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AUTECOLOGY AND MODERN STATUS OF SPECIES OF THE FAMILY Sylvidae, COMMON IN THE NAKHCHIVAN AUTONOMOUS REPUBLIC

©Novruzov H., ORCID: 0009-0003-1988-2146, Nakhchivan State University,
Nakhchivan, Azerbaijan, Husynn956@gmail.com

АУТЭКОЛОГИЯ И СОВРЕМЕННЫЙ СТАТУС ВИДОВ СЕМЕЙСТВА Sylvidae, РАСПРОСТРАНЕННЫХ В НАХЧЫВАНСКОЙ АВТОНОМНОЙ РЕСПУБЛИКЕ

©Новрузов Г., ORCID: 0009-0003-1988-2146, Нахчыванский государственный
университет, г. Нахчыван, Азербайджан, Husynn956@gmail.com

Abstract. Provides information on the bioecological characteristics and modern status of species belonging to the Sylvidae family distributed in the Nakhchivan Autonomous Republic. It was found from the research that 11 species belonging to 4 genera of the Sylviade family are found in Nakhchivan, all of which come to this area to breed and migrate in the fall after breeding. One of the main issues raised during the research was the study of the modern status of the Sylvidae. As in the whole world, the negative effects of anthropogenic factors in Nakhchivan have worsened the feeding and nesting conditions of these birds, leading to a significant decrease in their number dynamics.

Аннотация. Представлена информация о биоэкологических характеристиках и современном состоянии видов семейства Sylvidae, распространенных в Нахчыванской Автономной Республике. В результате исследований было выявлено, что в Нахчыване встречаются 11 видов, относящихся к 4 родам семейства Sylviade, все они прилетают на эту территорию для гнездования и осенью после гнездования мигрируют. Одним из основных вопросов, поднятых в ходе исследований, было изучение современного состояния Sylvidae. Как и во всем мире, негативное воздействие антропогенных факторов в Нахчыване ухудшило условия питания и гнездования этих птиц, что привело к значительному снижению динамики их численности.

Keywords: Sylvidae, insectivorous birds, fauna, Azerbaijan.

Ключевые слова: Sylvidae, насекомоядные птицы, фауна, Азербайджан.

The relief of the Nakhchivan Autonomous Republic, located in the southwest of the Lesser Caucasus, consists mainly of plains and mountainous areas, with an average altitude of 1,400 meters above sea level. The Araz river area, which covers a large part of the territory, is the lowest area of the Republic, with an average altitude of 800 meters above sea level, and the absolute altitude of 20 percent is 2,000 meters. The presence of low, medium and high mountain belts here also distinguishes it from other regions of Azerbaijan and has led to the formation of a unique relief and climate.

The Araz river area, which constitutes 32% of the Autonomous Republic, is rich in bushes and greenery, and therefore has favorable conditions for the survival and reproduction of a number of birds. The Autonomous Republic borders the Islamic Republic of Iran and the Republic of Turkey to the south and west, and the Republic of Armenia to the northeast. As can be seen, the

territory of Nakhchivan, surrounded by three states, consists of landscapes with various natural conditions that differ from each other in terms of climate, soil, vegetation cover and relief. The different conditions in each landscape have had a significant impact on the formation of its own ornithofauna. It should be noted that the Nakhchivan Autonomous Republic is completely different with its sharply continental climate.

The main factors that create the climate here are related to the abundance of solar radiation, the complexity of atmospheric circulation, and the diversity of the relief. Thus, being surrounded by the Zangezur and Daralayaz mountains from the east and north, neighboring the Armenian and Iranian plateaus, and being far from large water bodies have led to the creation of special climatic conditions, which have had an impact on the diversity of the fauna [9, 14].

Observations show that in the autumn, the number of birds in the Araz river area increases due to migratory birds and individuals making short movements from the mountain belts. In the winter, some of the passerines (mainly sedentary birds) that live in the middle and high mountainous zones make short movements to the Araz river area to feed. During this period, an increase in the species diversity of birds is also observed. Despite this, the density of birds in the plain is lower than during the breeding and migration periods [10, 11].

Based on observations and ornithological studies conducted in various regions of the territory, it can be said that the main mass of sparrows associated with trees and shrubs settle in the green areas, cultivated fields and gardens along the Araz river. Although we conducted research on the ornithofauna of Nakhchivan 40 years ago, considering the serious changes taking place in nature and the negative impact of anthropogenic factors on the living conditions of all living things, it was considered appropriate to conduct inspection-type research.

Research material and methodology

Research work was carried out in the Araz river area and foothill zones of the Nakhchivan Autonomous Republic during 2023-2024. Young orchards recently established in these areas and suitable for the habitat of fruit eaters were used as the research object. Using birds belonging to the Sylvidae family as research material, their species composition and current status were studied.

Discussion and results of the study

In 2023-2024, research was conducted on the passerine family of the passerine order, and their current status and species composition were clarified. It was found that, although the species composition of passerines remained stable (11 species) compared to previous years, fundamental changes in the dynamics of numbers have occurred towards a decrease. The main reason for this is the decrease in food objects and deterioration of nesting conditions for these birds due to the influence of anthropogenic factors. Recently, gardens have been established in large areas considered suitable for the habitat of birds in the Araz plain and foothill regions of the autonomous republic, and it is assumed that these birds will grow and reproduce intensively in these areas. However, the expected result did not occur. Later studies revealed that periodic spraying of young orchards leads to the destruction of insects that form the food of these birds, as a result of which 20-30% of the chicks die of starvation while in the nest, as the parent birds are unable to provide their hatched chicks with normal food.

Looking at the list, it becomes clear that 11 species belonging to 4 genera of the family of nightingales are widespread in Nakhchivan. As a result of my long-term autecological research on these birds, the following information was obtained [1, 12].

Table 1

SPECIES COMPOSITION OF BIRDS BELONGING TO THE FAMILY OF FRUIT EATERS

Genus	Species
1. Cettia Bonap., 1834	1. Cettia cetti Temm., 1820
2. Acrocephalus Naumi., 1811	2. Acrocephalus arundinaceus Linn., 1758
	3. Acrocephalus melanopogon Temm., 1820
3. Hippolais Bal., 1727	4. Hippolais pallida Hemp., 1833
4. Sylvia Scopoli., 1769	5. Sylvia nisoria Bechat., 1795
	6. Sylvia hortensis Qm., 1789
	7. Sylvia atricapilla Linn., 1758
	8. Sylvia borin Bodd., 1783
	9. Sylvia communis Lat., 1787
	10. Sylvia curruca Linn., 1758
	11. Sylvia mystacea Men., 1832

1. Broad-tailed Nightingale — *Cettia cetti* Temm., 1820.

A polymorphic species. The Nakhchivan fauna includes the subspecies *cettia cetti orientalis*. Its range is Western Europe, Africa and Transcaucasia. They migrate to India in winter. They can be considered a nesting bird in Nakhchivan. In the territory of the Autonomous Republic, this bird is found around mountain rivers in the second half of April. They especially settle in areas rich in tall grasses and shrubs [8, 16].

2. Reed Warbler — *Acrocephalus arundinaceus* Linn., 1758.

A polymorphic species. The Nakhchivan fauna includes a nominal subspecies. Its range is located in Asia Minor, Iran and Mongolia. It can be considered a nesting bird in Nakhchivan. It is observed during the breeding season.

Birds arriving in April settle near reed-covered water bodies up to 2000 meters above sea level in the Autonomous Republic. They are especially numerous in the Araz-bearing plain. In May, they build nests among the reeds and lay eggs. In July, it is possible to see chicks of this bird flying out of the nest. The grown chicks migrate with the adults in September.

3. Narrow-billed Reed Warbler — *Acrocephalus melanopogon* Temm., 1820.

A polymorphic species. The Nakhchivan fauna includes the subspecies *A.m. mimica*. The range is Europe, Egypt, Palestine and Iraq. It can be considered a nesting bird in Nakhchivan. It is observed only during the breeding season. These birds arrive in the territory of the Autonomous Republic in early April and settle in the reed thickets on the Araz-bound plains. They build nests among the reeds in May and breed. In August, they migrate with their young [5, 12].

4. Large-billed grebe — *Hippolais pallida* Hemp., 1833.

The Nakhchivan fauna includes the subspecies *Hippolais pallida elaeica*. Its range is located in the Balkan Peninsula, Central Asia, North Africa and Transcaucasia. It migrates to East Africa in winter. It can be considered a nesting bird in Nakhchivan. Because it is observed during the breeding season.

It is widespread in the Aran zone of the Autonomous Republic. Birds arriving at the end of April settle in bushes and gardens. They build nests on bushes in May and breed. After breeding, they migrate in the second half of August [4, 15].

5. *Sylvia nisoria* Bechat., 1795.

The fauna of Nakhchivan includes the nominal subspecies. Its range is located in Western Europe, Iran, Central Asia, China and Mongolia. It migrates to Eastern Europe in winter. It can be considered a nesting bird in Nakhchivan. Because it is observed only during the breeding season.

The birds that come to the area in April settle in the bushes in the Arazboyu plain. The nest they build on the bushes in May is located approximately 1-2 meters above the ground. The diameter of the nest of the *Sylvia nisoria* hawk we found in the Julfa plain on June 16, 2023 was 14 cm, and there were 2 dirty, whitish eggs with gray spots on them. It is possible that these birds are breeding in the area for the second time [3, 6].

6. Reading Warbler — *Sylvia hortensis* Qm., 1789.

A polymorphic species. The Nakhchivan fauna includes the subspecies *Sylvia hortensis* *grassirostris*. Its range extends to Western Europe and North-West Africa. It migrates to India and the Arabian Peninsula in winter. It can be considered a nesting bird in Nakhchivan. Because it is observed every year during the breeding season.

Birds that arrive in spring spread in the mountainous zone up to 2000 meters in altitude. They are often observed on mountain slopes. After breeding, they descend to the meadows with their young birds. However, they do not stay in the meadows for long and migrate after 5-10 days.

7. Black-headed Warbler — *Sylvia atricapilla* Linn., 1758.

A polymorphic species. The Nakhchivan fauna includes the subspecies *Sylvia atricapilla* *dammohizi*. Its range is located in Europe, North-West Africa and Transcaucasia. It migrates to the southern regions of Africa in winter. It can be considered a nesting bird in Nakhchivan. Because it is observed only during the breeding season. Birds that migrate in April spread to the lowland and foothill zones of the Autonomous Republic and make their home in bushes, gardens and forests. In early May, they build nests on bushes and trees and breed. Some individuals breed twice a year. On June 2, 2024, we observed a black-headed warbler laying eggs near the village of Tunbul. The nest was located on a small cherry tree. There were 4 greenish eggs with yellowish-brown spots inside. The nest was 1.6 meters high from the ground, had an outer diameter of 12.7 cm, an inner diameter of 6.8 cm, and a depth of 7.2 cm. The floor of the nest consisted of wool, feathers, and the remains of delicate grasses. I studied the postembryonic development of the four hatched chicks by periodically observing their nest and measuring their weight, beak, claw, rump, and tail feathers every day [7].

Table 2

POSTEMBRYONIC DEVELOPMENT
OF THE BLACK-HEADED SYLVAN (AVERAGE OF 4 BROODS)

Mass in gr	Beak in mm	Claw barrel mm	Wing in mm	3rd flight feathers in mm	Outer rudder feathers in mm
1,9	6,5	6,7	7,2	0,0	0,0
2,8	6,7	7,2	8,9	0,0	0,0
4,2	7,6	8,6	10,2	1,5	0,0
4,9	8,9	12,4	12,6	3,8	0,0
5,7	9,5	12,8	15,4	6,7	1,2
6,8	10,6	14,5	19,2	10,8	2,8
7,8	11,2	18,8	22,5	16,4	3,7
9,2	11,7	19,7	28,6	20,2	5,2
10,6	12,0	20,2	31,4	22,6	8,6
11,8	12,3	21,4	36,2	25,7	10,2
12,4	12,8	21,5	41,2	31,6	14,2
13,2	13,2	21,6	45,7	32,4	15,6

After breeding, they migrate in September.

8. Garden Warbler — *Sylvia borin* Bodd., 1783

The general color is olive-gray. The belly is light colored. The nominal subspecies is included in the Nakhchivan fauna. Its range is located in Europe. It migrates to South Africa in the winter. It is considered a nesting bird in Nakhchivan. Because reproduction is observed.

The birds that arrive in April spread to the gardens and forests of the Autonomous Republic. After the nesting has developed, some of them move to the bushes along the river banks. In May, they build grass stems and eggs and lay eggs and reproduce. They migrate at the end of August [2].

9. Gray Warbler — *Sylvia communis* Latham., 1787.

The back, wings and tail are brown-brown, the neck and top of the head are brown, the belly is pinkish-white, the throat is completely white.

The Nakhchivan fauna includes the subspecies *Sylvia communis icterops*. Its range is located in Western Europe, Asia Minor, Iran and Pakistan. It migrates to Southwest Asia and Africa in winter. It comes to Nakhchivan to breed. It settles in the meadows, foothills and middle mountain belts. It nests wherever there are shrubs and young trees. However, they stay away from dense forests.

The birds that arrive in the area in April ascend to the mountain forests of Nakhchivan and in May build nests on various shrubs and breed. On June 12, 2024, while observing in the Shahbuz region, we witnessed a gray jay feeding its chicks. During the autumn migration, these birds temporarily descend to the Araz-boi plain and migrate after a few days [13].

10. *Sylvia curruca* Linn., 1758.

The general color is brownish-gray. The male has a "cap" on his head, while the female and young have a reddish-brown head. Its range is located in Europe, Asia and North-West Africa. It migrates to Africa and India for wintering. It is widespread in the lowland and foothill zones of Azerbaijan. Birds arriving in Nakhchivan in April settle on the edge of the forest, in the protective forest strip in the bushes and in the bushes. In May, they build nests on the bushes and breed. At the end of May, their fledglings can often be found. In August, their numbers increase relatively in the Araz-river plain. Birds arriving in early April migrate in September-October [3].

11. Agbigh pheasant — *Sylvia mystacea* Menetr., 1832.

The fauna of Nakhchivan includes the nominal subspecies. Its range is located in Asia Minor, Iran, Iraq and Afghanistan. In winter, it migrates to the west of the Arabian Peninsula. It can be considered a nesting bird in Nakhchivan. It is observed only during the breeding season. The birds that arrive at the end of March are located in the bushes and greenery in the lowland zone of the area. They nest and breed in late April. After breeding, they migrate at the end of August.

Conclusion

Research conducted on the Sylvidae family of the passeriformes order in 2023-2024 revealed that there were no changes in their species composition compared to previous years. All 11 species included in this family are birds that nest in Nakhchivan, arriving in early spring, breeding, and migrating in autumn. When examining the current status of the black-headed warbler in Nakhchivan, it was found that serious changes have occurred in the dynamics of the number of these birds towards a decrease, which is due to the indirect impact of the anthropogenic landscape on all living things.

During the course of the research work, the study of the postembryonic development of the black-headed warbler (*Sylvia atricapilla*) for the first time in Nakhchivan is of great ornithological importance.

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