International Journal of Nature and Life Sciences

IJNLS

https://dergipark.org.tr/tr/pub/ijnls

e-ISSN: 2602-2397 https://doi.org/10.47947/ijnls.1548740

Research Article

Bird Observation and Avifauna Studies in Harran University Osmanbey Campus

Alican Gümüş [1], Burcu Aişeoğlu [2*], Arif Parmaksiz [3]

[1] Meydan Neighbourhood, Samandağ, Hatay, Türkiye; https://orcid.org/0009-0004-0626-9227

[2] Harran University, Faculty of Arts and Sciences Department of Biology, Şanlıurfa, Türkiye; https://orcid.org/0000-0002-1550-5154

[3] Harran University, Faculty of Arts and Sciences Department of Biology, Şanlıurfa, Türkiye; https://orcid.org/0000-0003-0321-8198

*** Corresponding author:** burcugomuk@gmail.com

Received: September, 11, 2024

Accepted: October, 01, 2024

Online Published:

October, 05, 2024

Citation:

Gümüş, A., Aişeoğlu, B., & Parmaksiz, A. (2024). Bird observation and avifauna studies in Harran University Osmanbey Campus. International Journal of Nature and Life Sciences, 8 (2), 156-171.

Abstract: Avifauna are an important part of ecosystems worldwide. Their quality, productivity, structure and functions can be considered indicators of water bodies. Birds are among the prominent consumers of the ecosystem. They play a major role in transferring energy from the aquatic ecosystem to the terrestrial system. In terms of avifauna, it is important to determine the status of areas in terms of native species as well as migratory species.

In this regard, bird observation studies stand out as an important method in determining avifauna. In this research, 63 species belonging to 27 families were identified as a result of field studies conducted between November 2022 and January 2023 at Harran University Osmanbey Campus in Şanlıurfa province. When the risk status of 63 of the identified species was evaluated, it was determined that 59 of them were of minimal concern and the risk status of the remaining 4 species was not determined. The artificial lake, formed by the water of the Euphrates River coming from the Euphrates River and flowing to the Harran district, provided the source for the formation of an artificial habitat within the campus.

Keywords: Avifauna; Bird Watching; Osmanbey Campus; Şanlıurfa.

1. Introduction

Birds and their migration behaviors have aroused people's curiosity and for this reason, observations and research continue to develop. According to Ebird data, approximately 10,825 bird species have been identified worldwide and 495 bird species have been identified in Turkey (eBird, 2024). Due to its geographical location, Turkey is located on the migration movements between the continents, north-south and east-west (Figure 1). More than 70% of the total bird species regularly seen in Europe can be observed in our country. This shows that Turkey has almost the same richness as the European continent in terms of bird diversity (Türkoğlu and Şekercioğlu, 2018; Çelik et al., 2021).

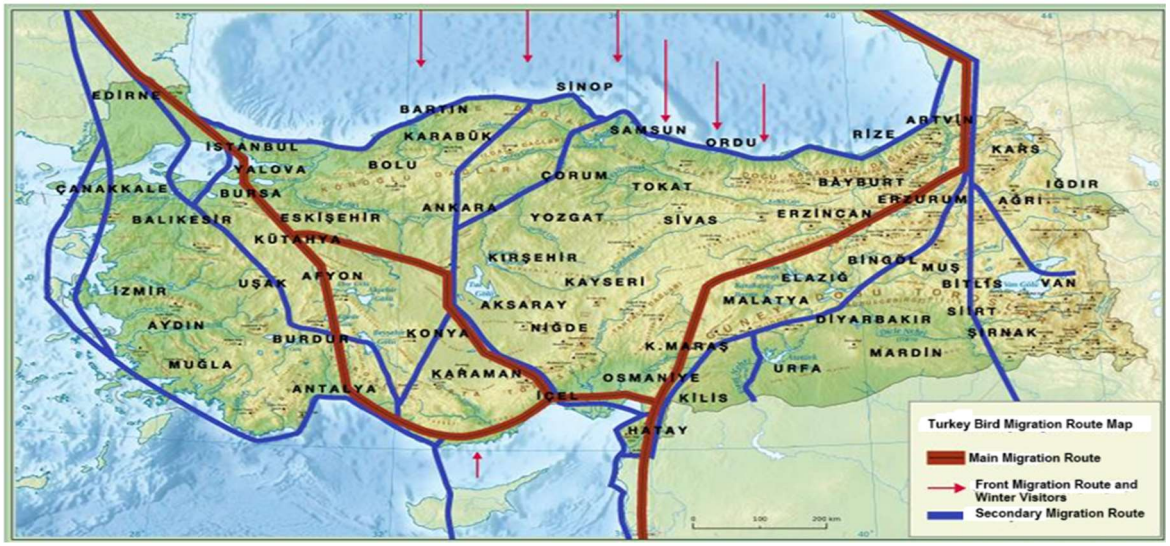

Figure 1. Turkey bird migration routes (Turan, 2009).

Turkey's high biodiversity is influenced by its geographical location, surface formations and climate characteristics. Anatolia has higher biological importance than other land masses in the world due to its continental characteristics (Demirsoy, 2002). Turkey is located on one of the main migration routes of bird species in Asia and Europe (Lees et al., 2022) (Figure 2).

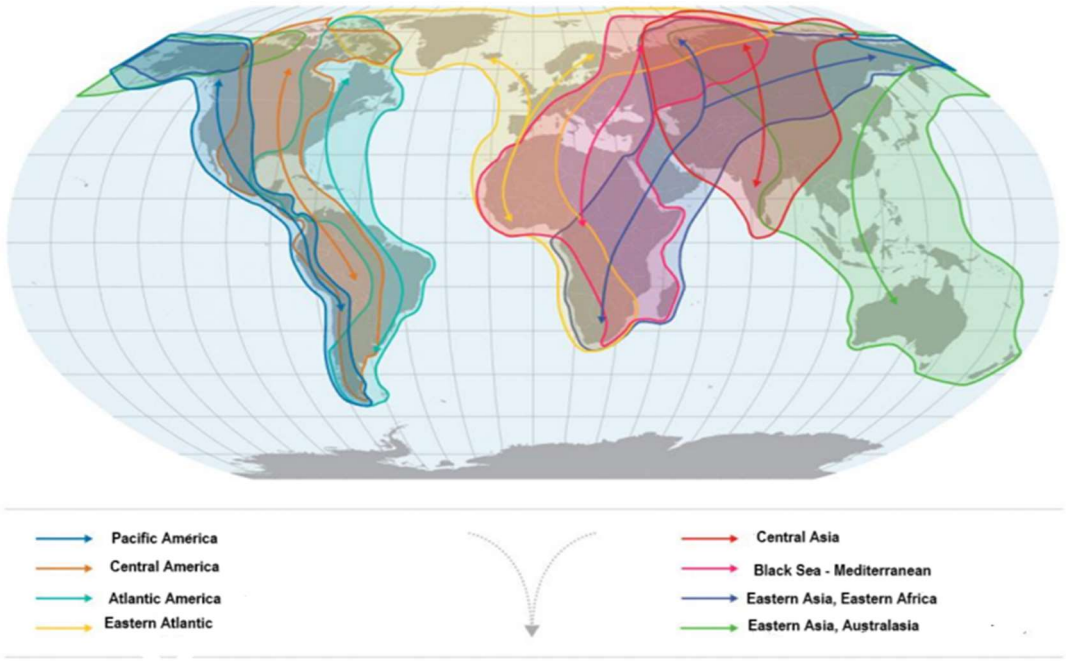

Figure 2. Global migration routes of migratory landbirds and waterbirds.

All migratory birds require high amounts of energy to cross long geographical barriers, so they migrate along routes with rich food resources (Schmaljohann & Dierschke, 2005). A few species, such as swallows, can meet their nutritional needs without the need for accommodation (Bairlein, 1995). Turkey is right in the middle of the migration routes of birds as they migrate from south to north in spring and from north to south in autumn. European and West Asian birds use natural bottlenecks during migration. They reach the African continent by migrating via the Bosphorus, Coruh Valley and Hatay Belen Pass in Turkey, the Strait of Messina and Malta in Italy, and the Strait of Gibraltar in Spain (Cırık, 2008).

The abundance of bird life in Turkey makes bird watching more widespread and the wetlands used by many bird species for shelter and breeding purposes more valuable. The project to identify important bird areas, which was initiated by BirdLife International in 1989 and carried out in many countries around the world, was carried out in Turkey under the coordination of the World Wildlife Association. Within the scope of Turkey's Important Bird Areas project, 184 IBAs of national and international importance were identified and this inventory study was published in 1990 and 1997 (Ertan and Kılıçkasparek, 1990; Yarar and Magnın, 1997).

This bird observation study conducted at Şanlıurfa Harran University Osmanbey Campus aimed to determine both the avifauna and the extent to which the area is used by birds.

2. Materials and Methods

Field studies were carried out at the Osmanbey Campus of Şanlıurfa University (Figure 3).

Figure 3. Map of Harran University Osmanbey Campus, Şanlıurfa.

Şanlıurfa is located at the intersection of the Eastern Anatolia and Southeastern Anatolia Regions, between the coordinates 37.3285°N 39.0265°E. The city constitutes almost 2.5% of Turkey's total area, with a surface area of 19,451 km2 and an average elevation of 518 m. The Osmanbey campus has an area of 27,000 acres.

The study was conducted between November 2022 and January 2023. During this period, field work was carried out in 3 different months and the period was completed. Observations were made between 08.00-17.00 during the day. Ebird data were used in the identification of species. While identifying the birds, the habitat and season in which they were observed, and the morphological features of the birds (feather colors, shapes and sizes of anatomical regions such as beaks, feet and wings) were taken into account. During field studies, observations were made with the naked eye and Nikon (7X35) brand binoculars.

The findings obtained as a result of the observation were found in table 1 as follows.

3. Results

3.1 Analysis of data

The identified species are listed and given in a table (Table 1).

Table 1. Identified species.

Family	Species		
	English	Latin	Protection status
Phasianidae	Common Quail	*Coturnix coturnix* (Linnaeus, 1758)	LC
	Black Francolin	*Francolinus francolinus* (Linnaeus, 1766)	LC
Columbidae	Kaya Güvercini	*Columba livia* (Gmelin, 1789)	NE
	Rock Dove	*Columba palumbus* (Linnaeus, 1758)	LC
	Eurasian Collared Dove	*Streptopelia decaocto* (Frivaldszky, 1838)	LC
	Laughing Dove	*Spilopelia senegalensis* (Linnaeus, 1766)	LC
	European Turtle Dove	*Streptopelia turtur* (Linnaeus, 1758)	LC
Rallidae	Common Moorhen	*Gallinula chloropus* (Linnaeus, 1758)	LC
Scolopacidae	Common Snipe	*Gallinago gallinago* (Linnaeus, 1758)	NE
	Common Sandpiper	*Actitis hypoleucos* (Linnaeus, 1758)	LC
	Green Sandpiper	*Tringa ochropus* (Linnaeus, 1758)	LC
Ardeidae	Grey Heron	*Ardea cinerea* (Linnaeus, 1758)	LC
Laridae	Slender-billed Gull	*Chroicocephalus genei* (Breme, 1839)	LC
	Gull-billed Tern	*Gelochelidon nilotica* (Gmelin, JF, 1789)	LC
Accipitridae	Western Marsh Harrier	*Circus aeruginosus* (Linnaeus, 1758)	LC
	Unknown	*Accipiter sp.*	NE
	Rufous-bellied Hawk	*Buteo rufinis* (Cretzschmar, 1829)	LC
Strigidae	Little Owl	*Athene noctua* (Skopoli, 1769)	LC
	Long-eared Owl	*Asio otus* (Linnaeus, 1758)	LC
Alcedinidae	Common Kingfisher	*Alcedo atthis (*Linnaeus, 1758*)*	LC
	Pied Kingfisher	*Ceryle rudis* (Linnaeus, 1758)	LC
Picidae	Syrian Woodpecker	*Dendrocopus syriacus* (Hemprich & Ehrenberg, 1833)	NE
Falconidae	Common Kestrel	*Falco tinnunculus* (Linnaeus, 1758)	LC
	Unknown	*Falco sp.*	LC
Laniidae	Southern Grey Shrike	*Lanius senator* (Linnaeus, 1758)	LC
Corvidae	Eurasian Magpie	*Pica pica* (Linnaeus, 1758)	LC
	Eurasian Jackdaw	*Corvus monedula* (Linnaeus, 1758)	LC
	Rook	*Corvus frugilegus* (Linnaeus, 1758)	LC
	Hooded Crow	*Corvus cornix* (Linnaeus, 1758)	LC
Alaudidae	Calandra Lark	*Melanocorypha calandra* (Linnaeus, 1766)	LC
	Sky Lark	*Alauda arvensis* (Linnaeus, 1758)	LC
	Crested Lark	*Galerida cristata* (Linnaeus, 1758)	LC
Cisticolidae	Graceful Prinia	*Prinia lepida* (Blyth, 1844)	LC
Hirundinidae	Barn Swallow	*Hirundo rustica* (Linnaeus, 1758)	LC
Pycnonotidae	Yellow-vented Bulbul	*Pycnonotus xanthopygos* (Hemprich & Ehrenberg, 1833)	LC
Phylloscopidae	Chiffchaff	*Phylloscopus collybita* (Vieillot, 1817*)*	LC
Sylviidae	Blackcap	*Curruca melanocephala* (Gmelin, JF, 1789)	LC
	Eurasian Blackcap	*Sylvia atricapilla* (Linnaeus, 1758)	LC

Troglodytidae	Winter Wren	*Troglodytes troglodytes* (Linnaeus, 1758)	LC
Sturnidae	European Starling	*Sturnus vulgaris* (Linnaeus, 1758)	LC
Turdidae	Song Thrush	*Turdus philomelos (*Brehm, 1831)	LC
	Common Blackbird	*Turdus merula* (Linnaeus, 1758)	LC
	Fieldfare	*Turdus pilaris* (Linnaeus, 1758)	LC
Muscicapidae	European Robin	*Erithacus rubecula* (Linnaeus, 1758)	LC
	Bluethroat	*Luscinia svecica* (Linnaeus, 1758)	LC
	Black Redstart	*Phoenicurus ochruros* (Gmelin, S.G., 1774)	LC
	European Stonechat	*Saxicola rubicola* (Linnaeus, 1766)	LC
Passeridae	House Sparrow	*Passer domesticus* (Linnaeus, 1758)	LC
	Spanish Sparrow	*Passer hispaniolensis* (Temminck, 1820)	LC
	Eurasian Tree Sparrow	*Passer montanus* (Linnaeus, 1758)	LC
	Rock Sparrow	*Petronia petronia* (Linnaeus, 1766)	LC
Motacillidae	White Wagtail	*Motacilla alba* (Linnaeus, 1758)	LC
	Meadow Pipit	*Anthus pratensis* (Linnaeus, 1758)	LC
	Water Pipit	*Anthus spinoletta* (Linnaeus, 1758)	LC
Fringillidae	Chaffinch	*Fringilla coelebs* (Linnaeus, 1758)	LC
	Desert Finch	*Rhodospiza obsoleta* (Lichtenstein, MHC, 1823)	LC
	Greenfinch	*Chloris chloris* (Linnaeus, 1758)	LC
	Brambling	*Fringilla montifringilla* (Linnaeus, 1758)	LC
	Linnet	*Linaria cannabina* (Linnaeus, 1758)	LC
	Goldfinch	*Carduelis Carduelis* (Linnaeus, 1758)	LC
	European Serin	*Serinus serinus* (Linnaeus, 1766)	LC
Emberizidae	Corn Bunting	*Emberiza calandra* (Linnaeus, 1766)	LC
	Rock Bunting	*Emberiza cia* (Linnaeus, 1766)	LC

Conservation Status Categories: **LC:** (Least concern): Common species; **NE:** Unspecified.

Figure 4. A: *Motacilla alba*; **B, C:** *Dendrocopus syriacus*; **D**: *Ceryle rudis.*

Figure 5. A: *Pycnonotus xanthopygos* ve Passer domesticus; **B:** *Pycnonotus xanthopygos.;* **C***: Rhodospiza obsoleta;* **D:** *Anthus pratensis.*

Figure 6. A: *Troglodytes troglodytes*; **B:** *Phylloscopus collybita*; **C:** *Corvus frugilegus;* **D**: *Chloris chloris.*

Figure 7. A, B: *Ardea cinerea*; **C, D**: *Fringilla coelebs*.

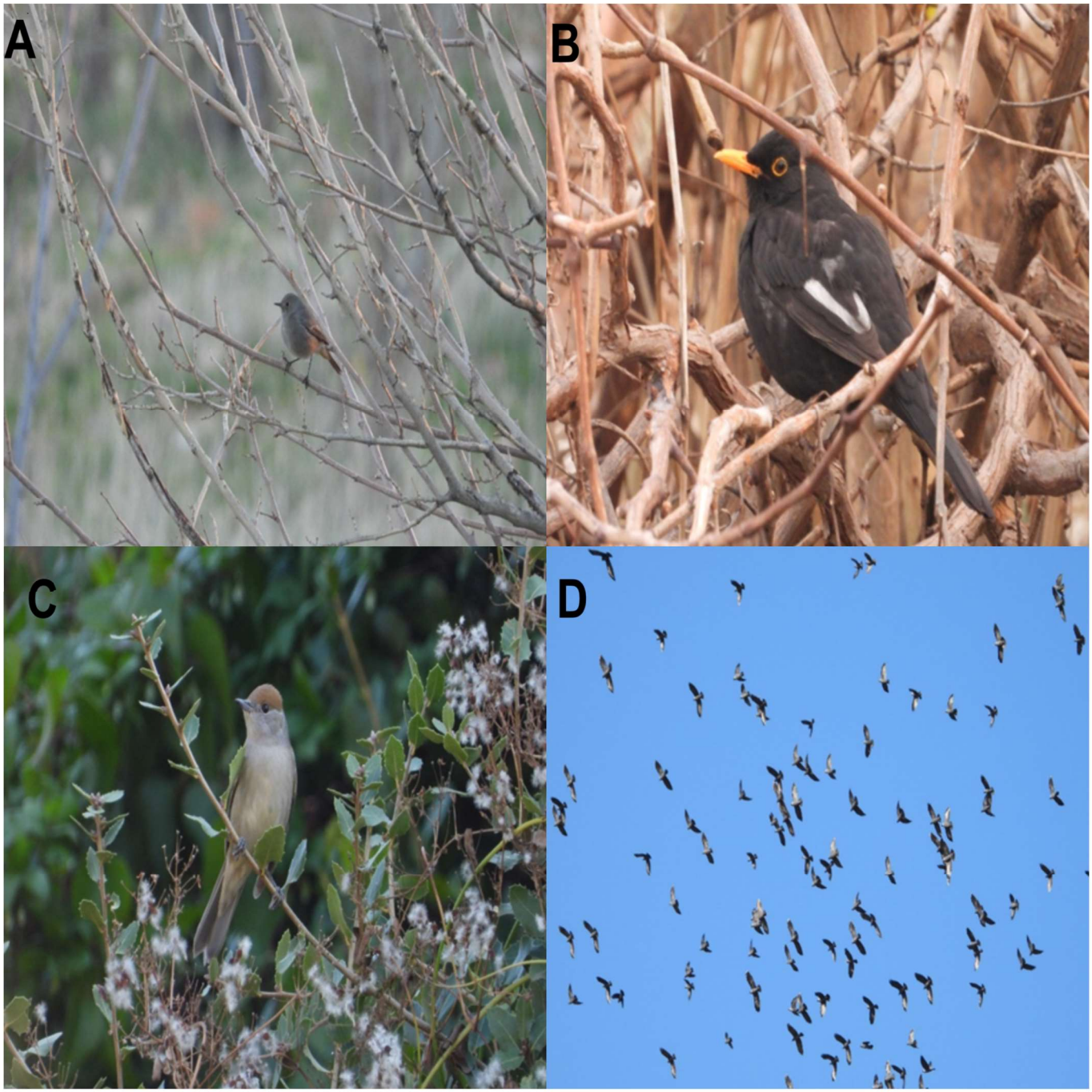

Figure 8. A. *Phoenicurus ochruros* ; **B**: *Turdus merula*; **C:** Karabaş Ötleğen; **D:** Murder of crows- *Corvidae.*

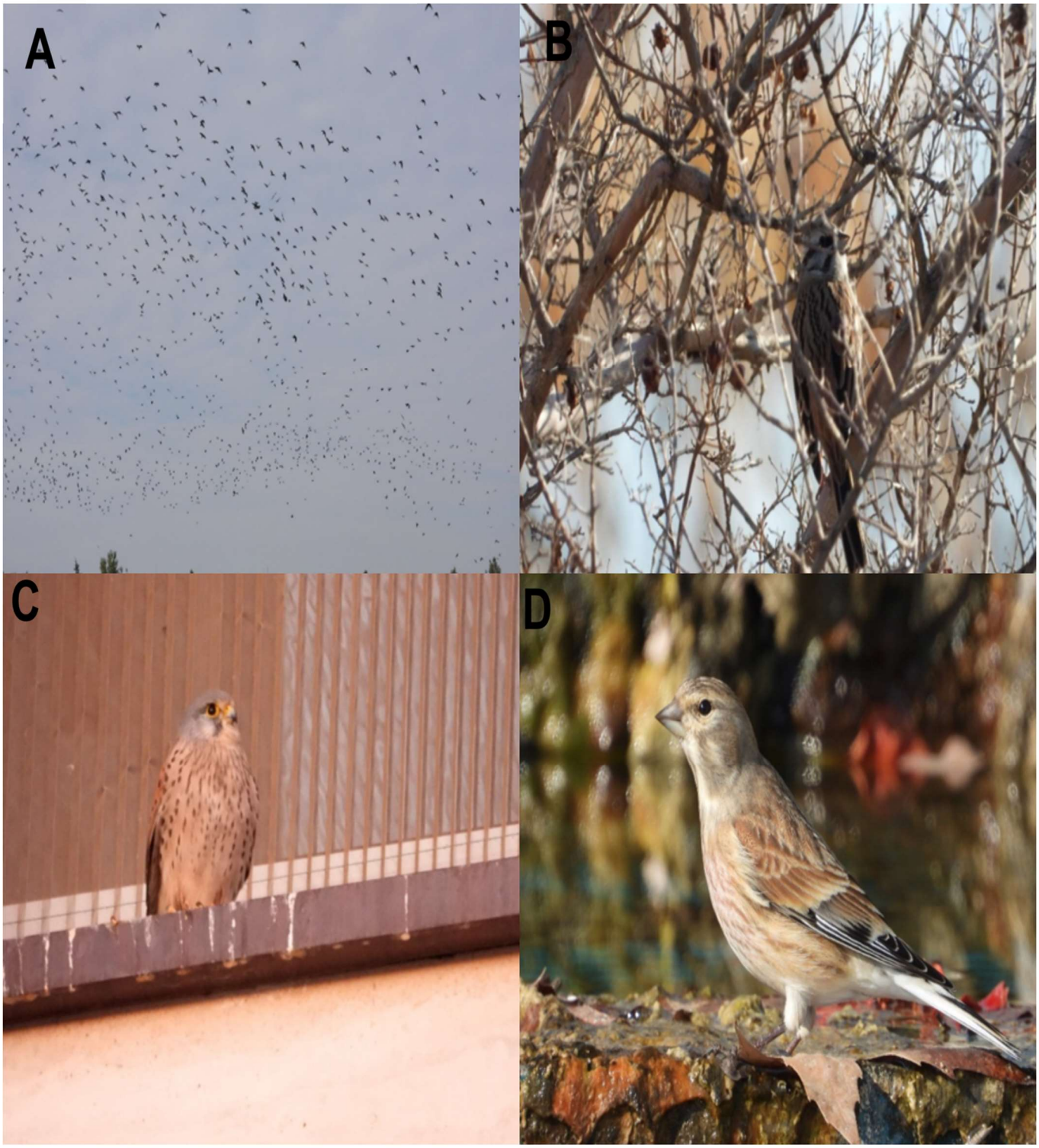

Figure 9. A: Murder of crows - *Corvidae*; **B**: *Emberiza cia*; **C:** *Falco tinnunculus*; **D**: *Linaria cannabina.*

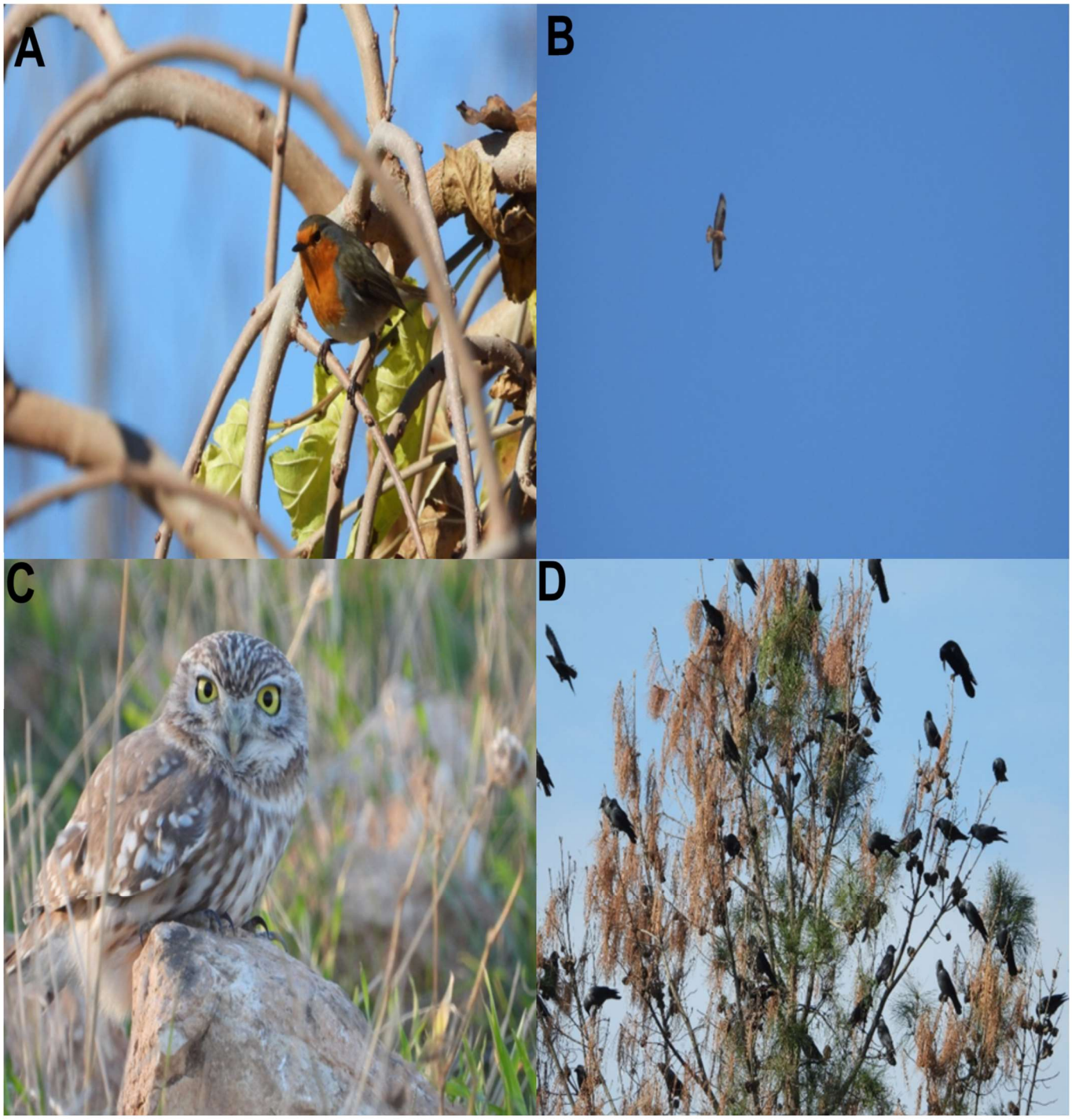

Figure 10. A: *Erithacus rubecula;* **B:** *Buteo rufinis;* **C:** *Athene noctua;* **D:** *Corvus monedula.*

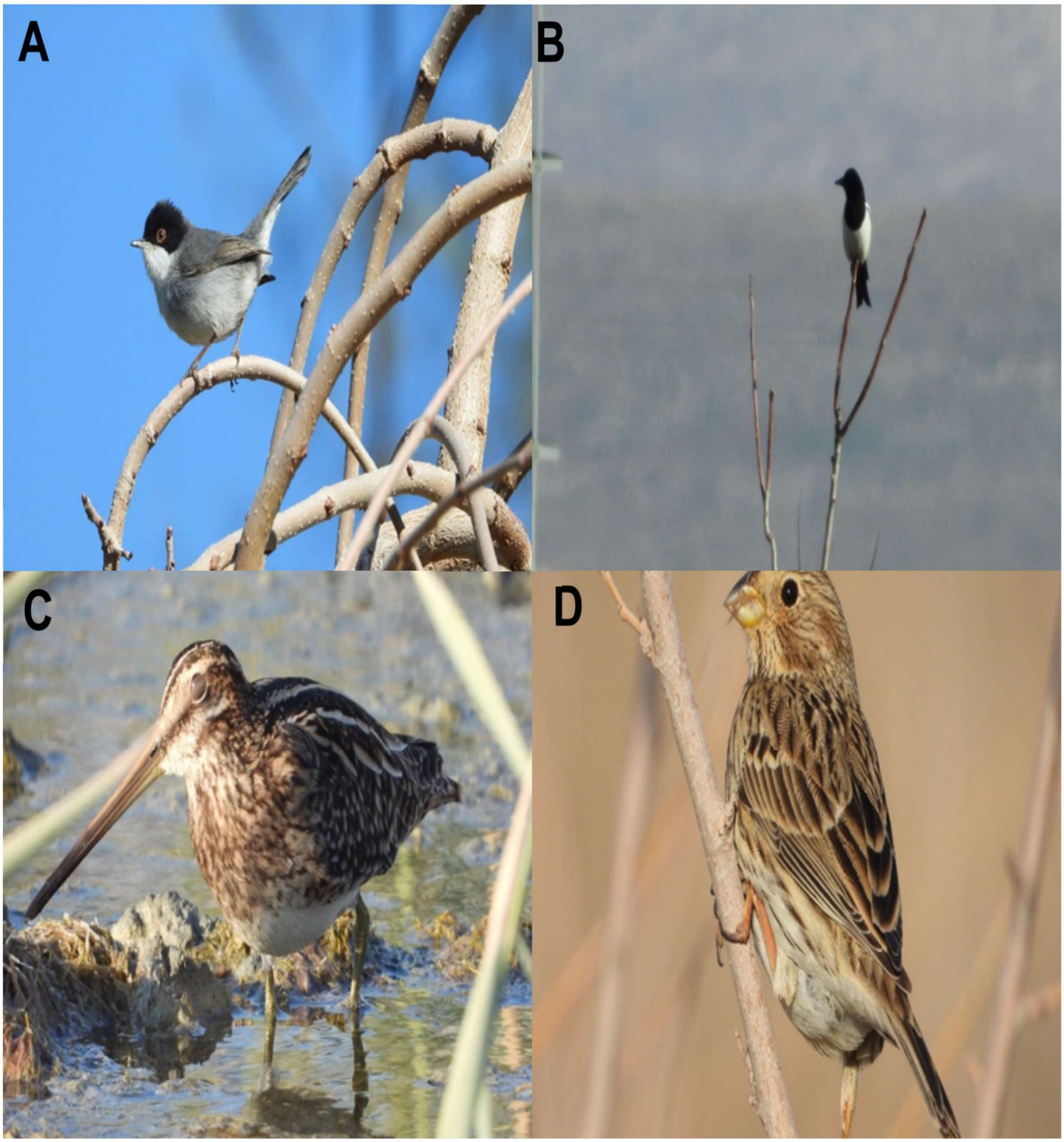

Figure 11. A: *Curruca melanocephala*; **B:** *Pica pica;* **C:** *Gallinago gallinago;* **D***: Emberiza calandra.*

Figure 12. A: *Emberiza calandra* (2) ; **B:** *Saxicola rubicola;* C: *Galerida cristata;* **D:** *Alcedo atthis.*

Figure 13.*Tringa ochropus.*

4. Discussion

As a result of the field studies carried out in Şanlıurfa province between November 2022 - January 2023, a total of 63 species belonging to 27 families were identified. The artificial lake, formed by the water of the Euphrates River coming from the Euphrates River and flowing to the Harran district, provided the source for the formation of an artificial habitat within the campus.

It is thought that the number of species will continue to increase with the increase in the number of trees and the development of cultural plants as the aquatic habitat on campus diversifies.

When the risk status of 63 of the identified species was evaluated, it was determined that 59 of them were of minimal concern and the risk status of the remaining 4 species was not determined.

When similar studies were examined, it was seen that 189 species were identified in Diyarbakır Dicle University campus (Gem, 2004), 92 species belonging to 38 families in Gaziantep University campus (Toprak et al., 2008).

and 106 species belonging to 37 families in Samsun 19 Mayıs University campus (Üker, 2006). It is thought that the fact that fewer species were observed in our study than in other studies is due to the fact that the observations were made only in the spring season, and the number of species will increase as the study is extended to other seasons. In similar studies, factors such as area size, habitat diversity, climate, soil structure and predators may be effective in observing different species numbers.

5. Conclusions

The results of our study provide significant data for the conservation and enhancement of biodiversity in the Şanlıurfa province. The fact that 59 out of the 63 identified species are of minimal concern can be considered a positive aspect regarding the ecosystem health of the region. However, the presence of 4 species whose risk status remains undetermined highlights the need for further research and conservation measures. Future studies should focus on conducting observations in different seasons and broader areas to increase species richness and develop strategies for the protection of local habitats. Additionally, the impacts of climate change and habitat alteration on these species should be taken into account. The role of local communities in biodiversity conservation should also be supported through increased education and awareness

efforts. In this context, our study contributes significantly to ornithological research in Turkey and encourages more comprehensive studies aimed at preserving the natural life in the region.

Conflicts of Interests
Authors declare that there is no conflict of interests

Financial Disclosure
Author declare no financial support.

Statement contribution of the authors
This study's experimentation, analysis and writing, etc. all steps were made by the authors.

References

1. Bairlein, F. (1995). Manual of Field Methods. European-African Songbird Migration Network. Institut Für Vogelforschung. Wilhelmshaven, Germany.
2. Cırık, Ö. (2005). Gökyüzü krallığı. Yeşil Atlas Dergisi, 8, 30-37.
3. Çelik, M. A., Kopar, İ., & Çelik, E. (2021). Doğubayazıt Sazlığının (Ağrı-Türkiye) Arazi Örtüsü Deseninde Meydana Gelen Değişimlerin Ekolojik Sonuçları Üzerine Bir Analiz. Doğu Coğrafya Dergisi, 26 (46), 193-210.
4. Demirsoy, A. (2002). Genel Zoocoğrafya ve Türkiye Zoocoğrafyası "Hayvan Coğrafyası". Ankara: Meteksan Yayınevi.
5. Ertan, A., Kılıç, A., & Kasparek, M. (1989). Türkiye'nin Önemli Kuş Alanları. İstanbul: Doğal Hayatı Koruma Derneği.
6. Gem, E. (2004). Dicle Üniversitesi kampusunun kuşları. Yüksek Lisans Tezi, Dicle Universitesi Türkiye.
7. https://ebird.org/region/world/regions?yr=all&m= (Accessed 09.04.2024).
8. Lees, A. C., Haskell, L., Allinson, T., Bezeng, S. B., Burfield, I. J., Renjifo, L. M., Rosenberg, K. V., & Viswanathan, A., & Butchart, S. H. (2022). State of the world's birds. Annual Review of Environment and Resources, 47 (1), 231-260.
9. Schmaljohann, H., & Dierschke, V. (2005). Optimal bird migration and predation risk: a field experiment with northern wheatears *Oenanthe oenanthe*. Journal of Animal Ecology, 74, 131-138. https://doi.org/10.1111/j.1365-2656.2004.00905.x
10. Toprak, H. H. C., Adızel, O., & Varol, I. (2008). The bird fauna of Gaziantep (Turkey). International Journal of Natural and Engineering Sciences, 2 (1), 41-46.
11. Turan, L., 2009. Ankara-Esenboğa Havaalanı Yaban Hayatı ve Kuşla Mücadele Haritalama Çalışması. Inforama, Rapor No. 90. Türkiye.
12. Türkoğlu, M., & Şekercioğlu, Ç. H. (2018). Iğdır'ın Kuşları. (2. Baskı). T.C. Orman ve Su İşleri Bakanlığı Doğa Koruma ve Milli Parklar Genel Müdürlüğü.
13. Üker, F. (2006). Ondokuz Mayıs Üniversitesi kampüs alanındaki üreyen kuşların dağılım haritalarının çıkarılması. Yüksek Lisans Tezi, Ondokuz Mayis Üniversitesi, Türkiye.
14. Yarar, M., & Magnin, G. (1997). Türkiye'nin Önemli Kuş Alanları. İstanbul: Doğal Hayatı Koruma Derneği.