Turkish Journal of Biodiversity

Turk J Biod, Dec 2018, 1(1): 1-10

Journal homepage: http://turkbiod.artvin.edu.tr/
http://dergipark.gov.tr/biodiversity

E-ISSN:2667-4386

RESEARCH ARTICLE

Open Access

Contributions to the fauna of Kılıçkaya (Yusufeli, Artvin, Turkey)

Kılıçkaya (Yusufeli, Artvin, Turkey) faunasına katkılar

Temel GÖKTÜRK

Department of Forest Engineering, Faculty of Forestry, Artvin Coruh University, 08000, Artvin Turkey.

Article Info

Corresponding author:
e-mail:temel.gokturk@artvin.edu.tr
ORCID: 0000-0003-4064-4225

Article history

Received: December 20, 2018
Received in revised form: December 29, 2018
Accepted: December 30, 2018
Available online: December 30, 2018

Citation

To cite this article: Göktürk T (2018). Contributions to the fauna of Kılıçkaya (Yusufeli, Artvin, Turkey). *Turk J Biod* 1(1): 1-10

Keywords:
Artvin, Fauna, Animal diversity, Kılıçkaya, Yusufeli, Turkey.
Anahtar kelimeler:
Artvin, Fauna, Hayvan çeşitliliği, Kılıçkaya, Yusufeli, Türkiye.

ABSTRACT

This study was carried out between 2016 and 2017 (spring, summer and autumn months) in order to determine the fauna of Kılıckaya village and its surroundings in the Yusufeli district in the northeast of Artvin province in the Eastern Black Sea Region. Kılıçkaya and the surrounding area; A total of 114 animal species were identified including 18 mammals, 25 birds, 2 reptiles, 2 amphibians and 67 invertebrates. No endemic fauna species were found in Kılıçkaya and its environs. The threat categories of 47 taxa were evaluated according to the IUCN threat category. The distributions of the identified species by IUCN threat category are 1 NT, 14 VU, 32 LC. 36 species observed in the study area are subject to Bern Convention.

ÖZ

Bu çalışma, Doğu Karadeniz Bölgesi'nde yer alan Artvin ilinin kuzeydoğusundaki Yusufeli ilçe sınırları içinde bulunan Kılıckaya köyü ve çevresinin faunasını belirlemek amacıyla 2016-2017 yılları (ilkbahar, yaz ve sonbahar ayları) arasında yapılmıştır. Kılıçkaya ve çevresinde; 18 Memeli, 25 Kuş, 2 Sürüngen, 2 Amfibi ve 67 Omurgasız (Böcek) olmak üzere toplam 114 hayvan türü tespit edilmiştir. Kılıçkaya ve çevresinde endemik fauna türü bulunamamıştır. IUCN tehlike kategorilerine göre 47 taksonun tehlike durumu değerlendirilmiştir. Tespit edilen türlerden tehlike kategorilerine göre dağılımı 1 NT, 14 VU, 32 LC şeklindedir. Çalışma alanında gözlemlenen 36 tür Bern sözleşmesine tabidir.

1. INTRODUCTION

Natural resources of a region or country are indispensable for human life. Biodiversity refers to the diversity of life styles: different plants, animals and microorganisms enrich the region and form ecosystems (Salwasser, 1990; Langner, 1994).

Turkey to take part in the Asian and European continents; has caused various ecological conditions, various geological formations and different climates. These differences create a very rich biodiversity (Benda & Horacek, 1998; Demirsoy et al., 1996; Kence et al., 1996; Yigit et al., 2002).

Agriculture, forests, mountains, prairie, wetlands, coastal and marine ecosystems and different forms of these ecosystems are located in Turkey (Atalay, 1994; Kaya & Raynal, 2001). Its diverse habitat types, ranging from coastal to Alpine, contribute to the rich biological diversity of the country (Arancli, 2002). Biodiversity sources include several agricultural species, forest

species, medicinal and aromatic plants, animal species and migratory birds (Arancli, 2002). According to the latest data; 460 bird, 161 mammal, 141 reptile species are known to live in Turkey (Demirsoy et al., 2005; Demirayak, 2002). The number of beetle species identified in Turkey is about 30,000, but the number is estimated between 60,000 and 80,000 (Anonymous, 2014).

Anatolia is one of the rare places in the world in terms of its geological history and ecological characteristics. It has been the genetic center for many species both in the area of shelter and in geological periods. It is regarded as one of the most exceptional places in terms of biodiversity due to its unique location in the periphery of three continents (Kislalioglu & Berkes, 1987; Kurtonur et al., 1996).

Artvin is one of the most prominent cities in the Eastern Black Sea Region. In the studies conducted in Artvin so far; 55 mammal, 216 bird, 309 insect species were also determined in the presence (Gokturk, 2009; Gokturk et al., 2009; Gokturk, 2011; Gokturk et al., 2011).

This study aimed at determining the faunistic content of Kılıçkaya and surroundings, which are within the Yusufeli district limits of the province Artvin, Northeast of the Eastern Black Sea Region, between 2016 and 2017.

2. MATERIAL AND METHOD

Kılıçkaya is district of Artvin Province in the Black Sea region of Turkey (Figure, 1). It is located 104 km south-west of the city of Artvin (Anonymous, 2018a). The research area under review takes place in Colchic province of Euro-Siberian floristic area of Holarctic region and is found in the A9 square according to grid system of Davis. The study area lies between 520 and 3202 m elevation above the sea level.

Firstly a literature review was conducted to identify the species that could be found Kılıçkaya and surroundings. A list of the publications of the researchers in the Eastern Black Sea Region and the species that can be found in the region has been tried to be established. The existing species have been tried to be determined at every 15 days by visiting and scanning the study area. By making observations in the region, the animals were determined according to the flora structure (Table, 1). Only the diversity of fauna that could exist and exist in Kılıçkaya and its surroundings was taken into consideration. In the meantime, the information we have obtained in the past years, the information gathered by contacting the local people and the EIA report prepared by DSI (State Hydraulic Works) in the scope of the Yusufeli Dam were also taken into consideration (Anonymous, 2018b).

Figure 1. The Fauna Existence Study Area

Periodically by visiting the study area and observing the area, animal species living in the region were determined. Also in the study there is a variety of fauna and is mentioned. According to the IUCN (2018) categories, with their relative abundance, population trends and distribution area are given in Tab 2, 3, 4, 5, 6. The tables of identified animal species were formed according to the Continental Fauna Table and attempted to be assessed.

The works of Corbet (1978) and Wilson and Reeder (1993) have been used for systematic classification of the species identified in the study areas. Turkish names of the species, on the other hand, were taken from Mitchell-Jones et al. (1999) and Kızıroğlu (1989).

3. RESULTS

By field studies, information gathered from the 45 local people and studies implemented previously on the field, it has been established that it is possible for 18 Mammals, 25 Birds, 2 Reptiles, 2 Amphibians, and 67 Invertebrates (Insects) of a total of 114 animal species were identified on Kılıçkaya and its surroundings. The Turkish names, protection and threat status according to national and international criteria, and habitats and habitat functions of the species identified in the study area are summarized in Tables.

Table 1. National and international key to terrestrial fauna

KEY TO TERRESTRIAL FAUNA TABLES (NATIONAL CONCERN)

T.S. (A.D.)

THREAT STATUS (according to Demirsoy et al., 2005)

E : Endangered	**Nt:** Widespread, abundant
Ex : Extinct	**O:** Out of danger
I : Indeterminate	**R:** Rare
K : Insufficient known	**V:** Vulnerable

Status in Turkey (Turan, 1990; Kirizoglu, 2000)
(only for birds)

Y: Non-migratory species
YG : Species that migrate in the summer
KG: Species that migrate in the winter
G : Migratory species
N : Rare species

HABİTAT FUNCTION

B: Breeding
F: Feeding
N: Nesting
T: Transit (migration for birds or while flying)

OBSERVED IN HABITAT TYPE

1. Valley bed along river shorelines	**6.** Cultivated areas
2. Xerophytes shrubs	**7.** Bare rocks
3. Rocky areas	**8.** Settlements
4. Step	**9.** River
5. Forest area	

REFERANCE

O: Observation **C:** Communication with locals **L:** Literature

H.R. = HUNTING RESTRICTIONS (According to Central Hunting Commission [MAK] 2017-2018)

App 1 : Wildlife species protected by Ministry of Environment and Forestry, hunting of which is prohibited
App 2: Game animals protected by MAK, hunting of which is prohibited for specified years hunting season
App 3: Game animals allowed to be hunted in predefined season by MAK

KEY TO TERRESTRIAL FAUNA TABLES (INTERNATIONAL CONCERN)

IUCN (IUCN Red List of Threatened Species) (IUCN: The International Union for Conservation of Nature) (IUCN, 2018)

IUCN Red List Categories and Criteria

EX: Extinct	**NT:** Near threatened
EW: Extinct in the wild	**LC:** Least concern
CR: Critically endangered	**DD:** Data deficient
EN: Endangered	**NE:** Not evaluated
VU: Vulnerable	

App 1: Species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances.
App 2: Species not necessarily threatened with extinction, but their trade must be controlled to avoid utilization incompatible with their survival.
App3: Species protected in at least one country, and their trading is under control by CITES (2017).

BERN (Convention on the Conservation of European Wildlife and Natural Habitats) (BERN, 1992)
Anx 2 (Annex 2):Strictly Protected Fauna Species
Anx 3 (Annex 3):Protected Fauna Species

Table 2. Mammal species that have been identified and are possible to exist in Kılıçkaya and its surroundings

MAMMALS				COMMON NAME		International Concern						National Concern				REF.	Habitat Type	Habitat Function
						IUCN	BERN		CITES			T.S.	H.R.					
				Turkish	English		Anx2	Anx3	App1	App2	App3	(A.D)	App1	App2	App3			
1	INSECTIVORA																	
	1	Erinaceidae																
		1	*Erinaceus concolor* (Martin, 1838)	Kirpi	Hedgehog	LC	–	–	–	–	–	nt	x	–	–	O,C,L	1,2	B-F-N
	2	Soricidae																
		2	*Sorex minutus*	Cücefare	Pygmy Shrew	LC	–	x	–	–	–	nt	–	–	–	L	1,6	B-F-N
2	CHIROPTERA																	
	3	Rhinolophidae																
		3	*Rhinolophus hipposideros* (Bechstein, 1800)	Küçük Nalburunlu	Lesser Horseshoe	LC	x	–	–	–	–	V	x	–	–	L	5	B-F-N
	4	Vespertilionidae																
		4	*Miniopterus schreibersi* (Kuhl, 1819)	Uzunkanatlı	Schreiber's Bat	NT	x	–	–	–	–	V	x	–	–	L	3,5,8	B-F-N
3	LAGOMORPHA																	
	5	Leporidae																
		5	*Lepus capensis* (Linnaeus, 1758)	Tavşan	Brown Hare	LC	–	x	–	–	–	nt	–	–	x	O,C, L	2,4,5,6	B-F-N
4	RODENTIA																	
	6	Muridae																

MAMMALS				COMMON NAME		International Concern						National Concern				REF.	Habitat Type	Habitat Function
						IUCN	BERN		CITES			T.S.	H.R.					
				Turkish	English		Anx2	Anx3	App1	App2	App3	(A.D)	App1	App2	App3			
		6	*Apodemus sylvaticus* (Linnaeus, 1758)	Orman Faresi	Wood Mouse	LC	–	–	–	–	–	nt	–	–	–	C, L	1,5,6,8	B-F-N
		7	*Apodemus mystacinus* (Danford &Alston, 1877)	Kayalık Faresi	Broad-toothed Mouse	LC	–	–	–	–	–	nt	–	–	–	C, L	1,3,5,6,8	B-F-N
5	CARNIVORA																	
	7	Felidae																
		8	*Lynx lynx* (Linnaeus, 1758)	Vaşak	Eurasian Lynx	LC	–	-	x	x	–	E	X	-	–	O,C,	3,5	B-F-N
	8	Mustelidae																
		9	*Mustela nivalis* Linnaeus, 1766	Gelincik	Least weasel	LC	–	x	–	–	–	nt	–	x	–	O,C,L	1,3,5,6	B-F-N
		10	*Mustela erminea* Linnaeus, 1758	Büyük Gelincik	Stoats	LC	–	x	–	–	–	nt		x		L	1,2,3,5,6	B-F-N
		11	*Meles meles* (Linnaeus, 1758)	Porsuk	Eurasian Badger	LC	–	x	–	–	–	R	–	x	–	O,C,L	1,2,3,4,5,6	B-F-N
	9	Canidae																
		12	*Vulpes vulpes* (Linnaeus, 1758)	Tilki	Red Fox	LC	–	–	–	–	x	nt	–	–	x	O,C,L	1,2,3,4,5,6	B-F-N
		13	*Canis lupus* (Linnaeus, 1758)	Kurt	Gray Wolf	LC	x	–	–	X	–	R/V	x	–	–	O,C,L	4,5	B-F-N
		14	*Canis aureus* (Linnaeus, 1758)	Çakal	Goldschakal	LC	–	–	–	X	–	nt	–	–	x	O,C,L	3,5	B-F-N
	10	Ursidae																
		15	*Ursus arctos* (Linnaeus, 1758)	Bozayı	Brown Bears	LC	x	–	–	X	–	V	x	–	–	O,C,L	5	B-F-N
6	ARTIODACTYLA																	
	11	Bovidae																
		16	*Capra aegagrus* (Erxleben, 1777)	Yaban Keçisi	Wild Goats	VU	x	–	–	–	–	nt/E	x	x	–	O,C,L	2,3,5	F
		17	*Rupicapra rupicapra* (Linnaeus, 1758)	Ç. B. Dağ Keçisi	Alpine Chamois	LC	–	x	–	–	–	nt/E	x	x	–	O,C,L	2,3,5	B-F-N
	12	Suidae																
		18	*Sus scrofa scrofa* (Linnaeus, 1758)	Yaban Domuzu	Eurasia Wild Ping	LC	-	-	-	-	-	nt	x	x	-	O,C,L	2,3,5	B-F-N

Table 3. Bird species that have been identified and are possible to exist in the Kılıçkaya and its surroundings

BIRDS				COMMON NAME		International Importance						National Importance			Status in Turkey					Habitat Types	Habitat Function
				Turkish	English	IUCN	BERN		CITES						Y	YG	KG	G	N		
							Annex	Annex	Annex	Annex	Annex	Annex	Annex	Annex							
1	FALCONIFORMES																				
	1	ACCIPITRIDAE																			
		1	*Accipiter nisus* (Linnaeus, 1758)	Atmaca	Eurasian Sparrowhawk	LC	x			x		x			x					2,4,5,7	B,F,T
		2	*Buteo rufinus* (Cretzschmar, 1829)	Kızıl şahin	The long-legged buzzard	LC	x			x		x			x					2,3,6,7	F,T
		3	*Buteo buteo* (Linnaeus, 1758)	Arı Şahini	Eurasian Buzzard	LC	x			x		x			x					2,3,6	F,T
		4	*Aquila chrysaetos* (Linnaeus, 1758)	Kaya kartalı	Golden Eagle	LC	x			x		x			x					3,5,7	B,F,T
		5	*Pernis apivorus* (Linnaeus, 1758)	Arıcıl	European Honey-buzzard	LC	x			x		x				x				3,5,7	F,T

BIRDS				COMMON NAME Turkish	English	International Importance						National Importance			Status in Turkey					Habitat Types	Habitat Function
						IUCN	BERN		CITES												
							Annex	Annex	Annex	Annex	Annex	Annex	Annex	Annex	Y	YG	KG	G	N		
	2	FALCONIDAE																			
		6	*Falco Subbuteo* (Linnaeus, 1758)	Delice doğan	Eurasian Hobby	LC	x			x		x				x				2,4,5	F,T
2	STRIGIFORMES																				
	3	STRIGIDAE																			
		7	*Asio otus* (Linnaeus, 1758)	Kulaklı orman baykuşu	Northern Long-eared Owl	LC	x			x		x			x					5	F,T
3	CORACIIFORMES																				
	4	MEROPIDAE																			
		8	*Merops apiaster* (Linnaeus, 1758)	Arı kuşu	European Bee-eater	LC	x		-	-	-	x				x				1,4,5,8	F,T
4	PICIFORMES																				
	5	PICIDAE																			
		9	*Dryobates minör* (Linnaeus, 1758)	Küçük ağaçkakan	Lesser spotted woodpecker	LC	x		-	-	-	x			x					5	F,T
5	PASSERIFORMES																				
	6	CINCLIDAE																			
		10	*Cinclus cinclus* (Linnaeus, 1758)	Derekuşu	White-throated Dipper	LC	x		-	-	-	x			x					1	B,F,T
	7	TURDIDAE																			
		11	*Turdus merula* (Linnaeus, 1758)	Karatavuk	Common blackbird	LC		x	-	-	-			x	x					3,4,5,6	B,F,T
	8	PARIDAE																			
		12	*Parus major* (Linnaeus, 1758)	Büyük baştankarası	Great tit	LC	x		-	-	-	x			x					1,5,8	B,F,T
	9	LANIIDAE																			
		13	*Lanius collurio* (Lesson, 1834)	Kızıl Sırtlı Örümcek Kuşu	Burmese shrike	LC	x		-	-	-	x				x				2,4,5	F,T
	10	CORVIDAE																			
		14	*Pica pica* (Linnaeus, 1758)	Saksağan	Eurasian magpie	LC	-	-	-	-	-			x	x					1,4,5,6	F,T
		15	*Corvus frugilegus* (Linnaeus, 1758)	Ekinkargası	Rook	LC	-	-	-	-	-			x	x					1,4,5,6,8	B,F,T
		16	*Corvus corax* (Linnaeus, 1758)	Kuzgun	Common raven	LC		x	-	-	-		x		x					1,3,5	B,F,T
	11	STURNIDAE																			
		17	*Sturnus vulgaris* (Linnaeus, 1758)	Sığırcık	Common starling	LC	-	-	-	-	-		x		x					1,4,5,6,8	B,F,T
	12	PASSERIDAE																			
		18	*Passer domesticus* (Linnaeus, 1758)	Ev serçesi	House sparlow	LC	-	-	-	-	-			x	x					1,4,5,6,8	B,F,T
		19	*Passer montanus* (Linnaeus, 1758)	Dağ serçesi	Eurasian tree sparrow	LC		x	-	-	-		x		X					1,4,5,6,8	B,F,T
	13	FRINGILLIDAE																			
		20	*Carduelis carduelis* (Linnaeus, 1758)	Saka	Goldfinch	LC	x		-	-	-	x			x					1,4,5,6,8	B,F,T
6	COLUMBIFORMES																				
	14	COLUMBIDAE																			
		21	*Columba livia* (Gmelin, 1789)	Kaya güvercini	Rock Dove	LC		x	-	-	-			x	x					3,6,8	B,F,T
		22	*Streptopelia decaocto* (Frivaldszky, 1838)	Kumru	Eurasian collared dove	LC		x	-	-	-		x		x					6,8	B,F,T

BIRDS				COMMON NAME Turkish	English	International Importance						National Importance			Status in Turkey					Habitat Types	Habitat Function
						IUCN	BERN		CITES												
							Annex	Annex	Annex	Annex	Annex	Annex	Annex	Annex	Y	YG	KG	G	N		
7	GALLIFORMES																				
	15	PHASIANIDAE																			
		23	*Alectoris chukar* (Gray, 1830)	Kınalı keklik	Chukar partridge	LC		x	-	-	-			x	x					2,3,4,5	B,F,T
		24	*Coturnix coturnix* (Linnaeus, 1758)	Bıldırcın	Common quail	LC		x	-	-	-			x		x		x		2,4,6	F,T
8	CUCULIFORMES																				
	16	CUCULIDAE																			
		25	*Cuculus canorus* (Linnaeus, 1758)	Gugukkuşu	Common cuckoo	-		x	-	-	-	x				x				5, 8	B,F,T

Table 4. Reptile Species that have been identified and are possible to exist in Kılıçkaya and its surroundings

REPTILES				COMMON NAME Turkish	English	International Importance						National Importance				Ref.	HABITAT TYPE	HABITAT FUNCTION
						IUCN	BERN		CITES			T.S. (A.D.)	H.R.					
							Annex 2	Annex 3	Annex 1	Annex 2	Annex 3		Annex 1	Annex 2	Annex 3			
1 SQUAMATA																		
	1	Lacertidae																
		1	*Ophisops elegans* (Menetries, 1832)	Tarla Kertenkelesi	Snake-eyed lizard	LC	x	–	–	–	–	nt	x	–	–	O,C,L	4,6	B,F,N
	2	Colubridae												—				
		2	*Eirenis modestus* (Martin, 1838)	Uysal Yılan	Ring-headed dwarf snake	LC	–	x	–	–	–	nt	x	–	–	O,C,L	6,8	F,N

Table 5. Amphibians that have been identified and are possible to exist in Kılıçkaya and its surroundings

AMPHIBIANS				COMMON NAME Turkish	English	International Importance						National Importance				SOURCE	HABITAT TYPE	HABITAT FUNCTION
						IUCN	BERN		CITES			T.S. (A.D.)	H.R.					
							Annex 2	Annex 3	Annex 1	Annex 2	Annex 3		Annex 1	Annex 2	Annex 3			
1 ANURA																		
	1	Ranidae																
		1	*Rana ridibunda* (Pallas, 1771)	Ova Kurbağası	Marsh frog	LC	–	x	–	–	–	nt	–	–	–	G,L	1	B,F,N
	2	Bufonidae																
		2	*Bufo viridis* (Laurenti, 1768)	Gece Kurbağası	European green toad	LC	x	–	–	–	–	nt	–	–	–	G,L	1	B,F,N

Table 6. Insect Species that have been identified and are possible to exist in Kılıçkaya and its surroundings

INVERTEBRATES (INSECTS)			
1	ODONATA		
	1	Cordulegasteridae	
		1	*Cordulegaster insignis* (Schneider, 1845)
	2	Aeshnidae	
		2	*Anax imperator* (Leach, 1815)
2	NEUROPTERA		
	3	Chrysopidae	
		3	*Chrysopa formosa* (Brauer, 1850)
		4	*Dichochrysa prasina* (Burmeister, 1839)
3	HETEROPTERA		
	4	Pentatomidae	
		5	*Aelia acuminata* (Linnaeus, 1758)
		6	*Carpocoris fuscispinus* (Boheman, 1851)
		7	*Graphosoma semipunctatum* (Fabricius, 1775)
	5	Reduvidae	
		8	*Reduvius personatus* (Linnaeus, 1758)
	6	Lygaeidae	

INVERTEBRATES (INSECTS)			
		9	*Lygaeus equestris* (Linnaeus, 1758)
4	HOMOPTERA		
	7	Cercopidae	
		10	*Cercopis sanguinolenta* (Scopoli, 1763)
	8	Cicadellidae	
		11	*Cicadella viridis* (Linnaeus, 1758)
5	LEPIDOPTERA		
	9	Pieridae	
		12	*Pieris rapae* (Linnaeus, 1758)
		13	*Pieris napi* Linnaeus,1758
		14	*Pieris brassicae (*L, 1758*)*
		15	*Pontia chloridice* (Hübner, 1813)
		16	*Gonepteryx farinosa* (Zeller, 1847)
		17	*Aporia crategi* Linnaeus 1758
	10	Lycaenidae	
		18	*Lycaena phlaeas* (Linnaeus, 1761)
		19	*Lycaena alciphron* (Rottemburg, 1775)
		20	*Lycaena ochimıs* (Herrich and Schaffer, 1851)
		21	*Polyommatus coelestinus* (Eversmann, 1848)
		22	*Polyommatus dorylas* (Jermyn, 1827)
		23	*Polyommatus ninae* (Forster, 1956)
		24	*Polyommatus* admetus (Esper, 1783)
		25	*Satyrium w-album* (Knoch, 1782)
		26	*Aricia agestis* ([Denis & Schiffermüller], 1775)
	11	Hesperiidae	
		27	Thymelicus sylvestris (Poda, 1761)
	12	Nymphalidae	
		28	*Aglais urticae* (Linnaeus, 1758)
		29	*Melitaea cinxia* (Linnaeus, 1758)
	13	Papilionidae	
		30	*Papilio machaon* Linnaeus, 1758
		31	*Parnassius mnemosyne* (Linnaeus, 1758)
		32	*Iphiclides podalirius* (Linnaeus, 1758)
	14	Satryridae	
		33	*Erebia medusa* (Denis and Schifferrnuller, 1775)
		34	*Chazara bischoffii* (Herrich and Schoffer, 1846)
		35	*Chazaraa briseis* (Linnaeus, 1764)
		36	*Lasiommakı megera* (Linnaeus, 1 767)
	15	Saturniidae	
		37	*Saturnia pyri* ([Denis & Schiffermüller], 1775)
	16	Zygaenidae	
		38	*Zygaena filipendula* Linnaeus,1758
6	DIPTERA		
	17	Bombyliidae	
		39	*Bombylius medius* Linaeus, 1758
		40	*Bombylius ater* Scopoli, 1763
	18	Asilidae	
		41	*Leptogaster cylindrica* (De Geer, 1776)
		42	*Dysmachus praemorsus* (Loew, 1854)
	19	Syrphidae	
		43	*Eristalis (Eristalis) tenax* (Linnaeus, 1758)
		44	*Paragus (Paragus) bicolor* (Fabricius, 1794)
	20	Tephritidae	
		45	*Ceratitis capitata* (Wiedemann, 1824)
7	COLEOPTERA		
	21	Carabidae	
		46	*Carabus scabrosus (*Olivier, 1795)
		47	*Cicindela campestris (Linnaeus, 1758)*
	22	Coccinellidae	
		48	*Coccinella semptempunctata (*Linnaeus, 1758)
	23	Cetonidae	
		49	*Cetonia aurata* (Linnaeus, 1761)
		50	*Tropinota hirta* (Poda 1761)
	24	Buprestidae	
		51	*Capnodis tenebrionis* (Linnaeus 1761)
		52	*Anthaxia fulgurans* (Schrank, 1789
		53	*Coraebus rubi* (Linnaeus, 1767)
	25	Cleridae	
		54	*Trichodes suturalis* Seidlitz, 1891
		55	*Trichodes apiarius* (Linnaeus, 1758)
	26	Cerambycidae	
		56	*Opsilia coerulescens* (Scopoli, 1763)
		57	*Paracorymbia fulva* Degeer, 1775
		58	*Rutpela maculata* (Poda, 1761)
		59	*Chlorophorus sartor* (Müller, 1766)
	27	Meloidae	
		60	*Mylabris flexuosa* (Olivier, 1811)
8	HYMENOPTERA		
	28	Vespidae	
		61	*Vespula vulgaris* (Linneaus, 1758)
		62	*Vespula germanica* (Fabricius, 1758)
	29	Apidae	
		63	*Apis mellifera* **(**Linnaeus, 1758)
		64	*Bombus lucorum* (Linneaus, 1758)
9	ORTHOPTERA		
	30	Gryllotalpidae	
		65	*Gryllotalpa gryllotalpa* (Linneaus, 1758)
	31	Tettigoniidae	
		66	*Tettigoniia* spp
		67	*Psorodonotus caucasicus* (Fischer von Waldheim, 1846)

Mammals; it has been established that 18 mammal species that fall into 12 families may exist. 13 mammal species were identified by direct sampling and/or observation or by observing their breeding areas, tracks and scats (*Mustela nivalis, M. erminea, Meles meles, Lynx lynx Vulpes vulpes, Canis aureus, C. lupus, Ursus arctos, Capra aegagrus, Lepus capensis, Erinaceus concolor, Rupicapra rupicapra and Sus scrofa scrofa,). In addition, five other species (Sorex minutus, Rhinolophus hipposideros, Miniopterus schereibersi, Apodemus sylvaticus* and *A. mystacinus*) which could not be observed during the field studies but whose existence is

mentioned by the local people and which are reported to exist in the location in the literature of previous studies in the area live in the study area and the its surroundings.

The Turkish names, protection and threat status according to national and international criteria, and habitats and habitat functions of the species identified in the study area are summarized in Table 2. Two of them, namely *Rhinolophus hipposideros* and *Capra aegagrus* are mammal species that, according to both the national and international criteria, have high protection status, which are mentioned in Bern Convention Annex 2, and which are categorized as VU according to the 2018 criteria and categories. Each of these two species are under protection by the Ministry of Environment and Forestry and included in the Annex 1 List of the Central Hunting Commission in which tye species whose hunting is forbidden are listed. *Lynx lynx* is categorized as Endangered in threat status. The mammal species in the area use various and different habitat types. This indicates that the mammal species existing in the area do not stick to one location and can relocate. Among the species in the Table 2, *Rhinolophus hipposideros* and *Ursus arctos* mostly prefers forested regions. *Capra aegagrus* and *Rupicapra rupicapra* use the bushes, rocky areas, and forested regions as their habitat.

Birds; 26 bird species that belong to 16 families are identified based on the observations conducted in the study area and by reviewing studies that were previously performed in the field. The identified species are presented in Table 3. The birds that are identified in the study area can also be found in Çoruh River Valley in general outside of the study area. Many of them are widespread in Turkey and most are local birds of Turkey. A part of these birds are summer visitors for Turkey and the other consists of winter visitors for Turkey, migratory birds and other birds that fall into all other statuses. The birds identified in the study area were observed in the valley bed, on trees along the riverbanks, planted fields, and near settlements. Bushes, natural grasslands, rocky regions covered by sparse groves and bushes and slopped barren rocks are the other habitats in which the birds were observed. The birds identified in the area use more than one habitat type. Raptor birds, on the other hand, are observed in the mixed forests on the higher regions, on rocky area covered with bushes and barren rocky areas. The study area includes appropriate habitats usually for several bird species. Since the study area is torrid in the summer, intense bird population was not noted during the observations in this area in the summer.

The protection and threat status of the birds identified in the study area, along with their status in Turkey (non-migratory, migratory, transit, and rare), are summarized in Table 2 according to national and international criteria. All bird species except for 4 bird species that are described as harmful or surviving in dependency with the habitat of human beings are protected under the Annex 2 and Annex 3 of the Bern Convention. The raptor birds identified in the study area have higher protect. On status than others and are included in the Annex 2 of the Bern Convention, Annex 2 of the CITES and Annex 1 of the Central Hunting Commission (BERN, 1992; CITES, 2017). The species that were identified in the area were not observed in high populations. The species whose populations were observed to be high are *Columba livia*, *Turdus merula*, *Corvus corax*, *Passer domesticus* and *Passer montanus*. According to the IUCN (2018) category; all bird species detected in the area are in the LC category.

Çoruh Valley is on the migration route of the raptor birds. Following the breeding season, northern populations of the raptor birds migrate to the south due to unfavorable climactic conditions and the reduction of the possibility of finding food. The migration begins at the end of August and ends at the beginning of September. This time interval corresponds to the period when the younger birds start flying and the climactic conditions in the north start to get worse. Most of the migrating raptor birds enter Turkey from Artvin-Borçka line and reach to Erzurum Plateau by passing from the west of the Çoruh Valley. The migration of the raptor birds occurs in daylight, over high regions and 1,000 m. The raptor birds use Çoruh Valley as a migratory passage corridor and very rarely stop to rest in the Valley.

Reptiles and Amphibians; Through the observations conducted in the field studies, a total of 2 reptile species that fall into 2 families and 2 amphibian species (belonging to two families) were identified (Tables 5 and 6).

Of the identified reptiles, one is a lizard and two are snake species. The reptiles were observed on flat areas like fields, stony and rocky areas, and near the rivers. The amphibian species identified in the study area were observed around water sources. The amphibians use the valley floor and rivers for the entire range of habitat functions. Among the reptile or amphibian species identified in the study field, none is included in the IUCN Red List. All of the reptile and amphibian species identified in the study area are ones which can be widely observed throughout Turkey or in the eastern regions of Turkey.

Invertebrates; 67 invertebrate species that fall into 31 families and 9 order, which were identified in the study area by direct sampling and observation, are listed in Table 6. Most of the identified species display a wide spread in Turkey. None of the invertebrate species in the study area are categorized as having special importance. The reason is that most of the study area is covered with small vegetation because of the sloppy structure of the area, agricultural areas are next to the banks of streams, and the temperatures in summer at the mineralization area are very high. The invertebrates were generally observed around the flowery plants that grow around the water sources.

4. CONCLUSIONS and COMMENTS

The faunistic content of Kılıçkaya was determined between 2016 and 2017. 18 Mammals, 25 Birds, 2 Reptiles, 2 Amphibians, and 67 Invertebrates (Insects) of a total of 114 animal species were identified in Kılıçkaya and its surroundings. This species were classified according to the international threat categories of IUCN.

Some of the mammal species that were observed or reported in Kılıçkaya and its surroundings are listed in Annex 2 (*Rhinolophus hipposideros*, *Miniopterus schreibersi*, *Canis lupus*, *Ursus arctos*, and *Capra aegagrus*) or Annex 3 (*Sorex minutes*, *Lepus capensis*, *Mustela nivalis*, *Meles meles*, and *Rupicapra rupicapra*). Two of these species (*Rhinolophus hipposideros* and *Capra aegagrus*) are classified as endangered (CR, EN, or VU categories) by the IUCN.

Except for four bird species that damage agricultural products and settlements, almost all of the bird species in the region are under protection status according to Bern Annex 2 and Annex 3. Raptor birds observed in the region are identified at higher elevations mostly. Migratory birds, on the other hand, pass over the area by flying over 1,000 m above the sea level.

Two amphibian species were identified in the study area. One of these is *Bufo viridis*, which is under protection of Bern Annex 2 (strictly protected species), and the other, *Rana ridibunda*, which is under protection of Bern Annex 3 (protected species). None of the identified species is mentioned in the IUCN lists. Most of the 67 invertebrate species identified in the study area display a wide-range spread through in Artvin.

At previous studies in Artvin; 55 mammal, 216 bird, 309 insect species were also determined (Gokturk, 2009; Gokturk et al., 2009; Gokturk, 2011; Gokturk et al., 2011). Additionally, 22 Ceramycidae species were determined from Yusufeli region by Tozlu et al., (2010). In this study, some of these species were eliminated. There are few animal species in comparison with the Artvin fauna. This number could have increased if more fieldwork had been done.

REFERENCES

Anonymous 2014. Republic of TURKEY Ministry of Forestry And Water Affairs UN Convention on Biological Diversity Fifth National Report August 2014, 47 p.

Anonymous 2018a. http://www.yusufeli.gov.tr/yusufeli.asp. Downloaded on 15 September 2018.

Anonymous 2018b. CED Nihai Raporu. http://www.dsi.gov.tr/yusufeli_ced_nihai_tr.htm. Downloaded on 13 September 2018.

Arancli A (2002). Biodiversity and Natural Resource Management in Turkey. Environmental Connectivity: Protected areas the Mediterranean context. 26-28 September 2002. Malaga, Spain.

Atalay İ (1994). Vegetation Geography of Turkey. Izmir: Ege University Press.

Benda P, Horacek I (1998). Bats (Mammalia: Chiroptera) of the Eastern Mediterranean. Part I. Review of distribution and taxonomy of bats in Turkey. *Acta Societatis Zoologicae Bohemicae* 62: 255-313.

BERN (1992). Convention on the Conservation of European Wildlife and Natural Habitats. https://www.coe.int. Downloaded on 21 September 2018.

CITES (2017). Convention on International Trade in Endangered Species of Wild Fauna and Flora. https://www.cites.org/eng/app/appendices.php. Downloaded on 13 August 2018.

Corbet GB, (1978). The Mammals of the Palaearctic Region Taxonomic Review, London & Ithaca: British Museum (Nat. Hist.) Cornell Univ. Press.

Demirayak F, (2002). Biodiversity-Nature Conservation and Sustainable Development. Tübitak Vision 2023 Project Environment and Sustainable Development Panel. Society for the Protection of Natural Life. December 2002.

Demirsoy A, Babaç T, Darendelioğlu Y, Akbulut A, Çalışkan M, Uslu E, Bakış Y (2005). CITES introduction and User Manual. Ankara: METEKSAN publications, 338p.

Demirsoy A, Yiğit N, Çolak E, Kefelioğlu H, Çoşkun Y, Albayrak İ (1996). Vertebrates of Turkey - Mammals, Ankara: Meteksan Inc. ISSN:975-7746-24-X.

Demirsoy A, Yiğit N, Çolak E, Sözen M, Karataş A (2006). Rodents of Turkey. Ankara: Meteksan Co., ISSN:9944-5560-0-9.

Göktürk T (2009). Coleoptera (Insecta) Species Living in Forest Trees in Artvin Province. *Ecological Life Sciences*. 4(3): 121-133.

Gokturk T (2011). Lepidoptera Fauna in Artvin in North Black Sea Region of Turkey. *Journal of Animal and Veterinary Advances* 10(15): 1938-1946.

Göktürk T, Artvinli T, Bucak F (2009). Avifauna of Artvin. *Artvin Coruh University Journal of Forestry Faculty* 9: 33-43.

Gokturk T, Bucak F, Artvinli T (2011). Mammalian fauna of Artvin. *African Journal of Agricultural Research*. 6(6): 1418-1425.

IUCN (2018). The IUCN Red List of Threatened Species. Version 2018-2. http://www.iucnredlist.org. Downloaded on 17 September 2018.

Kaya Z, Raynal DJ (2001). Biodiversity and Conservation of Turkish Forests. *Biological Conservation*. 97 (2): 131-141.

Kence A, Dokuzoğuz M, Düzgüneş O, Ekim T, Demirsoy A, Kuru M, Kocataş A, Ergen Z, Mater S, Özel İ, et al. (1987). Biodiversity of Turkey. Ankara: Turkey Foundation for Environmental Problems Press, 316 p.

Kence A, Kurtonur C, Özkan B, Albayrak İ, Kivanç E, Kefelioğlu H, (1996). Turkey Vertebrate Species List (Mammals), Ankara: Nurol Printing Co., ISSN:975-403-054-2.

Kışlalıoğlu M, Berkes F (1987). Biodiversity. Environmental Problems of Turkey Foundation Publications, Leader Press. 122 p.

Kızıroğlu I (1989). Türkiye Kuşları. Ankara: Orman Genel Müdürlüğü Basımevi, 314 p. (in Turkish).

Kurtonur C, Albayrak İ, Kıvanç E, Kefelioğlu H, and Özkan B (1996). Türkiye Omurgalılar Tür Listesi; Memeliler (Mammalia). DPT/TBAG- Çev. Sek., Ankara: Nurol Matbaası (in Turkish).

Langner LL, Flather C (1994). Biological Diversity: Status and Trends in the United States. USDA For. Serv. GTR-RM-244. Fort Collins, CO.

Mitchell-Jones AJ, Amori G, Bogdanowicz W, Kryštufek B, Reignders PJH, Spitzenberger F, Stubbe M, Thissen JBM, Vohralik V, Zima J (1999). The Atlas of European Mammals. London: Academic Press, ISSN: 0-85661-130-1.

Salwasser H, (1990). Conserving Biological Diversity: A Perspective on Scope and Approaches. *Forest Ecology and Management* 35: 79-90.

Tozlu G, Çalmaşur Ö, Çoruh S (2010). Cerambycidae (Coleoptera) species of Yusufeli (Artvin). Yusufeli Symposium from the Past to the Future, Artvin, Yusufeli, p. 305–307.

Turan N (1990). Türkiye'nin av ve yaban hayvanları. Ankara: Orman Genel Müdürlüğü Yayınları, 274 p.

Wilson DE, Reeder DM, (Eds) (2005). Mammal Species of the World: A Taxonomic and Geographic Reference. Vol: 1-2, Baltimore: Johns Hopkins University Press, 2142p.