

REDISCOVERY

First Jankowski's Buntings *Emberiza jankowskii* wintering in Beijing for 75 years

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Introduction

On 9 January 2016 XC and HM found a bird they thought was a Jankowski's Bunting *Emberiza jankowskii* at Miyun Reservoir, Bulaotun, Beijing, China (40.544°N 116.978°E). The identification was confirmed two days later after they circulated their images to Beijing-based birdwatchers. Guided by XC and HM, several others soon visited the site, and subsequently up to 12 Jankowski's Buntings were found there. The small area in which they were found (about 750 × 250 m) is on a ridge with variable contours and, probably for that reason, had not been cut or used for arable crops. Over the course of the following weeks, a number of individuals, in little-known plumages, were seen and recorded.

The 2016 sightings were the third record for Beijing and came almost 75 years after the first and second records, which were single specimens caught by a Chinese collector 'in the vicinity of the Summer Palace, a few miles outside the west wall of Peking' on 20 February and 23 March 1941 (Morrison 1948). These two specimens, both males, are now held at Natural History Museum, Tring, UK (NHMUK). The 2016 observations are even more remarkable considering the steep decline in the species's population over the last three decades.

We were hoping that the buntings would start to sing towards the end of their stay in Beijing and, as if to encourage this belief, we noted that at least one of the males started to deliver very weak sub-songs, audible only at close range, from late February. Unfortunately, access to the whole of Miyun Reservoir area was prohibited, as a fire precaution, from late March; they were never heard to sing and we do not know exactly when they left.

Historical range, decline and current status

Historically the breeding range of Jankowski's Bunting included south-east Russia, north-east China and North Korea (BirdLife International 2016). On the breeding grounds, the species favours Mongolian steppe-vegetation zones with shrubs dominated by Siberian Apricot *Armeniaca sibirica*, a species of small tree native to eastern China, Japan, Korea, Mongolia and eastern Siberia (Muzika *et al.* 2015); the apricot bushes are used

for shelter and as song posts. This habitat has been decimated by a combination of conversion to agriculture, over-grazing and drought (BirdLife International 2016). The species is now thought to be extinct in Russia and its status in North Korea is unknown. Currently, the only known breeding populations are in Inner Mongolia and Jilin provinces, north-east China. The total population is likely to be less than 500 pairs, perhaps even less than 200 pairs (Jiang *et al.* 2008). It is currently classified as Endangered, but unless additional stable populations are discovered in the near future, may require uplisting to Critically Endangered (BirdLife International 2016).

Conservation action is in hand; a partnership between China Bird Watching Society, Hong Kong Bird Watching Society, BirdLife International, Oriental Bird Club and others has supported and carried out surveys of the known breeding grounds in Inner Mongolia and Jilin provinces as well as the surrounding areas. Nine new sites, and a total of 148 birds, were found during surveys in 2013 and 2014 (Vivian Fu pers. comm.), reinforcing the possibility that further sites remain undiscovered. Conservation efforts have included workshops for local government, local nature reserves, universities and outreach to the general public. After a single male Jankowski's Bunting was seen during autumn 2013 in Dornod province, south-east Mongolia, a survey of potential breeding habitat in south-east Mongolia was made in June 2015 but produced no records, although the extreme south-east of the country could not be accessed due to an active large-scale fire in the area (Muzika *et al.* 2015). Further surveys and workshops are taking place during 2016 to explore areas with potential breeding habitat and to strengthen the dialogue with local communities. These are being carried out in collaboration with Dr Wang Haitou, Northeast Normal University, Changchun, Jilin province. The survey team has already recorded tens of pairs of Jankowski's Buntings at several previously unknown sites.

Due to the scarcity of winter records, the Beijing flock has provided a valuable opportunity to study unfamiliar plumages, vocalisations and the ecology of this little-known species. A number of images of birds in little-known plumages are now available

on the Oriental Bird Images website (www.orientalbirdimages.org/search.php?Bird_ID=1935) and video and sound recordings can be accessed at <https://birdingbeijing.com/jankowskis-bunting-video-and-audio/>.

Winter plumage

For comparison with the unfamiliar plumages seen in Beijing in early 2016, Plates 1 & 2, taken on the species's breeding grounds, show adult male and female Jankowski's Buntings in breeding plumage. Note that the male shows a chestnut crown, dark lores and malar stripe, grey ear-coverts, white wing-bars and the (probably) diagnostic dark belly-patch (Plate 1). The female shows greyish ear-coverts, dark malar stripe (although not as prominent as the male's), paler lores and white wing-bars, but lacks the chestnut crown and also (probably) the dark belly-patch (Plate 2).

Ageing buntings in the field is not straightforward; however, the Miyun Reservoir flock included at least two presumed adult males, several presumed first-winter males and some adult (or first-winter) females. The shape of the tail-feathers, most reliably evaluated in the hand or by means of high-quality images, is one of the best indicators. According to Byers *et al.* (1995) the colour of the shaft of the outer tail-feather is also a good indicator of age for Jankowski's Buntings: white in adults and brown in first-winter birds. However, this feature is now considered to be of uncertain value given experience with Cirl Buntings *E. cirlus* in the south of England (D. Buckingham pers. comm.). In a few images and video clips of the Beijing Jankowski's Buntings, the shape of the tail-feathers can be seen clearly,

Plate 1. Male Jankowski's Bunting *Emberiza jankowskii* on breeding grounds, Bai Cheng, Jilin province, China, 31 May 2014.



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Plate 2. Male and female Jankowski's Buntings on breeding grounds, Horqin, Inner Mongolia, China, 6 May 2013.

allowing tentative ageing. In most, however, these features could not be seen, consequently the attempts to age the birds should be considered speculative. Males of all ages have at least a hint of a dark belly-patch, although it has been suggested that some females, presumably older birds, may also show this feature (Byers *et al.* 1995).

Adult males

Adult males are unmistakable; the head pattern, including a chestnut crown, prominent pale supercilium, dark, almost black, lores and malar stripe, and grey ear-coverts, is distinctive. On the underparts, an obvious dark belly-patch also indicates a male (see comments above). Seen well, an adult male should pose few identification problems (Plate 1–3).

Presumed first-winter males

From our observations of the small Beijing flock and TT's inspection of the two specimens held at the NHMUK (Plates 8 & 9), we speculate that first-winter males show some of the characteristics of adult males, including at least a hint of a belly-patch, dark lores and malar stripe, but exhibit a more heavily streaked crown and mantle, with some birds appearing to show a strong 'necklace' of streaking on the upper breast (Plates 4 & 5).



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Plate 3. Adult male Jankowski's Bunting, Miyun Reservoir, Beijing, China, 3 February 2016.

The two specimens held at the NHMUK—taken a month apart in the same winter—are strikingly different in appearance, and although the shape of the tail-feathers is difficult to determine on old worn specimens, the heavy streaking on the crown and mantle and the heavier wear, more pointed shape and more bleached condition of the central tail-feather of the right-hand specimen (Plate 8) suggest a first-winter bird.

Females

A feature of female Jankowski's Buntings (Plates 6 & 7) appears to be the relatively pale lores compared with the malar stripe. The supercilium is usually not as bright as on males, and typically off-white in colour. Most appear to have a necklace of streaking on the upper breast and some may show a dark belly-patch (Byers *et al.* 1995).

Comparison with Meadow Bunting

E. cioides

In plumage terms, the main confusion species is Meadow Bunting, a much more common and widely distributed bird that sometimes breeds alongside Jankowski's Bunting. The Beijing wintering flock was occasionally seen alongside Meadow Bunting, although the two species were not seen to form a mixed flock. There are consistent and reliable differences in plumage between these two species in all plumages.

Head pattern: Jankowski's Bunting shows greyish ear-coverts, compared with the warm brown/black of Meadow Bunting (race dependent).

Wing-bars: Jankowski's Bunting shows relatively broad, white wing-bars, whereas Meadow Bunting has thinner, more buffy, wing-bars.



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Plate 4. Presumed first-winter male Jankowski's Bunting, Miyun Reservoir, 23 January 2016. The belly-patch and dark lores and malar stripe are all indicative of a male. Note the dark streaking on the crown and 'necklace' of streaking on the upper breast. This bird may have replaced the two outer tail-feathers on the right-hand side.



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Plate 5. Presumed first-winter male Jankowski's Bunting, Miyun Reservoir, 23 January 2016. Again, note the dark lores and malar stripe, belly-patch, streaking on the crown and (relatively indistinct) necklace on this individual. This bird appears to have replaced the outermost tail-feather on the right-hand side. Note the squarer tip, lack of wear and extensive white on this feather.

Upperparts: Jankowski's Bunting shows a more contrasting, 'colder' mantle with obvious rusty colouration on the scapulars, whereas Meadow Bunting is a more uniform warm rusty colour on the upperparts.

Underparts: Jankowski's Bunting has pale underparts, lacking contrast between throat and breast, and a diagnostic dark patch on the centre of the belly. Meadow Bunting, in most plumages,

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Plate 6. Presumed female Jankowski's Bunting, Miyun Reservoir, 6 February 2016. Note the pale lores, relatively indistinct malar stripe and a lack of chestnut on the crown.

Plate 7. Presumed female Jankowski's Bunting, 6 February 2016. Note the pale lores, lack of chestnut on the cap and relatively dull supercilium.

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is much warmer and orange below with obvious contrast between throat and breast.

Vocalisations

We heard the Jankowski's Buntings in Beijing give two different types of call: a compilation is available at: <https://birdingbeijing.com/jankowskis-bunting-video-and-audio/>. The most common of them was a very short, piercing, sharp *tzik*. This call, given in flight by both sexes as well as in other different circumstances—e.g. when relaxed and feeding and when perched up and alert—was very similar to the contact call of the Japanese Reed Bunting *E. yessoensis* with which they occasionally



Plate 8. The two Jankowski's Bunting collected 'in the vicinity of the Summer Palace', Beijing, in 1941 and now in the collection at the NHMUK.

Plate 9. The underparts of the two Beijing Jankowski's Buntings at the NHMUK, here pictured alongside a third specimen, also a male, collected on the breeding grounds in Russia on 15 June 1927 (left-hand bird).



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consorted. We found it impossible to confidently distinguish the short, intense calls of these two species in the field but sonograms show that the call of Jankowski's Bunting has a slightly greater frequency range and is very slightly higher in pitch (7.1–10.8 kHz) compared with the Japanese Reed Bunting (6.6–9.2 kHz). It is also very similar to that of the Cirl Bunting. This call is almost certainly the one that Byers *et al.* (1995) described: 'Single or doubled *tsitt* notes are often heard, and may be contact calls'. Despite many hours of observation we never heard the Beijing Jankowski's Buntings give double notes—calls were invariably given singly or in well-spaced series of irregularly delivered, individual notes. The Meadow Bunting has a variety of calls, including one that is quite similar to the above contact call of Jankowski's Bunting but, in our experience, this call is not as short or sharp and is even higher pitched than the Jankowski's Bunting call. Another important difference is that the Meadow Bunting's call is invariably a double note or a rapid series.

Occasionally we heard the Jankowski's Buntings also give a lower pitched (2.0–4.9 kHz), rather short, descending, mellower *stup-stup* or *sup-sup* call. Invariably given as a double note, it reminded us of the contact call of Buff-throated Warbler *Phylloscopus subaffinis* or one of the calls of Ortolan Bunting *E. hortulana*.

Byers *et al.* (1995) suggested that a 'thin *hsiu*, recalling Common Reed Bunting *E. schoeniclus* or Penduline Tit *Remiz pendulinus*, probably also serves as an alarm call, but we never heard this call' and suggest that such notes are perhaps only given near the nest. Recordings of these calls, as well as those of Japanese Reed Bunting and Meadow Bunting, are also available at <http://www.xeno-canto.org>.

Habitat use at Miyun Reservoir

The small area (about 750 × 250 m) of habitat favoured by the Beijing flock of Jankowski's Buntings was remarkably similar to that on the breeding grounds, composed of rough grassland with scattered bushes (Plate 10). Beijing-based amateur botanists have studied images of this habitat and identified two of the shrubs as Jujube *Ziziphus jujuba* and Armenian Plum *Prunus armeniaca*. Two of the plants are probably a wormwood *Artemisia annua* (Plate 11) and a bristlegass *Setaria viridis* (Plate 12). Following a government ban on growing arable crops close to the reservoir, the habitat at Miyun Reservoir in winter 2015–2016 was strikingly different from previous years, with extensive scrub and grassland. Even so, the area in which the Jankowski's Buntings were present in early 2016 was not typical of the general habitat at this site; it lies on a low ridge with

Plate 10. In the foreground is the typical hilly, shrubby habitat preferred by the Jankowski's Buntings at Miyun Reservoir, Beijing, during winter 2015–2016. In contrast, the plain in the background is much more uniform, with recently cut grass and very few shrubs.





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Plate 11. A wormwood *Artemisia annua*, one of the seeding plants that forms part of the habitat at Miyun Reservoir and on which the Jankowski's Buntings foraged.



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Plate 12. A bristlegrass *Setaria viridis*, another of the plants on which the buntings were feeding at Miyun Reservoir.

variable contours and, probably for that reason, had not been cut or used for arable crops in the past.

Jankowski's Bunting in Beijing: rarity or overlooked regular visitor?

Almost nothing is known about the movements of Jankowski's Bunting outside the breeding period. It has generally been assumed that birds stay at, or close to, the breeding grounds. In the absence of any known breeding areas near Beijing, the 2016 flock, together with the winter 1940–1941 records from Beijing, indicate that, at least occasionally, Jankowski's Bunting may move several hundred kilometres to winter. The question is whether these movements are irruptive, due to factors affecting food supply (e.g. snow cover), or regular? If the latter, has the species been overlooked or misidentified in the past? More research is required before a definitive answer can be given, but were there any circumstances that may have caused the buntings to move further south in winter 2015–2016?

North-east China experienced its coldest weather for more than 30 years in January 2016 (China News 2016). Cold in itself is unlikely

to be a trigger; however, when it is associated with heavy snowfall, reducing access to food for ground-feeding birds, the combination could be a significant factor, and indeed there was unusually heavy snowfall in north-east China in early December 2015 (Xinhuanet 2015), affecting Inner Mongolia and Jilin provinces, the centre of the range of Jankowski's Bunting. It therefore seems plausible that the harsh winter may have been the main reason for these birds' southward movement.

Although there are no extensive areas of grassland with scattered bushes in the Beijing area, the small area occupied by the birds at Miyun Reservoir suggests that they can survive in limited areas of suitable habitat. It is possible that there are other such pockets of suitable habitat for Jankowski's Bunting in the Beijing area that could host the species.

Beijing is a large municipality (16,800 km² area), and, although probably the Chinese city with the most active birdwatchers, the number is very low in comparison with many western conurbations—Beijing Birdwatching Society has about 400 members, but only a small number are active in the field, and it is anticipated that as the number of active birdwatchers increases, more ornithological discoveries will be made in Beijing, possibly including regular wintering Jankowski's Buntings. Until the occurrence of the Miyun flock, local birdwatchers were simply unaware of Jankowski's Bunting and this, combined with the similarity of young and female birds in particular to Meadow Bunting and (to a lesser extent) Pallas's Bunting *E. pallasi*, both relatively common in winter in similar habitat, may have resulted in observers failing to scan winter bunting flocks carefully enough to reveal their presence; however, with the dark belly-patch obvious, at least on most males, the possibility of birds being overlooked, if seen well, does appear unlikely.

Conclusion

The presence of a small flock of Jankowski's Buntings in Beijing has provided a great opportunity to observe this little-known species. Although the authors attempted to age and sex the birds, we recognise that ageing buntings in the field is difficult and we welcome comments and insight from anyone with experience of *Emberiza* species on the images and video clips referred to in this article.

The frequency with which Jankowski's Bunting occurs in Beijing remains a mystery; however, the gap of almost 75 years between records, combined with the unusually cold winter in 2015–2016, suggests that the arrival of the flock at Miyun Reservoir was probably an exceptional

occurrence. Greater awareness of this species and its identification in different plumages, made possible by this winter's experience in Beijing, will increase the chances of birds being located and identified in the future, thereby increasing our knowledge of the non-breeding range of Jankowski's Bunting.

The Beijing Jankowski's Buntings have been great ambassadors for the species. In addition to the international interest, articles have been published in Chinese mainstream print media and social media, resulting in greater awareness of the plight of this species and providing a boost for conservation efforts.

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