

Marsh Warbler in first-winter plumage - SBRC identification criteria

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Introduction

Marsh Warbler *Acrocephalus palustris* occurs in Scotland mainly as a scarce spring migrant (up to c.50 per annum) and in smaller numbers in autumn, (up to eight per annum) mainly in the Northern Isles. It has bred in Scotland on a handful of occasions, twice each in Shetland and Orkney (Forrester *et al.* 2007).

In spring, identification of adults can be reasonably straightforward, especially when aided by the species distinctive song. Although more care is required with non-singing spring adults, it is in autumn with birds in first-winter plumage that most difficulties arise (adults at this time are uncommon and usually in quite worn plumage). Whilst it is still often subtly distinctive, it has to be separated with caution from Eurasian Reed Warbler *Acrocephalus scirpaceus* of the nominate subspecies *scirpaceus* (hereafter referred to as 'Reed Warbler' or 'Reed') and Blyth's Reed Warbler *Acrocephalus dumetorum*, both of which are basically similar in terms of size, structure and plumage patterns. Furthermore, particular care may be required especially in late autumn with the possibility of confusion with Reed Warblers from more easterly breeding areas, including the subspecies *fuscus* (hereafter referred to as 'fuscus Reed Warbler' or 'fuscus').

The aim of this note is to outline the identification features and criteria used by the Scottish Birds Records Committee (SBRC) in assessing autumn records of Marsh Warbler. It can be a difficult species to identify in the field, and even more so to assess. Observers should thus try to obtain and present as much detail as possible in their submitted descriptions, including any vocalizations noted, and photographs if possible. Biometrics from in-hand birds can be very helpful, though these are still not conclusive in every case, and it is becoming far more routine now to

do DNA analysis of any small feathers shed during ringing, or other biological samples, which should be obtained if possible (with the caveat that the birds welfare must of course come first).

Basic features

Most observers are reasonably familiar with Reed Warbler, and this note assumes that readers are confident in identifying small *Acrocephalus* warblers to genus. It is important to emphasize that all three species can vary in colour tone depending on the light conditions and the background. An *Acrocephalus* warbler high up in tree foliage can change its appearance considerably if it then drops down to lower or ground level in reeds or weeds or if sunny conditions change to overcast. Thus observers would be best to gauge the colour and tone of any bird over a period of time, and in any varying conditions. All three species are in any case inherently variable in plumage tone in first-winter plumage, i.e. examples of the warmer-toned species, Reed Warbler, can be duller and colder, and both Marsh and Blyth's Reed have a percentage of individuals with warmer plumage. Spring birds tend to show similar differences to first-winters, though these are more clear-cut, with less variability.

Reed Warbler is usually warm, but sometimes neutral-toned, on the upperparts, face and underparts, with usually a notable contrast of the even warmer rufous or cinnamon-tinged rump/upper tail coverts (and often, tail base), with the rest of the upperparts, which are typically warm or mid-brown, with little or no visible olive component. It usually, or often, shows contrastingly darker wings (including the alula) and tail. Fringes to the remiges and retrices are typically warm-toned, contrasting with any exposed darker web bases. Legs are usually dark coloured.



Plate A. A classic autumn Reed Warbler, Whalsay, Shetland, August 2012. © J.L. Irvine. This bird of the nominate subspecies *scirpaceus* is generally warm-toned, with contrastingly darker wings. Showing the gingery 'rear', both above and below (rear flanks), long fine bill, and dark, greyish legs often contrasting with paler feet. Nominate birds can show a hint of a greyer nape.

Structurally Reed has a long, slim often spikey-looking bill, and generally long-looking wings, with a longish primary projection approximately 2/3rd to 7/8th of the exposed tertial length.

The species is not always vocal, but can be, particularly if several are close together. The typical call is a 'churr' or 'tcharr' characterized by the lack of a hard consonant sound, and sounding quite harsh at times



Plate B. Marsh Warbler, Quendale, Mainland, Shetland, October 2005. © J. Nicolson. Less warm-toned overall, with strong-looking pale tarsi and claws, contrasting tertial pattern and pale-tipped primaries. Quite clean yellowish-buff tinged underparts, including under-tail coverts.

Marsh Warbler is typically paler and slightly to notably less warm toned overall, with upperparts variously described as sandy, beige, or dull greyish-olive, with often a tinge of green or olive, lacking in contrast. Usually no contrastingly warmer tones are evident on the rump/upper tail coverts, and it shows paler less warm edgings to the remiges, including the tertials, giving the latter more contrast. The supercilium is typically slightly paler and less warm-toned, and thus more obvious. Warmer-toned birds similar to a subdued-looking Reed Warbler, do occur however (possibly up to 20% of first-winters, Pearson *et al.* 2002).

It also shows cleaner underparts, with any wash tending towards yellowish-buff; obvious yellow tones on the underparts are a good indicator of Marsh. Leg colour tends to be pale, often strikingly so.

Structurally wing length and primary projection are on average longer than in Reed, whereas bill length is on average slightly shorter. Soft parts, (bill, tarsi and even often the claws), tend to be slightly stouter than on Reed, giving a slightly more robust impression overall. The jizz of Marsh thus while still obviously *Acrocephalus*-like, tends slightly more towards Garden Warbler *Sylvia borin* than the classic slimline Reed.

Marsh Warbler can be quite vocal. The call consists of single hard tongue clicking notes, sometimes given several times in succession; 'chik', 'chet', 'chud' 'tak', 'thic'. Also chirring calls similar to the usual call of Reed (perhaps usually slightly more 'rattling').

'*Fuscus*' Reed Warbler breeds from Turkey eastwards to Kazakhstan. It is described as occurring in three colour morphs - 'typical', 'warm' and 'grey' (Pearson *et al.* 2002). 'Typical' *fuscus* constitute the clear majority, especially among long-range migrants wintering in East Africa, and thus are presumably the most likely to occur in the UK, and of most interest in terms of confusion with Marsh. These tend towards being paler and less warm-toned on the upperparts, and more uniform than Reed, with cleaner underparts and longer wings, so in many respects they are closer in general appearance to Marsh Warbler, though apparently never showing the green tinge to the upperparts shown by many of the latter, they can however certainly appear warm olive-brown in photographs.

Fuscus show a cleaner, whiter fore-supercilium and eyering on average, and on many, an obvious greyish cast to the rear-crown and nape, not shown by Marsh Warbler. The underparts are typically paler and cleaner with a reduced and less warm buff wash. 'Warm' *fuscus* are very similar in plumage tones to *scirpaceus*, so less likely to be confusable with Marsh, and the 'grey' form is distinctively grey above, lacking olive/brown components in the plumage.

Fuscus usually shows slightly more prominent pale tips to the outer tail feathers, usually on at least the three outer pairs, (usually in contrast only on the outermost pair if present on Marsh/Reed), but this is probably of little use in the field; they also tend to show more



Plate C. First-winter *fuscus* Reed Warbler, Kenya, December 2012. © P. Kennerley. This bird shows rather olive, Marsh Warbler-like plumage tones and greyish nape. This is a freshly moulted bird, and shows the clean white tips to the primaries, similar to Marsh Warbler.



Plate D. First-winter Reed Warbler, Barra, Outer Hebrides, October 2006. © S.L. Rivers. A bright, warm individual.



Plate E. Juvenile Marsh Warbler, Norwick, Unst, Shetland, September 2003. © M. Maher. This is the same bird as in Plate XX showing pale and uniform upperparts. There is no obvious warmth in this bird's plumage.

obvious pale tips to the primaries, again more similar to Marsh than Reed.

Soft part proportions and colour are the same as for nominate Reed, and calls are not known to be different.

Blyth's Reed Warbler is now generally considered to be rather distinctive and identifiable, after a history of being thought indistinguishable in the field from Reed. It shows a strong clean usually whitish fore-supercilium, running to the eye and often slightly behind, more conspicuous than the eyering, and a prominent feature on many, and which may on some show the well-known 'bulge' over the lores. Typically it has rather dull upperparts, which may be slightly olive or slightly warm-tinged, (and lacking contrast between mantle and rump), contrasting with a bright but very uniform wing - with broader more consistent bright (warm bronze to bright olive) edgings to all remiges, and tertials, and often greater coverts and alula, than Reed/Marsh. This contrasts less with the generally paler web centres to these feathers, forming the 'bronze

wing-panel', though it is in fact not really a discrete panel but more or less the whole rear wing on a perched bird. This combined with generally cleaner-looking, whiter underparts, including the undertail coverts, with a more restricted, somewhat colder greyish-olive or greyish-buff wash on the flanks. Leg colour is variable, but is often notably pale, much as in Marsh, contra many earlier texts.

Structurally it is the shortest-winged of the three species, with often a short and 'bunched' looking primary projection, and more frequently adopts a posture of cocked tail and head, the well known 'banana posture'.

On a very good view, or side-on photographs, it shows two clearly emarginated primaries, compared to one on Reed and Marsh.

A rather vocal species (all three species dealt with utter a Reed-like 'churr'), with the typical call a single hard note, somewhat like a Lesser Whitethroat *Sylvia curruca*, 'stk' 'tec' or 'tak', often repeated, and thus confusable with Marsh, but not Reed Warbler.



Plate F. Blyth's Reed Warbler, Fair Isle, October 2010. © R. Nason. This bird shows the bronze-olive wing, quite clean underparts, and pale legs. The fore-supercilium is well marked on this bird, showing the 'bulge' above the lores. Clean whitish undertail coverts are often shown.

Biometrics of Marsh Warbler

Despite biometrics of trapped birds providing much useful information to aid identification, it is important to emphasize that the experience, even of ringers handling many of each species on a regular basis, is that some first-winters cannot be confidently identified in the hand, as there is a degree of overlap in more or less all the useful measurements - see Table 1 which demonstrates the degree of overlap, but also hopefully provides a quick and easy up-to-date reference for any ringers who have a set of measurements from an in-hand bird to evaluate.

The most useful in hand characters are considered to be:

Wing length. Marsh Warbler is on average longer-winged than nominate Reed, by c.2–3 mm. Typical *fuscus* is much closer, often equal and sometimes fractionally longer winged than Marsh.

Wing formulae - notch. The position of the notch on the second primary (P2) is typically closer to the tip than in Reed; by c.2 mm on average, so the notch is shorter in length. This is thought by many ringers to be the single most reliable feature. Alternatively the ratio of notch/wing length is used. Other features such as the emargination on P3 being closer to the wing-tip on Marsh and the relative lengths of P2 and P4 overlap (P2 tends to be longer than or equal to P4 on Marsh), seem to be supportive tendencies rather than firm identification features.

Soft part measurement. The bill is typically slightly shorter, and slightly broader at the base (and in the field often appears slightly deeper at the base and near the tip) the tarsi slightly broader, and claws slightly shorter and less decurved on Marsh.

Soft part colouration. The tarsi and claws are typically paler in Marsh, with the tarsi often a fleshy-straw colour. This feature is noted consistently in descriptions of both adults and first-winters in the UK. However, up to 50% of Marsh Warblers trapped in Kenya showed darker (or intermediate) leg colour, (Pearson *et al.* and see also Wilson *et al.* 2001). Furthermore, paler legs can be shown by Reed Warbler, though much more rarely, so this is another feature on which

there is overlap. It is possible that only the most obvious Marsh Warblers are generally claimed in a UK context, and some observers may dismiss unnecessarily Marsh Warblers showing darker legs. Blyth's Reed also often show pale tarsi, contra many texts, whereas Reed usually exhibits darker, greyer or bluish-grey legs; this is another variable feature to some degree in all three species, especially in first-winters. The shorter paler claws of Marsh Warbler 'can separate with reasonable confidence c.70% of birds' at a Finnish ringing site (Antero Lindholm *in litt.*)

Wing formulae - ratios. There are also ratios of measurements suggested by Svensson (1992) and Wilson *et al.* (2001) to help separate most birds in the hand. Wilson *et al.* (2001) found that published measurements and in-hand criteria did not necessarily work well for all birds at ringing sites in the eastern Mediterranean, probably due in their opinion to the clinal variation in Reed Warblers. Consequently, they developed new criteria and a new formula, which they are confident will separate the two species well, leaving only a handful as 'indeterminate'. This note does not go in depth into in-hand identification, but SBRC recommends this detailed paper (Wilson *et al.*) to ringers; it may well be the most applicable criteria for ringers to use on any 'problem' trapped migrant *Acrocephalus* warbler in a Scottish context.



Plate G. Claws of three *Acrocephalus* species, Finland, August 2013. © A. Lindholm.

Table 1. Biometrics for identification of unstreaked *Acrocephalus* warblers. P1 to P10 are the primaries numbered from the outermost to the innermost; SS = secondaries; WP = wing point. The information in this table has been compiled from **Kennerley & Pearson (2010)** and **Svensson (1992)**. The exact source of data can be identified by the font colour.

	Reed Warbler (nominate) <i>Acrocephalus scirpaceus scirpaceus</i>	Caspian Reed Warbler <i>Acrocephalus scirpaceus fuscus</i>	Marsh Warbler <i>Acrocephalus palustris</i>	Blyth's Reed Warbler <i>Acrocephalus dumetorum</i>
Wing length =	62–73 mm	65–72 mm	64–76 mm	58–66 mm
Tail length =	48–55 mm	49–56 mm	47–55 mm	46–54 mm
Bill length (to skull) =	15.0–18.5 mm	16.6–18.7 mm	14.3–17.2 mm	15.3–18.5 mm
Bill length (to feathering) =	12.1–16.5 mm		11.1–14.0 mm	11.5–15.0 mm
Tarsus length =	21.5–24.5 mm	21.0–24.0 mm	21.0–24.0 mm	20.5–23.5 mm
Tail/wing ratio =	0.75–0.8		0.71–0.79	0.74–0.87
Bill width (at rear of nostrils) =	3.7–4.2 mm	3.8–4.3 mm	3.8–4.6 mm	3.8–4.6 mm
Hind claw length =	5.6–7.2 mm	6.2–8.0 mm	5.2–6.7 mm	5.2–6.5 mm
Tail graduation =	3.0–7.0 mm		2.0–8.0 mm	3.5–0.0 mm
Wing point =	P3	P3	P3 (occasionally P2)	P3 (sometimes P4, occasionally P5)
P2 =	P3–P5/6 (1.0–3.5 mm < wing tip)	P3/4–P5/6	P3–P5	P5–P8
Emarginations to...	P3 (sometimes P4)	P3 (also tip of P4 in some small Middle Eastern birds)	P3	P4 (occasionally P5) (adult); P3 (often P4, occasionally P5) (juvenile)
Notch on P2 =	P7–SS		P6–P9	1.0–8.5 mm < SS (adult); P10–5mm < SS (juvenile)
Length of notch on P2 =	10.0–15.0 mm (adult); 9.0–13.5 mm (juvenile)		7.5–12 mm (adult); 7.5–11 mm (juvenile)	10.5–14.0 mm
Length of notch on P2/ wing length =	0.167–0.231 (adult); 0.144–0.200 (juvenile)		0.125–0.160 (adult); 0.107–0.157 (juvenile)	
Primary projection (1st SS–WP) =	15–19 mm		17.5–22 mm	11.5–16.0 mm
Notch on P3 =	(has slight notch on P3 only rarely)			P8–SS (adult); P6–P10 (if present) (juvenile)

Reed Warbler claws (top centre-left) are typically slightly longer, more decurved and with greater contrast between a darker upper and paler under-surface than on Marsh (right-hand bird). Bottom left is a Blyth's Reed, looking similar to a Reed in this case, though is apparently variable.

Field identification of Marsh Warbler

Clearly some in-hand characters, very useful for identifying Marsh Warbler, such as the notch position on P2, cannot be seen in the field. Others, such as emargination position on P3 and claw length/colour (shorter and paler on Marsh) are likely only to be of value if well photographed. Photographs are now routinely used in the field, so these features do come into play, but should

of course be used with some caution, comparing shots from various angles, and only judging relative positions of primaries and emarginations on images of birds which are truly side-on.

An initial basic set of features for field use in Marsh Warbler identification is suggested; these are (in comparison with nominate Reed):

- 1) Plumage is generally less warm overall.
- 2) Upperparts are paler more uniform, usually with either no difference in rump colour, or in some a less contrastingly or slightly warmer rump (and upper-tail coverts).



Plate H & I. Putative '*fuscus*' Reed Warbler (left), Kergord, Mainland, Shetland, November 2012. © R. Riddington, and Marsh Warbler (right), Fair Isle, September 2012. © W. Miles. Whilst not directly comparable on plumage tones due to different lighting conditions, the shorter, slightly thicker bill of the Marsh is evident, as well as slightly yellowish-buff tones to the face. Both show pale-tipped primaries, the Marsh shows a strong pale tip to the outer-most rectrix, the *fuscus* Reed more even pale tips to the outer three pairs. Overall contrasts are similar, but the *fuscus* does appear to show a greyish nape. (Both of these birds' identities were confirmed by DNA analysis; the Kergord *fuscus* awaits ratification by BBRC).

- 3) Paler, with less rufous or buff on underparts, instead tending to a yellowish or yellowish-buff wash. Undertail coverts are usually washed warm buffish on Reed, paler yellowish or yellowish buff on marsh and often whitish on Blyth's Reed.
- 4) Slightly longer wing, and primary projection. On Marsh, this tends towards 100% (of exposed tertials), on Reed (nominate) c.70–85%, (that of typical *fuscus* being longer on average), and Blyth's Reed c.50–75%. The sample size is probably still small, however, and odd examples of i.e. Blyth's Reed can show a longer projection, such as an otherwise typical bird on Foula in 2013, which was almost Marsh Warbler-like in this respect (P. French, pers. comm.).
- 5) Clear whitish tips to primaries.
- 6) Paler tertial edgings, giving a typically more contrasting pattern.
- 7) Paler leg colour.
- 8) Stouter looking legs.
- 9) Shorter and paler looking claws.
- 10) A slightly shorter, slightly stouter bill on average, which is slightly broader at the base, and less pointed at the tip. Some Reed Warblers can look heavier-billed, and some Marsh less so; it is probably the relative lengths that is the most important feature.
- 11) Call. As described earlier (in 'Basics'), single hard tongue-clicking notes, sometime given several times in succession, usually 'thicker' sounding than Blyth's Reed. Also, chirring calls similar to the usual chirring call of Reed (though slightly more 'rattling'). Neither form of Reed is known to give these clear-cut, hard, single notes, although Blyth's Reed does. On, for example, www.xeno-canto.org recordings, good examples of these calls of Marsh and Blyth's Reed can be found; after many samplings of Reed Warbler for this note, it was found that on one or two recordings of Reed Warbler alarm calling (the 'charr' call), mainly at breeding sites, there are occasional single 'chrrk' notes given as well, mixed in, (still not quite the discreet hard calls as given often by Marsh, but if these were to be made by a migrant, they might cloud the issue somewhat). So, in summary, the hard



Plate J (left). A classic autumn Marsh Warbler, Norwick, Unst, Shetland, September 2003. © *M. Maher*. Primary projection close to 100% of exposed tertials, rump/upper-tail coverts uniform with mantle, yellowish tinge to underparts. This is the same bird as in **Plate XX**. **Plate K (right).** A classic autumn Reed Warbler, Quendale, Mainland, Shetland, August 2012. © *J. Nicolson*. A very 'warm' example, with the warm wash on underparts extending onto the undertail coverts.



Plate L (left). Marsh Warbler, Northdale, Unst, Shetland, September 2009. © *R. Brookes*. A warmer-toned example, not dissimilar to a dull Reed, and showing the shorter, heavier more blunt-tipped bill. **Plate M (right).** Reed Warbler, Ronas Voe, Shetland, September 2011. © *J. Nicolson*. A slightly duller example, but still typically warm toned and with long spikey bill.



Plate N (left). A *fuscus* Reed Warbler, Kazakhstan, 29 August 2010. © *P. Palmén*. Rather Marsh Warbler-like, lacking warmth in the plumage. **Plate O (right).** Blyth's Reed Warbler, Unst, Shetland, October 2013. © *R. Brookes*. Bronze-olive wing, contrasting with colder olive-tinged mantle, clean whitish fore-supercilium and shortish primary projection.

calls of Marsh and Blyth's Reed are very similar; those of the latter perhaps sounding slightly cleaner and shorter. All three species give a rattling 'chaarr', which in Reed is probably slightly less hard and rattling than the other two species (again from xeno-canto recordings).

A. Lindholm (*in litt.*) has commented: "Both calls of Marsh Warbler and Blyth's Reed Warbler are very similar to each other and I believe that most birdwatchers will not learn to distinguish them with moderate experience (the most difficult is that they are variable). In addition, these calls are not vastly different from the calls of Sedge Warbler. Reed has no 'chk', and its 'tchar' is different".

Moult

All four forms show, with slight variations (for which see Svensson 1992 and Pearson *et al.* 2002), a basically similar moult pattern, having a complete moult from late September to November or in the case of Marsh Warbler even later on the wintering grounds, so any fresh-looking *Acrocephalus* encountered as an autumn migrant is likely to be a first-winter; Reed Warbler has a body moult prior to starting migration, so migrates as a first-winter; Marsh does not, so starts migration as a juvenile (P. Kennerley pers. comm.), though this may not be apparent. Adults do not moult prior to autumn migration so should appear very worn, at least on the remiges/retrices, but also on the body, especially often on the head, which can make the bill look longer than it really is.

Discussion

It is important to bear in mind that Reed, whilst a warm-toned bird, is not actually rufous all over. Autumn birds can often give a strong impression of warmth, based on strong warm tones to the rump and facial area, with hints on wings and tail base and varying on the underparts, but nonetheless can appear a rather dull brown, tinged warmer on a perched view, and some birds have these warm areas somewhat toned down. *Fuscus* Reed shows several distinguishing characters, and these are in some ways the culmination of a clinal progression in populations from south-west to eastern parts of the range; hence a typical Reed Warbler

breeding in southern Britain is likely to be a warmer bird with slightly shorter wings than one found breeding in northern Sweden. So, autumn migrants to mainland Scotland and the Northern Isles, which may well have come from Scandinavian populations, may appear 'interesting' and slightly more Marsh Warbler-like than might be expected (see below).

Some observers are possibly more sensitive to olive or yellow tones than others, and one person's 'dull brown' can be another's 'brown, tinged olive'. Also, birds in the hand not infrequently do not appear to show the brighter tones that may be evident in the field; this should be taken into account when dealing with taxa where slight differences in tone can be quite important.

Nearly all individual features, including the most well-known and reliable, have been shown to be present on a proportion of birds of the alternate species, so using a suite of features is recommended; for example, from a ringer's perspective. A. Lindholm (*in litt.*) has commented:

"I might make a net round, picking up two obvious Reed Warblers, one obvious Marsh Warbler and one that I do not know for certain initially. After putting on the ring, I study the difficult bird more closely, measure the wing, the notch of the inner web of the second outermost primary, bill and the hindclaw length, and then make a decision. So far, I have identified every bird, but I am not convinced that I have never made a mistake. Many ringers have independently come to think that these two species hybridise quite often because there seems to be intermediate birds. But, there are no intermediate adults or songs."

There is at least one recently published record of a bird showing hybrid Reed/Marsh genes in Norway (Otterbeck *et al.* 2013), but as Antero Lindholm suggests, it is probably a very rare occurrence. Marsh/Blyth's Reed hybridisation is not unknown in Finland.

Atypical Reed Warblers can occur in autumn, which can look surprisingly Marsh Warbler-like at first sight. One such was the well-known 'Kelyack Warbler' in Cornwall in October 2003 (Vinicombe



Plate P. Reed Warbler, Barra, Outer Hebrides, October 2014. © K. Gillon. This bird showed Marsh-like plumage tones in the field, but was proven to be a Reed Warbler on DNA analysis after being trapped..

2005). Opinion was divided between Marsh and Reed, when trapped and DNA'd it was shown to be a Reed, not *fuscus*, but considered likely to be from an eastern part of the range.

Another, perhaps similar bird was seen and trapped on Barra, Outer Hebrides, in October 2014 (S.L. Rivers, pers. comm.). Again, quite Marsh-like in the field, DNA tests showed it to be a Reed Warbler. It is hoped that this bird will be written up more fully in a future issue of *Scottish Birds*.

Marsh Warbler, Fair Isle, 12 September 2012

An example of how tricky Marsh Warbler can be

even in the hand is illustrated by the following short account of a bird on Fair Isle in autumn 2012 by Will Miles (Plate XX). Had it given more prolonged field views, the basic appearance would probably have been fairly typical and it might have proved an easier bird to identify:

“On the morning of 12 September 2012, Jason Moss found a warbler sp. in the Walli Burn on Fair Isle that was unstreaked, pale, sandy and highly elusive. Field views were fleeting, not sufficient for us to positively identify the bird (which remained silent), but were suggestive of either a Marsh or Sykes’s Warbler *Iduna rama*. Late afternoon, the bird was mist-netted for identification purposes. It was not a classically distinctive ‘Marsh’ on biometrics (all overlapped with other *Acrocephalus* species except for ‘length of notch on P2 divided by wing length’ - see Table 2); however, the plumage and bare part colouration was wholly typical of Marsh Warbler as viewed in the hand, and following detailed examination and measurement the bird was positively identified (nearly nine hours after it was first seen by JM!). Feathers that dislodged in the bird-bag were sent to Martin Collinson at the University of Aberdeen for DNA analyses, which, as far as possible supported the identification as Marsh Warbler. (The COI DNA sequencing could not completely eliminate the possibility of a hybrid, but it showed that the bird’s mother was *palustris*, M. Collinson *in litt.*).

Table 2. Biometrics of a Marsh Warbler trapped on Fair Isle on 12 September 2012.

	Fair Isle bird from 12 September 2012	Species that measurements fit
Wing length =	69 mm	Reed & Marsh
Tail length =	54 mm	Reed, Marsh & Blyth’s Reed
Bill length (to skull) =	17.1 mm	Reed, Marsh & Blyth’s Reed
Bill length (to feathering) =	12.4 mm	Reed, Marsh & Blyth’s Reed
Tarsus length =	22.1 mm	Reed, Marsh & Blyth’s Reed
Tail/wing ratio =	0.78	Reed, Marsh & Blyth’s Reed
Bill width (at rear of nostrils) =	4.05 mm	Reed, Marsh & Blyth’s Reed
Hind claw length =	6.1 mm	Reed, Marsh & Blyth’s Reed
Tail graduation =	-	-
Wing point =	P3	Reed, Marsh & Blyth’s Reed
P2 =	P4	Reed & Marsh
Emarginations to...	P3	Reed & Marsh
Notch on P2 =	P7/8	Reed & Marsh
Length of notch on P2 =	9.2 mm	Reed & Marsh
Length of notch on P2 / wing length =	0.13	Marsh
Primary projection (1st SS–WP) =	17.7 mm	Reed & Marsh
Notch on P3 =	None	Reed & Marsh

Despite much useful earlier work, (e.g. Harvey *et al.* 1984, Harrap & Quinn 1989) and steady subsequent and recent advances, there will doubtless always be odd birds such as these examples which will continue to present an identification challenge.

When: the timing of migrants

In Scotland, Reed and Marsh Warbler in first-winter plumage can be encountered as migrants from late July until mid-October at least. Blyth's Reed has turned up mostly from late September to mid-October, with one or two late August and at least one November record in Scotland and several in the UK.

Marsh Warbler is apparently an earlier migrant, in that all the vast majority of birds leave the breeding grounds in September. Pearson *et al.* (2002) suggested that they are thus unlikely to be encountered in late autumn in the UK; this is born out to some extent in Scotland, with most seen from mid-August to late September, and by the relatively small number of October and the absence of November records. There was, however, an early November record from Skomer in 2009 (well-photographed, calling, and accepted by the Welsh Records Panel, Boyle (2009), also D. Boyle pers. comm.), and single lost birds clearly can and do break the normal rules of where they should occur, and when. It is also worth considering that *fuscus*, given its range may well be a rather late season visitor; perhaps rather like eastern (*halimodendri*) Lesser Whitethroats. The two 'DNA'd' claims of *fuscus* from Britain, so far, were discovered in November and December.

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