ABS ACTA BIOLOGICA SIBIRICA
A journal on the biodiversity of Siberia and the adjacent lands

Acta Biologica Sibirica 11: 223–248 (2025)
doi: 10.5281/zenodo.14987807
http://journal.asu.ru

RESEARCH ARTICLE

Review of rare bird species in the North Kazakhstan: update and additions to the regional avifauna list

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Academic editor: R. Yakovlev | Received 9 January 2025 | Accepted 22 February 2025 | Published 11 March 2025

http://zoobank.org/F0212968-3C85-4976-A4D6-CDE4E77EB48D

Citation: Zuban IA, Timoshenko AY, Dmitriyev PS, Gashev SN, Kalashnikov MN, Suindykov BM, Lunyov VS, Shnel SV (2025) Review of rare bird species in the North Kazakhstan: update and additions to the regional avifauna list. Acta Biologica Sibirica 11: 223–248. https://doi.org/10.5281/zenodo.14987807

Abstract

The study details long-term observations conducted in the North Kazakhstan region from 2016 to 2024, focusing on bird species that were either previously unrecorded or rarely encountered. The research clarified data on the occurrence and seasonal activity of specific species by analyzing unpublished observations and recent publications. A notable outcome was the addition of six new species to the regional avifauna list, enhancing our understanding of local bird diversity. These findings underscore the dynamic nature of bird populations and the potential impacts of ecological and climatic changes. Key factors contributing to the registration of new species include climate change and habitat transformation. The results highlight the importance of ongoing biodiversity monitoring in light of global changes.

Keywords

Bird fauna, new species, North Kazakhstan region, lakes, natural resource potential, *Plegadis falcinellus*, *Syrrhaptes paradoxus*, *Sturnus roseus*, *Corvus corone*, *Ficedula parva*, *Phoenicurus ochruros*, new data

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Introduction

The North Kazakhstan region, situated in the southern part of the West Siberian Plain, lies within the transition zone between taiga and steppe. This area is marked by a remarkable diversity of landscapes and biotopes. The northern section is primarily characterized by mixed birch-aspen and pine forests, with Betula pendula as the dominant species. Central areas exhibit patchy forest-steppe, which gradually gives way to steppe landscapes in the south and the foothills of the Kazakh Uplands in the southwest. These foothills are adorned with relict pine forests interspersed with birch-aspen groves. The region boasts a well-developed hydrological network, including the Ishim River and its tributaries, as well as the Chaglinka and Seleti rivers, along with the Sergeyevka, Chaglinka, and Petropavlovsk reservoirs. Additionally, there are a total of 2,328 diverse lakes (Dmitriyev et al. 2018; 2022; 2023a), creating favorable conditions for various species across different taxonomic and ecological groups. The lakes' diversity represents ecosystems with significant natural resource potential (Dmitriyev et al. 2023b). Over recent decades, the region has undergone substantial changes in its natural landscapes due to intensified agriculture, climate change, and other ecological processes (Pashkov & Vilkov 2017). These changes have resulted in a decline in some species' populations, the extinction of others, and the emergence of new, more ecologically adaptable species that are expanding their geographical range within the region (Gashev et al. 2018).

Despite long-term wildlife observations in the North Kazakhstan region dating back to the early 1960s, the species composition and population numbers of many groups remain inadequately documented. The invertebrate fauna is particularly underexplored. Research has been conducted on the Lepidoptera order in certain years (Knyazev 2015; Knyazev & Zuban 2016; 2019; Zuban et al. 2022; Knyazev 2024; Zuban et al. 2024). Among vertebrates, fish fauna has been studied in detail (Kolomin 1999; Vilkov & Kolomin 2006). For amphibians, reptiles, and mammals, species composition is estimated primarily based on literature and occasional personal observations (Vilkov & Kolomin 2006). Birds represent the most diverse class of vertebrates in terms of species composition.

According to the 2005 bird summary for the North Kazakhstan region, 283 species from 21 orders and 57 families were recorded (Vilkov 2005). However, information regarding the distribution, status, and abundance of 58 species on this list is lacking. Notable species include the Little grebe *Tachybaptus ruficollis*, Short-toed snake-eagle *Circaetus gallicus*, and Eurasian dotterel *Charadrius morinellus*. Additionally, potential inhabitants such as the Slender-billed gull *Larus genei* and Caspian tern *Hydroprogne caspia* have been noted, but reliable records of their presence are absent (Vilkov 2005; Vilkov & Kolomin 2006).

A review of earlier literature revealed that some species previously listed as absent in the 2005 and 2006 summaries had indeed been recorded in the region, in-

cluding the Red-throated Loon (Gavia stellata) and Northern Gannet (Sula bassana) (Drobovtsev & Vilkov 1997; Drobovtsev et al. 1998; Berezovikov & Erokhov 2000; Sinitsyn 2003). Studies conducted from 2008 to 2020 refined the understanding of several species, provided data on previously unrecorded birds, and updated the regional ornithofauna list to include 267 species (Tarasov & Davydov 2008; Zuban et al. 2010; Zuban & Vilkov 2011; 2012; Zuban & Kalashnikov 2017; Zuban & Vilkov 2018; Tymoshenko & Zuban 2020; Zuban & Tymoshenko 2020).

This article is based on research conducted by the authors in the North Kazakhstan region from 2016 to 2024. The study aims to analyze the composition and distribution of bird species, focusing on rare, previously unrecorded, or infrequently observed species. Special attention is given to species that are uncommon in this territory. Long-term research data have clarified the residency status of several species, expanded knowledge of the distribution of known birds, and added new species to the regional avifauna list.

Materials and methods

Study area

Data collection were performed in 2016–2024 through authors individual observations, alongside a series of national and international expeditions focused on studying local and Arctic goose species in the North Kazakhstan region (Cuthbert et al. 2018; Zuban et al. 2020a; Zuban et al. 2020b; Jones et al. 2022). The study concentrated on the region's wetland ecosystems, as well as the forest steppe and open landscapes. Special emphasis was placed on the habitats of rare and newly identified bird species in the area, along with ecosystems linked to the Ishim River and surrounding lake regions. Figure 1 illustrates the geographic distribution of the new species that were previously unrecorded in the region.

Bird count

Bird counting was performed utilizing established visual observation methodologies and species identification techniques. Observations were conducted with binoculars (10×42) and spotting scopes (20–60×60). Species identification was based on field characteristics as detailed in recognized bird guides for Siberia (Ryabitsyev 2014). In certain cases, photography was utilized to corroborate species identification. All data were systematically documented in field notebooks, encompassing the date, time, GPS coordinates, habitat type, and avian behavior. Particular attention was devoted to recording rare species within the region, as well as newly identified species that had not been previously documented in North Kazakhstan.

Results

Great white pelican *Pelecanus onocrotalus* (Linnaeus, 1758)

Rare vagrant species. Prior to 2016, its sightings were documented only in isolated instances, primarily among flocks of Dalmatian pelicans *Pelecanus crispus*. However, from February 22 to 25, 2016, a flock of 37 Great white pelicans was first recorded at Lake Kurganskoy in the Zhambylsky district (Zuban & Vilkov 2018). A larger gathering was noted by I.A. Zuban in early April 2021, when a flock of 102 pelicans, likely diverted from their migration route due to adverse weather, was spotted at a landfill near the village of Smirnovo in the Akkayinsky district (Fig. 2). At that time, all water bodies in the region were frozen, compelling the birds to halt in an unusual location. To assist the birds during their stay, which lasted approximately 10 to 15 days, local residents collaborated with conservation organizations to provide supplemental feeding with fish.

Little bittern *Ixobrychus minutus* (Linnaeus, 1766)

Rare breeding species. According to I.A. Dolgushin (1960), it had not been observed in North Kazakhstan. However, a specimen collected in the summer of 1969 from the Ishim River floodplain in the Kyzylzharsky district is preserved in the local history museum of Petropavlovsk. Sightings of this species have been recorded since the 1980s (Vilkov et al. 1998). The only subsequent observation occurred on September 14, 2004, when V.S. Vilkov spotted a solitary individual flying over a marshy area near an automobile bridge in Petropavlovsk (Vilkov & Kolomin 2006). Nearly thirteen years later, in July 2017, I.A. Zuban observed a pair of Little bitterns (one male and one female) flying over an oxbow of the Ishim River in the "Lesovod" gardening community, located 2 km west of Petropavlovsk. These observations suggest the potential presence of a small breeding group in the region, supported by breeding data from the Naurzum Nature Reserve in the Kostanay region (Bragin 2022) and records from the neighboring Kurgan region (Ryabitsyev et al. 2002). Given the species' secretive nature, further research is necessary for a more accurate assessment of its status and population in the area.

Glossy ibis *Plegadis falcinellus*, Linnaeus, 1766

The Glossy ibis is a new addition to the avifauna of North Kazakhstan. Its modern breeding range in Kazakhstan includes the northern Caspian Sea coast and the deltas of the Volga and Ural rivers. Historically, it bred in the lower Syrdarya, Torgay, and the Ili River delta during the first half of the twentieth century (Spangenberg & Feygin 1936; Dolgushin 1960), but has not been recorded breeding there since the late 1980s (Gubin 1988; Poslavsky 1991; Gavrilov 1999; Kovalenko 2006; Sagitov 2007). There have been sightings of these birds in feeding fields near the southern

shore of Chardara Reservoir, with speculation about possible breeding at Lake Shoshkakol in South Kazakhstan (Lopatinskii et al. 1991; Khrokov 2002; Berezovikov & Kazenas 2013). During migration and nomadic movements, the Glossy Ibis has been periodically recorded in Western Kazakhstan, particularly in Mangyshlak and Ustyurt (Gavrilov 1999). The most northern sightings of the species occurred in the Naurzum Nature Reserve between 2021 and 2023 (Batryakov & Tymoshenko 2024). Our first observation in North Kazakhstan was on May 24, 2024, when we spotted a flock of 10 Glossy Ibis in the Kosbarmak tract in the Esilsky district, where they were feeding alongside White-fronted Geese *Anser albifrons* and Red-breasted Geese *Branta ruficollis* in shallow areas inundated by melting waters.

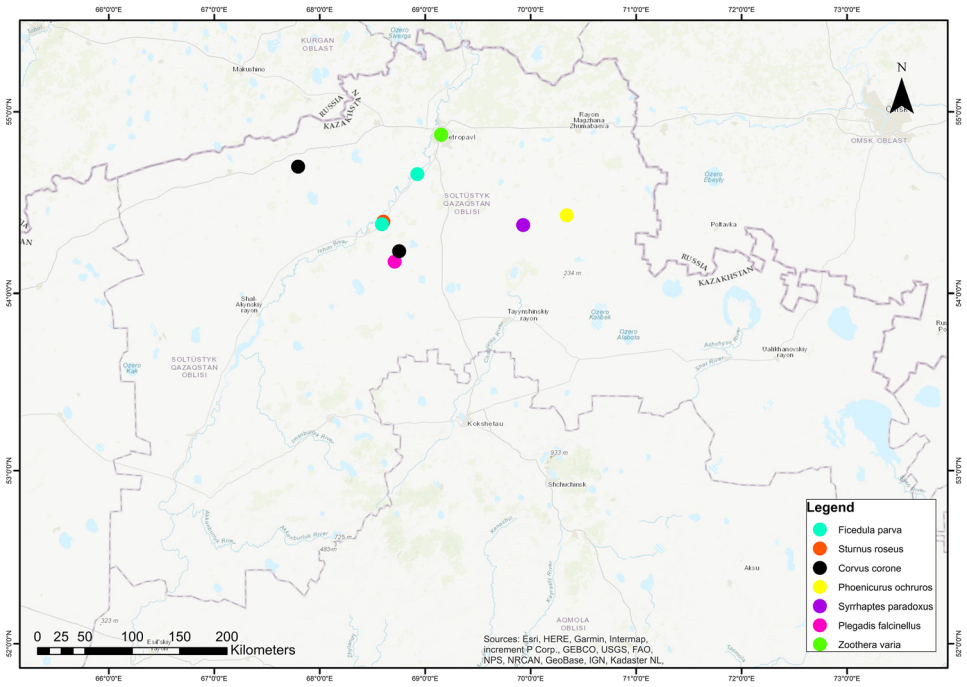

Figure 1. Distribution of new bird species records in the North Kazakhstan region.

Black stork *Ciconia nigra* Linnaeus 1758

The Black stork is a rare migratory species, with only a few recorded sightings in the region. In 1933, one bird was hunted, and solitary individuals were observed near Lake Sivash in September 1966 and near Lake Small Akchichey in September 1973 (Drobovtsev et al. 1995; Drobovtsev & Vilkov 1997). After a 45-year absence, a Black stork was again observed during migration in mid-May 2018 in the northwestern part of the region (Zhambylsky district) (Tymoshenko et al. 2020).



Figure 2. Great white pelicans at the outskirts of Smirnovo village, 04.12.2020. Photo by I. Zuban.

Barnacle goose *Branta leucopsis* (Bechstein, 1803)

In North Kazakhstan, the Barnacle goose is considered a rare migratory species. The first recorded sighting occurred on April 27, 2018, when a solitary goose was observed near the village of Selekti in the M. Zhumabayeva district (Zuban & Tymoshenko 2020). During annual monitoring of key geese migration congregations from 2019 to 2024, the Barnacle goose was recorded only once more. On May 10, 2022, a single bird was spotted among a flock of White-fronted geese and Red-breasted geese on the shore of a temporary flood near the village of Lugovoe in the Esilsky district (Fig. 3). These solitary observations confirm the species' rarity and underscore the need for further research on its migration routes and population dynamics in the region. It is likely that we are witnessing the expansion of the Barnacle Goose's eastern range beyond its primary breeding grounds and the establishment of new migration routes to wintering areas shared with other Arctic goose species.

Taiga bean goose *Anser fabalis* (Latham, 1787)

A rare migratory species, has been confirmed in the North Kazakhstan region with three subspecies: *A. f. fabalis*, *A. f. rossicus*, and *A. f. middendorffii* (Zuban et al. 2018). Sightings of this species have primarily been accidental and date back to the 1970s, with most encounters occurring in the autumn (Drobovtsev & Vilkov 1997).

In recent decades, the frequency of Bean goose sightings has notably increased. In October 2009, an individual was recorded in Zhambylsky district (Zuban et al.

2010). The following years saw further observations: in October 2011, 11 birds were spotted on a lake near Dubrovno in the Mamlyutsky district, and in October 2012, a single Bean Goose was seen among a flock of Greylag geese *Anser anser* near Yastrebinka in Zhambylsky district. In 2013, 12 birds were counted at Kamyshlovka Log lakes. By early April 2015, three Bean geese were observed on Lake Terenkol in Akkayynsky district, and later that fall, one individual was hunted near Makaryevka in Zhambylsky district. In October 2016, two birds were recorded among Whooper swans in a wheat field near Kuchkovka in Tayinshinsky district.

In 2024, from April 27 to May 1, a flock of approximately 600 Bean geese was frequently observed on grain fields near Simaki and Lenin, as reported by P.V. Tepenko, the Director of the Zhambylsky district Hunting and Fishing Society. Later that autumn, A.A. Egorov, a hunter, noted a large congregation of about 1,000 birds at Lake Keltesor in the northeastern part of the region during the first decade of October. His observations indicated that Bean geese, along with White-fronted geese, frequented the lake and nearby feeding fields until the first severe frosts, departing the area in early November. The reliability of species identification is supported by photographs of the hunted birds. In the current autumn season, Bean Geese were also observed in conjunction with other goose and swan species at two water bodies in the region. On October 19, 18 Bean Geese were seen among other goose species in a wheat field near Lake Uzunkol in Akkayynsky district, followed by 23 Bean Geese recorded among White-fronted Geese in a coastal ice field on Lake Terenkol the next day (Fig. 4).

Bewick's swan *Cygnus bewickii* Yarell, 1830

A rare migratory species, has been documented in the region by S.P. Diriev and P.S. Mironychev, as noted in V.V. Tarasov's publication (Tarasov & Davydov 2008). They based their early records on various accounts. Since 2010, there have been 15 recorded sightings of Bewick's Swans in the area. The first observation occurred on October 16, 2010, when two adult birds were found among feeding Whooper Swans in a wheat field near Lake Balykty in Akkayynsky district (A. Krasnikov, communication).

In 2012, the species was observed three times: on September 22, a single bird was noted among 28 Whooper Swans on the southern shore of salty Lake Semyozernoe (Zhambylsky district); on October 12, a family consisting of two adults and three juveniles was recorded on the eastern shore of Lake Bolshoy Tarangul (Esilsky district); and on October 13, nine Bewick's swans (seven adults and two juveniles) were seen in a flock of Whooper swans in a wheat field near Lake Zhilandy (Esilsky district) (Zuban & Vilkov 2013). In 2016, Bewick's swans were recorded twice: on October 5, a pair of adults was observed among Whooper and Mute swans on the eastern shore of Lake Kumdykol in Tayinshinsky district, and on October 8, a flock of 12 adults was found in the northern part of Lake Shaglyteniz (Akkayynsky dis-

trict). In autumn 2018, three birds were spotted in a grain field near Lake Uzunkol (Akkayynsky district) on September 22.

In 2019, the species was recorded at three locations. On October 11, two birds were observed among feeding Greylag geese in a field near Lake Malyy Kak (Timiryazevsky district). The following day, October 12, the largest congregation of Bewick's swans was documented, with 599 individuals counted in the northern part of Lake Bolshoy Kak and adjacent fields. On the same day, 28 birds were observed among Whooper Swans in grain fields east of the village of Tselinnoe (Timiryazevsky district) (Fig. 5). In 2020, Bewick's Swans were seen on September 24, with 10 individuals recorded in grain fields near Lake Bolshoy Koskol (Aiyrtausky district), and on October 18, 14 birds were documented in flight over the village of Ivanovka (Kyzylzharsky district). Most recently, on October 18, 2024, 12 Bewick's Swans were observed on Lake Uzunkol (Akkayynsky district). These observations collectively indicate the regular migration patterns of Bewick's Swans through the region.



Figure 3. Barnacle goose mingles with various other goose species in the shallow waters near the village of Lugovoe, 10.05.2022. Photo by A. Tymoshenko.

Ferruginous duck *Aythya nyroca* (Guldenstadt, 1770)

This species is extremely rare in the region and has long been considered an accidental vagrant. In early October 2011, a Ferruginous duck was discovered on Lake Solenoye near the village of Karagua, located in M. Zhumabaeva district (Zuban & Vilkov 2011). In October 2015, a young individual was hunted on Lake Lebyazhye in Zhambylsky district. This fact may suggest possible breeding of the species within the studied area or in the neighboring Kurgan region of the Russian Federation, as the water body is located only one kilometer from the state border. We noted the

most recent registration of the species on May 20, 2024. In the late afternoon, a pair of Ferruginous ducks was observed in a canal near Karatau lake, 1 km east of Chirikovka, Esilsky district (Smirnovskiy State Reserve).

White-headed duck *Oxyura leucocephala* (Scopoli, 1769)

This species globally endangered and listed on the International Union for Conservation of Nature (IUCN) Red List (BirdLife International) (https://www.birdlife.org), is a rare nesting bird in North Kazakhstan. In the 1970s, V.I. Drobovtsev discovered the clutches of this species (Drobovtsev & Koshelev 1980). In 1986 and 1987, a nest and two broods were found on Lake Poganoe in the southern part of Petropavlovsk, along with five unattached individuals. There are reports of encounters with the White-headed duck in other parts of the region during those years (Drobovtsev & Vilkov 1997; Kovshar 2008; Zuban et al. 2010). In 2012 and 2013, 5–7 individuals were recorded annually at Lake Balykty in Akkayynsky district. In May 2014, a female and five males were observed engaging in courtship activities near the reed border in the southern part of the lake. On 21 July, seven males were counted along the edge of the reed, actively diving for food but not venturing more than 20-35 meters from the vegetation on the shore. A male White-headed duck was also observed on 23 May 2014, in a flock of Common pochards at Lake Sarykol, Esilsky district. Two males were recorded on 23 August 2014, at Lake Aksuat, Timiryazevsky district. On 28 August 2014, significant gatherings were observed along the shallow shores of Lake Zhaltyr in the Shal Akynsky district, with a total of 30 White-headed ducks (Zuban et al. 2014). In 2022, the species' distribution in the region was expanded with two new sightings. In late May, an adult male was observed in the waters of the Karatau tract near Chirikovka, Esilsky district. In the same year, on July 7, a flock of 24 males was recorded on Lake Saumalkol, Ayrtausky district, and on July 16–17, 32, birds were observed in the southern shallow part of the same lake.

Osprey *Pandion haliaetus* (Linnaeus, 1758)

A rare migratory species. The first mention of the Osprey in the region dates back to the 1990s, as reported by Tarasov & Davydov (2008), citing pers. comm. by S.P. Direev. In May 2008, a single individual was recorded on a power line near Lake Bolshoy Tarangul, close to the village of Korneevka (Esilsky district) (Zuban et al. 2010). The second observation occurred on 19 September 2010, when two birds were spotted on Lake Polovinnoye near the village of Chistovskoye (M. Zhumabaeva district) (Zuban & Vilkov 2012). In August 2020, M. Sorochinsky, a staff member of the regional museum association, on the outskirts of Taiynsha (Sorochinsky 2020). The most recent sighting took place on 16 May 2022, when a single individual was recorded in flight near the village of Zhanalyk in Esilsky district.

Eurasian honey buzzard *Pernis apivorus* (Linnaeus, 1758)

A rare, possibly breeding species. The species has been recorded three times in the region. The first observation was documented on 31 May 2008, when a single individual was observed in a birch grove 5 km east of the village of Maibalyk in the Zhambylsky district (Tarasov & Davydov 2008). The second observation occurred on 6 July 2008, when a solitary bird was seen in a pine forest near Lake Imantau in the Aiyrtausky district (Zuban et al. 2010). The most recent record was on 18 May 2020, when we observed a pair of Eurasian Honey Buzzards in low flight along the edge of a birch-pine forest near the village of Ivanovka in the Kyzylzharsky district (Fig. 6).



Figure 4. Flock of Bean Geese at Lake Terenkol, 20.10.2024. Photo by I. Zuban.

Ferruginous duck *Aythya nyroca*, Guldenstadt 1770

This species is extremely rare in the region and has long been considered an accidental vagrant. In early October 2011, a Ferruginous duck was discovered on Lake Solenoye, near the village of Karagua in M. Zhumabaeva district (Zuban & Vilkov 2011). In October 2015, a young individual was hunted on Lake Lebyazhye in Zhambylsky district. This suggests the possibility of breeding within the studied area or in the neighboring Kurgan region of the Russian Federation, as the water body is located only one kilometer from the state border. The most recent sighting

of the species was on May 20, 2024, when a pair of Ferruginous Ducks was observed in a canal near Karatau Lake, 1 km east of Chirikovka in Esilsky district (Smirnovskiy State Reserve).

White-headed duck *Oxyura leucocephala* (Scopoli, 1769)

This globally endangered species is listed on the International Union for Conservation of Nature (IUCN) Red List (BirdLife International) and is a rare nesting bird in North Kazakhstan. In the 1970s, V.I. Drobovtsev discovered clutches of this species (Drobovtsev & Koshelev 1980). In 1986 and 1987, a nest and two broods were found on Lake Poganoe in the southern part of Petropavlovsk, along with five unattached individuals. Reports of encounters with the White-headed Duck in other parts of the region were noted during those years (Drobovtsev & Vilkov 1997; Kovshar 2008; Zuban et al. 2010). In 2012 and 2013, 5–7 individuals were recorded annually at Lake Balykty in Akkayynsky district. In May 2014, a female and five males were observed engaging in courtship activities near the reed border in the southern part of the lake. On July 21, seven males were counted along the edge of the reed, actively diving for food but not venturing more than 20–35 meters from the shore vegetation. A male White-headed Duck was also observed on May 23, 2014, in a flock of Common pochards at Lake Sarykol in Esilsky district. Two males were recorded on August 23, 2014, at Lake Aksuat in Timiryazevsky district. On August 28, 2014, significant gatherings were observed along the shallow shores of Lake Zhaltyr in the Shal Akynsky district, totaling 30 White-headed ducks (Zuban et al. 2014). In 2022, the species' distribution in the region expanded with two new sightings. In late May, an adult male was observed in the waters of the Karatau tract near Chirikovka in Esilsky district. On July 7, a flock of 24 males was recorded on Lake Saumalkol in Ayrtausky district, and on July 16–17, 32 birds were observed in the southern shallow part of the same lake.

Osprey *Pandion haliaetus* (Linnaeus, 1758)

This rare migratory species was first mentioned in the region in the 1990s, as reported by V. Tarasov (Tarasov & Davydov 2008), citing an oral account by S.P. Direev. In May 2008, a single individual was recorded on a power line near Lake Bolshoy Tarangul, close to the village of Korneevka in Esilsky district (Zuban et al. 2010). The second observation occurred on September 19, 2010, when two birds were spotted on Lake Polovinnoye near the village of Chistovskoye in M. Zhumabaeva district (Zuban & Vilkov 2012). In August 2020, M. Sorochinsky, a staff member of the regional museum association, reported another sighting on the outskirts of Taiynsha (Sorochinsky 2020). The most recent sighting took place on May 16, 2022, when a single individual was recorded in flight near the village of Zhanalyk in Esilsky district.



Figure 5. A flock of Bewick's Swans on Lake Bolshoy Kak, October 12, 2019. Photo by I. Zuban.

European honey buzzard *Pernis apivorus* (Linnaeus, 1758)

This rare, possibly breeding species has been recorded three times in the region. The first observation was documented on May 31, 2008, when a single individual was seen in a birch grove 5 km east of the village of Maibalyk in Zhambylsky district (Tarasov & Davydov 2008). The second observation occurred on July 6, 2008, when a solitary bird was spotted in a pine forest near Lake Imantau in Aiyrtausky district (Zuban et al. 2010). The most recent record was on May 18, 2020, when a pair of Eurasian Honey Buzzards was observed in low flight along the edge of a birch-pine forest near the village of Ivanovka in Kyzylzharsky district (Fig. 6).

Greater Spotted Eagle *Aquila clanga* (Pallas, 1811)

Rare breeding species. The Greater Spotted Eagle is recorded almost annually in the region, albeit in small numbers. Prior to 2020, it was observed during both breeding and migration periods. Notable sightings primarily occurred in the northern forest-steppe area, including the discovery of a nest with a chick in early July 2010 in the Mamlyutsky district (Zuban et al. 2010). Regular sightings of individual eagles and pairs were reported in the Zhambyl and Akkayynsky districts from 2003 to 2014. The distribution of this species expanded during the 2020 field season. On June 15, 2020, I.A. Zuban observed a pair of Greater Spotted Eagles at the edge of a forest near Lake Saumalkol in the Aiyrtausky district. Later, on August 30, a single eagle was seen hunting rodents in the coastal reed thickets along the southern shore of

the same lake. The following day, seven eagles-three adults and four juveniles–were recorded along the road between the villages of Antonovka and Saumalkol in the same district.

Golden Eagle *Aquila chrysaetos* (Linnaeus, 1758)

This species is very rare and nomadic. The main observations are concentrated in the western and southern parts of the region. On September 20, 2001, two Golden Eagles were discovered near the village of Ruzaevka in the G. Musrepova district. On June 6, 2002, one individual was observed near Lake Maly Kak in the Timiryazevsky district. Another sighting occurred on June 10, 2003, 5 km south of the village of Olgovka in the Zhambylsky district, followed by another individual recorded on June 11, 2003, 5 km northwest of the village of Oktyabr (Vilkov & Kolomin 2006). A new sighting occurred on January 21, 2019, when I.A. Zuban observed a juvenile Golden Eagle twice in the northeastern part of the region. The first encounter was at a wild boar feeding site near Martishkino Bog, 5 km north of Novy Byt in the M. Zhumabayeva district. The bird flew off a tree as a snowmobile approached. A few hours later, the same bird was seen flying over the Petropavlovsk–Omsk highway, 25 km southwest of the initial observation point.

Peregrine falcon *Falco peregrinus* (Tunstall, 1771)

Rare migratory species. In September 1970, I. Drobovtsev observed a Peregrine Falcon hunting Common pochard *Aythya ferina* near Lake Piterovo in the Zhambylsky district. In September 1974, a Peregrine unsuccessfully attacked a Northern Pintail (Anas acuta) at Lake Maloe Varvarino. In late September 2008, an individual was recorded on a high-voltage line near Kenashi village in the M. Zhumabayeva district (Gubin et al. 2008). An adult Peregrine Falcon was observed near the Krasnaya Shapka bog in Mamlyutsky district in spring 2013. Subsequent sightings included several cases in October 2016, when an adult and four juvenile Peregrine falcons were recorded across four districts. The most recent sighting was on October 19, 2020, near Lake Uzyunkol in the Akkayinsky district.

Willow ptarmigan *Lagopus lagopus* (Linnaeus, 1758)

Rare breeding species. In November–December 2000, a flock of nine ptarmigans was observed in the northern part of Lake Cherepkovo, Kyzylzharsky district. On November 23, 2002, five individuals were recorded 5 km south of Novonikolskoe village in the same district. A pair was observed on April 20, 2013, near Novouzenka village in the Yesilsky district. In December 2016, tracks were found at the edge of an aspen grove northeast of Userdnoe village in the Zhambylsky district. According to P.V. Tepenko, Director of the Zhambylsky district Hunting and Fishing Society, ptarmigans were seen only once between January and March 2024, with a flock of

three observed on February 18 near Arkhangelka village. Observations suggest that habitat degradation has led to a significant decline in the Willow Ptarmigan population over the past 15–20 years, putting the species at risk of extinction.

Siberian crane *Grus leucogeranus* (Pallas, 1773)

This very rare migratory species was last recorded on May 25, 1986, with two individuals observed near Lake Zhilyandy in the Akkayinsky district, and again by the end of May 1987. Almost 40 years later, on May 6, 2024, a single Siberian Crane was observed flying at an altitude of 30 meters near Ivanovka village in the Kyzylzharsky district. The bird was visually identified after its call was heard, flying low enough for a clear view.



Figure 6. European Honey Buzzard near the village of Ivanovka, 12. 04.2020. Photo by I. Zuban.

Little bustard *Tetrax tetrax* (Linnaeus, 1758)

This rare breeding species was regularly observed in the early 20th century but had nearly disappeared by the 1970s. A stuffed specimen from 1971 is preserved in a local museum. Since the late 1990s, individual sightings have been reported, followed by nesting occurrences. In July 1995, one individual was found near Lake Sorbalyk in the Zhambylsky district. The population began to increase from 2000 onward, with notable observations including a nest with three eggs discovered in June 2003 near Lake Semilovo (Vilkov & Kolomin 2006). Other significant sightings include

a nest crushed by mechanized equipment in June 2008 and a male observed in May 2014. In late May 2024, a male Little Bustard was seen on a field road near Chirikovka village in the Esilsky district.

Eurasian golden plover *Pluvialis apricaria* (Linnaeus, 1758)

Approximately a dozen migratory species exist. On May 21, 2023, an individual was observed flying over the Karatau tract east of Chirikovka village in the Esilsky district.

Ruddy turnstone *Arenaria interpres* (Linnaeus, 1758)

This rare migratory species was recorded on October 2, 2016, with a flock of six observed on the coastal shallows of Lake Malyy Kak in the Timiryaevsky district.

Terek sandpiper *Xenus cinereus* (Guldenstadt, 1775)

This rare migratory species was observed on May 11, 2024, with a flock of eight seen on the coastal shallows of Lake Balykty in the Akkaiynsky district.

Jack snipe *Lymnocryptes minimus* (Brunnich, 1764)

This moderately numerous migratory species was recorded in early November 1971 near Unnamed Lake in the M. Zhumabaeva district. Subsequent sightings included 32 individuals near Lake Kochkovatoye in October 2015 and 12 birds in late September 2016 at Lake Sorbalyk. In late September 2024, four Jack Snipes were observed near Lake Shirokoye, Kyzylzharsky district.

Eurasian whimbrel *Numenius phaeopus* (Linnaeus, 1758)

Occasionally observed during migrations, a single individual was recorded near Lake Alva on May 21, 2016. Additionally, three migrating Eurasian Whimbrels were observed on a wheat field north of Iversk village on May 21, 2024.

Gull-billed tern *Gelochelidon nilotica* (J.F. Gmelin, 1789)

Rare, possibly breeding species primarily inhabits water bodies in the southern half of the country. In the North Kazakhstan Region, it was previously observed in spring 2009 and 2010 in the Jambylsky district (Zuban et al. 2010). The range of sightings expanded, with three birds observed flying over a field near Lake Alva in May 2011. From 2022 to 2024, 1 to 4 terns were recorded annually in temporary floodplains near Lugovoye village in the Esilsky district.

Pallas's Sandgrouse *Syrrhaptes paradoxus* (Pallas, 1773)

This species is new to the avifauna of the North Kazakhstan Region. On May 3, 2018, A.Yu. Timoshenko observed a flock of nine sandgrouse near Novorossiyskoye village in the Tayynshinsky district, where they appeared to be seeking water from puddles formed in the road ruts.

Boreal owl *Aegolius funereus* (Linnaeus, 1758)

The Boreal owl is a resident species in mountain forests of Eastern and Southeastern Kazakhstan. Previously, only one record from the North Kazakhstan Region was known, dating back to October 1969 near Lebyazhye village. The next sighting occurred on January 18, 2018, in Makaryevka village, where an adult owl was found in an abandoned house. Seven years later, another Boreal owl was observed on January 11, 2025, in a mixed riparian forest near Ivanovka village in the Kyzylzharsky district (Fig. 7).



Figure 7. Boreal owl in the floodplain of the Ishim River near Ivanovka village, 11.01.2025. Photo by I. Zuban.

European nightjar *Caprimulgus europaeus* Linnaeus, 1758

Rare breeding species. The first summer sightings in the region were documented by M.A. Kuzmina. However, subsequent years yielded no further records of nightjar sightings in the literature (Vilkov & Kolomin 2006). In May 2008, V.V. Tarasov noted courtship "songs" of nightjars in the Black Forest and Borki Forest areas of the Zhambylsky district (Tarasov & Davydov 2008). During May and June of that year, nightjars were also observed in birch groves near Voloshinka village in the Yesilsky district and near Peterfeld village in the Kyzylzharsky district (Zuban et al. 2010). In mid-August 2016, a dead nightjar was found on a road near Userdnoye village in the Zhambylsky district, and later that month, another nightjar was spotted on the roadside at the western outskirts of Petropavlovsk. In late June 2017, V.V. Sinitsyn, a professor at North Kazakhstan University, and students discovered a nest with two chicks in the educational and production complex "Miras" located in the Ishim River floodplain, Kyzylzhaskyr district (personal communication). On June 19, 2019, nightjars were recorded near the outskirts of Petropavlovsk (Sorochinsky 2020). From 2020 to 2024, nightjars were observed annually, primarily as solitary individuals, during late evenings and early nights in late August and early September along the road near Ivanovka village in the Kyzylzhasky district.

European bee-eater *Merops apiaster* (Linnaeus, 1758)

Rare breeding species. Between 2011 and 2016, bee-eaters were frequently seen perching on wires and nesting in burrows along the steep banks of the Ishim River near Ivanovka village in the Kyzylzharsky district. From 2020 to 2023, solitary individuals and small groups of up to five birds were observed, mostly perched on power lines at the village's outskirts. On May 21, 2023, three bee-eaters were spotted flying near Lugovoye village in the Yesilsky district. The largest aggregation, consisting of 42 individuals, was recorded on August 28, 2024, near Ivanovka village in Kyzylzharsky district, where the birds actively circled above the village, emitting characteristic calls while hunting for airborne insects.

Hoopoe *Upupa epops* (Linnaeus, 1758)

Rare species, likely breeds in the area. Observations include five birds near Lake Shaglyteniz in the Akkayinsky district in 2004. In 2005, two individuals were reported in the Ualikhanov and Ayyrtausky districts (Vilkov & Kolomin 2006). An adult was struck by a vehicle near Zapadnoye village in the Zhambylsky district in late July 2008. In mid-May 2009, a hoopoe was observed for two days near a wheat field south of Makaryevka village, close to a watchman's hut, and was seen again on the western outskirts of the village on September 26 of the same year (Zuban et al. 2010). In early May 2014, a single bird was spotted among building ruins on the outskirts of Dimitrovka village in the Yesilsky district (Zuban & Kalashnikov 2017.

In August 2019, two birds were observed in Taiynsha city (Sorochinsky 2020). In May 2023, a pair of hoopoes was frequently seen in a waste dump near Lugovoye village in the Yesilsky district.

Black woodpecker *Dryocopus martius* (Linnaeus, 1758)

Rare breeding species. In July 2008, an adult was repeatedly observed in a birch-aspen grove southeast of Makaryevka village in the Zhambylsky district. A black woodpecker's nest was discovered in May 2010 in a sparse birch-aspen grove north of Zhaltyrsha village, where an adult bird was recorded. From May 22 to July 5, 2010, a male black woodpecker was observed in a birch-aspen grove south of Semiozerka village. In autumn 2022, the species was recorded three times in roadside forests between Usken and Karasevka villages in the Ayyrtausky district. From 2022 to 2024, its calls and sightings were regularly reported in and around Ivanovka village, Kyzylzharsky district, where old nesting cavities were frequently found in the mixed floodplain forests. At the end of August 2024, four birds (two adults and two juveniles) were observed in a poplar grove along a small pond in the village center, moving between trees with characteristic calls and occasionally foraging among the leaf litter. By the end of October 2024, two individuals were seen in a sparse birch grove east of Chirikovka village in the Yesilsky district.

Eurasian three-toed woodpecker *Picoides tridactylus* (Linnaeus, 1758)

This species is classified as a rare vagrant. A specimen was collected near Suvorovka village in the Bulayevo district in May 1952 (M. Zhumabaev). Another was collected in January 1956 in the Sogrovsky forestry area, Kyzylzharsky district (Drobovtsev et al. 1998). A bird was recorded in early December 2009 in the Petropavlovsk City Park of Culture and Recreation (Zuban et al. 2010). A new encounter occurred on September 27, 2024, in the same park.

Grey wagtail *Motacilla cinerea* (Tunstall, 1771)

One bird was recorded in Summer 1998 by N. Berezovikov near Roshchinskoye village, Tayynshinsky district (Berezovikov & Yerokhov 2000). Subsequently, one bird was observed in Tokushi village, Akkayinsky district on August 22, 2013, followed by a sighting of two birds in the same village on August 27, 2014 (Zuban & Kalashnikov 2017). More recently, in late May 2018, one bird was recorded on a road in the Ishim River floodplain, 2 km west of Petropavlovsk. During late August of 2022 and 2023, migrating grey wagtails were regularly recorded in small numbers (1–3 birds) on pastures near Ivanovka village, Kyzylzharsky district.

Rosy starling *Sturnus roseus* (Linnaeus, 1758)

This species is a new addition to the avifauna of the North Kazakhstan region. The first sighting occurred on May 15, 2022, when a single bird was observed feeding among a flock of Common Starlings near a landfill on the outskirts of Chirikovka village in the Yesilsky district.

Carrion crow *Corvus corone* (Linnaeus, 1758)

The Carrion crow is also a new species for the North Kazakhstan region. Its distribution primarily covers Western Europe and Eastern Siberia, extending into Central Asia. In Kazakhstan, this species inhabits various natural zones, ranging from the Southwestern Altai in the northeast to the Aral Sea in the south. Its range extends north to the lower reaches of the Torgay and Ulkayak rivers (Gavrilov 1999). During dry periods in the Torgay lake system, Carrion crows occasionally nest in Naurzum, moving into North Priaralye through the Torgay depression (Bragin 2022). Although previously unrecorded in the North Kazakhstan Region, hybrids of Hooded and Carrion crows (*C. cornix* × *C. corone*) have been observed, particularly in late autumn and winter (Zuban 2012, 2018). The first documented sightings of Carrion crows in the region occurred in the autumns of 2020 and 2024. On October 18, 2020, a single bird was seen among Hooded crows in a wheat field near Zhylandy Lake in the Akkayinsky district. Four years later, a flock of six Carrion crows was spotted flying over reed thickets on Lake Yegor Andreyevich in the Zhambylsky district, where one bird was collected for identification confirmation.

Taiga flycatcher *Ficedula parva* (Bechstein, 1794)

This species is a new addition to the avifauna of the North Kazakhstan region. The first record was made on May 11, 2024, when a single bird was observed feeding on small insects in the crown of a common bird cherry *Prunus padus* on the outskirts of Lugovoye village in the Yesilsky district. Another flycatcher was seen on September 14, 2024, in the garden of a house in Ivanovka village, Kyzylzharsky district.

Black redstart *Phoenicurus ochruros* (S.G. Gmelin, 1774)

The Black redstart is a new species for the North Kazakhstan region. Its range spans much of the Eurasian continent and extends into parts of North Africa, from Morocco and Spain in the west to Central China and Mongolia in the east. In Kazakhstan, three subspecies are represented: *Ph. o. phoenicuroides*, *Ph. o. murinus*, and *Ph. o. gibraltariensis* (Gavrilov 1999; Fedorenko 2018). Over recent decades, the European subspecies *Ph. o. gibraltariensis* has significantly expanded its range northeastward. Since the early 1990s, the Black Redstart has been appearing in the Ural region, with a vagrant bird recorded in Yekaterinburg in 1995 (Boyko 1997).

In recent years, nesting of the European subspecies has been documented in cities such as Kamensk-Uralsky, Revda, and Sysert (Korshikov 2012; Lyakhov 2014). Stable breeding populations have been observed in the Tyumen and Orenburg regions and the northern Urals during the 2010s (Kornev 2019; Lupinos 2014; Davygora 2017; Lupinos et al. 2018; Barbazyuk 2019). In 2016, the *Ph. o. gibraltariensis* subspecies was first recorded nesting in Kazakhstan, specifically in the Northern Kostanay region near Karabalyk village. Nine years later, breeding was documented in the North Kazakhstan Region. On June 20, 2024, a pair of Black Redstarts exhibiting clear nesting behavior was discovered on an abandoned two-story building in the center of Smirnovo village. On June 23, fledglings were observed, and adult birds were seen feeding them, confirming the breeding status. This record highlights a steady trend of range expansion to the southeast and contributes to the avifaunal list of the North Kazakhstan region.

Eurasian blackbird *Turdus merula* (Linnaeus, 1758)

A rare migratory species, has had few recorded observations (Figs 8, 9). On April 24, 2016, an adult male was documented in a sand quarry located 6 km southeast of Makaryevka village in the Zhambylsky district (Zuban & Kalashnikov 2017). In early May 2017, three individuals (two males and one female) were discovered in the Ishim River floodplain within the educational production complex "Mirás" in the Kyzylzharsky district. On May 25, a female was found entangled in a discarded fishing net hanging from a tree after spring flooding. White's thrush *Zoothera varia*, previously unrecorded in the North Kazakhstan region, was first sighted on September 7, 2020. A non-flying bird was found on the sidewalk in downtown of Petropavlovsk (Timoshenko & Zuban 2020).

In conclusion, research conducted in the North Kazakhstan region from 2016 to 2024 has refined the regional avifauna inventory, documenting six new bird species. Consequently, the total number of reliably recorded bird species in the region has increased to 273. These findings highlight the significance of long-term observations and data analysis in understanding biodiversity changes driven by both natural and anthropogenic factors. The new records demonstrate the expansion of some species' ranges toward the southeast and north, as well as their adaptation to changing environmental conditions. This data significantly contributes to the study of avifauna and lays a foundation for further ornithological research. Based on recent breeding records of *Phoenicurus ochruros gibraltariensis* in North Kazakhstan, it is likely that this species will also appear in neighboring areas, such as the Pavlodar and Akmola Regions. Research conducted in the North Kazakhstan region between 2016 and 2024 has greatly enriched the regional avifauna inventory, identifying six new bird species and increasing the total number of reliably recorded species to 273. These findings highlight the essential importance of long-term observations and thorough data analysis in comprehending the changes in biodiversity driven by both natural and human-induced factors.



Figure 8. Male Black redstart, 20.06.2024. Photo by B. Suindykov.



Figure 9. Juvenile Black redstart, 23.06.2024. Photo by B. Suindykov.

Conclusions

The newly documented species underscore a significant range expansion toward the southeast and north, reflecting their adaptability to changing environmental conditions. This information not only enhances the study of avifauna but also establishes a strong basis for future ornithological research. Additionally, the recent breeding observations of *Phoenicurus ochruros gibraltariensis* in North Kazakhstan indicate the potential for this species to migrate into neighboring regions, such as Pavlodar and Akmola, highlighting ongoing shifts in avian distribution patterns.

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