

A Temporal Status of Some Game Bird Population in Bolu, Turkey

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Abstract. Chukar Partridge, Grey Partridge, Common Quail, European Turtle Dove, Common Woodpigeon, Eurasian Woodcock and Common Blackbird are popular game birds for Turkey. It is important to gather information about the population of game birds to properly manage the hunting season in each region of Turkey. The study was carried out to evaluate the temporal status and true and reliable informations of some game birds for avoidance of the conflict between conservation of game birds and hunting tourism. A total of 18 field study were conducted from October 2015 to August 2016 in important wildlife areas of Bolu, Yeniçağa Wetland, Yedigöller National Park, Dörtdivan Vulture Restaurant and Köroğlu Mountains. A dataset containing information on game birds of Bolu between 2004 and 2016 was derived from bird observers' and checklist web page. According to the results, Partridges were not observed, Woodcock was rarely recorded, European Turtle Dove and Common Quail as summer visitor and Common Woodpigeon and Common Blackbird as resident were reproduced in the study area. Consequently, hunting can be granted for game birds except Partridges, Turtledove and Woodcock, but the hunting should be conditional on lower amount for especially Quail.

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Bolu Yaban Hayatında Bazı Av Kuşlarının Temporal Statüsü

Anahtar kelimeler:

Av kuşları, popülasyon statüsü, avcılık, Bolu yaban hayatı

Özet. Kınalı Keklik, Çil Keklik, Bildırcın, Üveyik, Tahtalı Güvercin, Çulluk ve Karatavuk ülkemiz için popüler av kuşlarıdır. Türkiye'nin her bir bölgesinde avlanma ve av sezonu ile ilgili doğru bir yönetim uygulayabilmek için söz konusu av kuşlarının popülasyon durumları ile ilgili verilerin toplanması oldukça önemlidir. Çalışma, özellikle av kuşlarının korunması ile av turizmi arasında oluşabilecek çatışmadan kaçınmak için türlerin doğru ve güvenilir popülasyon bilgilerini ve statülerini elde etmek ve değerlendirmek amacıyla yürütülmüştür. Bolu'nun önemli yaban hayatı alanları olan Yeniçağa Sulak Alanında, Yedigöller Milli Parkında, Dörtdivan Akbaba Restoranında ve Köroğlu Dağlarında toplam 18 arazi çalışması Ekim 2015 Ağustos 2016 ayları arasında gerçekleştirilmiştir. Bunun yanında, kuş gözlemcilerinin ve kuş kayıtlarının tutulduğu internet siteleri üzerinden hedef av kuşlarının 2004-2016 yılları arasındaki Bolu'daki kayıtları ve gözlemleri ile ilgili bilgiler taranmıştır. Elde edilen verilere göre, Keklik türleri alanda gözlenmezken, Çulluk nadir olarak kayıt edilmiştir. Üveyik ve Bildırcın yaz ziyaretçisi olarak, Tahtalı Güvercin ve Karatavuk ise yerli statüsünde alanda ürediği tespit edilmiştir. Sonuç olarak Keklik türleri, Üveyik ve Çulluk haricinde diğer değerlendirilen av kuşları için av izni verilebilir. Ancak özellikle Bildırcın için av limitinin düşük miktarda olması gerekmektedir.

INTRODUCTION

In Turkey like most European countries Chukar Partridge *Alectoris chukar*, Grey Partridge *Perdix perdix*, Common Quail *Coturnix coturnix*, European Turtle Dove *Streptopelia turtur*, Common Woodpigeon *Columba palumbus*, Eurasian Woodcock *Scolopax rusticola*, and Common Blackbird *Turdus merula* are considered as important game birds particularly for hunting tourism. While some of those game birds have a very wide spread, the others particularly Chukar Partridge and Grey Partridge have a shrinking habitat under high hunting pressure for Turkey (Yılmaz and Tepeli 2007; Mıhlı 2008; BirdLife International 2017). On the other hand, hunting tourism on game birds also reveals various sociological and economic benefits like as recreation, food and employment facilities (Fischer *et al.* 2013). As expected, this creates a conflict between human interests and conservation of natural game birds. In Turkey to minimize the damage of this conflict, every year the hunting commission is formed in accordance with the law of land fencing and the necessary decisions about hunting are taken. The limit for hunting per hunter on a hunting day was fixed at 10 for Common Quail, 8 for European Turtle Dove, 4 for Eurasian Woodcock, 3 for Common Woodpigeon and Common Blackbird, and totally 2 for Partridges during 2015-2016 hunting season, also same hunting limit for game birds during 2017-2018 hunting season except Turtle Dove, Eurasian Woodcock limited both 5 and Common Woodpigeon limited 4 (Ministry of Forestry and Water Affairs General Directorate of Conservation of Nature and National Parks 2015, 2017). However there is uncertainty about the reliability and trustability of these data, because of the little knowledge of the population dynamics and true status of game birds for each region of Turkey. Accordingly, it is obvious that specific census and monitoring program for game birds of Turkey are required. On the other hand, studies on game birds (particularly for Partridges and Quail) in Turkey have mostly focused on captive breeding, egg hatching performance and releasing to nature for hunting, and also on partridge and quail farming for food (Koçak and Özkan 2000; İpek *et al.* 2004; Yılmaz and Tepeli 2007; Karabağ *et al.* 2010; Yamak 2015). Though, it is known that the game birds mentioned above, except Eurasian Woodcock the winter visitor, breed in various regions of Turkey (BirdLife International 2017).

Consequently, it is necessary to gather information about the population of game birds to properly preserve and manage in each region of Turkey where

the hunting is popular. In this study the results of regional survey of some game birds in Bolu, Turkey are presented to provide the true status of birds and reliable population estimates for avoidance of the conflict between conservation of game birds and hunting tourism.

MATERIALS AND METHODS

Study Area

Bolu Province is located in the western Black Sea Region with an area of 827 ha (40°43'N, 31°36'E), and surrounded by Zonguldak in the north, Karabük in the north east, Çankırı in the east, Ankara in the south, Bilecik and Eskişehir in the south west, Düzce and Sakarya in the west. The average altitude is 1000 m, while the central district's altitude is 725 m. Approximately 56% of the province of Bolu is covered with mountains reaching up to 2500 m. Köroğlu and Abant Mountains is located at the south, and Bolu Mountains at the north-west of the city. On average, 12% of the Bolu area is covered with plains, 18% with agricultural and 59% with woodland areas. It has continental climate in the south and Black Sea climate in the north, where the annual average temperature is approximately 10.6 °C, the annual average rainfall is approximately 550.4 mm year⁻¹ between 1975 and 2011 (Ministry of Environment and Urbanization Bolu Office 2012). Yeniçağa Important Bird Area (40°46'N, 32°01'E), Yedigöller National Park (40°46'N, 31°44'E), Dörtdivan Vulture Restaurant (40°41'N, 32°02'E) and Köroğlu Mountains (40°26'N, 31°59'E) are important wildlife areas of the region.

Field Study and Data Collecting

A total of 18 field study were conducted from October 2015 to August 2016 in Yeniçağa IBA, Yedigöller National Park, Dörtdivan Vulture Restaurant and Köroğlu Mountains (Figure 1, Table 1). The observations were carried out in the key habitats mainly agricultural lands, woodland and wetland for Yeniçağa and Yedigöller, and mainly woodland, forest edges and steppe for Dörtdivan and Köroğlu Mountains. Besides, a dataset containing information on game birds of Bolu between 2004 and 2016 was derived from Trakuş (bird observer's web page) and Kuşbank (online bird checklist program, nowadays used as ebird) (Kuşbank 2015; Trakuş 2016). The field study was carried out from dawn to dusk, but was not performed in rainy days. Line transect method has been performed for observation of target game birds. Observations were performed with Swarovski 8x42



Figure 1. The study areas.

Şekil 1. Çalışma alanı.

binocular and 30x telescope. The Canon 7D SLR camera is used for photography of bird species.

Table 1. Field studies for game birds during 2015-2016.

Çizelge 1. Av kuşları için 2015-2016 yıllarında gerçekleştirilen arazi çalışmaları.

Study date	Field
24.06.15	Köroğlu Mountains
09.10.15	Yeniçağa IBA
17.10.15	Yeniçağa IBA
24.10.15	Yeniçağa IBA
31.10.15	Yeniçağa IBA
19.11.15	Yedigöller NP
20.11.15	Yedigöller NP
21.11.15	Yedigöller NP
24.11.15	Yedigöller NP
25.11.15	Yedigöller NP
28.11.15	Yeniçağa IBA
19.12.15	Yeniçağa-Dörtdivan
27.02.16	Yeniçağa-Dörtdivan
18.03.16	Yeniçağa IBA
15.04.16	Yeniçağa IBA
10.06.16	Köroğlu Mountains
20.05.16	Yeniçağa-Dörtdivan
21.06.16	Yeniçağa-Dörtdivan

RESULTS AND DISCUSSION

The data obtained from the field studies and online data sets are presented in Figure 2-3. According to the results, it has been understood that there is no record for Chukar Partridge and Grey Partridge in Bolu (Figure 2-3). Besides, it's thought that the breeding

population of the other game birds except Eurasian Woodcock evaluated as rare is found in the study area (Figures 2 and 3).

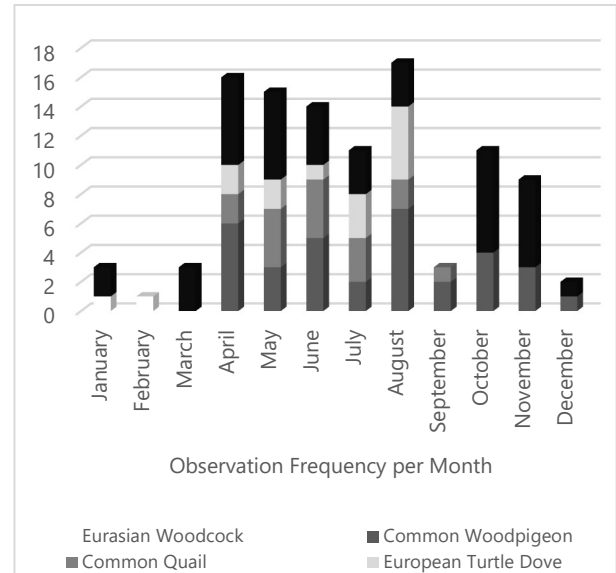


Figure 2. Frequency of observations of game birds per month between 2004 and 2016 in Bolu province.

Şekil 2. Bolu ilinde Av kuşlarının 2004-2016 yılları arasındaki aylara göre gözlem sıklığı.

Chukar Partridge *Alectoris chukar* and Grey Partridge *Perdix perdix* are globally evaluated as "LC" (Least Concern). Chukar Partridge is a resident species and present on semi-arid and arid rocky alpine slopes and mountain deserts, also descend rocky lower altitudes surrounded by cultivations, pastures, agricultural

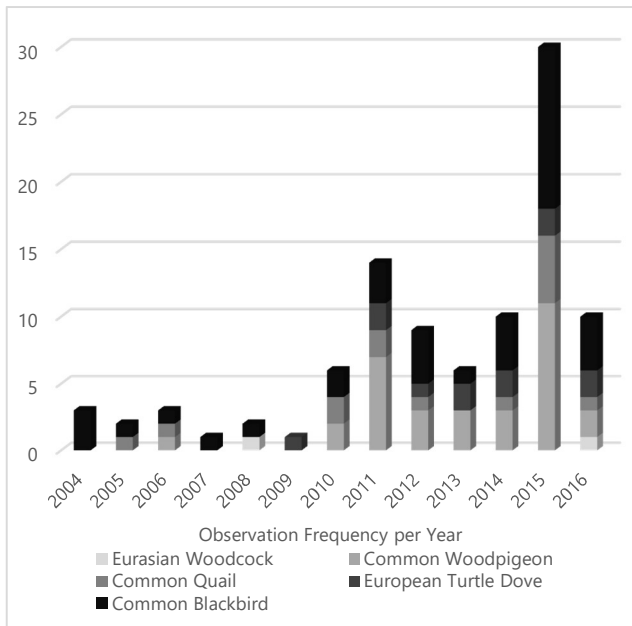


Figure 3. Frequency of observations of game birds per year between 2004 and 2016 in Bolu province.

Şekil 3. Bolu ilinde Av kuşlarının 2004-2016 yılları arasındaki gözlem sıklığı.

lands, shrubs and bushes (Svensson *et al.* 2009; BirdLife International 2017). It has a wide distribution ranging from the Balkans to East Asia (BirdLife International 2017). Although the European population of species is assessed as stable, the population in Turkey, almost half of the European population, is thought to have decreased significantly (BirdLife International 2004a). Over-hunting and poaching, habitat degradation and human-mediated hybridization are considered as main threat factors of species (Panayides *et al.* 2011; BirdLife International 2017). Furthermore, Grey Partridge is a resident species for western Palearctic, but locally altitudinal migration can be observed. It can be found in steppe regions and open landscapes particularly cultivated fields. Despite Grey Partridge is assessed as Least Concern (LC), the species is demonstrated a significant reduction due to pesticides, over-hunting and habitat loss in almost every region it is spreaded (Svensson *et al.* 2009; BirdLife International 2017). According to the results of this study, it is thought that these species do not have natural populations within the boundaries of Bolu.

Common Quail *Coturnix coturnix* is globally evaluated as "LC". It is a summer visitor species for western Palearctic, and can be found on all continents except New World. It prefers open habitats particularly open farmlands with fields of wheat, clover and young corn (Wetherbee 1961; Svensson *et al.* 2009; BirdLife International 2017). Therefore the distribution and population status of species is mainly influenced by

agriculture. Thus agricultural intensification and usage of pesticides and insecticides are the main threat factors for the species (Wetherbee 1961; BirdLife International 2017). However over-hunting, hybridization with Japanese Quail, harsh climatic conditions and increase in mortality rate due to netting migrating individuals of species are the major threat factors to be considered for the species. The species that can be observed in almost every region of Turkey is assessed as depleted for Europe and decreased significantly (BirdLife International 2004b; BirdLife International 2017). According to the obtained data, the species observed in Bolu between April and September was recorded most intensively in May-June period (Figure 2), and it is understood that the species is a summer visitor for Bolu.

European Turtle Dove *Streptopelia turtur* is globally evaluated as "VU" (Vulnerable). The species is observed as strongly migratory species and has a wide range distribution including Europe, Central Asia, the Middle East and North Africa. The species can be observed as a summer visitor for Turkey in step and semi-arid ecosystems as well as in various woodlands (Svensson *et al.* 2009; BirdLife International 2017). The Turtle Dove is hunted in Turkey especially during the pre-migration period in the fall. So with over-hunting during migration, habitat degradation and diseases are the major threats. Therefore population of the species is dramatically decreased in Europe and central Asia as well as in Turkey, and is assessed globally as under threat (BirdLife International 2004c; BirdLife International 2017). According to the results, the species was observed in Bolu between April and August (Figure 2). In the study area the species was recorded most intensively in August, so European Turtle Dove is evaluated as a summer visitor for Bolu.

Common Woodpigeon *Columba palumbus* evaluated as "LC" has distributing wide range throughout western Palearctic. As in Europe, the species is observed in Turkey as resident or migratory in a various woodland and open ground types including human modified habitats. Although the population of the species in Europe has increased, in Turkey the population has displayed a downward trend. Nevertheless the species is considered as Secure for all Europe (BirdLife International 2004d; BirdLife International 2017). According to the results, the species was observed in Bolu between April and December, thus Common Woodpigeon is considered as resident for Bolu. In the study area the species was recorded most intensively in August like as the European Turtle Dove (Figure 2).

Eurasian Woodcock *Scolopax rusticola* is globally evaluated as "LC". The species can be found in Russia, Fennoscandia, the Baltic States, United Kingdom, central Europe and the Caucasus as a resident or a summer visitor, also in the Mediterranean, Aegean, Black sea and Atlantic coastal regions as a winter visitor (Svensson *et al.* 2009; BirdLife International 2017). The species can be observed as a winter visitor for Turkey in moist woodland as well as in humid, earthworm-rich, permanent grasslands, scrubs and bushes (Ferrand *et al.* 2008; Powell 2012; Braña *et al.* 2013; BirdLife International 2017). It is more likely to be observed while feeding on the edge of the moist woodland at dusk and dawn. Habitat fragmentation especially in its breeding range, intensification of agricultural practices and over-hunting are the significant threat factors for the species (Aradis *et al.* 2008; Powell 2012; BirdLife International 2017). Because of these factors the species is strongly declined in Russia, also negative status is considered for Turkey population, but commonly stable trend is evaluated for other European population of the species (BirdLife International 2004e; BirdLife International 2017). In the study area, it is understood that the species can rarely be observed between January and February (Figure 2). According to the results, hunting of the Woodcock considering as a winter visitor for Bolu should not be allowed by authorities in the study area.

Common Blackbird *Turdus merula* evaluated as "LC" has a wide range of distribution including Europe as a resident or a summer visitor, North Africa as a resident or a winter visitor, the Middle East as a resident or a winter visitor and west Asia as a resident or a winter visitor. The species is commonly resident for Turkey. The species can be found in various habitats from its original habitat open woodland to parks, gardens, farmland and groves. An important threat factor for the Turkish population is unknown, also European population growth of the species is positive. Nevertheless agricultural intensification and hunting have been reported as the major threats for the population of the species in Britain and Spain (Svensson *et al.* 2009; BirdLife International 2017). According to the obtained data, the most common species among the target game birds in the study area is the Blackbird. The species was observed in Bolu during almost the whole year, thus the species is evaluated as a resident for Bolu (Figure 2).

CONCLUSION

As a result, it is thought that wild Partridges population do not occupy the study area, however detailed studies are required particularly for Chukar Partridge population in Bolu. In addition, Eurasian Woodcock population could rarely be observed in the study area. Although Turtledove is found in the study area, the population of the species is globally evaluated as "Vulnerable" according to IUCN criteria. Consequently, wildlife managers and authorities should not allow hunters to shoot these game birds in the hunting season of Bolu. On the other hand, hunting can be granted for other game birds, but hunting should be conditional on lower amounts (no more than five depending on the population size of the species) for especially Quail. Finally, detailed studies required for the population estimates of the game birds, and regular observations should be conducted by wildlife managers, conservationists and bird observers together to ensure gathering these information are reliable and trustworthy.

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