



RESEARCH ARTICLE

Open Access

A study on wildlife diversity in Kemerköprü village (Arhavi, Artvin) and its surroundings

Kemerköprü köyü (Arhavi, Artvin) ve çevresinde yaban hayatı çeşitliliği üzerine bir araştırma

Perinçek Seçkinozan ŞEKER^a

^aDepartment of Forestry, Hunting and Wildlife Program, Artvin Vocational School, Artvin Çoruh University, 08000, Artvin, Türkiye

Article Info

©2023 Ali Nihat Gökyiğit Botanical Garden Application and Research Center of Artvin Coruh University.

*Corresponding author:

e-mail: seckinperincek@artvin.edu.tr

ORCID: 0000-0002-6103-4840

Article history

Received: Dec 15, 2023

Received in revised form: Dec 20, 2023

Accepted: Dec 21, 2023

Available online: Dec 31, 2023



This is an Open Access article under the CC BY NC ND license (<http://creativecommons.org/licenses/by/4.0/>).

Keywords: Biodiversity, Conservation, Kemerköprü village, Türkiye, Wildlife

Anahtar Kelimeler: Biyolojik çeşitlilik, Kemerköprü Köyü, Koruma, Yaban hayatı, Türkiye

ABSTRACT

Kemerköprü village (Arhavi, Artvin) is located within the borders of the Caucasus hot spot with a rich biodiversity. Within the scope of this study, it was aimed to determine the wildlife species found in Kemerköprü village and its surroundings and the current conservation status of these species. In the research area, direct (point observation, camera trap, taking photographs) and indirect (footprint detection) observation methods were used to determine wildlife diversity. In addition, distribution records in the literature and interviews with local people were used to identify the species. As a result of the study, it was determined that a total of 12 small and large mammal species belonging to eight families from four mammal orders and 11 different bird species belonging to 11 families from five orders were distributed in the area. The current conservation status of the identified species at national and international levels (IUCN, BERN, CITES, and MAKK 2023) was listed. This study, which aims to determine the wildlife species found in Kemerköprü village and its surroundings and their conservation status, is important in terms of contributing to the documentation, sustainability, and protection of our country's wildlife diversity.

Öz

Kemerköprü Köyü (Arhavi, Artvin), zengin biyolojik çeşitliliğe sahip Kafkasya sıcak noktası sınırları içerisinde yer almaktadır. Bu çalışma kapsamında Kemerköprü Köyü ve çevresinde bulunan yaban hayatı türlerinin ve bu türlerin mevcut koruma durumlarının belirlenmesi amaçlandı. Araştırma alanında yaban hayatı çeşitliliğinin belirlenmesi amacıyla doğrudan (nokta gözlem, kamera kapanı, fotoğraf çekme) ve dolaylı gözlem (ayak izi tespiti) yöntemleri kullanılmıştır. Ayrıca türün tespitinde literatürdeki yayılış kayıtlarından ve yerel halkla yapılan görüşmelerden yararlanılmıştır. Çalışma sonucunda alanda 4 memeli takımından 8 familyaya ait toplam 12 küçük ve büyük memeli türünün ve 5 takımdan 11 familyaya ait 11 farklı kuş türünün yayılış gösterdiği belirlendi. Tespit edilen türlerin ulusal ve uluslararası düzeyde (IUCN, BERN, CITES ve MAKK 2023) mevcut koruma durumları listelendi. Kemerköprü Köyü ve çevresinde bulunan yaban hayatı türlerinin ve koruma durumlarının belirlenmesini amaçlayan bu çalışma, ülkemiz yaban hayatı çeşitliliğinin belgelenmesine, sürdürülebilirliğine ve korunmasına katkı sağlaması açısından önemlidir.

Citation:

To cite this article: Şeker PS (2023). A study on wildlife diversity in Kemerköprü village (Arhavi, Artvin) and its surroundings. *Turk J Biod* 6(2): 97-102. <https://doi.org/10.38059/biodiversity.1405561>

1. INTRODUCTION

Kemerköprü village is in the Arhavi district of Artvin Province, which is ecologically located within the Caucasus hot spot. It borders Konaklı village in the north,

Kavak village in the west, Dereüstü village in the south, and Güneşli village in the east. It is in the form of a peninsula surrounded by the Orç stream in the east and

the Sidere stream in the north. These two streams unite in the west of the village and form the Kapisre stream. There are mixed forests consisting of dense trees, thorns, and bushes in the northeast and east of the village. Most of the agricultural activities of the village consist of tea and, to a lesser extent, hazelnut, corn, kiwi, lemon, and tangerine cultivation. In addition, vegetable and fruit cultivation and beekeeping activities are also carried out in the village to meet daily and seasonal needs. The location of the village is intertwined with the natural environment and creates a natural ecosystem with rich wildlife around it.

The existence of humans, plants, and microorganisms, as well as the existence of wildlife in natural ecosystems, constitute biotic elements, which are the basic components of the ecosystem (Odum & Barret, 2008). Wildlife is defined as the life that biotic elements in the ecosystem lead spontaneously in nature, without human intervention. Although its scope includes living groups such as plants, fish, amphibians, and reptiles, when wildlife is mentioned, mostly birds and mammals in a region come to mind (Oğurlu, 2004). The species diversity observed in wildlife in any ecosystem is an important indicator that the functioning of that ecosystem is healthy and that it will be a sustainable ecosystem (Süel et al., 2018). Therefore, to maintain and ensure the sustainability of this balance in the functioning of ecosystems, it is important to identify wildlife elements, conduct ecological monitoring, protect habitats, and create management plans for these purposes. In addition, taking an inventory of wildlife elements in a certain area is important in terms of creating an infrastructure for future studies in terms of documenting and protecting the biological diversity in our country. In addition, our country frequently faces problems regarding the detection and protection of biodiversity and wildlife areas due to the limited number of wildlife inventory studies (Şekercioglu et al., 2011).

For the previously mentioned reasons, the purpose of this study was to document the diversity of wildlife in the area by identifying the mammals and birds that make up the local wildlife in Kemerköprü village and its surroundings, as well as their current state of conservation, through in-person field observations and interviews with the locals. Thus, it will contribute to the documentation, sustainability, and protection of our

country's biological diversity at the level of species diversity.

2. MATERIALS AND METHODS

Kemerköprü village, which is the study area, is located within the borders of Arhavi District of Artvin Province (Figure 1). Within the scope of the study, direct (point observation, camera trap, taking photographs) and indirect (footprint detection) observations were made during the field studies carried out to determine the mammal and bird species living in Kemerköprü village. Also, interviews were conducted with the villagers, and the distribution records of the mammal and bird species in the literature were examined as well. Materials such as cameras, camera traps, and species identification books were used in direct observations. Camera traps were set up at points where traces and droppings of wild animals were more concentrated. In indirect observations, species were identified from traces such as footprints of mammals living in the area. The detected species are listed in IUCN (The International Union for Conservation of Nature), BERN (Convention on the Conservation of European Wildlife and Natural Habitats), CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora), and MAKK (2023) (Their protection status is listed according to the Central Hunting Commission Decisions).



Figure 1. The map showing study area, Kemerköprü village, and its surroundings

3. RESULTS

According to the observations obtained from the field studies, literature, and survey results, among the approximately 170 mammal species reported to live in Türkiye in the Kemerköprü village (Arhavi, Artvin), which is the study area; a total of 12 small and large mammal species belonging to eight families from four orders were

found. This number constituted approximately 7.05% of mammals living in Türkiye. In addition, information on the scientific and Turkish names of the mammal species,

their protection, and hunting status within the scope of IUCN, BERN, CITES, and MAKK (2023) were given in Table 1.

Table 1. Mammal species recorded from Kemerköprü village and their conservation status

Order and Familia	Species	Common Name	Detection Method	BERN	CITES	IUCN	MAKK
Eulipotyphla/Soricidae	<i>Crocidura suaveolens</i>	Lesser white-toothed shrew	I. + L.	L.D.	L.D.	LC	L.D.
Eulipotyphla/ Talpidae	<i>Talpa caucasica</i>	Caucasian mole	I. + L.	L.D.	L.D.	LC	L.D.
Rodentia/Muridae	<i>Rattus rattus</i>	Black rat	I. + L.	L.D.	L.D.	LC	L.D.
Rodentia/Muridae	<i>Rattus norvegicus</i>	Brown rat	I. + L.	L.D.	L.D.	LC	L.D.
Rodentia/Muridae	<i>Apodemus flavicollis</i>	Yellow-necked field mouse	F.O. + L.	L.D.	L.D.	LC	L.D.
Rodentia/Muridae	<i>Mus domesticus</i>	House mouse	I. + L.	L.D.	L.D.	LC	L.D.
Carnivora/Mustelidae	<i>Mustela nivalis</i>	Least weasel	I. + L.	EK-3	L.D.	LC	EK-1
Carnivora/Mustelidae	<i>Martes foina</i>	Beech marten	I. + L.	EK-3	EK-3	LC	EK-1
Carnivora/Canidae	<i>Canis aureus</i>	Golden jackal	F.O.	L.D.	EK-3	LC	EK-2
Carnivora/Ursidae	<i>Ursus arctos</i>	Brown bear	I. + L.	L.D.	EK-1, 2	LC	L.D.
Artiodactyla/Suidae	<i>Sus scrofa</i>	Wild boar	F.O.	L.D.	L.D.	LC	EK-2
Artiodactyla/Cervidae	<i>Capreolus capreolus</i>	Roe deer	F.O.	L.D.	L.D.	LC	L.D.

*I.: Interview, F.O.+L: Field Observation and Literature, L.D.: Unlisted, LC; Least Concern

According to IUCN data, all these species were in in the category of least concern (LC- Least Concern). According to the BERN convention, two species were listed in Additional List 3, while according to the CITES agreement, two species were included in Additional List 3, and one species was listed both in Additional List 1 and in Additional List 2. According to MAKK (2023), two of the detected species were included in Additional List 1, and two of them were included in Additional List 2. In addition, it was observed that there was a total of 11 different bird species belonging to 11 families from five orders in the study area. This figure represented a rate of 2.2% for approximately 500 different bird species seen

in our country. Information on the scientific and Turkish names of the bird species, their protection, and hunting status within the scope of IUCN, BERN, CITES, and MAKK (2023) were given in Table 2. According to the BERN convention, nine species were listed in Additional List 2 and two of them were out of the list. However, according to the CITES agreement, one species was included in Additional List 2, one species was included in Additional List 2, two species were listed in Additional List 3, and the remaining species are unlisted. According to MAKK (2023), two of the detected species were included in Additional List 1, and one of them was included in Additional List 2.

Table 2. Bird species recorded from Kemerköprü village and their conservation status

Order and Familia	Species	Common Name	Detection Method	BERN	CITES	IUCN	MAKK
Accipitriformes/Accipitridae	<i>Accipiter nisus</i>	Eurasian sparrowhawk	F.O.+ L	EK-2	EK-2	LC	L.D.
Falconiformes/Falconidae	<i>Falco peregrinus</i>	Peregrine falcon	F.O.+ L	EK-2	EK-1	LC	L.D.
Coraciiformes/Upupidae	<i>Upupa epops</i>	Eurasian hoopoe	F.O.+ L	EK-2	L.D.	LC	L.D.
Coraciiformes/Meropidae	<i>Merops apiaster</i>	European bee-eater	F.O.+ L	EK-2	L.D.	LC	L.D.
Passeriformes/Laniidae	<i>Lanius collurio</i>	Red-backed shrike	F.O.+ L	EK-2	L.D.	LC	EK-1
Passeriformes/Sylviidae	<i>Phylloscopus collybita</i>	Common chiffchaff	F.O.+ L	EK-2	L.D.	LC	L.D.
Passeriformes/Motacillidae	<i>Motacilla alba</i>	White wagtail	F.O.+ L	EK-2	L.D.	LC	L.D.
Passeriformes/Hirundinidae	<i>Delichon urbicum</i>	Common house martin	F.O.+ L	EK-2	L.D.	LC	L.D.
Passeriformes/Muscicapidae	<i>Erithacus rubecula</i>	European robin	F.O.+ L	EK-2	EK-3	LC	L.D.
Passeriformes/Turdidae	<i>Turdus merula</i>	Common blackbird	F.O.+ L	L.D.	EK-3	LC	EK-2
Charadriiformes/Laridae	<i>Larus michahellis</i>	Yellow-legged gull	F.O.+ L	L.D.	L.D.	LC	EK-1

* F.O.+L: Field Observation and Literature, L.D.: Unlisted, LC; Least Concern

During field observations, some carnivorous and large even-toed mammal species such as *Canis aureus*, *Capreolus capreolus*, and *Sus scrofa* were detected using camera traps. Additionally, an individual belonging to *Apodemus flavicollis*, known as the yellow-necked forest mouse from the Muridae family, was caught by using a live trap. Bird species such as *Accipiter nisus*, *Upupa*

epops, *Lanius collurio*, *Phylloscopus collybita* were identified by taking photographs, and other species were identified by direct observation. At the same time, the existence of species such as *C. aureus* and *S. scrofa* was indirectly proven by the detection of their footprints. The other remaining species on the lists were determined through literature review and interviews (Figure 2 and 3).

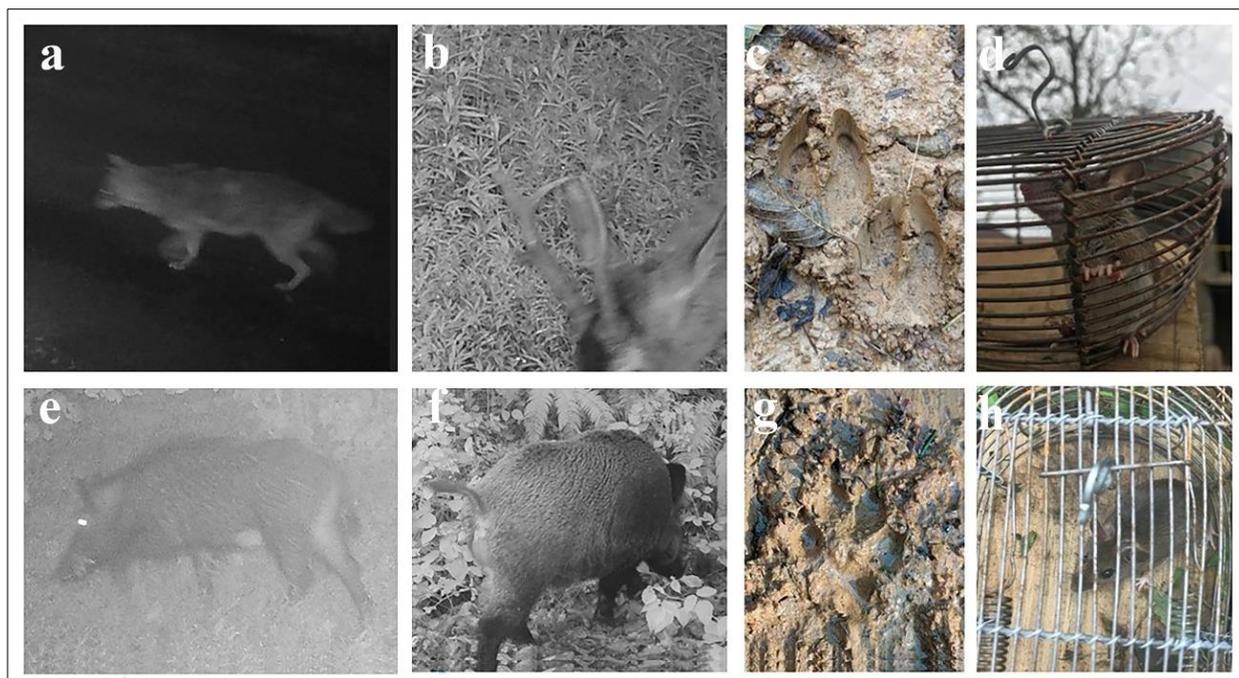


Figure 2. Mammal species detected in the study area through camera traps, live traps, and footprints. *C. aureus* (a, g), horn and partial head of *C. capreolus* (b), *S. scrofa* (c, e, and f), and *A. flavicollis* (d, h)

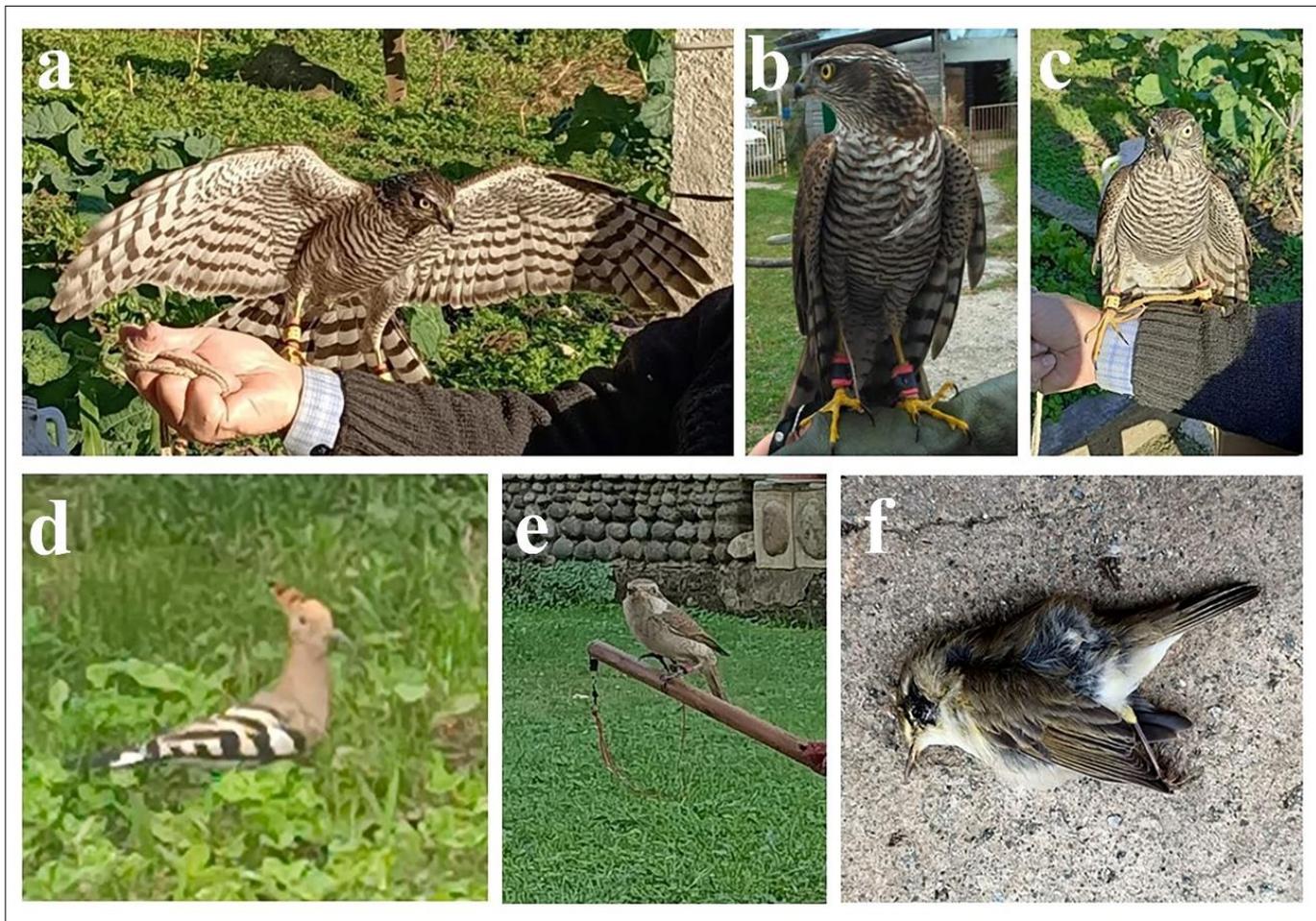


Figure 3. Bird species detected in the study area through direct observations. *A. nisus* (a, b, and c), *U. epops* (d), *L. collurio* (e), and *P. collybita* (f)

4. DISCUSSION

Kemerköprü village is located within the Caucasus Ecological Region. The Caucasus Ecological Region is one of 34 biodiversity hotspots in the world. Biodiversity hotspot: It is defined as areas that are under human threat, where biodiversity has begun to decline and will likely be lost in the future. Within the scope of this study, the diversity of wildlife in Kemerköprü village and its surroundings, located within the borders of Arhavi District of Artvin Province, within the Caucasus Ecological Region, was tried to be determined by especially direct and indirect observation methods. Also, interviews with the local people and literature data were considered. Thus, it was aimed to contribute to the documentation of our country's biological richness and to create a basis for future studies aimed at protecting the wildlife species

that survive in the area on a global scale. Accordingly, it was determined that a total of 12 species from eight families belonging to four different mammal orders and 11 species from 11 families belonging to five different bird orders lived in the area. These figures correspond to approximately 7.05% of mammal species and 2.2% of bird species living in Türkiye (Demirsoy, 1996; Kryštufek & Vohralík, 2001; 2005; 2009; Bacak et al., 2023). These rates show how rich Kemerköprü village and its surroundings are in terms of wildlife.

Data obtained from field observations in Kemerköprü village, and its surroundings have shown that there is rich wildlife in the area. Many of these species are nationally and internationally protected or in need of protection. The diversity of wildlife in the area shows that the habitats found in the area are also preserved. It is

thought that ecotourism activities have just started in Kemerköprü village and its surroundings, it is intensively used for activities such as traditional sparrowhawking, hunting, and the hydroelectric power plant located near the village may be activities that negatively affect wildlife. Considering the data obtained from this study, it

is recommended that the area, which is thought to have a good level of wildlife diversity, should be minimized for the sustainability and protection of this richness and human-induced impacts and activities. Also, these activities should be controlled in a way that does not lead to habitat degradation.

ACKNOWLEDGMENTS

I would like to thank the people of Kemerköprü village, whose information was consulted during the field studies.

REFERENCES

- Bacak E, Karataş A, Erciyas Yavuz K, Yavuz N, Ünlü M, Necipoğlu Ö, Kahraman V, Salman M, Özkoç ÖÜ, Kulaçoğlu KC, et al., (2021). Türkiye'nin Kuşları. Türkiye İş Bankası Kültür Yayınları, İstanbul.
- Demirsoy A (1996). Türkiye Omurgalıları, Türkiye Omurgalı Faunasının Sistemik ve Biyolojik Özelliklerinin Araştırılması ve Koruma Önlemlerinin Saptanması; Memeliler. Meteksan, Ankara.
- Kryštufek B, Vohralík V (2001). Mammals of Turkey and Cyprus, Introduction, checklist, Insectivora. Znanstveno-raziskovalno središče Republike Slovenije, Koper, Slovenia.

- Kryštufek B, Vohralík V (2005). Mammals of Turkey and Cyprus Rodentia I: Sciuridae, Dipodidae, Gliridae, Arvicolinae. Ljubljana: Založba Annales, Koper, Slovenia.
- Kryštufek B, Vohralík V (2009). Mammals of Turkey and Cyprus Rodentia II: Cricetinae, Muridae, Spalacidae, Calomyscidae, Capromyidae, Hystricidae, Castoridae. Založba Annales, Koper, Slovenia.
- Odum E, Odum EP, Barrett GW (2008) Işık. çeviren K. Ekolojinin Temel İlkeleri. Palme Yayıncılık, Ankara.
- Oğurlu İ. 2004. Ormancılıkta Yaban Hayatı Ders Notları. Isparta.
- Süel H, Yalçınkaya B, Mert A (2018). Bazı Memeli yaban hayvanlarının gösterge tür analizi; Ağlasun örneği. *Türkiye Ormancılık Dergisi* 19(2): 170-175.
- Şekercioğlu ÇH, Anderson S, Akçay E, Bilgin R, Can OE, Semiz G, Tavşanoğlu Ç, Yokeş MB, Soyumert A, İpekdal K et al., (2011). Turkey's globally important biodiversity in crisis. *Biological Conservation* 144: 2752–2769.