Identification of vagrant Iberian Chiffchaffs – pointers, pitfalls and problem birds

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ABSTRACT Records of Iberian Chiffchaff *Phylloscopus ibericus* in northern Europe are increasing. At the time of writing, all British records have been singing males. In this paper, we present sonograms of some accepted and potential Iberian Chiffchaffs from Britain. The characteristics of Iberian Chiffchaff song that can be used for identification of vagrants are reviewed. A record of a bird at Skelmersdale, Lancashire, in 2004, is thought unlikely to have been an Iberian Chiffchaff, but another bird, a mixed singer at Dibbinsdale, Merseyside, also in 2004, may be acceptable. The vocalisations of an accepted Iberian Chiffchaff in Oxfordshire in 2000 are now considered not to be absolutely typical. A problematic bird at Lavenham, Suffolk, in 2007 is also discussed and thought not to be acceptable.

Introduction

The Iberian Chiffchaff *Phylloscopus ibericus* (formerly *P. brehmii*), a relatively recent split from Common Chiffchaff *P. collybita* (Helbig *et al.* 1996; Clement & Helbig 1998; BOU 1999), has a breeding range limited almost entirely to the Iberian Peninsula (fig. 1).

Morphology

There are small but diagnostic differences in plumage and biometrics between the two species, as well as a tendency for different habitat preferences and a high degree of genetic divergence (4.6% at the mitochondrial-DNA level, indicating a long period of evolutionary separation) (Helbig *et al.* 1996, 2001; Salomon 1997). Iberian Chiffchaffs, especially northern populations, tend to have longer, more pointed wings than Common Chiffchaffs (giving them a more Willow Warbler *P. trochilus*-like wing structure). Iberian Chiffchaffs also have cleaner white underparts with a noticeably yellow throat and vent, and a subtly brighter green mantle than Common Chiffchaffs (Salomon 1997; Salomon *et al.* 2003; Slaterus 2007). Other supportive features (statistical tendencies rather than diagnostic traits) are reported to include: a longer tail, a lemon-yellow wash to the supercilium in front of the eye, a yellow bill-base and a less obvious eye-ring (owing to the strong supercilium and plain pale ear-coverts) that is thicker above the eye than below (Richards 1999; Slaterus 2007). The legs of Iberian Chiffchaff are generally, though not always, dark brown. Iberian Chiffchaff has been reported to have a longer supercilium than Common, but there is enough variation in both species to make this feature unreliable for identification.

On current knowledge, geographic and individual variation within both Common and Iberian Chiffchaffs suggests that identification of a silent migrant remains a significant challenge and is likely to be virtually impossible in the field. Northern populations of Iberian Chiffchaffs are biometrically distinct from southern populations of Common Chiffchaffs on the basis

of wing size and shape, and tarsus and bill length (Salomon 1997, 2002). However, southern populations of Iberian Chiffchaffs have shorter, less pointed wings than northern birds, while northern Common Chiffchaffs *P. c. abietinus* have long wings similar to southern Iberian Chiffchaffs (Salomon 2002). So although some vagrant Iberian Chiffchaffs may be structurally distinctive, others, especially from southern populations, will not be. In fact, all the 'distinctive' plumage and structural features of Iberian Chiffchaff overlap with Common Chiffchaff and require extremely careful description. In any case, they are so subtle that, in the context of a rarity report based on field observations, they are likely to be sufficiently dependent on light conditions and the expectations and perhaps the imagination of the observer as to be almost totally subjective. For example, there is a popular misconception that Iberian Chiffchaff has a longer bill than Common Chiffchaff, and observers of extralimital Iberian Chiffchaffs in northern Europe have reported them as having long bills (Slaterus 2007; this paper). However, biometrics show that the bill length of Iberian Chiffchaff is virtually identical to that of Common Chiffchaff and, if anything, is shorter. The bill is, however, often described as 'spikey', perhaps implying a narrower bill-base.

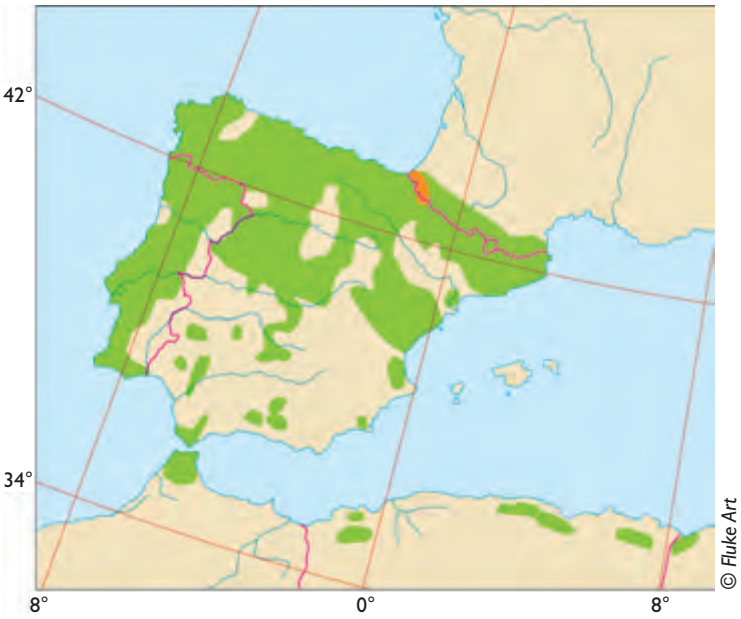

Fig. 1. Breeding range of Iberian Chiffchaff *Phylloscopus ibericus* (green shading), adapted from the map in BWPi (BirdGuides Ltd). The range of Iberian Chiffchaff overlaps that of Common Chiffchaff *P. collybita* and has been intensively studied in a narrow, 20-km zone in the western Pyrénées around the France/Spain border, where the two species hybridise (shaded in orange). The most recent data on breeding distribution of Iberian Chiffchaff in Spain is published in Martí & del Moral (2003). The map presented here may require modification, and the extent of the regular zone of overlap between the two species is not fully known.

Voice

Fortunately, Iberian Chiffchaff has diagnostic songs and calls, which are discussed in detail below. All extralimital birds identified in Britain and The Netherlands have been singing males in spring (Slaterus 2007). Other age and sex classes are clearly being overlooked, although females and autumn migrants could perhaps be expected to be identifiable by their calls.

Hybridisation

The ranges of Common and Iberian Chiffchaffs overlap in a narrow, 20-km zone in the western Pyrénées around the France/Spain border (fig. 1), and the two species hybridise. This is probably a secondary contact zone following range expansion after a period of isolation from each other (Salomon 1989, 2001). Although most birds within this overlap zone are assignable to one species or the other, around 24% of all breeding pairs can be shown by molecular and morphological analysis to be mixed pairs, almost exclusively male *ibericus* with female *collybita* (Helbig *et al.* 2001; Bensch *et al.* 2002). Some birds appear to be intermediates, i.e. possessing one species' genes but emitting the vocalisations of the other species, and 8.6% of birds are mixed singers, giving song bursts that consist of elements of songs from both species (Salomon & Hemim 1992; Salomon 1997; Bensch *et al.* 2002). All these are usually taken as signs of hybrid origin. Although successful hybridisation, leading to viable recruits to the population, is difficult to prove (Salomon 1987; Helbig *et al.* 2001), it has been inferred – 10%

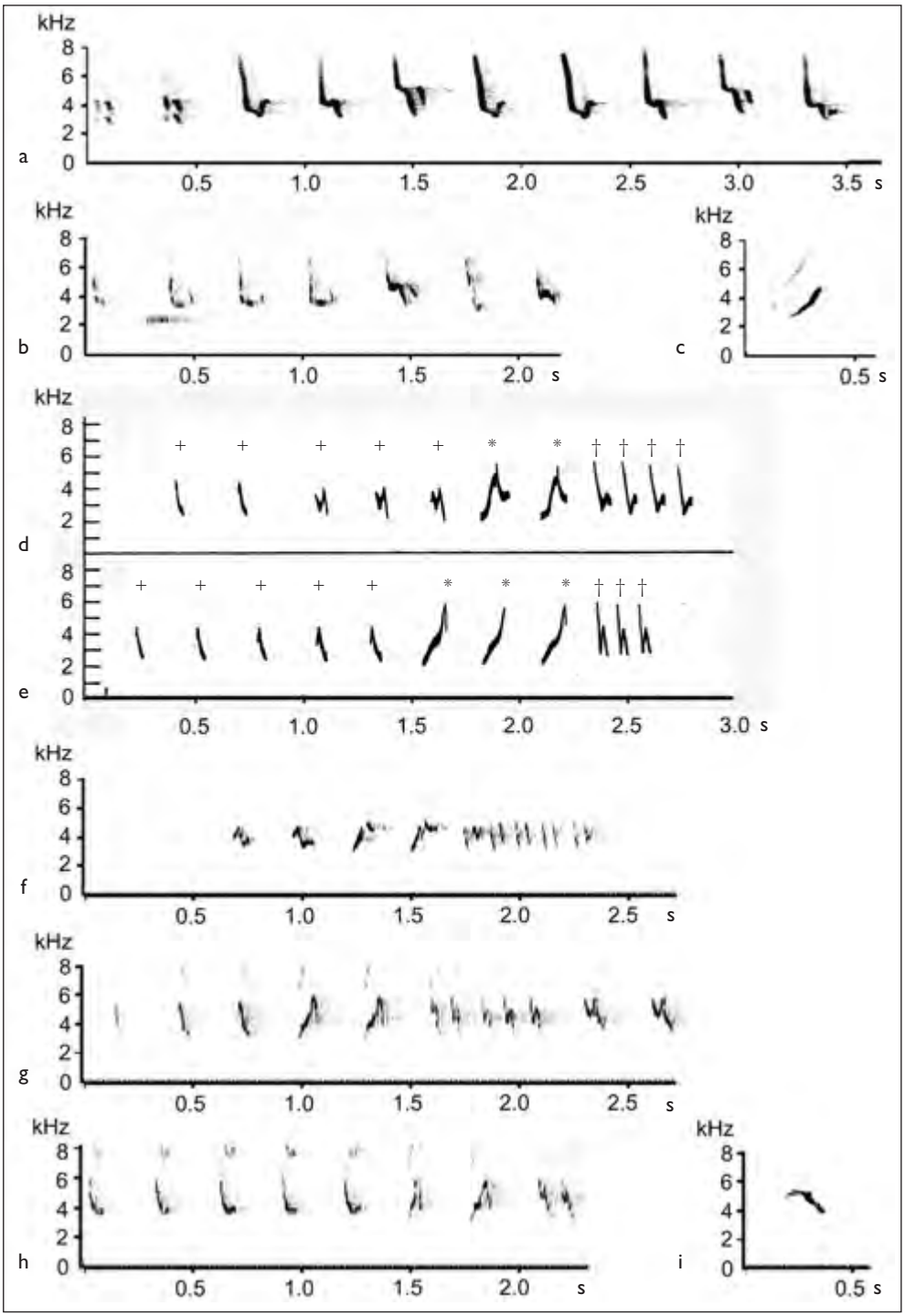

Fig. 2. Songs and calls of Common *Phylloscopus collybita* and Iberian Chiffchaffs *P. ibericus*.
(a, b) Advertising songs of Common Chiffchaff.
(a) Fragment of the advertising song of Common Chiffchaff. Sonogram created from song recorded in Schulze & Dingler (2007). This song may be transcribed as 'prp prp chaff chaff chiff chaff chaff chaff chiff chaff'. Frequency range 3–8 kHz. The shoulder of the 'chiff' notes is at 5–5.5 kHz, and of the 'chaffs' at around 4 kHz, although there is individual variation. (b) Advertising song of Common Chiffchaff, Britain, June 1976. Sonogram created from song

of birds within the contact zone show genetic evidence of a hybrid origin (Bensch *et al.* 2002). Nevertheless, hybridisation is not 'the norm' – and it can be inferred that (mostly) assortative mating and reduced fitness of female hybrids is preventing the two species from merging (Helbig *et al.* 2001). The two taxa have been studied intensively as an example of speciation in action (Salomon 2001).

Mixed singers have also been recorded from the breeding range of Iberian Chiffchaffs outside the hybrid zone, in Portugal and Gibraltar (Thielcke & Linsenmair 1963; Salomon 1997; Bensch *et al.* 2002), where a direct hybrid origin, though not impossible, is less likely. For the identification of a singing putative Iberian Chiffchaff in northern Europe, therefore, the issues to be addressed are:

- How to distinguish a bird with true Iberian Chiffchaff parentage from a Common Chiffchaff with an aberrant song.
- How to demonstrate whether a bird is a mixed singer.
- Should mixed singers be written off as hybrids?

The purpose of this paper is to publish sonograms of known Iberian Chiffchaffs, to reiterate some of the potential variation and diagnostic features in the song. Extralimital birds identified as Iberian Chiffchaff in Britain are included. We also comment on the identification of three chiffchaffs with putative Iberian-type songs, recorded in Britain in 2004 and 2007.

Methods and Results

Analogue or digital recordings of the individual chiffchaffs were obtained, and converted to .wav files. Initially, sonograms were produced using Avisoft-SASLab Light (www.avisoft.com/downloa_.htm), latterly superseded by Syrinx (developed by John Burt and available from http://syrinxpc.com/).

The advertising song of Common Chiffchaff is familiar to most European birders, but that of Iberian Chiffchaff is less well known outside its restricted geographic range.

Common Chiffchaff

The elements of the song of nominate Common Chiffchaff are comparatively invariant (Thielcke & Linsenmair 1963). There are three or four standard notes, representing different frequencies of 'chiffs' and 'chaffs'. On the other hand, there is considerable variation in the order, sequence and length of song elements among Common Chiffchaffs. The song is long (typically more than 4 s), metronomic and relatively simple, with frequency range 3–8 kHz. Typically, the 'shoulder' of the 'chiff' notes is at 5–5.5 kHz, and that of the 'chaffs' at around 4 kHz, as shown in fig. 2a. Although the song elements in fig. 2a are complex, these song elements may be sung in simpler form, probably indistinguishable by ear under most field conditions but, in sonograms, lacking a strong terminal flourish ('dog-legs') as in fig. 2b. The call is an upwardly inflected 'huit' rising from about 2.5 to 4.5 kHz (fig. 2c).

Iberian Chiffchaff

In the context of spring vagrancy, Iberian Chiffchaff has two major song types: an advertising song used by males trying to attract a mate and a conflict song used primarily during antagon-

recorded in Kettle & Ranft (1992). In comparison with (a), note the simpler form of most of the song elements. Although the differences are obvious on paper, it would take a keen ear to hear the difference in the field. This song would be transcribed as 'chaff chaff chaff chaff chiff djip chup'. Notes 1–4 ('chaffs') are the simple form of the 'reverse tick' element that is shared with Iberian Chiffchaff.

(c) Common Chiffchaff, call. A rising 'huit' from about 2.5–4.5 kHz.

(d–h) Advertising songs of Iberian Chiffchaff.

(d, e) Two songs adapted from Thielcke & Linsenmair (1963). The songs are typically divided into three or four distinct phases, but are nevertheless short (2–3 s). The songs (d) and (e) look very different as sonograms, but in the field they would both be transcribed roughly as 'djip djip djip djip djip, wheep wheep (wheep) ch ch ch (ch)'. The frequency range is 3–6 kHz, in contrast to Common Chiffchaff song. (f) A classic short, three-phase example prepared from recording in Roche (2003). 'Chop chop wheep wheep chuckachuckachuckachucka'. The frequency range is 3–6 kHz and mostly below 5.5 kHz. (g, h) Sonograms of two songs prepared from recordings in North & Simms (1969). The four-phase song in (g) may be transcribed as 'djip djip djip wheep wheep chachachachacha awhip awhip'. The frequency range is again 3–6 kHz and mostly below 5.5 kHz. The similarity with figs. IV and V in Cramp (1992) is striking. (h) An alternative song of the same bird as in (g). The song may be transcribed 'chaff chaff chaff chaff chaff wheep wheep dji dji'. Notes 1–5 are the 'reverse tick' element shared with Common Chiffchaff (cf. fig. 2b). In the case of this individual, the frequency range creeps up to 8 kHz and, together with the delivery of a long four-phase song in (g), it may be possible to assert that the bird is a mixed singer, although it is probably just showing the range of possible variation in Iberian Chiffchaff song.

(i) Iberian Chiffchaff call. A diagnostic descending 'peeoo'.

istic interactions with other males. The same is true of Common Chiffchaff, although in that species the advertising and conflict songs are virtually identical. The conflict song of Iberian is very similar to that of Common but the advertising song is more variable and contains song elements not used by Common Chiffchaff.

The frequency range of the song is about 3–7 kHz, with most of the song being below 6 kHz. Typically, the song will be shorter than that of Common Chiffchaff (< 4 s, and very frequently < 3 s) and contain about nine notes grouped in phases, or sections of homogeneous notes or sounds (Niethammer 1963; Thielcke & Linsenmair 1963). The classic 'three-phase' advertising song may be described as 'djup djup djup wheep wheep chittichittichittichitta', although there is individual variation in the number of elements in each phase of the song, and the shape (in sonograms) of the notes within each phase of the song. The differences from Common Chiffchaff should always be demonstrable using sonograms (Salomon & Hemim 1992). Some of the key elements and variation in this song are exemplified by figs. 2d–h. The 'backslash', labelled + in figs. 2d & 2e, and the small 'lightning forks', labelled †, are both variations of a tinny, clipped 'djup' that is rather similar to that of Common Chiffchaff, though distinguishable by ear. The inverted 'V' or 'forward slash', labelled *, towards the middle of these songs represents the audible 'wheeps' that form a distinctive and diagnostic element of Iberian Chiffchaff song. Note, however, the variation. Upwardly inflecting notes that have the accent on the upward slope are completely unlike anything produced during song by *collybita*, and are rendered 'jeee'. Those with a strong downward component too, such as in fig. 2d, have a stronger ending and may be described 'jeeep' or even 'djiip', and may be less audibly distinctive. The final three or four elements in each song are the slow rattle 'chachachacha' or 'chittichittichittichitta'– the shape of these elements is also very variable. The 'reverse ticks' shown in the last four song elements of fig. 2d are typical, but variations on these are common, as will be seen below. A sonogram of Iberian Chiffchaff from Roche (2003) illustrates these points (fig. 2f). This song is typical – there are two quiet 'chaffs' (the faint backslashes) then, loud, 'chop chop wheep wheep chuckachuckachuckachucka'. Note the frequency range: 3–6 kHz and mostly below 5.5 kHz. Sonograms of recordings from North & Simms (1969) show further patterns of variation (figs. 2g & 2h).

The call, in sharp contrast to that of Common Chiffchaff, is downwardly inflected, from 5 to 3 kHz, transcribed as 'piu' or 'peeoo', perhaps reminiscent of the call of Siskin *Carduelis spinus*. In the context of identifying a strange chiffchaff, it most resembles the flatter 'sad' call of 'Siberian Chiffchaff' *P. c. tristis/ 'fulvescens'*. Most birders in northern Europe are aware that autumn juvenile *P. c. collybita* and *P. c. abietinus* can produce a surprising variety of begging and anxiety calls that may sound similar to Iberian Chiffchaff call. In a sonogram, the convex downward slope of an Iberian call should be diagnostic (fig. 2i).

Mixed singers

As described above, the conflict song of Iberian Chiffchaff, given in response to, for example, a rival male, is very similar to the familiar 'chiff chaff chiff chaff' of Common Chiffchaff. The definition of 'mixed singer' is reserved for those birds that use song elements characteristic of both Iberian and Common Chiffchaff *within a single advertising song*. Mixed singers are relatively frequently recorded in the zone of overlap between the two species in the western Pyrénées, and are usually considered to be of hybrid origin (but see Discussion, below). These birds might sing songs similar to those of *collybita* or *ibericus*; more than three song motifs in an 'Iberian' song may be a clue that the bird is a mixed singer (Salomon & Hemim 1992; Marc Salomon pers. comm.), and any Iberian-type chiffchaff habitually singing songs more than four seconds long is suspect.

Iberian Chiffchaffs and 'problem birds' occurring in Britain

The first accepted record of Iberian Chiffchaff in Britain was a singing bird recorded by J. H. Wood and L. A. Batten at Brent Reservoir, Greater London, on 3rd June 1972. The occurrence was documented by Batten (2000), although the description of the song and the sonogram in that paper were not particularly informative for other birders trying to identify this species. Then followed a 20-year gap until the next, but since then the species has lost its 'blocker' status and there have been several twitchable individuals. The following records have been accepted and published in the BBRC annual reports.

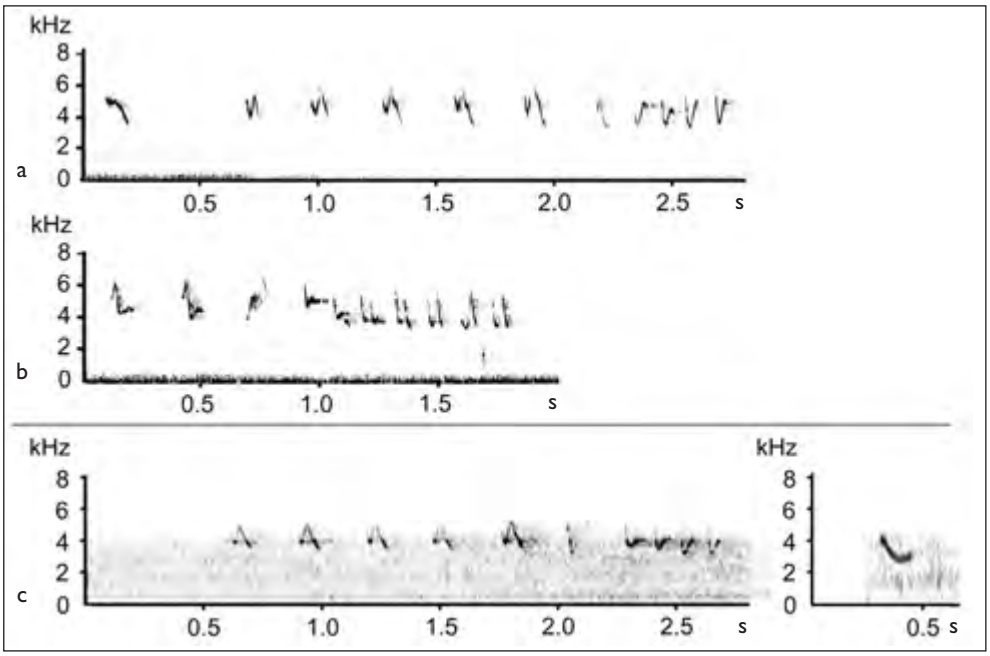

Fig. 3. Calls and songs of two accepted Iberian Chiffchaffs *Phylloscopus ibericus* from Britain.
(a, b) 1972 Brent Reservoir, Greater London, Iberian Chiffchaff.
(a) Sonogram starting with the diagnostic downslurred call of Iberian Chiffchaff, 'piu', followed by a low-intensity song as described in the main text. (b) Example of song which, although sounding very similar to that in (a), is in fact structurally very different. (b) is transcribed as 'djp djp whip chi-ch-ch-ch-ch-ch-ch'.
(c) Song and call of 2000 Great Tew, Oxfordshire, Iberian Chiffchaff. Sonogram from a tape recording obtained by Andrew Harrop shows similarity to the song of the Brent Reservoir bird, shown in (a). This song can be transcribed as 'djp whit whit whit whit whit djip-djp-djp-djp-djp'. The call (right) is downslurred, although with a concave 'ski-slope' shape rather than the more typical convex *ibericus* call element.

2006 Challacombe Common, Dorset, 1st May to 6th June.
2006 Pitcox, Lothian, 5th May, presumed same, Pressmannan, Lothian, 6th–13th May.
2004 Easington, East Yorkshire, trapped 17th May.
2004 Windmill Farm, The Lizard, Cornwall, 30th April to 3rd May.
2004 Woodhorn, Northumberland, 18th–19th April.
2003 Kingswear, Devon, 19th May to 17th June (possibly since 6th May).
2001 Great Tew, Oxfordshire, 27th April to 15th May.
2000 Dunmere Woods, near Bodmin, Cornwall, 13th–31st May.
2000 Dungeness, Kent, 14th–17th April.
1999 Start Point, Devon, 6th–14th May.
1999 Verne Common, Dorset, 25th April to 8th July, trapped 9th May.
1992 St Mary's, Scilly, 14th April to 21st May.
1972 Brent Reservoir, Greater London, 3rd June.

All those identified have been singing males in spring; most arrivals were in April or May, and most stayed a few days or even weeks. Slaterus (2007) reported 18 accepted records from The Netherlands and a very similar pattern of occurrence.

Iberian Chiffchaff, Brent Reservoir, 3rd June 1972

This bird was identified primarily on the basis of a series of tape recordings of its song, and was subsequently accepted as the first for Britain (Batten 2000). The published description mentions a distinct creamy-white supercilium, terminating well behind the eye, underparts 'washed greyish' with an ill-defined pale yellow band across the breast and extending onto the lower neck, and yellowish undertail-coverts. The legs appeared dark brown. The bird stayed high in willows *Salix* along the reservoir bank while under observation and was gone the next day. It also gave a distinctive call, likened in the description to a young chicken's anxiety call. This is perhaps unnervingly like the typical description of the 'sad' call of Siberian Chiffchaff, but the sono-

gram (visible as the first note in fig. 3a) shows it to be the slurred call of Iberian Chiffchaff. Sonograms of the other vocalisations of this bird are characteristic of Iberian Chiffchaff. As shown in fig. 3a, it gave a three-phase song, albeit that the middle phase was sometimes only one note (individual song element): 'whit whit whit whit whit djip djp-djp-djp-djp'. However, there was considerable variation shown within the songs of this individual on the tapes. The song shown in fig. 3b, 'djp djp whip chi-ch-ch-ch-ch-ch-ch', and recognisable variations of it, was performed several times.

Iberian Chiffchaff, Great Tew, Oxfordshire, 27th April to 15th May 2000

This bird, accepted by BBRC as an Iberian Chiffchaff (Rogers *et al.* 2002), is included here for comparison. Sonograms from a tape recording by Andrew Harrop (fig. 3c) show striking similarity to one of the song types of the Brent Reservoir bird shown in fig. 3a. The call, although slurred downward and quite distinctive, both by ear and as a sonogram (fig. 3c, right), is not the classic *ibericus* call, however, as the shape in the sonogram is concave rather than convex. Marc Salomon (pers. comm.) has commented that this shape of call is perhaps more characteristic of known mixed singers. No overtly mixed songs were recorded, however, and also we are not absolutely certain that this call came from the bird in question.

The Skelmersdale chiffchaff, Lancashire, 18th April to 2nd May 2004

This bird was controversial because of its bright plumage and unusual song. A detailed description of this bird appeared in White (2005) and is summarised below.

Appearance

The bird was similar in structure to Common Chiffchaff. The forehead, nape and crown were pale brown and the nape was tinged yellow-green. The supercilium was relatively indistinct, and had a yellow tinge. The bird had a prominent broken eye-ring, white below and yellow above. The upperparts were dull olive-green. The rump and uppertail-coverts were bright yellow-green. The wings and tail had pale green fringes, forming a slight panel in the wings; median and greater coverts were fringed yellow-green. The tertials had broad, bright edges, contrasting with darker grey centres. The primary projection looked rather long, estimated at between half and two-thirds of the length of the exposed tertials. Unfortunately, no photographs allowed precise measurement.

There was a yellow wash across the breast, throat and undertail-coverts, thin yellow streaks on the flanks and the 'thighs' were distinctly yellow. Although these features would be perfectly normal on a male Common Chiffchaff, the plumage was said to contrast with that of nearby Common Chiffchaffs. The legs were a medium flesh-brown.

Song

The song was given in two distinct phases, usually beginning with six or more 'chiffs' (with a 'chaff' or two occasionally inserted into the sequence) and followed by a rapid succession of notes sliding into a single trill (variously transcribed as 'too-too-too-too-too-too', 'dit-dit-dit-dit-dit-dit' or 'chitty-chitty-chitty'. The whole sequence lasted about three or four seconds. The bird called infrequently – a sharp monosyllabic 'huit' or perhaps 'tuit'.

Behaviour

The bird was never seen to perform the typical Common Chiffchaff 'tail-bob'. Whenever it sang, it twitched its wings and tail, most noticeably during the trill when the whole bird was quivering. It was never seen interacting with Common Chiffchaffs. When Iberian Chiffchaff advertising song was played to the bird, it would react, approach the playback and appear curious. Other Common Chiffchaffs in the area did not do this. When Common Chiffchaff song was played, the putative Iberian Chiffchaff ignored it.

Sonogram analysis from recordings made by TM suggested that the song was atypical of both Iberian and Common Chiffchaffs. The call was not recorded, but the published description does not fit the downslurred call of Iberian Chiffchaff and tends to suggest Common Chiffchaff

Its song (fig. 4), a series of 'chiff chaff's followed by a trill, was aberrant in structure for Common Chiffchaff, but it was noted that the shapes of all the song elements were either fairly typical for Common Chiffchaff or of elements that are shared with Iberian Chiffchaff. The bird did not 'wheep' and although the 'lightning fork' elements are perhaps unusually jagged for Common Chiffchaff (and more reminiscent of

Iberian Chiffchaff – see fig. 2g), there are no uniquely Iberian elements in the song. This also applies to the terminal trill, which is composed of 'reverse tick' elements comparable to those demonstrated in fig. 2b (Common Chiffchaff) and 2h (Iberian Chiffchaff). The frequency range of the song, 3–8 kHz, with 'chiffs' at 5–6 kHz and 'chaffs' at 3.5–4 kHz, is more typical of Common Chiffchaff than Iberian. The length of the song, at 4.5 s or more, is very atypical for Iberian Chiffchaff.

Although the yellow plumage hues and the structure of the Skelmersdale bird are perhaps suggestive of *ibericus*, there is no strong evidence from the song or call analysis that this bird was an Iberian Chiffchaff. Clearly the song is aberrant for Common Chiffchaff. Cramp (1992) suggested that Common Chiffchaffs raised without hearing the songs of their congeners sing a simple, presumably innate, genetically based, song that ends with a terminal trill. This is plausibly what is happening here. Alternatively, it may represent a Common Chiffchaff that has been in contact with Iberian Chiffchaffs, and partially learnt their song structure (Marc Salomon pers. comm.).

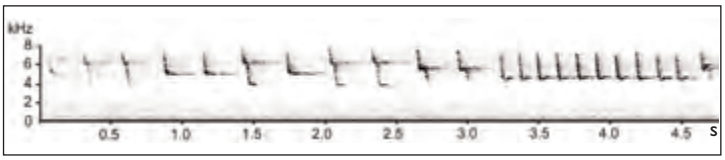

Fig. 4. Presumed advertising song of Skelmersdale chiffchaff, 29th April 2004. This sonogram, from a recording by TM, represents a single typical example of the two-phase song of the bird. The first part of the song consists of notes that are not uncommon for Common Chiffchaff *Phylloscopus collybita*. The frequency range of 3–8 kHz goes outside the normal range of Iberian Chiffchaff *P. ibericus*. The first part of the song can be described as 'chiff chaff chaff chiff chiff chiff chiff' with 'chiffs' at 5–6 kHz, 'chaffs' at 3.5–4 kHz. The spacing between the notes (0.3 s) is slightly greater than is typical for Iberian Chiffchaffs. The terminal rattle is a faster series of standard Common Chiffchaff 'chaffs' at 4 kHz. This is the 'reverse tick' song element that can be produced by either species. There are no diagnostic Iberian 'wheep' elements. The total length of the song and, in particular, the terminal rattle, is atypically long for Iberian Chiffchaff.

Steve Young/Birdwatch

Steve Young/Birdwatch

98 & 99. The Skelmersdale chiffchaff, Lancashire, April 2004. Note the obvious eye-ring and weak supercilium, features which are more typical of Common Chiffchaff *Phylloscopus collybita* than Iberian *P. ibericus*. Several observers noted the strong yellow hues to the underpart feathers, but the pattern of scattered strongly yellow feathers on the breast and belly is not atypical for Common Chiffchaff.

Steve Young/Birdwatch

Steve Round

100 & 101. The Dibbinsdale chiffchaff, Merseyside, April/May 2004. Note the strong supercilium and weak eye-ring, and also the brown legs, all features pointing towards Iberian Chiffchaff *Phylloscopus ibericus*. The primary projection appears to be on the long side for Common Chiffchaff *P. collybita*, potentially supporting identification as Iberian Chiffchaff, had the bird been trapped.

The Dibbinsdale chiffchaff, Merseyside, 28th April to 15th May 2004

This bird was widely regarded to be a better candidate for Iberian Chiffchaff than the Skelmersdale bird, although it was less yellow. It paired with a Common Chiffchaff and nest-building was observed.

Description

The plumage hues were described as browner than those of Common Chiffchaff, with obvious yellow restricted to the carpal joint and the vent. In this respect it differed from the Skelmersdale bird and the brightest Iberian Chiffchaffs, but was similar to the Brent Reservoir bird. The supercilium was noticeably long, which, together with the pale plain ear-coverts, accentuated the lack of a distinct eye-ring. The wings and tail were noted to be longer than those of *collybita*, and the tail was constantly pumped up and down, in contrast to the rapid 'tail-bob' characteristic of Common Chiffchaff. The bill appeared to be longer than that of Common Chiffchaff and the legs were dark, but not black. Although the bird was initially identified on the basis of its distinctive song (Iberian-like, described below), it also sometimes gave typical Common Chiffchaff song. The call was described as a distinctive downward-deflected 'cheow'.

Song analysis

Unfortunately, no calls were captured on the recordings taken by or available to us. However, the written description of the call appears to be characteristic of Iberian Chiffchaff. Sonograms showed considerable variation in the songs produced by this bird (fig. 5). However, they were typically divided into distinct phases, which is normal for Iberian Chiffchaff. Furthermore, many of the song notes were typical of Iberian and outside the range of Common. Generally, this bird sang most like an Iberian Chiffchaff. The most typical song sequence was some variation on 'djp djp djp djp chi-ch-ch-ch-ch-ch wheep wheep wheep', although the terminal 'wheep's were often omitted (fig. 5a). The clipped nature of the 'djp' notes was shown on sonograms to relate to a song element that is conceivably characteristic of both Iberian and Common Chiffchaffs, although the frequency range (up to 8 kHz) is perhaps more typical of

Common. In contrast, we are not aware that the song elements seen from 1 s onwards in fig. 5a would ever be produced by Common Chiffchaff. The bird was also recorded performing 'chiff chaff chiff chaff'-type songs at 3–8 kHz, indistinguishable from those of Common Chiffchaff (fig. 5b). This Common Chiffchaff-like song would often be followed by a song characteristic of Iberian (fig. 5c). Common Chiffchaff-like songs were in response to playback of the song of an Iberian Chiffchaff. It is normal for Iberian Chiffchaffs to do this, and probably represents the Iberian 'conflict' song. The Iberian Chiffchaff at Portland in April 1999 produced an almost identical song under similar playback conditions (Richards 1999). The Dibbinsdale individual was also recorded singing a 'mixed song' – shown in fig. 5d. Transcribed as 'chiff chaff chaff wheep wheep wheep wheep', this combination of Common Chiffchaff-like elements with elements that are unique to Iberian Chiffchaff within a single song fits the classic definition of a mixed singer. Mixed singing inevitably casts doubt on the identity of the Dibbinsdale chiffchaff, but it was clearly not 'just' a Common Chiffchaff. The possibility of hybrid origin has to be considered, and the description of its structure and plumage, although suggestive of Iberian Chiffchaff in some respects, may not rule this out, bearing in mind that the bird was not trapped (the Portland bird was trapped and examined in the hand). The identification of mixed singers is discussed below. We would not discount the possibility that the Dibbinsdale bird may have been a genuine Iberian Chiffchaff. Indeed, in the 320 s of recordings we have access to (280 s recorded by TM, presented here, and a further 40 s recorded by Phil Woollen on 29th April and 2nd May), the bird gives 26 songs that are diagnostically Iberian Chiffchaff, eight examples of 'chiff chaff' songs in response to *ibericus* song playback (hence possibly representing Iberian Chiffchaff conflict song), and only one mixed song – the one described here.

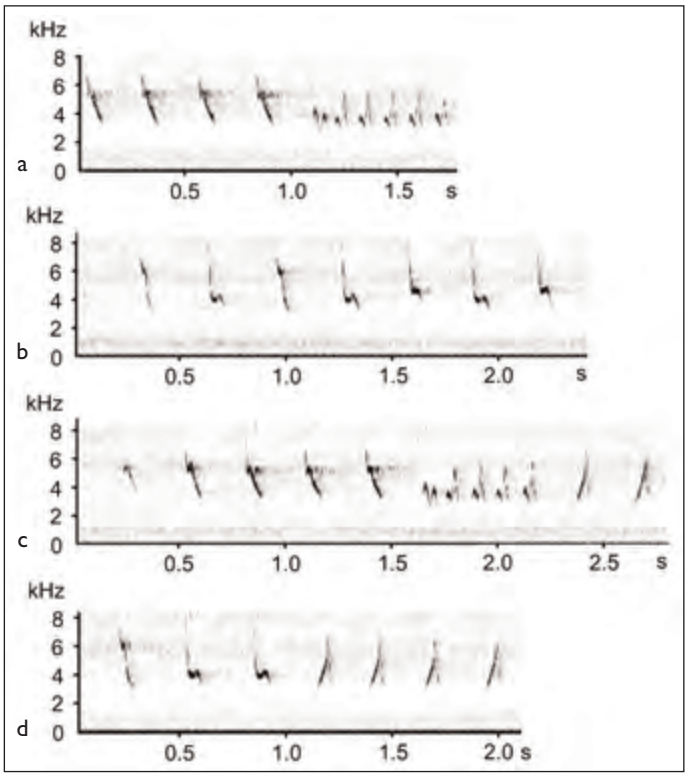

Fig. 5. Advertising and conflict songs of Dibbinsdale chiffchaff, 29th April 2004. The recording (obtained by TM) was divided into three phases: (a) a mixed early section of low-intensity song composed of 'djips' and rattles with Iberian Chiffchaff *Phylloscopus ibericus*-type 'djip's at 3–7 (weakly 8) kHz then an Iberian-type rattle at 3–5.5 kHz, e.g. 'djp djp djp djp ch-ch-ch-ch-ch-ch'. (b) After the Iberian Chiffchaff song was played back to the bird, it commenced a Common Chiffchaff *P. collybita*-type song that may represent the normal 'conflict' song of Iberian Chiffchaff in response to a rival, but note that the frequency range is high – up to 8 kHz, 'chiff chaff chiff chaff chaff chaff chaff'. (c) It subsequently returned to normal (higher intensity) Iberian Chiffchaff advertising song incorporating diagnostic 'wheep's: 'djp djp djp djp ch-ch-ch-ch wheep wheep'. (d) The bird also gave one burst of mixed song transcribed as [Common] 'chiff chaff chaff' [Iberian] 'wheep wheep wheep wheep'. The first three notes of the mixed song at frequency 3–8 kHz are of a Common Chiffchaff type (cf. fig. 2b).

The Lavenham chiffchaff, Suffolk, 13th April to July 2007

This bird was found by Peter Hobbs and attracted attention by its unusual song on 13th

April 2007. In terms of plumage and structure, the bird was consistent with Iberian Chiffchaff, with obvious yellow tones to the strong supercilium, a yellow throat and vent, dark brown legs and a relatively long primary projection (Peter Hobbs pers. comm.). Fig. 6a shows its unusual song, recorded on 24th April. Although the song is divided into discrete phases and contains some 'whip'-like V-shaped notes that would not normally be produced by Common Chiffchaff and are more characteristic of Iberian Chiffchaff, it is mixed with notes typical of Common Chiffchaff ('chiffs' with a shoulder at 6 kHz, extending in range to 8 kHz). In addition, the song, at over 5 s, is longer than expected of Iberian Chiffchaff. By 18th June, the bird had switched predominantly to a different song type composed almost entirely of Common Chiffchaff-type notes interspersed with Iberian-type 'djip's. Between loud song bursts, it maintained a quiet 'prp prp prp prp prp' sequence such that all songs ran into each other without a clear break over periods of several minutes (fig. 6b). At this stage the bird had been seen carrying food and this may represent a specialised courtship song. However, when the bird flew from low cover into the canopy of some tall trees, it reverted to a more-or-less passable Iberian Chiffchaff song (fig. 6c). By July, it became clear that the bird had bred with a female Common Chiffchaff and raised a brood of at least four juveniles. At this time, the call was recorded for the first time (fig. 6d) and was unequivocally that of a Common Chiffchaff.

Bill Baston

Bill Baston

102 & 103. The Lavenham chiffchaff, Suffolk, May 2007. Note the apparently short primary projection and obvious eye-ring, which are not supportive of identification as Iberian Chiffchaff *Phylloscopus ibericus* – compare with photos of the Dibbinsdale chiffchaff in plates 100 & 101.

As the Lavenham bird produced such widespread unusual and mixed singing, it seems impossible to conclude that it was an acceptable Iberian Chiffchaff, but the possibility that it was a hybrid cannot be excluded. The possibility of influence from Siberian Chiffchaff, 'Canary Islands Chiffchaff' *P. c. canariensis* and even Greenish Warbler *P. trochiloides* was also considered. The bird is not a classic Iberian Chiffchaff, although it is possible that it has Iberian influence or genes. The relatively fresh tertials, primaries, tail and wing- coverts, and the broad, rounded tail-feather tips would suggest that it is at least a second-summer adult, rather than a first-summer Iberian Chiffchaff that, through lack of exposure to congeners, has adopted Common Chiffchaff elements to its song. This is discussed below. The call would appear to preclude acceptance as Iberian Chiffchaff, although irrespective of whatever its

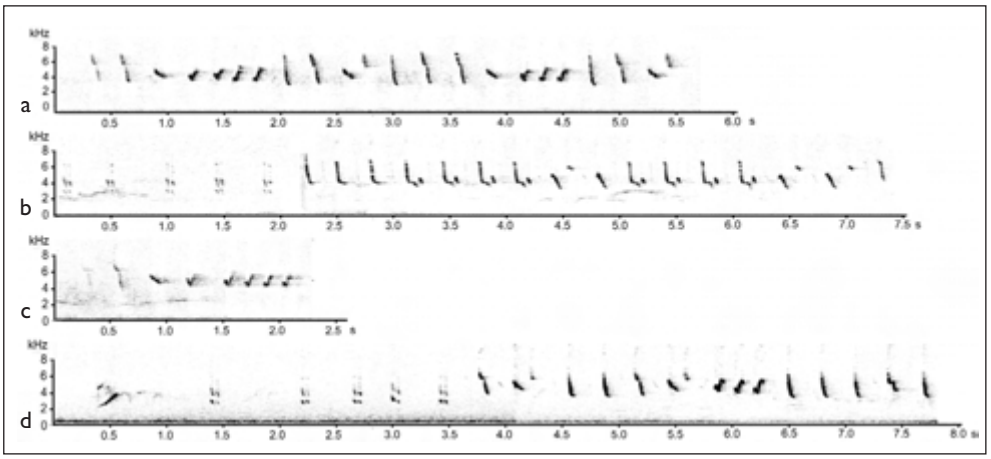

Fig. 6. The Lavenham chiffchaff. (a) Typical advertising song, from 24th April 2007: 'djip djip chu wi-wi-wi-wi djp djip chu-i djp djip djip chu wi-wi-wi djp djip chu-i'. A mix of Common *Phylloscopus collybita* and Iberian Chiffchaff *P. ibericus* elements, elements that could belong to either species, and elements that are atypical for either, and more reminiscent of some song elements produced by 'Siberian Chiffchaff' *P. c. tristis* or even Mountain Chiffchaff *P. sindianus*. (b) 18th June 2007. The song is largely composed of Common Chiffchaff elements but includes some clipped 'djip's at 4.5–5.0 s and 6.5–7.0 s that are more associated with Iberian Chiffchaff. (c) Although the first two elements are suspiciously high frequency and more characteristic of Common Chiffchaff, this is essentially an Iberian Chiffchaff song: 'djip djip chp whee wi-wi-wi-wi'. (d) July song, preceded by upwardly inflected 'hweet' call typical of Common Chiffchaff and which precludes identification as Iberian Chiffchaff. The song is essentially that of an aberrant Common Chiffchaff that contains elements which may be characteristic of Iberian Chiffchaff but which equally may represent degraded versions of elements of the songs of other species. (Recordings provided by Peter Hobbs. Independent recordings provided by Stuart Read showed similar patterns.)

innate call was, it may have been imitating its mate. The Lavenham bird should probably be left unidentified at present.

Other Iberian Chiffchaffs in Britain

Sonograms of recent recordings of other Iberian Chiffchaffs in Britain are presented in fig. 7. The song of the 2007 Colney (Norfolk) bird (still under consideration by BBRC) was consistent with Iberian Chiffchaff (fig. 7a). The song of a chiffchaff at Beer (Devon) in 2007 (fig. 7b) is also consistent with Iberian Chiffchaff, albeit the song appears not to be fully developed ('crystallised'), possibly indicating a first-summer that has had little experience of hearing Iberian Chiffchaff song. Recordings of the 2006 Pressmannan Iberian Chiffchaff were also obtained – they were typical of Iberian Chiffchaff, but the recording equipment had cut off all signals over 5 kHz, so sonograms are not presented here.

Discussion

When assessing records of rare birds, a level of documentation and identification that approaches 100% certainty is normally desirable. In the case of Iberian Chiffchaff, a species that has been subjected to detailed studies of intraspecific genetic variation, this may be an unreasonable aim, even if the documentation is exemplary. Bensch *et al.* (2002) showed unequivocally that many birds from the overlap zone, which, on the basis of appearance, song and mitochondrial DNA were identified as being pure individuals of Iberian or Common Chiffchaff, could be shown by detailed nuclear-DNA analysis to have some sort of hybrid ancestry. Occasionally, 'pure' Common Chiffchaffs have been recorded singing Iberian Chiffchaff song, and vice versa (Bensch *et al.* 2002). It is unreasonable to ask for a genotypic analysis of every vagrant Iberian Chiffchaff, and also unreasonable to dismiss all the records because hybrid origins cannot be 100% ruled out. Clearly, birds that look and sound like pure Iberian Chiffchaffs are occurring in northern Europe, and pragmatically they should be accepted as Iberian Chiffchaffs, otherwise the babies may be thrown out with the bathwater.

The 'best' way to identify an Iberian Chiffchaff remains to obtain voice recordings *and* examine the bird in the hand, which allows a combination of wing formula, biometrics and plumage to support the identification of some birds (Salomon 1997). However, trapping birds is not always feasible or desirable, and we argue

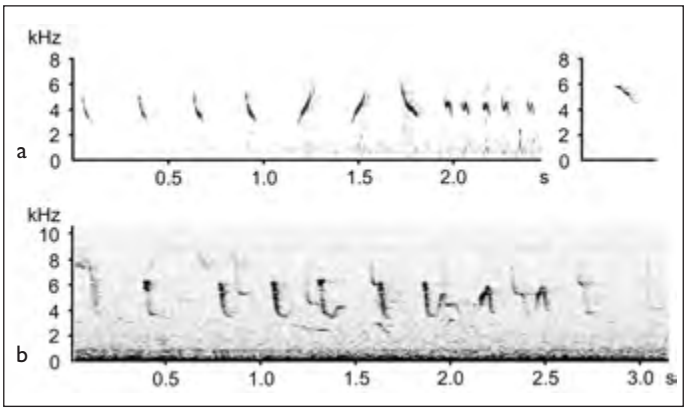

Fig. 7. Songs of other claimed Iberian Chiffchaff *Phylloscopus ibericus* records from Britain in 2007. (a) Colney, Norfolk, April–May 2007. This song is typical of Iberian Chiffchaff, and contains no song elements that would be normal for Common Chiffchaff *P. collybita*; the short, four-phase, 2.5-s song remains below 6.5 kHz and can be transcribed 'djp djp djp djp whee whee djip cha cha cha cha cha'. The descending call is represented on the right (NB the scale of this graph is the same as that for the song). We also have recordings in which the same bird produces less classic, more erratic, Common Chiffchaff-like songs, which probably deserve further analysis. (Recording by Will Soar.) (b) Beer, Devon, May 2007. A less distinctive song, though consistent with that of Iberian Chiffchaff. This sonogram is educational because there is a Common Chiffchaff singing in the background. Note the difference in shape and frequency range between the Iberian Chiffchaff (darker notes) and Common Chiffchaffs (fainter grey notes in background): 'djp djp djp djp djp djp wheep wheep'. (Recording by Gavin Haig.)

that it is entirely justifiable to make field identifications of 'classic' birds where the song shows the characteristics of Iberian Chiffchaff and sonograms have been obtained. The conclusions (presented rigorously in papers cited above and summarised in Cramp (1992)) are that Iberian Chiffchaff advertising songs are variable, but should typically be characterised as follows:

- Shorter than those of Common Chiffchaff, less than 4 s.
- Song divided into two or three (sometimes four) distinct phases. Notes are similar to each other within each song phase but different from each other between phases. A typical song might be a three-phase 'djip djip djip weep weep weep chachachachacha' but any individual song phase may be missing. 'Weep' notes, with an upwardly inflected sonogram shape, are most distinctive and diagnostic of Iberian Chiffchaff influence.
- Less metronomic than those of Common Chiffchaff, with shorter and more irregular intervals between notes and song phases.
- Generally with song notes below 7 kHz in frequency, and primarily below 6 kHz, in contrast to Common Chiffchaff where notes may be up to 8 kHz or more.

In addition, the downslurred call is diagnostic.

These points have been noted independently by Constantine *et al.* (2006) and Slaterus (2007). Iberian Chiffchaff songs and calls are distinctive, but sonograms are essential to demonstrate the distinctive characters to an acceptable degree.

Several examples of recorded song of extralimital Iberian Chiffchaffs available to us or published elsewhere (Slaterus 2007) appear to represent subdued or 'half-hearted' song bursts. It is possible that spring vagrants in northern Europe are frequently first-summer birds whose song has not been fully 'crystallised' (Constantine *et al.* 2006) by competition with other males. As yet, however, this is largely speculation and there has been no systematic study of the song of first-years. We do not therefore believe that 'poor' song by vagrant potential Iberian Chiffchaffs should necessarily count against them (though everything else has to be spot-on).

Two subspecies of Iberian Chiffchaff have been proposed: nominate *P. i. ibericus* of Portugal and southwest Spain, and *P. i. biscayensis* of northern Spain and the French borders (Salomon *et al.* 2003). The differences between them are subtle but diagnostic, and are both ecological and structural: nominate *ibericus* is reportedly associated with a dry, Mediterranean climate and *biscayensis* with a moist, Atlantic environment; *biscayensis* has, on average, longer, more pointed wings than *ibericus*. They are not, however, universally accepted as valid subspecies (AERC TAC 2003). Irrespective of whether or not two subspecies can be recognised, we believe that it is possible that some of the variability in Iberian Chiffchaff song described here and elsewhere may also have a geographical component. Salomon *et al.* (2003) suggested that vocalisations of the two putative subspecies do not differ significantly, although this was not backed up with a detailed analysis.

Mixed and unusual singing in chiffchaffs

Common Chiffchaff-like elements within the songs of an Iberian Chiffchaff may represent normal elements of the conflict song of the latter, and may also represent shared 'ancestral' or primitive song elements that are retained, to some degree, in both species (Thielcke & Linsenmair 1963). Many of the characteristic elements found in Iberian Chiffchaff song have similar homologues in Willow Warbler song, partly underlying the popular misconception that 'Iberian Chiffchaff sings like a Willow Warbler'. It is assumed that many of the Willow Warbler-like elements were sung by an ancestral species of *Phylloscopus* that gave rise to both Willow Warbler and all the chiffchaff species. Common Chiffchaffs have spent a long time living (in sympatry) with Willow Warblers, and it is possible that the song of Common Chiffchaff has diverged significantly from that of Willow Warbler to aid species recognition (ensuring that birds of both species mate only with their own species). In contrast, Iberian Chiffchaff may not have the same history of widespread sympatry with Willow Warbler, so there has been less drive for their songs to diverge. The situation is not fully understood (and an apparently relict population of Willow Warbler in the Asturian region may hint at a previous more widespread sympatry with Iberian Chiffchaff). The take-home message here is that Common and Iberian Chiffchaffs have the same song elements in their ancestral 'toolkit'.

Song in passerines is generally based on a genetic 'template', modified and developed by copying the song of congeners, such that it is possible to learn the 'wrong' song from individuals of a different species (Baptista & Petrinovich 1984; Helb *et al.* 1985). The classic 'mixed song' in this instance thus incorporates elements of both Iberian and Common Chiffchaff *within the same song burst*. What should mixed singers be identified as? Most mixed singers are morphologically most similar to Common Chiffchaff (Helbig *et al.* 2001). They are reported to form 8.6% of individual males in the overlap zone between the two species around the France/Spain border, where about 24% of birds are in mixed pairs (mostly male Iberian Chiffchaff with female Common Chiffchaff) (Helbig *et al.* 2001). Most mixed singers are genetically intermediate between the two species (Bensch *et al.* 2002), but some mixed singers have been identified genetically as pure Iberian Chiffchaff. Mixed singing may therefore be a sign of hybrid origin, but equally it is possible that mixed singers represent birds of one species that have learnt the songs of the other species because they were in the contact zone when their song was crystallising. Some Common Chiffchaffs have been recorded singing songs incorporating elements of Iberian Chiffchaff (Salomon 1989). Helbig *et al.* (2001) inferred a strong reproductive barrier between the two species and it is possible that successful hybridisation leading to a new generation of fertile hybrid breeders is rare. Herkenrath (2007) pointed out that in other passerine species (treecreepers *Certhia*, nightingales *Luscinia* and Willow Warblers), 'mixed singers' are not hybrids but tend to be birds of one species that have been exposed to the song of a closely related species in early life. We believe that mixed singers (whatever their genetic fingerprint) have *learnt* the songs of both species, but that birds with hybrid origins are more predisposed to be able to learn both songs, and are hence more likely to be mixed singers. Therefore, mixed singers are more likely, but not certain, to have a hybrid origin. For these reasons, and in the knowledge that we cannot absolutely rule out hybrid ancestry in birds that (to all intents and purposes) look and sound like Iberian Chiffchaff, we do not believe that the presence of *collybita*-like song elements in the advertising song of a potential vagrant Iberian Chiffchaff should necessarily count against it. This may be the case especially when mixed singing is an isolated or sporadic event, such as for the Dibbinsdale chiffchaff, above.

However, any singing Iberian Chiffchaff should include some uniquely 'Iberian/Willow' song elements within its repertoire. We do not believe that mixed singers should be dismissed out of hand if the song includes those diagnostic Iberian 'wheep' notes, and if their plumage and structure are good for Iberian Chiffchaff. However, in the cases of mixed singers, it would be more desirable to have the bird in the hand to attempt to confirm the identification on biometric features and to get a close look at plumage hues.

Iberian Chiffchaff records in Britain

In summary, and with these points in mind: the Dibbinsdale bird was a mixed singer, but may prove acceptable as Iberian Chiffchaff; the

Lavenham bird is problematic, may well have Iberian Chiffchaff influence, but is probably not acceptable; and the song of the Skelmersdale bird was aberrant for both Common and Iberian Chiffchaffs and may represent an 'innate' song structure from a bird deprived for some reason of any audio input through hearing the songs of its congeners – it is best left unidentified, but was probably a Common Chiffchaff.

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