)
D (0:31-0:34) Type D ('jip') Common Crossbill, *tip* (track 35a, repeated)
E (0:35-0:38) Type E ('chip') Common Crossbill, *dyu* (track 41a)
F (0:40-0:46) Type F ('trip') Common Crossbill, high-pitched *püp* (track 45b)
S (0:47-0:51) Scottish Crossbill, *doop* (track 50b)
P (0:53-0:59) Parrot Crossbill, *toop* (track 56)

Flight calls slowed down

When flight calls are slowed down, the differences between them become easier to hear. Listening to the slowed-down calls also makes it possible to hear what can be seen in the sonagrams: the direction of frequency change can be perceived more easily. The recordings presented below are the examples of flight calls from track 61 first at normal speed and then slowed down four times (consequently, 1/4 of normal pitch).

track 63 (0:00-0:23) Two-barred Crossbill *Loxia leucoptera bifasciata*, flight calls (track 1), then slowed down to 1/4 speed *(Magnus S Robb)*. The slowed-down wing-beats of this bird can also be heard

track 64 (0:00-0:29) Type A ('keep') Common Crossbill *Loxia curvirostra*, flight calls (track 7a), then slowed down to 1/4 speed *(Magnus S Robb)*

track 65 (0:00-0:26) Type B ('weet') Common Crossbill *Loxia curvirostra*, flight calls (track 16a), then slowed down to 1/4 speed *(Magnus S Robb)*

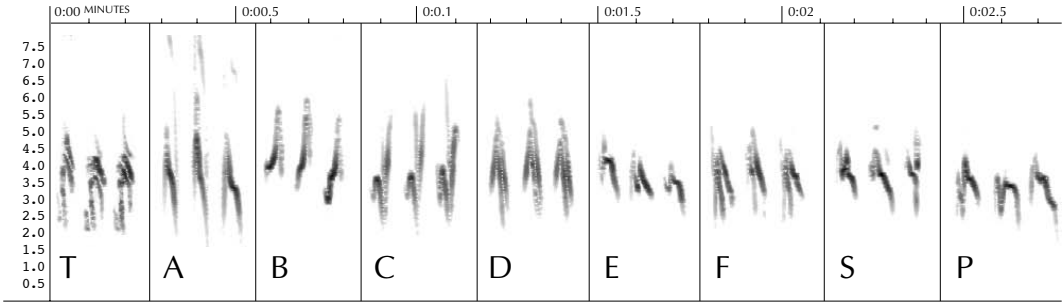
track 66 (0:00-0:25) Type C ('glip') Common Crossbill *Loxia curvirostra*, flight calls (track 25a), then slowed down to 1/4 speed *(Magnus S Robb)*

track 67 (0:00-0:30) Type D ('jip') Common Crossbill *Loxia curvirostra*, flight calls (track 34a), then slowed down to 1/4 speed *(Magnus S Robb)*

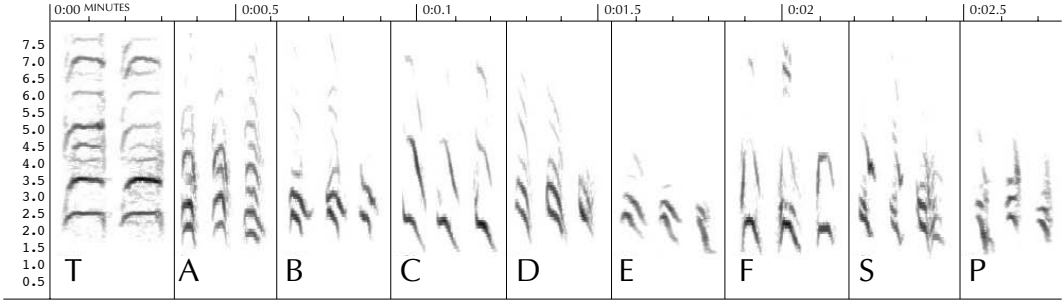
track 68 (0:00-0:31) Type E ('chip') Common Crossbill *Loxia curvirostra*, flight calls (track 40b), then slowed down to 1/4 speed *(Magnus S Robb)*

track 69 (0:00-0:30) Type F ('trip') Common Crossbill *Loxia curvirostra*, flight calls (track 44d), then slowed down to 1/4 speed *(Magnus S Robb)*

track 70 (0:00-0:43) Scottish Crossbill *Loxia scotica*, flight calls (track 49f), then slowed down to 1/4 speed *(Magnus S Robb)*



sonagram 29 Flight calls of different taxa and types of crossbill / kruisbek *Loxia*. For each species/type, three examples usually from different recordings *(Magnus S Robb)*



sonagram 30 Excitement calls of different taxa and types of crossbill / kruisbek *Loxia*. For each species/type, two or three examples usually from different recordings *(Magnus S Robb)*

track 71 (0:00-0:45) Parrot Crossbill *Loxia pytyopsittacus*, flight calls and begging calls (track 55a), then slowed down to 1/4 speed *(Magnus S Robb)*

Mixed flocks

To round off the CD, several recordings were chosen in which more than one vocal type is present. In track 74, I believe that the difference between type A and C excitement calls can be heard very clearly. Track 73, on the other hand, shows how difficult it can be to make sense of a large mixed flock of crossbills.

track 72 (0:00-0:22) Mixed flock, excitement and flight calls, Pijnven, Limburg, Belgium, 14 November 1999 *(Magnus S Robb)*. This flock consists of majority of Type C, a few Type A and one or two Type F Common Crossbills *Loxia curvirostra*. Type F only detected in sonagrams

track 73 (0:00-0:22) Mixed flock, flight calls, Baarn, *Baarn*, Utrecht, 9 March 1998 *(Magnus S Robb)*. Flight calls of type A, B, C and D Common *Loxia curvirostra* and Two-barred Crossbills *L leucoptera bifasciata* – a very rich mixture of crossbills! Difficult to tell which vocal types are in this flock without use of sonagrams. Trumpet calls of Two-barred Crossbills are easiest vocalizations to pick out, especially at end. Most birds are Type A

track 74 (0:00-0:46) Mixed flock, excitement calls, Pijnven, Limburg, Belgium, 14 November 1999 *(Magnus S Robb)*. Type A Common Crossbill *Loxia curvirostra* excitement calls are lower, more nasal ones (cf track 8) and Type C Common Crossbill excitement calls (sonagram 12c) are higher, pure-toned ones (cf track 27). *Background*: Type A flight calls several times; threat calls can be heard at 0:34

track 75 (0:00-3:36) Mixed flock, community-singing, Pijnven, Limburg, Belgium, 14 November 1999 *(Magnus S Robb)*. In this recording community-singing of flock of 40-50 type A and C Common Crossbills *Loxia curvirostra* can be heard. Community-singing is an infrequently observed phenomenon, mostly heard on sunny days during colder half of year. In such circumstances, singing seems particularly contagious (for a description, see Ross 1948)

Identification of Common Crossbill vocal types

For many European birders, the prospect of identifying at least six vocal types of Common Crossbill may seem daunting. Others will see it

as an exciting challenge. Recording equipment may become as important for the birder interested in crossbills as a camera is for the serious gull-watcher. The key to identifying crossbill vocalizations is a thorough understanding of the various categories of crossbill vocalizations. Learning to recognize flight calls is essential for identifying vocal types but checking them against excitement calls and other vocalizations gives a much more solid basis for aural identification. For birders in north-western Europe, the most sensible way to begin to approach the problem is to learn the flight and excitement calls of the crossbills which are almost certainly the commonest in the region: types A and C. This is to be recommended not only because these vocal types are the ones most likely to be encountered but also because the differences are striking and easy to learn. Physical differences between vocal types described or hinted at in this article are very subtle and, so far, there is little or no actual proof of their existence. These differences are worth noting but do not yet constitute safe grounds for identifying vocal types.

Aural identification of Scottish and Parrot Crossbills

Whatever one is to make of the phenomenon of vocal types, the good news is that it will help a great deal in identifying Scottish and Parrot Crossbills. When you are able to assign the majority of crossbills heard to a known vocal type of Common Crossbill, the number of candidates for Scottish and Parrot Crossbills is dramatically reduced. The crux of the issue is to build up a better understanding of the differences between Type E Common, Scottish and Parrot Crossbill vocalizations. Although the majority of birds in each of these populations have fairly distinctive vocalizations, at least in sonagrams, for a minority of each it is extremely difficult to identify the calls with certainty. Even if we only consider fly-by Common and Parrot Crossbills in the Netherlands, separating these with certainty is far more difficult than most birders imagine when the problem of Type E is taken into account. The majority of both Scottish and Parrot Crossbill flight calls sound distinct enough so that, when one listens to a range of their vocalizations for a reasonable length of time, it is possible to be certain about the identification without even seeing the bird(s) well. Outside the usual range of Parrot Crossbill and, in particular, Scottish Crossbill, it would be foolish not to combine aural identification with a thorough assessment of the general build and bill structure.

Vocal types in north-western Europe and North America

The phenomenon of vocal types of Common Crossbill in Europe, first reported by Curtis Adkisson and Alan Knox (in Knox 1992), shows many similarities to the situation described by Groth (eg, 1993a) for North America. Parallel to Groth's findings, a whole range of different vocalizations were found to fall into discrete patterns rather than show continuous variation. Also, the fact that various vocal types were found to be occurring together over a large geographical area is a striking similarity. Unlike the vocal types described by Groth for North America, however, the vocal types described here do not correspond to previously described northern European taxa. All Western Palearctic crossbills north of the Mediterranean other than Scottish, Parrot and Two-barred Crossbills are currently classified as *L c curvirostra*. In North America, most of the vocal types corresponded to known 'subspecies'. If the six vocal types described here from north-western Europe correspond to populations with differing ecological requirements, it is surprising that there are so many vocal types in an area supposedly occupied only by the subspecies *L c curvirostra*. Native conifer diversity in north-western Europe is much less than in British Columbia, Canada, for example, where up to six vocal types also occur together (Groth 1993a). In North America, birds of different vocal types (and bill morphology) have been associated with preferences for different conifers (Benkman 1993). In Europe, the ecological relationships may be more difficult to unravel, given the lower number of conifer species available to crossbills. However, cone structure in local populations of a given conifer species (in particular, the thickness of the scales) can vary considerably according to the presence or absence of other cone-exploiting species, such as squirrels and woodpeckers (eg, Benkman 1989, 1999). While biometric differences between some of the vocal types/taxa studied by Groth were already known to exist, here in Europe there is little similar information. It is known, however, that Common Crossbills from different invasion years vary in their measurements (eg, Davis 1964, Herremans 1982, 1988). Clouet & Joachim (1996) have also described distinct flight calls and correlated biometrics for three crossbill populations in France (Alps, Corsica and Pyrenees). Now that much more is known about the repertoires of vocal types in northern Europe, hopefully it will be possible to collect accurate biometric, molecular

and ecological data for each of the different vocal types. I strongly suspect that at least small morphological differences will be proved to exist and that the vocal types will be found to have different ecological requirements. DNA studies may, on the other hand, shed very little light on the subject (Questiau et al 1999) as the different vocal types have probably evolved very recently and adaptive radiation is probably still very much in progress (Benkman 1999).

Assortative breeding in De Kennemerduinen in 1998

Vocal types of Common Crossbill in the Netherlands are often found in single-type flocks but they can also form mixed flocks in areas where there is an abundant conifer seed crop. Sometimes, when a large mixed feeding flock is flushed, it can be observed that they rearrange themselves into flight-call groups, the 'keep' crossbills heading off to the next pine wood, for instance, while the 'glips' return to the trees they just left. While I observed and sound-recorded crossbills of up to four different vocal types of Common Crossbill and a single Parrot Crossbill in De Kennemerduinen during the winter of 1997/98, I was very curious what would happen as the breeding season approached. Would the forests of Austrian, Corsican and Scots Pines be silent by then? Would some vocal types stay and others leave? What happened was very interesting and, although it concerned only a fairly small sample of individuals, it was consistent with my expectation that the different vocal types would breed assortatively.

As the breeding season approached, pair-formation could be observed. No mixed pairs were observed. The incidence of high-intensity song-flights increased dramatically and the birds were increasingly observed flying in pairs. Behaviours, such as courtship-feeding (observed from November onward) and gathering nest material (for example, Type A from 4 February onwards), were further signs of pair-formation and potential breeding. Finally, a number of nests were found. For each nest, both the male and female were identified as belonging to a given vocal type, based on their flight calls and other vocalizations. Although types E and C were also still in the area until at least 17 and 22 April respectively, Pim de Nobel, Roy Slaterus and I only found type A and B nests. It is worth noting that one or two Type C pairs seemed to be occupying a particular stand of pines for a number of weeks although we did not find a nest there. We only searched for nests in a small part of the suitable habitat available and it is very unlikely that we found all the nests that were built.

The first two nests were a Type B nest on 14 February and a Type A nest on 18 February which was soon abandoned. We were able to observe the female Type B brooding on the nest on, for instance, 18 and 21 February. Later, on 14 March, one of the parent birds was seen, visible only as a silhouette, eating something at the nest and then flying off – perhaps the faecal sacs of nestlings? We never actually determined whether this pair reared young successfully as it was not possible to look into the nest. If they did rear a brood, then the nestlings were very quiet. On 25 February, I found a Type A pair building a nest, next to the communal 'drinking tree', although I did not find them there on subsequent visits. This was a small deciduous tree with a natural basin in the trunk, situated on the edge of the pine wood. The same or another pair was building a nest in the very next tree a month later on 29 March, the day the first Type A fledglings were observed nearby. Amazingly, on 19 April, a Type B pair was observed building in the same tree-fork where Type A had started a nest on 25 February. The 29 March Type A pair was still occupying the neighbouring tree on 19 April and this led to a riot of excitement calls. Additional nests involved another Type A pair c 100 m distant from the drinking site and one or two different nests found by Pim de Nobel, including one c 80 m from the drinking site which almost certainly involved Type A. The first Type B nest had also been less than 100 m from the cluster of nests around the drinking site.

To summarize, Type A were seen to build at least four or five nests and at least one pair certainly produced fledged young. Type B were seen to build nests in two different trees and in at least one of these, a female seemed to be brooding on a number of occasions. One or two Type C pairs were observed in a particular stand of pines over a period of a few weeks. Several Type E were also in the area for much of this period but no nests were found. All nests located, except the first abandoned Type A nest, were within an area with a diameter of c 200 m, having its nucleus a few metres from the tree where the birds habitually gathered to drink. This low tree was the best place to observe them at eye level and also offered excellent photographic and sound- and video-recording opportunities.

Warm weather in April led to days when the

constant crackling sound of pine-cones opening and shedding their seeds could be heard. The warmer the weather became, the less crossbills were seen, presumably because the now fully open pine-cones had shed most of their seed. On the plus side, it was possible to make several recordings of alarm calls because the warm weather meant that many more raptors were on the wing. By mid-May 1998, most of the crossbills had left the area.

Taxonomy

The big question for many people regarding vocal types of Common Crossbill in Europe will be 'Are they unrecognized 'cryptic' species of crossbill?' While the vocal data and assortative breeding may be suggestive, more data are needed to answer this question fully. Also, the six vocal types presented here will have to be tested against an independent data set, such as the extensive collection of crossbill recordings made by Alan Knox. Some of these types may have to be merged and new ones may come to light in north-western Europe and beyond. Vocalizations of other known crossbill taxa, around the Mediterranean, for example, will have to be studied in detail.

Whether or not they represent taxa at any level, vocal types are certainly a phenomenon demanding an explanation. The cryptic species hypothesis (Groth 1993a), summarized by Sangster (1996), is not the only one which has been presented so far. It has also been suggested (Knox 1992) that erupting crossbills are reasonably faithful to core breeding areas to which some subsequently return. Genetic continuity would then be maintained through adjoining or overlapping core breeding areas. Although perhaps normally connected by intermediates, different populations possibly coming from different core areas do not appear to interbreed when they come together temporarily during irruptions. At such times, they behave as separate species to which Knox (1992) has applied the term 'pseudospecies'. Given the considerable overlap in the geographical area in which some vocal types have been recorded, however, it is questionable to what extent core areas really exist for some of the more nomadic crossbill populations. Sympatric breeding of different vocal types may well be normal in core areas (eg, Groth 1988, 1993a, 1996) as well as occurring elsewhere during eruptions. Also, although large movements do not take place every year, eruption is a normal state of affairs rather than the exception for many crossbill populations. In North America, almost the entire population of White-winged Crossbill can be found in the north-west in some years and in the north-east in others (Benkman 1987, 1992), and such pendulum movements may well be taking place in at least some Common Crossbill populations in the Palearctic.

For birders more interested in identification issues, vocal types of Common Crossbill are helpful in understanding vocal differences between these and the other three currently recognized European crossbill species. However, the facts are too few to say much about the taxonomic status of the vocal types themselves at present.

The future

Future invasions of crossbills in the Netherlands will no doubt sometimes bring crossbills with vocalizations which will not be easy to place in the scheme presented in this article. Hopefully, this will mean that we will come to a better understanding of the range of variation possible within the vocal types. Possibly, calls bridging the discontinuities between some vocal types will be recorded, making it necessary to merge some of the vocal types. It is also possible that more types will be identified in north-western Europe in the future. In particular, vocal types of a southerly origin may prove to be irregular visitors. The existence of at least two further vocal types in southern Europe, not corresponding to the ones presented here, is already known. I have already recorded crossbills of a single vocal type at three locations in Greece (Mount Olympus NP, Rhodope Mountains and Zagori). Crossbills I recorded in the Pyrenees had flight calls corresponding to the sonagram published for Pyrenean crossbills in Clouet & Joachim (1996).

Another interesting area for further study is the extent to which the vocabularies of motifs in the songs of crossbills are shared within and not between the vocal types. To what extent do individual crossbills improvise their own material and to what extent do they use a shared vocabulary of motifs? Does this shared vocabulary undergo gradual evolution over the years, and are the same motifs used throughout the geographical range of the vocal type in question?

I hope that other birders will now also take up the challenge of collecting acoustic and other data on vocal types of Common Crossbill. Clearly, a great deal has yet to be learned about the structure of crossbill populations and it is

likely to be a battleground for proponents of different species concepts and systematic arrangements for many years to come. I hope that birders, researchers and systematists will be cool headed and patient enough to treat each vocal type on its own merits. Previously undetected crossbill populations may be found to be distinct and reproductively isolated enough to be regarded as separate species. Some vocal types may be much further along the road to speciation than others. The identification of different vocal types of Common Crossbill in Europe is a largely unexplored subject. There are many riddles to be solved.

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Samenvatting

INLEIDING IN VOCALISATIES VAN KRUISBEKKEN IN NOORDWEST-EUROPA Tijdens onderzoek naar vocalisaties van kruisbekken *Loxia*, hoofdzakelijk in Nederland en elders in Noordwest-Europa, kwam de auteur tot de ontdekking dat ten minste zes verschillende vocale typen Kruisbek *L curvirostra* te onderscheiden zijn. Ieder type kent een schijnbaar vast repertoire van onderling verschillende vocalisaties. In dit artikel worden zoveel mogelijk verschillende vocalisaties van deze typen gedocumenteerd, tezamen met die van Europese Witbandkruisbek *L leucoptera bifasciata*, Schotse Kruisbek *L scotica* en Grote Kruisbek *L pytyopsittacus*; van deze laatste drie taxa werden (vooralsnog) geen verschillende vocale typen aangetroffen. De documentatie vindt plaats op drie manieren: aan de hand van beschrijvingen van de vocalisaties, van sonagrammen, en van opnamen op de bij dit artikel behorende CD. De meeste opnamen stammen uit Nederland uit de jaren 1997-2000 (Witbandkruisbek en zes typen Kruisbek), aangevuld met opnamen van Schotse Kruisbek uit Schotland en Grote Kruisbek uit Zweden en enkele opnamen uit andere landen. Een aantal typen Kruisbek kon met zekerheid worden gefotografeerd door het gelijktijdig met het fotograferen vaststellen van het geluid.

Het artikel beschrijft in een aantal inleidende hoofdstukken de aanloop naar dit artikel, de wijze waarop patronen in vocalisaties van kruisbekken herkend kunnen worden, de wijze waarop de verschillende typen Kruisbek benoemd zijn (typen A-F) en de problemen om vocalisaties goed te omschrijven, technische details over de wijze waarop de opnamen gemaakt zijn (zoals gebruikte apparatuur) en informatie over de gegenereerde sonagrammen. Vervolgens worden de belangrijkste categorieën van kruisbekvocalisaties benoemd die op enkele uitzonderingen na bij alle taxa en typen te onderscheiden zijn. Het gaat hierbij om: de vluchtroep; de opwindingsroep en trompetroep (de laatste is alleen bekend van Witbandkruisbek); de alarmroep; de 'snaterroep' ('chitter calls'); de dreigroep; de bedelroep; het *tjoe-wie* motief; en de zang (onderverdeeld naar verschillende vormen). Per taxon/type worden opnamen gepresenteerd van (vrijwel) al deze roepen, met de volgende indeling: Witbandkruisbek: opnamen 1-6, sonagrammen 1-2; Type A ('kiep') Kruisbek: opnamen 7-15, sonagrammen 3-6; Type B ('wiet') Kruisbek: opnamen 16-24, sonagrammen 7-10; Type C ('glip', met 'g' als in Engelse 'glass') Kruisbek: opnamen 25-33, sonagrammen 11-13; Type D ('jip') Kruisbek: opnamen 34-39, sonagrammen 14-16; Type E ('tjip') Kruisbek: opnamen 40-43, sonagrammen 17-19; Type F ('trip') Kruisbek; opnamen 44-48, sonagrammen 20-21; Schotse Kruisbek: opnamen 49-54, sonagrammen 22-24; en

Grote Kruisbek: opnamen 55-60, sonagrammen 25-28. Ter vergelijking zijn de vluchtroepen van alle soorten/typen ook naast elkaar gezet (opname 61, sonagram 29), evenals de opwindingsroepen (opname 62, sonagram 30). De CD rondt af met een aantal vertraagde vluchtroepen zodat de verschillen in structuur beter zijn te horen (opnamen 63-71) en een aantal opnamen van gemengde groepen waarin verschillende roepen te onderscheiden zijn (opnamen 72-75).

Type A is vastgesteld in België, Brittannië, Duitsland, Estland, Frankrijk, Nederland en Zweden; Type B in Frankrijk (Corsica), Duitsland, Griekenland en Nederland; Type C in België, Brittannië, Denemarken, Frankrijk, Finland, Nederland en Zuid-Zweden; Type D in Nederland en mogelijk ook Zweden; Type E in Brittannië en Nederland; en Type F in België en Nederland. A en C zijn de twee meest algemene typen in Noordwest-Europa.

Belangrijke conclusies op basis van het materiaal zijn dat typen A, B en C zeer sterk van elkaar verschillen (vooral de vluchtroep). Met name de typen D-F zijn daarentegen moeilijk te onderscheiden en vertonen wat bepaalde roepen betreft veel overeenkomsten. De vluchtroep van Type E kan gemakkelijk verward worden met die van Schotse en Grote Kruisbek. Europese Witbandkruisbek is op basis van de meeste vocalisaties meestal het meest gemakkelijk te herkennen, vooral door de unieke trompetroep.

Op basis van het gepresenteerde materiaal wordt aangegeven hoe geleerd kan worden om de verschillende vocale typen te onderscheiden en hoe dit kan helpen om Schotse en Grote Kruisbek met grotere zekerheid van Kruisbek te onderscheiden op basis van het geluid. Verder wordt ingegaan op de verschillen en overeenkomsten met de situatie in Noord-Amerika, waar al eerder op basis van onderzoek van met name Jeff Groth werd ontdekt dat de verschillende Nearctische ondersoorten van Kruisbek ook verschillende vocale typen vertegenwoordigen en op basis van selectief paargedrag in feite als aparte soorten beschouwd zouden moeten worden.

In het voorjaar van 1998 vond in De Kennemerduinen, Noord-Holland, broeden plaats van Type A (vier tot vijf nesten, ten minste één broedgeval) en Type B (twee nesten, één met mogelijk broedend vrouwtje). Er werden alleen paartjes vastgesteld waarbij mannetje en vrouwtje tot hetzelfde vocale type behoorden.

De mogelijke taxonomische implicaties van bovengenoemd onderzoek zijn nog onvoldoende duidelijk; het selectieve paargedrag en de consistente verschillen in vocalisatie tussen de typen geven aan dat mogelijk sprake is van verschillende 'cryptische' soorten. Nader onderzoek naar zowel de vocalisaties als de morfologie en ecologie van de verschillende typen is nodig om hierover meer gefundeerde uitspraken te kunnen doen. Het hier gepresenteerde materiaal vormt daarbij gezien de complexiteit van het vraagstuk waarschijnlijk slechts een eerste aanzet en zeker niet het laatste woord.

References

Andersen, K, Bondesen, P, Ferdinand, L, Schiermacher Hansen, P, Hansen, P, Schmidt, T & Weismann, C 1973. Kald af mindre fugle. Cassette and booklet. København.

Benkman, C W 1987. Food profitability and the foraging ecology of crossbills. Ecol Monogr 57: 251-267.

Benkman, C W 1989. On the evolution and ecology of island populations of crossbills. Evolution 43: 1324-1330.

Benkman, C W 1992. White-winged Crossbill. In: Poole, A, Stettenheim, P & Gill, F (editors), The birds of North America 27, Washington, DC.

Benkman, C W 1993. Adaptation to single resources and the evolution of crossbill (*Loxia*) diversity. Ecol Monogr 63: 305-325.

Benkman, C W 1999. The selection mosaic and diversifying coevolution between crossbills and lodgepole pine. Am Nat 153: S75-S91.

van den Berg, A B & Blankert, J J 1980. Crossbills *Loxia curvirostra* with prominent double wing-bar. Dutch Birding 2: 33-35.

van den Berg, A B & Bosman, C A W 1999. Zeldzame vogels van Nederland – Rare birds of the Netherlands. Avifauna van Nederland 1. Haarlem.

Berthold, P & Schenkler, R 1982. Crossbills with pale wingbars: a brief review. Dutch Birding 4: 100-102.

Clouet, M & Joachim, J 1996. Premiers élements de comparaison de trois populations françaises de Beccroisés *Loxia curvirostra*. Alauda 64: 149-155.

Couzens, D, Wyatt, J & Bewley, N 1996. Teach yourself bird sounds 8: coniferous/mixed woods. Cassette tape and sleeve notes. Tring.

Cramp, S & Perrins, C M (editors) 1994. The birds of the Western Palearctic 8. Oxford.

Davis, P 1964. Crossbills in Britain and Ireland in 1963. Br Birds 57: 477-501.

Ebels, E B, van Beusekom, R F J & Robb, M S 1999. Invasion of Two-barred Crossbills in the Netherlands and Europe in 1997/98, with notes on identification, vocalizations and ecology. Dutch Birding 21: 82-96.

Elmberg, J 1993. Song differences between North American and European White-winged Crossbills (*Loxia leucoptera*). Auk 110: 385.

Groth, J G 1988. Resolution of cryptic species in Appalachian Red Crossbills. Condor 90: 745-760.

Groth, J G 1993a. Evolutionary differentiation in morphology, vocalizations and allozymes among nomadic sibling species in the North American Red Crossbill (*Loxia curvirostra*) complex. Univ Calif Publ Zool 127: 1-143.

Groth, J G 1993b. Call matching and positive assortative mating in Red Crossbills. Auk 110: 398-401.

Groth, J G 1996. Crossbill audiovisual guide. On Internet (at http://research.amnh.org/ornithology/crossbills).

Herremans, M 1982. Notes on measurements and moult of irruptive Common Crossbills (*Loxia curvirostra curvirostra*) in central Belgium. Giervalk 72: 243-254.

Herremans, M 1988. Measurements and moult of irruptive Common Crossbills (*Loxia curvirostra curvirostra*) in central Belgium. Giervalk 78: 243-260.

Knox, A G 1992. Species and pseudospecies: the structure of crossbill populations. Biol J Linn Soc 47: 325-335.

Massa, B 1987. Variations in Mediterranean Crossbills *Loxia curvirostra*. Bull Br Ornithol Club 107: 118-129.
Mitchell, A 1974. A field guide to trees of Britain and northern Europe. London.
Mundinger, P C 1979. Call learning in the Carduelinae: ethological and systematic considerations. Syst Zool 28: 270-283.
Nethersole-Thompson, D 1975. Pine crossbills: a Scottish contribution. Berkhamsted.
Niethammer, G 1937. Handbuch der deutschen Vogelkunde 1. Leipzig.
Palmér, S & Boswall, J 1968-80. A field guide to the bird songs of Britain and Europe. Sixteen discs or cassettes. Stockholm.
Peyton, L J 1999. Bird songs of Alaska. Two CDs and booklet. Ithaca.
Plomp, M, Boon, L J R, Groenendijk, C, ter Ellen, R, Opperman, E & van den Berg, A B 1999. Dutch Birding video-jaaroverzicht 1998. Videocassette. Woerden.
Proctor, B & Fairhurst, D 1993. Identification forum: the Scottish Crossbill problem. Birding World 6: 145-146.
Questiau, S, Gielly, L, Clouet, M & Taberlet, P 1999. Phylogeographical evidence of gene flow among Common Crossbill (*Loxia curvirostra*, Aves, Fringillidae) populations at the continental level. Heredity 83: 196-205.
Roché, J-C 1990. All the bird songs of Europe. Four CDs. La Mure.
Ross, W M 1948. Notes on the crossbill. Scott Nat 60: 147-156.
Sangster, G 1996. How many species of crossbill are there? Dutch Birding 18: 29-32.
Smith, P W 1997. The history and taxonomic status of the Hispaniolan Crossbill *Loxia megaplaga*. Bull Br Ornithol Club 117: 264-271.
Summers, R W, Jardine, D C, Marquiss, M & Proctor, R 1996. The biometrics of invading Common Crossbills *Loxia curvirostra* in Britain during 1990-1991. Ringing & Migration 17: 1-10.
Svensson, L, Grant, P J, Mullarney, K & Zetterström, D 1999. Collins bird guide. London.

Further study

Adkisson, C S 1996. Red Crossbill (*Loxia curvirostra*). In: Poole, A & Gill, F (editors), The birds of North America 27, Washington, DC.
Bezzel, E 1972. Zur Jahresperiodik und Bestandsfluktuation alpiner Fichtenkreuzschnäbel (*Loxia curvirostra*). Vogelwarte 26: 346-352.
Bijlsma, R G 1994a. Hoe het nest van een Kruisbek *Loxia curvirostra* te vinden. Drentse Vogels 7: 47-58.
Bijlsma, R G 1994b. Habitatgebruik, broeddichtheid en broedsucces van Kruisbek *Loxia curvirostra* en Grote Kruisbek *Loxia pytyopsittacus* in West-Drenthe in 1991. Drentse Vogels 7: 59-70.
Bradshaw, C 1991. Identification of Parrot Crossbill. Birding World 4: 354-355.
Catley, G P 1986. Mystery photograph 20: Parrot Crossbill. Dutch Birding 8: 98-99.
Eck, S 1981. Reflexionen über die Taxonomie west-palearktischer *Loxia*-arten (Aves, Passeriformes, Fringillidae). Zool Abh Staatl Mus Tierkd Dresden 37: 183-207.
Elliott, S 1991. The Common Crossbill: recording an enigma's variations. Wildlife Sound 6 (6): 28-31.
Gantlett, S 1990. Parrot Crossbill variation. Birding World 3: 349.
Gatter, W 1993. Explorationsverhalten, Zug und Migrationsevolution beim Fichtenkreuzschnäbel *Loxia curvirostra*. Vogelwelt 114: 38-55.
Groot, H 1992. Kiep kiep of kuup kuup? De kruisbekkeninvasie van 1990 in Zuid Kennemerland. Fitis 28: 62-78.
Harrap, S & Millington, R 1991. Identification forum: Two-barred Crossbill. Birding World 4: 55-59.
Herremans, M 1985. Bill ratios of crossbills. Dutch Birding 7: 146-147.
Knox, A G 1975. Crossbill taxonomy. In: Nethersole-Thompson, D (author), Pine crossbills: a Scottish contribution, Berkhamsted, pp 191-201.
Knox, A G 1976. The taxonomic status of the Scottish Crossbill *Loxia* sp. Bull Br Ornithol Club 96: 15-19.
Knox, A [G] 1986. Bill ratios of Crossbill and Parrot Crossbill. Dutch Birding 8: 103.
Knox, A G 1990a. Identification of Crossbill and Scottish Crossbill. Br Birds 83: 89-94.
Knox, A G 1990b. Probable long-term sympatry of Common and Scottish Crossbills in northeast Scotland. Scott Birds 16: 11-18.
Marquiss, M 1980. Some biometrics of Common Crossbills from Ae Forest, Dumfriesshire. Ringing & Migration 3: 35-36.
Marquiss, M & Rae, R 1994. Seasonal trends in abundance, diet and breeding of Common Crossbills (*Loxia curvirostra*) in an area of mixed species conifer plantation following the 1990 crossbill 'irruption'. Forestry 67: 31-57.
Mild, K 1987. Soviet bird songs. Two cassettes and booklet. Stockholm.
Millington, R & Harrap, S 1991. Field identification of Parrot Crossbill. Birding World 4: 52-54.
Møller, A P 1980. Field identification of Parrot Crossbill. Dutch Birding 2: 148-150.
Mundinger, P C 1970. Vocal imitation and individual recognition of finch calls. Science 168: 480-482.
Newton, I 1970. Irruptions of crossbills in Europe. In: Watson, A (editor), Animal populations in relation to their food resources, Oxford, pp 337-357.
Schekkerman, H 1986. Invasie van Grote Kruisbek in Nederland in 1982/83. Dutch Birding 8: 89-97.
Svensson, L 1991. Forum response: crossbill identification. Birding World 4: 349-352.
Weber, H 1972. Über die Fichtenkreuzschnäbelinvasionen der Jahre 1962 bis 1968 im Naturschutzgebiet Serrahn. Falke 19: 16-27.
Tyrberg, T 1991. Crossbill (genus *Loxia*) evolution in the West Palearctic – a look at the fossil evidence. Ornis Svecica 1: 3-10.
Voous, K H 1978. The Scottish Crossbill: *Loxia scotica*. Br Birds 71: 3-10.

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Total birding

by Anthony McGeehan

Identity crisis

Since I was a little kid I've been hopeless at sums. Mathematics class scared me rigid. I recoiled from long division and escaped from fractions by staring out of the classroom window and gazing at the foliage on the enormous beech trees in the school playground. The experience was routinely transcendental although others, mainly teachers, considered it daydreaming. One master, Mister McDonald, never gave me peace. He'd be writing something on the blackboard with his back to me and catch me out: 'McGeehan, quit gawking and get on with your work'. Foxy Maguire, who sat beside me, said the master shouted at me one morning when I wasn't even there. I was at home with chickenpox.

Thirty years later my academic failure at arithmetic has receded. These days, according to my wife, it's me that doesn't add up. She might be telling me that we are deeper in debt than the whole of the Third World put together, yet I could be thinking about the weather, a brisk northwesterly airstream. I am gone. Out of nowhere a wind has sprung up in my face and I am transported to the west of Ireland. Momentous numbers of seabirds are passing and I have a ringside seat. I feel elated and fulfilled until I hear the line 'I didn't think there was a lighter side to our imminent state of bankruptcy'. Reality. 'What the blazes were you thinking about?' she asks. I fumble for words. The vision has evaporated but she's wrong about the 'real world amnesia'. I prefer to regard myself as mentally ambidextrous: I think about birds *and life* (albeit in that order). I know that birds make the world a better place for me but, as I get older, I seem to spend alarmingly large chunks of time wondering if a way can be found to popularise birdwatching to such an extent that, in the end, people will need birds more than birds need people. Now that's an equation worth solving.

Perhaps it isn't soluble. However, it is undeniable that the public soul has taken to birds in a big way. Already there is a birdseed millionaire and, as far as I can see, most of the population of Europe would cast a sympathy vote on their behalf. Why? The core reason is because people regard birds as cute and vulnerable. They are harmless and pretty; independent of man yet threatened by much of humankind's activities. They are the hard done by underdogs in a cruel world. By association, anyone who protects, feeds or watches them must be basically nice. Such people don't threaten or intimidate, fight, urinate in public, smash things up or drink a pint of whisky for breakfast. Call them what you will, but bird lovers, birdnuts or birdwatchers can be forgiven for being dewy-eyed and benignly eccentric about their feathered friends. Such qualities go with a disposition that borders on saintliness. Remember St Francis of Assisi?

Herein lies something of a dilemma. People like you and I may lead lives that revolve around birds, but ours is an obsession with a different angle. Unfortunately, public opinion not only fails to comprehend what makes us tick, but it lumps us with upwards of a million grannies who throw crumbs to the pigeons. Being branded a disciple of Mary Poppins is a bit tiring, especially for men. I resent the fact that, because I'm a birdwatcher, I have to accept a persona that invites ridicule. How many times have you scanned birds in roadside fields and been startled by a jerk driving past blasting his horn and shouting 'Tweet tweet' at the top of his voice?

Accountability. I think that's the word I'm looking for. In the days when I was a foulmouthed, long-haired, beer-guzzling rarity junkie, nobody told me that there was a clause in my contract requiring me to be accountable for all things birdy and to be a nursemaid, agony aunt and font of wonderment to all who wish to unburden themselves. When the doorbell rings and I'm confronted with a tearful child holding the latest cat victim, a barely alive young Blackbird with no chance of recovery, I have to adopt a sympathetic bedside manner and pretend that the bird will be fine once I look after it. And when an elderly female acquaintance rushes up to me in a crowded supermarket in a state of high excitement and announces in front of onlookers that her tits have come back, I am expected to keep a straight face.

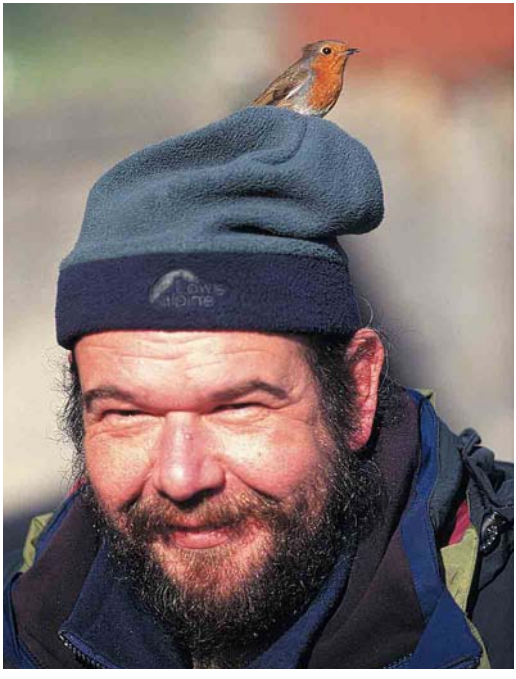
Don't get me wrong. I don't want to be arrested for the crime of being unsentimental, especially as I'm not guilty. It's just that the prospect of doting over a pair of Blue Tits rearing a family outside the kitchen window is a bit alien to someone who considers himself a dedicated orno-addict. Then Benny came along. I like to

[*Dutch Birding 22: 108-109, 2000*]

think that he forced himself upon me, that I played hard to get. Maybe he was in revolt against being overlooked as 'common muck' and had decided to do something about it – a Robin with attitude. Our first encounter was at arm's length. I stuck the spade in the ground, leaned forward to pick out a rock from among the rows of potatoes, and turned around to find him perched in my face on the spade handle. He stayed with me all afternoon, swooping down for titbits before eventually disappearing inside the greenhouse. It turned cold that night and I looked in on him just before dark. He was still there, silent and uncomplaining, with a pensive look that said he too cared for the plight of the Irish football team. My kind of bird.

In the morning he was flitting around the overturned earth and came to the back door for scraps. That's it, I thought; he likes me and I'll have to respond. From then on he got grated cheese for breakfast and a supply of chopped apple and sultanas to keep him going while I was at work. He'd perch on my foot, on the kids' heads, on the bonnet of the car as soon as you pulled into the driveway. As a treat I bought mealworms and kept them in a bucket of flour in the garage. The sight of one on the palm of a hand would entice him to fly up and take it, even when the person holding the worm was my mother-in-law.

75 Here's a picture of Benny in happier times. He was fond of that beard. He used to catch spiders in it and once roosted there overnight *(Anthony McGeehan)*



Hook, line and sinker

One Saturday new neighbours moved in. When they arrived I was elbow-deep in Benny's bucket picking out his lunch. It was a delicate operation and I was sifting through handfuls of wriggling candidates for the most succulent. I didn't realise that the head of the household was right behind me until I heard him say, 'Oh good, a fisherman just like me'. He certainly looked the part. He was – how can you put this tactfully? – the size of an American. He was wide and his tracksuit bottoms emphasised where the cargo had settled. His eyes were puffy and his face had collapsed into jowls of fat. He obviously assumed that I kept the worms for bait. He introduced himself – Jim Knucklehead – we shook hands and, like Saint Peter in the Garden of Gethsemane denying Christ, I decided to say nothing about who the bait was actually for. I chickened out because I felt reluctant to own up to being a birdwatcher in the face of a more macho pastime like fishing. It's like having a bald head and big sticking out ears: you'd rather keep your hat on. So I lied. I pretended I was a member of the angling fraternity. This epitomised me as a tough outdoor type capable of observing a float for hours or skilfully untangling line, an activity that could be done equally well in the comfort of home involving old shoelaces.

Maybe I'm being unkind. You'd like to think that, of all outdoor sports, fishing is the one most closely connected to the natural world. Although that ignores deep-sea fishing where participants have only to sit in a chair, hold a rod in one hand and keep the other one free for beer. Well, it emerged that Big Jim did have a soft spot for wildlife. Unfortunately the wildlife in question turned out to be a mealworm. Next day he came up to me cradling something small in his big mitts. He said, 'I think this little fella is one of yours. I rescued him from a bird. The pesky thing flew out of your garage but luckily I ran over it when it landed on the road. A cocky son-of-a-bitch too; it stood there like it knew me. In future I'd lock your doors at night. Goddamned birds get everywhere. Somebody should do something about them.'

Masters of Mystery

SWAROVSKI
OPTIK

Solutions of first round 2000

The solutions of mystery photographs I and II of the first round of the 2000 competition (Dutch Birding 22: 37-38, 2000) appear below.

I The first photograph of the new competition presents a flying gull. In many cases, also when it is not directly clear to which group a gull belongs, identification starts with ageing. Here, the outer primaries are largely black-brown and pointed, and all primaries look unmoulted and of the same age. This is a clear pointer towards a juvenile or first-winter bird. The uniform grey mantle and wing-coverts are newly moulted feathers, so the bird is in first-winter plumage. The combination of a mainly juvenile wing with contrasting uniform grey wing-coverts and an unmarked white tail with a sharply demarcated black terminal band is not found in the 'large white-headed gulls' but looks good for several medium-sized gulls.

Of the species fitting the features mentioned so far, first-winter Laughing *Larus atricilla* and Franklin's Gull *L pipixcan* would show darker grey wing-coverts and mantle, darker legs as well as darker underwings in especially Laughing. The tail pattern also differs in both species from that of the mystery bird: Laughing has a broader tail-band and in Franklin's the tail-band does not reach the outer pair of tail-feathers. First-winter Ring-billed Gull *L delawarensis* can be easily eliminated by the shape of the tail-band which is too narrow and too solid for this species. The legs of the mystery bird are also too pale for first-winter Mediterranean Gull *L melanocephalus* and this species furthermore shows much paler inner primaries which form a pale area connected with the pale wing-covert panel, which is not the case in the mystery bird. Audouin's Gull *L audouinii* could be considered but this species shows a largely dark tail in first-winter plumage and dark grey legs. This leaves us with Mew Gull *L canus* and Pallas's Gull *L ichthyaetus*; the latter is not a 'medium-sized' gull in the true sense of the word – being one of the largest gulls of the Western Palearctic – but this species shows more resemblance in plumage stages to the medium-sized gulls than to the similarly sized 'large white-headed gulls'. The two are of course very unlikely to get confused in the field but in this view they are quite similar, especially regarding the pattern of the upperwing. The best clue for this bird being a Pallas's Gull is presented by the left underwing. The well-defined, bold dark markings on the (especially medium) under primary coverts are typical for first-winter Pallas's. First-winter Mew also has dark markings on the

76 Red-necked Stint / Roodkeelstrandloper *Calidris ruficollis*, adult summer, Mai Po, Hong Kong, China, 21 April 1991 *(Ray Tipper)*

77 Red-necked Stint / Roodkeelstrandloper *Calidris ruficollis*, adult summer, Tsim Bei Tsui, Hong Kong, China, 25 May 1986 *(Ray Tipper)*

under primary coverts but these are narrower and much less contrasting. Also, first-winter Mew lacks the darker centres to the greater upperwing-coverts and the greenish-yellow tinge to the legs of the mystery bird which are other pointers towards Pallas's.

This first-winter Pallas's Gull was photographed by René Pop at Bet Sha'an, Israel, in March 1990. 58% of the entrants identified it correctly, with other answers referring to Mew (34%), Laughing (13%), Audouin's (6%), Franklin's (4%) and Mediterranean Gull (4%).

II Size and general structure show this bird to be one of the smaller *Calidris* sandpipers. With black legs and rufous coloration prominently present on head and upperparts, this bird must either be a Little *C minuta* or Red-necked Stint *C ruficollis* (the visible hind-toe immediately eliminating Sanderling *C alba*). As usual, the date when this mystery photograph was taken is not given, but the plumage of the mystery bird gives a good indication for this: the very fresh feathers of the upperparts with some rufous on the fringes and the rufous coloration on head and upper-breast indicate this is a spring bird just having acquired summer plumage.

At first glance, the predominantly whitish throat of the mystery bird suggests Little Stint, as the throat of Red-necked Stint in summer plumage is normally reddish (with some white on the chin only). This feature, however, has to be used with some care in fresh individuals like the mystery bird. Red-necked in fresh summer plumage has the reddish colours on head, neck and upper-breast partially obscured by pale fringes; in some individuals, this produces a more or less demarcated white throat somewhat reminiscent of Little. Having said that, the throat of the mystery bird is actually not clear white as in Little, since some reddish is just starting to show, thus suggesting Red-necked rather than Little.

The white ground colour to the breast-sides also fits Red-necked Stint; in Little Stint, the breast-sides have a rufous ground colour. The upperparts lack the pale mantle 'V' of many Little but, on the other hand, do not show the contrasting rufous scapulars of many breeding Red-necked. While Red-necked in moderately worn summer plumage shows black-centred scapulars with contrasting rufous fringes, fresh individuals can appear much paler with only little rufous visible on the scapulars. The mystery bird matches a Red-necked in fresh summer plumage in this respect as well. With the progression of time and wear, the greyish tips of this bird's scapulars will gradually disappear, making the black centres and rufous fringes more obvious. In the mystery photograph, the wing-coverts are hidden by the scapulars and some flank feathers, so are not of any use here but the tertials again fit Red-necked perfectly: one tertial has a rufous outer fringe, but that of the other tertials is whitish or greyish. The tertials of Little in summer plumage usually all have rufous outer fringes. Additionally, there are some minor structural differences between the two species: compared with Little, Red-necked is slightly shorter-billed and shorter-legged and has a more attenuated rear-end, all of which is reflected by the mystery bird.

This Red-necked Stint was photographed at Mai Po, Hong Kong, China, on 21 April 1991 by Ray Tipper. Another photograph of the same bird is presented by plate 76. Plate 77 shows another Red-necked Stint in fairly fresh summer plumage. This individual illustrates how contrastingly whitish and Little Stint-like the throat of some Red-neckeds can be. 58% of the entrants identified this mystery bird correctly. Most incorrect answers referred to Little Stint (29%), but Sanderling, Semipalmated Sandpiper *C pusilla*, White-rumped Sandpiper *C fuscicollis*, Baird's Sandpiper *C bairdii* and even Spoon-billed Sandpiper *Eurynorhynchus pygmaeus* were also mentioned by some.

There were 144 participants in the first round of the 2000 competition and 47 of them managed to identify both mystery birds correctly. The names of these entrants appear at http://www.dutchbirding.nl. From them, Bart Bos, Dick Groenendijk (both Netherlands) and Pat Lonergan (Ireland) were drawn as the winners of a copy of *Herons & egrets of the world, a photographic journey* by James Hancock, donated by Academic Press.

Second round 2000

Photographs III and IV represent the mystery photographs of the second round. Please study the rules below carefully and identify the birds in the photographs. Solutions can be sent in three different ways (please note change of email address):

- by *postcard* to Dutch Birding Association, Postbus 75611, 1070 AP Amsterdam, Netherlands
- by e-mail to masters@dutchbirding.nl
- from the Internet site of the Dutch Birding Association at http://www.dutchbirding.nl

III

IV

Entries for the second round have to arrive by **25 June 2000**. From those entrants who identified both mystery birds correctly, three persons are drawn who will receive a copy of *The handbook of bird identification* by Mark Beaman and Steve Madge, donated by Christopher Helm (Publishers) Ltd.

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WP reports

This review lists rare and interesting birds reported in the Western Palearctic mainly in **March-April 2000** and focuses on north-western Europe. The reports are largely unchecked and their publication here does not imply future acceptance by the rarities committee of the relevant country. Observers are requested to submit records to each country's rarities committee. Corrections are welcome and will be published.

GEESE TO DUCKS In the Netherlands, apart from a long-staying **Ross's Goose** *Anser rossii* in the Haringvliet area, Zuid-Holland, another unringed individual was seen at Anjum, Lauwersmeer, Friesland, from 24 March to 6 April. On 4-5 April, 48 **Lesser White-fronted Geese** *A erythropus* were still at the Hortobágy, Hungary. On Islay, Argyll, Scotland, a **Lesser Canada Goose** *Branta hutchinsii* of the subspecies *hutchinsii* (Hutchins's or Richardson's) and two **Greater Canada Geese** *B canadensis* of the subspecies *parvipes* stayed until at least 19 March. In Ireland, several other potential transatlantic vagrant Lesser and Greater Canada Geese included a Greater of presumably the subspecies *interior* at the North Slob, Wexford, until at least 17 March. In Portugal, a **Pale-bellied Brent Goose** *B hrota* was seen at Ria Formosa, Algarve, on 25 March. In Tunisia, two **Ruddy Shelducks** *Tadorna ferruginea* stayed at Zaafrane near Douz on 8 March. The first **Lesser Whistling Ducks** *Dendrocygna javanica* for Oman were four individuals at Khor Taqah on 11-14 February; seven were present at East Khor on 15 February. In England, the wintering male **Canvasback** *Aythya valisineria* at Dungeness, Kent, stayed until at least 14 March. During March-April, the **King Eider** *Somateria spectabilis* on the Ythan Estuary, Grampian, Scotland, was well-photographed. The first **Surf Scoters** *Melanitta perspicillata* for Belgium were a male and female off Oostduinkerke (between Nieuwpoort and De Panne), West-Vlaanderen, from 26 February to 5 March. Also in March, five individuals were reported in Finistère, France (until 22 April), four in Ireland, four in Scotland, one in England, one in Norway and one in Wales. Four **Red-breasted Mergansers** *Mergus serrator* at Umm al Quwain from 25 February to 3 March constituted the fourth record for the United Arab Emirates (UAE). The long-staying **Black Duck** *Anas rubripes* in Devon, England, was still present in March as was the one in Kerry, Ireland, on 22 April. The first **Blue-winged Teal** *A discors* for the Cape Verde Islands was a male at Mindelo sewage ponds, São Vicente, on 12 March. Possibly the first **Baikal Teal** *A formosa* for Myanmar (Burma) was swimming in the river Irrawaddy at Myit Kyina, Cachin, on 29 January and 1 February 2000. The first for Estonia was a male at Häädemeeste on 15-16 April. The traditional spring in-

flux of **Green-winged Teal** *A carolinensis* was noted in Britain (24 in March and 18 in April) and, much less obvious, in Denmark (one in March), Finland (two, on 24-27 April), Germany (one from 3 April in Niedersachsen), the Netherlands (three from 17 March to 4 May) and Norway (two, on 21 and 23 April).

GREBES TO FALCONS The first **Pied-billed Grebe** *Podilymbus podiceps* for Poland was an adult in summer plumage photographed on 15-18 April at Vistula river, Gdánsk-Pleniewo. From 24 April, one stayed north of Ullapool at Loch Osgaig, Highland, Scotland; possibly, it was the same bird as the one staying near Ripon, North Yorkshire, England, on 6-19 April. If accepted, a **Pygmy Cormorant** *Microcarbo pygmeus* at Ringselven, Budel-Dorplein, Noord-Brabant, on 6 May will be the third for the Netherlands. On 17-23 April, 34 **Pink-backed Pelicans** *Pelecanus rufescens* and 89 **Yellow-billed Storks** *Mycteria ibis* were counted at Abu Simbel, Upper Egypt. A dark-morph **Western Reef Egret** *Egretta gularis* occurred at Llobregat delta, Catalunya, Spain, on 24 March. In Pals marshes, Girona, Spain, one stayed from 8 April onwards. In the Sous estuary, Agadir, Morocco, a **Great Egret** *Casmerodius albus* was seen on 9 March. The second **Black-headed Heron** *Ardea melanocephala* for Oman was photographed on 15 February at East Khor. In the Cape Verde Islands, eight adult and 10 juvenile **Bourne's Herons** *A purpurea bournei* were counted in their only known breeding tree at Banana, Ribeira Montanha, Santiago, on 15 March. A **Goliath Heron** *A goliath* was seen at Hamata mangrove south of Marsa Allam, Egypt, on 22-23 April. In the Netherlands, possibly the same presumably escaped **Turkey Vulture** *Cathartes aura* turned up at Wilsum, Overijssel, on 29 April, at Monster, Zuid-Holland, on 30 April, at Werkhoven, Utrecht, on 1 May (sub-

78 Baikal Teal / Siberische Taling *Anas formosa*, male, Irrawaddy, Myit Kyina, Cachin, Myanmar, 1 February 2000 *(Gerard L Ouweneel)* **79** Pintail Snipe / Stekelstaartsnip *Gallinago stenura*, Hammamet, Tunisia, 11 March 2000 *(Daniel Kratzer)* **80** Lesser Whistling Ducks / Indische Fluiteenden *Dendrocygna javanica*, Khor Taqah, Oman, 11 February 2000 *(Clemens Portofée)* **81** King Eider / Koningseider *Somateria spectabilis*, male, Ythan Estuary, Grampian, Scotland, April 2000 *(Mark Darling)*

82 Bourne's Herons / Kaapverdische Purperreigers *Ardea purpurea bournei*, Ribeira Montanha, Santiago, Cape Verde Islands, 15 March 2000 *(Max Berlijn)*

83 Black-headed Heron / Zwartkopreiger *Ardea melanocephala*, East Khor, Oman, 11 February 2000 *(Clemens Portofée)*

adult), and in Westvoorne, Zuid-Holland, at Breede Water on 5 May and Quackjeswater on 6 May (for previous reports, see Dutch Birding 20: 45, 1998). The 14-16th **Crested Honey Buzzards** *Pernis ptilorhyncus* for the UAE were seen on 6-10 March at Al Wathba and the Dibba dairy farm. Two alleged **Cape Verde Kites** '*Milvus fasciicauda*' were reported at Mindelo sewage farm on 12 March. During raptor censuses in 1999 in Poland, 380-430 pairs of **White-tailed Eagle** *Haliaeetus albicilla* were counted (the estimated country total is 430-500 pairs); besides, there were 70-75 pairs of **Osprey** *Pandion haliaetus* (mostly at two sites; about half of them breeding in artificial nests), 14 pairs of **Greater Spotted Eagle** *Aquila clanga* (at Biebrza marshes; perhaps an additional handful in eastern Poland) and no less than 1700-1900 pairs of **Lesser Spotted Eagle** *A pomarina*. In the Marchegg area, eastern Austria, one (unsuccessful) pair of **White-tailed Eagle**, one successful pair of **Imperial Eagle** *A heliaca* (in Burgenland; the first for 180 years), and at least three pairs of **Saker Falcon** *Falco cherrug* were found in 1999. The third national census of vultures in Spain revealed a stunning increase of **Eurasian Griffon Vultures** *Gyps fulvus* in 1999 to 17 089 pairs (55 000 individuals); in 1989, 8000 pairs were counted and, in 1978, 3240 pairs. For birders who, in the past decades, witnessed the abundance of vultures (mainly **Indian White-backed** *G bengalensis* and **Long-billed Vultures** *G indicus*) in India, it may come as a shock that these birds are now feared to be on their way to extinction; the recent population crash has been tentatively attributed to an outbreak of disease among the vulture population. A male **Pallid Harrier** *Circus macrouros* in Girona on 24 March may have been only the fourth for Spain. One was reported at Epen, Limburg, the Netherlands, on 9 April and, in Finland, a total of 18 was seen on 14-27 April. A **Common Buzzard** *Buteo buteo* occurred at lake Ichkeul near Bizerte, Tunisia, on 10 March. The second-winter pale-morph **Booted Eagle** *Hieraaetus pennatus* first present in Cornwall, England, from 31 October to 28 November 1999 was seen in Somerset and Devon during March and (presumably the same bird) in Kent and Essex on 7-8 April. In Egypt, at least 70 **Sooty Falcons** *F concolor* were found on Wadi Gamal island on 24 April. The March highlight for England was a white-morph **Gyr Falcon** *F rusticolus* performing well in Cornwall on 3-23 March. Besides, there were five more seen in Britain and Ireland during March. On 27 April, a white-morph was at Blennerville, Kerry.

RAILS TO WADERS The first-winter **Sora** *Porzana carolina* at Stover Country Park, Devon, remained from 18 January to 9 April. In the Netherlands, a **Little Bustard** *Tetrax tetrax* was briefly present near Venlo, Limburg, on 7 April. In eastern Austria, up to 31 **Great Bustards** *Otis tarda* were found in 1999 at Hansag and seven at Marchfeld; in recent years, no breeding success has been recorded. A **Stone-curlew** *Burhinus oedicnemus* close to the Dutch border at Het Zwin, West-Vlaanderen, on 23 April was colour-ringed as a chick at Icklingham, Suffolk, England, on 23 May 1999 (right leg with black ring underneath metal ring on tarsus and white ring on tibia; left with red ring on tarsus). The sixth record of **Cream-coloured Courser** *Cursorius cursor* for Spain concerned a group of three at Lances beach, Tarifa, on 17 April. An adult female **Kittlitz's Plover** *Charadrius pecuarius* stayed at Ancenis, Loire-Atlantique, France, from 26 March to 2 April. In Egypt, two pairs (one with a chick) were found near Abu Simbel on 6 April. From mid-March to 8 April, a total of 11 **Caspian Plovers** *C asiaticus* occurred in the Eilat area, Israel. An **American Golden Plover** *Pluvialis dominicus* on 6 April and an adult-winter **Baird's Sandpiper** *Calidris bairdii* on 5-6 April were seen at a coastal quarry near Cabo da Praia, Terceira, Azores. The first breeding records of **European Golden Plover** *P apricaria* for Wallonia, Belgium, were at Hautes-Fagnes in 1997 (nest with four eggs), possibly 1998 (no nest or young found) and 1999 (two fledglings); previous breeding records for Belgium were in 1980 and 1981 in northern Limburg, Flanders (Aves 35: 171-191, 1998). As usual, several **Sociable Lapwings** *Vanellus gregarius* were reported in early spring in western Europe, including one in Portugal (from 15 February into March), four in France during March, and two in Switzerland from 19 March to early April. In Israel, three single **White-tailed Lapwings** *V leucurus* were seen in the Eilat and Nizzana area from 24 March to 2 April. In Sweden, one stayed at Uvängen, Sörmland, on 20-22 April and north of Göteborg on 29 April; in Germany, one was seen in early May. On 12 March, the sixth and seventh **Red Knot** *C canutus*, the second **Semipalmated Sandpiper** *C pusilla*, the second **Least Sandpiper** *C minutilla* and the eighth **Spotted Redshank** *Tringa erythropus* for the Cape Verde Islands were at Mindelo sewage ponds, São Vicente. The first **Sharp-tailed Sandpiper** *C acuminata* for Oman was photographed at Khor Taqah on 11 February. On an islet north of Abu Simbel, Nasser lake, a male **Greater Painted-snipe** *Rostratula benghalensis* incubating four eggs was found on 5 April. The sixth **Great Snipe** *Gallinago media* for Spain was at Llobregat delta on 21-24 March. On 11 April, one was reported from S'Albufera, Mallorca, Balearic Islands. The first **Pintail Snipe** *G stenura* for North Africa was photographed at lake Sidi Jehidi near Hammamet, Tunisia, on 11 March. The second **Short-billed Dowitcher** *Limnodromus griseus* for Ireland was a first-winter at Boyne Estuary, Meath, from 16 March into May. On 29 March, a first-winter **Long-billed Dowitcher** *L scolopaceus* was seen at Xuan Thuy Ramsar Reserve, East Tonkin, Vietnam. The adult first recorded in early July 1999 at Belfast Lough RSPB reserve, Northern Ireland, was still present (now in summer plumage) up to 20 April. For the second consecutive spring, record numbers of **Icelandic Black-tailed Godwit** *Limosa limosa islandica* occurred in the Netherlands with, for instance, more than 600 along the IJssel river near Zwolle, Overijssel, on 2 April. A record flock for Belgium was 74 at Uitkerkse Polders on 21 April and the biggest flock ever for Germany was 24 near Bremen in April. A **Hudsonian Whimbrel** *Numenius phaeopus hudsonicus* was

discovered at Goldcliff, Gwent, Wales, on 6 May. The **Greater Yellowlegs** *T melanoleuca* on Benbecula, Western Isles, Scotland, from 2 November 1999 was seen intermittently until 9 March and then again on 21 April. The second **Lesser Yellowlegs** *T flavipes* for the Cape Verde Islands was a first-winter at Rabil Lagoon, Boavista, on 13 March. In the Azores, two first-winter and two adult-summer **Spotted Sandpipers** *Actitis macularia* were present on São Miguel and Pico on 1-4 April.

GULLS TO AUKS A record 111 **Pallas's Gulls** *Larus ichthyaetus* for Kuwait was counted between Fahaheel and Fintas on 3 February. A first-winter **Laughing Gull** *L atricilla* turned up at Dungeness, Kent, on 7 and 12 March. The third **Franklin's Gull** *L pipixcan* for the Netherlands was a first-winter at Kampen, Overijssel, from 19 February to 18 March (perhaps, the same bird was first seen in Oost-Vlaanderen, Belgium, on 4-5 February). In France, a first-winter at Huchet-plage, Landes, on 5 February was followed by another at Olonne-sur-Mer, Vendée, on 1-5 April. In England, a second-winter staying at Radipole and Weymouth Bay, Dorset, from 13 February to 2 March was later relocated at Cheddar Reservoir, Somerset, on 16-22 March. Also in England, a second-summer was seen at Keynsham, Bristol, on 10-11 April and then Thamesmead, Essex, on 13-16 April. In South Korea, 21 first-winter **Relict Gulls** *L relictus* were counted on 22 February at Nakdong estuary and one was at P'ohang, Songdo beach, on 23 February. The first-winter **Bonaparte's Gull** *L philadelphia* staying from 23 December 1999 at Heist and Zeebrugge, West-Vlaanderen, was still present in April. The second-winter in Liscannor Bay, Clare, Ireland, stayed from 17 January to at least 5 March. At least one first-summer was in Dublin, Ireland, from 18 April into May. In England, an adult was reported at Drift Reservoir, Cornwall, between 11 and 17 March and a first-winter was at Teign Estuary, Devon, from 17 March to at least 30 April. In France, one **Slender-billed Gull** *L genei* was present at Noirmoutier, Vendée, on 27 March and eight were at Publier near Evian, Haute-Savoie, on 14 April. In Switzerland, two were found at Fanel, Bern, on 15 April. In England, two adults turned up at Cley, Norfolk, on 5 May (at the same site as a pair in May 1987). In late February, a **Yellow-legged Gull** *L michahellis* was photographed in St John's, Newfoundland, Canada. The first-winter **Pontic Gull** *L cachinnans cachinnans* seen since 16 January in or near the centre of Amsterdam (Mauritskade and Damrak), Noord-Holland, may be the longest-staying individual for the Netherlands as it was still present in mid-April. A first-winter **Heermann's Gull** *L heermanni* in February-March at Hamilton, Ontario, may have been the same individual as the first for eastern Canada photographed at Toronto docks in November-December 1999. A first-winter **Glaucous-winged Gull** *L glaucescens* was photographed between P'ohang and Kuryongp'o, South Korea. A first-winter **Great Black-backed Gull** *L marinus* was seen at Kebilia near Cap Bon, Tunisia, on 9 March. The 10th **Ross's Gull** *Rhodostethia rosea* for Denmark (the third for 2000) was an adult inland at Vilslev, Ribe, on 10 March. In

84 Gyr Falcon / Giervalk *Falco rusticolus*, juvenile white morph, Cape Cornwall, Cornwall, England, March 2000 *(Steve Young/Birdwatch)*

85 Rufous-tailed Rock Thrush / Rode Rotslijster *Monticola saxatilis*, male, Maasvlakte, Zuid-Holland, Netherlands, 27 April 2000 *(Jan den Hertog)* **86** Sharp-tailed Sandpiper / Siberische Strandloper *Calidris acuminata*, Khor Taqah, Oman, 11 February 2000 *(Clemens Portofée)* **87** hybrid Spanish Sparrow *Passer hispanoliensis* x Italian Sparrow '*P italiae*' or x House Sparrow *P domesticus*, male, Tunisia, March 2000 *(Daniel Kratzer)* **88** Red-billed Chough / Alpenkraai *Pyrrhocorax pyrrhocorax*, Bizerte, Tunisia, 10 March 2000 *(Daniel Kratzer)*

Israel, a first-summer **Bridled Tern** *Sterna anaethetus* stayed from 23 March into April at Eilat North Beach. The long-staying **Forster's Tern** *S forsteri* in Essex remained during March-early May. In Kent, an adult-summer **Brünnich's Murre** *Uria lomvia* was seen at Dungeness on 25 April. The eighth **Atlantic Puffin** *Fratercula arctica* for Poland was trapped in fishing-nets at Hel peninsula on 3 April.

SANDGROUSE TO WAGTAILS In Egypt, five **Lichtenstein's Sandgrouse** *Pterocles lichtensteinii* and seven **African Collared Doves** *Streptopelia roseogrisea* were in Wadi Rawa south-west of Hamatta in the Red Sea mountains on 23 April, which represents a new location and a northern range extension for these species. In Hampshire, England, at least one **Great Spotted Cuckoo** *Clamator glandarius* was present on 2 April (at Keyhaven) and from 8 April (at Pennington). The **Snowy Owl** *Nyctea scandiaca* discovered on 8 March at Oostvaardersplassen, Flevoland, the Netherlands, stayed until 19 March. On 11 April, the 29th this winter for Denmark was found at Skagen, Nordjylland. In southern Sweden, c 10 were present during March. The 13 individuals in Finland during March took that country's winter total to 165. The 41st **Eurasian Pygmy Owl** *Glaucidium passerinum* this winter for Denmark was heard on Bornholm on 14 April. On 1 April, a **Pallid Scops Owl** *Otus brucei* was present at Eilat. During March, two single **Egyptian Nightjars** *Caprimulgus aegyptius* were well-photographed at Eilat (at K20 in mid-March and at K18 on 24 March). If accepted, a **Plain Swift** *Apus unicolor* at Rabil Lagoon, Boavista, on 13 March will be the first for the Cape Verde Islands. In the Netherlands, a record eight **Alpine Swifts** *A melba* were seen from 17 April until 4 May. In Guernsey, Channel Islands, a **Little Swift** *A affinis* was reported on

89 Franklin's Gull / Franklins Meeuw *Larus pipixcan*, second-winter, Cheddar Reservoir, Somerset, England, 22 March 2000 *(Steve Young/Birdwatch)*

90 Egyptian Nightjar / Egyptische Nachtzwaluw *Caprimulgus aegyptius*, K20, Eilat, Israel, 16 maart 2000 *(Eric Koops)*

91 Sora / Soraral *Porzana carolina*, Stover Country Park, Devon, England, March 2000
(Iain H Leach)

92 Siberian Buff-bellied Pipit / Siberische Waterpieper *Anthus rubescens japonicus*, Eilat, Israel, 1 April 2000
(Diederik Kok)

93 Semi-collared Flycatcher / Balkanvliegenvanger *Ficedula semitorquata*, male, Eilat, Israel, 3 April 2000 *(Diederik Kok)*

94 Semi-collared Flycatcher / Balkanvliegenvanger *Ficedula semitorquata*, female, Eilat, Israel, 4 April 2000 *(Nils van Duivendijk)*

22 April at La Claire Mare. East of Malaga, Spain, a **Blue-cheeked Bee-eater** *Merops persicus* was reported on 15 April. The 14th **Calandra Lark** *Melanocorypha calandra* for Switzerland was seen at Inwil, Luzern, on 29-30 April. On 22 April, three **Red-rumped Swallows** *Hirundo daurica* were seen at two sites in England and, on 24 April, in Germany, three were (again) reported at two sites (in Heesen and Niedersachsen); others followed on later dates. In Israel, an **Olive-backed Pipit** *Anthus hodgsoni* stayed at K40 from 31 March to 4 April. In Israel, up to six **Siberian Buff-bellied Pipits** *A rubescens japonicus* were seen at Eilat from 3 March (three at Ofira park) and 6 March (three at Yotvata south fields) into April. In the UAE, single **Masked Wagtails** *Motacilla personata* occurred at Dibba dairy farm on 21 February and at Al Ain on 12-14 March. At least three pairs of **African Pied Wagtail** *M aguimp* were found at Abu Simbel on 5 April.

HYPOCOLIUS TO BUNTINGS At Eilat, a male **Grey Hypocolius** *Hypocolius ampelinus* was present at K20 during March. In Bahrain, the last-known roosting site for 1000s of wintering individuals was bulldozed on 6 April. On 16-17 April, the third **Alpine Accentor** *Prunella collaris* for the Netherlands stayed at the seventh floor of a building at Den Helder, Noord-Holland; the fourth was singing and displaying on concrete bunkers on Terschelling, Friesland, on 1-4 May. On 26 April, one was on Helgoland, Schleswig-Holstein, Germany (the previous records both in the Netherlands (two, including one on Terschelling) and on Helgoland were in April-May 1986). In England, one was found at St Margaret's, Kent, on 6 May. In Malta, at least four male **Moussier's Redstarts** *Phoenicurus moussieri* were reported on 9 April at Dwejra, Gozo. The second for Spain was a male near Malaga on 26 April. The fifth-seventh Rufous-tailed Rock Thrushes *Monticola saxatilis* for the Netherlands were males at Wapenveld, Gelderland, on 25 April (briefly seen), at Maasvlakte, Zuid-Holland, on 27 April, and at Blaricum, Noord-Holland, on 4 May. In northern Germany, one turned up in at Celle, Niedersachsen, on 4 May. A **Dusky Thrush** *Turdus naumanni eunomus* was at Ghaba Resthouse, Oman, from mid-February until 6 March. One was reported at Ottenby, Öland, Sweden, on 26 March. In Belgium, several **Zitting Cisticolas** *Cisticola juncidis* were (still) in March in West-Vlaanderen and, on 28 April, one was present at Paal, Zeeland, Netherlands. In the Channel Islands, one was ringed on 24 April at La Clare Mare, Guernsey. The second **Dartford Warbler** *Sylvia undata* for Scotland stayed on Fair Isle, Shetland, from 29 April onwards. On 29-30 March, three male **Ménétries's Warblers** *S mystacea* were seen in north-eastern Jordan. On 1 April, two were at Hurghada, Egypt. In England, **Sardinian Warblers** *S melanocephala* were present on St Mary's, Scilly, and in East Sussex on 18-21 April. A **Desert Warbler** *S nana* was seen near Matmata, Tunisia, on 8 March. The third **Pallas's Leaf Warbler** *Phylloscopus proregulus* for Spain was singing at a public park in Barcelona from 19 March to mid-April, being trapped on 8 April (previous Spanish records were also in spring). In the Netherlands, one of seven **Hume's Leaf Warblers** *P humei* recorded since late autumn 1999 remained at Boschplaat, Oosterend, Terschelling, until 14 April; another stayed at Nieuwegein, Utrecht, on 5-22 March. At Eilat, seven **Semi-collared Flycatchers** *Ficedula semicollaris* were seen in the first week of April. A **Red-billed Chough** *Pyrrhocorax pyrrhocorax* photographed at lake Ichkeul near Bizerte on 10 March is the first for Tunisia. A good variety of **Spanish Sparrow** *Passer hispaniolensis* hybrids (with Italian Sparrow '*P italiae*' or House Sparrow *P domesticus*) was photographed in Tunisia. At Spurn, East Yorkshire, England, a male **Rustic Bunting** *Emberiza rustica* was present from 4 April. If accepted, a male in the Hansag on 21 April will be the first for Hungary.

For a number of reports, publications in Birding World, Birdwatch, British Birds, Der Falke, Notatki Ornitologiczne, Winging It and World Birdwatch were consulted. News from Britain was kindly supplied by Birdline (0891-700-222 or 0891-700-242), Rare Bird News (0881-888-111) and Oriental Bird Club. I wish to thank Mindy Baha El Din, Sherif Baha El Din, Mark Beaman (Birdquest), Max Berlijn (Cape Verde Islands), Pierre Camberlein (South Korea), Alain Chappuis, Rolf Christensen, Tony Clarke (Canarian Nature Tours), Sean Cole, Dirk Colin, David Conlin (Germany), Andrea Corso, Mark Darling, Lucien Davids, Eric Dempsey, Gerald Derksen, Kris De Rouck, Gunter De Smet, Jochen Dierschke, Hugues Dufourny, Marc Duquet, Jerzy Dyczkowski, Tim Earl, Annika Forsten, Alain Fossé, Peter Fraser (UK), Raymond Galea (Malta), Gerrit Gerritsen, Gerard Gorman (Hungary), Marcello Grussu, Morten Günther, Ricard Gutiérrez, Klaas Haas, Marcel Haas, Cornelis Hazevoet (Cape Verde Islands), Martin Helin, Erik Hirschfeld, Remco Hofland, John Howes, Erling Jirle, Adrian Jordi, Harald Katzmair, Yves Kayser, Jan Kelchtermans, Howard King (Bahrain), Guy Kirwan, Yann Kolbeinsson, Jip Louwe Kooijmans, Martin Kraft, Daniel Kratzer, Paul Lehman, André van Loon, Pierre Le Maréchal (France), Anthony McGeehan, Arnold Meijer (Vietnam), Peter Meininger, Richard Millington, Geir Mobakken, Colm C Moore, Killian Mullarney, Mika Ohtonen, Gerald Oreel, Gert Ottens (Azores), Gerard Ouweneel (Myanmar), Arie Ouwerkerk, Jean-Philippe Paul, Andrew Raine, Ahmed Riad (Sunbird), Colin Richardson (UAE), Luciano Ruggieri, Bob Scott, Arkadiusz Sikora, Thomas Spencer (Kuwait), Tadeusz Stawarczyk, Pam Thomson (Kuwait), Andreas Trepte, Joost van der Ven, Koen Verbanck, Luc Verroken (Belgium), Ruud Vlek, Roland van der Vliet and Arend Wassink for their help in compiling this review.

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Recente meldingen

Dit overzicht van recente meldingen van zeldzame en interessante vogels in Nederland en België beslaat voornamelijk de periode **maart-april 2000**. De vermelde gevallen zijn merendeels niet geverifieerd en het overzicht is niet volledig. Alle vogelaars die de moeite namen om hun waarnemingen aan ons door te geven worden hartelijk bedankt.

Waarnemers van soorten in Nederland die worden beoordeeld door de Commissie Dwaalgasten Nederlandse Avifauna wordt verzocht hun waarnemingen zo spoedig mogelijk toe te zenden aan: CDNA, Postbus 45, 2080 AA Santpoort-Zuid, Nederland, e-mail cdna@dutchbirding.nl. Hiertoe gelieve men gebruik te maken van CDNA-waarnemingsformulieren die eveneens verkrijgbaar zijn bij bovenstaand adres, of via de homepage van de DBA op http://www.dutchbirding.nl.

Nederland

GANZEN TOT VISAREND Beide **Ross' Ganzen** *Anser rossii* bleven aanwezig, tot 2 mei in de omgeving van het Haringvliet en Hollandsch Diep, Zuid-Holland, en tot 6 april voornamelijk aan de westkant van de Lauwersmeer in de omgeving van de Anjumerkolken, Friesland. Er werden nog 13 solitaire **Dwergganzen** *A erythropus* gemeld, terwijl een groep van zeven nog tot 12 maart werd gezien bij de Anjumerkolken. In totaal 20 **Roodhalsganzen** *Branta ruficollis* werden doorgegeven, met als opvallendste locatie de Carel Coenraadpolder, Groningen, waar in april vijf verschillende werden vastgesteld. **Witbuikrotganzen** *B hrota* werden uitsluitend in het noorden van Nederland gezien. Van de in totaal 11 werden er alleen al vijf op Terschelling, Friesland, waargenomen. **Zwarte Rotganzen** *B nigricans* verbleven tot 4 april bij de inlagen in de omgeving van Serooskerke, Zeeland, tot 1 april op Texel, Noord-Holland, tot 22 april maximaal vijf op Terschelling, op 3 maart op Ameland, Friesland, op 5 maart in de Negenboerenpolder bij Kloosterburen, Groningen, op 15 maart en 29 april bij het Rammegors, Zeeland, en op 24 april op de Krammerse Slikken, Zuid-Holland. Een **Witoogeend** *Aythya nyroca* verbleef vanaf 23 april op het Ringselven bij Budel-Dorplein, Noord-Brabant. Een andere was kort aanwezig op 29 april bij Lauwersoog, Groningen. Op 12 maart werd een **Ringsnaveleend** *A collaris* gezien in de Lauwersmeer, Groningen. Het maximum aantal **IJseenden** *Clangula hyemalis* bij de Brouwersdam, Zuid-Holland, bedroeg ditmaal 45 op 15 maart en het maximum in de westelijke Waddenzee, Noord-Holland, bedroeg c 300 op 17 maart. De **Amerikaanse Smient** *Mareca americana* van de Ouderkerkerplas, Noord-Holland, verbleef daar tot 9 maart. Andere verbleven op 7 maart (mannetje) en 23 maart (vrouwtje) in de Aalkeetbuitenpolder, Zuid-Holland, op 17 maart (vrouwtje) in de Oostelijke Binnenpolder bij Tienhoven, Utrecht, op 20 maart bij het Quackgors bij Hellevoetsluis, Zuid-Holland, van 2 tot 8 april wederom op de Reeuwijkse Plassen, Zuid-Holland, en op 4 april in de Ezumakeeg, Friesland. **Amerikaanse Wintertalingen** *Anas carolinensis* werden opgemerkt vanaf 17 maart in de Ezumakeeg en van 10 tot 16 april in de Ossenwaard bij Deventer, Overijssel. Tot de staart van de influx van **IJsduikers** *Gavia immer* behoorde een exemplaar van 5 tot 10 maart op de Noorderplassen bij Almere, Flevoland, die daar ook al in januari zou zijn gezien en een andere langblijver zwom van 10 maart tot 20 april te Harderwijk, Gelderland. Andere werden op 10 maart gezien op het Veerse Meer, Zeeland, langsvliegend op 18 maart bij Katwijk aan Zee, Zuid-Holland, en op 2 april bij de Oosterscheldekering, Zeeland. **Kuifaalscholvers** *Stictocarbo aristotelis* werden gemeld tot 4 april (twee) in IJmuiden, Noord-Holland, op 17 maart in Den Helder, Noord-Holland, op 2 april langs de Oosterscheldekering, en op 8 april langs Huisduinen, Noord-Holland. **Kwakken** *Nycticorax nycticorax* werden gezien tot 24 april in Deventer, op 23 maart vliegend over Middelburg, Zeeland, op 25 april in De Blikken bij Groede, Zeeland, en in de laatste dagen van april drie vliegend langs Breskens, Zeeland. Langsvliegende **Koereigers** *Bubulcus ibis* werden opgemerkt op 9 maart langs Vlissingen, Zeeland (twee), en op 3 april langs Breskens. Voorts werd de soort gezien van 11 tot 15 april bij de Kagerplassen bij Sassenheim, Zuid-Holland, van 11 tot 22 april ten zuidwesten van De Wieden, Overijssel, op 19 april op Texel en op 27 april bij Opheusden, Gelderland. Naast de 16 doortrekkende **Kleine Zilverreigers** *Egretta garzetta* vanaf 9 april bij Breskens, werden er nog eens 22 verspreid over de periode waargenomen. Van de 35 **Grote Zilverreigers** *Casmerodius albus* verbleven er ten minste zes in Zuidelijk Flevoland, Flevoland, vijf tot 12 maart bij Kampen, Overijssel, vier op 1 april in de Duursche Waarden, Overijssel, vijf begin april in de Mariapeel, Limburg, en vier tot 14 april in De Banen bij Nederweert, Limburg. Vanaf 2 april trokken 22 **Purperreigers** *Ardea purpurea* langs Breskens. **Zwarte Ooievaars** *Ciconia nigra* werden gezien op 3 april over Haarlem, Noord-Holland (vier), op 23 april één ter plaatse bij Laag Zuthem, Overijssel, en op 27 april één langs Breskens. De **Zwarte Ibis** *Plegadis falcinellus* van Petten, Noord-Holland, bleef daar tot 9 april en vanaf 21 april in het Zwanenwater, Noord-Holland. Eind april en begin mei leverde waarnemingen op van één of meer vermoedelijk ontsnapte **Roodkopgieren** *Cathartes aura*: één ongeringde bij Wilsum, Overijssel, op 29 april, één ongeringde bij Monster, Zuid-Holland, op 30 april, een onvolwassen exemplaar vliegend langs de weg tussen Utrecht en Werkhoven, Utrecht, op 1 mei, en een exemplaar bij het Breede Water en Quackjeswater, Zuid-Holland, op respectievelijk 5 en 6 mei. Na een vroege melding op 25 maart werden in april c 35 doortrekkende **Zwarte Wouwen** *Milvus migrans* gezien, waarbij een langzame toename naar het eind van de maand te zien was. Van de c 38 **Rode Wouwen**

95-96 Sneeuwuil / Snowy Owl *Nyctea scandiaca*, Oostvaardersplassen, Flevoland, maart 2000 *(Ben van den Broek)* **97-98** Alpenheggenmus / Alpine Accentor *Prunella collaris*, Den Helder, Noord-Holland, 17 april 2000 *(Dirk J Moerbeek)* **99** Rode Rotslijster / Rufous-tailed Rock Thrush *Monticola saxatilis*, mannetje, Maasvlakte, Zuid-Holland, 27 april 2000 *(Jan den Hertog)* **100** Amerikaanse Wintertaling / Green-winged Teal *Anas carolinensis*, mannetje, Deventer, Overijssel, 11 april 2000 *(Dirk J Moerbeek)*

M milvus werd het merendeel gezien van eind maart tot half april. **Zeearenden** *Haliaeetus albicilla* werden nog waargenomen op 5 maart in de Bandpolder, Friesland, en op 2 april in de Brabantse Biesbosch, Noord-Brabant. Een mannetje **Steppekiekendief** *Circus macrourus* vloog op 9 april over het Geuldal, Limburg. Vanaf 5 april werden 10 **Grauwe Kiekendieven** *C pygargus* gezien, vooral in de laatste decade van deze maand. Na de eerste waarneming op 25 maart, werden in april 33 **Visarenden** *Pandion haliaetus* gemeld.

RALLEN TOT STERNS Bij Holterbruch nabij Arcen, Limburg, werd al op 3 april een adulte **Porseleinhoen** *Porzana porzana* gezien. Verspreid over de periode werden c 120 **Kraanvogels** *Grus grus* waargenomen; de grootste groep (60) vloog op 1 april over Horst, Limburg. Een **Kleine Trap** *Tetrax tetrax* was op 7 april aanwezig tussen Venlo en Sevenum, Limburg. De eerste twee **Stelkluten** *Himantopus himantopus* verschenen op 8 april in de Eijsder Beemden, Limburg. Vanaf 12 april verbleven er maximaal vijf op het Rammegors, vanaf 19 april maximaal vier in de Ezumakeeg, op 22 april twee in de Engbertsdijksvenen, Overijssel, op 23 en 24 april vier in het Yerseke Moer, Zeeland, vanaf 24 april maximaal zes in De Blikken bij Groede, en op 25 april twee in Het Kraaiennest bij De Lier, Zuid-Holland. Een **Griel** *Burhinus oedicnemus* was op 19 april aanwezig ten westen van Oss, Noord-Brabant. Een adulte **Morinelplevier** *Charadrius morinellus* verluchtigde van 25 tot 30 april de Bandpolder in Friesland. De eerste **IJslandse Grutto's** *Limosa limosa islandica* werden op 2 maart gezien bij Amstelveen, Noord-Holland. Vanaf 25 maart werden er vele 100-en gemeld; de belangrijkste plaatsen waren de Hoeksmeerplas, Groningen, de Ezumakeeg, de Ossenwaard bij Deventer, en de Ventjagersplaten, Zuid-Holland. **Poelruiters** *Tringa stagnatilis* liepen op 6 april bij Camperduin, Noord-Holland, op 16 april in het Oude Robbengat, Groningen, op 24 april in de Ezumakeeg en op 29 april bij de Maasvlakte, Zuid-Holland, en drie in De Blikken. Op 29 april werd een **Grauwe Franjepoot** *Phalaropus lobatus* waargenomen op de Prunjeplas bij de Wevers Inlaag, Zeeland. Redelijke aantallen **Zwartkopmeeuwen** *Larus melanocephalus* buiten de kolonies werden gezien op 17 april langs Breskens (32) en op 20 april op een weiland bij Maasdijk, Zuid-Holland (50). De **Franklins Meeuw** *L pipixcan* van Kampen bleef daar tot 18 maart. Op 29 en 30 april werd een subadulte **Baltische Mantelmeeuw** *L fuscus* uitvoerig bestudeerd in de Steenwaard nabij Schalkwijk, Utrecht. **Kleine Burgemeesters** *L glaucoides* werden gezien op 15 maart tussen Aarlanderveen en Nieuwkoop, Zuid-Holland, op 17 maart bij Bergen op Zoom, Noord-Brabant, op 18 maart bij Katwijk aan Zee, vanaf 21 maart op Texel, op 22 maart en op 7 en 15 april bij IJmuiden, op 25 maart bij Camperduin, en op 26 april in Groningen, Groningen; het gaat hierbij om zeven tot negen exemplaren.

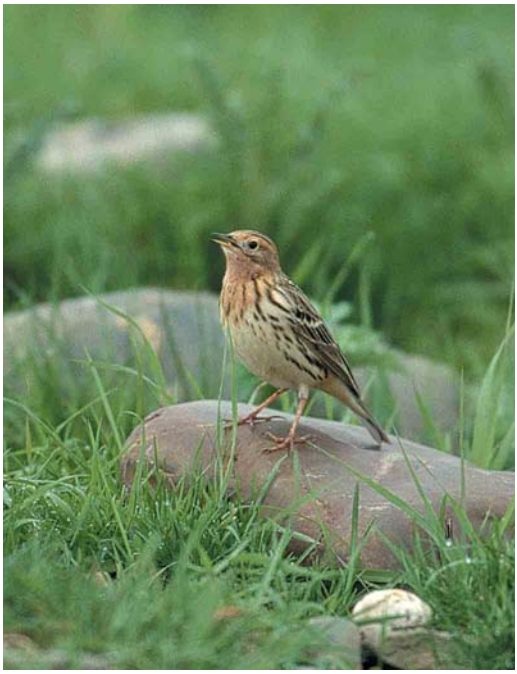
101 Franklins Meeuw / Franklin's Gull *Larus pipixcan*, eerste-winter, Kampen, Overijssel, 19 februari 2000 *(Jan van Holten)*

102 Hop / Eurasian Hoopoe *Upupa epops*, Streefkerk, Zuid-Holland, 9 april 2000
(Marten van Dijl)

Pleisterende **Grote Burgemeesters** *L hyperboreus* verbleven van 4 tot 17 maart in Den Helder (weer de adulte vogel), van 4 maart tot 17 april in Rotterdam, Zuid-Holland, en vanaf 4 maart bij IJmuiden, met tot begin april maximaal drie. Andere bevonden zich op 4 maart bij Camperduin, op 10 maart bij Paesens, Friesland, op 18 maart en op 15 april bij Katwijk aan Zee, op 18 maart bij Scheveningen, Zuid-Holland, op 31 maart en 1 april aan de Zaanse Schans, Noord-Holland, op 10 april bij de vuurtoren van Haamstede, Zeeland, en op 20 april nabij de sluizen van Lauwersoog. Op 19 april trok één **Lachstern** *Gelochelidon nilotica* langs Sint Maarten en Schagen, Noord-Holland, en één over Groningen, en op 24 april trok er één langs de Maasvlakte en was een andere kort aanwezig in de Schokkerhaven, Flevoland. **Reuzensterns** *Sterna caspia* werden waargenomen vanaf 7 april in de Makkumerwaard, Friesland (maximaal twee), op 15 april drie in de Bocht van Molkwerum, Friesland, en op 24 april vier bij de Steile Bank, Friesland. Op 25 april was een **Witwangstern** *Chlidonias hybridus* aanwezig in De Blikken bij Groede en op 27 april maar liefst vier in het Soerendonks Goor, Noord-Brabant. Twee **Witvleugelsterns** *C leucopterus* werden op 26 april gezien in de Reeuwijkse Plassen.

UILEN TOT GORZEN De **Sneeuwuil** *Nyctea scandiaca* die op 8 en 9 maart aan de noordkant en van 10 tot 19 maart aan de zuidkant van de Oostvaardersplassen, Flevoland, verbleef is als het 12e wilde geval voor Nederland geboekt. Op 26 maart werd een **Ruigpootuil** *Aegolius funereus* gehoord in het Bankenbosch bij Veenhuizen, Drenthe. **Alpengierzwaluwen** *Apus melba* waren goed vertegenwoordigd met op 17 april een gefotografeerd exemplaar boven Zoetermeer, Zuid-Holland, en waarnemingen op 20 april over de Vulkaan bij Den Haag, Zuid-Holland, op 22 april bij de IJsselcentrale bij Zwolle, Overijssel, en op 26 april maar liefst twee in Assen, Drenthe. Ook **Hoppen** *Upupa epops* hadden een goed voorjaar: op 3 april bij de Vijfhoek bij Diemen, Noord-Holland, op 4 april in de omgeving van Diepenheim, Overijssel, en bij Apeldoorn, Gelderland, van 8 tot 10 april in Polder Kortenbroek bij Streefkerk, Zuid-Holland, op 9 april langs Camperduin, van 13 tot 16 april bij Engelbert, Groningen, op 17 april langs Breskens en op 23 april bij Heumen, Limburg. De **Draaihals** *Jynx torquilla* die op 23 maart in Nijmegen, Gelderland, dood werd gevonden betreft een vroeg geval. Van een andere voorjaarsprijs, **Kortteenleeuwerik** *Calandrella brachydactyla*, vlogen exemplaren op 25 april langs Breskens en op 26 april over de oostelijke Eemshaven, Groningen. Een **Roodstuitzwaluw** *Hirundo daurica* werd op 26 april bij Katwijk aan Zee gezien. **Grote Piepers** *Anthus richardi* werden gevonden op 14 maart bij De Hors op Texel, op 18 april kort bij Breskens en op 24 april op de Maasvlakte. De eerste **Duinpieper** *A campestris* vloog op 7 april over Meijendel, Zuid-Holland. Vanaf 16 april werden c 20 doortrekkende exemplaren gemeld, uiteraard voornamelijk bij Breskens. **Roodkeelpiepers**

103 Baardgrasmus / Subalpine Warbler *Sylvia cantillans*, Maasvlakte, Zuid-Holland, 27 april 2000 *(Jan den Hertog)*



104 Roodkeelpieper / Red-throated Pipit *Anthus cervinus*, Meers, Limburg, 30 april 2000 *(René van Rossum)*

A cervinus werden gezien op 17 april bij het Zandkes op Texel, op 17 en 18 april bij de Ploeglanderweg op Texel, op 21 april langs Breskens, op 23 april in de Bijland, Gelderland, en twee bij Meers, Limburg, op 25 april op de Maasvlakte en op 29 en 30 april weer één bij Meers. Een adult mannetje **Citroenkwikstaart** *Motacilla citreola* vloog op 10 april langs Breskens. Een **Marokkaanse Kwikstaart** *M subpersonata* werd op 11 april geclaimd tussen Renesse en Burgh-Haamstede, Zeeland. Vooral begin maart trokken 100-en **Rouwkwikstaarten** *M yarrellii* door. Er werden nog **Pestvogels** *Bombycilla garrulus* gezien op 14 maart over de Asbroekerheide bij Roggel, Limburg, op 19 maart bij Groningen en op 25 maart over de oostelijke Eemshaven. De **Waterspreeuw** *Cinclus cinclus* van Park Sonsbeek in Arnhem, Gelderland, bleef tot 2 maart. Op 21 en 22 maart verbleef er één in Groningen en op 6 april één in de AW-duinen, Noord-Holland. De grootste verrassing van de periode was de **Alpenheggemus** die op 16 en 17 april bivakkeerde op de zesde verdieping en het dak van een flat in Den Helder. De vogel (het derde geval voor Nederland) bleef helaas voor vele vogelaars niet lang genoeg. Al op 25 februari werd bij Alphen aan den Rijn, Zuid-Holland, een **Blauwborst** *Luscinia svecica cyanecula* waargenomen. Spectaculair waren de **Rode Rotslijsters** *Monticola saxatilis* die werden gevonden op 25 april bij Wapenveld, Gelderland, en op 27 april op de Maasvlakte. Het betrof het vijfde en zesde geval, respectievelijk een adult en een onvolwassen mannetje. Vooral in de eerste helft van april werden enkele 100-en **Beflijsters** *Turdus torquatus* gemeld. Vanaf 22 april was een zingende **Cetti's Zanger** *Cettia cetti* aanwezig aan het Oostvoornse Meer, Zuid-Holland. Waarschijnlijk was er ook een tweede exemplaar. Een andere werd op 24 april gemeld uit de Ackerdijkse Plassen, Zuid-Holland. Op 29 april werd een **Graszanger** *Cisticola juncidis* zingend waargenomen bij Paal, Zeeland. Het zuidelijke element in april werd ook vertegenwoordigd door **Baardgrasmussen** *Sylvia cantillans*: op 23 en 24 april in de tuintjes bij De Cocksdorp op Texel, op 28 april in de Schoorlse Duinen, Noord-Holland, en op 30 april op de Maasvlakte. **Humes Bladkoningen** *Phylloscopus humei* verbleven tot 14 april bij Oosterend, Terschelling, en van 5 tot 22 maart in Nieuwegein, Utrecht. De laatste brengt het aantal gevallen sinds 25 oktober 1999 op negen. Vermeldenswaard is dat men voor trektelpost Breskens dit jaar de eerste twee **Boomklevers** *Sitta europaea* ooit kon noteren: ze kwamen langs op 3 en 25 april. **Taigaboomkruipers** *Certhia familiaris* werden gemeld op 19 maart bij Castricum, Noord-Holland, op 14 april in Groningen en op 22 april op de Strabrechtse Heide, Noord-Brabant. Op 23 maart werd een **Notenkraker** *Nucifraga caryocatactes* gezien in Alkmaar, Noord-Holland. Een nieuwe plek voor de **Huiskraai** *Corvus splendens* was Schiermonnikoog, Friesland, waar op 20 en 21 maart een exemplaar verbleef bij de Kooiplaats. Aan de Rozendijk op Texel was op 28 april

een adulte **Roze Spreeuw** *Sturnus roseus* te bewonderen. Een **Witbandkruisbek** *Loxia leucoptera* werd op 19 maart gemeld van Ter Borg bij Sellingen, Groningen. Ten slotte werden vanaf 26 april al drie **Ortolanen** *Emberiza hortulana* gezien, waaronder een zingend mannetje op de Maasvlakte.

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België

GANZEN TOT OOIEVAARS Op 4 maart werd weer een adulte **Dwerggans** *Anser erythropus* waargenomen in de Uitkerkse Polders, West-Vlaanderen. Van 12 tot ten minste 26 maart verbleef een adulte van onbekende origine bij Erembodegem, Oost-Vlaanderen. De mogelijke **Hutchins' Canadese Gans** *Branta hutchinsii hutchinsii* van Maaseik, Limburg, werd daar op 2 maart voor het laatst gezien. Er werden 18 **Krooneenden** *Netta rufina* gemeld. Het mannetje **Witoogeend** *Aythya nyroca* bleef tot 14 april present in het Mechels Broek, Antwerpen, en werd daarna op 30 april gezien in Willebroek, Antwerpen. Het mannetje **Ringsnaveleend** *A collaris* werd op 11 april voor het laatst gezien op Blokkersdijk, Antwerpen. Tot 22 februari verplaatste hij zich geregeld naar het Noordkasteel te Antwerpen, Antwerpen, en van 19 tot 21 maart verbleef hij te Zwijndrecht, Oost-Vlaanderen. Het baltsende paar **Brilzee-eenden** *Melanitta perspicillata* van Oostduinkerke, West-Vlaanderen, werd op 5 maart voor het laatst gezien (of gezocht...). Ook **IJseenden** *Clangula hyemalis* bleven goed hangen: het eerste-zomer mannetje van De Gavers te Harelbeke, West-Vlaanderen, bleef aanwezig tot ten minste 22 april, dat van de Oostdam te Heist, West-Vlaanderen, bleef tot 17 maart en het vrouwtje van Roksem, West-Vlaanderen, was aanwezig tot 26 maart. Op deze laatste plaats zwom op 4 maart een tweede vrouwtje. Van 16 tot 26 maart was een mannetje **Amerikaanse Smient** *Mareca americana* aanwezig te Zingem-Semmerzake, Oost-Vlaanderen. Tijdens de eerste dagen had hij gezelschap van een hybride **Amerikaanse Smient x Smient** *M americana x penelope*. Op 26 maart zwom een mannetje Amerikaanse Smient bij Meeuwen, Limburg, en op 2 april een vrouwtje in de Achterhaven van Zeebrugge, West-Vlaanderen. Een mannetje **Blauwvleugeltaling** *Anas discors* was op 18 maart aanwezig te Roksem, en van 19 tot ten minste 26 maart te Oostende-Bredene, West-Vlaanderen. Het gedrag van deze vogel doet sterk vermoeden dat het hier om dezelfde vogel gaat die vorig jaar het gebied teisterde. Van eind maart tot ten minste 27 april pleisterde een adulte **Roodkeelduiker** *Gavia stellata* bij Kalken, Oost-Vlaanderen. Op 4 maart vloog de enige **Parelduiker** *G arctica* van de periode langs Oostende. Verrassend was het **Vale Stormvogeltje** *Oceanodroma leucorhoa* dat op 7 maart langs Lier, Antwerpen, het binnenland doorkruiste. De gehele periode bleven maximaal 10 **Koereigers** *Bubulcus ibis* aanwezig in de buurt van Het Zwin te Knokke, West-Vlaanderen. **Kleine Zilverreigers** *Egretta garzetta* waren constant aanwezig te Lissewege, West-Vlaanderen (maximaal 23 op 14 maart); in Het Zwin (maximaal drie op 9 april); en te Dudzele-Zeebrugge (maximaal drie op 23 maart en 17 april). Verder waren er waarnemingen te Damme, West-Vlaanderen, op 1 maart; in de Uitkerkse Polders tot 15 april; bij de Werf van het Kluizendok te Gent, Oost-Vlaanderen, regelmatig vanaf 13 maart (twee op 24 april); te Harelbeke op 26 maart; te Oudenaarde, Oost-Vlaanderen, op 21 april; te Brecht, Antwerpen, op 23 april; en op Blokkersdijk op 30 april. Er werden 15 **Grote Zilverreigers** *Casmerodius albus* gemeld, waarvan c zes in Limburg, acht in Antwerpen, drie in West-Vlaanderen en één in Oost-Vlaanderen en Luxembourg. De eerste **Purperreiger** *Ardea purpurea* vloog op 7 april over Knokke, waarna nog 12 waarnemingen volgden. **Zwarte Ooievaars** *Ciconia nigra* vlogen over Velm, Limburg, op 25 februari (!) en over Kuringen, Limburg, op 2 april. Op 20 april trok er één over Blokkersdijk, op 28 april één over Zonhoven, Limburg, en op 30 april drie over Rupelmonde, Oost-Vlaanderen. Vanaf begin april waren ook de Waalse broedvogels terug. In totaal werden 77 **Ooievaars** *C ciconia* opgemerkt; de grootste groepen telden zes exemplaren te Gent op 2 april en te Oostende op 22 april.

WOUWEN TOT STERNS Na de eerste **Zwarte Wouw** *Milvus migrans* te Kessel, Antwerpen, op 11 maart volgden in april nog 50 waarnemingen, waaronder drie over Zomergem, Oost-Vlaanderen, op 26 april. In maart werden 12 en in april 27 **Rode Wouwen** *M milvus* gemeld. Een onvolwassen **Aasgier** *Neophron percnopterus* vloog op 30 april over Sint Agatha-Rode, Vlaams-Brabant. In de Viroinvallei tussen Nismes en Olloy-sur-Viroin, Namur, joegen op 20 april twee **Slangenarenden** *Circaetus gallicus*; één daarvan bleef tot ten minste 25 april aanwezig. Op 10 april trok de eerste **Grauwe Kiekendief** *Circus pygargus* over Emblem, Antwerpen, op 24 april trok er één over Brecht en op 30 april één over Gullegem, West-Vlaanderen. Op 16 april trok een **Ruigpootbuizerd** *Buteo lagopus* over het Schietveld te Brecht. In de laatste decade van maart vlogen zes **Visarenden** *Pandion haliaetus* over België en in april kwamen daar nog eens 43 bij. Een melanistisch mannetje **Torenvalk** *Falco tinnunculus* sierde op 2 en 3 april de Werf van het Kluizendok te Gent. Reeds op 24 april werden twee vrouwtjes **Roodpootvalk** *F vespertinus* gezien op de Kalmthoutse Heide, Antwerpen. De volgende dag vloog een paartje over De Zegge te Geel, Antwerpen, op 26 april vloog een adult mannetje over Dudzele en

was er weer een vrouwtje aanwezig te Kalmthout, een mannetje trok op 27 april over Beveren, Oost-Vlaanderen, en een onvolwassen mannetje vloog over Zeebrugge op 29 april. Reeds op 16 maart vloog een **Boomvalk** *F subbuteo* over Aartselaar, Antwerpen. Een **Kwartel** *Coturnix coturnix* riep op 24 april bij Gent. Vanaf half maart werden zeven **Porseleinhoenders** *Porzana porzana* gezien. Tussen 1 en 22 maart trokken 147 **Kraanvogels** *Grus grus* over (vooral Oost-)België. Tussen 2 en 10 april werden er nog eens 50 opgemerkt. Van 2 tot 13 april verbleven maximaal twee **Steltkluten** *Himantopus himantopus* te Latour, Luxembourg, en op 9 april vlogen er twee over Kalken. Op 15 april pleisterden er twee en op 30 april drie in de Achterhaven van Zeebrugge; van 21 tot 24 april twee en op 29 april vier in de Uitkerkse Polders; en op 24 april één te Genappe, Brabant-Wallon. Een **Griel** *Burhinus oedicnemus* was op 11 maart kortstondig aanwezig te Zeebrugge. De geringde vogel die op 23 april in Het Zwin werd gezien, bleek op 23 mei 1999 als jonge vogel geringd te zijn in Suffolk, Engeland. Bij Harchies, Hainaut, werd er één gezien op 28 april. Op 16 maart werd een laag langsvliegende en roepende **Aziatische Goudplevier** *Pluvialis fulva* waargenomen in het Mechels Broek en een adult-zomer was op 29 april kortstondig aanwezig in de Achterhaven van Zeebrugge. Er werden heel wat **IJslandse Grutto's** *Limosa limosa islandica* gezien dit jaar; een absoluut record betrof de groep van 74 in de Uitkerkse Polders op 21 april. Vroeg was de **Poelruiter** *Tringa stagnatilis* die op 22 maart bij Gent liep. Op 19 februari vloog een **Middelste Jager** *Stercorarius pomarinus* langs Raversijde, West-Vlaanderen, en op 4 maart een **Grote Jager** *S skua* langs Oostduinkerke. De eerste-winter **Kleine Kokmeeuw** *Larus philadelphia* werd op 11 april nog gezien bij de Oostdam te Heist. Op 12 maart pleisterde kortstondig een vrij zekere eerste-winter **Amerikaanse Zilvermeeuw** *L smithsonianus* in de haven van Oostende. Op 9 maart werd een eerste-winter **Kleine Burgemeester** *L glaucoides* gezien te Harelbeke. Op 16 en 17 april liet een andere eerste-winter zich goed fotograferen op het strand van Nieuwpoort-Oostduinkerke, West-Vlaanderen; vanaf 29 april werd deze vogel gezien te Middelkerke en Raversijde. Verrassend was de aanwezigheid van twee exemplaren in tweede zomerkleed in de haven van Oostende op 22 en 23 april; één van deze vogels verbleef vervolgens vanaf 29 april in de Voorhaven van Zeebrugge. De Oostendse adulte **Grote Burgemeester** *L hyperboreus* bleef daar tot 26 maart. Eerste-winters verbleven te Heist-Zeebrugge op 4, 8 en 26 maart en 7 en 15 april; tweede-winters werden daar gezien op 2 april en een derde-winter op 14 april. Nog een eerste-winter/zomer werd op 17 april gezien te Nieuwpoort en op 22 en 23 april te Oostende-Mariakerke. Een eerste-zomer verbleef vanaf 29 april te Raversijde. Een **Lachstern** *Gelochelidon nilotica* trok op 30 april over Knokke. Hier vloog op 9 april ook een **Reuzenstern** *Sterna caspia* langs. Een **Witwangstern** *Chlidonias hybridus* was vanaf 30 april aanwezig bij Tessenderlo, Limburg.

ALKEN TOT GORZEN Op 12 april werd een dode ongeringde **Oehoe** *Bubo bubo* aangetroffen in een bos bij Kinrooi, Limburg. De kans is groot dat het hier om één van de Nederlandse vogels gaat. Een vroege **Bijeneter** *Merops apiaster* vloog op 22 april traag langs Lier en op 25 april werd er één gezien te Rochefort, Luxembourg. Van 6 tot 8 april verbleef een **Hop** *Upupa epops* te Mons, Hainaut. Bij Bazel, Oost-Vlaanderen, was er één op 15 april; te Kallo, Oost-Vlaanderen (mogelijk dezelfde) op 18 april; en te Rochefort-en-Ardenne, Luxembourg, op 20 april. De eerste **Draaihals** *Jynx torquilla* verscheen op 19 april te Nassogne, Luxembourg, op 21 april werd er één opgemerkt te Blankenberge, West-Vlaanderen, en op 24 april één te Kalken. Op 12 maart werden twee **Grote Piepers** *Anthus richardi* ontdekt te Zeebrugge, welke bleven tot 24 april; op 24 april trok er ook één over Knokke. De eerste **Duinpieper** *A campestris* werd op 22 april gezien bij Nismes; op 23 en 24 april waren er twee te Zeebrugge; op 24 april vijf te Oostmalle, Antwerpen, en één te Kalmthout; en op 27 april één te Bilzen, Limburg. Op 18 maart stootte men een zeer vroege **Roodkeelpieper** *A cervinus* op te Gent (deze vogel bleef aanwezig tot ten minste 24 april), op 16 april trok er één over Brecht, op 24 april werd er één gezien bij Velm en op 29 april vloog er één over Knokke. Vanaf 1 april kwam de trek van **Engelse Kwikstaarten** *Motacilla flavissima* op gang. Vanaf 3 april werden in totaal 126 **Beflijsters** *Turdus torquatus* opgemerkt. Een **Cetti's Zanger** *Cettia cetti* zong op 21 april te Zeebrugge. Vanaf 10 maart werden geregeld maximaal drie **Graszangers** *Cisticola juncidis* gezien op de CTO-vlakte te Zeebrugge; op 9 april was er één aanwezig bij Distrigas. Vanaf 21 april werden er weer twee gezien te Dudzele-Zeebrugge en op 15 april één te Oudenburg, West-Vlaanderen. Te Zeebrugge werd op 27 april kortstondig een **Bergfluiter** *Phylloscopus bonelli* waargenomen. Bij Knokke zong op 11 februari een **Taigaboomkruiper** *Certhia familiaris.* Vanaf 22 maart werden in totaal 14 **Buidelmezen** *Remiz pendulinus* gemeld. Er werden in april zeven **Ortolanen** *Emberiza hortulana* opgemerkt. Een **IJsgors** *Calcarius lapponicus* pleisterde op 18 maart te Dudzele-Zeebrugge.

Deze waarnemingsrubriek kwam tot stand met medewerking van Yves Baptiste (Harelbeke), Luc Bekaert (Oost-Vlaanderen), Peter Collaerts en Maarten Hens (Vlaams-Brabant), Frank De Scheemaeker (Mergus), Hugues Dufourny (Hainaut), Koen Leysen (Limburg) en Willy Verschueren (Groenlink). Ook de hulp van al diegenen die (hun) waarnemingen inspraken op de Wielewaal-vogellijn (03-4880194) was hier onontbeerlijk.

Gerald Driessens, Pastoriestraat 16, 2500 Lier, België

DB Actueel

Alpenheggenmus beklimt flat in Den Helder De avond van zondag 16 april 2000 bracht Christophe Brochard door bij zijn vriendin Marije Erkelens aan de Hendrik Baskerweg te Den Helder, Noord-Holland. Toen CB rond 20:15 vanuit zijn stoel uit het raam staarde, viel zijn oog op een zangvogel die minder dan twee meter bij hem vandaan op de galerij zat. De vogel had roodbruine flanken en een blauwgrijze kop met een lichte keel. CB herkende de vogel direct als Alpenheggenmus *Prunella collaris*. Hij waarschuwde ME en samen bekeken ze de vogel van zeer nabij zonder verrekijker. Na twee minuten vloog de vogel naar het dak om vervolgens uit zicht te verdwijnen. CB kende Alpenheggenmus als een vogel van het hooggebergte. Hij besefte onmiddellijk dat de waarneming van deze soort op de zesde verdieping van een flatgebouw in Den Helder heel bijzonder was. De volgende ochtend sprak hij het nieuws in op de Dutch Birding-vogellijn.

Maandag 17 april werd de waarneming omstreeks 12:30 per semafoon als 'vrij zeker' doorgegeven. De zoekactie die hierop volgde bleef urenlang zonder resultaat. Om 18:30 arriveerde Roy Slaterus op de plek. De meeste belangstellenden waren toen alweer vertrokken. Alleen Bart Brieffies en Co van der Wardt waren nog aanwezig. Even later keerden ook zij huiswaarts en bleef RS zonder hoge verwachtingen achter. Groot was dan ook de opwinding toen om 19:15 de Alpenheggenmus vanuit noordelijke richting roepend kwam aanvliegen. De vogel landde op de dakrand van het flatgebouw en de determinatie kon worden bevestigd. De rest van de avond kon de Alpenheggenmus door ongeveer 40 toegesnelde vogelaars worden bewonderd. Bij het invallen van de duisternis ging de vogel slapen in een hoekje van de galerij op de zesde verdieping. Ondanks intensief zoeken werd de vogel de volgende dag niet meer aangetroffen.

Deze waarneming betekent het derde geval voor Nederland. Eerdere gevallen waren van 16 tot 18 april 1986 te Groningen, Groningen, en op 27 mei 1986 op Terschelling, Friesland. Roy Slaterus & Christophe Brochard

Alpine Accentor On 16-17 April 2000, an Alpine Accentor *Prunella collaris* was seen on an eight-floor apartment building at Den Helder, Noord-Holland. The bird was feeding at the edge of the roof and along the galleries and went to roost on the gallery of the 7th floor. This is the third record for the Netherlands; the first two were both in spring 1986.

Zeldzaamheden in eerste week van mei De influx van soorten uit de Alpen en verder zuidelijk die in de laatste twee weken van april 2000 zoveel goede soorten opleverde, zette ook in de eerste dagen van mei door. Op maandag 1 mei werd de zesde Alpengierzwaluw *Apus melba* van dit voorjaar door Aart Vink gezien boven de Deelense Was op de Hoge Veluwe, Gelderland. Eveneens op 1 mei werd de tweede Alpenheggenmus *Prunella collaris* binnen een korte periode ontdekt en wel door Guido Meeuwissen op Terschelling, Friesland. Dit was tevens de tweede waarneming voor dit eiland en de vierde voor Nederland. Door slechte waarnemingsomstandigheden duurde het even voordat er voldoende zekerheid was maar op 3 mei werd het nieuws breed verspreid en op 4 mei trok de vogel veel belangstellenden. Die konden daarmee eerder dan verwacht een herkansing kregen voor de nauwelijks twitchbare vogel van Den Helder, Noord-Holland. Op dezelfde dag werd een mannetje Rode Rotslijster *Monticola saxatilis* gevonden door Ruud van Beusekom bij Blaricum, Noord-Holland. Dit betrof alweer de derde melding van deze soort in april-mei. Dezelfde middag werden twee Alpengierzwaluwen gemeld over de A1 bij Muiderberg, Noord-Holland, en ontdekte Pieter van Eijk de derde Amerikaanse Wintertaling *Anas carolinensis* van dit voorjaar te Spaarndam, Noord-Holland. Op 5 mei veranderde het beeld en voerden opeens steltlopers de boventoon, met waarnemingen van Breedbekstrandloper *Limicola falcinellus* (Den Oever, Noord-Holland), Grote Grijze Snip *Limnodromus scolopaceus* (Spoordonk, Noord-Brabant) en Terekruiter *Xenus cinereus* (Steenwaard, Utrecht). Zoektochten naar aanleiding van de melding van een Oostelijk Blonde Tapuit *Oenanthe melanoleuca* bij Oldenzaal, Overijssel, op diezelfde dag leverden geen succes op. Op 6 mei beleefde vogelend Nederland een van de drukste 'pieperdagen' uit de geschiedenis, met c 25 semafoonberichten. Meest opmerkelijk was de Dwergaalscholver *Microcarbo pygmeus* die 's avonds enige tijd goed werd gezien rondvliegend boven het Ringselven bij Budel-Dorplein, Noord-Brabant (indien aanvaard de derde voor Nederland binnen anderhalf jaar tijd). Verder werden maar liefst vier vrouwtjes-type Steppekiekendieven *Circus macrourus* gemeld, verspreid over het land en helaas geen van alle langdurig ter plaatse. Daarnaast werden ook nog twee Dwergarenden *Hieraaetus pennatus* gemeld. Zondag 7 mei was eveneens een drukke dag, met de vierde (op Vlieland, Friesland) en vijfde (op Terschelling) Baardgrasmus van het voorjaar, de tweede Terekruiter, ditmaal bij het Balgzand en Den Oever, Noord-Holland, wederom een melding van een Dwergarend, een Steppevorkstaartplevier *Glareola nordmanni* in Flevoland, een groep van 17 Witwangsterns *Chlidonias hybridus* in Zuid-Limburg en ten slotte een mogelijke Balkankwikstaart *Motacilla feldegg* als publiekstrekker in Katwijk aan Zee, Zuid-Holland. Deze laatste vogel bewees vooral hoe lastig het onderscheid met Noordse Kwikstaart *M thunbergi* is, zelfs onder goede waarnemingsomstandigheden. De foto's en video-opnamen zullen het laatste woord moeten zeggen maar naarmate de dag verstreek durfden weinig vogelaars hun geld nog te zetten op Balkankwik… Enno B Ebels

Early May rarities The first week of May 2000 produced records in the Netherlands of Alpine Swift *Apus melba* (one on 1 May and two together on 4 May), Alpine Accentor *Prunella collaris* (1-4 May, twitchable on the last day), Rufous-tailed Rock Thrush *Monticola saxatilis* (4 May), Green-winged Teal *Anas carolinensis* (4-5 May), Broad-billed Sandpiper *Limicola falcinellus* (5 May), Long-billed Dowitcher *Limnodromus scolopaceus* (5 May) and Terek Sandpiper *Xenus cinereus* (singles on 5 and 7 May), an unconfirmed report of Eastern Black-eared Wheatear *Oenanthe melanoleuca* (5 May), a Pygmy Cormorant *Microcarbo pygmeus* (briefly seen on 6 May), three Booted Eagles *Hieraaetus pennatus* (two on 6 May and one on 7 May, none lingering), four 'ringtail' Pallid Harriers *Circus macrourus* (all on 6 May, none lingering), a Black-winged Pratincole *Glareola nordmanni* (7 May), a group of 17 Whiskered Terns *Chlidonias hybridus* (7 May), two Subalpine Warblers *Sylvia cantillans* (both on 7 May) and a much disputed possible Black-headed Wagtail *Motacilla feldegg* (7 May).

Aankondigingen & verzoeken

Autumn Migration Survey of Soaring Birds in Israel The Israel Ornithological Center (IOC) is inviting experienced birdwatchers to participate in the Autumn Migration Survey of Soaring Birds in Israel during August-October 2000. This annual event has attracted birdwatchers from around the world to observe the 100 000s of raptors, storks and pelicans that migrate over Israel. The IOC will fund food and lodging for those birdwatchers willing to participate in the survey for a period of at least four weeks. Travel expenses to and from Israel are to be covered by the participant. Those interested are requested to send a relevant curriculum vitae including details of their previous experience to: Israel Ornithological Center, Society for the Protection of Nature in Israel (SPNI), Atidim Industrial Park PO Box 58020, Tel-Aviv, 68101 Israel, telephone +972-36449622, fax +972-36449625, e-mail ioc@netvision.net.il. Please also state the period you will be available.

Request for sound-recordings of crossbills The work on crossbill *Loxia* vocalizations, described in the current issue of Dutch Birding, needs to be broadened to cover all crossbills of the Palearctic and the Oriental regions. Hopefully, the article will stimulate many birders to pay more attention to crossbill vocalizations both at home and on their travels, and to document their observations with sound-recordings. In order to continue the work presented in the article, it is clearly very important to collect as many recordings as possible. In particular, recordings from the Black Sea and Mediterranean regions (especially, northern Africa, the Caucasus, Corsica, the Crimea, southern Italy, Spain and Turkey) and any recording from the Eastern Palearctic and Oriental regions are needed. Recordings from other areas (including north-western Europe) will also be very much appreciated. These recordings will help to improve the understanding of variation in crossbill vocalizations as well as providing information about the distribution (both geographical and temporal) of vocal types. If desired, I will send a commentary on the recordings, identifying the vocal type or (sub)species if I am able to! When sending recordings, it is important to send as much accompanying documentation as possible. Particularly valuable information is: date, time and location; sex and age of birds recorded; behaviour observed; presence of any raptor, corvid or other predator; and any conifer species the birds were seen to feed on. Recordings with only part of this information, as well as poor quality recordings, can also be very helpful. Please state whether you approve of copies being made of the recordings sent and whether you grant permission for sonagrams of them to be published. All references to and sonagrams of recordings sent will of course be acknowledged as appropriate. No actual recordings will be used in future CDs or similar publications without asking permission of the sound-recordist. Please send recordings on CD, DAT, MiniDisc, cassette or other media to: Magnus S Robb, Barentszstraat 126, 1013 NS Amsterdam, Netherlands (e-mail: robb@chello.nl). All materials will be returned after use, unless you specifically state that this is not required. Magnus S Robb

Photographs of seabirds and wildfowl in flight For a new book 'Flight identification of European seabirds and wildfowl', which will be published by Pica Press, we still need colour photographs. Despite having already received over 4000 photographs, we require more of some species, subspecies or plumages according to the list below. We prefer to use photographs conveying the feel of the birds in their correct environment, eg, a shearwater or skua over a stormy sea, rather than a razor-sharp picture. All illustrations of *flying* individuals are, however, welcome and can be valuable even if they are not published. Unless stated otherwise, photographs of all plumages are requested. Photographs will be taken well care of and of course returned. Please mark the slides with your name, when and where the picture was taken and, if known, subspecies and age.

Geese and ducks
Lesser White-fronted Goose *Anser erythropus;* Pale-bellied Brent Goose *Branta hrota*; Black Brant *B nigricans*; Egyptian Goose *Alopochen aegyptiacus*; Ring-necked Duck *Aythya collaris*; Greater Scaup *A marila*; Lesser Scaup *A affinis*; Ruddy Duck *Oxyura jamaicensis*; White-headed Duck *O leucocephala*; Harlequin Duck *Histrionicus histrionicus*; Barrow's Goldeneye *Bucephala islandica*; and Hooded Merganser *Lophodytes cucullatus*.

Loons
Red-throated Loon *Gavia stellata* (juvenile, adult-winter & adult-summer, showing upperparts); Black-throated Loon *G arctica* (juvenile, adult-winter & adult-summer, showing upperparts); Great Northern Loon *G immer*; and White-billed Loon *G adamsii*.

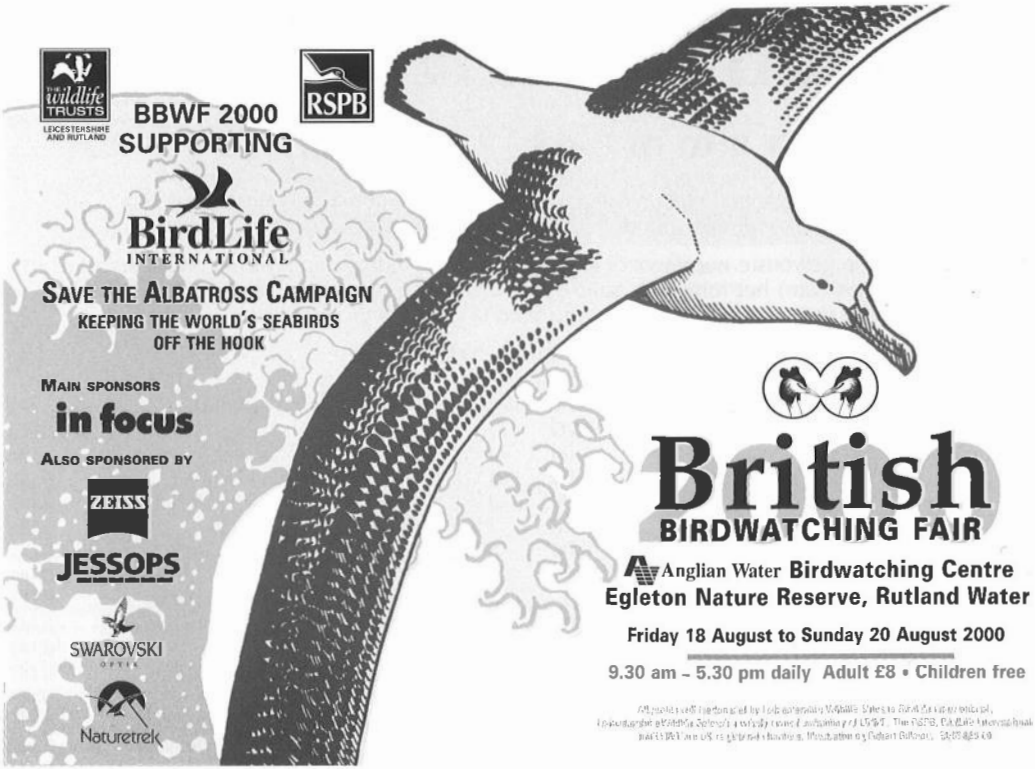
Grebes
Little Grebe*Tachybaptus ruficollis*; Great Crested Grebe *Podiceps cristatus* (juvenile & adult-winter); Red-necked Grebe *P grisegena* (juvenile & adult-winter); and Black-necked Grebe *P nigricollis*

Shearwaters and petrels
Balearic Shearwater *Puffinus mauretanicus*; Little Shearwater *P assimilis*; and Madeiran Storm-petrel *Oceanodroma castro*

Jaegers. gulls and terns
Pomarine Jaeger *Stercorarius pomarinus* (juvenile); Franklin's Gull *Larus pipixcan* (juvenile & immature); Sabine's Gull *L sabini* (first-winter, immature & adult-winter); Mew Gull *L canus* (juvenile, first-winter & second-winter); American Herring Gull *L smithsonianus* (immature & adult); Kumlien's Gull *L glaucoides kumlieni*; Thayer's Gull *L g thayeri*; Ross's Gull *Rhodostethia rosea* (first-winter); Forster's Tern *Sterna forsteri* (juvenile & first-winter); and Sooty Tern *S fuscata* (juvenile & immature)

Auks
Atlantic Murre *Uria aalge* (winter plumage); Brünnich's Murre *U lomvia* (winter plumage); Razorbill *Alca torda* (winter plumage); Black Guillemot *Cepphus grylle* (first-summer & adult-winter); and Atlantic Puffin *Fratercula arctica* (juvenile & adult-winter, flock)

Please send your slides or direct your queries to: Anders Blomdahl, Aldervägen 2, 372 92 Kallinge, Sweden, e-mail ablomdahl@ebox.tninet.se. Anders Blomdahl, Bertil Breife & Niklas Holmstrom



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