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Short paper

‘Stejneger’s Stonechat’ in Dorset: new to Britain

Abstract A Siberian Stonechat *Saxicola maurus* was discovered at Portland, Dorset, at dusk on 24th October 2012. In better conditions the following day it was suspected to be of the eastern form *S. m. stejnegeri* and this was later confirmed by DNA analysis, after the bird had been trapped and ringed. Photographs confirmed that this same individual had been present on Texel, the Netherlands, on 8th–23rd October 2012. At the time this was the first acceptable record of *stejnegeri* for western Europe. Since then, a bird found dead at Landsort, Sweden, in October 2008 has been identified as *stejnegeri* after DNA analysis.

Conditions at first light at Portland Bill, Dorset, on 22nd October 2012 were a heady mix of easterly winds, overnight rain and reduced visibility, and it soon became clear that there had been a major arrival of migrants. The undoubted highlight was the discovery of a Pale-legged or Sakhalin Leaf Warbler *Phylloscopus tenelipes/borealoides* at nearby Southwell, the first record of this species pair from the extreme east of Siberia in the Western Palearctic. This showed from just how far away some birds in this arrival might be coming. The following day another top-quality rarity, an adult ‘Daurian Shrike’ *Lanius i. isabellinus*, was discovered, so by 24th October the chances of matching the events of the previous two days seemed low. And so, when a report filtered through that Nick Urch (on an after-work dash for the Daurian Shrike, which by then was settled in Top Fields) had seen a probable Siberian Stonechat *Saxicola maurus* at dusk near Culverwell, the news was greeted with less enthusiasm than might otherwise have been the case.

Shortly after dawn on 25th October, the stonechat was quickly relocated and Nick’s provisional identification confirmed; however, it was just as quickly apparent to those observers with previous experience of Siberian Stonechats that this individual was considerably more richly coloured than any they had seen before and the possibility of the far-eastern form *S. m. stejnegeri* was mooted. Yet in the absence of any definitive field characters to separate that taxon from the more familiar nominate *maurus*, this

seemed a possibility likely to remain no more than conjecture. At the time I was corresponding via e-mail with Paul Leader in Hong Kong regarding the identification of both the leaf warbler and the shrike. On seeing the images of the stonechat on the PBO website, he too expressed an opinion that the bird bore a strong resemblance to *stejnegeri* (a common winter visitor to Hong Kong), but acknowledged that it would have to be examined in the hand for there to be any realistic chance of taking the identification any further. As the bird was frequenting a favoured fence-line, it was relatively easily caught in a spring-trap on the morning of 26th October and taken to the observatory for examination. After we had taken measurements and photographs, the bird was released where it had been caught and remained there for the rest of the day but, after the first clear night of the week, it could not be relocated on 27th October.

Identification

Field identification as a Siberian Stonechat was relatively straightforward, with the large, unmarked pale rump/upptail-covert patch and black underwing-coverts in particular excluding all races of European Stonechat *S. rubicola*. The absence of any visible white in the bases of the outer tail feathers was considered to exclude the two southern forms of Siberian Stonechat, *S. m. variegatus* and *S. m. armenicus*, so the identification lay between *maurus* and *stejnegeri* – two taxa that the available literature indicated were, on plumage characteristics alone, all but inseparable.

Martin Cade



Martin Cade



387–389. First-winter male Stejneger's Stonechat *Saxicola maurus stejnegeri*, Portland Bird Observatory, Dorset, October 2012.

Suspicions that the latter might be favoured were based on the rich, deeply saturated plumage hues: the breast/belly and rump/upptail-covert patch were strongly washed apricot-buff, while the ground colour of the crown and mantle was warm rufous-brown. Subsequently, Hellström & Norevik (2014) suggested that the presence of dark spotting on the upptail-coverts may be a useful character for the separation of some *stejnegeri* from all *maurus*; this feather tract

was not studied in detail at the time but examination of the in-hand photographs reveals no sign of dark marks on any of the visible upptail-coverts.

That the bird was a male had been indicated in the field by the black underwing-coverts, and this diagnosis was confirmed in the hand by the presence of extensive concealed black bases to the feathers of the throat and side of the head. Ageing as a first-winter was confirmed by the inside of the upper mandible being entirely pink. Svensson (1992) stated that *stejnegeri* has a somewhat wider base to the bill than *maurus* and it was this biometric that offered the only tangible chance to secure an identification without resorting to molecular analysis: the recorded measure-

ment of 4.9 mm at the proximal end of the nostrils fell just within the overlap between the two forms (*stejnegeri* 4.7–5.7 mm, *maurus* 4.0–4.9 mm).

DNA analysis

DNA was isolated from the base of a single tail feather, which was dislodged accidentally while the bird was being measured. Following the protocols of Zink *et al.* (2009), the Aberdeen University lab had previously

sequenced the mitochondrial ND2 gene of European Stonechat and Siberian Stonechats of the races *maurus*, *variegatus* and *armenicus* to confirm the first British record of Siberian Stonechat (Collinson & McGowan 2012). Consequently, the data available provided very good resolution of stonechat species and subspecies.

Zink *et al.* (2009) showed that birds from eastern Siberia, assigned to *S. m. stejnegeri*, are genetically highly distinct from birds from western Siberia, assigned to *S. m. maurus*. From the Portland DNA, the ND2 gene was PCR-amplified using avian primers L5216 and H6313. The clean PCR product was gel-extracted and sequenced (Accession No. LN864489). Using NCBI BLAST, the sequence was compared to all other *Saxicola* sequences deposited in the database. The sequence carried by the Portland bird was novel, but 99.0–99.9% identical (1–10 bp changes) to each of 72 birds previously sequenced by Zink *et al.* from locations all across eastern Siberia, within the range of *stejnegeri*. The closest match (1 bp difference) was a bird from Dornod, Mongolia. In contrast, the closest match of 41 nominate *maurus* sequences was only 92% similar (at least 77 bp difference). European Stonechats, Canary Island Chats *S. dacotiae* and African Stonechats *S. torquatus* were all similarly at least 70 bp different from the Portland bird. These data place the Portland bird firmly within the ‘*stejnegeri*’ clade (yellow group of birds in fig. 1 of Zink *et al.* 2009).

There are a number of caveats to be aware of, however. Zink *et al.* (2009) found ‘*stejnegeri*’ ND2 DNA in two (of eight) birds from the range of *variegatus* in southwest Asia. The other six had ‘*maurus*’ ND2 DNA. They were satisfied that this was not a mistake and put the anomalous result down to a putative long-distance dispersal event (i.e. a vagrant *stejnegeri* that has bred within the range of *variegatus* and has left its genetic footprint). Assuming that to be true, it is possible that *stejnegeri* DNA exists within western Siberian *maurus* populations away from the main range of *stejnegeri*. However, it was not detected in any of 41 birds assigned to nominate *maurus* in Zink *et al.* (2009) so it is reasonable to assume that any *stejnegeri* DNA in *maurus* populations is

pretty scarce, and in any case hypothetical. The other caveat is that no biometric or plumage data are presented for the birds analysed in Zink *et al.* (2009) so it is possible, again hypothetical, that some morphological ‘*maurus*’ birds around the zone of contact were genetically *stejnegeri* and vice versa. This does not change the fact that the *stejnegeri* clade DNA carried by the Portland bird has never been seen in any bird identified as nominate *maurus*, but is present in every bird identified as *stejnegeri*. There is also the usual caveat that mtDNA is only informative about the bird’s mother. If the Portland bird were the product of a mating between a male *maurus* and female *stejnegeri*, this would not be resolved without sequencing a nuclear gene too. Such pairings are presumably extremely rare, or it would be difficult to see how the two taxa could remain so genetically distinct.

The fact that the Portland bird’s DNA is not absolutely identical to any previously analysed *stejnegeri* is not a concern. There is some genetic variation among *stejnegeri* in the database, and given that only around 70 of the 100,000s of *stejnegeri* in the world have been sampled, it is inevitable that there are currently undescribed, but closely allied, DNA sequences yet to be published. The Portland bird’s DNA is within 0.1% of published *stejnegeri* sequences but 8% different from published *maurus* sequences.

Taxonomy, distribution and vagrancy

Formerly, *stejnegeri* was treated as a race of the widely distributed, polytypic Common Stonechat *Saxicola torquatus*, but the validity of *stejnegeri* as a distinct taxon has been questioned by some authors (e.g. Urquhart & Bowley 2002). Recently, it has been placed as one of six races of Siberian Stonechat (Sangster *et al.* 2011), while genetic studies have shown that it is clearly distinct from *maurus* and most likely merits full species status (Zink *et al.* 2009).

Although replacing *maurus* in east Asia, where its breeding range encompasses eastern Siberia, Mongolia, northern China, the Korean Peninsula and Japan, the boundary between the two forms remains to be fully clarified. Stoddart (1992) suggested



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390–391. First-winter male Stejneger's Stonechat *Saxicola maurus stejnegeri*, Texel, the Netherlands, October 2012.

that they intergrade across large areas of Siberia, with Vaurie (1959) and Stepanyan (1990) specifying a zone of intergradation extending from the lower Yenisey River southeast to the Irkutsk area, west of the southern part of Lake Baikal. Besides two anomalous and unexplained records from Astrakhan, southern European Russia (Zink *et al.* 2010) – well outside the range even of *maurus* – genetically confirmed specimens of *stejnegeri* have been recorded from no further west than Lake Baikal (Zink *et al.* 2009).

It is a long-distance migrant, wintering from Assam in northeast India east across southern China to Taiwan, and south through Burma and the Indochina region to the Malay Peninsula, but becoming less frequent south to Singapore. Stragglers have reached the Philippines, northern Borneo and Sumatra (HBW). The timing of the autumn migration of *stejnegeri* closely matches that of many of the eastern vagrant passerines that reach Britain: the Russian breeding grounds are vacated from the second half of August, with main autumn passage at Beidaihe (northeast China) between mid August and mid October (HBW); in Hong Kong peak numbers occur from the end of September to the beginning of November (Carey *et al.* 2001).

Although the core breeding range of *stejnegeri* lies farther east than that of the

majority of the vagrant passerines that reach Britain from Siberia, there is ample recent evidence of a trend toward species with a similar distribution reaching western Europe. In this context the remarkable, near-simultaneous occurrence at Portland of a Pale-legged or Sakhalin Warbler – the former breeding no closer than Amurland and Manchuria (southeast Russia/northeast China), and the latter confined to islands off the east Asian seaboard – lends support to the idea that autumn 2012 offered particularly favourable conditions for extreme long-distance vagrancy from east Asia.

At the time of its occurrence, this individual constituted the first acceptable record of *stejnegeri* for western Europe, although an earlier record of a bird ringed and later found dead at Landsort, Sweden, in October 2008 has since been identified as *stejnegeri* following preliminary DNA analysis. A subsequent record of one at Orivesi, Pappilaniemi, Finland, in November 2013 has been confirmed genetically.

As an unexpected postscript to this record, it became apparent after the announcement of the bird's formal identification that it bore strong similarities to a Siberian Stonechat present at Texel, Netherlands, from 8th–23rd October (Kok 2012). Subsequent detailed scrutiny of photographs suggested that the two records refer to the

same individual and the Dutch record has been submitted as such to the CDNA. With a straight-line distance of 584 km between the two sites, the bird must have travelled at a mean speed of at least 26 km/h in the 22.5 hours between the last sighting at Texel and its discovery at Portland (Diederik Kok pers. com.).

Acknowledgments

We would like to thank Paul Leader and Diederik Kok for their helpful comments, which led to the successful outcome in establishing the identity of this bird.

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Editorial comment Paul French, Chairman of BBRC, commented: 'The identification of this bird is well documented here by Martin Cade, and the Portland birders and Paul Leader are to be congratulated on their willingness to entertain the improbable and secure the bird's identi-



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392. First-winter male Stejneger's Stonechat *Saxicola maurus stejnegeri*, Texel, the Netherlands, October 2012.

fication by trapping it. The combination of plumage features and DNA evidence left BBRC in no doubt that the identification was sound, and it was accepted on a single circulation of the Committee. Given that the field identification criteria for *stejnegeri* are still a work in progress, successful future claims will most likely require the bird to have been trapped and to have yielded a feather sample for DNA analysis. This situation may well evolve as the waters become clearer, if only for those birds that show the potentially diagnostic dark centres to the longest uppertail-coverts.'

Martin Collinson, Chairman of BOURC, commented: "Stejneger's Stonechat" *Saxicola maurus stejnegeri* has had a rocky relationship with the British and Western Palearctic Lists. Unusually saturated or dark examples of Siberian Stonechat have historically been cited as potential *stejnegeri*, but uncertainty about identification criteria, combined with a reports of a wide intergrade zone and an assumption that *stejnegeri* was "just" an eastern form of *maurus*, made record assessment complicated. For example, an adult male seen at Cley, Norfolk, on 2nd May 1972 was widely considered to be *stejnegeri* (see Robertson 1977) but the identification cannot be proven and latterly that bird has been accepted only as *stejnegeri*/nominate *maurus* (BOU 2009). Genetic evidence showing that nominate *maurus* and *stejnegeri* are, in fact, not closely related and may represent separate species has concentrated the minds of observers on the subject of identification of *stejnegeri*. That said, identification remains tricky, and though neither biometrics nor plumage, nor arguably even the DNA, identified the Portland bird with 100% certainty in isolation, together they formed congruent lines of evidence that BOURC was able to accept. Provenance was not an issue, and so the subspecies was added to the British List. As stated above, the Portland bird had been seen on Texel in the days prior to its arrival in Britain. The identification has been accepted by CDNA and it is expected that the taxon will be added to the Dutch List in due course.

Letter

Archiving your bird records

Moss Taylor raises an important issue with regard to the long-term storage of personal bird records (*Brit. Birds* 108: 186–187). Having thought about the issues myself, I have come to several conclusions.

Firstly, it is a tragic waste when unique documents are just thrown away upon the death of the author, and Moss should be congratulated in saving the records of the late Richard Richardson, and the diaries from Nancy's Cafe at Cley.

Secondly, it is obviously of value if records can be stored electronically; and clearly the place to submit electronic data is the BTO/RSPB/BWI/SOC/WOS BirdTrack database. It is an advantage for observers to enter their own records, if only because of accuracy in deciphering handwriting (at least in my case). Julian Greenwood highlighted the

important role of BirdTrack in historical records (*Brit. Birds* 108: 250), and it remains my intention to do likewise. I started recording in 1957 but have not yet got beyond 1958, so this is still a work in progress.

That does raise the issue of the long-term safety of electronic data. Can we be really certain that data will survive the vicissitudes of time, politics, economics, changes of format, changes in codes and unpredictable events? Would we still have the Doomsday Book if it were solely in electronic format?

But, in addition to electronic storage, the primary documents should also be saved for posterity, and an obvious starting point is the Local Authority Archive for your area. Most Archives are not well stocked on local Natural History, and welcome back issues of

local bird reports etc. Allen (1976) commented on the difficulty of finding such ephemera. It is then easy to deposit material for safekeeping; you are usually given a choice of leaving material as a gift or on loan. Invariably, you will be given an accession number. All that then remains is to write out a letter, asking your executors to deposit your

notebooks at the Archive, under your accession number. Sign and date the letter, or even amend your will, so that your executors will know what to do.

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We asked for a comment from the BTO in response to Ray Eades' letter, and received the following:

It is very welcome that Ray and many others are making use of BirdTrack to save their records for posterity. To date, over 33 million records have been added to BirdTrack by nearly 25,000 people, making this one of the largest stores of biodiversity data anywhere in the world. Managing this flood of data is a challenge, to say the least. However, we do have lots of plans for making BirdTrack even better in future, for individual birders, county recorders and bird clubs, bird observatories, and even a number of other countries which are now making use of BirdTrack. Importantly, we are keen to start making optimum use of this wealth of information to enhance ornithology and conservation. We are fully committed to the long-term future of BirdTrack.

Most of the records being added – at a current rate of about 18,000 per day – are of contemporary observations. However, a number of observers are taking the opportunity to enter their older records for posterity. About three million records relate to observations made before the system was launched in 2002, and indeed there are over 10,000 records per year for every year since 1957. Particular mention should be made of Bardsey Bird Observatory, which has deposited its entire archive of daily logs in the system, though there are an increasing number of individual birders doing this too, which we very much welcome.

Ray identifies the critical question of long-term security of electronic data. Can we be 'certain' that data will remain safe and accessible into the future? This is, of course, a much wider question for society as a whole than it is for ornithology, and doubtless something the clever folk in the technology world are thinking about carefully. However, the BTO has invested heavily in the infrastructure and resources required to provide optimal security for its large datasets, including BirdTrack and all of our other projects such as the Atlases, WeBS, BBS, Ringing, and so on. The online surveys data are stored in an Oracle database, which is hosted on an external server, is backed up daily and is additionally copied down to a server based at The Nunnery. The servers themselves are monitored constantly during working hours, with regular checks during out-of-hours periods, and are replaced and upgraded according to a scheduled plan which is revised each year. Future developments, such as cloud storage and database options, are re-evaluated regularly to determine the most suitable action for the BTO to pursue. In short, the BTO takes its responsibilities for data security very seriously and this will continue to be the case in the future.

As to whether primary paper documents should also be saved, the BTO does not have the capacity to retain original notebooks from large numbers of observers. However, this may well be something that could be investigated locally as Ray suggests. We can certainly provide advice to individuals with large quantities of paper-based records that they wish to digitise. We can offer suggestions on seeking assistance with the physical process of data entry and guidance about formatting the data in a way that facilitates use of BirdTrack's tool for uploading large batches of records.

Further information about adding historical records to BirdTrack can be found at www.bto.org/volunteer-surveys/birdtrack/taking-part/adding-historical-records

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