



E-ISSN: 2320-7078  
P-ISSN: 2349-6800  
JEZS 2016; 4(6): 859-863  
© 2016 JEZS  
Received: 26-09-2016  
Accepted: 27-10-2016

**Arzu Mammadov**  
Institute of Bioresources  
Nakhchivan Department of NAS  
of Azerbaijan Nakhchivan AZ  
7000. Str. Babek 10

## Ornithofauna of Nakhchivan autonomous republic of Azerbaijan and the it's less numbered species

**Arzu Mammadov**

### Abstract

The investigation work had been carried out surround all area of Autonomous Republic during 2003-2016 years. Obtained research materials also scientific literature materials had been intended when the spectrum of area ornithofauna compiled. According to gathered materials it was determined that 255 bird species spread in the area, these belong to 18 group, 51 family and 144 genus. The urgent protection status of spreading species in the area had been determined, the information had been gathered about number of some few number species, endangered species had been specified.

When we pay attention to division of species for seasonal character, come across whole year had been 92, coming for to breed 85, come across in the wintering 38, come across in migration time 26 and do not breed summer visitors had been 14 species.

It was determined that 38 species of 255 are fewer when these valued, 10 species of these are characteristic for Nakhchivan ornithofauna. Majority of sedentary-growing birds are sparrow (86 species) and falcons (16 species).

**Keywords:** Nakhchivan autonomous republic, ornithofauna, *Parus ater*, *Lanius nubicus*, species

### 1. Introduction

The Nakhchivan Autonomous Republic (NAR), forms part of Azerbaijan and has a very high biodiversity with diverse landscapes and varied climatic conditions making it attractive as a research subject. From a geological point of view, the NAR lies at the south-east end of the Lesser Caucasus Mountains, an important part of Western Asia that contains a large number of endemics amongst its flora and fauna. The NAR also has representatives of flora and fauna from other biogeography regions [1, 6, 10, 9, 14]. A large part of the NAR is considered a priority corridor of the Caucasus Ecoregional Hotspot. However, scientific data about the NAR ornithofauna still reflects the situation at the end of the 19<sup>th</sup> century [5, 12, 13, 15, 21]. During the last 15-20 years, there have been noticeable changes in the structure of agriculture, the creation of new wildlife protected areas, and regular conflicts on the border with Armenia [11, 15, 17, 18]. Thus, a current review of bird species in the NAR was required.

### 2. Materials and methods

The area of the NAR that is included in the Western Asia zoogeographical region has a very dynamic landscape with different climate, soil, plant cover and relief [3]. In order to adapt to these natural features, specific ornithofauna has evolved in this region which has been nominated as a separate ornithogeographical area [8, 19].

The field expeditions had been carried out in all seasons of 2003-2016 years in different natural, anthropogenic landscape and biotope of Nakhchivan Autonomous Republic. During the investigation pay attention to relief, climate, soil, vegetation type of area, permanent observation settlement which differ each other had been chosen.

Mainly in the spring, autumn months and in all seasons the area investigations had been carried out in certain stations. All parameters had been valued when stationaries chose, the geographical features of area and certain ecological characteristics of species take into account which can be observe maximal level.

Generally transect method had been used during bird observation which carried out around the area of river and lakes. According to this method the registration of observations must carried out along one line which determined before.

Out of this method also taking into account air conditions of observation day, relevant locations selected and coincidental observation method had been utilized.

**Correspondence**  
**Arzu Mammadov**  
Institute of Bioresources  
Nakhchivan Department of NAS  
of Azerbaijan Nakhchivan AZ  
7000. Str. Babek 10

Carrying enrollments which gathered in the each area observation and species list had been compiled. The observed species during a year called “aboriginal”, observed only in winter months called “winter immigrant”, observed only in spring months called “spring immigrant”, observed during short time in the area in spring or autumn migration time called “Transit” and the species which leave their main distribution areas for nutrition according to short time called “Food visitors” when species status determined.

During observations the wideness of registration line carried out for size of species with telescope from 1.0-2.0 km, with turbine from 25-50 m distance. Food waste in the nest had been carried out for birds extremeness with treat and with carrying visual observations in nutrition area when appoint food content.

The amplifier turbine 10-22x50 and Canon Eos 400 D photo

camera and 2 different objective Canon 75-300 mm, 18-55 mm, Tamron 1,4x teleconverter and 20x60 Swarovski amplifier telescope for to take photos of birds had been used in bird observations in the investigation time. The morphological, ecological and topographic features of species had been determined with obtained photographs and special various books. Heinzel and other origins had been utilized. Systematic protection status had been given for IUCN [4, 5].

### 3. Results and Discussions

Currently, there is insufficient information about the distribution of birds in the NAR. During our recent investigations, we have now established that the NAR ornithofauna comprise 18 orders, 51 families, 144 genera and 255 species (Table 1).

**Table 1:** Taxonomic Spectrum of Nakhchivan AR (NAR) ornithofauna.

No	Orders	Number of families	Number of genera	Number of species	% of total species
1.	<i>Gaviiformes</i>	1	1	1	0.39
2.	<i>Podicipediformes</i>	1	1	3	1.17
3.	<i>Pelecaniformes</i>	2	2	4	1.56
4.	<i>Ciconiiformes</i>	3	10	12	4.70
5.	<i>Phoenicopteriformes</i>	1	1	1	0.48
6.	<i>Anseriformes</i>	1	7	18	7.05
7.	<i>Falconiformes</i>	2	13	27	10.59
8.	<i>Galliformes</i>	2	6	6	2.40
9.	<i>Gruiformes</i>	3	9	10	4.00
10.	<i>Charadriiformes</i>	6	18	32	12.55
11.	<i>Columbiformes</i>	2	3	8	3.20
12.	<i>Cuculiformes</i>	1	2	2	0.46
13.	<i>Strigiformes</i>	1	3	4	1.60
14.	<i>Caprimulgiformes</i>	1	1	1	0.48
15.	<i>Apodiformes</i>	1	1	3	1.20
16.	<i>Coraciiformes</i>	4	4	5	2.00
17.	<i>Piciformes</i>	1	3	5	2.00
18.	<i>Passeriformes</i>	18	59	113	44.30
Total;		51	144	255	100.00

During our research *Anser erythropus*, *Larus heuglini*, *Parus ater*, *Lanius nubicus*, *Hirundo daurica like species* and *Sturnus vulgaris caucasicus* like subspecies were found in the NAR for the first time. Most species were in the order *Passeriformes* (44.30%), followed by *Charadriiformes* (12.55%), *Falconiformes* (10.59%), *Anseriformes* (6.85%) and then *Ciconiiformes* (4.80%, see Table 1).

The majority of resident and nesting species were *Passeriformes* (93 species) and *Falconiformes* (16 species). See Table 2). Only *Larus argentatus* and *L. cachinnans* from the order *Charadriiformes* were resident species (occur all

year round), while the others were either nesting summer visitors or over-wintering species. In the winter, the majority of species found were representatives of *Anseriformes* (7 species), *Falconiformes* (7 species), *Charadriiformes* (7 species) and *Passeriformes* (8 species; see Table 2).

After *Passeriformes*, one of the most numerous orders in the NAR according to number of species and numbers of individuals is the *Falconiformes*. This order includes 27 species of which 16 are resident. We also found that all 6 species of *Galliformes* found here are resident (Table 2).

**Table 2:** Migratory status of orders in Nakhchivan AR

№	Orders	Number of species	Wintering species	Resident species	Nesting species	Summering species	Passing species
1	2	3	9	6	7	8	9
1.	<i>Gaviiformes</i>	1	1	-	-	-	-
2.	<i>Podicipediformes</i>	3	3				
3.	<i>Pelecaniformes</i>	4	1	2			1
4.	<i>Ciconiiformes</i>	12		4	6	2	
5.	<i>Phoenicopteriformes</i>	1				1	
6.	<i>Anseriformes</i>	18	7	4	1		5
7.	<i>Falconiformes</i>	27	7	9	7		4
8.	<i>Galliformes</i>	6		4	2		
9.	<i>Gruiformes</i>	10			7	1	2
10.	<i>Charadriiformes</i>	32	7	3	12	2	7
11.	<i>Columbiformes</i>	8		7	1		

12.	<i>Cuculiformes</i>	2			2		
13.	<i>Strigiformes</i>	4	2	1	1		
14.	<i>Caprimulgiformes</i>	1			1		
15.	<i>Apodiformes</i>	3			3		
16.	<i>Coraciiformes</i>	5		1	4		
17.	<i>Piciformes</i>	5		4	1		
18.	<i>Passeriformes</i>	113	8	55	37	8	7
Total:		255	38	92	85	14	26

Numbers of species in the order Ciconiiformes is less than Falconiformes in the NAR with only 10 resident species and 2 summer visitors. In general, there is a dominance of water birds during the migration period. However, three orders (Falconiformes, Galliformes and Passeriformes) appeared to be the best adapted to the specific conditions found in this region.

We found that 93 species (36%) are resident, 85(33%) are breeding birds, 38(15%) are over wintering birds, 26(11%) are passage migrants and 14(6%) are summer visitors. The species distribution with regard to terrain showed that there were 89 species on the planes (mountain planes), 10 species in the foothills, 60 species in the plane-foothill region, 32 species in the foothill-mountain regions, 23 species in the mountains and 41 species were intrazonal [4, p. 87-95; 5, p. 174-177]. In addition, the resident birds of the high mountains undergo vertical migration, moving to lower canyons in the winter season and returning to higher breeding habitats in the spring. In terms of ecological groups of birds, the most numerous are limnophyl birds (76 of 255 species or 29.80%). This was due to the abundance of many bodies of water such as the large reservoir (Araz) as well as the smaller bodies of water (Arpachay, Vaykhir, Qazanchi, Uzunoba, Sirab, Batabat, Goyogyol, Qanligyol, Dastagyol, Chahri and Toxluqaya).

The second largest group is the dendrophyl birds (67 species or 26.27%) attracted by high mountain forests and the bushy areas of Shahbuz, Arsafa, Tillak, Khalil, Jalil, Soyuqdagh and Vang. These species also like anthropogenic landscapes such as fruit gardens such as those found in the Ordubad district. Petrophil and oreophil birds (70 species or 27.45%) when combined are close in number to dendrophyl species. The cliff habitats of the NAR mountains are preferred by petrophil birds while the open areas of mountain steppes and semi-desert are preferred by oreophil birds.

Euritop species living in all types of landscape comprise 14.91% of species in the region while sinanthrop species (birds preferring anthropogenic habitats) only account for 1.57%). *Ciconia ciconia*, *Columba livia*, *Apus apus*, *Sturnus vulgaris* are incomplete sinanthrops whereas *Streptopelia turtur*, *Athene noctua*, *Hirundo rustica* and *Passer domesticus* are considered full sinanthrop species (Table 3).

**Table 3:** Habitat distribution of birds in Nakhchivan AR

Ecological groups	Number of species	%
Limnophyl	76	29.80
Dendrophyl	67	26.27
Petrophyl	33	12.94
Oreophyl	37	14.51
Euritop	38	14.91
Sinanthrop	4	1.57
Total:	255	100

The majority of bird species in the NAR are breeding residents (177 species or 69.41%). There are 119 (67.24%) open nesting species with smaller numbers (21 species or 11.85%) of secretive nesting species (nesting in hollows of trees, in holes of ground, cliffs or manmade constructions).

However, 37 species have both types of nesting behaviour (20.90%, see Table 4).

**Table 4:** Distributions of Species according to Nesting Habit.

Nesting type	Number of species	%
Openly nesting species	119	67.24
Secretive nesting species	21	11.86
Euritop nesting species	37	20.90
Total:	177	100.00

Territorial birds with a specific nesting area form the majority and comprise 143 species (84.12%) which appeared to be related to an equal distribution of food. However, colonial species only comprised 8.83% and intermediate species only 7.05%.

Finally, 10 species characteristic of Nakhchivan ornithofauna are now threatened Nationally (Red Data Book of Azerbaijan) or Internationally (IUCN protection category) as detailed below:

Order: Galliformes

Family: Phasianidae

Genus: *Tetraogallus* (Gray, 1832)

Species: *Tetraogallus caspius* (Gm., 1876)

English name: Caspian Snowcock

International Protection category: LC;

National Protection category: IV. 1.

Data Deficient in Azerbaijan.

Resident. Distribution and habitat: Nakhchivan AR - Kukudagh, Ordubad, Nehramdagh on cliffs, partly or poorly covered with plants, preferring the subalpine belt. Nesting at 2600m - 3000m and wintering at 1800m - 2500m.

Numbers: no information for last 20 years because of lack of access to border regions (areas where conflict with Armenia continues). Proposed population size is about 100-150 individuals.

Family: Phasianidae

Genus: *Ammoperdix* (Gould, 1851)

Species: *Ammoperdix griseogularis* (Brandt, 1843)

English name: See-see Partridge

International Protection category: LC

National Protection category: IV. 2.

Occurring in restricted areas, this species is in the process of adapting to new conditions. Resident. Distribution and habitat: Babak and Julfa districts of Nakhchivan AR. Open mountain areas with poor vegetation. Avoids slopes with cliffs located close to water. Density: average of 2-3 individuals per 2-3 km<sup>2</sup>.

Order: Gruiformes

Family: Otididae

Genus: *Chlamydotis* (Liss, 1893)

Species: *Chlamydotis undulata* (Jacq, 1784)

English Name: Houbara Bustard

International Protection category: VU.

National Protection category: II. 1.

Threatened. Scant numbers with possibility of extinction. Characteristic species for Nakhchivan AR. Distribution and habitats: desert, semidesert and steppe. Breeding was

registered on steppes along Araz river in April-May 1926 and chicks were registered near Nakhchivan city. Numbers: a few pairs found in the beginning of the 20<sup>th</sup> Century but no data for last 30 years.

Order: Passeriformes

Family: Muscicapidae

Genus: *Irania* (Filippi, 1863)

Species: *Irania gutturalis* (Guerin-Meneville, 1843)

English Name: White-throated Robin

International Protection category: LC.

National Protection category: IV.1.

Data Deficient in Azerbaijan and IV.2.

Occurring in restricted areas. Nesting. Distribution and habitat: according to our data this species occur in Zangazur national park in cliff-bush areas around the villages of Arpachay, Chahrichay and Bichanak at 1500m - 2000m elevation mainly but also at 1100m - 1200m. Density: in optimal conditions 2-3 pairs per 3-4 km<sup>2</sup>. General estimation for Nakhchivan AR would be 20-40 pairs.

Family: Muscicapidae

Genus: *Oenanthe* (Vieil, 1816)

Genus: *Oenanthe xanthopyrmyna* (Hemp & Ehr, 1833)

English Name: Kurdish (or Red-rumped) Wheatear

International Protection category: LC.

National Protection category: IV.1.

Data Deficient.

Resident. Distribution and habitat: Mountain species. Dry steppe and bushy areas of Julfa and Ordubad districts. Number: very rare species, general estimation currently 80-500 pairs in Nakhchivan AR.

Family: Fringillidae

Genus: *Rhodopechys* (Cab, 1851)

Species: *Rhodopechys githaginea* (Lichtenstein, 1823)

English Name: Trumpeter Finch

International Protection category: LC.

National Protection category: IV.2.

Occurs in restricted areas. Resident. Distribution and habitat: desert and semi-desert regions with cliff such as Ilandagh, Nokhuddagh, Nehramdagh and Kotam. Mainly found in the area of Julfa and Ordubad districts. Density: in optimal conditions 1-2 pairs per 3-4 km<sup>2</sup>. Our estimate for Nakhchivan AR is 10-100 pairs in total.

Family: Fringillidae

Genus: *Bucanetes* (Cap, 1851)

Species: *Bucanetes mongolicus* (Swinhoe, 1870)

English Name: Mongolian Finch

International Protection category: LC.

National Protection category: IV.1, IV.2.

Data Deficient.

Occurs in restricted areas. Resident. Distribution and habitat: Spring of 1915 near village of Bulgan, 1960-1970 near village of Aza (Julfa district). Our recent counts in areas of Nokhuddagh and Gandara (Julfa District) at elevations 1000m -1500 m on dry rocky slopes. Numbers: Agree with our estimates: within limits of 0.5-1 individuals per 5 km<sup>2</sup> Total estimates in NAR would be 10-15 pairs.

Family: Emberizidae

Genus: *Emberiza* (Linn, 1758)

Species: *Emberiza buchananni* (Blyth, 1845)

English Name: Grey-necked Bunting

International Protection category: LC.

National Protection category: IV.2.

Occurs in restricted areas. Distribution and habitat: near Nehramdagh, Nokhuddagh, Darasham, Ilandagh, Jamaldin and Daridagh. Dry rocky high mountain regions with poor

vegetation. Numbers estimated at 10-100 pairs.

Family: Alaudidae

Genus: *Melanocorypha* (Boie, 1828)

Species: *Melanocorypha bimaculata* (Menetries, 1832)

English Name: Bimaculated Lark

International Protection category: LC.

National Protection category: IV.1.

Data Deficient.

Nesting species. Distribution and habitat: planes along Araz river and foothill belt. Main population concentrated in Julfa District around mount Ilandagh (near Bashkend, Ortakend and Ashaghikend villages) in fields and other open areas. Sometimes occur at higher elevations in dry areas. Numbers estimated to be 500-1,000 pairs.

Family: Fringillidae

Genus: *Rhodopechys* (Cab, 1851)

Species: *Rhodopechys sanguineus* (Gould, 1838)

English Name: Eurasian Crimson-winged Finch

International Protection category: LC.

National Protection category: IV.2.

Occurs in restricted areas. Distribution and habitat: mountain regions of Julfa and Ordubad Districts. Most commonly near the village of Surut (Julfa District). Open dry rocky areas as rule without vegetation or sometimes in open woodland with Juniper bushes. Distribution up to 1500m. Numbers: estimated at 150-250 pairs.

Family: Sittidae

Genus: *Sitta* (Linn, 1758)

Species: *Sitta tephronota* (Sharpe, 1872)

English Name: Persian (or Eastern Rock) Nuthatch

International Protection category: LC.

National Protection category: IV.2.

Occurs in restricted areas. Resident. Distribution and habitat: all rocky areas of Nakhchivan AR. As rule it occurs at elevations not less than 1,000 m and up to 2,000m. However, sometimes found at 500m - 700m. This species can in rare circumstances be found in forest borders and in areas with trees. Numbers: estimate 2-4 pairs per 2-3 km<sup>2</sup>. Total numbers estimated at 500-1,000 pairs.

#### 4. Conclusions

Thus, during our research in Nakhchivan AR we have established that 255 species occur and these belong to 18 orders, 51 families and 144 genera. Amongst them 11 species are very scant in occurrence and characteristic of the Nakhchivan AR region of Azerbaijan. Of these, 92 species are resident, 85 nesting, 38 over-winter, 26 are passage migrants and 15 summer visitors. The main threat to the avifauna of Nakhchivan AR is over grazing by domesticated animals and further development of infrastructure within the region.

#### 5. Reference

1. Animal World of Azerbaijan. Chief editor D.V. Hajiyev. Vertebrates. Baku: Elm, (In Rus.), 2000, 552-570.
2. Azerbaijan birds. Chief editor Elchin Sultanov. Baku: Avropa. (In Azerb.), 2005, 72.
3. Babayev SY. Geography of Nakhchivan Autonomous republic. Baku: Elm, (In Azerb.), 1999, 199.
4. Heinzel H, Filter R, Parslow J. The Birds of Britain and Europe with North Africa and the Middle East. London AP Poyster Ltd., 1986, 221.
5. IUCN IUCN Red List of Threatened Species, 2008. <[www.iucnredlist.org](http://www.iucnredlist.org)>.
6. Khanmammadov AI. Materials related to Nakhchivan ASSR avifauna. Proc. of Institute of Zoology of

- Azerbaijan Acad. Sci., (in Azerb.), 1960; 23:5-27.
7. Lars Jonsson. Birds of Europe with North Africa and the Middle East. London, Cristipher Helm, 1996, 559.
  8. Mammadov AF. Taxonomic spectrum of Nakhchivan Autonomous Republic avifauna. // News of Azerb. Nat. Acad. Sci., Biol. ser., Baku, Elm, (In Azerb.). 2006; 3(4):85-91
  9. Mammadov AF. Ornithofauna of Araz River along belt of Nakhchivan Autonomous Republic. News of Azerb. Na. Acad. Sci. Nakhchivan branch, Tusi, (In Azerb.). 2010; 2:173-179
  10. Musayev AM. The behaviour of caucasian Snbowcock in nesting period. In book: Applied enthomology. Moscow, (In Rus.). 1983; III:185-186,
  11. Mustafayev QT, Maharramova NA. Ornithology. Baku: Chashioglu, (In Azerb.). 2005, 444.
  12. Patrikeev M. Birds of Azerbaijan, Pensoft, Sofia-Moskva, 2004, 380.
  13. Satunin KA. Identification guide of the Mammals of Russian Empire. (Chiroptera, insectivors, Carnivora). Tiflis. (In Rus.). 1914, I.
  14. Sultanov EH, Kerimov TA, Mammadov. A.F. The results of investigation of cranes in Azerbaijan in beginning of XXI century. In book: The cranes of Eurasia (biology, distribution, migration, managing) Proc. of conf. "The cranes of Palearctic: biology, conservation, managing (In memory of academician P.S. Pallas, Volgograd, 11-16 October, Moscow, (In Rus.). 2011; 4:312-315,
  15. Sultanov EH, Kerimov TA, Mammadov AF, Samadov AS, Isayev Sh A, Jabrayilli GN. Imperial Eagle, Egyptian Vulture and Lesser kestrel in Azerbaijan. Nakhchivan: Tusi, (In Azerb.). 2011, 74.
  16. Sultanov EH, Kerimov TA, Talibov Sh T, Mammadov AF. Griffon Vulture in Azerbaijan. The birds of Caucasus: research, conservation and wise use. Proc. of sci.-appl. conf. In memory of 25-th anniversary of North-Caucasian ornithological Group, Stavropol, (in Rus.). 2007, 116-120.
  17. Sultanov Elchin, Sarukhanova Sevinj, Kerimov Tahir, Humbatova Sevinc, Mammadov Arzu, Cabbarova Aytekin *et al.* Important Birds Areas of Azerbaijan. Vol. I. Absheron-Qobustan, Kura-Araz Lowland, Nakhchivan. Baku: Azerbaijan ornithological Society, (In Azerb.). 2010, 138.
  18. Sultanov Elchin, Sarukhanova Sevinj, Kerimov Tahir, Humbatova Sevinj, Mammadov Arzu, Mirzayeva Sevinj, Jabrayilli Gunduz. Important Birds Areas of Azerbaijan. Vol. II. Greater Caucasus, Lesser Caucasus, South Region (Lankaran), Baku, Azerbaijan Ornithological Society, 2011, 144.
  19. Talibov TH. Rare animal species of Nakhchivan Autonomous Republic and conservation of its genofond (gene pool). Baku: Elm, (In Azerb.) 1999, 102.
  20. The Red Data book of Azerbaijan. Baku, Ministry of Ecology and Natural Resources. 2014, 700.
  21. Vereshagin NK. The Mammals of Caucasus (The history of Faunas formation). Moscow- Leningrad, Publishing of SSSR Acad. Sci. (In Rus.). 1959, 703.