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ORNITHOLOGICAL OBSERVATIONS WITHIN MURAVIOVKA ZAKAZNIK DURING 2009 AND 2010

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[Стейн А. К. Орнитологические наблюдения в Муравьевском заказнике в течение 2009-2010 гг.]
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Summary. Muraviovka Zakaznik is located along the Amur River in the southern portion of the Amur Oblast (Province), Russian Federation. The Zakaznik has been critical for protecting some of the last remaining breeding habitat for both Red-crowned cranes, *Grus japanensis*, and White-naped cranes, *Grus vipio*, within the region as well as a large concentration of Oriental white storks, *Ciconia boyciana*. In addition to these charismatic species, the zakaznik provides habitat for over one hundred other species of birds. Despite this area being an ornithological hotspot, no broad scale ornithological studies have been conducted within the zakaznik within the last 20 years. The changes in agricultural practices have no doubt changed some aspects of the avifauna community since these initial studies decades ago. During 2009 and 2010, I worked on a near daily basis within the Zakaznik and recorded all ornithological observations. Here, I report the consolidation of my ornithological observations. These observations help serve as a guide to the species composition of the zakaznik as well as help approximate the number of individuals of many red-data book species. In total, 180 species were observed within the Zakaznik during the observation period and over 134 were considered regular and predictable. 38 of the total observed species are considered regionally endangered.

Резюме. Муравьевский заказник расположен вдоль реки Амур на юге Амурской области России. Заказник имеет огромное биологическое значение, так как является одним из последних мест размножения японского, *Grus japonensis*, и даурского, *Grus vipio*, журавлей в пределах России, наряду с наличием большой популяции дальневосточного белого аиста, *Ciconia boyciana*. Помимо данных видов заказник является местообитанием более чем ста других видов птиц. Несмотря на это, на протяжении последних 20 лет регулярных орнитологических наблюдений в заказнике не проводилось. Здесь представлены результаты двухлетних орнитологических наблюдений, позволивших не только составить видовой список, но и дать примерную оценку численности многих видов, занесенных в Красную книгу Амурской области. В целом за время учета в пределах заказника было отмечено 180 видов птиц, 134 из которых были отнесены к обычным и ожидаемым. 38 видов редки и нуждаются в охране на региональном уровне.

INTRODUCTION

Muraviovka Zakaznik is comprised of approximately 34,000 hectares of wet meadows, wetlands, farmland, and patches of forests dominated by Mongolian Oak, Quercus mongolica Fisch. ex Ledeb., 1850. It is located along the Amur River in the Amur Oblast (Province) of the Russian Federation, approximately 40 kilometers southeast of the provincial capital city Blagoveshchensk. The geographical location of Muraviovka Zakaznik provides an opportunity for a rich and varied bird community because it lies in the heart of the Asian-Pacific migratory flyway as well as within the natural boundary zone between northern boreal and southern oriental biological communities.

The Zakaznik is well known for providing critical nesting habitat for several crane species and the Oriental White Stork. In addition to these species, at least 40 % of all regionally endangered bird species within the Amur Oblast utilize the territory. The Zakaznik has also been a location for repeated, unusual regional bird sightings (e.g., Smirenski, 2003).

From 5 March to 1 November 2009 and 7 March to 9 June 2010, I recorded all ornithological observations while living and working within Muraviovka Zakaznik. Observations were made on a near daily basis during the 11 month observation period. A summary of these observations are reported here.

OBSERVATIONS

Recorded Species:

A total of 180 bird species were recorded within Muraviovka Zakaznik during the 2009-2010 observation period (Table 1). Approximately 75 % (134 spp.) of the recorded species utilized the Zakaznik in a regular and predictable manner; 18 species being year-round residents, 3 species being winter-residents, 49 species using the Zakaznik as a migratory stop-over, and 64 species being spring/summer residents (Table 1).

Red-Data Book Species:

21 % (38 spp.) of the recorded species are considered species of regional concern and have been listed in the Red Data Book of Amur Oblast [Table 1; Glushenko et al., 2009]. 21 of these species listed in Red Data Book were regular and predictable within the Zakaznik (Table 1). 14 of these regular and predictable Red Data Book species were conspicuous enough to get rough estimates on the number of individuals observed within the Zakaznik (Table 2). The remaining 18 Red Data Book species consisted of one / two time sightings. The details of these sightings are summarized in Table 3.

Nesting Species:

Intensive nest searching was conducted in both spring 2009 and 2010 for the following three species; Oriental White Stork, *Ciconia boyciana*, White-naped Crane, *Grus vipio*, and the Red-crowned Crane, *Grus japonensis*.

Table 1

A full list of the bird species observed in Muraviovka Zakaznik during the 2009-2010 observation period

English Name	Scientific Name	1	2	3	4	5	6	7
Little Grebe	*Tachybaptus ruficollis*							
Horned Grebe	*Podiceps auritus*	X						
Great Crested Grebe	*Podiceps cristatus*		X				X	X
Great Cormorant	*Phalacrocorax carbo*		X				X	
Eurasian Bittern	*Botaurus stellaris*	X	X				X	
Schrenk's Bittern	*Ixobrychus eurhythmus*	X	X				X	
Gray Heron	*Ardea cinerea*		X				X	
Purple Heron	*Ardea purpurea*	X						
Oriental White Stork	*Ciconia boyciana*	X	X				X	X
White-fronted Goose	*Anser albifrons*		X	X				
Lesser White-fronted Goose	*Anser erythropus*	X	X	X				
Bean Goose	*Anser fabalis*		X	X				
Whooper Swan	*Cygnus cygnus*	X						
Mallard	*Anas platyrhynchos*		X				X	
Spot-billed Duck	*Anas poecilorhyncha*	X	X				X	
Green-winged Teal	*Anas crecca*		X				X	
Baikal Teal	*Anas formosa*	X	X	X				
Falcated Teal	*Anas falcate*	X	X				X	
European Wigeon	*Anas penelope*		X	X				
Northern Pintail	*Anas acuta*		X	X				
Garganey	*Anas querquedula*		X	X				
Northern Shoveler	*Anas clypeata*		X	X				
Mandarin Duck	*Aix galericulata*	X	X	X				
Baer's Pochard	*Aythya baeri*	X	X	X				
Tufted Duck	*Aythya fuligula*		X	X				
Common Pochard	*Aythya ferina*	X						
Common Goldeneye	*Bucephala clangula*		X	X				
Smew	*Mergellus albellus*		X	X				
Common Merganser	*Mergus merganser*		X	X				
Oriental Honey Buzzard	*Pernis ptilorhyncus*	X						
Black Kite	*Milvus migrans*		X				X	
Northern Harrier	*Circus cyaneus*		X	X				
Pied Harrier	*Circus melanoleucos*		X				X	
Eastern Marsh Harrier	*Circus spilonotus*		X				X	
European Sparrowhawk	*Accipiter nisus*		X			X		X
Rough-legged Buzzard	*Buteo lagopus*		X		X			
Upland Buzzard	*Buteo hemilasius*	X	X				X	
Common Buzzard	*Buteo buteo*							
Steppe Eagle	*Aquila nipalensis*							
Greater Spotted Eagle	*Aquila clanga*	X						
Golden Eagle	*Aquila chrysaetos*	X						
Hobby	*Falco subbuteo*		X				X	X
Amur Red-footed Falcon	*Falco amurensis*		X				X	X
Common Kestrel	*Falco tinnunculus*		X				X	X
Japanese Quail	*Coturnix japonica*		X				X	X
Ring-necked Pheasant	*Phasianus colchicus*		X			X		X

Table 1. Continuation

English Name	Scientific Name	1	2	3	4	5	6	7
Yellow-legged Buttonquail	*Turnix tanki*	X						
Red-crowned Crane	*Grus japonensis*	X	X				X	X
Siberian Crane	*Grus leucogeranus*	X						
Eurasian Crane	*Grus grus*	X						
White-naped Crane	*Grus vipio*	X	X				X	X
Hooded Crane	*Grus monacha*	X	X	X				
Water Rail	*Rallus aquaticus*		X				X	
Band-bellied Crake	*Porzana paykullii*	X	X				X	
Swinhoe's Yellow Rail	*Coturnicops exquisitus*	X						
Common Gallinule	*Gallinula chloropus*							
European Coot	*Fulica atra*	X						
Pacific Golden Plover	*Pluvialis fulva*		X	X				
Little Ringed Plover	*Charadrius dubius*		X	X				
Northern Lapwing	*Vanellus vanellus*		X				X	
Gray-headed Lapwing	*Vanellus cinereus*							
Green Sandpiper	*Tringa ochropus*							
Wood Sandpiper	*Tringa glareola*		X				X	
Spotted Redshank	*Tringa erythropus*		X	X				
Marsh Sandpiper	*Tringa stagnatilis*		X				X	
Common Sandpiper	*Actitis hypoleucos*							
Common Snipe	*Gallinago gallinago*		X				X	X
Swinhoe's Snipe	*Gallinago megala*	X						
Eurasian Woodcock	*Scolopax rusticola*		X	X				
Little Curlew	*Numenius minutus*	X						
Far-eastern Curlew	*Numenius madagascariensis*	X	X				X	
Whimbrel	*Numenius phaeopus*							
Common Black-headed Gull	*Larus ridibundus*		X				X	
White-winged Black Tern	*Chlidonias leucopterus*		X				X	
Common Tern	*Sterna hirundo*							
Little Tern	*Sterna albifrons*	X						
Rock Dove	*Columba livia*		X			X		X
Hill Pigeon	*Columba rupestris*	X						
Rufous Turtle Dove	*Streptopelia orientalis*		X				X	X
Common Cuckoo	*Cuculus canorus*		X				X	
Oriental Cuckoo	*Cuculus saturatus*		X	X				
Eurasian Eagle-owl	*Bubo bubo*	X						
Long-eared Owl	*Asio otus*		X				X	X
Short-eared Owl	*Asio flammeus*		X				X	
Oriental Scops Owl	*Otus sunia*		X	X				
Ural Owl	*Strix uralensis*							
Jungle Nightjar	*Caprimulgus indicus*		X	X				
White-throated Needletail	*Hirundapus caudacutus*							
Common Kingfisher	*Alcedo atthis*							
Hoopoe	*Upupa epops*		X				X	
Wryneck	*Jynx torquilla*		X	X				
Gray-headed Woodpecker	*Picus canus*		X			X		
White-backed Woodpecker	*Dendrocopos leucotos*		X			X		

Table 1. Continuation

English Name	Scientific Name	1	2	3	4	5	6	7
Lesser spotted Woodpecker	*Dendrocopos minor*		X			X		
Barn Swallow	*Hirundo rustica*		X				X	X
Red-rumped Swallow	*Hirundo daurica*							
Common Martin	*Delihon urbica*							
Skylark	*Alauda arvensis*		X				X	
Richard's Pipit	*Anthus richardi*		X				X	
Indian Tree Pipit	*Anthus hodgsoni*		X				X	
Pechora Pipit	*Anthus gustavi*	X	X				X	
Red-throated Pipit	*Anthus cervinus*	X	X	X				
Green-headed Wagtail	*Motacilla taivana*		X	X				
Gray Wagtail	*Motacilla cinerea*							
White Wagtail	*Motacilla alba*		X	X				
Brown Shrike	*Lanius cristatus*		X				X	
Chinese Great Gray Shrike	*Lanius sphenocercus*		X				X	
Black-naped Oriole	*Oriolus chinensis*		X				X	
White-cheeked Starling	*Sturnus cineraceus*		X				X	X
Common Starling	*Sturnus vulgaris*							
Eurasian Jay	*Garrulus glandarius*		X			X		
Azure-winged Magpie	*Cyanopica cyanus*		X			X		X
Black-billed Magpie	*Pica pica*		X			X		X
Daurian Jackdaw	*Corvus dauuricus*		X				X	X
Eurasian Rook	*Corvus frugilegus*		X				X	X
Jungle Crow	*Corvus macrorhynchos*		X				X	X
Carrion Crow	*Corvus orientalis*		X				X	
Bohemian Waxwing	*Bombycilla garrulous*		X		X			
Ashy Minivet	*Pericrocotus divaricatus*		X	X				
Siberian Accentor	*Prunella montanella*		X	X				
Chinese Bush Warbler	*Tribura tacsanowskius*	X	X				X	
Gray's Grasshopper Warbler	*Locustella fasciolata*		X				X	
Pallas's Grasshopper Warbler	*Locustella certhiola*		X				X	
Lanceolated Warbler	*Locustella lanceolata*		X				X	
Black-browed Reed Warbler	*Acrocephalus bistrigiceps*		X				X	
Oriental Reed Warbler	*Acrocephalus orientalis*		X				X	
Thick-billed Reed Warbler	*Phragmaticola aeedon*		X				X	
Greenish Warbler	*Phylloscopus trochiloides*		X	X				
Arctic Warbler	*Phylloscopus borealis*		X	X				
Pale-legged Warbler	*Phylloscopus tenellipes*		X	X				
Yellow-browed Warbler	*Phylloscopus inornatus*		X				X	
Pallas's Warbler	*Phylloscopus proregulus*		X	X				
Dusky Warbler	*Phylloscopus fuscatus*		X				X	
Radde's Warbler	*Phylloscopus schwarzi*		X				X	
Goldcrest	*Regulus regulus*							
Yellow-rumped Flycatcher	*Ficedula zanthopygia*		X				X	
Mugimaki Flycatcher	*Ficedula mugimaki*							
Taiga Flycatcher	*Ficedula albicilla*		X	X				
Asian Brown Flycatcher	*Ficedula dauurica*		X	X				
Gray-streaked Flycatcher	*Ficedula griseisticta*		X	X				

Table 1. Termination

English Name	Scientific Name	1	2	3	4	5	6	7
Stonechat	*Saxicola torquata*		X				X	X
White-throated Rock Thrush	*Petrophila gularis*		X	X				
Siberian Rubythroat	*Luscinia calliope*		X				X	
Bluethroat	*Luscinia swecica*							
Siberian Blue Robin	*Luscinia cyane*							
Rufous-tailed Robin	*Luscinia sibilans*		X	X				
Red-flanked Bluetail	*Tarsiger cyanurus*		X	X				
Gray-backed Thrush	*Turdus hortulorum*		X	X				
Naumann's Thrush	*Turdus naumanni*		X	X				
Dusky Thrush	*Turdus eunomus*		X	X				
Long-tailed Tit	*Aegithalos caudatus*		X			X		
Marsh Tit	*Parus palustris*		X			X		
Willow Tit	*Parus montanus*		X			X		
Azure Tit	*Parus cyanus*		X			X		
Great Tit	*Parus major*		X			X		
Eastern Great Tit	*Parus minor*		X			X		
Nuthatch	*Sitta europaea*		X			X		X
Chestnut-flanked White-eye	*Zosterops erythropleura*							
Tree Sparrow	*Passer montanus*		X			X		X
Brambling	*Fringilla montifringilla*		X	X				
Oriental Greenfinch	*Chloris sinica*							
Common Redpoll	*Carduelis flammea*							
Arctic Redpoll	*Carduelis hornemanni*							
Common Rosefinch	*Carpodacus erythrinus*		X	X				
Pallas's Rosefinch	*Carpodacus roseus*							
Long-tailed Rosefinch	*Uragus sibiricus*		X			X		
Northern Bullfinch	*Pyrrhula pyrrhula*							
Hawfinch	*Coccothraustes coccothraustes*							
Chestnut Eared Bunting	*Emberiza fucata*							
Reed Bunting	*Emberiza schoeniclus*	X	X				X	
Pallas's Reed Bunting	*Emberiza pallasi*		X	X				
Japanese Reed Bunting	*Emberiza yessoensis*	X	X				X	
Yellow-browed Bunting	*Emberiza chrysophrys*	X	X	X				
Rustic Bunting	*Emberiza rusticus*		X	X				
Little Bunting	*Emberiza pusillus*		X	X				
Black-faced Bunting	*Emberiza spodocephalus*		X				X	
Yellow-breasted Bunting	*Emberiza aureolus*		X				X	
Yellow-throated bunting	*Emberiza elegans*		X	X				
Pine Bunting	*Emberiza leucocephalos*							
Snow Bunting	*Plectrophenax nivalis*		X		X			

Column "1" indicates those species listed in the Red Data Book of Amur Oblast; Column "2" indicates those species which were both regular and predictable within Muraviovka Zakaznik; Column "3" indicates those regular and predictable species which utilized Muraviovka Zakaznik as a migratory stop-over only; Column "4" indicates those regular and predictable species which were present in Muraviovka Zakaznik in winter only; Column "5" indicates those regular and predictable species which could occur within Muraviovka Zakaznik any or all times of the year; Column "6" indicates those regular and predictable species which utilize Muraviovka Zakaznik in spring/summer only; Column "7" indicates species that were confirmed to be nesting within Muraviovka Zakaznik during the observation period.

Table 2

A summary of those species listed in the Red Data Book of Amur Oblast, which were considered regular and predictable within Muraviovka Zakaznik and conspicuous enough to get an approximate indication of the number of individuals observed.

English Name	Scientific Name	Spring 2009	Summer 2009	Autumn 2009	Spring 2010
Eurasian Bittern	*Botaurus stellaris*	X	< 5	?	< 10
Schrenk's Bittern	*Ixobrychus eurhythmus*	X	< 10	X	< 5
Lesser White-fronted Goose	*Anser erythropus*	200-300	X	X	200-300
Spot-billed Duck	*Anas poecilorhyncha*	< 5	2	X	< 5
Baikal Teal	*Anas formosa*	?	X	?	150-200
Falcated Teal	*Anas falcate*	?	?	?	20-50
Mandarin Duck	*Aix galericulata*	2	1	X	3
Baer's Pochard	*Aythya baeri*	1	X	X	1
Red-crowned Crane	*Grus japonensis*	< 10	< 10	< 10	< 10
Hooded Crane	*Grus monacha*	40-60	20-30	1000-1200	40-70
White-naped Crane	*Grus vipio*	10-30.	10-40.	250-350	10-30.
Oriental White Stork	*Ciconia boyciana*	20-30	20-50	X	20-30
Far-eastern Curlew	*Numenius madagascariensis*	< 5	10-20.	?	< 10
Chinese Bush Warbler	*Tribura tacsanowskius*	X	6 territorial males	X	X

The approximate number of individuals observed in a given season are listed (i.e., in the spring of 2009). The symbol "X" indicates no individuals were observed during this time and the symbol "?" indicates the number of individuals was not recorded.

In 2009, I recorded 14 nests of the oriental white stork however, only eight of these nests produced offspring. Two of these nests were destroyed by runaway fires and three were destroyed by strong winds. The last nest was abandoned before the eggs hatched. In 2010, 16 nests of the oriental white stork were discovered and as of June 9, 2010, two of these were destroyed by runaway fires.

At least one pair of red-crowned cranes nested successfully in 2009, fledging two offspring. An additional nest was discovered but the nest failed before the chicks hatched. In 2010, two red-crowned crane nests were discovered at the end of May.

Two successful nests of the White-naped Crane were discovered in 2009, with an additional nest that was predated before the chicks hatched. In 2010, remnants of two nests were discovered after a runaway fire in May, as well as two active nests. A third pair of white-naped cranes was encountered on June 14, 2010 that behaved as though they were protecting young chicks.

In addition to these three species, I encountered the nests of 21 additional species within Muraviovka Zakaznik (Table 1). None of these species are listed as regionally threatened [Glushenko et al., 2009]. However, the most unusual nest encountered was that of a Common Snipe, *Gallinago gallinago*, containing four eggs on May 21, 2010. The nest was hidden between tussocks of grass on a raised, dry portion of land within the wetlands.

Interesting "Non Red Data Book" Sightings:

Several interesting sightings were made of bird species that are not of regional concern but are worth highlighting. The first are multiple sightings of the Common Starling, *Sturnus vulgaris*. Several common starlings were observed roosting in a flock of white-cheeked starlings, *Sturnus cineraceus*, on April 4, 2009. Another flock of approximately 25 birds was encountered on September 28, 2009. On April 7 and April 9, 2010, approximately 10 birds were observed feeding in the wetlands.

On May 23, 2009, I encountered a single Gray-headed Lapwing, *Vanellus cinereus*, in an open field in the company of several northern lapwings, *Vanellus vanellus*. To my knowledge, this is one of only several sightings of this species in the region [Dugintsov, Pankin, 1995].

Noteworthy Population Patterns:

During the winter and spring of 2009 there was an irruption of redpolls, *Carduelis* spp., within Muraviovka Zakaznik and they were the most abundant avian species. Data from point counts indicated that they made up over 90 % of the birds encountered during early spring (March). The redpoll population was comprised of approximately 76 % common redpolls, *Carduelis flammea*, and 24 % arctic redpolls, *Carduelis hornemanni*, based on banding data of nearly 100 individuals. Not one redpoll was observed the following year. At the same time, I did not observe any Pallas's rosefinches, *Carpodacus roseus*, in 2009 but in the early spring of 2010 (March), this species was common.

Lastly, in 2010, the Pine Bunting, *Emberiza leucocephalos*, was a common migrant within Muraviovka Zakaznik starting on April 2, 2010. Large numbers migrated through the Zakaznik for approximately 10 days. This species, however, did not use the Zakaznik during migration the previous year.

Table 3.

Sightings of species listed in the Red Data Book that were seen on only a few occasions during the observation period.

English Name	Scientific Name	Date Observed	№ of Individuals	Notes
Horned Grebe	*Podiceps auritus*	6-Oct-2009	1	
Purple Heron	*Ardea purpurea*	7-May-2009	1	
Whooper Swan	*Cygnus cygnus*	9-May-2010	1	In a flock of white-fronted geese
Common Pochard	*Aythya ferina*	27-Apr-2010	approx. 10	Stayed for several weeks
Oriental Honey Buzzard	*Pernis ptilorhyncus*	7-Sep-2009	1	Juvenile, dark phase
Greater Spotted Eagle	*Aquilla clanga*	4-Apr-2009	1	
		23-May-2009	1	Juvenile, perched
		15-Oct-2009	1	Soaring
Golden Eagle	*Aquilla chrysaetos*	7-Mar-2009	1	Juvenile which stayed for several weeks
White-tailed Sea-eagle	*Haliaeetus albicilla*	8-Apr-2010	1	Juvenile
Yellow-legged Buttonquail	*Turnix tanki*	2-Jun-2009	1	Female
Siberian Crane	*Grus leucogeranus*	9-May-2009	12	Flying
Eurasian Crane	*Grus grus*	27-Jun-2009	1	In a flock of 8 hooded cranes
		18-Sep-2009	3	With Hooded Crane; in migration
		22-May-2010	1	Alone
Swinhoe's Yellow Rail	*Coturnicops exquisitus*	30-Apr-2010	heard	Calling in wetlands at 9:00 pm
European Coot	*Fulica atra*	22-May-2009	1	
Swinhoe's Snipe	*Gallinago megala*	17-May-2010	many	See discussion on identification
Little Curlew	*Numenius minutus*	20-May-2010	approx. 10	
Little Tern	*Sterna albifrons*	21-May-2009	3	Feeding over lake in wetlands
		17-May-2010	1	Feeding over lake in wetlands
Hill Pigeon	*Columba rupestris*	26-Apr-2010	5	On electric wire in farm field
Eurasian Eagle-owl	*Bubo bubo*	4-Apr-2009	1	In small island of trees within wetlands
		29-Aug-2009	1	Found dead on road

The date, number of individuals observed during the sighting and any other relevant information are listed adjacent to the species name.

DISCUSSION

Muraviovka Zakaznik is a critical nesting habitat for several Red Data Book species as well as potentially another 64 species of lesser concern. In addition, it remains an important migratory stop-over site for at least 49 species. It is my hope that these observations will help aid in understanding and managing the biodiversity of Muraviovka Zakaznik. It should be noted that although these observations give a near complete look at the avian composition within Muraviovka Zakaznik throughout a year, the months of November – February were not monitored. This gap could be sufficient to miss several key winter species which have the potential to use the Zakaznik such as; the Northern Raven, *Corvus corax*, Snowy Owl, *Nyctea scandiacus*, Northern Hawk-owl, *Surnia ulula*, Northern Goshawk, *Accipiter gentilis*, Gyrfalcon, *Falco rusticolus*, and Northern Shrike, *Lanius excubitor*.

My observations also fell short in reliably distinguishing between several species of snipe, *Gallinago* spp. Common Snipe, *Gallinago gallinago*, Pin-tailed Snipe, *Gallinago stenura*, and Swinhoe's Snipe, *Gallinago megala*, all have the potential to utilize Muraviovka Zakaznik but are nearly indistinguishable from one another in the field [Brazil, 2009]. Although hundreds of individuals of *Gallinago* were viewed each spring, I was only able to reliably identify Swinhoe's Snipe on one occasion (Table 3).

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