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Results of an autumnal bird ringing project at Muraviovka Park (Amur Region) in 2011

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Abstract: Heim W., Smirenski S.M., Siegmund A. & F. Eidam (2012): Results of an autumnal bird ringing project at Muraviovka Park (Amur Region) in 2011.

From 7th September until 29th October 2011 bird migration was studied at Muraviovka Park in Amur region. 2060 birds of 65 species were banded with rings from Moscow Ringing Centre, and 277 individuals of 30 species produced 377 local returns during this two-month period. Seven birds of five species banded in 2009 at Muraviovka Park were also captured. Recapture data is presented for 31 bird taxa, showing the importance of Muraviovka Park as a stop-over site for a variety of migratory passerine birds.

Key words: Amur Region, Muraviovka Park, migration, bird ringing, returns

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Muraviovka Park is situated at the southern part of Zeya-Bureya Plain (49°55′08,27″N, 127°40′19,93″E), in 50 km southeast of the city of Blagoveshchensk in Amur region of the Far-Eastern Russia. The Muraviovka Park is the first territory for sustainable land use in Russia that was established in 1994 (Harris 1994). It covers 6500 hectares of wetlands, meadows and crop fields with small forest islands in the Amur River valley and its first terrace. The area is famous for its breeding populations of endangered species like Red-crowned Crane (*Grus japonicus*), White-naped Crane (*Grus vipio*), Oriental Stork (*Ciconia boyciana*) and Menzbier's Pipit (*Anthus pechora menzbieri*) and is an important stopover for many migratory birds, including Hooded (*Grus monachus*) and Siberian (*Grus leucogeranus*) cranes, geese and ducks (Rosenfeld & Smirenski 2002). In 1995 the Park and its adjacent territories were added to the Ramsar List of Wetlands of International Importance.

1. Current research project using bird trapping and ringing

Current knowledge about migration of birds in middle stream of Amur river watershed is very patchy. Limited but important data was collected on migrations of the Red-crowned Crane (Higuchi et al. 1994), White-naped Crane (Higuchi et al. 2004), and the Oriental White Stork (Shimazaki 2004) and other waterfowl (Higuchi 2011) using color banding and satellite tracking. In 1980's, in the area that is now part of Muraviovka Park, staff of the Moscow State University banded several hundreds of passerine birds, mostly the Barn Swallow (*Hirundo rustica*). In 2000's, up to 4000 Passerine birds were banded every year at Khinganski Nature Reserve in the south-east of the Amur Region and over 18,000 birds in Jewish Autonomous Region (personal communication by A.I. Antonov and A.A. Averin). There is one paper that summarized results of usage of mist-nets for bird migration studies in the south of the Russian Far East (Pronkevich et al. 2007). More information is available for bird migration in Primorye (e.g. Valchuk & Yuasa 2002, Valchuk et al. 2005, Pronkevich 2011).

Wild fires is one of the main limiting factors for many breeding birds (Smirenski & Smirenskaja 2012), but impact of fires on migratory birds was not studied. The goal of this project was to evaluate the importance of Muraviovka Park for migrating songbirds in autumn. Herewith we only present the results of the banding project.

The study was carried out from 7 September until 29 October in 2011. On a nearly daily basis we observed the visible migration from an observation building next to the headquarters of Muraviovka Park and caught birds with mist-nets.

The vegetation around the headquarters consists mostly of wetlands with grasses, sedges and reeds. Mist nets were further placed in *Artemisia*-thickets, between willow-shrubs, young oak and poplar trees and in a small pine plantation.

We mainly focused on trapping and ringing birds. For this we used up to 15 mist-nets with lengths from six to 14 meters and a total length of up to 148 meters, most of them with a mesh-size of 16 millimeter and two with a mesh-size of 25 millimeter for catching bigger birds. Mist-nets were opened daily one hour before sunrise and closed one hour after sunset. They were checked every hour. In some warm September nights we also caught during the night. We aimed to work as standardized as possible, but due to some changes in vegetation and destruction's caused by a wildfire in October we had to switch some of the mist-net positions.

All caught birds were equipped with rings from the Russian Ringing Center in Moscow, with exception of two Kingfishers (*Alcedo atthis bengalensis*), which would have needed special rings and had to be released without rings. From all caught birds we noticed the following data (measurement names based on DO-G 2011): species, wing length 1, length of P8, weight (body mass), development of flight muscle and visible fat deposit (following Kaiser 1993). If possible, information about subspecies, molting stage, diseases, age and sex was collected. Returns were recorded only after a difference of at least six hours between ringing and recapture time.

2. Results of bird ringing in 2011

In total, we ringed 2060 birds of 65 species. 277 individuals of 30 species produced 377 local returns during this two-month period. Seven birds of five species banded in 2009 at Muraviovka Park were also captured. At the moment, there is no available information on long-distance or long-term returns of the birds banded in autumn 2011. A detailed list of all banded species (and subspecies), their numbers and returns is presented in Table 1.

Apart from the EURING code, scientific and English names of a species, the following information is given: (1) trapping and ringing figures at Muraviovka Park; (2) returns from 2009; (3) returns from 2011.

3. Returns from birds banded in 2009 and interesting returns from birds banded in 2011

Table 2 presents all returns from birds banded in 2009 and some interesting returns from birds banded during the project time in 2011. For every species (or subspecies) we indicate their maximum duration of stay at the Park during our project. Column 1: Ring-number, Column 2: Date of banding (upper line) and return (lower line), Column 3: Sex, Column 4: Age, Column 5: Location of banding (upper line) and return (lower line), Column 6: Time elapsed between banding and recovery (in days), Column 7: Distance (in kilometers) and direction (in degrees, North = 0°, East = 90°) between place of banding and recapture. If a bird was recaptured more than once during our study at the place of banding, we only present the last recapture and used this for calculating the duration of stay. If there is no special note about the circumstances, all returns are recaptures of living birds.

The following codes were used (following Bairlein et al. 1995): Sex: 0 = unknown, 1 = male, 2 = female, ? = not recorded; Age: 0 = unknown, 3 = first year, full-grown, 4 = after first year, 5 = second year, 6 = after second year, ? = not recorded.

4. Discussion

Muraviovka Park is situated on a main flyway of Siberian passerine and non-passerine birds to India and South-East Asia, which probably use the Amur River as a guiding line (McClure 1998). The Park holds the biggest wetlands in this area and for many species it seemed to be a stop-over site of high importance. Several species of long-distant migrants, e.g. Red-flanked Bluetail and Rustic Bunting, stay in the Park for several days or even weeks to refuel (see Table 2). Further studies will concentrate on this findings. Because hunting is forbidden within the Park, it is a safe place for migratory birds to roost. The quality of a stop-over site can have a great influx on the trend of bird populations (Newton 2004, Sheehy et al. 2011). This study shows, that Muraviovka Park is valuable not only for cranes, but also for a variety of migratory songbirds.

More detailed information about all observations during the project, phenology and habitat use will be published separately (Heim et al. in prep).

Table 1. Numbers of birds ringed and recaptured in Muraviovka Park (Amur Region) (Euring code: RU83) in autumn 2011.

EURING code	Species	Ringed	Returns from 2009	Returns from 2011*
05191	<i>Gallinago gallinago</i> Common Snipe	15	–	10
05210	<i>Gallinago stenura</i> Pin tailed Snipe	1	–	–
07670	<i>Asio otus</i> Long-eared Owl	3	–	–
08550	<i>Picus canus</i> Gray-faced Woodpecker	2	–	–
08840	<i>Dendrocopos leucotos</i> White-backed Woodpecker	2	–	–
08870	<i>Dendrocopos minor</i> Lesser Spotted Woodpecker	2	–	–
10080	<i>Anthus hodgsoni</i> Olive-backed Pipit	23	–	–
10120	<i>Anthus cervinus</i> Red-throated Pipit	2	–	–
10144	<i>Anthus rubescens</i> American Pipit	3	–	–
10860	<i>Prunella montanella</i> Siberian Accentor	26	–	5
11020	<i>Luscinia sibilans</i> Rufous-tailed Robin	4	–	–
11050	<i>Luscinia calliope</i> Siberian Rubythroat	33	1	–
11060	<i>Luscinia svecica</i> Bluethroat	1	–	–
11120	<i>Luscinia cyane</i> Siberian Blue Robin	1	–	–
11130	<i>Tarsiger cyanurus</i> Red-flanked Bluetail	83	–	40
11260	<i>Phoenicurus aureus</i> Daurian Redstart	4	–	–
11930	<i>Turdus hortulorum</i> Gray-backed Thrush	14	–	1
11961	<i>Turdus naumanni</i> Naumann's Thrush	40	–	1

Table 1. *Continued*

EURING code	Species	Ringed	Returns from 2009	Returns from 2011*
11962	<i>Turdus eunomus</i> Dusky Thrush	20	–	–
12210	<i>Bradypterus thoracicus</i> Spotted Bush-Warbler	1	–	–
12330	<i>Locustella certhiola</i> Pallas's Grasshopper Warbler	8	–	2
12350	<i>Locustella lanceolata</i> Lanceolated Warbler	8	–	3
12450	<i>Acrocephalus bistrigiceps</i> Black-browed Reed Warbler	16	–	2
12540	<i>Acrocephalus aedon</i> Thick-billed Warbler	5	–	–
12950	<i>Phylloscopus borealis</i> Arctic Warbler	1	–	–
12980	<i>Phylloscopus proregulus</i> Pallas's Leaf Warbler	41	–	1
13001	<i>Phylloscopus inornatus</i> Yellow-browed Warbler	145	–	9
13010	<i>Phylloscopus schwarzi</i> Radde's Warbler	30	–	3
13030	<i>Phylloscopus fuscatus</i> Dusky Warbler	97	1	21
13140	<i>Regulus regulus</i> Goldcrest	1	–	–
13432	<i>Ficedula albicilla</i> Taiga Flycatcher	13	–	1
13440	<i>Ficedula mugimaki</i> Mugimaki Flycatcher	10	–	–
14370	<i>Aegithalos caudatus</i> Longtailed Tit	140	–	57
14400	<i>Parus palustris</i> Marsh Tit	13	2	25
14611	<i>Parus ater</i> Coal Tit	1	–	–

Table 1. *Continued*

EURING code	Species	Ringed	Returns from 2009	Returns from 2011*
14630	<i>Parus cyanus</i> Azure Tit	16	–	2
14640	<i>Parus major minor</i> Great Tit (Japanese)	4	–	2
14640	<i>Parus m. major x P. m. minor</i> Great Tit (Hybrid)	1	–	–
14641	<i>Parus major major</i> Great Tit (Northern)	20	–	11
14790	<i>Sitta europaea</i> Eurasian Nuthatch	1	–	–
15020	<i>Zosterops erythropleurus</i> Chestnut-flanked White-eye	1	–	–
15130	<i>Lanius cristatus</i> Brown Shrike	1	–	–
15200	<i>Lanius excubitor</i> Northern Shrike	1	–	–
15210	<i>Lanius sphenocercus</i> Chinese Grey Shrike	1	–	–
15390	<i>Garrulus glandarius</i> Eurasian Jay	2	–	–
15470	<i>Cyanopica cyana</i> Azure-winged Magpie	16	1	–
15490	<i>Pica pica</i> Common Magpie	2	–	–
15980	<i>Passer montanus</i> Tree Sparrow	117	–	11
16380	<i>Fringilla montifringilla</i> Brambling	14	–	–
016500	<i>Chloris sinica</i> Oriental Greenfinch	1	–	–
16790	<i>Carpodacus erythrinus</i> Common Rosefinch	10	–	1
16890	<i>Carpodacus roseus</i> Pallas's Rosefinch	3	–	2
17040	<i>Uragus sibiricus</i> Long-tailed Rosefinch	132	2	70

Table 1. *Continued*

EURING code	Species	Ringed	Returns from 2009	Returns from 2011*
18530	<i>Emberiza spodocephala</i> Black-faced Bunting	231	–	40
18560	<i>Emberiza leucocephala</i> Pine Bunting	8	–	1
18690	<i>Emberiza fucata</i> Chestnut-eared Bunting	1	–	–
18700	<i>Emberiza elegans</i> Yellow-throated Bunting	10	–	1
18710	<i>Emberiza chrysophrys</i> Yellow-browed Bunting	9	–	–
18720	<i>Emberiza tristrami</i> Tristram's Bunting	1	–	–
18730	<i>Emberiza rustica</i> Rustic Bunting	144	–	25
18740	<i>Emberiza pusilla</i> Little Bunting	210	–	6
18750	<i>Emberiza rutila</i> Chestnut Bunting	8	–	1
18760	<i>Emberiza aureola</i> Yellow-breasted Bunting	1	–	–
18780	<i>Emberiza pallasi pallasi</i> Pallas's Bunting	8	–	1
18780	<i>Emberiza pallasi polaris</i> Pallas's Bunting	273	–	22
18790	<i>Emberiza yessoensis</i> Ochre-rumped Bunting	2	–	–
04070	<i>Rallus (aquaticus) indicus</i> Brown-cheeked Rail	2	–	–
Total birds		2,060	7	377

Note: * – If a recaptured bird from 2009 was caught more than once during the project, it was now handled like a return from 2011.

Table 2. Returns from birds banded in 2009 and interesting returns from birds banded in 2011.

05191. <i>Gallinago gallinago</i>, Common Snipe (2)						
PD005916	16.09.2011	0	0	Russia, Muraviovka Park, Amur		16 days, 0 km
	01.10.2011	0	0	Russia, Muraviovka Park, Amur		
PD005921	20.09.2011	0	0	Russia, Muraviovka Park, Amur		17 days, 0 km
	06.10.2011	0	0	Russia, Muraviovka Park, Amur		
10860. <i>Prunella montanella</i>, Siberian Accentor (1)						
XP 23075	28.09.2011	2	0	Russia, Muraviovka Park, Amur		10 days, 0 km
	07.10.201	2	0	Russia, Muraviovka Park, Amur		
11050. <i>Luscinia calliope</i>, Siberian Rubythroat (1)						
XP 87815	11.05.2009	1	0	Russia, Muraviovka Park, Amur		846 days, 0 km
	07.09.2011	1	4	Russia, Muraviovka Park, Amur		
11130. <i>Tarsiger cyanurus</i>, Red-flanked Bluetail (2)						
XP 23032	26.09.2011	0	3	Russia, Muraviovka Park, Amur		9 days, 0 km
	04.10.2011	0	3	Russia, Muraviovka Park, Amur		
XP 23359	04.10.2011	0	3	Russia, Muraviovka Park, Amur		10days, 0 km
	13.10.2011	0	3	Russia, Muraviovka Park, Amur		
11930. <i>Turdus hortulorum</i>, Grey-backed Thrush (1)						
TA 64103	12.09.2011	1	4	Russia, Muraviovka Park, Amur		9 days, 0 km
	20.09.2011	1	4	Russia, Muraviovka Park, Amur		
11961. <i>Turdus naumanni</i>, Naumann's Thrush (1)						
TA 64131	25.09.2011	0	3	Russia, Muraviovka Park, Amur		11days, 0 km
	05.10.2011	0	3	Russia, Muraviovka Park, Amur		
12330. <i>Locustella certhiola</i>, Pallas's Grasshopper Warbler (1)						
XG 18049	11.09.2011	0	3	Russia, Muraviovka Park, Amur		9 days, 0 km
	13.09.2011	0	3	Russia, Muraviovka Park, Amur		

12350. <i>Locustella lanceolata</i>, Lanceolated Warbler (1)					
XP 87723	16.09.2011	0	3	Russia, Muraviovka Park, Amur	15 days, 0 km
	30.09.2011	0	3	Russia, Muraviovka Park, Amur	
12450. <i>Acrocephalus bistrigiceps</i>, Black-browed Reed Warbler (1)					
XP 87710	15.09.2011	0	3	Russia, Muraviovka Park, Amur	6 days, 0 km
	20.09.2011	0	3	Russia, Muraviovka Park, Amur	
12980. <i>Phylloscopus proregulus</i>, Pallas's Leaf Warbler (1)					
VD 59643	28.09.2011	0	3	Russia, Muraviovka Park, Amur	3 days, 0 km
	30.09.2011	0	3	Russia, Muraviovka Park, Amur	
13001. <i>Phylloscopus inornatus</i>, Yellow-browed Warbler (2)					
VD 59642	28.09.2011	0	0	Russia, Muraviovka Park, Amur	7 days, 0 km
	04.10.2011	0	0	Russia, Muraviovka Park, Amur	
VN 48045	07.09.2011	0	3	Russia, Muraviovka Park, Amur	7 days, 0 km
	13.09.2011	0	3	Russia, Muraviovka Park, Amur	
13010. <i>Phylloscopus schwarzi</i>, Radde's Warbler (2)					
XG 18017	09.09.2011	0	0	Russia, Muraviovka Park, Amur	5 days, 0 km
	13.09.2011	0	0	Russia, Muraviovka Park, Amur	
XG 18081	13.09.2011	0	3	Russia, Muraviovka Park, Amur	5 days, 0 km
	17.09.2011	0	3	Russia, Muraviovka Park, Amur	
13030. <i>Phylloscopus fuscatus</i>, Dusky Warbler (3)					
VK 92827	00.00.2009	?	?	Russia, Muraviovka Park, Amur	? days, 0 km
	18.09.2011	0	0	Russia, Muraviovka Park, Amur	
VN 48057	08.09.2011	0	3	Russia, Muraviovka Park, Amur	17 days, 0 km
	24.09.2011	0	3	Russia, Muraviovka Park, Amur	
VN 48064	08.09.2011	0	3	Russia, Muraviovka Park, Amur	17 days, 0 km
	24.09.2011	0	3	Russia, Muraviovka Park, Amur	
13432. <i>Ficedula albicilla</i>, Taiga Flycatcher (1)					
VD 59677	01.10.2011	0	3	Russia, Muraviovka Park, Amur	5 days, 0 km
	04.10.2011	0	3	Russia, Muraviovka Park, Amur	

14370. <i>Aegithalos caudatus</i>, Long-tailed Tit (3)						
VK 92620	12.09.2011	0	0	Russia, Muraviovka Park, Amur		36 days, 0 km
	17.10.2011	0	0	Russia, Muraviovka Park, Amur		
VK 92621	12.09.2011	0	0	Russia, Muraviovka Park, Amur		36 days, 0 km
	17.10.2011	0	0	Russia, Muraviovka Park, Amur		
VK 92623	12.09.2011	0	0	Russia, Muraviovka Park, Amur		36 days, 0 km
	17.10.2011	0	0	Russia, Muraviovka Park, Amur		
14400. <i>Parus palustris</i>, Marsh Tit (3)						
VK 92826	00.00.2011	?	?	Russia, Muraviovka Park, Amur		? days, 0 km
	28.10.2011	0	0	Russia, Muraviovka Park, Amur		
XG 18001	07.09.2011	0	0	Russia, Muraviovka Park, Amur		53 days, 0 km
	29.10.2011	0	0	Russia, Muraviovka Park, Amur		
XG 13358	11.05.2009	0	0	Russia, Muraviovka Park, Amur		891 days, 0 km
	22.10.2011	0	0	Note: probably misidentified as Willow Tit		
				Russia, Muraviovka Park, Amur		
14630. <i>Parus cyanus</i>, Azure Tit (1)						
XP 87927	25.09.2011	0	0	Russia, Muraviovka Park, Amur		13 days, 0 km
	07.10.2011	0	0	Russia, Muraviovka Park, Amur		
14640. <i>Parus major minor</i>, Great Tit (Japanese) (1)						
KS 43497	21.10.2011	1	3	Russia, Muraviovka Park, Amur		5 days, 0 km
	25.10.2011	1	3	Russia, Muraviovka Park, Amur		
14640. <i>Parus major major</i>, Great Tit (Northern) (2)						
KS 43302	30.09.2011	2	3	Russia, Muraviovka Park, Amur		35 days, 0 km
	25.10.2011	2	3	Russia, Muraviovka Park, Amur		
KS 43546	17.09.2011	2	3	Russia, Muraviovka Park, Amur		20 days, 2,5km N
	06.10.2011	2	3	Russia, Muraviovka Park, Amur		
				Note: found on a field covered in glue, died later		

15470. <i>Cyanopica cyana</i>, Azure-winged Magpie (1)						
TA 64203	01.11.2009	2	0	Russia, Muraviovka Park, Amur		693 days, 0 km
	24.09.2011	0	4	Russia, Muraviovka Park, Amur		
15980. <i>Passer montanus</i>, Tree Sparrow (1)						
KS 43365	24.09.2011	0	0	Russia, Muraviovka Park, Amur		34 days, 0 km
	28.10.2011	0	0	Russia, Muraviovka Park, Amur		
16790. <i>Carpodacus erythrinus</i>, Common Rosefinch (1)						
KS 43335	21.09.2011	0	3	Russia, Muraviovka Park, Amur		4 days, 0 km
	24.09.2011	0	3	Russia, Muraviovka Park, Amur		
16890. <i>Carpodacus roseus</i>, Pallas's Rosefinch (1)						
KS 43492	17.10.2011	1	0	Russia, Muraviovka Park, Amur		3 days, 0 km
	19.10.2011	1	0	Russia, Muraviovka Park, Amur		
17040. <i>Uregus sibiricus</i>, Long-tailed Rosefinch (3)						
KS 28202	07.09.2011	1	4	Russia, Muraviovka Park, Amur		44 days, 0 km
	20.10.2011	1	4	Russia, Muraviovka Park, Amur		
XP 87804	23.03.2009	2	0	Russia, Muraviovka Park, Amur		941 days, 0 km
	24.10.2011	1	4	Note: probably a second-year bird, misidentified as female		
XP 87825	31.10.2009	1		Russia, Muraviovka Park, Amur		729 days, 0 km
	29.10.2011	1	04	Russia, Muraviovka Park, Amur		
18530. <i>Emberiza spodocephala</i>, Black-faced Bunting (2)						
KS 28261	09.09.2011	0	3	Russia, Muraviovka Park, Amur		10 days, 0 km
	18.09.2011	0	3	Russia, Muraviovka Park, Amur		
KS 28292	11.09.2011	1	4	Russia, Muraviovka Park, Amur		10 days, 0 km
	20.09.2011	1	4	Russia, Muraviovka Park, Amur		
18560. <i>Emberiza leucocephala</i>, Pine Bunting (1)						
KS 43545	17.09.2011	1	3	Russia, Muraviovka Park, Amur		1 day, 0 km
	18.09.2011	1	3	Russia, Muraviovka Park, Amur		

18700. <i>Emberiza elegans</i>, Yellow-throated Bunting (1)						
XP 23224	04.10.2011	1	3	Russia, Muraviovka Park, Amur		1 day, 0 km
	05.10.2011	1	3	Russia, Muraviovka Park, Amur		
18730. <i>Emberiza rustica</i>, Rustic Bunting (1)						
KS 43318	20.09.2011	1	3	Russia, Muraviovka Park, Amur		12 days, 0 km
	01.10.2011	1	3	Russia, Muraviovka Park, Amur		
18740. <i>Emberiza pusilla</i>, Little Bunting (1)						
XP 23188	01.10.2011	0	0	Russia, Muraviovka Park, Amur		12 days, 0 km
	12.10.2011	0	0	Russia, Muraviovka Park, Amur		
18750. <i>Emberiza rutila</i>, Chestnut Bunting (1)						
XP 87981	25.09.2011	1	4	Russia, Muraviovka Park, Amur		0 day, 0 km
	25.09.2011	1	4	Russia, Muraviovka Park, Amur		
18780. <i>Emberiza pallasi pallasii</i>, Pallas's Bunting (1)						
XP 87763	19.09.2011	0	3	Russia, Muraviovka Park, Amur		14 days, 0 km
	02.10.2011	0	3	Russia, Muraviovka Park, Amur		
18780. <i>Emberiza pallasi polaris</i>, Pallas's Bunting (1)						
XP 23518	10.10.2011	1	4	Russia, Muraviovka Park, Amur		20 days, 0 km
	29.10.2011	1	4	Russia, Muraviovka Park, Amur		

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