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Regional Extinction of Three Game Birds (Family: Phasianidae) in İstanbul Before the Founding of the Turkish Republic

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Abstract

Objective: This study examines the regional extinction processes of three game bird species—Black Grouse (*Lyrurus tetrix*), Gray Partridge (*Perdix perdix*), and Black Francolin (*Francolinus francolinus*)—whose local populations were documented in pre-Republican İstanbul. By situating İstanbul's biodiversity loss within a historical context, this study aims to offer insights into contemporary conservation policies.

Materials and Methods: For each species, historical observations were compiled, and these data were organized chronologically to illustrate the species' distribution, rarity trends and the reported sightings within İstanbul. Records supporting the presence of species in İstanbul and its environs were compared against their natural distribution ranges. This comparison assessed whether the populations in İstanbul were naturally established native populations or introduced ones.

Results: Belonging to the Phasianidae family, these birds were not only subjects of naturalistic observation during the Ottoman period but also integral to hunting traditions, culinary culture, and economic life. Travel journals and naturalists' articles indicate that these species were observed, hunted, and consumed in the vicinity of İstanbul between the 17th and 19th centuries.

Conclusion: The findings indicate that intensive hunting and the live bird trade exerted pressure on these small and vulnerable populations. Even though their habitats remained largely intact, these species eventually disappeared from the region.

Keywords Gamebirds · Hunting · Historical Ornithology · İstanbul · Phasianidae

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Introduction

Phasianidae is a bird family belonging to the order Galliformes. It includes a range of game birds such as pheasants, partridges, quails, peafowls, and grouse (Gill *et al*., 2025). To date, six game bird species have been recorded in İstanbul: Black Grouse (*Lyrurus tetrix* Linnaeus, 1758), Chukar Partridge (*Alectoris chukar* Gray, JE, 1830), Gray Partridge (*Perdix perdix* Linnaeus, 1758), Black Francolin (*Francolinus francolinus* Linnaeus, 1766), Common Quail (*Coturnix coturnix* Linnaeus, 1758), and Common Pheasant (*Phasianus colchicus* Linnaeus, 1758) (İsfendiyaroğlu *et al*., 2022). Information about these species frequently appears in travelogues and the scientific literature. In Ottoman society, game birds were not only observed as part of the natural landscape but also held significant roles within culinary traditions, medicinal practices, and religious sensitivities. In particular, species such as geese, ducks, partridges, quails, francolins, and pheasants were known to be consumed in palaces and urban households (Gökyay, 1978; Işın, 2009).

One of the earliest travelers to record observations of these species was Evliya Çelebi. In his Seyahatnâme (1682), he provides detailed information on game birds hunted in and around İstanbul. He describes Lake Terkos, located along the Black Sea coast to the north of İstanbul, as a seasonal hunting ground where, in his words, "*They sometimes count one hundred thousand geese*", suggesting large-scale seasonal hunting (Evliya Çelebi, 2014).

Following Çelebi, the Italian naturalist Domenico Sestini [1750–1832]—a polymath that was also a numismatist, archeologist, botanist, and zoologist—provided further notes on these species. Sestini, who served as a professor and librarian at the University of Pisa, did not specify the exact dates in his records. According to Flora of İstanbul studies, he collected plant specimens in Anatolia between 1781 and 1782 (Baytop, 2002). In the 4th volume of his Opuscoli del Signor Abate Domenico Sestini, published in Florence in 1786, he included a detailed avifaunal list. This publication represents the first systematic bird list related to İstanbul, documenting 116 species with their names in Italian, Turkish, and Latin (Kumerloeve, 1986; Sestini, 1785).

According to the French historian Michel Baudier, the Ottoman palace received as many as one hundred pairs of game birds daily (Baudier, 1635). In the 16th century, Bartholomeus Georgieviz noted the great pleasure that the Turks derived from hunting while Mustafa Âli of Gallipoli emphasized the superior taste and privileged place of game meat on dining tables (Gökyay, 1978). Lorenz Rigler [1815–1862], a physician who practiced medicine in İstanbul, was also a dedicated bird observer. He published his ornithological journals in two volumes in Vienna in 1852. Appointed as the head of the Austrian Hospital in İstanbul in the same year, Dr. Rigler, also a trained naturalist, compiled extensive observations and lists of animal species—including birds—during his stay in the region. He recorded 164 bird species from İstanbul and its surroundings (Rigler, 1852). Pyotr Alexandrovich Tchihatchef [1812–1890], a Russian naturalist, geographer, and explorer, received training in the natural sciences from prominent scholars such as Ludwig Fischer (botany), Karl Brandt (zoology), and Adolf Theodor Kupffer (meteorology) at the St. Petersburg Botanical Garden (Şengör, 2019). His contributions to the ornithological history of İstanbul are invaluable, particularly during his tenure at the Russian Embassy in İstanbul from 1845 to 1848 (Tchihatchef, 1864).

Jean-Gérard-Amédée Alléon collected taxidermy specimens from İstanbul, Bulgaria, and the Balkan countries, creating notable collections. Despite his many years of work, Alléon produced only some highly valuable scientific publications (İsfendiyaroğlu *et al*., 2022). Although he lived in İstanbul, he was a member of the French Societies of Zoology and Entomology as well as the French International Ornithological Committee. He was awarded at international taxidermy exhibitions in Vienna (1884) and Paris (1889). His collection, compiled over many years, was eventually divided into four major parts: 1,900 specimens were gifted to Jules Vian, president of the French Zoological Society; a significant portion was presented to Sultan Abdülaziz in 1864; and another part was donated in 1889 to the French Lazarist College in İstanbul, which later merged with today's Saint Pulcherie French College (Leverkühn, 1904). The current whereabouts of these collections remain unknown (İsfendiyaroğlu *et al*., 2022). In his publication Birds of İstanbul, Alléon provided a detailed assessment of the status of 262 bird species in the city (Alléon, 1880).

Swiss agronomist Alphonse Mathey Dupraz [1862–1942] worked as a secondary school teacher in İstanbul and conducted ornithological research in the city and its surroundings during his residence between 1888 and 1894 (Baer, 1942). In his bird list of İstanbul, published in 26 parts, he provided detailed records for 334 species

(Mathey-Dupraz, 1923). Fritz Braun [1873–1931], a naturalist who worked at the German School in İstanbul between 1900 and 1905, made detailed observations on bird markets and the migration of songbirds. He published his findings in the article Ornithologisches aus Konstantinopel (Braun, 1903).

Considering the various species lists published by these European naturalists, 398 bird species have been reported from İstanbul. These records show that, in the pre-Republican period, different naturalists provided regular data on the bird populations in and around İstanbul (İsfendiyaroğlu *et al*., 2022). A close examination of their articles, travel notes, and journals reveals that species such as the Black Grouse, Gray Partridge, and Black Francolin were frequently mentioned, although observations of these birds became increasingly rare over time (Mathey-Dupraz, 1923).

This study focuses on three game bird species—Black Grouse, Gray Partridge, and Black Francolin—that were documented as common in the pre-Republican era. These species are consistently mentioned in historical sources as widely observed and hunted game birds in İstanbul. However, all three have now disappeared from the region, and their current distributions no longer overlap with the İstanbul area (Furtun *et al*., 2021). Supported by historical data, this study documents cases of local extinction and aims to offer a cautionary framework for species currently under similar cultural, economic, and ecological pressures. Furthermore, it seeks to shed light on the natural history of the ancient city of İstanbul, a place of great significance in Eurasian ornithological history.

Materials and Methods

This study adopts an interdisciplinary approach by integrating diverse data sources, including the history of ornithology, geographic distribution records, and the history of hunting. Publications by naturalists, travelers, and bird observers who either resided in or visited İstanbul during the 20th century and earlier were systematically reviewed. The primary sources utilized for species and record documentation include Evliya Çelebi (2014), Belon (1555), Sestini (1786), Rigler (1852), Tchihatchef (1864), Alléon (1880), Mathey-Dupraz (1923), and Kummerloeve (1961).

For each species, historical observations were compiled, and these data were organized chronologically to illustrate the species' distribution, rarity trends, and the latest reported sightings within İstanbul. Records supporting the presence of species in İstanbul and its environs were compared against their natural distribution ranges. This comparison assessed whether the populations in İstanbul were naturally established native populations or introduced.

The ecological requirements and habitat preferences of each species were extracted from the literature. Furthermore, habitat changes around İstanbul were evaluated in the context of industrial agriculture, land-use change, and rural transformation to discuss their potential roles in local species extinctions.

Results

Black Grouse (Lyrurus tetrix)

Rigler (1852) included the Black Grouse in his bird list of İstanbul without providing any information on the species' origin. Fifty years later, Reiser (1904) referred to this record as a "misidentification" without further elaboration. Tchihatchef (1864), who resided in Türkiye between 1847 and 1863, reported detailed observations of the Black Grouse in the Alemdağ region along the Bosphorus. Between 1889 and 1894, Mathey-Dupraz (1923), who worked in İstanbul, noted that a Belgian engineer claimed to have seen the Black Grouse in the same area on the Asian side of the Bosphorus.

In the case of Greece, Landerer (1858) included the Black Grouse in his list of game birds, but Reiser (1905) strongly criticized this, stating, "*Anyone familiar with this remarkable bird, as well as with the natural conditions in Greece, must agree that the habitat required for its survival does not exist there*." However, the presence of the Black Grouse in the Rhodope Mountains of Greece has been documented (Bauer et *al*., 1969), and individuals were reportedly hunted in Epirus in 1960, 1961, and 1965/66, with the earliest confirmed record from Thessaloniki in February 1956 (Kasparek, 1990). Elwes and Buckley (1870) also reported a population between Ruse and Varna in Bulgaria. Despite several failed reintroduction attempts, the historical presence of the Black Grouse in the Balkans is supported by Neolithic bone findings in Bulgaria, suggesting that the southern boundary of its range may have extended to the Rhodopes and even the Bosphorus (Kasparek, 1990).

Mathey-Dupraz himself noted having seen the Black Grouse for sale multiple times in İstanbul's bird markets,

though he could not determine their exact origin. Taken together, this evidence allows for the hypothetical acceptance of a now-extinct Black Grouse population that persisted around İstanbul until the early 20th century.

Gray Partridge (Perdix perdix)

The first record of the Gray Partridge in İstanbul comes from Domenico Sestini, who included the species in his bird list published in 1786 (Sestini, 1786). Pierre de Tchihatchef mentioned in Le Bosphore et Constantinople that the species was common in the Alemdağ area (Tchihatchef, 1864). Amédée Alléon stated that he had not encountered the species around the Bosphorus but that it was frequently sold in İstanbul's bird markets, likely imported from Bulgaria (Alléon, 1880). Alphonse Mathey-Dupraz later noted the presence of two different subspecies in the same markets (Mathey-Dupraz, 1923). Hans Kummerlöwe, in his 1961 article Zur Kenntnis der Avifauna Kleinasiens, reported that he was unable to find the species around Şile but mentioned four specimens in the American University of Beirut collection recorded as having originated from Pera in February 1883 (Kumerloewe, 1961). According to Max Kasparek, there once existed a now-extinct relict population of Gray Partridge in the İstanbul region (İsfendiyaroğlu *et al*., 2022).

Black Francolin (Francolinus francolinus)

Evliya Çelebi listed the Black Francolin among the game birds hunted in İstanbul in his 17th-century travelogue Seyahatnâme. The species was also included in the bird list of İstanbul published by Lorenz Rigler in 1852. In his work on the avifauna of Asia Minor, Hans Kummerlöwe noted that the species was present in Üsküdar and on the Anatolian side of the Bosphorus around 1850 but later disappeared from this area and from western Anatolia entirely. Boev (1988) recorded the historical occurrences of the species in Bulgaria, while Max Kasparek noted similar records from northern Greece. However, Kasparek also pointed out the possibility that some of these populations may have been introduced due to the bird's popularity as game (İsfendiyaroğlu *et al*., 2022).

Discussion

Human activities, particularly hunting, are significant drivers of local extinctions in İstanbul. Considering the Ottoman society's hunting culture, culinary practices in both court and popular cuisine, as well as the local trade of birds, it is evident that these species were subjected to multifaceted anthropogenic pressures (Braun 1903; Işın, 2009; Türkömer, 2019). In the case of these species' disappearance from İstanbul, not only habitat loss but also intense consumption demand appears to have played a decisive role.

Evliya Çelebi (2014) recorded that roe deer and red deer hunted in the Istranca Mountains were brought to Yeniköy to be cured into 'pastırma' (a traditional Turkish air-dried cured meat), while birds such as Gray Partridge, Black Francolin and Common Pheasant were consumed freshly cooked along the streamside. In 1829, Sultan Mahmud II reportedly ordered 400 dozen live Common Quails for the palace (Işın, 2009), implying that species such as the Gray Partridge might have been subjected to a high demand.

Our findings reveal that these species were observed in and around İstanbul between the 17th and 19th centuries, with local populations persisting for some time but gradually declining. The Black Grouse was reported from İstanbul's forested areas, especially around Alemdağ, with sightings and market sales confirming the existence of a local population up until the early 20th century. The presence of the Gray Partridge is documented both through direct observations and the recorded subspecific variation in specimens found in local bird markets. However, the species eventually disappeared, likely due to habitat transformation and agricultural expansion.

The culinary value of these birds is emphasized by Mustafa Âli of Gallipoli, who praised the superior taste of species like the crane, partridge, and Black Francolin (Gökyay, 1978), while Sultan Mahmud II's large-scale quail order illustrates the magnitude of consumption (Işın, 2009). The Black Francolin is mentioned in local sources such as Evliya Çelebi, as well as in the naturalists' records, including those of Rigler and Kummerlöwe. Despite this, reports from areas such as Üsküdar and the Anatolian side of the Bosphorus ceased, likely due to excessive hunting pressure (Alléon, 1880; Mathey-Dupraz, 1923).

The shared trajectory of these three species illustrates a regime of pressure shaped by high levels of hunting, the culinary demand for bird meat, and the live bird trade. These pressures, combined with the species' small and fragile population structures, created conditions conducive to local extinction. In particular, the bird markets in Pera, along with local interest in live birds, indicate that demand exceeded the limits of biological sustainability

(Braun, 1903). The evidence indicates that these small and fragmented populations were unable to withstand the hunting pressures.

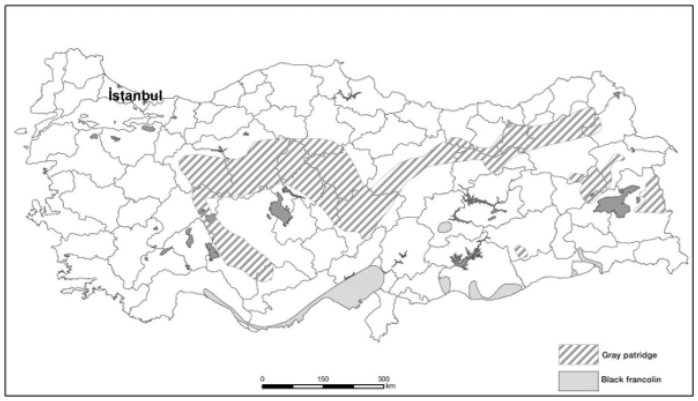
Although the losses in İstanbul's avifauna are related not only to hunting but also to other compounding pressures such as habitat loss, population growth, and urbanization, it is notable that, prior to 1923, areas like Alemdağ, Üsküdar, and Şile had not undergone radical changes in land use. In fact, much of the natural habitat remained largely intact during this period (Kuban, 1973; 1996). This indicates that the primary driver behind the disappearance of these species was hunting pressure, influenced by socio-cultural consumption patterns and market demands.

Game birds featured not only on the tables of the imperial court and urban elites but also in the everyday diets of local communities. This widespread consumption contributed significantly to the unsustainable exploitation of already vulnerable bird populations. Today, the Black Grouse is considered extinct across Türkiye. The Black Francolin has retreated to limited parts of southeastern and eastern Mediterranean Turkey, while the Gray Partridge now shows a fragmented distribution from central to northeastern Anatolia and across the plains and undulating plateaus of eastern Anatolia (Boyla *et al.*, 2025; Furtun *et al.*, 2022) (Figure 1).

In conclusion, this study aims to contribute to the recent natural history of İstanbul by examining the trajectories of selected local bird species. The regional extinction events documented through historical records are not merely remnants of the past but serve as urgent warnings for contemporary and future conservation efforts. Considering that similar threats persist in other regions of Türkiye and globally, it must be acknowledged that, especially in the Anthropocene Epoch, such extinctions may occur over shorter timeframes and at broader scales.

Figure 1

Current distribution ranges of the Gray Partridge and the Black Francolin in Türkiye, with the location of İstanbul indicated (Note: Black Grouse is considered nationally extinct in Türkiye).



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