

'Siberian Chiffchaff' revisited

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ABSTRACT The systematics and morphology of Common Chiffchaff *Phylloscopus collybita* of the Siberian subspecies *tristis* are much debated. Many putative *tristis* in Britain are distinctly pale and frequently attributed to '*fulvescens*', a form initially described by Severtzov in 1873 from a series collected in Central Asia. Treatment of the taxonomy and appearance of '*fulvescens*' is inconsistent. It is frequently presented as an 'intergrade' population resulting from unrestricted gene-flow between *tristis* and the North Fenno-Scandian and Russian race *abietinus* but this may not be the most appropriate interpretation. This article reviews the variable treatment of '*fulvescens*' in the literature, its differences from *abietinus* and east Siberian *tristis* and the conflicting results of research into its taxonomic status. Based on the information presented, the provenance and appearance of the pale, 'grey-and-white' *tristis*-like chiffchaffs reported in Britain are considered.

The Common Chiffchaff *Phylloscopus collybita* has a broad distribution across Europe and east to Siberia, with six subspecies currently recognised by most authorities. Broadly speaking, the nominate form *collybita* of western Europe is replaced by *abietinus* in eastern Europe and by *tristis* in Siberia. From further south in Europe, in Turkey and in Central Asia, *brevirostris*, *caucasicus* and *menzbieri* have been described. The 'chiffchaff complex' is completed by three further closely related species of southerly distribution: Iberian Chiffchaff *Ph. ibericus*, Canary Islands Chiffchaff *Ph. canariensis* and Mountain Chiffchaff *Ph. sindianus*. The taxonomy and identification of the 'chiffchaff complex' was discussed by Clement *et al.* (1998).

The form *tristis* is frequently referred to as 'Siberian Chiffchaff' but, even following mitochondrial-DNA studies, its taxonomic status and whether it warrants recognition as a separate species remain unclear (Helbig *et al.* 1996). The taxonomy and diagnosis of 'Siberian Chiffchaff' have long been beset by confusion and divided opinion, and controversy still sur-

rounds both its systematic and its morphological limits. Few reports of *tristis* in Britain are incontrovertible and there is perennial discussion about whether particular plumage characters or vocalisations are compatible with *tristis*.

The following notes provide a review of the issues, including the historical context, the conflicting results of ongoing research, and the distinguishing characters of 'Siberian Chiffchaffs'. It must be emphasised from the start that much more research is required in the breeding areas before there can be any prospect of resolving all the issues. The objectives of this review are to provide a clearer perspective and to dispel some commonly held misconceptions. A universal consensus remains some way off.

Plumage variation in Common Chiffchaff

The races of Common Chiffchaff display varying degrees of olive and yellow in their plumage but this variation is to a large extent clinal, while there is also considerable individual variation. Thus, the appearance of the forms overlaps to a significant extent and in practice it can be very difficult, sometimes

impossible, to assign a given individual to a particular race on the basis of plumage colour.

There is a cline of decreasing colour saturation running from northern Norway eastwards across north Eurasia. A reduction in lipochrome pigment from west to east (which also affects the southern subspecies *brevirostris*, *caucasicus* and *menzbieri* to some extent) results in decreasing olive and yellow in the plumage. Williamson (1962) described *abietinus* as:

Paler and greyer, less deep olive above than the typical race; buff and yellow on the breast is reduced so that the underparts, including undertail-coverts, appear whiter.

(see Appendix 1 for a more detailed diagnosis of *abietinus* compared with *collybita*) while *tristis* has:

Upperparts brownish to greyish-brown without olive except on the edges to wing and tail feathers, wing-coverts, and usually the rump... no yellow in the supercilium, eye-ring and cheeks, this being replaced by buff... sides of breast and flanks 'macintosh' buff, the only yellow being at the bend of the wing and under the wing.

Note that the features listed for diagnosing *tristis* involve the distribution of olive, yellow and buff. The basic colour of the upperparts (degree of 'greyness' or 'brownness') and the overall 'paleness' are not part of the diagnosis.

Distinctions between *tristis* and greyer examples of *abietinus* are sometimes masked by use of the terms 'Northern Chiffchaff' or 'Eastern Chiffchaff' to embrace any individual with significantly reduced olive and yellow in the plumage and, frequently, the semblance of a wing-bar produced by diffuse paler tips (and edges) to the greater-coverts (see Dean 1985). Variation in appearance among true *tristis* is discussed below, but the plumage of typical individuals is rather similar to that of Mountain Chiffchaff although, unlike that species, it has olive fringes to the flight feathers and an olive tinge on the lower back and rump.



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234. Common Chiffchaff *Phylloscopus collybita abietinus*, Eilat, Israel, March. A fresh spring *abietinus* with quite prominent olive in the upperparts. Yellow is restricted on the underparts compared with most nominate *collybita*, but still quite discernible on the sides of the breast, the rear of the flanks, and on the supercilium.



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235. Common Chiffchaff *Phylloscopus collybita tristis* ('Siberian Chiffchaff'), Astana, Kazakhstan, May.



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236. Mountain Chiffchaff *Phylloscopus sindianus* (left; from Ladakh, northern India, in late July) and Common Chiffchaff *Ph. collybita tristis* (from the Siberian Altai, in autumn). Note olive fringes to the flight feathers of *tristis* which distinguish it from the otherwise rather similar Mountain Chiffchaff.

'Siberian Chiffchaff'

At its northerly boundary, the range of *tristis* extends from the Pechora basin and the Urals eastwards beyond the Lena River and discontinuously perhaps as far as the Anadyr River (Clement *et al.* 1998; fig. 1). 'Siberian Chiffchaffs' are reported in Britain every autumn and winter, sometimes in numbers which are surprising for a taxon originating east of the Pechora and largely wintering in India. These British birds have appeared, in the field, to lack yellow except at the bend of the wing, while the only obvious olive has been to the fringes of the wing feathers, the tail feathers and the rump. Thus, they have appeared to possess key characters of *tristis* as described in the literature.

Yet, many 'Siberian Chiffchaffs' reported in Britain are described as being 'noticeably pale', with limited brown and a strong grey component in the upperparts, and the underparts basically whitish with little evident buff. The olive fringes to the flight feathers are frequently quite well defined, generating a clear contrast with the otherwise rather 'colourless' appearance. Although possessing a much stronger face-pattern, their appearance draws comparisons with either Western *Ph. bonelli* or Eastern Bonelli's Warbler *Ph. orientalis*, rather than with

Mountain Chiffchaff. Rather few are noted as more drab, brown and buff, and thus closer to the common image of 'classic' *tristis*.

Much discussion and controversy surround the appearance and provenance of these 'grey-and-white' individuals. One school of thought is that they are 'true' *tristis* from the paler end of the range of variation. Others suggest that such birds are 'intergrades' between *abietinus* and *tristis*. The term '*fulvescens*' is frequently applied to both of these interpretations. A third opinion is that such 'grey-and-white' individuals are merely pale examples of *abietinus*. Clearly, the morphology and provenance of '*fulvescens*' is central to the discussion of plumage limits in 'Siberian Chiffchaff'.

What is '*fulvescens*'?

Although mentioned in several recent publications (e.g. Baker 1997), discussion of '*fulvescens*' in the British literature is often rudimentary. Somewhat more extensive treatment was provided by Vaurie (1959) in *The Birds of the Palearctic Fauna*, by Williamson (1962) in his *Identification for Ringers: The Genus Phylloscopus*, by LS in his *Identification Guide to European Passerines* (4th edition, 1992), and in the paragraphs on 'Geographical variation' in BWP



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237. Common Chiffchaff *Phylloscopus collybita tristis* ('Siberian Chiffchaff'), Irkutsk, Siberia, May. A 'classic' specimen of *tristis* in spring, from eastern part of the range. Note the quite saturated brown upperparts, the buff suffusion to underparts (especially the throat, breast and flanks) and the absence of yellow (apart from at the bend of the wing).



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Fig. 1. Map showing the range of the forms *abietinus*, *tristis* and *fulvescens*, based mainly on Marova & Leonovich (1993). The approximate eastern limit of *abietinus* is indicated by the red dashed line, and the eastern and western limits of *fulvescens* by the orange dashed lines; the blue-hatched area shows overlap between these two forms.

Vol. 6 (C. S. Roselaar, in Cramp 1992). Perceptions of *fulvescens* among British observers are based largely on these sources.

Vaurie described *fulvescens* as:

Much greyer above than *abietinus*, olive pigments reduced to a greenish-yellow tinge on the lower back, rump, and uppertail-coverts and wings, underparts lighter, whitish or buff.

Williamson quoted Vaurie but went on to say that birds of this description could be found at the type locality of *tristis* (Calcutta) and among spring migrants through Iran and the Persian Gulf, while the 'Northern Chiffchaffs' which occur regularly in autumn in Britain were also similar. He noted a wide variation in the colour of the upperparts and that on some individuals the underparts were 'entirely devoid of yellow streaking'. His conclusion was that:

There is no doubt that over the wide geographical ranges of *fulvescens* the species [Common Chiffchaff] is unstable as regards the tone of the upperparts and the amount of buff suffusion and yellow streaking beneath, and the name [*fulvescens*] is best synonymized with *tristis*, as recommended by Ticehurst (1938).

Thus, while Vaurie described *fulvescens* as

relatively 'grey and white', Williamson acknowledged variation in the tone of the upperparts of *fulvescens* and noted that some individuals showed yellow streaking below while on others this was absent. He interpreted this variation as arising from secondary intergradation between *tristis* and *abietinus*. It is important to note that both Vaurie and Williamson included in *fulvescens* birds from the region from northeast Iran to southwest Transcaaspia. Chiffchaffs breeding in this area are now recognised as belonging to a separate race, *menzbieri*. Hence, the variation in upperparts colour and yellow streaking below commented upon by Williamson was at least partly influenced by individuals now considered to be from outside the distribution of *fulvescens*.

A somewhat different perspective on *fulvescens* is apparent in the paragraphs on 'Geographical variation' in *BWP*. Here, the plumages of *tristis* are portrayed in two groups. A paler, *fulvescens* type is described as having (*inter alia*):

Upperparts brown to greyish-brown, with distinct olive tinge on rump and uppertail-coverts and sometimes slightly on mantle; underparts whitish, washed buff; tail-feathers, flight-feathers and tertials brown, outer edges olive-green.

A second type, regarded as the 'classic' or 'typical' *tristis*, is described thus:

Rather darker brown with no or only very slight olive tinge on mantle, rump and uppertail-coverts; underparts with more distinct buff suffusion, appearing less white; edges to tail- and wing-feathers, tertials, and bastard wing more brownish, less greenish.

In this treatment, there is no mention of 'extra-neous' yellow (i.e. yellow away from the bend of the wing and the underwing). Rather, it suggests a darker and browner 'classic' form of *tristis*, more intensely buff on the breast and flanks, and a rather paler and greyer '*fulvescens*' form, with brighter olive fringes to feathers of the tail and wings and somewhat whiter on the underparts. While acknowledging that considerable taxonomic confusion exists (see below), both Williamson and BWP advocated that '*fulvescens*' be included within *tristis*.

The original designation of '*fulvescens*'

The form '*fulvescens*' was first described by Severtzov in 1873, based on a 'type series' of over 100 migrants taken 'in Turkestan'. Thus, it was not described from birds on the breeding grounds, which Severtzov supposed to be western Siberia (although, rather confusingly, he adds 'possibly near Irkutsk', a locality which is hardly in western Siberia). We have not had the opportunity to examine the type series and it is a matter of assumption that the 'type series' actually consists of a single subspecies (see later comments on a 'variant' portrayed within the 'type description'). Birds breeding from the Urals to the Yenisey are now generally equated with '*fulvescens*'.

There appear to be few, if any, detailed accounts in English of Severtzov's original description. Clearly, the original description based on the 'type series' is important in establishing the correct use of the name '*fulvescens*' and its implications in terms of appearance. Severtzov's description (kindly provided and translated by Dr Vladimir Loskot, Curator of the Ornithological Department, Zoological Institute, Russian Academy of Sciences, St Petersburg) was as follows:

Ficedula (Phyllopneuste) fulvescens, nob. – (*Ph. tristis*? Gould). Upperparts, from forehead to uppertail-coverts and small wing-coverts rusty-grey with olive tint, olive-brown in autumn; supercilium and underparts rather pale rufous-yellowish, brighter in

autumn; cheeks not pure rusty; wings and tail feathers blackish, with olive fringes which, on coverts, cover blackish middle of feathers; small underwing-coverts sulphur yellow; first primary twice as long as its coverts; $3=4=5>6>7>2>8$. Male and female do not differ from each other; in juvenile birds, differing in general only in looser texture of feathers, sometimes unclear longitudinal stripes of pale sulphur-yellow colour are present on the breast; in others, the breast stripes are similar but greyish (var. *naevia*), and then all the plumage is more greyish than usual. Bill and legs black; bill is relatively small even for a leaf warbler, and claws are large, especially on the hind and mid toes.

In comparing the basic description with modern interpretations of *tristis*, '*fulvescens*' would appear to have more extensive olive in the upperparts and wing feathers and the presence of yellow in the supercilium and on the underparts. These features would today be regarded by many as indicating 'intergrade' characters. Overall, there is little in the basic description to indicate a match with the 'pale-and-grey' individuals reported in Britain. A variant '*naevia*' in Severtzov's diagnosis is described as lacking yellow streaking on the breast, at least in juvenile plumage, and being greyer overall. This perhaps comes closer. However, the location of the type specimen of '*naevia*' is unknown (Vladimir Loskot *in litt.*), so its precise characters cannot be confirmed.

Variation and plumage limits in *abietinus* and *tristis*

Examination of skins confirms that birds from the Urals and the Ob basin are often slightly different from more easterly *tristis*, being slightly yellow beneath, with thin yellow streaks on the lower throat, and a faint yellow tinge on the fore-supercilium and/or eye-ring. Such yellow tinges are absent on other birds in this area, and on all birds breeding farther east in Siberia. Such individuals with limited yellow have been equated with the form '*fulvescens*', notwithstanding the inconsistent descriptions in the literature (see above). Following this convention, the term '*fulvescens*' is used hereafter to signify the yellow-streaked birds breeding in the region from the Urals to the Yenisey.

From specimens, no consistent difference is evident between birds breeding in western and in eastern Siberia in the general hue of the upperparts ('greyiness'), though there is a slight degree of individual variation and also a sugges-

tion that birds in fresh plumage and in winter are on average a little paler and greyer than birds in summer. Among the specimens available at the Natural History Museum (NHM), Tring, it is not possible to detect a grouping of individuals from one part of the range of *tristis* (*sensu lato*) that is conspicuously 'greyer and whiter' than the remainder, and similar conclusions have been drawn when visiting other large museum collections.

It is perhaps insufficiently appreciated in Britain how significant may be the reduction in olive and yellow in the least colourful *abietinus*. At an intensive ringing site in southern Sweden, all *abietinus* trapped have displayed at least some yellow streaking below, yellow on the upper eye-ring, and a tinge of olive in the upperparts (Bo Petersson *in litt.*). On most individuals these colours remain evident in the field but extreme examples (probably restricted to the east of the range of *abietinus*) reportedly lack these hues almost entirely, apart from olive fringes to the wings, tail and rump. The collection of specimens at Amsterdam includes examples of such individuals from the lower Volga region of European Russia (C. S. Roselaar *in litt.*).

Extreme examples of *abietinus* seemingly display no more yellow – indeed, conceivably less – than some examples of '*fulvescens*'. It follows that differences between *tristis* (including '*fulvescens*') and such examples of *abietinus* can be rather subtle. In a working memo for a planned fifth edition of his *Identification Guide to European Passerines* (Svensson *in prep.*), LS refined the criteria for diagnosing *tristis* thus:

- (1) whole supercilium (including eye-ring) buff-white or pale ochrous-buff, without any pure yellow;
- (2) underparts, including vent and



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238. Two specimens of Common Chiffchaff *Phylloscopus collybita tristis* ('Siberian Chiffchaff'), both from Krasnoyarsk, Siberia; upper: May, lower: September. Apart from the effects of wear and bleaching, there is little seasonal variation in the plumage of 'true' *tristis*; some autumn and winter individuals are arguably a little brighter and paler but this is marginal and largely masked by individual variation.



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239. Common Chiffchaff *Phylloscopus collybita tristis* ('Siberian Chiffchaff'), India, January. Some specimens collected in the winter quarters are slightly paler and greyer than *tristis* collected in the breeding season in Siberia. Note, however, that the 'provenance' of wintering birds is not certain.



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240. Common Chiffchaff *Phylloscopus collybita abietinus*, Stockholm, Sweden, September. Note the much greyer and 'colourless' appearance of this autumn individual compared with that of the fresh spring bird in plate 234. Olive and yellow streaking is still present but is very subdued.

undertail-coverts, buffish-white without any yellow, breast and lower throat being strongest buff;

- (3) crown and mantle – at least upper mantle – greyish-brown lacking any olive tinge;
- (4) a slight olive tinge on back, rump and scapulars;
- (5) remiges, greater-coverts and rectrices narrowly edged olive-green (if not heavily worn);
- (6) black or blackish tarsi;
- (7) small, dark bill;
- (8) wing-bend and axillaries bright lemon-yellow;
- (9) feathered 'knee' (ankle) usually buff-white, or at most faintly yellowish-white (not bright yellow);
- (10) P1 (outermost primary) comparatively short and narrow, usually 4–8 mm > PC;
- (11) P2 usually =7/8 or =8, but sometimes a little shorter (i.e. =8/9);
- (12) distance P1 < P2 rather long, 21–30.5 mm (*m* 24.4, *n* 57).

[abbreviations: PC refers to primary coverts, *m* is mean, *n* is sample size]

An additional but variably evident feature of classic *tristis* concerns the ear-coverts, which are frequently buff-brown or even rufous-tinged (sometimes described as 'rusty'), whereas the ear-coverts of *abietinus* are generally paler and mottled with buff and olive.

These guidelines are sometimes misunderstood in terms of the presence or absence of yellow. The guidelines are intended to include only incontrovertible *tristis* and to avoid the inclusion of *abietinus* with particularly restricted yellow. They are not designed to define the full plumage limits of *tristis*. Traces of yellow may be, in fact, a feature of a minority of genuine *tristis* and such individuals will be excluded by the guidelines. However, until the discrimination between such birds and *abietinus* with least yellow is better understood, this approach is considered preferable. It should be noted that the German handbook (Glutz von Blotzheim & Bauer 1991) misunderstood the similar guidelines in the third edition of *Identification Guide to European Passerines* (Svensson 1984a), and interpreted them to mean that the presence of traces of yellow below ruled out *tristis* entirely, but this was never intended. It is only east of the Yenisey that apparently *all* Chiffchaffs lack any yellow below, away from the underwing. The exact subspecies composition of the birds found between the Pechora and the Yenisey (where traces of yellow are commonly found on the underparts), the true status of '*fulvescens*', and the plumage limits of *tristis* are still the subjects of much research (and conjecture).

The 'yellow-tinged' chiffchaffs from the Urals and the Ob basin

The presence of extraneous yellow in chiffchaffs from the Urals and Ob basin is popularly interpreted as 'intergradation', resulting from unrestricted gene-flow between *abietinus* and *tristis* (a so-called 'hybrid swarm'). However, this interpretation is not universally accepted. Alternative explanations for traces of yellow include the hypothesis that they are a feature of a westerly population of *tristis* ('*fulvescens*'), in which gene-flow with *abietinus* is evident but already restricted by a degree of assortive mating (see below). Various studies have been made of *tristis* and '*fulvescens*', while others are still in progress, primarily using vocalisations as an indicator of 'subspecies integrity' and reproductive isolation.

Vocalisations as taxonomic indicators

Vocalisations are a key means of separating taxa and are important in establishing reproductive barriers. The songs of *collybita* and *abietinus* are similar, the familiar and eponymous 'chiff-chaff chiff-chaff chiff-chaff'; rather dry, rhythmic and repetitive in character and sometimes preceded by a low, slightly churred 'tret', especially on the breeding territory. The song of *tristis* is quite different, being much more varied and rising and falling in pitch. There is a suggestion of the timbre of *collybita* in some notes but each is enhanced with a terminal flourish and each series of notes has much greater fluidity. The notes tend to cascade into one another and the *delivery* (though not the timbre of the notes) can recall the 'cadence' of the song of Willow Warbler *Ph. trochilus*. There is also – rather surprisingly – a similarity to the slightly jerky lilt of the song of Greenish Warbler *Ph. trochiloides*, though the song of that species will be less familiar to many British observers. Listening to recordings of the song (e.g. Svensson 1984b, Mild 1987) is far better than any transcription but, to British ears, the transcription proffered by Heard (1989) is as good as any: 'chivy-chooe chivy-chooe djiff'. Generally, however, there are several more 'chivy-chooe' components in each series.

Conflicting research findings

A number of bio-acoustical studies have investigated the songs of *abietinus*, *tristis* and '*fulvescens*'. On the basis of detailed experiments, Martens & Meincke (1989) concluded that,

across the whole range occupied by *tristis* and 'fulvescens', song was consistent and lacked components characteristic of *abietinus*. They recorded songs from Jekaterinburg to Irkutsk and used these in 'playback' experiments. This demonstrated limited reaction by each form to the other's song, supporting the view that assortive mating might be underway and that *tristis* (including similarly singing 'fulvescens') might already be best treated as a separate species in relation to neighbouring *abietinus*. They concluded that there was no evidence for a zone of extensive hybridisation nor for maintaining the distinction of 'fulvescens' from *tristis*.

Following research in the area of overlap between *abietinus* and *tristis*, Russian ornithologists have resurrected the idea that 'fulvescens' results from extensive intergradation ('hybridisation') between these two races (Marova & Leonovich 1993). Their research reported a wide area of overlap in the breeding areas of *abietinus* and *tristis*, from the Kanin Peninsula to the southern Urals and Bashkiria. 'Mixed' songs were recorded in various parts of this zone of sympatry. Together with the existence of specimens deemed to show 'hybrid' characters, the conclusion of Marova & Leonovich was that extensive 'hybridisation' occurs across the whole area of sympatry.

The different conclusions of Martens & Meincke were considered invalid by Marova & Leonovich, as the former based their experiments on the whole range of *tristis* rather than on the zone of sympatry. Thus, 'the recordings used for analysis were taken considerably to the east of the distribution of *fulvescens*' (Irina Marova-Kleinbub *in litt.*). In fact, Martens & Meincke used the Yenisey as a dividing line between 'fulvescens' and *tristis*, and compared recordings from both sides of the divide, so this objection is probably unfounded.

More recently, Antero Lindholm has made a preliminary study of the vocalisations of birds from the region of Syktyvkar, Komi (c. 62°N 51°E; Fig. 1). This is research 'in progress' but appears to indicate that so-called intermediate song occurs in a region on the western fringes of the known range of 'fulvescens', and side by side with *abietinus* song. The appearance and song of most 'intermediate singers' are *tristis*-like but a variable amount of *abietinus*-like elements are present in the song (Antero Lindholm *in litt.*). At this stage, the results are deemed to support the idea that 'fulvescens' is a

'hybrid' population, as advocated by Marova & Leonovich. However, Lindholm does not as yet draw any firm conclusions, as these findings need to be confirmed on a larger sample, and a detailed comparison with eastern *tristis* is yet to be carried out. Furthermore, a certain amount of 'mixed' singing can result from one species adopting part of the song of another species which is present at high density in its natal area, and is not necessarily proof of hybridisation (Clement *et al.* 1998).

An alternative scenario

LS has suggested that the situation with *tristis* and *abietinus* may be similar to that with *collybita* and *ibericus*. It is now known that *collybita* and *ibericus* still hybridise in the contact zone in southwest France and northern Spain and that mixed singers are produced (see above for an outline of vocalisation studies). However, hybrids are less frequent than would be expected if the two interbred freely and unhindered, and they are not as successful as pure offspring (Salomon *et al.* 1997). A similar situation might exist in the contact zone between *tristis* and *abietinus*.

In a preliminary text for the forthcoming *Geographical Variation and Distribution of Palearctic Birds* (Roselaar & Shirihai *in prep.*), Kees Roselaar has independently suggested a similar hypothesis:

In the west of the range, from the Severnaya Dvina and the Pechora basins east to the Urals, [*tristis*] overlaps with *Ph. collybita abietinus*. In this overlap zone, the situation is apparently comparable with that of *Ph. ibericus* and *Ph. c. collybita* in N Spain and SW France: locally, both taxa overlap without apparent interbreeding (e.g. in the southern Urals, where both are common), but elsewhere birds with mixed song or mixed plumage characters occur (Marova & Leonovich 1993). These latter birds are found mainly at the extreme western end of the range of *tristis*, where mixing apparently occurs because favoured partners are scarce or unavailable (mixed song may also be due to the fact that pure *tristis* adopts part of the song of the more common *abietinus*). Thus, mating in the overlap area is likely to be assortive, as in the *ibericus/collybita* case, preventing extensive gene-flow between both, a reason to consider *tristis* to be a separate species, an action supported by the fair difference in mitochondrial DNA between both (see Helbig *et al.* 1996).

If vocalisations are already establishing barriers to interbreeding between *abietinus* and

westerly *tristis*, then *tristis* might be better treated as a separate species. In the eventuality that *tristis* were accorded species status, then it might also be preferable to formally recognise the extreme end of its morphological variation, represented by '*fulvescens*'. It is interesting to note at this point that some Russian authors who have recognised '*fulvescens*' as a valid race have further considered that chiffchaffs occupying the Southern Urals result from 'hybridisation' between '*fulvescens*' and *abietinus* (Buturlin & Dementiev 1937, per Irina Marova-Kleinbub). Confirmation of the true taxonomic relationships throughout this region must await more extensive studies, using trapping, DNA and bioacoustic 'play-back' techniques. Much clarification would surely result from a programme to trap singing or calling birds and, from known vocalisation, build up a knowledge of morphology and DNA.

Calls

The typical call of *collybita* and western *abietinus* is a plaintive, soft, modulated and ascending 'hooet' or 'hüit'. It has a discernibly disyllabic structure, though less distinctly so than the comparable call of Willow Warbler. In general, the emphasis lies on the second syllable in Common Chiffchaff, but more evenly on both in Willow Warbler.

The principal call associated with *tristis* is a nearly monosyllabic note, often rendered as 'peet' or similar in English texts but perhaps more accurately transcribed as 'iiihp' (Jännes 2002). It is clearly higher-pitched than the typical call of *collybita*, is rather shrill ('squeaky') and just perceptibly descending towards the end. It is often likened to the distress call of a young chicken, or to the call of Coal Tit *Parus ater*. The call of '*fulvescens*'-type birds is reported to be very similar to, if not identical with, the typical call of *tristis*.

From late summer in Britain, a rather shriller and clipped 'sweeu' is uttered by *collybita* (particularly, if not exclusively, by first-autumn birds). A variant call reported from autumn migrants in western Europe is similarly described, as 'a slightly higher-pitched, faster, and more compressed version of the normal call ('chreep', 'treeu'); but has been attributed to eastern populations of *abietinus* (Jännes 2002). There is some evidence that migrant and wintering populations, assumed to be from different parts of the breeding range, utter slightly

different calls (Copete & Armada 2004). All these variants still lack the shrilly monosyllabic quality of the classic *tristis* call but can be confused when heard in isolation or by those not fully familiar with the 'classic' call.

The characteristic note is a good indicator of *tristis* and some observers believe that *tristis* never utters calls significantly different from this. Variant calls are sometimes ascribed to *tristis*, as in BWP ('Voice', section 4a) and in Clement *et al.* (1998), for example. However, a great deal of ambiguity is evident in the descriptions of 'alternative' calls, which no doubt arises as much from difficulties of transcription as from true variation in the calls. Furthermore, it is likely that some variant calls were reported from individuals whose racial identification was questionable.

Until an unequivocal exposition of variant calls is forthcoming, the identity of any *tristis*-like individual which is not heard to utter the 'classic' call should be regarded as suspect.

What are the 'grey-and-white' *tristis*-like chiffchaffs reported in Britain?

It is clear from the preceding account that much research remains to be done before a clear picture emerges of morphological, vocal and taxonomic limits in chiffchaffs east of the Pechora basin. On current information, it is not possible to equate a distinctively pale, 'grey-and-white' plumage with '*fulvescens*'. Both the type description and the specimens from the designated breeding area indicate that this form is distinguished from 'classic' *tristis* primarily by the presence of limited yellow streaking on the underparts, the eye-ring and the supercilium. Although some features of 'grey-and-white' chiffchaffs appear intermediate between those of *abietinus* and *tristis*, and may result from intergradation between these two subspecies, the appearance of these birds is not typical of '*fulvescens*'.

With regard to reports of '*tristis*-like' chiffchaffs in Britain, the following three factors are all likely to be involved in the high incidence of distinctively 'grey-and-white' individuals:

- (1) 'Paler and greyer' individuals include 'intergrades' between *abietinus* and *tristis*.
- (2) Some 'paler and greyer' individuals are pale extremes of *abietinus*.
- (3) There is a range of variation in the colour of upperparts and underparts in all races of

chiffchaff, and some perceived 'paler and greyer' individuals fall within this range of variation and do not represent a 'discontinuity' in appearance (i.e. there is a certain amount of 'wishful grouping').

Additionally, it is conceivable that:

- (4) A paler and greyer type comes from a little-studied part of the *tristis* range, and is poorly documented in the literature and under-represented in collections. It is perhaps worth recalling here that Severtzov's designation of '*fulvescens*' included a variant '*naevia*' which purportedly lacked yellow and was greyer overall.

The approach to identification must address the full suite of plumage and vocal characteristics, aided at a minimum by high-quality photographs and preferably by trapping (the latter also providing subsidiary if not conclusive biometric data). The criteria as prescribed in the forthcoming edition of *Identification Guide to European Passerines* (Svensson in prep.), and transcribed above, remain the most reliable guide to segregating certain *tristis*, though some genuine *tristis* may be excluded in the process. Unless and until clarification of variant calls is forthcoming, any *tristis*-like individual that does not utter the classic, shrill, almost monosyllabic 'iiihp' should be regarded as questionable. The identity of some individuals will remain speculative; knowledge of the morphology (and taxonomy) of chiffchaffs from European Russia east to the Yenisey is far from complete.

Case studies

Examples of 'grey-and-white' *tristis*-like chiffchaffs were recorded in England at Upton-on-Severn, Worcestershire, and at Coleshill, Warwickshire, during winter 2004/05. Both frequented the vicinity of sewage works, an increasingly common habitat for reports of 'Siberian Chiffchaffs'. The Worcestershire bird was trapped and examined in the hand. Good photographs were obtained of both, and these provide useful illustration of some of the points made above. Although both were rather 'grey and white' the two individuals were somewhat different in appearance in important characters.

The Upton-on-Severn bird

This individual was trapped in December 2004 and found to possess a good suite of characters

for *tristis*. Although quite 'grey and white', it was less pale than the Warwickshire bird and also displayed evident, if limited, buff on the breast and flanks (plates 241 & 242).

In plate 241, note the obvious deep buff on the ear-coverts, upper eye-ring and on the supercilium. There is no yellow away from the bend of the wing, while olive is absent or very limited on the crown and mantle. These are all good indicators of *tristis*. There is olive streaking in the scapulars, while the fringes to the flight feathers are prominent and rather yellowish-olive, more so than is typical in 'classic' *tristis*. In plate 242, note the buff wash to the sides of the throat and on the flanks; this is fairly restricted, however, and the centre of the throat is much whiter. It is unlikely, however, that *abietinus* would ever show no yellow at all away from the underwing in combination with a distinct buff suffusion to the supercilium and underparts.

The general hue of the upperparts is quite grey, enhancing the contrast of the olive fringes in the plumage. In these respects it differs quite significantly from classic *tristis*, which has much more saturated brown or grey-brown upperparts, more prominent buff on the cheeks and throat, and less bright olive fringes, producing a much more subdued appearance overall. The bill of the Upton-on-Severn individual also appears rather more robust than is typical of 'classic' *tristis*, which has a relatively small, dark bill. Compare this individual with the *tristis* in plates 235 & 237 and the *abietinus* in plate 240. The Upton-on-Severn individual may well have originated from the region of sympatry and 'intergrading' of *tristis* and *abietinus*. However,



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241. Purported 'Siberian Chiffchaff' *Phylloscopus collybita tristis*, Worcestershire, December 2004.

Andy Warr



242. Purported 'Siberian Chiffchaff' *Phylloscopus collybita tristis*, Worcestershire, December 2004.

it is greyer than is typical of '*fulvescens*' and lacks the yellow streaking which characterises that form. It is tempting to speculate that its characters recall those which Severtzov ascribed to the variant '*naevia*' but, unfortunately, precise data on the characters and provenance of '*naevia*' are lacking. The call was described as 'like that of *tristis*'. Supplied descriptions and transcriptions included 'monosyllabic "seee", not dissimilar to call of Bullfinch *Pyrrhula pyrrhula*, but higher-pitched and weaker in tone' but also 'almost disyllabic' and 'pseeoo'. The last at least suggests one of the supposed 'variant' calls of *tristis* or the call ascribed to eastern *abietinus* rather than the virtually monosyllabic and shrill 'peet' or 'iiihp' of classic *tristis* (see above). A rather similar-looking individual, judging from a published photograph, was observed in Lincolnshire during 11th–15th

Steve Seal



243. Purported 'Siberian Chiffchaff' *Phylloscopus collybita tristis*, Warwickshire, February 2005.

March 1989 (Catley 2000). That bird was heard singing and calling, and the description of its vocalisations shows clear affinities with *tristis*.

The Coleshill bird

The Coleshill bird was especially pale, with markedly grey-looking upperparts and 'clean' whitish underparts (plate 243). Several observers commented that its general hues recalled a Bonelli's warbler while, at a distance when flycatching, the whiteness of the underparts even prompted comparisons with Spotted Flycatcher *Muscicapa striata*. This individual was a prime example of the divergence in opinion over *tristis* characteristics, with views strongly divided between those who regarded it as a 'good *tristis*' and those who deemed it to be an 'intergrade' or a pale *abietinus*.

Several early and more distant photographs suggested a tinge of yellow on the fore-supercilium and this encouraged speculation that the bird was an 'intergrade'. It was clear, however, that many such photographs were not 'colour neutral'. In some, although admirably sharp, the bird looked too brown above and the olive fringes to the flight feathers, quite clear in the field, were suppressed.

Thanks to the persistence of one or two photographers, photographs of high fidelity were eventually obtained. The colour balance of these pictures (reproduced here) is clearly accurate, matching impressions in the field and also spanning the full range of hues through white, buff, yellow and olive. These photographs demonstrate that the supercilium was in fact light buff above the lores (and not yellow). It is clear from this experience that 'buff' may be translated into a 'tinge of yellow' in digital photographs, particularly if the image size is rather small.

At face value, there are several characters visible in the photograph of the Coleshill bird which suggest *tristis*. Olive is confined to the scapulars, back, rump and edges to the flight feathers. There is no olive on the crown or upper part of the mantle. The only yellow is at the bend of the wing and a limited amount on the underwing coverts (plate 244). All these features are good *tristis* characters. Although buff is present in the



Brian McGeough

244. Purported 'Siberian Chiffchaff' *Phylloscopus collybita tristis*, Warwickshire, February 2005.

supercilium, it is confined to the front of the eye. To the rear of the eye the supercilium is white and, together with the ear-coverts, is less extensively buff than in 'classic' *tristis*. The fringes of the flight feathers are again a little more yellowish-olive than is typical in *tristis*. The bare parts are also an area of concern. The cutting edges to the bill are arguably rather extensively pale for *tristis*. More importantly, the legs and especially the upper surface of the feet are less intensely black than on the majority of 'classic' *tristis*.

The most pronounced features of this individual were its paleness and generally grey-and-white appearance. Above all else, its paleness and white underparts led many observers to conclude that 'it must be something different'. This was certainly an extremely pale chiffchaff but such a degree of paleness is not characteristic of *tristis*, certainly not 'classic' individuals from east of the Yenisey. There is none of the saturated colour of the upperparts which characterises 'classic' *tristis*, nor the buff wash on the breast and flanks. Various descriptions of its call were forthcoming but, again, these did not include the almost monosyllabic 'peet' or 'iiihp' of classic *tristis* and at least some observers reported a clearly disyllabic call which they regarded as 'not that different from *collybita*'.

While the absence of yellow (apart from on the underwing) and the lack of olive in the crown and upper mantle suggest *tristis* introgression, the appearance of this individual does

not correspond with '*fulvescens*' as defined and discussed above. Even among the experts consulted there was no unanimity of opinion on the identity of this individual. It remains a possibility that individuals like this are *abietinus* from the easternmost part of the range. The bird's appearance cannot be matched by specimens in the collection at NHM, Tring (pers. obs.), but the specimen collection at Amsterdam apparently includes examples of *abietinus* from European Russia (south Volga) which are not dissimilar to the Warwickshire individual (C. S. Roselaar *in litt.*).

One final item of interest is that a number of *tristis* and *tristis*-like individuals in Britain have been reported as calling relatively infrequently compared with *collybita* and *abietinus* associating with them. This infrequent calling was noted for both the Worcestershire bird and the Warwickshire individual.

Summary

- Considerable confusion surrounds the systematic and morphological limits of Common Chiffchaff of the Siberian subspecies *tristis*.
- The plumage of typical *tristis* from east of the Yenisey is predominantly brown or greyish-brown on the upperparts; the underparts are suffused with buff, particularly across the breast and lower throat; and yellow is lacking



Steve Seal

245. Purported 'Siberian Chiffchaff' *Phylloscopus collybita tristis*, Warwickshire, February 2005.

in the plumage, apart from at the bend of the wing and on the underwing-coverts. It is rather similar to Mountain Chiffchaff although, unlike that species, it has olive fringes to the flight feathers and an olive tinge on the lower back and rump.

- In contrast, many *tristis*-like individuals reported in Britain are decidedly pale and grey, often with conspicuously white underparts. Such individuals are frequently attributed to the form '*fulvescens*', which is generally regarded as a westerly component of *tristis*, breeding between the Pechora basin and the Yenisey.
- The form '*fulvescens*' was originally described by Severtzov in 1873, from a series of migrants taken in Central Asia. Both the basic description from the 'type series' and the more recent examinations of specimens from western Siberia indicate that '*fulvescens*' is *not*, however, noticeably greyer or whiter than more easterly *tristis*. Rather, it differs primarily in the presence of limited yellow streaking at the sides of the breast, in the supercilium and on the upper part of the eye-ring. This additional yellow has been interpreted by some researchers as indicative of intergradation between *tristis* and *abietinus*.
- Research within the breeding range has produced conflicting conclusions about the status of '*fulvescens*'. Opinion remains divided as to whether '*fulvescens*' results from widespread and unhindered interbreeding between *tristis* and *abietinus* in a zone of sympatry (a 'hybrid swarm') or whether it is simply a westerly component of *tristis*.
- An alternative scenario is that limited interbreeding occurs between *tristis* and *abietinus* but that reproductive barriers are already developing, based primarily on vocal differences, and that breeding is to some extent assortive. Under this scenario, *tristis* may be better treated as a separate species and '*fulvescens*' perhaps should be regarded as a subspecies of *tristis*.
- From specimens, it is not possible to detect a grouping of individuals from one part of the range of *tristis* (including '*fulvescens*') which is conspicuously 'greyer and whiter' than the remainder.
- Although some 'grey-and-white' chiffchaffs may involve intergrades, their appearance does not match typical '*fulvescens*'. A variant '*naevia*' included by Severtzov in the 'type

description' was noted as lacking yellow, at least in juvenile plumage, and being greyer overall. However, the location of the type specimen of '*naevia*' is currently unknown, so its precise characters are uncertain.

- Other reports of 'grey-and-white' chiffchaffs almost certainly include pale extremes of *abietinus* from European Russia, which may be surprisingly deficient in both olive and yellow. It is also conceivable that a paler and greyer type exists in a little-studied part of the *tristis* range, and is poorly documented in the literature and little represented in collections. Finally, the extent of individual variation among the westerly races of chiffchaff must not be underestimated.
- The full plumage limits of *tristis* and *abietinus*, and the extent of their overlap, remain to be determined. The most reliable criteria for segregating certain *tristis* are presented above (and will be published in the forthcoming edition of *Identification Guide to European Passerines*), although they may exclude some genuine *tristis*. Plumage and biometric criteria should be supported by precise interpretation of vocalisations.

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Appendix 1: Identification of *Phylloscopus collybita abietinus* (Nilsson 1819)

Taken from Svensson (in prep.). *Ssp. collybita* and *abietinus* are extremely similar. When long and comparable series (same season, similar wear, etc.) are examined, the following characteristics emerge (all measurements in mm unless stated, primaries numbered ascendantly):

(1) *Ssp. abietinus* is slightly larger; wing-length on skins up to 68 mm, whereas *collybita* has a maximum of 63 mm. In more detail:

abietinus ♂♂ 59.5–68, *m* 63.77, *n* 35; ♀♀ 57–64, *m* 60.08, *n* 12;

collybita ♂♂ 55.5–63, *m* 60.08, *n* 77; ♀♀ 52.5–60, *m* 55.87, *n* 43.

For live birds, an additional 1 mm to all measurements should be allowed.

(2) *Ssp. abietinus* has, on average, subtly paler upperparts, which are a little purer greyish-green; whereas *collybita* is a trifle darker and slightly tinged brown, primarily on mantle and crown. With increasing wear in late May, some *collybita* attain a darker, more brown-grey crown than the more greenish mantle, producing a contrast which is rarely as pronounced on *abietinus* (usually no more than a slight suggestion). The darker crown in (some) *collybita* is partly due to darker feather-bases being exposed (perhaps due to somewhat earlier and heavier wear), but also to a slightly darker ground colour.

(3) The tarsi in *abietinus* are, on average, slightly darker than in *collybita*, blackish-brown (sometimes described as ‘dark flesh’) rather than medium to dark brown.

(4) The distance between first and second primaries (P1 < P2), is on average slightly shorter in *collybita* than in *abietinus*: in *collybita* 19–26, *m* 23.13, *n* 118, in *abietinus* 22.5–29.5, *m* 25.88, *n* 51.

(5) The distances between tip of wing (P4) and outermost secondary (S1), tenth primary (P10), and tip of primary-coverts (PC) differ as follows: P4 > S1 in *abietinus* 11.5–15, in *collybita* 9–12.5; P4 > P10 in *abietinus* 10–13, in *collybita* 8.5–11; P4 > PC in *abietinus* 35–41, in *collybita* 31–39.

(6) *Ssp. collybita* has marginally longer bill (to skull) but shorter wing. The ratios between these (Bs/W x 100) are as follows: *abietinus* 16.4-19.1 (n 45), although some females with wing shorter than 60 mm maybe up to 19.7 (n 3); *collybita* 17.9-22.4 (n 111).

(7) By using a more elaborate formula, more birds can be separated:
 $(P4 > P10) + (P4 > SI) + (P2 > PI) - \text{tarsus} - (\text{Bs/W} \times 100) = \text{MCV}$

If MCV (*Multiple Character Value*) is greater than 10.0, the bird is most likely an *abietinus*, if less than 10.0 it is probably a *collybita*. The variation in the two taxa is 8.0-19.9 in *abietinus*, and 10.7 or less in *collybita* (including negative values). Only 12 out of 125 (9.6%) fell in the overlap zone 8.0-10.7. Furthermore, 85% of all *abietinus* (n 40) had a value greater than 10.0, 93% of all *collybita* (n 85) had a value lower than 10.0. The MCV is partly a function of an average slight difference in wing formula, *abietinus* having a slightly more pointed wing than *collybita* (for instance, male *abietinus* much more often having $P2 = 6/7$ than male *collybita*). There is, however, much overlap and little guidance from the position of P2 alone.

The above guidelines are aimed primarily at ringers and museum researchers, but should be of some use in the field. Apart from those listed, subtle and average differences exist in structure and proportions, e.g. *collybita* often appears larger-headed and/or shorter-necked, and *abietinus* somewhat more elongated and long-winged. However, these characters are more variable and 'personal' and should be applied with caution; they also depend significantly on the general size of each bird.

Descriptions often mention that *abietinus* has, on average, whiter underparts than those of *collybita*. It is true that an average difference exists, but the underparts coloration is more variable than often perceived, with near-total overlap between the two taxa when the very pale birds in the extreme northeast of the range are excluded. For these pale birds, though, the near-total lack of yellow beneath (except on the underwing) becomes an additional character for *abietinus* as opposed to *collybita*.
