

Identification and temporal distribution of hybrid redstarts and Eastern Black Redstart in Europe

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Hybridisation between Western Black Redstart *Phoenicurus ochruros gibraltariensis* (hereafter *gibraltariensis*) and Common Redstart *P. phoenicurus phoenicurus* is not uncommon (Berthold et al 1996, Ertan 2006). The phenotypes of their offspring (cf McCarthy 2006) show a variable combination of plumage features. Some of these birds closely resemble Eastern Black Redstart *P. o. phoenicuroides* (hereafter *phoenicuroides*), an identification pitfall described by, eg, Nicolai (1996) and Steijn (2005). The wing formula is usually regarded as the only diagnostic feature to separate *phoenicuroides* from hybrids and, as a consequence, good quality photographs are usually needed to get a field record accepted by European rarities committees. In this paper, we present a combination of features that allows nearly all male hybrids to be identified based on plumage alone. Note that we only take the subspecies *phoenicuroides* into account and not any of the other eastern subspecies of Black Redstart: although some of the hybrid characters rule out *phoenicuroides*, they do not (necessarily) rule out the (south-)eastern Black Redstart subspecies *P. o. ochruros*, *P. o. semirufus* and *P. o. rufiventris*. The latter three taxa are, however, mainly sedentary or short-distance migrants and do not show the vagrancy pattern of *phoenicuroides*. Although the range of Common Redstart overlaps with that of the (south-)eastern Black Redstart taxa (including *phoenicuroides*), hybridisation between Common Redstart and other taxa than *gibraltariensis* has to our knowledge not (yet) been described (Clement & Rose 2015).

In this paper, we also present an identification feature that, as far as we are aware of, has not been described before: the shape and size of the breast-patch. This feature alone enabled us to rule out *phoenicuroides* in half of the analysed hybrids. Finally, we present the temporal distribution of both hybrids and *phoenicuroides* in Europe and show that there is very little overlap. We therefore believe that male *phoenicuroides* can be identified with reasonable certainty in autumn and early winter without using the wing formula. This paper

may not be the final word on this matter but we hope it results in a more complete overview – and more identified redstarts, of course!

Methods

In this study, we analysed 66 hybrid males Common x Black Redstart (including two captive birds) and 50 males *phoenicuroides* (vagrants in Europe and both wintering and breeding males in their natural ranges in Asia) found on the internet and in journals. For three of the hybrids, we considered the photographic material too poor, while one trapped bird was not photographed. Analysis of plumage details was thus performed for a subsample of 62 hybrid birds. A slightly complicating factor for the analysis of hybrids (but not *phoenicuroides*!) is the occurrence of *gibraltariensis* with orange bellies. Pure *gibraltariensis* normally either have no (reddish) orange on the underparts at all, or some on the lower belly. However, seemingly pure birds, otherwise resembling *gibraltariensis* in plumage and wing structure, with larger amounts of orange on the underparts than usual are known to occur (eg, <https://tinyurl.com/y6uhbp2s>; Martinez et al in prep). These birds are easy to distinguish from *phoenicuroides* but, on plumage alone, they are to our knowledge impossible to diagnostically separate from a small percentage of the hybrids and potential backcrosses. Our sample size of hybrids includes five of these birds that are either unusual *gibraltariensis* or hybrids, all birds where the wing formula could not be checked. The combination of plumage features we present, however, is also valid for these birds.

We divided the useful plumage features into two categories: **1** typical features of hybrids that appear to rule out *phoenicuroides* with certainty; **2** supporting features that are not necessarily diagnostic but which fit hybrids (much) better than *phoenicuroides* as they are (far) more commonly found in the former, and/or are subject to some degree of perception by the observer (eg, when are the upperparts just slightly too dark?). Birds

that obviously show several of these characters should be hybrids, while other birds are best left unidentified. Suffice to say that if a bird shows the correct wing formula (taking into account the overlap with hybrids), the features of category 2 should not be used to question its identity.

To study differences in temporal distribution, we analysed all observations of hybrid males (except for the two captive birds) and added an observation of a trapped female-type hybrid to the dataset, for a grand total of 65 hybrid birds. Since the length of stay was unclear in the majority of the territorial hybrids, we only used the first date of observation. Hence, the presence of long-staying birds was not counted in the months after their arrival. Territorial hybrids that returned the following year were only included for the first year they were found. For the temporal distribution of *phoenicuroides* in Europe, we used 65 European records of birds accepted up to April 2018 (Łukasz Ławicki in litt). More material can be found at www.turnstones.org (in English) and <https://bebbibabbler.jimdo.com/projekte/rotschwanz-hybriden> (in German) and includes references to

all analysed birds and additional instructive photographs.

Plumage identification features

Primary spacing

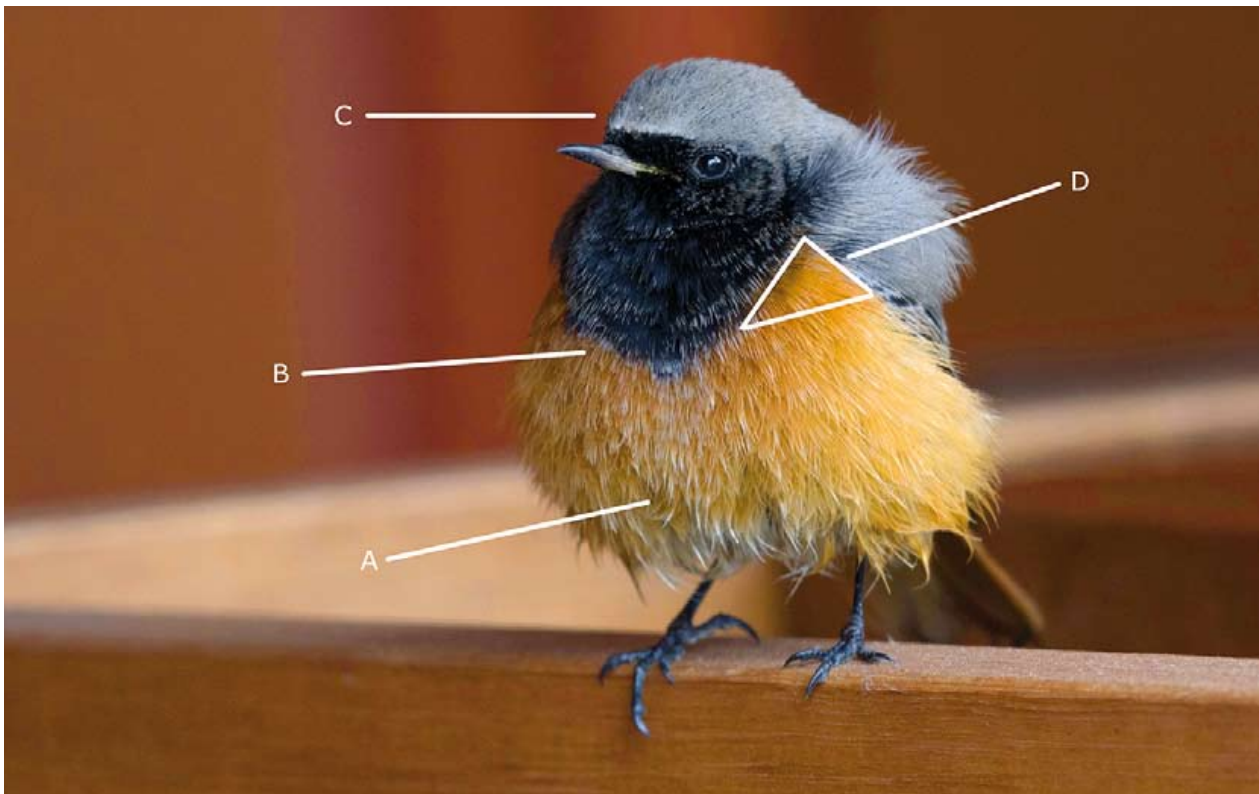
For 18 out of the 62 hybrid males (29%), the ratio of the primary spacing could be judged. In 16 birds, this ratio clearly indicated a hybrid origin (based on Steijn 2005), while the other two showed an overlapping ratio. Note that although it is usually regarded as diagnostic, the wing ratio of hybrids and *phoenicuroides* shows a degree of overlap (Steijn 2005; Martinez et al in prep), a fact that often seems to be overlooked.

Breast-patch

An identification feature that has not been discussed in the literature (eg, Nicolai et al 1996, Steijn 2005, Petersson et al 2014) is the shape and size of the breast-patch. Autumn and early winter male *phoenicuroides* show a sharply demarcated dark breast-patch connected to the dark throat. After the post-juvenile moult, these feathers are

192 Eastern Black Redstart / Oosterse Zwarte Roodstaart *Phoenicurus ochruros phoenicuroides*, second calendar-year male, Nieuwe Statenzijl, Groningen, Netherlands, 6 March 2018 (Arnaud B van den Berg/The Sound Approach). In *phoenicuroides*, smallest breast-patches roughly equal median coverts when seen in profile (A), while largest ones reach centre of belly, slightly past greater coverts (B). This bird has fairly large patch.

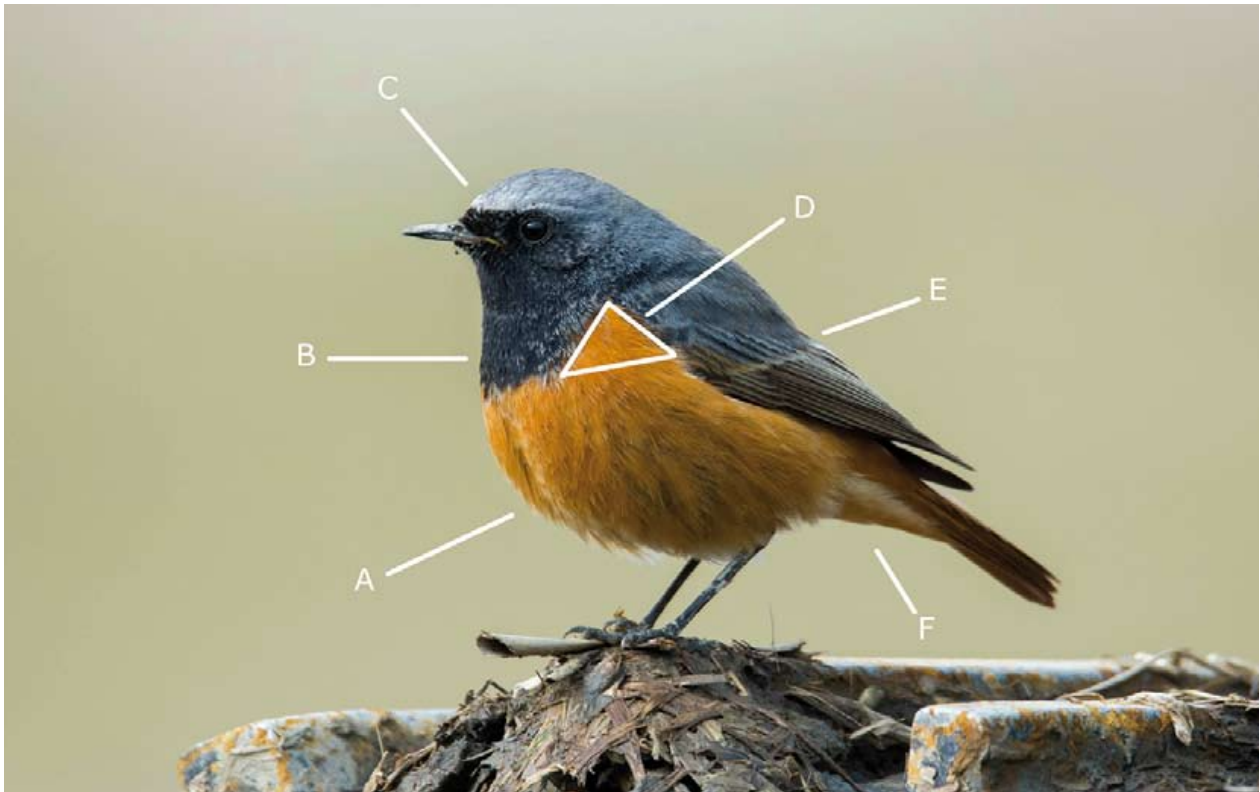




193 Eastern Black Redstart / Oosterse Zwarte Roodstaart *Phoenicurus ochruros phoenicuroides*, second calendar-year male, Barendrecht, Zuid-Holland, Netherlands, 14 January 2017 (Peter Soer). Note following characters: **A** many *phoenicuroides* show orange feathers with white edges but never broad pure white band reaching upper belly and breast; **B** neat, oval shaped blackish breast-patch with deepest point in centre; **C** (very) little white on forehead; and **D** orange triangular shaped patch between blackish breast-patch and wing is solid feature of *phoenicuroides* males.

still fresh and have greyish edges that will disappear over time due to wear: in summer plumage, the patch is black. In late autumn, some birds already show a largely black patch but in most others it is either still greyish, or a mixture of black and grey. Though variable in size, the patch is never restricted to the throat, nor does it reach the lower parts of the breast or the belly. The deepest point is in the centre of the breast and the patch is oval in shape. When seen in profile, the deepest point of the smallest patches roughly equals the base of the median wing-coverts, while in the largest it reaches the centre of the belly (plate 192). Usually, the edges of the breast-patch are neat. An important feature is that there is an orange triangular shaped area between the breast-patch, the alula and lesser and median wing-coverts and the flank (plate 193-194). We tested this feature on 50 photographs of *phoenicuroides*; 49 showed this feature and the 50th bird only had a little bit of grey on the otherwise orange triangle,

so this seems to be a constant feature in *phoenicuroides*, also in summer-plumaged birds. We judged the presence of this 'orange triangle' in 62 hybrids. It appears to be a useful feature to separate hybrids from *phoenicuroides*, since exactly half of all hybrids ($n=31$) lacked the triangle. In these birds, this area was either completely or, in a few cases, mostly grey or black (plate 195-196). In hybrids, the size and pattern of the lower end of the breast-patch varies greatly. In some birds, the patch reaches the lower belly and/or the flank, which excludes *phoenicuroides*. In some others, the shape is more or less square instead of oval. In hybrids that have a breast pattern resembling *phoenicuroides*, the edges are often less neat. These birds have a more irregular, messy looking pattern, occasionally resulting in isolated dark spots on the orange parts of the breast, belly and/or flank. Note that there is some variation in neatness of the patch in *phoenicuroides* (some do look less neat) but we did not come across any with



194 Eastern Black Redstart / Oosterse Zwarte Roodstaart *Phoenicurus ochruros phoenicuroides*, second calendar-year male, Nieuwe Statenzijl, Groningen, Netherlands, 10 March 2018 (Marnix Jonker). **A** underparts mostly orange, but small amount of white is not unusual. No dark feathering on flanks and no dark, isolated spots; **B** oval shaped breast-patch; **C** little white on forehead (no white band); **D** orange triangle spot on for *phoenicuroides*; **E** no rusty fringes on greater coverts; moult limit with five new greater coverts gives this bird away as first-winter; **F** undertail-coverts are on paler end but central coverts appear to have same colour as underparts.

isolated dark spots. This seems to be diagnostic for hybrids, in which it occurred in 21% (n=13) of the birds. In reality, this percentage may be higher because it can usually only be judged in reasonably good photographs.

Other plumage features

Based on Steijn (2005) and van Duivendijk (2011) and on the new knowledge presented here, we summarise the features that can distinguish a hybrid from *phoenicuroides* (table 1). For a correct identification, it is crucial to accurately assess multiple features. We highlight four, since they form an addition to previous literature.

First of all, a new hybrid feature was discovered recently. Feathers on the back, tertials and greater coverts of seven studied captive-bred males showed rusty margins, and sometimes even gave the impression of a rusty wing bar. This seems to be a feature inherited from Common Redstart and is not present in Eastern Black Redstart (Martinez et al in prep). It however appeared to be hard to judge on most photographs of wild hybrids. In

several well-photographed birds it was certainly absent. This feature should be explored further in the future.

Second, male Common Redstarts have a broad, pure white band on the belly, often reaching to the lower breast and this feature also occurs in hybrids. Steijn (2005) stated that *phoenicuroides* has no white on the central and lower belly. However, fresh autumn males often do have some white. This does not mean that it is not a useful identification feature, because the pattern and amount are different. Fresh *phoenicuroides* often only has white tips to the orange feathers (that wear off later) especially around the legs and lower belly. The white areas are less extensive than in Common: bands on the belly are much smaller and interspersed with orange. Hence, some white is not problematic for *phoenicuroides* but a broad, pure white belly and patches that even reach all the way up to the breast-patch ('splitting' the orange belly in two) are still useful hybrid characteristics, shown by at least 47% of the hybrids (n=29). Not all bellies could be checked suffi-

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TABLE 1 Summary of two categories of plumage features in hybrids Black x Common Redstart *Phoenicurus ochruros* x *phoenicurus*. Category 1: diagnostic hybrid features, Category 2: supporting hybrid features. Features are compared with Western Black Redstart *P o gibraltariensis*, Eastern Black Redstart *P o phoenicuroides* and/or Common Redstart.

Head	<p>Category 2</p> <ul style="list-style-type: none"> • large white forehead patch, as in <i>phoenicurus</i> ⇔ in autumn/winter, <i>phoenicuroides</i> usually has weak patch or just small white dot; however, note that <i>phoenicuroides</i> occasionally shows quite some white on forehead
Underparts	<p>Category 1</p> <ul style="list-style-type: none"> • area between breast-patch and alula/lesser and median wing-coverts (largely) grey or black ⇔ orange triangle in <i>phoenicuroides</i> • breast-patch reaching lower breast or even belly ⇔ only reaches to upper breast in <i>phoenicuroides</i> • square-shaped breast-patch ⇔ oval in <i>phoenicuroides</i> • grey or black feathers on flank ⇔ always orange in <i>phoenicuroides</i> • completely pale or cream coloured underparts, with faint orange hue ⇔ vivid orange in <i>phoenicuroides</i>, both in first calendar-year birds and adults • isolated grey or black spots on orange parts ⇔ probably never present in <i>phoenicuroides</i> • undertail-coverts whitish (sometimes with faint orange hue) ⇔ although sometimes less vivid than belly, always orange in <i>phoenicuroides</i> • broad, pure white band on belly, reaching breast or even breast-patch (splitting belly into two halves) ⇔ fresh <i>phoenicuroides</i> often shows white tips on orange feathers, but these areas are never very broad, do not 'split' belly and are always interspersed with orange <p>Category 2</p> <ul style="list-style-type: none"> • edges of breast-patch messy ⇔ usually fairly neat in <i>phoenicuroides</i>
Upperparts	<p>Category 2</p> <ul style="list-style-type: none"> • dark, blackish-grey upperparts, as in <i>gibraltariensis</i> resulting in little contrast with facial mask ⇔ in <i>phoenicuroides</i>, back usually grey or grey-brown, especially in first calendar-year birds and birds of northern part of breeding range (Ayé et al 2012); feature sometimes hard to assess, depending on light conditions
Upperwing	<p>Category 1</p> <ul style="list-style-type: none"> • large, white wing-panel as in adult <i>gibraltariensis</i> ⇔ see below • rufous fringes on the greater coverts and tertials, occasionally forming a small, rufous wing-bar <p>Category 2</p> <ul style="list-style-type: none"> • small white wing-panel ⇔ <i>phoenicuroides</i> may show small wing-panel (contra Steijn 2005), even with whitish edges, though usually edges of tertials and secondaries edged pale/buff instead of white
Underwing	<p>Category 1</p> <ul style="list-style-type: none"> • no orange on axillaries ⇔ invariably orange in <i>phoenicuroides</i> (but also in most hybrids)

ciently on the available photographic material, so in reality this percentage could even be higher.

Furthermore, Steijn (2005) mentioned that *phoenicuroides* has no white wing-panel. Although it is true that most have buffy or pale edges to the inner secondaries and tertials only, a minority does have white edges, forming a small wing-panel (possibly more often in summer-plumaged birds than in young autumn males). *Phoenicuroides*, however, never shows a large white panel as in adult *gibraltariensis* or as in 26% of the hybrids (n=16). Because small panels are common in hybrids, the presence of any obvious wing-panel is a strong indication for a hybrid origin. Please note

that wing-panels in hybrids are both age related (as in *gibraltariensis*) and effected by wear (Martinez et al in prep).

Finally, Steijn (2005) stated that some hybrids show less vividly coloured underparts. This is correct but we like to clarify how pale they can sometimes be. In our analysis, nearly 10% of the hybrids (n=6) showed completely pale or creamy underparts with just a slight orange hue (eg, Lindholm 2001), with one bird seemingly even without any orange coloration. Though only shown in a minority of the hybrids, this peculiar feature (that also occasionally occurs in second calendar-year male Common Redstarts), diagnos-

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TABLE 2 Identification of male hybrid Black x Common Redstart *Phoenicurus ochruros x phoenicurus* based on plumage features in table 1 (n=62)

Diagnostic category 1 features clearly proves hybrid origin	n=57	
Combination of category 2 features strongly indicates hybrid origin	n=1	
Hybrids that should not be problematic	n=58	93.5%
Apparent <i>phoenicuroides</i> look-alikes but with only one very subtle diagnostic category 1 feature proves hybrid origin	n=1	
Apparent <i>phoenicuroides</i> look-alikes with one category 2 feature, either indicates hybrid origin or leave bird unidentified	n=1	
Apparent <i>phoenicuroides</i> look-alikes but photographic material insufficient to judge more features	n=1	
Potentially problematic birds	n=3	5%
<i>Phoenicuroides</i> look-alikes with good photographic material	n=1	
Problematic birds	n=1	1.5%
Total	n=62	100%

TABLE 3 Category 1 features found in male hybrid Black x Common Redstart *Phoenicurus ochruros x phoenicurus*, based on entire sample size (n=62) and on sample in which feature could be assessed with certainty*

Category 1 feature (sample size)	Number of males	Percentage
Breast-patch (n=62)	31	50%
Breast-patch (n=49*)	31	63%
White on underparts (n=62)	29	47%
White on underparts (n=52*)	29	56%
Large white wing-panel (n=62)	16	26%
Large white wing-panel (n=53*)	16	30%
Whitish undertail-coverts (n=62)	12	19%
Whitish undertail-coverts (n=36*)	12	33%
Pale-coloured underparts (n=62)	6	10%
Isolated black spots (n=62)	13	21%

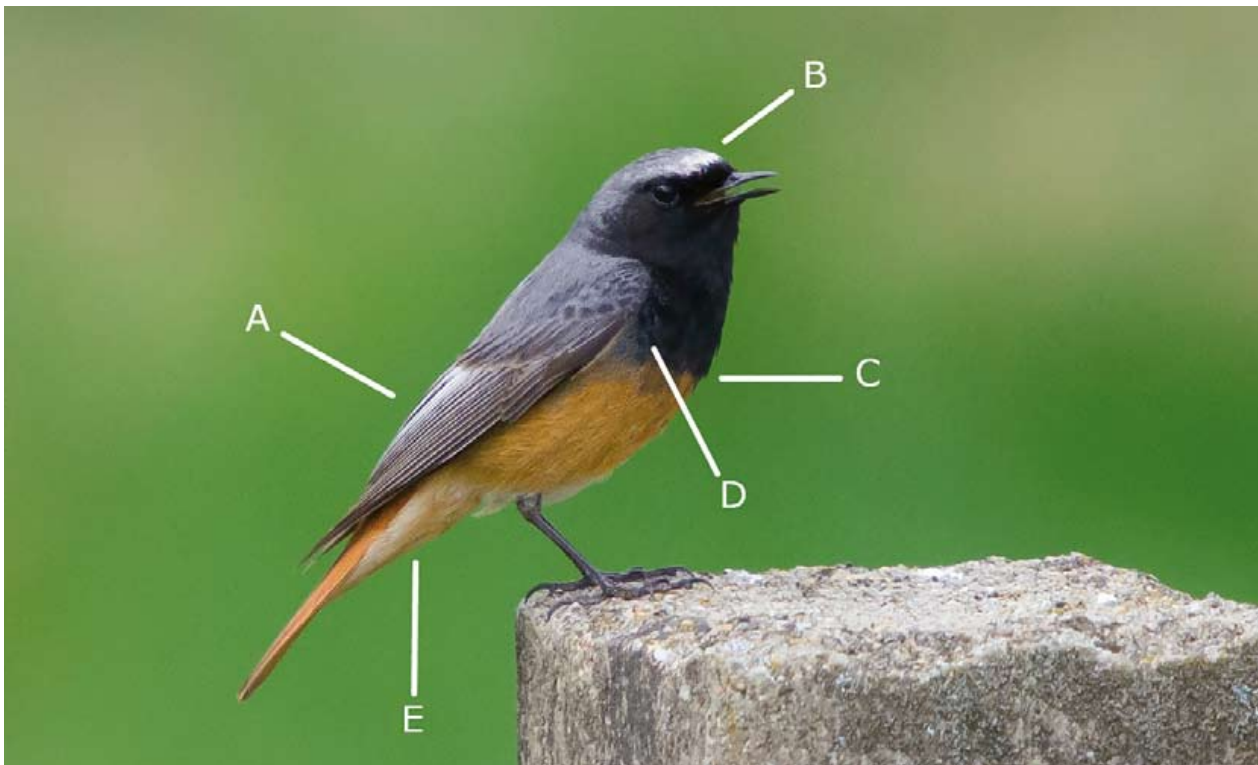
tically separates these birds from *phoenicuroides*. This feature seems to be present in younger hybrid males only (Martinez et al in prep).

Up to 94% (n=58) of the photographed hybrid males showed one or more diagnostic category 1 features (table 2-4; for examples, see plate 195-197). It must be noted that one individual only showed one very subtle diagnostic feature and no obvious category 2 features; it only had isolated black spots on the belly and this bird would have been problematic if it had not been photographed so well. Of the four remaining birds, one showed three category 2 features: a little too much white on the belly, a small but obvious white wing patch and a quite extensive white forehead patch: we believe these clues are sufficient to identify it as a hybrid. The second bird only showed one category 2 feature: a medium-sized white wing-panel

TABLE 4 Number of category 1 features found in male hybrid Black x Common Redstart *Phoenicurus ochruros x phoenicurus* (n=62)

Number of category 1 features	Number of males	Percentage
no category 1 features	4	6%
1 category 1 feature	13	21%
2 category 1 features	23	37%
3 category 1 features	16	26%
4 category 1 features	6	10%

(the edges of the breast-patch were also a bit messy but not out of range for some *phoenicuroides*), so this certainly was a tricky bird. However, the belly could not be assessed well on the available photographs. The two remaining birds could both pass as *phoenicuroides*, although for one bird only a single photograph of moderate quality was available, making it impossible to check all features well. The bird seemed to show quite some white on the belly and forehead, and the back looked darkish, but in general it did resemble a *phoenicuroides*. When so little photographic evidence is available, it is best to leave a bird unidentified. The remaining (well-photographed) bird concerned a second calendar-year hybrid male photographed by Herman Blockx at Gent, Oost-Vlaanderen, Belgium, on 21 June 2015: it very much resembled *phoenicuroides*



195 Hybrid Black x Common Redstart / hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros* x *phoenicuroides*, male, Hilchenbach, Nordrhein-Westfalen, Germany, 27 April 2012 (Michael Frede). This bird ticks lot of hybrid boxes and is, like majority of hybrids, fairly easy to separate from Eastern Black Redstart *P o phoenicuroides* by combination of: **A** large white wing-panel; **B** fairly large white forehead-patch (although not outside range of *phoenicuroides*); **C** square-looking breast-patch (diagnostic) with messy edges; **D** lack of orange triangular shaped patch (diagnostic); and **E** very pale undertail-coverts. In other photographs, this bird also shows fairly large amount of pure white on belly up to breast-patch, as well as wing formula fitting hybrid.

(plate 198-199). Even though this bird showed some (very) subtle clues that could be placed in category 2, these certainly are subject to the perception of the observer and possibly open for debate. The primary spacing (c 1:1.28), however, proved its hybrid origin.

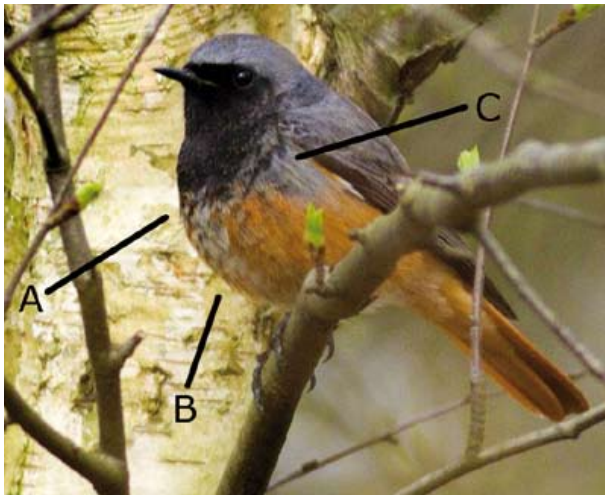
Temporal distribution

Since Steijn (2005), the vagrancy pattern of *phoenicuroides* in Europe has become much clearer. We now know that *phoenicuroides* arrives in late autumn, corresponding with other vagrants with overlapping breeding ranges, such as Hume's Leaf Warbler *Phylloscopus humei* and Desert Wheatear *Oenanthe deserti*. We also know that birds occasionally winter and that influxes occur, like in 2011 and 2016. While reviewing *phoenicuroides* records in Britain, Stoddart (2016) noted: 'For a suitable looking bird in late autumn a hybrid is no longer the default option'. After analysing the temporal distribution of both hybrids and vagrant *phoenicuroides* in Europe we support his point of view. The temporal distribution of hybrids and

phoenicuroides in Europe seems to differ (figure 1). 85% of all hybrids were reported between April and September, with only one European record of *phoenicuroides* during the same period (Sommarö, Inkoo, Finland, 22-26 May 2011). The fact that many hybrids were territorial and therefore relatively easy to detect, causes a bias in the spring records. With only six reported hybrids between August and October, their autumn migration largely stays under the radar. Only three (alleged) hybrids occurred between mid-October and February, while 62 *phoenicuroides* (out of 65 records) were recorded during this period. It is noteworthy that none of the four hybrids that occurred between mid-October and February phenotypically resembled *phoenicuroides*. These birds may in fact very well have been orange-bellied (but pure) *gibraltariensis* instead of hybrids (plate 200).

Especially since Steijn (2005), many European birders are more aware of the vagrancy potential of *phoenicuroides*, so there is no doubt that a Black Redstart-like bird with an orange belly rais-

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196 Hybrid Black x Common Redstart / hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros* x *phoenicurus*, male, Leusden, Utrecht, Netherlands, 14 April 2010 (*Rutger Wilschut*). Quite easily identified as hybrid by combination of: **A** messy looking edges of breast-patch; **B** white band splitting belly into two orange halves and with isolated black spots on orange parts (diagnostic); and **C** lack of orange triangle on breast-side (diagnostic), with grey in this area reaching flank (diagnostic). **197** Hybrid Black x Common Redstart / hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros* x *phoenicurus*, male, Grenzach-Wyhlen, Baden-Württemberg, Germany, 31 March 2013 (*Daniel Kratzer*). Bird superficially resembles Eastern Black Redstart *P o phoenicuroides*. Although breast-patch is on small end, shape matches *phoenicuroides*. However note: **A** seemingly large amount of white on belly (better visible in other photographs of this bird); **B** white vent and undertail-coverts; and **C** fairly large white wing-panel diagnostically ruling out *phoenicuroides*. There also seem to be subtle isolated dark markings on underparts. **198-199** Hybrid Black x Common Redstart / hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros* x *phoenicurus*, second calendar-year male, Gent, Oost-Vlaanderen, Belgium, 21 June 2015 (*Herman Blockx*). Only example of well-photographed hybrid that may pass as *phoenicuroides* based on plumage features. It lacks any category 1 features, and category 2 features are so subtle that they are debatable. Note that edges of breast-patch are not neat and that orange triangular-shaped patch is intruded by black edges of breast-patch. Back is quite dark (but not outside range of *phoenicuroides*). Given range of white flecking, bird might develop large white forehead-patch with age. Like second calendar-year Western Black Redstart *P o gibraltariensis*, lack of white wing-panel is not unusual for second calendar-year hybrids.

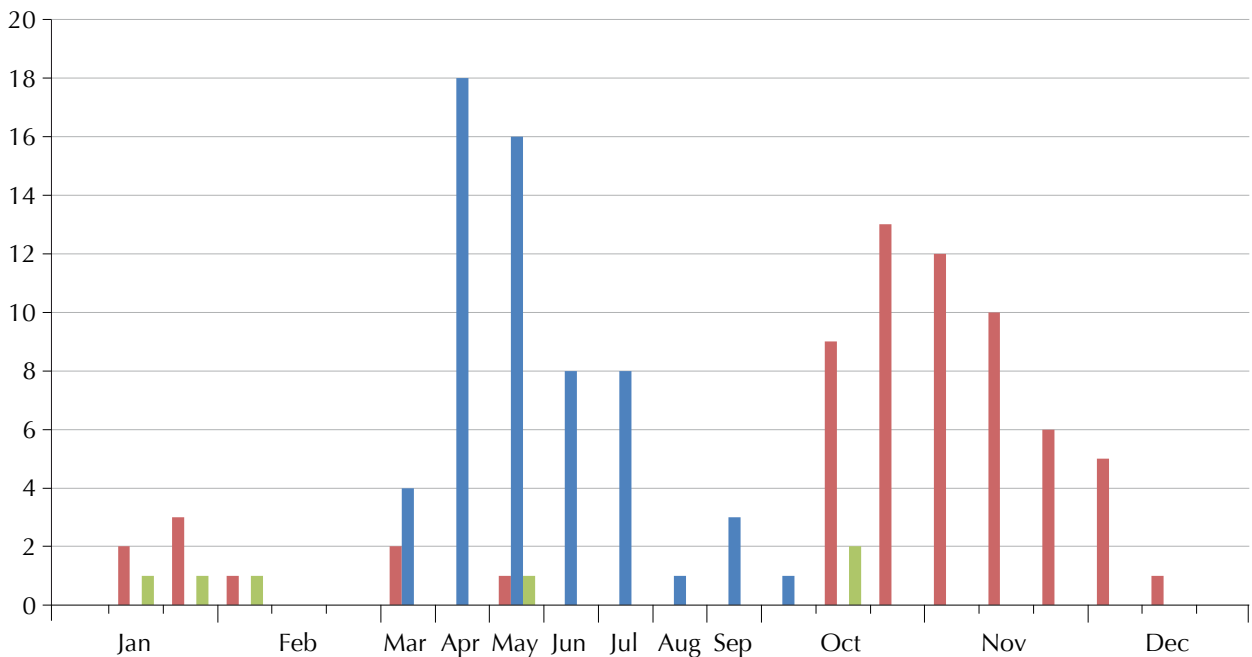
es attention. Yet, this has not led to a significant number of hybrid records in late autumn and early winter, while 10s of confirmed *phoenicuroides* have been found since. Trapped birds, although concerning a small sample (n=9 in both hybrids and *phoenicuroides*), show a similar pattern (though it must be noted that both several hybrids and *phoenicuroides* were not ‘accidentally’ trapped). We therefore believe that (identifiable) hybrids are genuinely rare in late autumn and early winter. Possibly a lot of hybrids may have left the continent by then. Common Redstarts are long-distance migrants, whereas Western Black Redstarts are short-distance migrants. Experiments in aviaries show that their hybrids show intermediate migration behaviour (Berthold et al 1996). A phenological analysis by Martinez et al (in prep) shows that the arrival dates of hybrid males in spring in north-western and central Europe are indeed intermediate between Black and Common. Two records of hybrids from Morocco (Demey 2009, Robel & Nicolai 2009) in late autumn and winter might be clues that they may also cover intermediate distances. This all adds to the suggestion that hybrids might be genuinely rare in north-western Europe in (late) autumn.

Conclusions

We support Stoddart’s (2016) point of view: for a suitable looking bird in late autumn, a hybrid is indeed not the default option – *phoenicuroides* is! Problematic hybrids do occur but, at the same time, as long as the assessment is thorough this identification problem should not be exaggerated. In our sample, (truly) problematic birds only formed a very small minority of the hybrids (6.5%). Some do need a critical examination to exclude *phoenicuroides* but it must be stressed that with the right knowledge, the majority of hybrids was in fact not too difficult to distinguish from *phoenicuroides*: 93.5 % of the birds showed diagnostic hybrid features. The breast pattern is a good starting point because it ruled out *phoenicuroides* in half of all hybrids.

Hybrids seem to be genuinely rare during late autumn and early winter, when the numbers of *phoenicuroides* peak. Photographic evidence should of course allow relevant features to be assessed but we believe that, when a *phoenicuroides* in late autumn or early winter is identified on plumage alone, the likelihood of misidentification is very small to non-existent. If a (reasonably) well documented bird shows no hybrid features, rarities committees may consider accepting these

FIGURE 1 Temporal distribution of Eastern Black Redstart *Phoenicurus ochruros phoenicuroides* (red, n=65 accepted records as of April 2018), hybrids Black x Common Redstart *P ochruros x phoenicurus* (blue, n=59), and hybrids or aberrant red-bellied western Black Redstarts *P o gibraltariensis* (green, n=6) in Europe. October-February divided in 10-day periods.





200 Hybrid Black x Common Redstart or unusual orange-bellied Black Redstart / hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros x phoenicurus* of Zwarte Roodstaart met ongewone hoeveelheid oranje op onderdelen, male, Hilchenbach, Nordrhein-Westfalen, Germany, 20 October 2012 (Hans Verdaat). Bird similar to Western Black Redstart *P o gibraltariensis* except partially orange belly. Shape and size of breast-patch, large amount of white on underparts and large white wing-panel easily rule out *phoenicuroides*.

even when details of the wing formula are lacking. In any case, we are convinced that rejecting them leads to a (much) larger fault margin. If rarities committees are in doubt about the identification of a bird, we are happy to assist.

Based on our criteria, a report of a *phoenicuroides* on 13 November 2011 on Terschelling, Friesland, previously rejected, has been reconsidered and accepted as the second for the Netherlands. Also, a male at the Maasvlakte, Zuid-Holland, on 7 November 2016 has been accepted despite the lack of detailed wing-tip photographs, based on the criteria published in this paper. Including these two birds, the number of records in the Netherlands reached 11 by early 2018 (October 2003, November 2011, November 2012 (two), November 2016 (three), January 2017, November-December 2017, December 2017 and February-March 2018; Ebels et al 2018).

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their critical but positive views during the analysis; this really helped to calibrate our findings. Łukasz Ławicki made a fantastic overview of all accepted European *phoenicuroides* records and Arnoud van den Berg and Enno Ebels provided additional references. Herman Blockx, Boris Droz, Dominic Eichhorn, Michael Frede, Daniel Kratzer, Michael Lay, Eckhard Moeller, Peter Soer, Hans Verdaat and Rutger Wilschut helped us in our search for instructive photographic material.

Samenvatting

DETERMINATIE EN VERSPREIDING IN TIJD VAN HYBRIDE ROODSTAARTEN EN OOSTERSE ZWARTE ROODSTAART IN EUROPA Dat mannetjes hybride Zwarte x Gekraagde Roodstaart *Phoenicurus ochruros x phoenicurus* sterk op Oosterse Zwarte Roodstaart *P o phoenicuroides* kunnen lijken, is in diverse artikelen behandeld. Vanwege de gelijkenis wordt de vleugelformule (onder meer spatiering van handpennen) vaak als beslissend kenmerk gebruikt: de CDNA stelde het vastleggen ervan tot voor kort als eis voor aanvaarding. Het is een zeer bruikbaar kenmerk, maar dat er overlap tussen Oosterse Zwarte en hybriden bestaat, wordt vaak over het hoofd gezien. Voor dit artikel zijn de kleden van 62 hybride mannetjes geanalyseerd. Daaruit blijkt dat vrijwel alle vogels op basis van hun kleed – dus zonder de handpenkenmerken – gedetermineerd kunnen worden. Een grote meerderheid van de hybriden is met de juiste kennis zelfs (vrij) eenvoudig als zodanig te determineren. Voor de analyse zijn twee categorieën gebruikt: **1** diagnostische kenmerken van hybriden; en **2** kenmerken die beter passen op hybriden en/of enigszins afhankelijk zijn van de interpretatie van de waarnemer (want wanneer is het wit op het voorhoofd bijvoorbeeld te uitgebreid?). Vogels met meerdere kenmerken in categorie 2 zijn zeer waarschijnlijk hybriden. Vertoont een vogel een enkel kenmerk uit deze categorie, dan kan die het beste ongedetermineerd blijven (als de vleugelformule niet is vastgelegd). 93.5% van de hybriden is met enige studie goed als zodanig te herkennen en vertoont één of meerdere diagnostische kenmerken en 5% vergt een serieuze blik, maar is als zodanig met behulp van oude en nieuwe kenmerken wél op naam te brengen. Slechts één vogel (1.5%) zou met de kenmerkenset uit dit artikel mogelijk foutief als Oosterse Zwarte gedetermineerd kunnen worden. Het artikel behandelt nieuwe diagnostische kenmerken en nuanceert of verduidelijkt kenmerken die eerder zijn beschreven. Het belangrijkste nieuwe kenmerk is de omvang en de vorm van de zwarte borstvlek. Bij Oosterse Zwarte is er een ‘oranje driehoek’ tussen de vleugel en de borstvlek, terwijl de helft van de hybriden daar zwart of grijs vertoont. Ook de mate waarin de borstvlek doorloopt (verder bij sommige hybriden), donkere tekening op de flanken (oranje bij Oosterse Zwarte) en geïsoleerde donkere vlekjes in het oranje zijn diagnostische kenmerken voor hybriden die in eerdere artikelen niet aan bod kwamen. Een ander nieuw kenmerk voor hybriden werd recent beschreven. Zeven balgen van gekweekte mannelijke hybriden vertoonden alle enigszins roestkleurige tertial-

Identification and temporal distribution of hybrid redstarts and Eastern Black Redstart in Europe

randen en toppen van de grote dekveren, die daarmee soms zelfs de suggestie van een roestkleurige vleugelstreek wekte (Martinez et al in prep). Gekraagde heeft op de onderzijde een brede, puur witte 'band' tussen de bruikbare kenmerk. Echter, dat Oosterse Zwarte geen wit op de buik heeft (Steijn 2005) behoeft nuancering. Vaak hebben verse mannetjes witte toppen aan de buikveren, vooral rondom de poten, en soms op de borstveren. De vaak duidelijk zichtbare witte vlekken die dat geeft zijn echter veel diffuser (er is ook veel oranje te zien) en de bandjes zijn ook veel smaller. Een brede, witte band die tot de borstvlak doorloopt en de buik daarmee 'in tweeën deelt' is een kenmerk voor een hybride. Kortom: wit kan aanwezig zijn, maar nooit zo intensief als bij Gekraagde en een aanzienlijk deel van de hybriden. Min of meer hetzelfde geldt voor de witte vleugelvlek, waarbij Steijn (2005) vermeldde dat Oosterse Zwarte die niet heeft. Hoewel de randen van de tertials en binnenste armpennen inderdaad doorgaans beige zijn, zijn er ook vogels met smalle, witte randjes. Een opvallende, brede, witte vleugelvlek blijft echter een goed hybride kenmerk, aanwezig in ongeveer een kwart van de mannetjes. Dit kenmerk is overigens – net als bij westelijke Zwarte *P o gibraltariensis* – afhankelijk van leeftijd en sleet. Tot slot is beschreven dat hybriden een bleke onderzijde kunnen hebben. Hier wordt benadrukt hoe bleek dat kan zijn: ongeveer 10% van de hybride mannetjes heeft een crème onderzijde met slechts een vaag oranje waas. Dit kenmerk lijkt alleen voor te komen bij jonge mannetjes. Naast kenmerken behandelt dit artikel ook de timing (fenologie) van zowel hybriden als Oosterse Zwarte. Het patroon van Oosterse Zwarte in Europa is sinds 2005 duidelijker geworden: ze verschijnen in het late najaar en de winter, en influxen kunnen voorkomen. De enige 'hybriden' die zijn gemeld in de periode dat Oosterse Zwarte piekt, zijn misschien helemaal geen hybriden geweest maar zuivere westelijke Zwarte met meer oranje op de buik dan gebruikelijk. Het is bekend dat dit soort vogels voorkomen (mogelijk veroorzaakt door introgressie in het verleden of atavisme). In elk geval zal het uiterlijk van zulke vogels geen determinatieproblemen opleveren, omdat ze niet op Oosterse Zwarte lijken. Vooralsnog zijn in het late najaar en de winter in het noord-westen van Europa nog nooit hybriden gezien die een sterke gelijkenis met Oosterse Zwarte vertonen, terwijl roodbuikige roodstaarten laat in het jaar zeker sinds 2005 de aandacht zullen trekken. Hybriden worden vrijwel altijd in het voorjaar en de zomer gezien; dit kan misschien deels worden veroorzaakt doordat zingende vogels opvallen.

Andere onderzoeken – zowel op basis van gecontroleerde experimenten in gevangenschap als op basis van bestaande waarnemingen – tonen aan dat de migratiestrategie van hybriden intermediair is ten opzichte van de oudersoorten. Zowel deze onderzoeken als de fenologie van de voor dit artikel gevonden hybriden lijken te ondersteunen dat deze laat in het najaar daadwerkelijk zeldzaam zijn in Europa. Laat in het najaar en vroeg in de winter is daarom een Oosterse Zwarte veel meer te verwachten dan een hybride.

References

- Ayé, R, Schweizer, M & Roth, T 2012. Birds of Central Asia. London.
- Berthold, P 1996. Control of bird migration. London.
- Clement, P & Rose, C 2015. Robins and chats. London.
- van Duivendijk, N 2011. Advanced bird ID handbook – the Western Palearctic. London.
- Demey R 2009. Recent Reports. Bull Afr Bird Club 16: 99-111.
- Ebels, E B, van der Laan, J, van der Schalk, M & van der Spek, V 2018. Oosterse Zwarte Roodstaarten in Nederland en voorkomen in Europa. Dutch Birding 40: 152-166.
- Ertan, K T 2006. The evolutionary history of Eurasian redstarts, *Phoenicurus*. Acta Zool Sinica 52 (supplement): 310-313.
- Lindholm, A 2001. Apparent hybrid redstarts in Finland resembling Black Redstart of eastern subspecies *phoenicuroides*. Br Birds 94: 538-545.
- Martinez, N, Nicolai, B & van der Spek, V in prep. Redstart hybrids in Europe and North Africa.
- McCarthy, E M 2006. Handbook of avian hybrids of the world. Oxford.
- Nicolai, B, Schmidt, C & Schmidt, F U 1996. Gefiedermerkmale, Maße und Alterskennzeichen des Hausrotschwanzes *Phoenicurus ochruros*. Limicola 10: 1-41.
- Petersson, A, Bergner, A & Mats, T 2014. A hybrid Common Redstart x Black Redstart (*Phoenicurus phoenicurus* x *Ph. ochruros*) breeding in southeastern Sweden. Ornis Svecica 24: 35-40.
- Robel, D & Nicolai, B 2009. Östlicher Hausrotschwanz *Phoenicurus ochruros semirufus* in NW-Afrika? Ornithol Jber Mus Heineanum 27: 27-34.
- Steijn, L B 2005. Eastern Black Redstarts at IJmuiden, the Netherlands, and on Guernsey, Channel Islands, in October 2003, and their identification, distribution and taxonomy. Dutch Birding 27: 171-194.
- Stoddart, A 2016. 'Eastern Black Redstart': new to Britain. Br Birds 109: 211-219.

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