

# The importance of Muraviovka Park, Amur province, Far East Russia, for bird species threatened at regional, national and international level based on observations between 2011 and 2016

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The middle reaches of the Amur River in Far East Russia are still an under-surveyed region, yet holding a very high regional biodiversity. During a six-year survey at Muraviovka Park, a non-governmental nature reserve, 271 bird species have been recorded, 14 of which are globally threatened, highlighting the importance of this area for bird conservation.

## INTRODUCTION

Recent studies have shown that East Asia and especially the Amur basin hold huge numbers of endangered species, and the region was designated as a hotspot of threatened biodiversity (e.g. Vignieri 2014). This is especially true for birds. The East Asian–Australasian Flyway is not only one of the richest in species and individuals but is also the least surveyed and most threatened flyway (Yong *et al.* 2015). Current data about distribution, population size and phenology are virtually lacking for many regions, including the Amur region, Far East Russia.

Muraviovka Park for Sustainable Land Use (hereafter Muraviovka Park or ‘the park’) is a non-government managed nature reserve located on the Zeya-Bureya plain 50 km south-east of the city of Blagoveshchensk on the Amur River. Founded in 1994, it covers more than 6,500 ha of wetlands, fields and small forest islands (Harris 1993). The area is noteworthy for its breeding populations of threatened cranes and storks as well as for migrating waterfowl. Muraviovka Park was included in the 31,600 ha area (mostly within the Murav’evskiy Zakaznik game refuge) which was designated Ramsar site 685 Zeya-Bureya Plains in September 1994 (<https://rsis.ramsar.org/ris/685>). However, the level of protection is not very high. The wetlands in the Giltchin River watershed, where Muraviovka Park is located, are under intense pressure for conversion to agricultural uses, threatening the existence of a variety of bird species (Heim 2016). The objective of this paper is to summarise the data collected over the past six years and assess the importance of Muraviovka Park for threatened bird species at regional, national and international levels.

## MATERIALS AND METHODS

Since 2011, volunteers have been carrying out ornithological surveys in and around Muraviovka Park as part of the Amur Bird Project, which was initially focused on the study of autumn bird migration (Heim & Smirenski 2013). More than 30,000 migratory passerines have been ringed during the project and data on biometrics, phenology, age and sex recorded in a standardised monitoring programme (Heim *et al.* 2012, Heim & Smirenski 2013). Special studies have also been made on some of the threatened breeding birds in the area (Heim *et al.* 2013, 2015, Heim 2016). During all fieldwork in all the survey seasons, random ornithological observations have been noted daily. Studies under the auspices of the Amur Bird Project were carried out from 6 September to 30 October 2011, 29 August to 20 November 2012, 27 February to 20 October 2013, 25 July to 17 October 2014, 30 March to 24 June and 4 August to 15 October in 2015 and 15 April to 24 July 2016. Additional data were collected by the Muraviovka Park staff as well as other visitors and volunteers.

## RESULTS

A total of 271 species was recorded inside Muraviovka Park between 2011 and 2016; 24 species are listed as Near Threatened (NT), Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) (BirdLife International 2017a), 31 species in the Russian Red Data Book (Iliashenko & Iliashenko 2000) (Ru) and 60 species in the Amur region Red Data Book (Glushchenko *et al.* 2009) (Am). In the case of the Russian and Amur regional Red Data Books, the species status is designated by a numerical code as follows: probably extinct (0), endangered (1), numbers decreasing (2), rare (3), status uncertain (4) or rehabilitated or rehabilitating (5).

The following annotated list covers all avian species included in any of the Red Lists mentioned above that have been recorded in Muraviovka Park. In addition we provide information about species which are not included on a Red List but which are locally rare or new to the region. Observers’ names are given in the text; if no observer is named, the first author is responsible for the observation/record.

### Species of international concern

#### Japanese Quail *Coturnix japonica* NT

Abundant breeder in both dry and wet habitats. The population was estimated at 120–200 calling males in 2013. Individuals were recorded from late April until mid-October, but may overwinter irregularly in the park if there are fallow crop fields.

#### Lesser White-fronted Goose *Anser erythropus* VU (Ru 2, Am 2)

Rare but regular spring migrant. Twelve seen on 7 May 2011 in the north-east of the park in a crop field on the terrace south of Duchovskoye village (SMS). Two birds were observed in the wetlands behind Kapustikha Lake on 6 May 2013 and 10 migrated east on 7 May 2013. In spring 2015 this species was recorded three times: two in the south of the park on 11 May, 15 near Lebedinoye Lake on 18 May and two on a field puddle near Duchovskoye village on 20 May. Only one observation in 2016: three migrating north on 8 May (A. Heim).

#### Falcated Duck *Mareca falcata* NT (Am 2)

Uncommon breeder and regular migrant. Five to 15 pairs bred in the wetlands in 2013. A female with five ducklings was seen on 16 July 2013 in the south. On 29 June 2013 a gathering of 37 males was on Chomutina Lake, probably staying there to moult. The largest flocks consisted of about 80 (22 April 2015) and more than 200 (23 April 2016); both flocks were in the south of the park. Regularly observed on Kapustikha Lake in autumn, with a maximum of 30 on 1 September 2014.

**Common Pochard *Aythya ferina* VU (Am 3)**

Rare migrant in both spring and autumn; eight records between 2011 and 2015 but more than 20 observations in 2016. Numbers seem to be increasing, and since 2015 birds have also been recorded during the breeding season: six males and one female in the south of the park on 7 June 2015, whilst in 2016 there were 15 on 8 June and a pair on Argusicha Lake on 16 June, seven males and three females on Peschanoye Lake (northern part) on 10 July and two males and one female at Lebedinoe Lake on 23 July. In autumn 2016 this species was much more common than in previous years: in the north of the park over 90 were recorded on 19 August on Peschanoye Lake, over 120 on Lebedinoe Lake on 23 August, 32 on Olenino Lake on 24 August, 37 on Kamishovoye Lake and 27 near the southern border of the park on 16 September (SMS).

**Baer's Pochard *Aythya baeri* CR (Ru 3, Am 2)**

Rare and irregular migrant; possibly breeds. Several observations were made on a slow-flowing water channel in the south of the park, where the first probable sighting was made on 18 June 2013 (A. Siegmund, U. Schuster). A female was seen close to the same location on 9 and 25 July, so a breeding attempt cannot be excluded (Heim *et al.* 2013). There have been no more records during the breeding season despite intensive surveys in 2015 (Heim 2016) and 2016. There are two records during autumn migration: a male was observed on Kapustikha Lake on 12 October 2011, and another at Kamyshovoe Lake on 11 September 2015 (SMS). The species was a rare but regular breeder at the park in the 1980s (SMS).

**Oriental Stork *Ciconia boyciana* EN (Ru 1, Am 1)**

Common breeder; 11 pairs bred in the park in 2013, and 15 pairs in both 2015 and 2016. Large numbers in autumn 2014, when up to 250 individuals were observed foraging in the wetlands behind Kapustikha Lake (SMS) and 423 counted at a small lake near Kuropatino village (outside the park) on 4 October (V. A. Dugintsov, A. A. Isaev).

**Great Spotted Eagle *Clanga clanga* VU (Ru 2, Am 2)**

Uncommon migrant and rare summer visitor; regularly observed between late August and mid-October, and three records during June 2013 and May 2016. Rare but annual visitor throughout summer in the south-western corner of the park, and between Korfovo village and the mouth of Giltchin River; breeding on islands in the Amur River is suspected.

**Steppe Eagle *Aquila nipalensis* EN (Ru 3, Am 3)**

Vagrant or irregular visitor; an immature bird flew east on 8 May 2015.

**Horned Grebe *Podiceps auritus* VU (Am 2)**

Rare migrant; one individual was seen on a lake in the south of the park, 5 October 2014. One unidentified grebe in the wetlands west of Muraviovka village on 11 October 2013 was probably this species (B. Jahnke, S. Klasan).

**Swinhoe's Rail *Coturnicops exquisitus* VU (Ru 1, Am 3)**

Status unknown, possible breeder. On 5 June 2013, a bird was flushed in a wet sedge meadow south of the park headquarters and on 20 June 2014 one was seen near Peschanoye Lake in the north of the park (SMS). The previously unknown song was heard and recorded at the park in 2016 for the first time (xeno-canto.org/343055), and a population of at least ten calling males was assumed (Wulf *et al.* 2017).

**Band-bellied Crake *Zapornia paykulli* NT (Am 3)**

Common breeder. In 2013, the population in the park was estimated at 50–100 calling males, but the numbers of this species as well as their breeding sites are very variable from year to year.

**Siberian Crane *Leucogeranus leucogeranus* CR (Ru 1, Am 1)**

Rare migrant; flocks from 6 to almost 100 birds irregularly made stopovers in the park during spring migration. Between 2013 and 2015 this species also stopped over in the park during autumn migration with the numbers and duration increasing (Suanjak & Heim 2016). In 2016, two adults stayed overnight in the south of the park on 3 September, but a territorial pair of Red-crowned Crane *Grus japonensis* evicted them from their roosting site (SMS).

**White-naped Crane *Antigone vipio* VU (Ru 1, Am 1)**

Common breeder and autumn migrant; up to 20 pairs held territories during early spring 2013, but only 11 pairs were found during the breeding season. From the end of August until the end of September, big flocks usually roost in the wetlands, with a maximum of 654 birds on 3 October 2015. The numbers have increased since the flood in 2013 (Heim *et al.* 2017).

**Hooded Crane *Grus monacha* VU (Ru 3, Am 3)**

Common migrant; large flocks can be found at roost sites during September, with a maximum of 1,031 individuals on 2 October 2015. The species is less common during spring migration and is an irregular summer visitor. Up to 45 birds were found in June 2015 in the burnt wetlands behind Kapustikha Lake, and a flock of 87 birds was noted west of Kuropatino village on 23 June 2015. As with the preceding species, numbers have increased since the 2013 floods (Heim *et al.* 2017).

**Red-crowned Crane *Grus japonensis* EN (Ru 1, Am 1)**

Rare breeder; single birds or small groups of up to eight birds are recorded annually between April and October. Two or three pairs were present in 2013, and at least one pair raised two chicks. Two pairs were found in 2014 and at least three pairs were noted in 2015. Two pairs raised two chicks each, but one was lost during the hunting season (SMS)—one pair successfully bred 2 km south of the park between Giltchin River and Rezunovka village. In 2016 one pair abandoned their nest in south of the park, but a family with two chicks was seen on 7 September in the north of the park in wetlands near Peschanoye Lake. Families with chicks are usually observed in the wetlands until the end of October.

**Northern Lapwing *Vanellus vanellus* NT**

Common migrant and regular breeder; up to nine pairs were on the fields close to the park in summer 2013, with two pairs breeding inside the park. During a point count in 2015 a total of 19 territories was counted. The species is more common during migration, with a spring maximum of 120 birds on 28 April 2016 and an autumn maximum of 60 birds on 17 October 2012.

**Asian Dowitcher *Limnodromus semipalmatus* NT (Ru 3, Am 3)**

Vagrant; a first-year bird was seen on 25 August 2014 (F. Eidam, L. Bozo).

**Black-tailed Godwit *Limosa limosa* NT**

The eastern race *melanuroides* occurs as a vagrant; at least five were seen on 18 August 2015 (C. Weinrich, D. Trense) and four on 22 September 2015 (M. Suanjak, S. Wolf) in the south of the park. One adult was seen in potential breeding habitat in the south of the park on 16 July 2016.

**Far Eastern Curlew *Numenius madagascariensis* EN (Ru 2, Am 3)**

Regular migrant and summer visitor; single birds or small flocks of up to five individuals were observed annually between the end of April and early September. The largest flock was 14 birds in the south of the park on 26 April 2016.

**Eurasian Curlew *Numenius arquata* NT (Ru 2)**

Vagrant; a single bird flew north with Far Eastern Curlew on 20 May 2015. This is the second record for the Amur region, after a historical record (Stegmann 1930).

**Red-necked Stint *Calidris ruficollis* NT**

Rare migrant; one adult observed on 21 July 2016 on a field puddle near Muraviovka village and one bird (probably juvenile) seen on 7 August 2014 in the south of the park.

**Japanese Waxwing *Bombycilla japonica* NT (Am 3)**

Rare but regular migrant, recorded annually during May and in September/October, in small flocks of up to eight individuals.

**Yellow-breasted Bunting *Emberiza aureola* CR**

Rare migrant but common breeder. At least 200 pairs were located in Muraviovka Park in 2013 and 2015. However, the local population appears to be undergoing a long-term decline (Kamp *et al.* 2015).

**Ochre-rumped Bunting (Japanese Reed Bunting)*****Emberiza yessoensis* NT (Am 4)**

Uncommon migrant but breeds annually in large numbers; in 2013, territories were counted and the population at Muraviovka Park was estimated to be 350–500 pairs.

**Species of national concern****Daurian Partridge *Perdix dauurica* Ru 1**

Until the 1970s this species (race *suschkini*) was an uncommon resident (SMS). Today it is only a vagrant; a bird was flushed next to a sandy road between Muraviovka and Korfovo villages in the south of the park on 18 September 2012.

**Tundra Swan *Cygnus columbianus* Ru 5 (Am 3)**

Vagrant; on 12 October 2016 images were obtained of a family with two cygnets, the first record for the area (V. A. Dugintsov, I. Ishenko).

**Mandarin Duck *Aix galericulata* Ru 3 (Am 5)**

Rare migrant, irregular visitor and possible breeder—these birds are probably from the Amur River. A pair was seen on 19 April 2013 and a single bird on 16 April 2015—when all lakes and reservoirs were still frozen. Single birds or pairs were regularly observed in May and June on Kapustikha Lake, and one pair was seen on 16 July 2016 on Perwie Meschkie Lake. During September single birds were observed several times in 2012 and 2013, but not in 2011, 2014 or 2015. In 2012, one bird stayed until 11 October.

**Baikal Teal *Sibirionetta formosa* Ru 2 (Am 5)**

Regular migrant; large flocks seen in spring, with a maximum of 300 birds at Arguziha Lake on 9 May 2015. One record during the breeding season: a pair in the south of the park on 3 June 2016 (V. A. Dugintsov). During September up to ten birds observed annually on Kapustikha Lake.

**Gyr Falcon *Falco rusticolus* Ru 2 (Am 2)**

Rare migrant; a single first-year bird migrated south on 16 October 2014 and one flew north on 2 April 2015.

**Peregrine Falcon *Falco peregrinus* Ru 2 (Am 3)**

Rare migrant; between 2011 and 2016, twelve records in April and May and seven records in September and October.

**White-tailed Sea Eagle *Haliaeetus albicilla* Ru 3 (Am 3)**

Rare migrant; between 2011 and 2016 there was one record in May and five observations in October.

**Golden Eagle *Aquila chrysaetos* Ru 3 (Am 2)**

Rare migrant and winter visitor; a first-year bird was seen on 17 October 2012 south of the headquarters and one individual was hunting in the south of the park on 14 March 2013.

**Black Stork *Ciconia nigra* Ru 3 (Am 3)**

Rare migrant; one juvenile on 27 August 2015 near Peschanoye Lake in the north of the park (C. Weinrich, D. Trense).

**Eurasian Spoonbill *Platalea leucorodia* Ru 2 (Am 0)**

Vagrant; two birds observed early–mid October 2013 at small lakes in the north-west corner of the park (SMS) and one in early October 2014 (V. A. Dugintsov).

**Demoiselle Crane *Anthropoides virgo* Ru 5 (Am 3)**

Vagrant; one was observed flying from wetlands to the fields on 1 June 2012 (U. Pittius, R. Speck).

**Black-winged Stilt *Himantopus himantopus* Ru 3 (Am 3)**

Vagrant; one observed in the south of the park on 7 June 2015. One pair bred not far from the park at an artificial reservoir near Tambovka village in 2015 and 2016, probably one of the northernmost breeding records for this species.

**Little Tern *Sternula albifrons* Ru 2 (Am 3)**

Rare summer visitor; two birds were seen at Peschanoye Lake on 4 June 2013 (P. Meffert, U. Schuster, K. Wolanska). In spring 2015 and 2016 birds were observed several times, and up to five pairs nested at Peschanoye Lake near the south-west border of the park (SMS).

**Eurasian Eagle Owl *Bubo bubo* Ru 2 (Am 3)**

Rare visitor and possible migrant; one was flushed close to a colony of Rooks *Corvus frugilegus* on 14 June 2013 (A. Siegmund) and one was seen in the south of the park next to the remnants of a dead adult Amur Falcon *Falco amurensis* on 16 July 2013. The species may be a regular visitor from the Lesser Khingan Mountains on the Chinese side of the Amur River.

**Rufous-bellied Woodpecker *Dendrocopos hyperythrus* Ru 3**

Vagrant; one male was trapped and ringed on 11 May 2016, the first record for Muraviovka Park and the Amur region (Heim *et al.* 2016).

**Great Grey Shrike *Lanius excubitor* Ru 3 (Am 3)**

Race *sibiricus* is a rare migrant; one adult was seen close to the headquarters on 1 April 2013. More records during autumn migration: a first-year bird trapped and ringed on 6 October 2011, one north of the headquarters on 3 October 2013 (B. Jahnke, S. Klasan) and a first-year bird west of Muraviovka village on 11 October 2013 (B. Jahnke, S. Klasan).

**Chinese (Asian) Paradise-flycatcher *Terpsiphone incei* Ru 3**

Vagrant; one bird was sound-recorded near the headquarters on 26 June 2016 (A. Thomas), the first record for Muraviovka Park and the Amur region (Heim *et al.* 2016).

**Species of Amur regional concern****Whooper Swan *Cygnus cygnus* Am 3**

Rare migrant; a single bird was flying near the headquarters on 17 October 2014, and up to 18 birds were observed daily at a roost site in the wetlands behind Kapustikha Lake on 2–8 May 2015.

**Gadwall *Mareca strepera* Am 2**

Rare migrant and possible breeder; a male was seen in wet meadows in the north of the park on 21 May 2013 and one bird in the southern



part on 13 July 2013. Regularly observed only at the end of August and in the first 10 days of September, when up to five birds were counted (8 September 2011). The biggest flock, consisting of 15 individuals, was found on 3 October 2013 (P. Fetting, B. Jahnke, S. Klasan), which is also the latest record for this species at the park.

### Chinese Spot-billed Duck *Anas zonorhyncha* Am 3

A rare migrant and breeder. In 2013, this species was only observed once during the breeding season, on 9 July. A female with four well-grown ducklings was seen on 18 August 2014 on Kapustikha Lake. At least four pairs were present in 2015, one of which lost its brood during a fire in May. This species was regularly observed in autumn on Kapustikha Lake, with a maximum of eight birds on 29 August 2013.

### Eurasian Bittern *Botaurus stellaris* Am 3

Regular migrant and common annual breeder in reedbeds; in 2013 it was estimated that there were 20–25 calling males in the park.

### Schrenck's Bittern *Ixobrychus eurhythmus* Am 2

Common breeder in wet meadows and thickets; it becomes more frequent in reedbeds after the breeding season. In 2013 20–30 pairs were located; a nest with one egg was found on dry ground in tall herbaceous vegetation on 18 June 2013, and a nest containing four eggs was found in a wet meadow bordered by willows on 19 June 2016.

### Purple Heron *Ardea purpurea* Am 3

Rare summer visitor and possible breeder; the species may have bred in the park in 2013, when it was observed several times during the breeding season and up to six juveniles were seen at Kapustikha lake in August and September.

### Great White Egret *Ardea alba* Am 3

Rare visitor; two birds were recorded in late September and early October 2013 at Arguziha and other lakes in the north-west of the park (SMS), one in early October 2014 (V. A. Dugintsov), one in the south of the park on 7 June 2015, two birds were in the wetlands on 30 September 2015 (M. Suanjak, C. Weinrich), one flew south on 6 May 2016 (M. Barabanov, A. Heim) and one was at Peschanoye Lake south of the park on 2 June 2016.

### Merlin *Falco columbarius* Am 3

Rare migrant; between 2011 and 2016 there was a single spring record on 19 May 2015 and eight autumn records in September and October—but none in 2011 or 2015.

### Osprey *Pandion haliaetus* Am 3

Rare migrant; between 2011 and 2016 there were three records in May, one in June and two in September.

### Oriental Honey Buzzard *Pernis ptilorhynchus* Am 4

Race *orientalis* is a rare or uncommon migrant. Six records in May and June, more regular between the end of August and the end of September, with the latest bird seen on 1 October 2012 (S. Klasan, B. Jahnke). Eight birds, including four juveniles, were observed on 9 September 2016 (SMS, V. A. Dugintsov).

### Japanese Sparrowhawk *Accipiter gularis* Am 2

Rare migrant; one seen on 10 August 2014 (L. Bozó), one juvenile was ringed on 2 September 2013 and another on 19 September 2014, and single birds were seen on 21 September 2014 (A. Heim), 9 September 2015 (S. Wolf), 17 and 20 September 2015 (M. Suanjak). Only one spring record: an adult was trapped and ringed on 23 May 2015.

### Upland Buzzard *Buteo hemilasius* Am 3

Rare breeder and regular visitor; in 2013, one pair bred in the park and another pair nearby, close to Duchovskoye village. In 2015 three pairs bred inside the park, and in 2016 at least two pairs bred there. Single birds were observed throughout the year.

### Common Coot *Fulica atra* Am 1

This species was a common summer breeding visitor until the 1980s (SMS, Heim *et al.* 2015). Today it is a vagrant; a single bird was on a well-vegetated lake in the south of the park on 6 October 2013 (P. Fetting, B. Jahnke, S. Klasan), and one or two birds were present on Kapustikha Lake on 5–11 May 2015.

### Common Crane *Grus grus* Am 2

Rare but regular migrant during both spring and autumn and irregular summer visitor, single birds or families were observed annually in May and September. A flock of 17 birds roosted beyond Kapustikha Lake for about two weeks in late May and early June 2011 (SMS). Three birds were found in a flock of Hooded Cranes on 23 June 2015 west of Kuropatino village close to the park, and six birds were seen in the west of the park on 10 June 2016.

### Yellow-legged Buttonquail *Turnix tanki* Am 3

Possibly breeds; up to three calling females heard annually close to the park headquarters.

### Grey Plover *Pluvialis squatarola* Am 3

Vagrant or rare migrant; first recorded at the park in 2012, when one bird seen on 21 September (F. Eidam). A migrating bird was heard calling on 16 September 2015 (M. Suanjak).

### Little Curlew *Numenius minutus* Am 3

Vagrant; one flew southward on 31 August 2012 (F. Eidam).

### Whiskered Tern *Chlidonias hybrida* Am 4

Rare but regular summer visitor, probably breeds. Three birds migrated through the park on 1 June 2012 (U. Pittius, R. Speck). In 2013, at least two birds were observed several times in a colony of White-winged Terns *C. leucopterus* in the north of the park between 21 May and 22 June, thus breeding seems likely. Two pairs had nests in a colony of White-winged Terns near Peschanoye Lake close to the southern border of the park, in June 2014 (SMS) and an adult was at Kapustikka Lake on 28 July 2014 (F. Eidam). In 2015, one adult was seen at Peschanoye Lake in the north of the park on 31 May, three birds were at Mohovoye Lake on 6 June (P. Fetting, A. Siegmund) and two near the headquarters on 11 June. Several records during May and June 2016 of up to three individuals in the south and the west of the park.

### Northern Boobook *Ninox japonica* Am 3

Rare migrant; one bird trapped and ringed on 16 September 2013 (P. Fetting), one seen on 9 May 2015 and one on 6–8 May 2016.

### Hill Pigeon *Columba rupestris* Am 3

Irregular visitor; small flocks regularly visit the small grain fields close to the west and south-west border of the park after the harvest. In October 2014 about 150 birds were perched on powerlines near the road to Korfovo (SMS). One bird was seen at Grodekovo village near the park on 5 June 2015.

### Shore Lark *Eremophila alpestris* Am 3

Irregular migrant; a flock of around 20 birds was on a field in the south of the park on 3 October 2012. Another flock of more than 40 birds was observed migrating on 17 October 2012. In 2013, two small groups of five and two birds migrated through the area on 22 October (S. Klasan, B. Jahnke).

**Baikal Grasshopper Warbler *Locustella davidi* Am 3**

This species, previously placed in *Bradypterus* and regarded as conspecific with *L. thoracica*, is a rare and secretive migrant, and was recorded for the first time in the park when trapped in 2011. There are only two spring records: an adult ringed on 31 May 2015 (P. Fetting), and a singing bird near the headquarters in the early morning of 31 May 2016 (T. Wulf)—one singing in the summer camp in the evening of the same day was possibly the same individual. There are more records during autumn migration: a juvenile on 19 September 2011, an adult ringed on 27 August 2013 and single juveniles on 12 September 2013 (S. Thorn) and 12 and 26 August 2014 (S. Jähnig).

**Chinese Grasshopper Warbler *Locustella tacsanowskia* Am 4**

Possible breeder, extremely secretive. One was found on 1 June 2012 (*U. Pittius*). During June 2013 up to four territories were located close to the headquarters, and at least three males were heard singing in June 2015. In 2016, there were at least seven widespread territories in the park. A female was trapped on 18 July 2016 at the park's headquarters. More common in the 1980s and early 1990s, when 8–12 territorial pairs were found annually in weedy areas (predominantly wormwood) along a 2 km stretch of terraces near the headquarters (SMS).

**Pechora Pipit *Anthus gustavi* Am 1**

The race *menzbieri* is a rare breeder. Up to five singing males were found between 14 May and 3 June 2013 in short wet sedge meadows in front of the headquarters, and one singing male was also heard in similar habitat to the north of the park, south-west of Kuropatino village, on 3 June 2013. Only two records in 2015 and 2016, both in burnt sedge meadows, a singing male on 26 May 2015 behind Kapustikha Lake and one near Peschanoye Lake in the north of the park on 13 June 2016 (A. Thomas). The nominate form *gustavi* is a rare but regular migrant in the park.

**Red-throated Pipit *Anthus cervinus* Am 3**

Abundant migrant, especially in early May and during the first half of September.

**Yellow-browed Bunting *Emberiza chrysophrys* Am 4**

Abundant migrant. Numerous in early May, the last days of August and the first half of September.

**Common Reed Bunting *Emberiza schoeniclus* Am 3**

Rare migrant and common breeder, seen in similar densities every year. A count was made in 2013 when between 30 and 40 pairs were found in reedbeds and willow shrub at Muraviovka Park.

**Local rarities****Greater Scaup *Aythya marila***

Rare migrant; first recorded at Muraviovka Park in 2012, when one male and two females were seen on 30 September and five females on 1 October at Kapustikha Lake. There were three more observations on Kapustikha Lake in autumn 2014: a male on 27 September (U. Schuster), a female on 15 October and two females on 16 October. Only one spring record: a pair at Kapustikha Lake on 4 May 2016.

**Siberian Scoter *Melanitta stejnegeri***

Vagrant; the species was recorded at Muraviovka Park for the first time when a female was observed at Arguziha Lake south of Kuropatino village on 3 June 2013.

**Harlequin Duck *Histrionicus histrionicus***

Vagrant. Six birds stayed for over a week on Kapustikha Lake in late May 2011 (SMS); the first and only record for Muraviovka Park.

**Little Grebe *Tachybaptus ruficollis***

Race *poggei* is a regular migrant and rare breeder. The first breeding record for Muraviovka Park was in 2013 (Heim *et al.* 2015).

**Black-necked Grebe *Podiceps nigricollis***

Vagrant; first recorded at Muraviovka Park on 19 May 2015, when a single bird was observed on Peschanoye Lake in the north of the park. The second record was an adult observed on 23 July 2016 at Lebedinoe Lake.

**Black-crowned Night Heron *Nycticorax nycticorax***

Vagrant; first recorded on 3 September 2015, when two individuals were seen at Kapustikha Lake (M. Suanjak, N. Schäfer). This species is presumed to breed along the Amur River.

**Common × Hooded Crane hybrid *Grus grus* × *monacha***

Rare but regular migrant; in early May 2011 six birds (two mixed-species families with two young birds each and two singles), two mixed-species families with two young birds each on 7 September 2012, and one mixed-species family with two young birds in September 2014 (SMS). A possible hybrid was seen in a flock of Hooded Cranes on 22 September 2015 (M. Suanjak, S. Wolf).

**Long-billed Dowitcher *Limnodromus scolopaceus***

Vagrant; a juvenile was seen on 2 October 2013 (S. Klasan, B. Jahnke, P. Fetting). This is not only the first record for Muraviovka Park but also for the Amur oblast (Antonov & Heim 2014).

**Terek Sandpiper *Xenus cinereus***

In the 1980s and early 1990s this species was a rare but regular migrant seen feeding on manure heaps in villages around the park (SMS). Today it is a vagrant; a single bird was seen in the south of the park on 5–7 August 2014 (V. A. Dugintsov).

**Mongolian Herring Gull *Larus smithsonianus mongolicus***

Vagrant; a single bird seen on 16 and 19 September 2013 after the flood (S. Thorn, P. Fetting) was the first record of the taxon *mongolicus* for Muraviovka Park. This taxon has previously been assigned to other species or considered to have specific status, although the latest taxonomic thinking assigns it to *Larus smithsonianus* (del Hoyo *et al.* 2017). Large gulls observed on 6 May and 25 June 2016 (A. Thomas) were most likely also this taxon.

**Long-tailed Skua *Stercorarius longicaudus***

Vagrant; an adult was flying south on 8 September 2014, the first record for the park.

**Eurasian Collared Dove *Streptopelia decaocto***

Rare visitor. This species is currently spreading east and north. It is now regularly breeding in the Nenjiang area, North China (Li Xian Da pers. comm.), and breeding was also confirmed for the Russian side of the Amur (Dugintsov 2012). There have been several recent records at Muraviovka Park: on 13 July 2013 a bird was sitting on a wire near Muraviovka village, an adult was trapped and ringed at the headquarters on 18 May 2015, two birds were recorded on the road near the park on 5 September 2015 (SMS), with one at the headquarters on 26 April 2016 and three on the road between Duchovskoye and Kuropatino between 17 and 28 August 2016 (SMS). The species may breed in Duchovskoye village close to the park, where an adult was seen 5 June 2015 and on 6 May 2016.

**Lesser Cuckoo *Cuculus poliocephalus***

Vagrant; a single bird seen close to the headquarters on 31 August and 1 September 2014 was the third record for the park.

### Northern Hawk Owl *Surnia ulula*

Rare visitor; the first record was a bird (image obtained) south of the headquarters in September 2011 (T. Kitagawa). One was seen in the wetlands on 22 October 2013 (S. Klasan, B. Jahnke, P. Fetting) and one was trapped and ringed on 2 October 2015 (D. Trense).

### Boreal Owl *Aegolius funereus*

Vagrant; first record for the park was on 8 April 2013 when a bird escaped from a mist-net in the early morning.

### Oriental Dollarbird *Eurystomus orientalis*

Vagrant; the first record for the park was a single bird (image obtained) on 2 June 2012 at the summer camp close to the headquarters (Pittius & Speck 2015).

### Grey-capped Woodpecker *Picoides canicapillus*

Rare. This species is a recent addition to the avifauna of the middle Amur River, and was first found at Muraviovka Park in 2010 (Henderson & Varlamov 2010, Dugintsov & Ishenko 2015). One bird was seen on 26 October 2011, a first-year female was ringed and stayed at least from 8–21 October 2013 (S. Klasan, B. Jahnke, P. Fetting). Two more females were ringed on 9 and 13 October 2015 (C. Weinrich, D. Trense). Several observations also in autumn 2016 (V. A. Dugintsov). It is thought that this species is now breeding in the vicinity of the park.

### Three-toed Woodpecker *Picoides tridactylus*

Vagrant; a male, trapped and ringed on 6 September 2015 (D. Trense), was the first record for the park.

### Purple-backed Starling *Agropsar sturninus*

Vagrant; a single bird (image obtained) on 19 May 2013 (P. Meffert) was the first record for Muraviovka Park.

### Yellow-bellied Tit *Pardaliparus venustulus*

Vagrant; two adults, a male and a female, were seen and a juvenile was trapped and ringed on 25 September 2013—the first record of the species for Russia (Fetting *et al.* 2016).

### Asian Stubtail *Urosphena squameiceps*

Vagrant; first recorded at the park when one was trapped and ringed on 9 September 2012. A second bird was also caught and ringed on 12 September 2013 (S. Thorn).

### Eastern Crowned Warbler *Phylloscopus coronatus*

Rare migrant; first recorded at Muraviovka Park in 2013, with individuals trapped and ringed on 8 May 2013, 24 May 2013 (F. Meier), 15 August 2013, 29 August 2014, 30 May and 1 June 2015 (P. Fetting), 14 and 18 August 2015 (C. Weinrich), and 14 and 22 May 2016 (T. Wulf).

### Eyebrowed Thrush *Turdus obscurus*

Rare migrant; first recorded in the park in 2013. Single birds were trapped and ringed on 14 May 2013, 2 September 2013, 14 September 2014, 8, 14, 21 and 23 May 2015 (N. Mehner), 19 and 24 September 2015 (C. Weinrich, D. Trense) and 9 May 2016 (T. Wulf). There was only one observation besides the ringed birds, a male on 13 May 2016 near the headquarters (A. Heim).

### Dark-sided Flycatcher *Muscicapa sibirica*

Rare migrant that has possibly bred. First recorded in the park on 30 May 2012 (R. Speck) with another observed on 15 August 2013. The species may have bred in 2014, when two adults were regularly seen close to the park summer camp in late July (F. Eidam, S. Jähnig), and four juveniles were trapped and ringed on 2–8 August. No records in 2015, but one was ringed on 28 May 2016 (T. Wulf).

### House Sparrow *Passer domesticus*

Vagrant; first recorded in the park in 2013 when a male was seen with Eurasian Tree Sparrows *P. montanus* on 8 and 10 May, and a pair was seen on 13 May. This species is not a regular breeder in the Amur region, but there was previously a small colony in Muraviovka village in the 1980s (SMS).

### Citrine Wagtail *Motacilla citreola*

Vagrant. A male was seen on the ice of Kapustikha Lake on 1 May 2016, the first record for the park. There are few records for the Amur region (A. Antonov *in litt.*).

### Buff-bellied Pipit *Anthus rubescens*

Race *japonicus* is a common migrant at Muraviovka Park, and was recorded annually during both spring and autumn migration after the first record on 27 September 2011, when a single bird was observed on the fields behind the headquarters. Most probably, the species was previously overlooked.

## DISCUSSION

Since the 1970s, 298 bird species have been recorded in the area of what is now Muraviovka Park, whilst 271 bird species were recorded at Muraviovka Park between 2011 and 2016. The 27 additional species which were only recorded before 2011 included vagrants such as Snow Goose *Anser caerulescens*, Eastern Imperial Eagle *Aquila heliaca* (VU) and Grey-headed Lapwing *Vanellus cinereus*, as well as species that have become locally extinct, e.g. Swan Goose *Anser cygnoid* (VU) and Great Bustard *Otis tarda* (VU).

Comparing the number of species with other nature reserves in the region, it is evident that Muraviovka Park holds a diverse avifauna (Table 1). Despite its rather small size, more species have been recorded than in the Bastak and Botchinskiy State Nature Reserves. Similar species numbers have been found at Khinganskiy State Nature Reserve, which is also situated close to the Amur River, several hundred kilometres downstream of Muraviovka Park. However, the number of species reflects not only avian diversity but also the intensity of ornithological studies in the particular area. Nevertheless, it has to be highlighted that 14 globally threatened species have been found at Muraviovka Park during only six years of surveys. Six of them are regular breeders, seven utilise the area during migration, and one is a vagrant. The list includes two of four Critically Endangered, five of 16 Endangered and seven of 26 Vulnerable species listed by BirdLife International (2017b) for Asian Russia—a third of the globally threatened species which have been recorded in this vast area occur at Muraviovka Park. None of the state nature reserves mentioned above supports such a high number of species of international concern. The importance of Muraviovka Park for bird conservation has to be emphasised once more, and its maintenance will be crucial for the preservation of the regional biodiversity.

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