



## Grey-cheeked and Bicknell's Thrushes: taxonomy, identification and the British and Irish records

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**ABSTRACT** The BOU Records Committee has recently accepted the taxonomic split of the mainly Nearctic Grey-cheeked Thrush *Catharus minimus* into two species: a restricted Grey-cheeked Thrush comprising the races *minimus* and *aliciae* and the monotypic Bicknell's Thrush *C. bicknelli*. Identification and ageing of the three forms is discussed.

The races *aliciae* and *minimus* are both larger than *bicknelli*, but measurements overlap. The plumage of *aliciae* is colder and greyer than the generally warmer and more rufous *minimus*. In this respect, *minimus* approaches *bicknelli*. Despite further differences in biometrics, vocalisations and bare-part colours between Grey-cheeked and Bicknell's Thrushes, the field identification of most migrants is not recommended at this stage.

The British records of 'Grey-cheeked Thrush' (in the wide sense) are reviewed. The single previously accepted record of *bicknelli* is no longer considered to be acceptable, and the form has been deleted from the British & Irish List.

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The Grey-cheeked Thrush *Catharus minimus* (as it is currently known) breeds in the boreal coniferous forests of North America and northeastern Siberia. The Nearctic distribution covers Alaska and northern Canada from the Yukon to Newfoundland and northern Nova Scotia and, in the mountains, south through New England.

### Taxonomy and geographic variation

The species is usually divided into three races (Godfrey 1986; Ouellet 1993):

*bicknelli* has a restricted distribution and breeds on the mountains of eastern New York State, New England, southern Quebec and the Canadian Maritime Provinces;

*minimus* also has a restricted distribution, breeding only in Newfoundland, southern Labrador and extreme eastern Quebec;

*aliciae* nests over the remainder of the species' range, from Labrador to eastern Siberia.

Cramp (1988) followed the AOU (1957) in regarding *aliciae* as indistinguishable from *minimus*. Todd (1963) had, however, shown that *aliciae* is recognisable, a view shared by most subsequent authors (e.g. Godfrey 1986).

The three forms are rather similar in appearance. Nominate *minimus* and *aliciae* tend to be larger than *bicknelli* (table 1), but measurements overlap. The upperparts are dark olive-grey on *aliciae*, and browner on *minimus*. In *bicknelli*, the upperparts tend to be richer brown than those of *minimus*, especially on the tail. The plumage of all three forms is, however, quite variable (Wallace 1939; Ouellet 1993).

It has recently been suggested by Dr Henri Ouellet that the southern, New England and Maritime Province race should be treated as a separate species *C. bicknelli*, Bicknell's Thrush, with nominate *minimus* and *aliciae* remaining together as the Grey-cheeked Thrush *C. minimus* (Ouellet 1993). Ouellet showed that Bicknell's and Grey-cheeked Thrushes differ in several respects: size and, to a certain extent, plumage and bare-part colour; the breeding and wintering ranges of the two species do not overlap; they have different songs (and nocturnal flight-calls: Evans 1994), and playback experiments on the breeding grounds have shown that Bicknell's Thrushes do not respond to recordings of *minimus* or *aliciae*; there are differences in the breeding habitats of Bicknell's and Grey-cheeked Thrushes; there is no known hybridisation or intergradation; and analysis of mitochondrial DNA from Bicknell's and Grey-cheeked Thrushes has revealed sequence divergence (1.7%) which is greater than that of many avian sibling species (Ouellet 1993).

Following the American Ornithologists' Union (in press), the British Ornithologists' Union Records Committee (in press) has recently accepted that Bicknell's and Grey-cheeked Thrushes should be treated as separate species.

### Field identification

Separation of migrant Grey-cheeked and Bicknell's Thrushes is complicated by the geographic variation within the former. Nominate *minimus* is noticeably browner and richer than *aliciae*. If individuals of *minimus* and *aliciae* were seen alongside one another, the former might be mistaken for *bicknelli*. Indeed, there

is a closer resemblance between some *minimus* and *bicknelli* than between *minimus* and the greyer and more olive *aliciae*.

There are several drawers containing skins of Grey-cheeked Thrushes at the Natural History Museum at Tring, but these include only a few breeding birds, hardly any correctly identified autumn *bicknelli*, and most of the non-breeding *minimus* and *aliciae* specimens are difficult to separate. To supplement the Tring material, I borrowed a short series of each of *aliciae*, *minimus* and *bicknelli* from the American Museum of Natural History. Using these together with the Tring specimens, I was able to confirm the essentials of the assessment of *aliciae* by Todd (1963).

UPPERPARTS, INCLUDING TAIL Nominate *minimus* is a lighter, warmer brown than the colder, darker, olive-brown or greyish-olive of *aliciae*. The edges to the primary coverts, greater coverts and primaries on the folded wing tend to be warmer and lighter on *minimus*, and contrast more with the rest of the upperparts and the dark tips to the primary coverts in particular.

UNDERPARTS On *minimus*, the spots on the breast tend to be lighter and less contrasting and, although there is much variation, the ground colour is often warmer. The flanks are also richer than the cooler grey of *aliciae*.

BARE PARTS Todd (1963) noticed that the pale area at the base of the lower mandible was larger on *minimus* than on *aliciae*, and, although there was much variation, this was also generally the case in the series available to me.

All these differences are best seen in series of birds rather than on individuals.

#### *Differences between Grey-cheeked and Bicknell's Thrushes*

Grey-cheeked and Bicknell's Thrushes are very alike. The greatest difference is in size, but measurements overlap, and size is unlikely to be helpful in separating the species in the field (table 1). In all other characters, there is considerable variation, and the differences between the species are not great. The tail is often more rufous on Bicknell's in breeding plumage, but this is less obvious in the autumn when the feathers are fresh (Ouellet *in litt.*). There are minor differences in bare-part colours. On Bicknell's Thrushes, the base of the lower mandible is bright, pale yellow. On Grey-cheeked Thrushes, the pale area at the base of the lower mandible tends to be less extensive and more typically flesh-coloured or yellowish-flesh, although some have uniformly horn-coloured bills. The legs of Bicknell's Thrush tend to have a purplish wash rather than the browner (horn) colour of Grey-cheeked Thrush, but this would be difficult to see in the field or to judge on lone birds. Similarly, the brighter yellow soles to the feet of Bicknell's Thrush are unlikely to help unless birds are trapped. Even so, comparison with known colours would be desirable.

Although there are differences in the song and the calls of Grey-cheeked and Bicknell's Thrushes, these are of no use with non-vocal autumn migrants. Within each of the two species, there is sufficient variation in plumage and bare-part colours to make it difficult or inadvisable, with present knowledge, to identify single autumn migrants in the field. The exception to this might be that very grey birds with restricted, flesh-coloured bases to the lower mandibles are almost certainly Grey-cheeked Thrushes of the race *aliciae*.

**Table 1. Wing-lengths (in mm) of Grey-cheeked *Catharus minimus* and Bicknell's Thrushes *C. bicknelli* from various sources. M = mean. SD = standard deviation. (N) = number in sample. R = range**

a. Chord of unflattened wing (from Ouellet 1993)

Sex	Newfoundland <i>minimus</i>				Northern Quebec <i>aliciae</i>				<i>bicknelli</i>			
	M	SD	(N)	R	M	SD	(N)	R	M	SD	(N)	R
Male	102	±2.9	(59)	95-107	103	±2.8	(31)	94-108	93	±2.7	(74)	85-99
Female	98	±2.2	(26)	93-103	99	±2.6	(15)	95-103	88	±3.9	(19)	82-95

b. Chord of unflattened wing (from Pyle *et al.* 1987)

Sex	<i>minimus</i> & <i>aliciae</i>		<i>bicknelli</i>	
	(N)	R	(N)	R
Male	(30)	100-109	(30)	88-98
Female	(30)	97-106	(22)	85-93

c. Presumed flattened wing (from Vaurie, in Williamson 1954; see Vaurie 1959: viii for Vaurie's measuring technique in latter work)

Sex	<i>minimus</i> & <i>aliciae</i>		<i>bicknelli</i>	
	R		R	
Male	103-112		89-101	
Female	100-107		90-96	

d. Chord of unflattened wing (from Wallace 1939)

Sex	<i>minimus</i>			<i>aliciae</i>			<i>bicknelli</i>		
	M	(N)	R	M	(N)	R	M	(N)	R
Male	103	(25)	98-108	103	(27)	98-108	93	(31)	89-97
Female	98	(17)	95-101	99	(18)	95-104	88	(16)	81-95

The identification of Grey-cheeked and Bicknell's Thrushes was recently discussed in detail by Curson (1994). Unfortunately, in presenting Ouellet's data, Curson did not mention that Ouellet's study was carried out mainly on breeding birds. Worn summer specimens are substantially different in appearance from autumn birds in fresh plumage. Furthermore, Curson did not discuss (or even mention) *aliciae*, and this seriously undermines the usefulness of the article, where almost every reference to differences between Grey-cheeked and Bicknell's Thrushes applies similarly to differences between *aliciae* and *minimus*.

The difficulties of interpreting subtle colours in photographs continue to be underestimated (Knox 1993, page 365). Photographs used by Curson (1994) to illustrate differences between Grey-cheeked and Bicknell's Thrushes actually provide examples of such photographic effects (e.g. plates 1-3 are of the same individual by the same photographer: in plate 2, the breast and upperparts are a warm brown shade, whereas in plate 3 they are cold olive; similarly, plates 4 & 5 are of another individual and again the colours are noticeably different in the two photographs; plates 6, 8 & 9 are of a claimed Bicknell's Thrush: plate 6 shows a bird with a warm hue to its plumage, in stark contrast to the colder, greyer plumage in plate 8; the colour of the bird in plate 10 is unlike any Grey-cheeked Thrush, yet colours are discussed in detail). The captions to these photographs and the editorial following the article fail to address these problems realistically.

For further examples of differences between photographs of an individual Grey-cheeked Thrush, see *Brit. Birds* 85: 542-543, 568, plates 236, 239, 251 & 252.

### *Ageing*

First-years often have conspicuous pale tips to the greater coverts, but not all those birds with uniform coverts are adults. Several specimens of all three forms which I aged as first-winters on the basis of the pointed shape of their tail feathers had uniform coverts. Pyle *et al.* (1987) noted that about 15% of first-years had plain greater coverts. Whereas individuals with clear spots on the coverts may safely be aged as first-years, those with plain coverts are more reliably aged by the shape of the tail feathers (see Pyle *et al.* 1987, McMinin 1995). According to Wallace (1939), first-years tend to have browner wing-panels.

### **Vagrancy potential**

With its large range and northerly distribution as far east as Labrador, *aliciae* is a likely vagrant to Britain and Ireland. Nominate *minimus*, breeding as it does in Newfoundland, starts its migration with a flight over open sea and is also a candidate for storm-diverted or ship-assisted passage. Given the more southerly range of *bicknelli* and its status as 'potentially endangered' (Faccio 1995), Bicknell's Thrush may be less likely than either of the other two forms to occur as a vagrant in Europe, although it has occurred in Bermuda (Ouellet *in litt.*).

### **British and Irish records**

The first British Grey-cheeked Thrushes were trapped on Fair Isle, Shetland, on 5th October 1953 (Williamson 1954) and 29th October 1958 (Davis 1959). In all, there has been a total of 43 Grey-cheeked Thrushes in Britain and Ireland to the end of 1994 (Fitzharris 1983; Rogers *et al.* 1995; Smiddy & O'Sullivan 1994). Of these, no fewer than 17 have been trapped, were found dead or died later (table 2).

### *Present location of the dead birds*

3. BARDSEY, 1961 It was particularly important to find this specimen as it is the only one said to have been identified as *bicknelli* (by Charles Vaurie, in Clifton 1963). This bird was skinned on the island and later sent to Vaurie at the American Museum of Natural History. It was returned and apparently travelled around before being given to a museum (Frank Clifton verbally). After several months of searching, I was unable to locate the specimen and it may now be lost. It is apparently not at the National Museum of Wales at Cardiff, the University College of North Wales at Bangor, nor at Liverpool, Manchester or Bolton Museums nor at the Natural History Museum at Tring.

4. ST KILDA, 1965 Now at the Royal Museum of Scotland in Edinburgh, no. NMSZ 1965.59.

5. LOSSIEMOUTH, 1965 Now at the Harrison Zoological Museum, Sevenoaks, no. HZM 1.4878.

**Table 2. Details, including wing-lengths, of Grey-checked Thrushes *Catharus minimus* trapped or found moribund or dead in Britain & Ireland up to 1994.** Existing specimens are indicated in bold type.

No. Place	Date	Details	Wing-length (mm)
1 Fair Isle, Shetland	5th Oct. 1953	trapped (Williamson 1954)	(chord) 99
2 Fair Isle	29th Oct. 1958	trapped (Davis 1959)	(maximum) 99
3 Bardsey, Gwynedd	10th Oct. 1961	1st-w. ? trapped, died later (Clifton 1963)	100
4 St Kilda, Western Isles	29th Oct. 1965	trapped, died later (Grubb 1966)	103
5 Lossiemouth, Grampian	26th Nov. 1965	1st-w. ♂ found moribund (Harrison 1967)	111
6 Horden, Co. Durham	17th Oct. 1968	dead	102.5
7 Bardsey	31st Oct. 1968	trapped	left, 98; right, 97.5
8 Bardsey	20th Oct. 1971	dead	101
9 Cape Clear Island, Co. Cork	19th Oct. 1982	trapped (Fitzharris 1983)	(longest chord) 106
10 Lundy, Devon	11th-12th Oct. 1985	trapped	116
11 St Mary's, Scilly	20th-21st Oct. 1986	killed by cat	
12 St Mary's	22nd Oct. 1986	drowned on shore	108
13 Lundy	27th Oct. 1986	dead	107
14 Benbecula, Western Isles	29th Oct. 1989	trapped	103
15 Slimbridge, Gloucestershire	14th Oct. 1990	trapped, died later	left, 103; right, 102
16 St Agnes, Scilly	22nd-26th Sept. 1991	trapped	101
17 Loop Head, Co. Clare	12th Oct. 1991	trapped (Smiddy & O'Sullivan 1994)	

**Table 3. Specimens of Grey-checked Thrushes *Catharus minimus* listed in table 2 which have been remeasured by the author.**

No. Place	Date	PUBLISHED	Wing lengths (mm)	
			Maximum	Chord
4 St Kilda, Western Isles	29th Oct. 1965	103	104	102
5 Lossiemouth, Grampian	26th Nov. 1965	111	102	100
8 Bardsey, Gwynedd	20th Oct. 1971	101	103	100
12 St Mary's, Scilly	22nd Oct. 1986	108	107	105

6. HORDEN, 1968 This one was said to be at the Hancock Museum in Newcastle (*Brit. Birds* 62: 476-477). The museum, however, has no record of the bird. It later emerged that the corpse had been given to the museum and prepared as a freeze-dried specimen, which was subsequently eaten by a rat (Eric Meek verbally).

8. BARDSEY, 1971 Said to have been going to the National Museum of Wales (BBRC submission), this bird was eventually traced to an outbuilding in Dyfed. It has now been deposited at the NMW, Cardiff, no. NMW Z.1995.014.

11. ST MARY'S, 1986 This bird attracted the attention of a cat. I am not aware of the existence of either measurements or identifiable surviving parts.

12. ST MARY'S, 1986 Mounted specimen in the possession of Chris R. Janman.

13. LUNDY, 1986 Remains of dead bird found, but apparently not retained.

15. SLIMBRIDGE, 1990 The skin was said to have been retained by the Wildfowl &

Wetlands Trust (*Brit. Birds* 84: 485). On investigation, it was discovered that the specimen rotted during a freezer failure and was lost prior to skinning (M. Brown verbally).

Having struggled to get across the Atlantic, at least nine of the 43 Grey-cheeked Thrushes died shortly after arrival. In general, we appear to have been poor custodians of their earthly remains. Observers finding the bodies (or parts, even single feathers) of rare birds are strongly urged to deposit them as soon as possible for safe keeping in the national collections at Tring, Cardiff, Liverpool or Edinburgh.

#### *Identification of the existing specimens*

The thrushes which were traced were compared with skins at Tring and the specimens on loan from the AMNH. All four British birds are Grey-cheeked Thrushes rather than Bicknell's. Based on the limited material available, the birds from Lossiemouth (no. 5), St Mary's (no. 12) and probably St Kilda (no. 4) seem closest to *aliciae* and the Bardsey specimen (no. 8) may be closer to *minimus*. The originally published wing-length of the Lossiemouth bird was presumably a typographic or transcription error (see table 3).

#### *Identification of the other trapped or dead birds*

Of the 1961 Bardsey specimen (no. 3), Charles Vaurie wrote:

'... there seems little doubt that [the] specimen is *bicknelli* because it matches the measurements of this race and also has the same bill and coloration' (Clifton 1963).

This bird fits quite well as *bicknelli* using Vaurie's measurements of Grey-cheeked Thrushes as given in Williamson (1954). Vaurie's measurements seem, however, to be large compared with those of other authors (table 1) and he tended to measure only very small samples (as in, e.g., Vaurie 1959). For these reasons, the other data-sets in table 1 would seem to be more reliable. At 100 mm, the published wing-length of this bird is at or beyond the upper limit for *bicknelli* (table 1). Even deducting 2 mm for the estimated difference between the maximum wing-length (usual technique in Britain) and the chord (usual technique in North America; table 3, see also Svensson 1992: 21), this bird is still uncomfortably large for *bicknelli*.

The published description of the 1961 Bardsey bird does not mention the warm brown or rufous colour now associated with *bicknelli*. The colour of the base of the lower mandible of the live bird was noted as 'horn', which is not a feature of *bicknelli*. On the basis of the existing documentation, identification as *bicknelli* cannot be supported.

The biometrics (only wing-length given here) of three of the remaining birds (nos. 1, 2 & 7) fall in the overlap zone between *minimus/aliciae* and *bicknelli*. The descriptions of the three birds do not suggest *bicknelli*. The larger individuals (nos. 6, 9, 10, & 12-16) are clearly *minimus* or *aliciae*. None of the trapped or dead birds can therefore be identified as Bicknell's Thrush. (A description of the 1991 bird trapped in Ireland was not available during this review.)

### Sight records

We can be fairly confident that most, if not all, 'Grey-cheeked Thrushes' (in the wide sense) which have occurred in Britain and Ireland are Grey-cheeked Thrushes (in the narrow sense) of the races *aliciae* and/or *minimus*. This is particularly so for the majority of those which have been described as having grey upperparts. The plumage of occasional individuals has been noted as being more rufous (e.g. one at Abbey Farm, Tresco, Isles of Scilly, on 20th October 1986: Curson 1994, plates 6, 8 & 9). This bird could have been *bicknelli*, but nominate *minimus* cannot be eliminated at this stage. The latter is perhaps more likely, if only because of the breeding range and likely population size. The claims of such individuals will be reassessed when further information becomes available.

Using existing criteria, it is not advisable to identify to species any sight-only records of the more richly coloured vagrant Grey-cheeked and Bicknell's Thrushes (McLaren 1995; Parkes 1995; and this study), *contra* Curson (1994). For a good discussion of identification, see McLaren 1995.

### Conclusion

There is no evidence to admit *bicknelli* to the British List on the basis of any record so far. From recent Internet/Birdchat discussions, it is clear that many North American birders are actively working to establish field-identification features for the newly separated species. Furthermore, Dr Ouellet is currently studying the geographic variation of Grey-cheeked Thrush. Until clear and unambiguous criteria emerge, it is unlikely that any claim of *bicknelli* (particularly the first for Britain) will be accepted unless firmly established by biometrics and an in-the-hand description. Given the example of the Lossiemouth Grey-cheeked Thrush (see above), measurements of any rare birds should be replicated independently.

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