

Status of the common myna *Acridotheres tristis* Linnaeus, 1766 in Turkey

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Abstract

Status of the common myna Acridotheres tristis Linnaeus, 1766 in Turkey. The common myna, a species native to central and southern Asia, has been introduced to many countries through the pet trade. The aim of this study was to determine the status of this myna in Turkey. We created a database of sightings of the species in Turkey. The total breeding population of myna birds is estimated to have reached 132–172 pairs. It was reported to have escaped from cages in 11 provinces and populations have become established in urban areas in three provinces. The pet trade has been the main pathway for the introduction of the species. The impact of the myna bird in Turkey remains unclear.

Key words: Bird trade, Cage–escape, Impact, Introduced bird, Non–native bird

Resumen

Situación del miná común, Acridotheres tristis Linnaeus, 1766 en Turquía. El miná común, una especie nativa de Asia central y meridional, ha sido introducido en muchos países a través del comercio de mascotas. Con este estudio se pretende determinar la situación de esta especie de miná en Turquía. Se ha creado un base de datos sobre la presencia de la especie en Turquía. Se estima que la población reproductora total de miná ha llegado a situarse entre las 132 y las 172 parejas. Asimismo, se ha notificado que algunos ejemplares han escapado de jaulas en 11 provincias y que se han establecido poblaciones en zonas urbanas de tres provincias. El comercio de mascotas es la principal vía de introducción de especies. El impacto de la presencia del miná siguen siendo poco conocidos.

Palabras clave: Comercio de aves, Escape de jaula, Impacto, Ave introducida, Ave exótica

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Introduction

Globalization is making it possible for Invasive Alien Species (IAS) to move into areas where they would not naturally occur. Changes in the environment, such as climate change, can make it easier for IAS to establish populations (Early et al., 2016). IAS are commonly introduced as a result of international trade (Levine and D'Antonio, 2003; Reino et al., 2017) such as pet trade. The Alexandrine parakeet (*Psittacula eupatria*) and the rose-ringed parakeet (*Psittacula krameri*) have both established breeding populations in the wild in Turkey, as recorded by citizens' observations (Per, 2018).

The common myna (*Acridotheres tristis*) is native to central and southern Asia, including the Indian subcontinent (Hart et al., 2020). The intentional and accidental introduction of this bird into new areas, and the extensions of its range beyond the point of introduction have led to a significant increase in its global distribution. The common myna is one of the 100 worst invasive species in the world (Luque et al., 2014). It is omnivorous and opportunistic (Cramp and Perrins, 1994), thriving in urban areas with a little diversity and abundance of local species (Sol et al., 2012). Its impact has been recorded on many species and in many regions of the world (Evans et al., 2021). Urbanization and the broad environmental tolerance of this species have likely facilitated its global success as an invasive species (Magory Cohen et al., 2019). For example, after being introduced to the Gulf Region of

the Middle East during the 1990s, the common myna quickly established breeding populations. It is currently distributed across most of the Middle East as a result of deliberate releases or unintentional cage–escapes (Holzapfel et al., 2006). Its distribution has been extending since ever since, and the expansion of its range areas may have allowed it to reach to Turkey and southern Russia (Craig and Feare, 2009).

In Turkey, a breeding population of the myna was first recorded in Ankara in 1996 (Bilgin, 1996). Since 2004, eKuşBank (eBird) has been recording bird-watching records of the myna in Turkey. However, IAS research in Turkey is at an early stage, and no nationwide review of the species' distribution has been conducted to date. The purpose of this study was to determine current distribution and population size of the myna in Turkey.

Material and methods

To establish the distribution of the myna in Turkey, I compiled a database of observations using various sources, scientific articles, books, a thesis, the online international bird watching databases, bird observation–based websites in Turkey, and social media posts. The database includes the observer's name, observation date, location, province, number of individual birds, and notes. Using the database, the distribution and population of myna in Turkey was investigated.

Table 1. Data resources and records based on the common myna: Province, provinces in which the common myna has been observed; N, number of records observed; % percentage.

Tabla 1. Diferentes recursos y registros de datos sobre el miná común: Provincia, provincias en las que se ha observado el miná común; N, número de registros observados; % porcentaje.

Data type	Data resource	Province	N	%
Literature	Article, book, reports and thesis	Ankara, İstanbul, Trabzon	5	0.7
Database	eKuşBank/eBird	Ankara, Antalya, Hatay, İstanbul, İzmir, Mersin, Muğla, Rize, Samsun, Şanlıurfa	365	49.2
	GBIF	Antalya, Hatay, İstanbul, İzmir, Mersin, Muğla, Rize, Samsun	50	6.7
	Naturalist	Hatay, İstanbul, İzmir	5	0.7
	Breeding Bird Atlas	Ankara, Antalya, İstanbul, İzmir, Samsun	8	1.1
Website	Birdpx	İstanbul, İzmir	17	2.3
	DogalHayat	İstanbul, İzmir	19	2.6
	Ornito	İstanbul, İzmir	7	0.9
	Trakuş	Ankara, Antalya, Bursa, İstanbul, İzmir, Kayseri, Mersin, Rize, Samsun	207	27.9
Social media	Facebook	İstanbul, İzmir, Rize	18	2.4
	Instagram	İstanbul, İzmir	30	4.0
	Twitter	Çanakkale, İstanbul, İzmir	11	1.5

Table 2. The breeding status of the common myna in various provinces: Date, date of first record; Fbd, first breeding date; Lbd, last breeding date (C, continue); Cbp, current breeding pairs; * Gülhane Parkı, İstinye–Yeniköy, Kartal Şehir Hastanesi, Anadolu Adalet Sarayı, Kartal Oto sanayi, Soğanlık Metro İstasyonu, Yıldız Parkı; ** Kültürpark, Bornovapark.

*Tabla 2. La situación reproductiva del miná común en varias provincias: Date, fecha del primer registro; Fbd, primera fecha de cría; Lbd, última fecha de cría (C, continúa); Cbp, parejas reproductoras actuales; * Gülhane Parkı, İstinye–Yeniköy, Kartal Şehir Hastanesi, Anadolu Adalet Sarayı, Kartal Oto sanayi, Soğanlık Metro İstasyonu, Yıldız Parkı; ** Kültürpark, Bornovapark.*

No	Provinces	Date	Status	Location	Fbd	Lbd	Cbp
1	Ankara	1996	Confirmed breeding	METU Campus	1996	2000	–
2	Antalya	2015	Cage escape	Akdeniz Kent Parkı, Atatürk Parkı	–	–	–
3	Bursa	2016	Possible breeding	Oto sanayi	2016	C	2
4	Çanakkale	2021	Cage escape	City center	–	–	–
5	Hatay	2018	Cage escape	Ataürk Bulvarı, Sahil Yolu	–	–	–
6	İstanbul	1997	Confirmed breeding	City center (*)	2002	C	100–120
7	İzmir	2005	Breeding	City center (**)	2013	C	30–50
8	Kayseri	2009	Cage escape	City center	–	–	–
9	Mersin	2016	Cage escape	Göksu deltası	–	–	–
10	Muğla	1994	Cage escape	Dalyan	–	–	–
11	Rize	2019	Cage escape	City center	–	–	–
12	Samsun	2014	Cage escape	City center	–	–	–
13	Şanlıurfa	1996	Cage escape	Birecik vadisi	–	–	–
14	Trabzon	1975	Cage escape	–	–	–	–
Total breeding pairs in Turkey							132–172

Results and discussion

Various websites based on data from Turkey and from bird–watching platforms were evaluated. eKuşBank (49.2%) and Trakuş (27.9%) are the most powerful data sources. The contribution of social media data was low and limited (table 1).

The myna was recorded for the first time in Trabzon, Turkey in 1975, and it was first observed as a breeding bird in Ankara in 1996 where it bred at the Middle East Technical University campus until the year 2000 when this population became extinct. In 1997, it was seen in İstanbul and a breeding population was confirmed in the Kartal district in 2002. Breeding populations have since been observed in Gülhane Park, İstanbul Anadolu Adalet Sarayı, İstinye–Yeniköy, Kartal Şehir Hastanesi, Kartal Oto Sanayi, Soğanlık Metro İstasyonu and Yıldız Parkı in İstanbul. Flocks of more than 50 individuals have been observed in various breeding sites in İstanbul, and the breeding population there is estimated to be 100–120 pairs. The second largest population so far is in İzmir, where four individuals were observed in 2013 but the current estimate is of about 30–50 pairs. The İzmir breeding

population is located in the Kültürpark and in the Bornova Park. There is a population that is thought to be possible breeding population in Bursa. It was observed for the first time in 2016. The number of individuals (four) has not increased but the individuals are seen in the same location throughout the whole year. Common myna have been occasionally reported from 11 of Turkey's 81 provinces, likely having escaped the cage (Ankara, Antalya, Çanakkale, Hatay, Kayseri, Mersin, Muğla, Rize, Samsun, Şanlıurfa, and Trabzon). Myna were mainly observed in urban parks (table 2). Myna populations seem to be rapidly increasing, but only rough estimates of the breeding population size can be provided for the time being as known observations are not based on a systematic breeding search. For the country's breeding population, I propose therefore a conservative estimate would be 132–172 pairs.

Magory Cohen et al. (2019) used distribution modeling to predict the common myna's potential global distribution and found that the proximity of urbanized areas combined with the species' broad environmental tolerance favor the range expansion of introduced populations. Common myna readily adapt to a variety

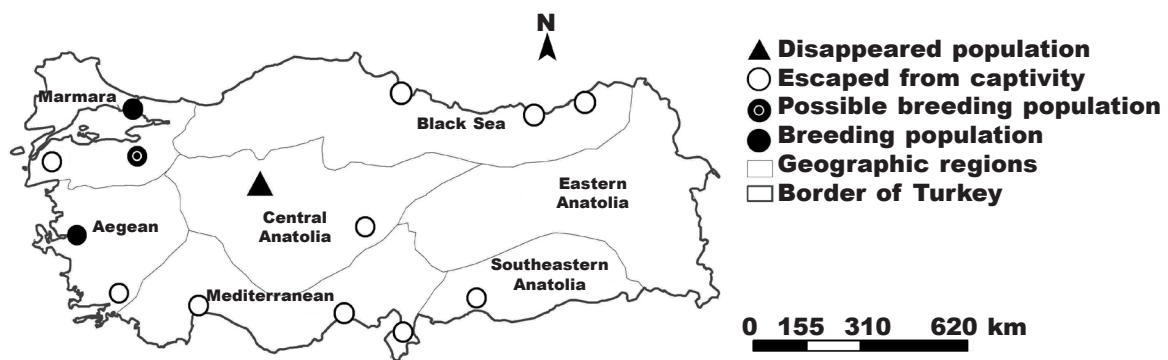


Fig. 1. Distribution map of the common myna in Turkey.

Fig. 1. El mapa de distribución del miná común en Turquía.

of environments, especially in areas where humans are present. If the current established population keeps growing and starts expanding, and/or if cage escapes continue in the coming years, breeding populations can be expected to emerge in the provinces of the Mediterranean Region (Antalya, Hatay, Mersin, and Muğla). It should be noted that with the exception of Ankara, Kayseri and Şanlıurfa, all common myna observations were recorded in provinces with a coastline, and the species has never been seen in the wild in the Eastern Anatolia Region (fig. 1) where extreme climatic conditions prevail. This species' ecological, economic, and social impact across the country currently still remains unclear.

The common myna is frequently imported as a caged bird by pet shops owners in Turkey (Bilgin, 1996), and current populations most likely stem from escapes from captivity (Kirwan et al., 2008). For example, according to news agencies, 75 myna birds smuggled into Van (eastern Turkey) in 2020 were identified and sent to Gaziantep Zoo (Anadolu Agency, 2020). This supports the assumption that the origins of myna birds can thus be traced directly to the pet trade in Turkey. Informing the public through the media about the cases of wildlife smuggling and illegal trade is important to promote public awareness of cases and species.

Documenting and monitoring the establishment of new breeding populations of exotic bird species is of much importance. Such information is required to estimate future spread and develop management strategies. Birdwatchers and ornithologists should be aware of the importance of keeping records of observations of this and other introduced species into new locations. Citizen–science data are becoming increasingly important for early detection and monitoring of emerging invasive species, and birdwatchers should be encouraged to collect such data (Holzapfel et al., 2006). Since 2004, birdwatchers and bird photographers have already made valuable contributions to monitoring birds in Turkey. Yet, in terms of monitoring

IAS, much more extensive and rigorously collected data are needed for effective management.

Turkey's decision–maker institutions have been working on a trade ban in order to reduce the numbers of invasive alien species. If their trade is banned and smuggling is addressed efficiently, new cage escapes will likely be reduced in coming years. However, as breeding populations are already established, monitoring of the myna and studies on population dynamics are needed, as well as better understanding of the ecological factors driving its potential range expansion across Turkey. Ongoing urbanization, with the creation of parks and other recreational spaces –especially grassy areas– simultaneously creates habitats suitable for invasive birds such as the common myna. In order to manage the impact of alien species, a detailed prediction of areas at risk of invasion is needed. Such ecological assessments, however, need high–quality data concerning the current distribution of the species.

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