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Full Length Research Paper

Mammalian fauna of Artvin

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Artvin has got richest and most varied mammals of Turkey. We provided checklist of the mammalian fauna of Artvin based on direct observations, interviews and available literature. A total of 55 mammals belonging to 20 families (total 6 orders; insectivora (7), chiroptera (14), lagomorpha (1), rodentia (18), carnivora (10) and artiodactyla (5)) were reported in Artvin. Twenty nine mammal species were identified by direct observation, and by observation of breeding areas, traces and feces. Although not observed on site during the field studies or reported by inhabitants, twenty six additional species are considered likely to occur in the study area based on literature information. The extent to which the various groups of animals in the study areas are to be protected under the Bern Convention or cited on the IUCN Red List varies from one group to another. There are no endemic species in Artvin mammal fauna. There are 5 NT, 1 VU, 48 LC, 1 DD species have been introduced. Some of the mammal species that were observed or reported in the study area are listed in Annex 2 (18 species) or Annex 3 (13 species).

Key words: Biodiversity, mammals, Artvin-Turkey.

INTRODUCTION

Nowadays biodiversity is one of the most important issues worldwide and wild animals are part of this important matter. Today, the countries, successfully protecting their natural resources and transferring them to the next generations, will step into future with much more confidence and secure their beings. Among these natural resources, the importance of wild animals is considered to be quite high. There are 4629 species of mammals - both currently living and recently extinct - in the World (Wilson and Reeder, 1993). All these species are classified under 26 orders, 136 families and 1135 genus. In the Pale arctic Region, where Turkey is located, the mammals are represented by 13 order, 42 families and 843 species (Cole et al., 1994). Turkey's unique location in between the continents of Asia, Europe and Africa resulted in diverse ecological conditions, various geological formations, and different climates; thus, creating a very rich biological diversity within its borders (Benda and Horacek, 1998; Demirsoy et al., 1996; Kence et al., 1996; Yigit et al., 2002). Anatolia is one of the rare places in the world in terms of its geological history and ecological features. It has been both a refuge area and a genetic center for many species throughout the geological periods. Due to its unique location within the perimeter of three continents, it is considered as one of the most exceptional places in terms of biodiversity (Kislalioglu and Berkes, 1987; Kurtonur 1996). Turkey, with its extraordinary beauty, also has a rich flora and fauna.

The country's ideal ecological features such as geographical location, climate, geology, soil and water resources as well as its location over the migration routes of birds and role in being the shelter for a lot of animals during the ice age provide ideal conditions for a rich fauna. Turkey is ranked ninth in terms of biological diversity in Europe as it has close to 1230 vertebrate species including 160 mammals, 418 birds, 120 reptiles, 22 frogs, 127 freshwater fish and 384 sea fish. While considering number of mammals in Europe, it is clear that Turkey, with 160 mammal species, has more than Greece (120), Italy (115), France (110), Germany (94), Norway (50), and Britain (42) (Demirayak, 2002). The number of mammal species is increasing from north to south. The main factor causing this increase is the ideal climatic characteristics of these countries, resulting in

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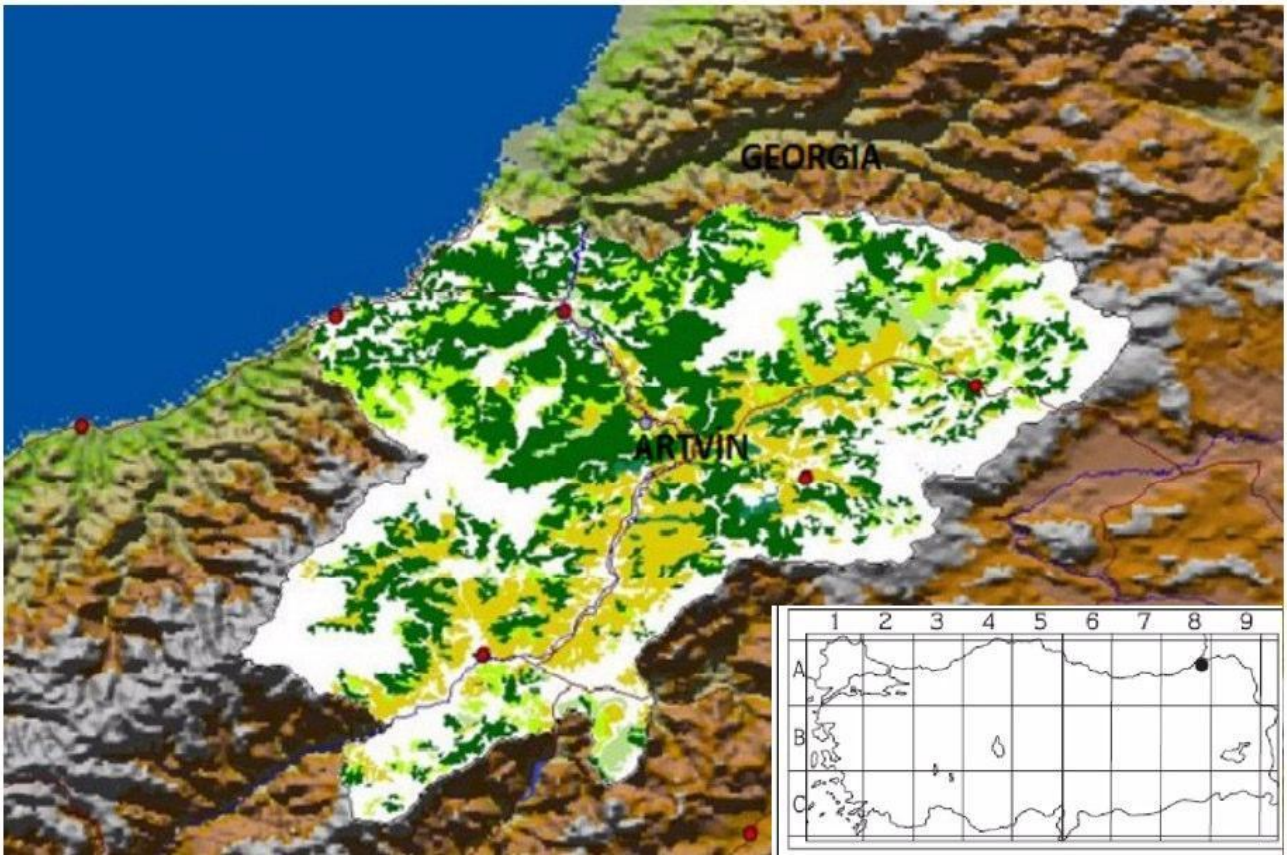

Figure 1. Location of the study area.

better vegetation structures and consequently for a richer diversity of fauna species. Turkey's 160 mammal species are classified under 9 order. There are several studies in different regions of Turkey (Albayrak et al., 2007; Anna et al., 2009; Can, 2004; Cole et al., 1994; Krystufek and Vohralik, 2001; Yigit et al., 2006), which describe general diversity and distribution pattern of mammals. However, information specific to Artvin is not available. This study aimed at documenting actual diversity and status of mammals in the area.

The aim of this study was increase the knowledge of mammalian fauna of Artvin in between the years 2000 to 2009.

MATERIALS

Artvin is located in the northeastern side of the Anatolia, bordering with Georgia to the North (Figure 1). Artvin includes Camili Biosphere Reserve, known as the first biosphere site of Turkey, is one of the 507 sites in 102 countries worldwide. Artvin has one of the cradles of much younger postglacial forests of Central Europe and one of the few well- known refuges for tertiary flora in the Colchic region. Deciduous temperate forests are in uninterrupted existence in this region since “tertiary”. The largest natural forest ecosystems of Europe and Mid-Asia are found in this region. The main ecosystem types are boreal coniferous forest and temperate deciduous forest (WWF and IUCN, 1994; Zazanashvili et al., 1999; Eminagaoglu et al., 2008). The study area is not only located within the Caucasus Hotspot, one of the 25 World Biodiversity Hotpots identified by the Conservation International, but also within the Caucasus-Anatolian-Hyrcanian Temperate Forests classified as one of the 200 Global Ecoregions (WWF and IUCN, 1994; Zazanashvili et al., 1999). Moreover, it lies within the North-eastern Anatolia Centre of Plant Diversity (SWA No.19) and covers the Karcal Mountains, Yalnızcam Mountains, Coruh Valley and East Black Sea Mountains.

Artvin is 7 district including Savsat, Ardanuc, Yusufeli, Borcka, Murgul, Hopa and Arhavi along with many villages, kislas (pastures found in the lower parts of mountains) and yaylas (pastures found in the higher parts of mountains) that local people live in during spring and summer, respectively. The altitude of the area ranges from 100 to 3925 m. This area is about 735.900 ha with Karagol-Sahara National Park (3.466 ha), Hatila Valley National Park (16.988 ha), Camili Biosphere Reserve (27.152 ha), Borcka-Karagol Nature Park (368 ha), Camili-Gorgit Strict Nature Reserve (490.5 ha), Camili-Efeler Forest Strict Nature Reserve (1.453 ha) and Camburnu Strict Nature Reserve (180 ha). The rainfall regime of the study area is “autumn-winter-summer-spring” of semi-terrestrial origin (Akman, 1999).

The dendroflora of the Artvin district is represented by 171 taxa, 119 species, 33 subspecies, and 19 varieties belonging to 81 genera and 42 families. Gymnosperms and Angiosperms comprised 8 and 163 taxa, respectively. Pseudomacchie, forest, alpine, subalpine, rocky, and hydrophytic are the main vegetation types in Artvin. Forest vegetation is the most widespread in the study area (Eminagaoglu and Ersen, 2008).

Table 1. National and international key to terrestrial faunas.

Key to terrestrial fauna tables (national concern).

Threat status = T.S. (A.D). (Demirsoy, 2005).

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

REF. (Reference).

A: Observation

B: Communication with locals

C: Literature

Habitat function

B: Breeding.

F: Feeding.

N: Nesting.

T: Traversing, wandering, passing through/over.

Observed in habitat type

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

Hunting restrictions = H. R. (According to Central Hunting Commission (MAK) 2009 to 2010).

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 World Conservation Union).

(IUCN 2008. IUCN red list of threatened species. <www.redlist.org>. Downloaded on 06 October 2010).

IUCN red list categories and criteria, 2010 (ver. 3.1)*.

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.

App 3: Species protected in at least one country, and their trading is under control by CITES.

Bern (Convention on the Conservation of European Wildlife and Natural Habitats).

Anx 2 (Annex 2): Strictly Protected Fauna Species.

Anx 3 (Annex 3): Protected Fauna Species.

METHODS

Data on mammal presence were gathered from direct observations (sightings, field signs such as footprints, feces and dead specimens) during surveys carried out between 2000 to 2009. Data were also gathered from interviews to local people, hunters and national parks personnels. In addition, available literature was searched which was performed in order to identify species that are likely to exist in the surroundings of the study field. The publications of the researchers that performed studies in the Eastern Black Sea Region and a list of species that are likely to exist in the area was tried to be formed. In the meantime, our own findings that we have acquired over the past years, information gathered by interviewing the local people, and the EIA report prepared by DS (State Hydraulic Works) within the scope of Yusufeli Dam, Deriner Dam, Borcka Dam and Muratli Dam were also taken into consideration. The existing species were attempted to be determined by visiting the study area in certain intervals and scanning the area. Living things were attempted to be identified also according to the flora structure by making observations in the area. Moreover, the fauna diversity that exists is mentioned in the study. The species according to the IUCN National Red List categories, with their relative abundance, population tendencies and distribution area are given in Table 1.

The table of the identified mammalians 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.

RESULTS

As already noted, the mammalian fauna of Artvin is one

of the richest and most varied of Turkey. During the present study period approximately 55 mammalian species were recorded in Artvin. These mammals belong to 20 families covering a total of 6 orders. A detailed list of mammals recorded in the present investigation is provided in Table 2. Twenty nine mammal species were identified by direct observation and by observation of breeding areas, traces and wastes. Literature information also indicates the occurrence of these species in the area. Although not observed on site during the field studies or reported by literature, twenty six additional species, namely Caucasian Shrew, Lesser White-toothed Shrew, Radde's Shrew, Caucasian Pygmy Shrew, Caucasian Mole, Lesser Horseshoe Bat, Greater Horseshoe Bat, Greater Mouse-Eared Bat, Lesser Mouse-Eared Myotis, Natterer's Bat, Whiskered Myotis, Savi's Pipistrelle, Schreiber's Bat, Bechstein's Myotis, Serotine, Western Barbastelle, Mountain Long-eared Bat, European Free-tailed Bat, Edible Dormouse, Brown Rat, Long- tailed Field Mouse, Bank Vole, Caucasian Snow Vole, Robert's Snow Vole, Daghestan Pine Vole and Major's pine vole are considered likely to occur in the study area based on literature information. The conservation and threat statuses, according to national and international criteria, and the habitats and habitat functions of the mammals identified in the study area are summarized in Table 2.

Wild Goat have highest concern status according to both national and international criteria; it is on Annex 2 of the Bern Convention and classified as vulnerable (VU) in IUCN Red List (based on categories and criteria of year 2010; ver 3.1). This species are afforded protection by the Turkish Ministry of Environment and Forestry (MoEF) and are therefore listed in Appendix 1 of the Central Hunting Commission (MAK) as species for which hunting is prohibited. Schreiber's Bat, Bechsteın's Myotis, Western Barbastelle, Long-clawed Mole Vole and Eurasian Otter are classified as NT (near threatened) in IUCN Red List. The mammal species in the area use various habitat types and most of them use at least two types of habitat. The habitat types are distributed homogenously in the study area and various types are interlaced. The identified species generally use the habitats given in Table 1 for almost all purposes/functions (breeding, feeding and nesting). Among the species given in Table 2 Lesser Horseshoe Bat, Greater Horseshoe Bat, Eurasian Red Squirrel, Edible Dormouse, Robert's Snow Vole, Daghestan Pine Vole, Major's Pine Vole and Grizzly Bears depend only one type of habitat for all functions, which is forest areas. Greater mouse-eared bat uses forests and settlements for breeding, nesting and feeding, while its preference is forests. Settlements are generally located in the valley bed and lower slopes, while forests, as mentioned before, mainly exist at higher altitude. Fiver-toed Jerboa, Wolf and gold jackal use rocky areas and forests for all habitat functions.

Rocky areas and settlements form the habitat of beech marten. Lesser White-toothed Shrew, Radde's Shrew, Caucasian Pygmy Shrew, Forest Dormouse and Lesser Blind Mole Rat use the valley bed and cultivated areas as habitats. The habitats of Hedgehog for breeding, feeding and nesting are valley bed and shrubs. Levant Mole, Caucasian Mole and Eurasia Wild Ping uses three different types of habitat, which are valley bed, forests and settlements for feeding, nesting and breeding purposes. European Roe Deer, Red Deer, Wild Goats, Alpine Chamois have shrubs, forests and rocky areas as their habitat and they are using the river for drinking water. Least Weasel, Eurasian Badger and Fox utilizes almost all types of habitats available in the study area, which are valley bed, shrubs, rocky areas, forests and cultivated areas. These also form the habitat of least weasel except shurbs. The habitats of Brown Rat, Black Rat for breeding, feeding and nesting are valley bed settlements and cultivated areas. Brown hare uses shrubs, steps, forests and cultivated areas as habitat. Eurasian otter uses only river habitat type and Long-tailed Field Mouse, House Mouse, Serotine uses only settlements habitat type. Coruh Valley bed, rocky areas, forests, cultivated areas and settlements form the habitats for Schreiber's bat Pipistrelle bat, Wood Mouse and Broad-toothed Mouse. Settlements forest area and Rocky areas form the habitats for Whiskered Myotis, Savi's Pipistrelle, Schreiber's Bat, Bechsteın's Myotis, Mountain Long-eared Bat.

Another of these species, Hedgehog uses Valley bed and xerophytes shrubs; Caucasian Shrew uses Rocky areas and cultivated areas; Long-clawed Mole Vole and Bank Vole use step areas; Caucasian Snow Vole uses step and rocky areas; Beech Marten uses settlements and rocky areas; Western Barbastelle, European Free-tailed Bat and Eurasian Lynx use rocky areas, forest areas; Caucasian Squirrel uses Valley bed, settlements and forest area; Pine Marten uses valley bed and forest areas.

DISCUSSION

As seen in Table 2, a total of 55 mammals belonging to 20 families (total 6 orders; Insectivora (7), Chiroptera (14), Lagomorpha (1), Rodentia (18), Carnivora (10), Artiodactyla (5)) were identified in Artvin. The importance and value of Artvin region may be demonstrated by the number and type of wildlife species that are found there. Many species are in immediate peril of survival due to low population numbers as a result of one or several reasons including habitat loss, over-exploitation, predation, competition, disease, disturbance or contamination. Federally endangered species represent those species that are in peril at the national level and State listed endangered species are those that are not nationally at risk but are locally rare. Species listed as

Table 2. Mammal Species that have been identified and are possible to exist in Artvin.

Mammals	Common name	International concern						National concern						
		IUCN	BERN		CITES			T.S.	H.R.			REF.	Habitat Type	Habitat Function
			Anx 2	Anx 3	App 1	App 2	App 3	(A.D)	App 1	App 2	App 3			
Order INSECTIVORA														
Family Erinaceidae														
Erinaceus concolor Martin, 1838	Hedgehog	LC	–	–	–	–	–	nt	x	–	–	A, C	1,2	B-F-N
Family Soricidae														
Sorex satunini Ognev, 1922	Caucasian Shrew	LC	–	–	–	–	–	nt	–	–	–	C	3,6	B-F-N
Crocidura suaveolens Palas, 1811	Lesser White-toothed Shrew	LC	x	x	–	–	–	nt	–	–	–	C	1,6	B-F-N
Sorex raddei Satunin, 1895	Radde's Shrew	LC	–	–	–	–	–	nt	–	–	–	C	1,6	B-F-N
Sorex volnuchini Ognev, 1922	Caucasian Pygmy Shrew	LC	–	–	–	–	–	nt	–	–	–	C	1,6	B-F-N
Family Talpidae														
Talpa levantis Thomas, 1906	Levant Mole	LC	–	–	–	–	–	nt	–	–	–	A,C	1,5,6	B-F-N
Talpa caucasica Satunin, 1908	Caucasian Mole	LC	–	–	–	–	–	nt	–	–	–	C	1,5,6	B-F-N
Order CHIROPTERA														
Family Rhinolophidae														
Rhinolophus hipposideros Bechstein, 1800	Lesser Horseshoe Bat	LC	x	–	–	–	–	V	x	–	–	C	5	B-F-N
Rhinolophus ferrumequinum Schrebe 1774	Greater Horseshoe Bat	LC	x	–	–	–	–	V	x	–	–	C	5	B-F-N
Family Vespertilionidae														
Myotis myotis Borkhausen, 1797	Greater Mouse-Eared Bat	LC	x	–	–	–	–	V	x	–	–	C	5,8	B-F-N
Myotis blythii Tomes,1857	Lesser Mouse-Eared Myotıs	LC	x	–	–	–	–	V	x	–	–	C	8	B-F-N
Myotis nattereri Kuhl, 1818	Natterer's Bat	LC	x	–	–	–	–	V	x	–	–	C	8	B-F-N
Myotis mystacinus Kuhl, 1817	Whiskered Myotis	LC	x	–	–	–	–	V	x	–	–	C	3,5,8	B-F-N
Pipistrellus pipistrellus Schreiber, 1774	Pipistrelle Bats	LC		x	–	–	–	V	–	–	–	A, C	1,3,5,6,8	B-F-N
Pipistrellus savii Bonaparte,1837	Savi's Pipistrelle	LC	x	–	–	–	–	V	x	–	–	C	3,5,8	B-F-N
Miniopterus schreibersi Kuhl, 1819	Schreiber's Bat	NT	x	–	–	–	–	V	x	–	–	C	3,5,8	B-F-N
Myotis bechsteini Kuhl,1818	Bechsteın's Myotıs	NT	x	–	–	–	–	V	x	–	–	C	3,5,8	B-F-N
Eptesicus serotinus Schreber, 1774	Serotine	LC	x	–	–	–	–	V	x	–	–	C	8	B-F-N
Barbarstella barbastellus Schreber, 1774	Western Barbastelle	NT	x	–	–	–	–	V	x	–	–	C	3,5	B-F-N
Plecotus macrobullaris Kuzjakin, 1965	Mountain Long-eared Bat	LC	x	–	–	–	–	V	x	–	–	C	3,5,8	B-F-N

Table 2. Contd.

Family Molossidae														
Tadarida teniotis Rafinesque,1814	European Free-tailed Bat	LC	x	–	–	–	–	V	x	–	–	C	3,5	B-F-N
Order LAGOMORPHA														
Family Leporidae														
Lepus capensis Linnaeus, 1758	Brown Hare	LC	–	x	–	–	–	nt	–	–	x	A, C	2,4,5,6	B-F-N
Order RODENTIA														
Family Sciuridae														
Sciurus anomalus Chreber, 1758	Caucasian Squirrel	LC	x	–	–	–	–	R/I	x	–	–	A, C	1,5,8	B-F-N
Sciurus vulgaris Linnaeus, 1758	Eurasian Red Squirrel	LC	–	x	–	–	–	nt	–	–	–	A,B,C	5	B-F-N
Family Gliridae														
Dryomys nitedula Pallas, 1779	Forest Dormouse	LC	–	x	–	–	–	R	x	–	–	A, C	1,6	B-F-N
Myoxus glis Linnaus, 1766	Edible Dormouse	LC	–	x	–	–	–	R	x	–	–	C	5	B-F-N
Family Muridae														
Rattus rattus Linnaeus, 1758	Black Rat	LC	–	–	–	–	–	nt	–	–	–	A, C	1,6,8	B-F-N
Rattus norvegicus Berkanhout, 1769	Brown Rat	LC	–	–	–	–	–	nt	–	–	–	C	1,6,8	B-F-N
Apodemus flavicollis Melchior, 1834	Wood Mouse	LC	–	–	–	–	–	nt	–	–	–	A, C	1,5,6,8	B-F-N
Apodemus mystacinus Danford &Alston, 1877	Broad-toothed Mouse	LC	–	–	–	–	–	nt	–	–	–	A, C	1,3,5,6,8	B-F-N
Apodemus sylvaticus Linnaeus, 1758	Long-tailed Field Mouse	LC	–	–	–	–	–	nt	–	–	–	C	8	B-F-N
Mus domesticus Rutty, 1772	House Mouse	LC	–	–	–	–	–	nt	–	–	–	A,B,C	8	B-F-N
Family Cricetidae														
Prometheomys schaposchnikowi S.1901	Long-clawed Mole Vole	NT	–	–	–	–	–	nt	–	–	–	B,C	4	B-F-N
Myodes glareolus Schreber, 1780	Bank vole	LC	–	–	–	–	–	nt	–	–	–	C	4	B-F-N
Chionomys gud Satunin, 1909	Caucasian Snow Vole	LC	–	–	–	–	–	nt	–	–	–	C	3,4	B-F-N
Chionomys roberti Thomas, 1906	Robert's Snow Vole	LC	–	–	–	–	–	nt	–	–	–	C	5	B-F-N
Microtus daghestanicus Shidlovskij,1919	Daghestan Pine Vole	LC	–	–	–	–	–	nt	–	–	–	C	5	B-F-N
Microtus majori Thomas, 1906	Major's Pine Vole	LC	–	–	–	–	–	nt	–	–	–	C	5	B-F-N
Family Spalacidae														
Spalax leucodon Nordmann, 1840	Lesser Blind Mole Rat	DD	–	–	–	–	–	nt	–	–	–	A,C	1,6	B-F-N
Family Dipodidae														
Allactaga williamsi Thomas, 1897	Fiver-toed Jerboa	LC	–	–	–	–	–	nt	–	–	–	A,B	3,4,5	B-F-N

Table 2. Contd.

Order CARNIVORA														
Family Mustelidae														
Mustela nivalis Linnaeus, 1766	Least Weasel	LC	–	x	–	–	–	nt	–	x	–	A,B,C	1,3,5,6	B-F-N
Martes martes Linnaeus, 1758	Pine Marten	LC	–	x	–	–	–	nt	–	–	x	A, C	1,5	B-F-N
Martes foina Erxleben 1777	Beech Marten	LC	–	x	–	–	–	nt	–	–	x	A, C	3,8	B-F-N
Meles meles Linnaeus, 1758	Eurasian Badger	LC	–	x	–	–	–	R	–	x	–	A,B,C	1,2,4,5,6	B-F-N
Lutra lutra Linnaeus, 1758	Eurasian Otter	NT	x	–	x	–	–	V	–	x	–	A,B,C	9	B-F-N
Family Felidae														
Lynx lynx Linnaeus, 1758	Eurasian Lynx	LC	–	--	x	x	–	E	x	–	–	A,B,C	3,5	B-F-N
Family Canidae														
Vulpes vulpes Linneaus, 1758	Fox	LC	–	–	–	–	x	nt	–	–	x	A,B,C	1,2,3,4,5,6	B-F-N
Canis lupus Linnaeus, 1758	Wolf	LC	x	–	–	x	–	R/V	x	–	–	A,B,C	3,4,5	B-F-N
Canis aureus Linné, 1758	Goldschakal	LC	–	–	–	x	–	nt	–	–	x	A,B,C	3,4,5	B-F-N
Family Ursidae														
Ursus arctos Linnaeus, 1758	Grizzly Bears	LC	x	–	–	x	–	V	x	–	–	A,B,C	5	B-F-N
Order ARTIODACTYLA														
Family Suidae														
Sus scrofa scrofa Linnaeus, 1758	Eurasia Wild Ping	LC	–	–	–	–	–	nt	–	–	–	A,B,C	1,5,6	B-F-N
Family Cervidae														
Capreolus capreolus Linnaeus, 1758	European Roe Deer	LC	–	x	–	–	–	nt/E	x	x	–	A,B,C	2,3,5	B-F-N
Cervus elaphus Linnaeus, 1758	Red Deer	LC	–	x	–	–	–	nt/E	x	x	–	B, C	2,3,5	B-F-N
Family Bovidae														
Capra aegagrus Erxleben, 1777	Wild Goats	VU	x	–	–	–	–	nt/E	x	x	–	A,B,C	2,3,5	B-F-N
Rupicapra rupicapra Linnaeus, 1758	Alpine Chamois	LC	–	x	–	–	–	nt/E	x	x	–	A,B,C	2,3,5	B-F-N

threatened are those that are at risk of becoming endangered if trends continue and management efforts are not successful in increasing population numbers. Species of concern are of State level interest and represent those species where population trends suggest that if left unabated, they will become threatened and potentially endangered. The extent to which the various groups of animals in the study areas are to be protected under the Bern Convention or cited on the IUCN Red List varies from one group to another. There are no endemic species in Artvin mammals fauna. There are 5 NT, 1 VU, 48 LC, 1 DD species have been introduced. Some of the mammal species that were observed or reported in the study area are listed in Annex 2(18 species) or Annex 3 (13 species).

Prometheomys schaposchnikowi is endemic species and only living in Turkey Yalnızcam Mountains. This species live in the region between Turkey and Georgia. Namely Leopard (*Panthera pardus ciscaucasica*) were not directly observed but this species were seen by some villagers in Yusufeli town. There had been shot in the skin of a leopard in 1980. Forbidden hunting of hunters of Wild Goats and Alpine Chamois is negatively affecting population of these animals. In addition, as Grizzly Bears living near in the village area, this is negatively affecting living conditions of the local people. We suggest that the future researchers should investigate the negative effects of the dams to the wild animals and the relation between the local people and wild

animals should also be investigated. Finally we can say that the main factors threatening mammals with the extinction are anthropogenic reclamation of natural habitats and direct extermination by man. Conditions are particularly difficult for species inhabiting open landscapes, where human economic activities occur most intensively. Precautions for protecting wildlife ecology must be enhanced since the Coruh River Dam Project consisting of several large dams (some are already-completed and some are still being constructed) is threatening the wildlife ecology in Artvin region. It should never be forgotten that human beings are not the owner of the nature, just a part of it.

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