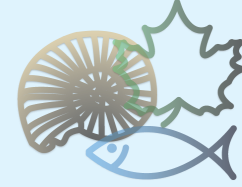




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## The Bird Collection of İstanbul University Biology Department (Turkey)

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### Abstract

The current study, samples that were collected between 1940 – 1997 and conserved in the bird collection of İstanbul University Biology Department are examined. A total of 370 bird samples were studied and 143 species that belong to the collection were determined. The localities of most of the samples are domestic. In this respect the collection reflects the history of Turkish bird fauna.

### Introduction

The zoological collections of İstanbul University Biology Department are valuable thanks to the samples collected from the first studies on Turkish fauna. The collection also has the important samples which were sent from abroad and donated by collectors. The Zoologic collections consist of marine species, butterflies, ostracods, gastropods, birds, bats from Turkey, small mammals of Thrace, fur and skulls of mammals (Gürsoy, 2008; İshakoğlu-Kadioğlu, 1998; Özuluğ, 2003; Özuluğ, 2009; Özuluğ *et al.* 2013). The herpetological collection of the museum was studied as a Master's thesis and was published as an article (Kaya & Özuluğ, 2017). The samples of Istanbul Coleoptera and Orthoptera which is part of the insect collection donated to the museum by Bernard Tubini is also published (Dikmen & Özuluğ, 2018). Besides these studies, taxonomic studies of the other collections and database processings continue. The collection of birds has an important place in the zoology collection. The collection consists of a large number of embalmed bird samples which were donated from Yıldız Palace to İstanbul University with cabinets. There is no information about the date and location of capture of these birds, most of which were used for visual exhibition so not listed in this study. Therefore, only the bird samples in the scientific collection that were collected in student excursions in the period of Curt Kosswig after 1933 university reform and that have scientific values since labels are listed are used.

The first extensive study on birds of Turkey belongs to Saadet Ergene (Ergene, 1945). The book named “The Birds of Turkey” examines the collections of different schools. After the analyses of the samples from field surveys to Hatay and Adana provinces in 1945 and Bursa province in 1944, the researcher also published some general information about birds, species list with taxonomic key with paintings of birds (Ergene, 1945). In addition to S. Ergene, Hans Kumerloeve who mentioned some birds in Turkey in 1958 published an extensive study in 1961, which is based on field surveys of avifauna of different regions in Turkey (Kumerloeve, 1961). These two studies are significant since they are preliminary studies that intended to determine the bird fauna of Turkey. In addition to these two studies, there are a number of other studies published simultaneously or after them (Kumerloeve, 1958; Kasparyan, 1960; Schweiger, 1965; Kumerloeve, 1975). It was observed that studies concerned with birds of Turkey increased in the following years. Another element that makes this study significant is that the collection to be used dates back to earlier periods than these studies.

The number of studies concerned with birds of Turkey increases constantly due to the fact that Turkey is situated on important bird migration routes between Asia and Europe and the country possesses a wide variety of geographic and climate features. With the increasing number of studies the collections also become important. The collection samples are very important to get information from the past and to make comparisons. In this study the samples that date back to 1940-1997 are listed. At the end of this study, the birds – a large number of which belongs to Turkish avifauna and some of which belongs to the Middle East fauna – conserved in the Biology Department Zoology Collection of Istanbul University were listed. The samples are significant since there was no record of them up until today and because they date back to 1940 – 1997 which is an earlier period than the first studies in Turkey.

## Material and Method

A total of 370 samples that was stuffed and conserved in cabinet drawers in Istanbul University Biology Department were studied. The classification of each species which was not determined or misspecified was corrected according to Mullarney *et al.* (1999) and Heinzl & Parslow (1995). The information on labels about the date, locality, the colours of iris, beak and foot and the measures of body were used for determination. Each sample is put in zip lock bags and their labels that contain the museum number were attached. The same order is followed for labeling the samples as it is practiced in the museum like Av. (AVES) cabinet no – Drawer no – Item no.

## Results

A total of 143 bird species out of 370 samples conserved in Istanbul University Biology Department were identified again and were added to the collection list. Taxonomic revision was made for species. The samples dates of the collection are between 1940 – 1997. The oldest sample in the bird collection is *Microcarbo pygmeus* (Pallas, 1773) (Pygmy cormorant) (♀) that was collected on 29.02.1940 in Çatalca, İstanbul, Turkey. The locality data is given on the map of Turkey considering the information provided with the labels (Fig 1.). In the collection there are 30 bird species of 64 samples which were classified between 1948 – 1949 by Saadet Ergene who studied as the first ornithologist in Turkey. Additionally, the species of *Emberiza caesia* Cretzschmar, 1828 (Cretzschmar's bunting) (30.03.1949, Mt.Carmel, Tel Aviv, ♀), *Monticola solitarius* (Linnaeus, 1758) (Blue rock thrush) (Ekim, 1942, Tel-Aviv), *Caloenas nicobarica* (Linnaeus, 1758) (Nicobar pigeon), *Oenanthe hispanica* (Linnaeus, 1758) (Black-eared wheatear) (March 1950, Wadi Nimra Tel-Aviv, ♂, Amots & A.B.) and *Pycnonotus capensis vallombrosa* (20.01.1953, Tel Aviv, ♂, Michael Cohen) from abroad were determined. All the species that were determined in this study were given in the list below.



**Figure 1:** The locality data of the Bird Collection of Istanbul University Biology Department (<https://www.drivingdirectionsandmaps.com/wp-content/uploads/country-maps/tu-country-map.gif>, is used to transform from this website).

### The List of the Bird Collection of Istanbul University Biology Department (S.E.: Species determined by Saadet Ergene, Col: Collector).

*Acanthis flammea* (Linnaeus, 1758); Av.D18C14- 01, ♀; Av.D18C14- 02, ♂.

*Accipiter nisus* (Linnaeus, 1758); Av.D18C6- 03, ♂.

*Acrocephalus arundinaceus* (Temminck & Schlegel, 1847); Av.D18C26- 01, 3.05.1947, Manyas Bandırma, ♂.

*Actitis hypoleucos* Linnaeus, 1758; Av.D18C30- 01, 1948, S.E.; Av.D18C38- 01, 3.05.1947, Manyas Lake Bandırma, ♀.

*Alauda arvensis* Linnaeus, 1758; Av.D18C9- 011.03.1949, Bursa, Yeşilköy, ♂, S.E.

*Alcedo atthis* (Linnaeus, 1758); Av.D18C31- 011; Av.D18C31- 021; Av.D18C33- 01, 5.03.1945, Çekmece; Av.D18C35- 01, 09.1997, Baltalimanı ♂.

*Alectoris chukar* (Gray, 1830); Av.D18C24- 01, 8.05.1948, ♂, S.E.

*Anas clypeata* (Linnaeus, 1758); Av.D18C36- 01, February 1949, Çekmece, ♂.

*Anas crecca* Linnaeus, 1758; Av.D18C19- 01, 1950, Çekmece, ♀; Av.D18C19- 023, 1.12.1951, Kilis Mülk Village, ♂, Ali Öztürk; Av.D18C35- 02, 29.12.1951, Andırın Çokak District, Col: Mustafa Ala.

*Anas querquedula* (Linnaeus, 1758); Av.D18C36- 0, 25.03.1945, Çekmece Lake ♂;  
Av.D18C36- 03, 5.03.1945, Çekmece Lake, ♀.

*Anthus campestris* (Linnaeus, 1758); Av.D18C23- 011; Av.D18C23- 021; Av.D18C27- 01,  
9.06.1948, Bursa Uludağ, S.E.; Av.D18C27- 02, 9.06.1948, Bursa Uludağ, S.E.; Av.D18C27-  
03, 9.06.1948, Bursa Uludağ, S.E.; Av.D18C27- 04, 9.06.1948, Bursa Uludağ, S.E.;  
Av.D18C29- 01, 3.05.1947, Manyas.

*Anthus spinoletta* (Linnaeus, 1758); Av.D18C27- 05, 9.06.1948, Bursa Uludağ, ♀, S.E.;  
Av.D18C27- 06, 9.06.1948, Bursa Uludağ, ♀, S.E.; Av.D18C27- 07, 9.06.1948, Bursa  
Uludağ, ♀, S.E.; Av.D18C27- 08, 9.06.1948, Bursa Uludağ, ♀, S.E.; Av.D18C29- 02,  
15.06.1949, Derbend, Ilgaz.

*Anthus trivialis* (Linnaeus, 1758); Av.D18C23- 031; Av.D18C27- 09, 8.06.1949, Abant Lake  
♂; Av.D18C27- 10, August 1947, 9.06.1948, Uludağ S.E.; Av.D18C27- 11, August 1947,  
9.06.1948, Uludağ, S.E.; Av.D18C27- 12, August 1947, 9.06.1948, Uludağ, S.E.

*Ardeola ralloides* (Scopoli, 1769); Av.D18C17- 01, Bandırma Manyas Lake, ♀; Av.D18C36-  
04, 3.05.1947, Bandırma Manyas Lake, ♂.

*Asio flammeus* (Pontoppidan, 1763); Av.D18C26- 02, 15.01.1941, Çatalca, ♀.

*Aythya ferina* (Linnaeus, 1758); Av.D18C22- 01, ♀; Av.D18C30- 02, 5.03.1945, Çekmece  
Lake, ♀.

*Aythya fuligula* (Linnaeus, 1758); Av.D18C29- 03, 1950, Çekmece; Av.D18C31- 031;  
Av.D18C32- 01, ♂; Av.D18C33- 02, January 1949, ♀; Av.D18C35- 031.

*Aythya marila* (Linnaeus, 1761); Av.D18C10- 01, ♀; Av.D18C19- 03, Çekmece, ♀.

*Aythya nyroca* (Güldenstädt, 1770); Av.D18C25- 01, 29.12.1940, Çatalca, ♂; Av.D18C30-  
03, ♀; Av.D18C30- 04, 5.03.1945, Çekmece Lake, ♀.

*Calidris alpina* (Linnaeus, 1758); Av.D18C10- 02, 1.10.1946, Çivril; Av.D18C19- 04;  
Av.D18C31- 041.

*Calidris ferruginea* (Pontoppidan 1763); Av.D18C28- 01, 1946, Bursa Uludağ.

*Calidris minuta* (Leisler, 1812); Av.D18C35- 04, S.E.

*Caloenas nicobarica* (Linnaeus, 1758); Av.D18C16- 01.

*Caprimulgus europaeus* Linnaeus, 1758; Av.D18C29- 04, Bursa ♀; Av.D18C29- 05, Bursa;  
Av.D18C29- 06.

*Carduelis carduelis* (Linnaeus, 1758); Av.D18C9- 02; Av.D18C15- 01; Av.D18C16- 02;  
Av.D18C25- 02; Av.D18C27- 13, 18.03.1953, İskenderun, Col: Mehmet Ali Yenituv;  
Av.D18C29- 07, 1.03.1949, Bursa Uludağ, S.E.; Av.D18C29- 08, 1.03.1949, Bursa Uludağ,  
S.E.; Av.D18C29- 09, 2.04.1948, Around Çekmece Lake, ♀, S.E.; Av.D18C29- 10,

2.04.1948, Around Çekmece Lake, ♂, S.E.; Av.D18C35- 05; Av.D18C35- 06, 4.04.1965, Boğaziçi; Av.D18C35- 07.

*Carpodacus erythrinus* (Pallas, 1770); Av.D18C15- 02, 16.06.1949, Ilgaz Mountain (Bostan Village), ♂; Av.D18C23- 04, 8.06.1949, Abant Lake, ♂; Av.D18C23- 05, 8.06.1949, Abant Lake, ♂; Av.D18C26- 03.

*Ceryle rudis* (Linnaeus, 1758); Av.D18C38- 02, 17.02.1946, Antakya Amik Lake (dried), ♀; Av.D18C38- 03, 17.02.1946, Antakya Amik Lake (dried), ♂.

*Cettia cetti* (Temminck, 1820); Av.D18C29- 11, 15.06.1949, Ilgaz.

*Charadrius alexandrinus* Linnaeus, 1758; Av.D18C7- 14, ♂; Av.D18C7- 15, ♀.

*Charadrius leschenaultii* Lesson, 1826; Av.D18C37- 01.

*Chloris chloris* (Linnaeus, 1758); Av.D18C15- 03; Av.D18C16- 03, 26.03.1953; Av.D18C35- 09, 1.03.1949, Bursa.

*Chroicocephalus genei* (Brème, 1839); Av.D18C11- 01.

*Cinclus cinclus* (Linnaeus, 1758); Av.D18C16- 04, 4.10.1946, Egridir; Av.D18C27- 14, 26.03.1953.

*Cinnyris osea* Bonaparte, 1856; Av.D18C11- 02.

*Circus aeruginosus* (Linnaeus, 1758); Av.D18C18- 01.

*Circus macrourus* (S. G. Gmelin, 1770); Av.D18C34- 01.

*Coccothraustes coccothraustes* (Linnaeus, 1758); Av.D18C9- 03, 1.03.1953, Instute; Av.D18C27- 15, March 1953, Village Instute Agriculture Garden.

*Coracias garrulus* Linnaeus, 1758; Av.D18C23- 06; Av.D18C32- 02, 3.05.1947, Manyas Lake (Bandırma); Küçükçekmece; Av.D18C32- 03, 3.05.1947, Manyas Lake (Bandırma); Küçükçekmece.

*Corvus monedula* Linnaeus, 1758; Av.D18C18- 02; Av.D18C28- 02, 13.02.1947, Topkapı around, ♂; Av.D18C35- 10, 13.02.1947, Topkapı around, ♂; Av.D18C37- 02, 20.03.1996, Susurluk Muradiye Village, ♀.

*Crex crex* (Linnaeus, 1758); Av.D18C26- 04, Küçükçekmece, S.E.; Av.D18C26- 05, Küçükçekmece, S.E.

*Cyanistes caeruleus* (Linnaeus, 1758); Av.D18C7- 06, Bursa; Av.D18C7- 07, Bursa; Av.D18C7- 08, Bursa; Av.D18C7- 20, Bursa; Av.D18C16- 05, 26.03.1953.

*Dendrocopos major* (Linnaeus, 1758); Av.D18C6- 04, 18.06.1949, Ilgaz Mountain, ♀; Av.D18C31- 05; Av.D18C26- 06, 16.06.1949, Ilgaz Yenice.

*Dendrocopos syriacus* (Ehrenberg, 1833); Av.D18C26- 07, 23.03.1955, Old Manyas Village, ♂.

*Egretta garzetta* (Linnaeus, 1766); Av.D18C34- 02, 3.05.1947, Bandırma Manyas Lake, ♂.

*Emberiza caesia* Cretzschmar, 1828; Av.D18C23- 08, 30.03.1949, Mt.Carmel Tel Aviv, ♀.

*Emberiza calandra* Linnaeus, 1758; Av.D18C15- 04, Çekmece; Av.D18C23- 09, Bursa; Av.D18C35- 11, 3.05.1947, Manyas Bandırma.

*Emberiza cia* Linnaeus, 1766; Av.D18C23- 07.

*Emberiza cirrus* Linnaeus, 1766; Av.D18C16- 06, 26.03.1953.

*Emberiza hortulana* Linnaeus, 1758; Av.D18C15- 05, June, 1948, Bursa, Uludağ, ♀, S.E.; Av.D18C15- 06; Av.D18C15- 07, 12.06.1949, Abant Bolu, ♂.

*Emberiza melanocephala* Scopoli, 1769; Av.D18C25- 03, ♂.

*Eremophila alpestris* (Linnaeus, 1758); Av.D18C7- 01, August,1947; Uludağ.

*Erithacus rubecula* (Linnaeus, 1758); Av.D18C9- 04, 9.06.1948, Uludağ, S.E.; Av.D18C27- 16, 3.01.1953, Kahramanmaraş Döngel.

*Falco naumanni* Fleischer, 1818; Av.D18C7- 16.

*Falco subbuteo* Linnaeus, 1758; Av.D18C33- 03, 10.06.1948, Uludağ, S.E.

*Francolinus francolinus* (Linnaeus, 1766); Av.D18C34- 03, Ceyhan, ♀.

*Fringilla coelebs* Linnaeus, 1758; Av.D18C14- 03, Bursa, ♀, S.E.; Av.D18C14- 04, Bursa, ♀, S.E.; Av.D18C14- 05, Bursa, ♀, S.E.; Av.D18C14- 06, Bursa, ♀, S.E.; Av.D18C14- 07, Bursa, ♂, S.E.; Av.D18C15- 08, ♂; Av.D18C15- 09; Av.D18C23- 10, 1946, Bursa Uludağ, ♂; Av.D18C27- 17; Av.D18C35- 12.

*Fringilla montifringilla* Linnaeus, 1758; Av.D18C15- 10, 1.03.1949, Bursa ♀; Av.D18C15- 11, 1.03.1949, Bursa, ♀.

*Fulica atra* Linnaeus, 1758; Av.D18C6- 05, 2.01.1952, Ceyhan, Haliliye Village, ♀, Col: M. Nuri Uşkem; Av.D18C17- 02, Küçük Çekmece, ♂; Av.D18C18- 03, 28.12.1951, Antakya Cimir Bridge, Col: Kerim Demir; Av.D18C22- 02, Ceyhan, Haliliye Village, Col: Nuri Şişken; Av.D18C25- 04; Av.D18C28- 03; Av.D18C33- 04, ♀; Av.D18C37- 03, 8.12.1940, Büyükçekmece Lake.

*Galerida cristata* (Linnaeus, 1758); Av.D18C23- 11; Av.D18C35- 13.

*Gallinula chloropus* (Linnaeus, 1758); Av.D18C28- 04, 28.05.1948, Baltalimanı, ♀, S.E.

*Garrulus glandarius* (Linnaeus, 1758); Av.D18C7- 21; Av.D18C14- 08, Çekmece S.E.; Av.D18C14- 09, Çekmece, S.E.; Av.D18C14- 10, Çekmece; Av.D18C16- 07, 22.03.1955, Çanakkale.

*Gelochelidon nilotica* (Gmelin, 1789); Av.D18C17- 03, September, 1948, Emir Lake, S.E.

*Glareola pratincola* (Linnaeus, 1766); Av.D18C30- 05, Küçükçekmece.

*Halcyon smyrnensis* (Linnaeus, 1758); Av.D18C26- 08, 1.01.1952, ♀, Col: Rafet Karagedik; Av.D18C38- 04, 10.05.1944, Amik (Lake Huleh), ♀.

*Hirundo rustica* Linnaeus, 1758; Av.D18C23- 12.

*Hydrocoloeus minutus* Pallas, 1776; Av.D18C16- 08, Çekmece; Av.D18C31- 06, 15.05.1949; Av.D18C31- 07, 15.05.1949; Av.D18C33- 05.

*Lanius collurio* Linnaeus, 1758; Av.D18C7- 09, June 1948, ♀, S.E.; Av.D18C7- 10, June 1948, ♀, S.E.; Av.D18C7- 11, June 1948, ♂, S.E.; Av.D18C7- 12, June 1948, S.E.

*Lanius minor* Gmelin, 1788; Av.D18C7- 17, Bursa; Av.D18C7- 18, Bursa; Av.D18C7- 19, Bursa; Av.D18C23- 13; Av.D18C26- 09, May 1947, Yalova.

*Lanius nubicus* Lichtenstein, 1823; Av.D18C15- 12; Av.D18C15- 13.

*Larus melanocephalus* Temminck, 1820; Av.D18C28- 05, 9.04.1949, Küçükçekmece; Av.D18C31- 08, 9.04.1949, Küçük Çekmece.

*Larus minutus* (Pallas, 1776); Av.D18C28- 06, 15.05.1949, Manyas Lake.

*Linaria cannabina* (Linnaeus, 1758); Av.D18C15- 14, ♂; Av.D18C15- 15; Av.D18C35- 08.

*Loxia curvirostra* Linnaeus, 1758; Av.D18C22- 03, August 1947, Bursa, Uludağ.

*Lullula arborea* (Linnaeus, 1758); Av.D18C9- 05, 10.06.1948, Uludağ, S.E.

*Luscinia megarhynchos* (Brehm, 1831); Av.D18C23- 14; Av.D18C23- 15.

*Lymnocyptes minimus* (Brünnich, 1764); Av.D18C34- 04, 1946, Bursa Uludağ.

*Melanocorypha calandra* (Linnaeus, 1766); Av.D18C9- 06, Çekmece.

*Mergellus albellus* (Linnaeus, 1758); Av.D18C16- 09; Av.D18C18- 04, 1950, Çekmece, ♀; Av.D18C19- 05, 1950, Çekmece, ♀; Av.D18C28- 07; Av.D18C28- 08, 1950, Çekmece ♀; Av.D18C32- 04, ♀; Av.D18C34- 05.

*Merops apiaster* Linnaeus, 1758; Av.D18C25- 05; Av.D18C25- 06; Av.D18C32- 05, August 1947, Uludağ.

*Microcarbo pygmaeus* (Pallas, 1773); Av.D18C7- 13, 11.11.1995, Işıklar Lake (Çivril), ♂; Av.D18C28- 09, 29.02.1940, Çatalca, ♀.

*Monticola saxatilis* (Linnaeus, 1766); Av.D18C15- 16.

*Monticola solitarius* (Linnaeus, 1758); Av.D18C17- 04, October 1942, Tel-Aviv.

*Motacilla alba* Linnaeus, 1758; Av.D18C15- 17; Av.D18C27- 18, İstanbul Florya; Av.D18C27- 19, İstanbul Florya; Av.D18C27- 20, İstanbul Florya; Av.D18C27- 21, August 1947, Bursa Uludağ; Av.D18C27- 22, August 1947, Bursa Uludağ.

*Motacilla cinerea* Tunstall, 1771; Av.D18C27- 23, Uludağ.

*Motacilla flava* Linnaeus, 1758; Av.D18C27- 24, Bursa; Av.D18C27- 25, Bursa; Av.D18C27- 26, Bursa.

*Muscicapa striata* (Pallas, 1764); Av.D18C11- 03, Bursa; Av.D18C29- 12, June 1948, Bursa Uludağ, S.E.; Av.D18C29- 13, June 1948, Bursa Uludağ, S.E.

*Nycticorax nycticorax* (Linnaeus, 1758); Av.D18C31- 09, 3.05.1947, Bandırma Manyas Lake, ♀.

*Oenanthe hispanica* (Linnaeus, 1758); Av.D18C13- 01, March 1950, Wadi Nimra Tel-Aviv, ♂ Amots & A.B.

*Oenanthe isabellina* (Temminck, 1829); Av.D18C13- 02, Ankara; Av.D18C13- 03; Av.D18C15- 18; Av.D18C26- 10, August 1947, Bursa Uludağ, ♀; Av.D18C27- 27, 15.09.1959, İstanbul Veli Efendi.

*Parus ater* Linnaeus, 1758; Av.D18C7- 05, August 1947, Uludağ; Av.D18C9- 07, 11.06.1949, Abant Lake, ♂.

*Passer domesticus* (Linnaeus, 1758); Av.D18C16- 10, 26.03.1953; Av.D18C16- 11, 26.03.1953; Av.D18C17- 05; Av.D18C17- 06; Av.D18C25- 07, ♀; Av.D18C25- 08, ♂; Av.D18C26- 11, Savaştepe; Av.D18C26- 12, 23.03.1955, Savaştepe, ♀; Av.D18C26- 13, 24.03.1955, Savaştepe; Av.D18C27- 28; Av.D18C27- 29; Av.D18C34- 06; Av.D18C36- 05.

*Philomachus pugnax* (Linnaeus, 1758); Av.D18C28- 10, Küçükçekmece; Av.D18C34- 07, Çekmece; Av.D18C35- 14, Küçükçekmece.

*Phoenicurus ochruros* (Gmelin, 1774); Av.D18C13- 04, 1948, Bursa, Uludağ, ♂, S.E.; Av.D18C14- 11, 1948, Bursa Uludağ, ♂, S.E.; Av.D18C27- 30, 28.12.1951, Village Institute Agriculture Garden, ♂, Col: Cevat Göçmen.

*Phoenicurus phoenicurus* (Linnaeus, 1758); Av.D18C11- 04, Bursa, ♀; Av.D18C13- 05, Bursa, ♂; Av.D18C15- 19, ♂.

*Phylloscopus collybita* (Vieillot, 1817); Av.D18C29- 14, Bursa Uludağ; Av.D18C29- 15, Bursa Uludağ; Av.D18C29- 16, Bursa Uludağ; Av.D18C29- 17, Bursa Uludağ; Av.D18C29- 18, Bursa Uludağ.

*Phylloscopus trochilus* (Linnaeus, 1758); Av.D18C29- 19, June 1948, Bursa Uludağ, S.E.



*Pica pica* (Linnaeus, 1758); Av.D18C9- 08, 8.12.1940, Büyükçekmece Lake; Av.D18C11-05, Bursa, ♀.

*Picus canus* Gmelin, 1788; Av.D18C22- 04, 1.03.1945, The Balkans of Istranca, ♀; Av.D18C31- 10, May 1949, Belgrad Forest, ♀.

*Plegadis falcinellus* (Linnaeus, 1766); Av.D18C6- 06, 3.05.1947, Bandırma (Manyas Lake), ♂.

*Podiceps cristatus* (Linnaeus, 1758); Av.D18C10- 03, 1948, S.E.; Av.D18C23- 16; Av.D18C32- 06.

*Podiceps nigricollis* Brehm, 1831; Av.D18C6- 01, 1948, S.E.; Av.D18C25- 09, October 1946, Çivril; Av.D18C30- 06; Av.D18C32- 07, 5.03.1945, Çekmece Lake, ♂.

*Podiceps ruficollis* (Pallas, 1764); Av.D18C25- 10, 15.05.1949, Manyas Lake; Av.D18C28-11.

*Poecile lugubris* (Temminck, 1820); Av.D18C17- 07, Savaştepe.

*Porzana parva* (Scopoli, 1769); Av.D18C28- 12, 3.04.1951, Adana Haruniye Lowland, Col: Ömer Kaya Gülen; Av.D18C33- 06, October 1946, Çivril.

*Porzana porzana* (Linnaeus, 1766); Av.D18C17- 08, October, 1946, Çivril.

*Prunella collaris* (Scopoli, 1769); Av.D18C27- 31, 2.05.1948, Bursa Uludağ, S.E.

*Ptyonoprogne rupestris* (Scopoli, 1769); Av.D18C29- 20, June 1948, Bursa Uludağ, S.E.

*Puffinus yelkouan* (Acerbi, 1827); Av.D18C35- 15, October 1947, İstanbul Bosphorus; Av.D18C35- 16, 1947, İstanbul Bosphorus.

*Pycnonotus capensis vallombrosa*; Av.D18C11- 06, 20.01.1953, Tel Aviv, ♂, Michael Cohen.

*Pycnonotus xanthopygos* (Ehrenberg, 1833); Av.D18C14- 12, February, 1946, Hatay, ♀; Av.D18C27- 32.

*Pyrrhonorax graculus* (Linnaeus, 1766); Av.D18C33- 07, 10.06.1948, Uludağ, ♀, S.E.

*Pyrrhula pyrrhula* (Linnaeus, 1758); Av.D18C29- 21, 1946, Bursa Uludağ, ♀; Av.D18C29-22, August 1947, Bursa Uludağ, ♀; Av.D18C29- 23, 1946, Bursa Uludağ, ♂.

*Rallus aquaticus* Linnaeus, 1758; Av.D18C9- 09, 12.1951, Col: Mahmut Altun; Av.D18C9-10, 31.12.1951, Silifke Narlıkuyu local, ♀, Col: Osman Çopur; Av.D18C36- 06, 14.11.1945, Çivril Işıklı Lake.

*Regulus regulus* (Linnaeus, 1758); Av.D18C14- 13, August 1947, Bursa Uludağ.

*Saxicola torquatus* (Linnaeus, 1766); Av.D18C13- 06, August 1947, Bursa Uludağ, ♀, S.E.; Av.D18C13- 07, August 1947, Bursa Uludağ, ♀, S.E.; Av.D18C13- 08, June 1948, Bursa, Uludağ ♂, S.E.; Av.D18C13- 09, August 1947, Bursa, Uludağ, ♂, S.E.; Av.D18C13- 10, 1946, Bursa Uludağ, ♂, S.E.; Av.D18C13- 11, Bursa, Uludağ, S.E.

*Scolopax rusticola* Linnaeus, 1758; Av.D18C10- 04; Av.D18C25- 11, Bursa Uludağ, ♂; Av.D18C25- 12, Bursa Uludağ, ♂.

*Serinus pusillus* (Pallas, 1811); Av.D18C15- 20.

*Serinus serinus* (Linnaeus, 1766); Av.D18C14- 14, August, 1947, Bursa Uludağ, ♂; Av.D18C15- 21; Av.D18C23- 17; Av.D18C27- 33, 13.06.1949, Esentepe, ♂.

*Sitta europaea* Linnaeus, 1758; Av.D18C27- 34, 1946, Bursa Uludağ, ♀; Av.D18C27- 35, 1946, Bursa Uludağ, ♀; Av.D18C27- 36, 1946, Bursa Uludağ, ♀; Av.D18C27- 37, 1947, Bursa Uludağ, ♀; Av.D18C27- 38, 1946, Bursa Uludağ, ♀; Av.D18C27- 39, 1946, Bursa Uludağ, ♀; Av.D18C27- 40, Bursa Uludağ, ♀.

*Sitta krueperi* Pelzeln, 1863; Av.D18C15- 22; Av.D18C27- 41, August 1947, Uludağ.

*Spilopelia senegalensis* (Linnaeus, 1766); Av.D18C25- 13; Av.D18C25- 14.

*Spinus spinus* (Linnaeus, 1758); Av.D18C14- 15, 1.03.1949, Bursa Uludağ, ♀, S.E.; Av.D18C14- 16, 1.03.1949, Bursa Uludağ, ♂, S.E.; Av.D18C14- 17, 1.03.1949, Bursa Uludağ, ♂, S.E.; Av.D18C14- 18, August 1947, Bursa Uludağ, ♀, S.E.; Av.D18C14- 19, 1.03.1949, Bursa Uludağ, ♂, S.E.; Av.D18C14- 20, 1.03.1949, Bursa Uludağ, ♀, S.E.

*Sterna hirundo* Linnaeus, 1758; Av.D18C22- 05, 1948, Çekmece Lake, S.E.; Av.D18C28- 13, 1948, S.E.; Av.D18C33- 08, Çekmece; Av.D18C33- 09, Çekmece.

*Streptopelia decaocto* Frivaldszky, 1838; Av.D18C16- 13.

*Streptopelia turtur* (Linnaeus, 1758); Av.D18C19- 06, Bursa; Av.D18C34- 08.

*Strix aluco* Linnaeus, 1758; Av.D18C26- 14, 25.03.1955, Savaştepe.

*Sturnus vulgaris* Linnaeus, 1758; Av.D18C13- 12, 8.12.1940, Küçükçekmece; Av.D18C13- 13, 8.12.1940, Büyükçekmece; Av.D18C13- 14, 29.12.1949, Çatalca ♂; Av.D18C13- 15, 1.03.1949, Bursa, S.E.; Av.D18C13- 16, 1.03.1949, Bursa, S.E.; Av.D18C27- 42, 28-30.12.1952, Antakya Demirköprü Village, Col: Antep Oğuzeli Tutluca, Col: Ali Hurt Bekler Recep Karalar; Av.D18C27- 43, 28-30.12.1952, Antakya Demirköprü Village, Col: Antep Oğuzeli Tutluca, Col: Ali Hurt Bekler Recep Karalar .

*Sylvia curruca* (Linnaeus, 1758); Av.D18C7- 02, Bursa; Av.D18C7- 03, Bursa; Av.D18C7- 04.

*Sylvia ruppelli* Temminck, 1823; Av.D18C15- 23.

*Tachybaptus ruficollis* (Pallas, 1764); Av.D18C32- 08, 8.12.1940, Büyükçekmece Lake; Av.D18C33- 10.

*Tachymarptis melba* (Linnaeus, 1758); Av.D18C15- 24.

*Thalasseus sandvicensis* (Latham, 1787); Av.D18C10- 05, 11.04.1948, Çekmece Lake, S.E.; Av.D18C31- 11, 11.04.1948, Çekmece Lake, S.E.

*Tichodroma muraria* (Linnaeus, 1766); Av.D18C9- 11, 29.12.1951, Col: Nafiz Dođan.

*Tringa ochropus* Linnaeus, 1758; Av.D18C38- 05; Av.D18C38- 06; Av.D18C38- 07, 14.11.1945, Işıklı Lake.

*Tringa totanus* (Linnaeus, 1758); Av.D18C38- 08, October 1946, Çivril.

*Troglodytes troglodytes* (Linnaeus, 1758); Av.D18C30- 07, 10.01.1950, Terkos.

*Turdus merula* Linnaeus, 1758; Av.D18C22- 06, Çekmece; Av.D18C27- 44, 1.01.1952, Toprakkale, Col: Ali İhsan Kaya; Av.D18C27- 45, 30.12.1952, Adana, Col: Kazım Sertdemir; Av.D18C27- 46.

*Turdus philomelos* Brehm, 1831; Av.D18C9- 12, 29.12.1951, Tarsus Topaktaş Village, Col: Süleyman Müstan; Av.D18C13- 17, 1.01.1953, Tarsus Şıra Village, Col: Duran Yılmaz; Av.D18C36- 07, 25.03.1955, Col: İsmail Akpınar.

*Turdus pilaris* Linnaeus, 1758; Av.D18C22- 07, Ocak, 1949, Çekmece ♂.

*Turdus viscivorus* Linnaeus, 1758; Av.D18C13- 18, Mart 1953; Av.D18C13- 19, Mart 1954.  
*Tyto alba* (Scopoli, 1769); Av.D18C19- 07; Av.D18C19- 08.

*Upupa epops* Linnaeus, 1758; Av.D18C25- 15, Bursa.

*Vanellus vanellus* (Linnaeus, 1758); Av.D18C6- 02; Av.D18C9- 13, 30.12.1951, İslahya Dönek Village, Col: Remzi Bali.

## Discussion

The Collection has 143 bird species that were determined between 1940 and 1970 in the Turkey avifauna. The collection was originated from the first bird studies conducted by Saadet Ergene. The study contains sample localities from Aegean, Central Anatolia, Black Sea and Marmara regions (Fig 1.). Considering the fact that these regions are either wetland areas or situated on bird migratory routes. Nowadays, these regions are very important areas for wildlife. Following the studies conducted by Saadet Ergene (1945), Kumerloeve (1961) determined 397 bird species in Turkey avifauna. In recent years researches on avifauna have increased. A total of 453 bird species according to the birds of Turkey checklist were determined by Kirwan *et al.* (1999). The next study carried out by Kirwan *et al.* in 2010 listed 463 bird species (Kirwan *et al.* 2010). Today about 486 bird species are known in Turkey (Bird list of Turkey, 2018).

In the collection, Bursa province has the most samples with 99 and 24 of these samples were classified by Saadet Ergene. In 1947 and 1949, 28 samples were added to the collection and this shows that the most samples were brought to the collection in those years. There are two

samples from Amik Lake (Hatay) which was started to be dried in 1950s. These species are *Ceryle rudis* (The pied kingfisher) (17.02.1946, ♀, ♂) and *Halcyon smyrnensis* (The white-throated kingfisher) (10.05.1944, ♀).

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## References

- Bird list of Turkey (2018). Retrived from [http://www.trakus.org/kods\\_bird/uye/?fsx=turkiyenin\\_kuslari](http://www.trakus.org/kods_bird/uye/?fsx=turkiyenin_kuslari) (13/06/2018).
- Dikmen, F. & Özuluğ, O. (2018). Insect (Coleoptera and Orthoptera) species of İstanbul in the Zoology Collection of Istanbul University. *Turkish Journal of Bioscience and Collections*, 2 (1): 27-43.
- Ergene, S. (1945). Türkiye Kuşları, İstanbul Üniversitesi Fen Fakültesi Monografileri, İstanbul, Volume 4.
- Gürsoy, G. (2008). İstanbul Üniversitesi Zooloji Müzesi bentik omurgasızlar koleksiyonunun envanteri. Master's Thesis, Istanbul University.
- Heinzel, H. R. & Parslow, J. (1995). *Türkiye ve Avrupa'nın kuşları*. Doğal Hayatı Koruma Derneği, İstanbul. ISBN 9759409828.
- İshakoğlu-Kadioğlu, S. (1998). *İstanbul Üniversitesi Fen Fakültesi tarihçesi (1900-1946)*. İstanbul, I.U. Basımevi ve Film Merkezi. ISBN 9789754045017.
- Kaya, N. & Özuluğ, O. (2017). The herpetological collection of Zoology Museum, Istanbul University. *Anadolu University Journal of Science and Technology C- Life Sciences and Biotechnology*, 6(2): 55-63, DOI: 10.18036/aubtdc.286684.
- Kasparyan, A. (1960). Türkiye kuşları üzerinde araştırmalar I, Güney Marmara ve Ege Bölümü Kuşları Hakkında Notlar. *Türk Biyoloji Dergisi*, 10: 87-100.
- Kirwan, G. M. Boyla, K. A. Castell, P. Demirci, B. Özen, M. Welch & H. Marlow, T. (2010). *The distribution, taxonomy and breeding of Turkish birds*. Christopher Helm, an imprint of A&C Black Publishers Ltd. London, Electronic Edition, e-ISBN 978-1-4081-3314-9.
- Kumerloeve, H. (1958). Bergama ve Savaştepe'de kuluçkaya yatan kuşlar hakkında araştırmalar. *Türk Biyoloji Dergisi*, 8, 36 -44.
- Kumerloeve, H. (1961). Zur kenntnis der avifauna Kleinasiens. *Bonner Zoologische Beiträge*, Sonderheft, 12, 1-318.
- Kumerloeve, H. (1975). Zur Verbreitung der Steinschmatzer (Oenathe) – Arten in der Türkei. *Bonner Zoologische Beiträge*, 26: 183 – 198.
- Mullarney, K. Svensson, L. Zetterström & D. Grant, P. J. (1999). *The Birds of Europe*. Princeton University Press, London. ISBN 9780691050546.
- Schweiger, H. (1965). 1959 – 1965 Seneleri arasında Anadolu'da ornitolojik tetkikler. *İstanbul Üniversitesi Fen Fakültesi Mecmuası*, 30 (3-4): 177 – 190.

- Özuluğ, O. (2003). İstanbul Üniversitesi Fen Fakültesi Biyoloji Bölümü Zooloji Müzesi, 1. Ulusal Doğa Tarihi Kongresi, 14 Kasım 2002, Ankara, s. 82–87.
- Özuluğ, O. (2009). *İstanbul Üniversitesi Fen Fakültesi Biyoloji Bölümü Zooloji Müzesi ve Önemi*. Üniversite Müzeleri ve Müzecilik, Ankara Üniversitesi Basımevi, ISBN: 978-975-482-829-0.
- Özuluğ, O. Dökümcü, N. & Kaya, N. (2013). İstanbul Üniversitesi Zooloji Müzesi'nin ülkemiz zooloji tarihindeki önemi. *Ordu University Journal Science and Technology*, 3 (1), 69-78.