



Exploring the Animal Market on Facebook: A Case Study of the Syrian Wildlife Trade

Ahmad Aidek¹, Ehab Eid^{2*}

¹General Commission for Scientific Agricultural Research, Deir ez-Zor, Syria, <https://orcid.org/0000-0001-6392-2836>

²Steering Committee Member at IUCN SSC. Lufi Queder Street. Al-Yadodah 11610, Amman, Jordan, <https://orcid.org/0000-0002-5085-6515>

*Email: eha_jo@yahoo.com

Received: 13 November 2024 / Revised: 14 January 2025 / Accepted: 17 January 2025 / Published online: 5 March 2025.

How to cite: Aidek, A., Eid, E. (2025). Exploring the Animal Market on Facebook: A Case Study of the Syrian Wildlife Trade. Sustainability and Biodiversity Conservation, 4(1): 1-21. DOI: <https://doi.org/10.5281/zenodo.14961901>

Abstract

Syria contains rich ecosystems and habitats that support the presence of rich biodiversity. However, several threats have significantly declined species composition and population size, including hunting for trade purposes. Despite the legislative framework to control hunting and protect species, the Syrian conflict since 2011 has profoundly impacted wildlife species. This study highlights the illegal wildlife trade in Syria, mainly through the social media platform Facebook. The findings reveal that birds are the most frequently traded animals, driven by cultural traditions and economic incentives. Species such as the Eurasian blackcap (*Sylvia atricapilla*) and the European goldfinch (*Carduelis carduelis*) are notably among the most traded animals, with substantial numbers harvested, sold, and smuggled to adjacent countries. The presence of threatened species, including the Endangered saker falcon (*Falco cherrug*) and steppe eagle (*Aquila nipalensis*), underscores significant conservation concerns. Mammals, such as the Persian squirrel (*Sciurus anomalus*) and various gazelle species, also feature prominently in the trade. Collaborative efforts among stakeholders and continuous wildlife trade monitoring are essential to protect Syria's biodiversity and ensure sustainable conservation outcomes.

Keywords: Amphibians, Birds, Facebook, Hunting, Mammals, Reptiles, Syria, Trade, Wildlife.

Introduction

The Syrian Arab Republic (hereafter referred to as Syria) encompasses an area of 185,180 km², located in West Asia on the eastern edge of the Mediterranean Sea, with a coastline of 183 km. Syria comprises several major biogeographic regions: (i) the Thermo-Mediterranean ecoregion along the western coast; (ii) the Irano-Turanian ecoregion covering most of the country; and (iii) the Saharo-Arabian ecoregion in a few small areas. The geographical landscape of Syria includes the coastal region, which consists mainly of mountain forests and a coastal plain; the Orontes Basin; the mountainous region in southwestern Syria, which corresponds to the eastern mountains of Lebanon, including Mount Hermon (Jabal Al-Sheikh), the highest peak at 2,814 meters above sea level; the Southwest region, characterized by a flat volcanic steppe, plateau, and plains including the Damascus Basin and Jabal al-Arab; the Aleppo plateau in the northwest; the Syrian steppe (Al-Badia), an arid and semi-arid landscape that accounts for one-third of the country's area; and Al-Jazira (Mesopotamia), a large area of steppes and cultivated fields (Barkoudah et al., 2002). The Euphrates River, which separates the Mesopotamia and Al-Badia regions, supports a unique biodiversity-rich habitat (Aidek, 2010). Syria's geographical position as a land bridge between Eurasia and Africa and its diverse bioclimatic and zoogeographical habitats contribute to its remarkable biodiversity. The country is home to approximately 3,150 plant species (Barkoudah et al., 2002), 110 mammal species (Aidek et al., 2024a), 40 snake species (Aidek et al., 2023), eight amphibian species (Aidek et al., 2024b), nine turtle species (Aidek et al., 2024b), and 381 bird species (Murdoch & Betton, 2008). The regulation of wildlife trade in Syria has evolved through various legal frameworks, with the current regulation established under Law No. 14 of 2023 superseding the previous Decree No. 152 of 1970 governing wild animal hunting. These legislative measures underscore the Syrian government's commitment to wildlife conservation. As a signatory to several international conventions, including the Convention on Biological Diversity (1993), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (2003), and the Convention on Migratory Species (2003). Nonetheless, illegal wildlife trade persists worldwide, involving trading, poaching, smuggling, capturing, or harvesting threatened or protected species for economic gain (Sas-Rofis et al., 2019). Factors contributing to this illicit trade include regulatory deficiencies and the high profitability of the trade, with inadequate penalties frequently failing to act as a deterrent (Tessema et al., 2021; Malik et al., 2019). Aidek et al. (2024a) provided a comprehensive overview of mammalian trade in Syria, emphasizing the

prevalence of carnivorous species in markets and their extensive promotion via social media, particularly Facebook. The squirrel emerged as the most frequently traded mammalian species, with adult and juvenile individuals being captured and sold in Damascus, Latakia, and Tartous markets. These squirrels are also marketed online and smuggled to Lebanon, Jordan, and Iraq (Aidek et al., 2021). Additionally, Aidek et al. (2024c) highlighted the significant trade of the Levantine turtle, *Testudo graeca terrestris*, in Syria, noting that large quantities are smuggled to Jordan, Lebanon, and Iraq, with traders frequently requesting from local communities online, especially on Facebook. The owl trade in Syria and Iraq in local markets and through social media was extensively documented by Al-Sheikhly & Aidek (2023). Amr et al. (2007) explored the illegal reptile trade in Damascus, Syria, identifying over ten specialized shops selling local birds, reptiles, and mammals. Other researchers have also examined animal markets in various Arabian countries with insights into animal trade via social media in the Arabian region derived from Eid & Handal (2018), who investigated illegal hunting practices in Jordan by analyzing posts from seven hunter groups on Facebook, recording the killing of 4,707 native animals across 59 species. According to their study, birds comprise most of these, followed by mammals and reptiles. Soorae et al. (2008) focused on the wildlife trade in the UAE, particularly noting the popularity of birds, followed by reptiles and marine species for aquaria. Al-Sheikhly & Aidek (2023) and Raza et al. (2016) analyzed the Iraqi trade-in. Al-Sirhan & Al-Bathali (2010) documented the sale of 17 raptor species in Kuwait, including three IUCN Red List species. Eid et al. (2010) identified CITES-listed bird and reptile species in Jordan's Friday Public Market, with reptile shipments seized at the Syrian border. Aloufi & Eid (2014) discussed conservation concerns and highlighted the predominance of birds in the illegal trade from Saudi Arabia's Tabuk area. Dakdouk (2009) reported extensive illegal wildlife trade in Lebanon, while Abi-Said et al. (2018) provided the most up-to-date study on animal trade in Lebanon, recording CITES-listed species and discussing delays in enforcing the CITES convention ratified by the Lebanese government in 2013. The Syrian conflict since 2011 has profoundly impacted wildlife despite existing conservation efforts and legal frameworks. The war's toll on Syria's economy and welfare has pushed many individuals towards alternative sources of income, including increased participation in wildlife trade activities. Scholars have observed heightened engagement in the hunting, collecting, and trading of wildlife facilitated by social media platforms in several countries (Harrison et al., 2016; Esmail et al., 2020; Sung et al., 2021), further compounding threats to species survival. Moreover, several studies have stated that the

weak implementation of laws, exacerbated by ongoing political instability, has hindered effective control over these online marketplaces (La Laina et al., 2021; Nijman, 2020; Siriwat et al., 2019; Siriwat et al., 2020), thereby amplifying the accessibility and scale of wildlife trade activities worldwide. This study presents insights into wildlife trade via social media platforms in Syria, laying the groundwork for subsequent research and ongoing monitoring efforts. Furthermore, it is a valuable resource for informing the development of robust legal frameworks and institutional structures governing wildlife trade in Syria. The study's outcomes highlight the adverse impacts of illegal animal trading on sustainable development, emphasizing the critical importance for policymakers to enhance regulatory frameworks and enforcement mechanisms to prevent and combat such activities effectively.

Material and methods

The Syrian Arab Republic, located in the Middle East between Lebanon and Turkey, features a predominantly Mediterranean climate with long, hot, and dry summers and mild, wet winters. Summers typically see high temperatures exceeding 30°C and significant evaporation, while winters bring moderate to cold weather, occasionally with snow or sleet in some areas. Rainfall varies widely, with coastal areas receiving 800 to 1000 mm annually, around 200 mm in Damascus, and as little as 100-150 mm in southeastern desert regions. The terrain mainly comprises semiarid desert plateaus, narrow coastal plains, and western mountains. In the northwest, Aleppo experiences average temperatures of 30°C in August and 4°C in January, whereas Tudmur, near the Syrian Desert, has slightly higher averages. The coastal region benefits from abundant rainfall due to Mediterranean winds, but the Al Ghab depression and areas like Damascus receive significantly less precipitation, partly due to the rain-shadow effect of the Anti-Lebanon Mountains (Ministry of Environment 2000). The methodology for this study involved systematically collecting and analyzing Facebook posts related to wildlife trade in Syria from 2021 to 2024. These posts, primarily shared by individuals and hunters, were opportunistically selected for inclusion in the analysis. Upon identifying relevant posts, all accompanying photos showing species involved in the trade were downloaded for further examination. The study focused on several key parameters, including the species being traded, quantities of each species observed, traders' geographical locations, and the posts' dates. The IUCN Red List status was retrieved from the official IUCN Red List of Threatened Species website ([IUCN Red List of Threatened Species](#)). Information on species classification according to the Convention on International Trade in

Endangered Species of Fauna and Flora (CITES) and the Convention on Migratory Species (CMS) was sourced from the Species+ website ([Species+ \(speciesplus.net\)](https://speciesplus.net)).

Results

We analyzed images from 21 regions across Syria, with the majority posted from the western areas, particularly Tartous, as shown in Fig 1 below.

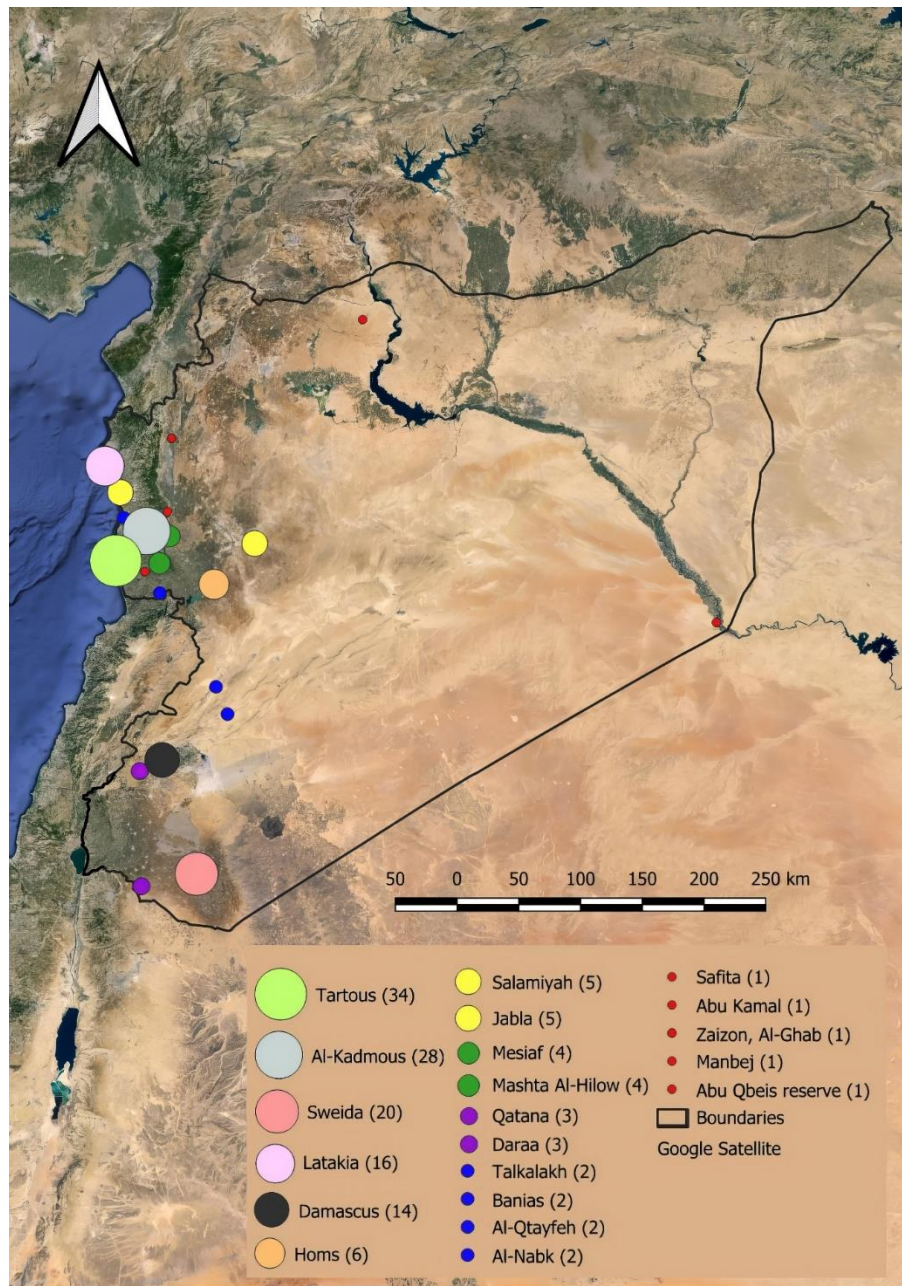


Fig 1. Map showing photos analyzed during the survey period

The analysis of Facebook posts showed four groups in trade: birds, mammals, reptiles, and amphibians. Among these, birds were the most prominent, comprising 37 species, followed by mammals with 15 species, and reptiles and amphibians with two species each (Plate 1). The Eurasian blackcap (*Sylvia atricapilla*) was the most traded bird species, with 796 individuals harvested for consumption. The European goldfinch (*Carduelis carduelis*) was also offered for sale, with 30 individuals ranging from adults to nests containing eggs or chicks. Observations also included 11 adult barn owls (*Tyto alba*) for sale. Regarding conservation status, most documented bird species are classified as Least Concern on the global IUCN Red List. However, the saker falcon (*Falco cherrug*) and Steppe eagle (*Aquila nipalensis*) are categorized as Endangered. The Cinereous vulture (*Aegypius monachus*) and Northern lapwing (*Vanellus vanellus*) are Near Threatened. Furthermore, one species falls under the Convention on International Trade of Endangered Species of Fauna and Flora (CITES) Appendix I “all species threatened with extinction which are or may be affected by trade”, 19 under Appendix II “all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival or other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control”, and four under Appendix III “all species which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the co-operation of other Parties in the control of trade”. Additionally, three bird species are listed in the Convention on Migratory Species (CMS) Appendix I “comprises migratory species that have been assessed as being in danger of extinction throughout all or a significant portion of their range. The Conference of the Parties has further interpreted the term “endangered” as meaning “facing a very high risk of extinction in the wild shortly”, and 16 are in Appendix II “covers migratory species that have an unfavorable conservation status and that require international agreements for their conservation and management, as well as those that have a conservation status which would significantly benefit from the international cooperation that an international agreement could achieve” (Table 1).



Plate 1. Animals are found in trade in the Facebook market. (A) *Hyaena hyaena syriaca*, (B) *Canis aureus*, (C) *Gazella marica*, (D) *Accipiter nisus* and *Falco tinnunculus*, (E) *Dendrocopos syriacus*, (F) *Ommatotriton vittatus*.

Table 1. Bird species recorded in trade from the analyzed Facebook posts

Species name	Common name	Quantity	Status		
			IUCN	CITES	CMS
Family Name: Accipitridae					
<i>Accipiter brevipes</i>	Levant Sparrowhawk	5	LC	II	I
<i>Accipiter gentilis</i>	Northern Goshawk	4	LC	II	II
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	10	LC	II	II
<i>Aegypius monachus</i>	Cinereous Vulture	1	NT	II	II
<i>Gyps fulvus</i>	Eurasian Griffon Vulture	2	LC	II	II
<i>Aquila nipalensis</i>	Steppe Eagle	1	EN	II	I
<i>Buteo buteo</i>	Common Buzzard	2	LC	II	II
<i>Buteo rufinus</i>	Long-legged Buzzard	2	VU	II	II
<i>Circaetus gallicus</i>	Short-toed Snake eagle	5	LC	II	II
<i>Circus aeruginosus</i>	Western Marsh Harrier	1	LC	II	II
<i>Pernis apivorus</i>	European Honey-buzzard	1	LC	II	II
Family Name: Alaudidae					
<i>Galerida cristata</i>	Crested Lark	4	LC	III	NA
Family Name: Alcedinidae					
<i>Halcyon smyrnensis</i>	White-throated Kingfisher	5	LC	NA	NA
Family Name: Charadriidae					
<i>Vanellus vanellus</i>	Northern Lapwing	1	NT	NA	II
Family Name: Ciconiidae					
<i>Ciconia Ciconia</i>	White Stork	2	LC	NA	II
Family Name: Cuculidae					
<i>Clamator glandarius</i>	Great Spotted Cuckoo	1	LC	NA	NA
Family Name: Falconidae					
<i>Falco naumanni</i>	Lesser Kestrel	7	LC	II	I
<i>Falco tinnunculus</i>	Common Kestrel	1	LC	II	II
<i>Falco cherrug</i>	Saker Falcon	1	EN	II	I
<i>Falco peregrinus pelegrinoides</i>	Barbary Falcon	1	LC	I	NA

Family Name: Fringillidae					
<i>Carduelis carduelis</i>	European Goldfinch	30	LC	III	NA
<i>Rhodospiza obsoleta</i>	Desert Finch	9	LC	NA	NA
Family Name: Pelecanidae					
<i>Pelecanus onocrotalus</i>	Great White Pelican	1	LC	NA	II
Family Name: Phasianidae					
<i>Alectoris chukar</i>	Chukar	∇	LC	NA	NA
Family Name: Picidae					
<i>Dendrocopos syriacus</i>	Syrian Woodpecker	∇	LC	NA	NA
<i>Dendrocytes medius sanctijohannis</i>	Middle Spotted Woodpecker	∇	LC	NA	NA
<i>Jynx torquilla</i>	Eurasian Wryneck	∇	LC	NA	NA
Family Name: Strigidae					
<i>Asio otus</i>	Long-eared Owl	2	LC	II	NA
<i>Athene Noctua</i>	Little Owl	4	LC	II	NA
<i>Bubo ascalaphus</i>	Pharaoh Eagle-owl	1	LC	II	NA
<i>Otus scops</i>	Eurasian Scops owl	3	LC	II	NA
Family Name: Sturnidae					
<i>Acridotheres tristis</i>	Common Myna	1	LC	NA	NA
Family Name: Sylviidae					
<i>Sylvia atricapilla</i>	Eurasian Blackcaps	796	LC	III	II
Family Name: Turdidae					
<i>Turdus merula</i>	Common Blackbird	8	LC	III	II
Family Name: Tytonidae					
<i>Tyto alba</i>	Barn Owl	11	LC	II	NA
Family Name: Upupidae					
<i>Upupa epops</i>	Eurasian Hoopoe	12	LC	NA	NA

LC: Least Concern, NT: Near Threatened, VU: Vulnerable, EN: Endangered

Regarding mammals, 15 species were offered for sale on Facebook. Three species are classified as threatened: the Persian Fallow Deer (*Dama mesopotamica*), the Sand Gazelle (*Gazella marica*), and the Goitered gazelle (*Gazella subgutturosa*). Additionally, one species: *Hyaena hyaena*

syriaca (Striped Hyaena) was categorized as Near Threatened according to the global IUCN Red List assessment, namely the Striped Hyaena (*Hyaena hyaena syriaca*). Moreover, six species were found to be listed in CITES appendices. Two of these were classified under Appendix I: the Arabian Wolf (*Canis lupus*) and the Persian fallow deer (*Dama mesopotamica*). Furthermore, one species, the Wild cat (*Felis lybica*), was noted under Appendix II, while three species were listed in Appendix III: the Golden jackal (*Canis aureus*), Red Fox (*Vulpes vulpes*), and the Striped Hyaena (*Hyaena hyaena syriaca*). Notably, the Persian squirrel (*Sciurus anomalus*) was the most frequently encountered species, followed by the Sand Gazelle (*Gazella marica*) and the Roe Deer (*Capreolus capreolus*) with 40, 21, and nine individuals recorded, respectively (Table 2).

Table 2. Mammalian species recorded in trade from the analyzed Facebook posts

Species name	Common name	Quantity	Status		
			IUCN	CITES	CMS
Family Name: Canidae					
<i>Vulpes vulpes</i>	Red Fox	5	LC	III	NA
<i>Canis aureus</i>	Golden Jackal	6	LC	III	NA
<i>Canis lupus</i>	Grey Wolf	4	LC	I	NA
Family Name: Felidae					
<i>Felis lybica</i>	Wild Cat	1	LC	II	NA
Family Name: Mustelidae					
<i>Meles canescens</i>	Caucasian Badger	4	LC	NA	NA
Family Name: Hyaenidae					
<i>Hyaena hyaena syriaca</i>	Striped Hyaena	4	NT	NA	NA
Family Name: Suidae					
<i>Sus scrofa</i>	Wild Boar	2	LC	NA	NA
Family Name: Cervidae					
<i>Capreolus capreolus</i>	Roe Deer	9	LC	NA	NA
<i>Dama mesopotamica</i>	Persian Fallow Deer	6	EN	I	NA
Family Name: Bovidae					
<i>Gazella marica</i>	Sand Gazelle	21	VU	NA	NA
<i>Gazella subgutturosa</i>	Goitered Gazelle	2	VU	II	NA

Family Name: Leporidae					
<i>Lepus europaeus</i>	European Hare	١	LC	NA	NA
Family Name: Rodentia					
<i>Sciurus anomalus</i>	Persian Squirrel	٤٠	LC	NA	NA
<i>Nannospalax ehrenbergi</i>	Middle East Blind Mole-rat	١	LC	NA	NA
Family Name: Erinaceidae					
<i>Erinaceus concolor</i>	Southern White-breasted Hedgehog	5	LC	NA	NA

LC: Least Concern, NT: Near Threatened, VU: Vulnerable, EN: Endangered

The herpetofauna on Facebook included two reptile species: the Levantine Tortoise (*Testudo graeca terrestris*), the most commonly seen, and the Dice snake (*Natrix tessellata*). The Levantine Tortoise is listed as Vulnerable on the IUCN Red List and is in CITES Appendix II. Additionally, two amphibians classified as Least Concern were noted. The Southern banded newt (*Ommatotriton vittatus*) was the most frequently encountered, with four individuals for sale and the Near Eastern fire salamander (*Salamandra infraimmaculata*) (Table 3).

Table 3. Reptilian species recorded in trade from the analyzed Facebook posts

Species name	Common name	Quantity	Status		
			IUCN	CITES	CMS
Reptiles					
Family Name: Testudinidae					
<i>Testudo graeca terrestris</i>	Levantine Tortoise	374	VU	II	NA
Family Name: Colubridae					
<i>Natrix tessellata</i>	Dice snake	13	LC	NA	NA
Amphibians					
Family Name: Salamandridae					
<i>Salamandra infraimmaculata</i>	Near Eastern fire salamander	1	LC	NA	NA
<i>Ommatotriton vittatus</i>	Southern banded newt	4	LC	NA	NA

LC: Least Concern, VU: Vulnerable

Figure 2 below illustrates the findings, including the total number of species recorded per group, CITES-listed species, CMS-listed species, and their status according to the IUCN Red List.

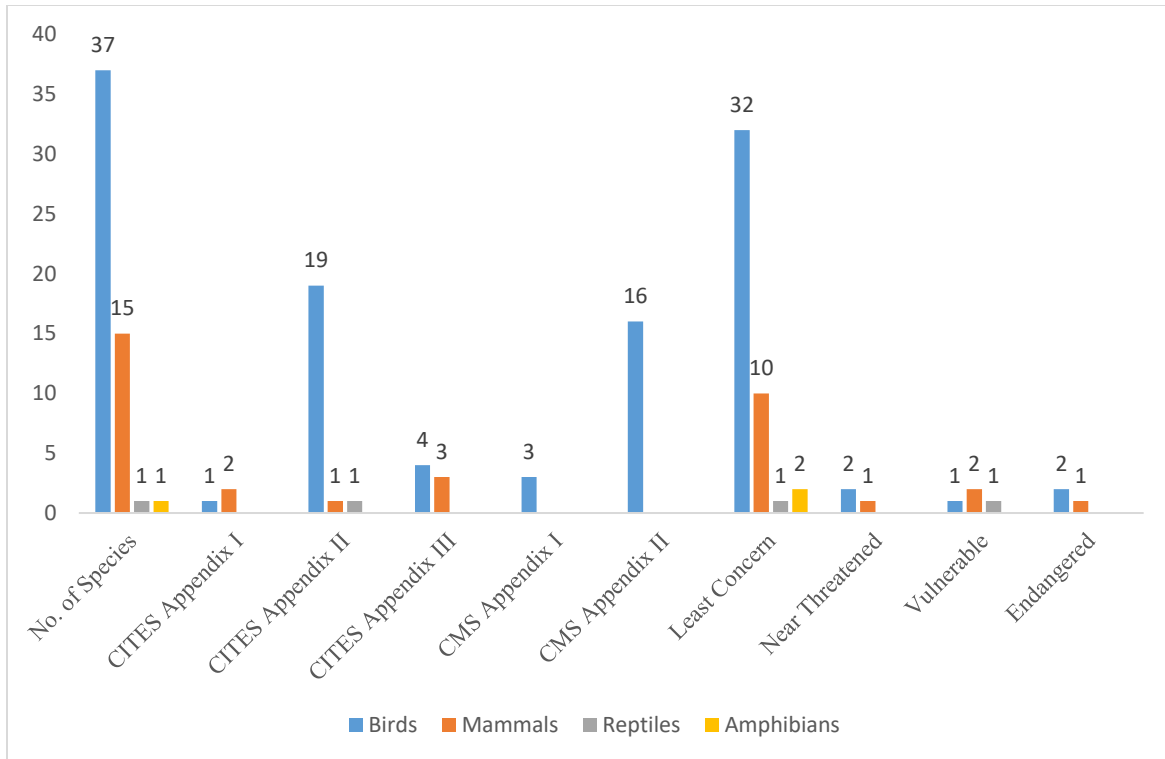


Fig 2. Collective results obtained during the survey

Discussion

The widespread availability of social media platforms like Facebook has emerged as a crucial factor, offering a convenient and easily accessible marketplace for wildlife sales. These platforms provide free access and extensive exposure at a national level (Klonick, 2019; Bergman et al. 2022). Additionally, advancements in global communication and technology have facilitated the emergence of new markets, contributing to both legal and illegal wildlife trade globally (Nijman et al., 2019; Aguirre et al., 2020; Esmail et al., 2020; Morcatty, 2021). As Guerrero et al. (2016) observed, posts related to wildlife trade on platforms like Facebook have noticeably increased.

Our study confirms that birds are the most frequently traded animals through the Facebook platform, in line with earlier research conducted across various Arabian countries (Amr et al., 2007; Soorae et al., 2008; Dakdouk, 2009; Al-Sirhan & Al-Bathali, 2010; Eid et al., 2010; Raza et al., 2011; Aloufi & Eid, 2014; Li & Jiang, 2014; Abi-Said et al., 2018; Eid & Handal, 2018; Brochet

et al., 2019; Handal et al., 2021). This prevalence can be attributed to longstanding cultural traditions linking Arabs with birds, whether for falconry or as domestic pets. According to our survey results, the Eurasian blackcap (*Sylvia atricapilla*) was the most commonly traded bird species, harvested, prepared for human consumption, and offered for sale. This finding is consistent with studies such as Raine et al. (2021), who identified this species as one of Lebanon's most frequently shot birds. Additionally, Brochet et al. (2016) estimated that over one million individuals of the Eurasian blackcap are illegally killed or taken each year, highlighting the substantial impact of illegal activities on this species. Furthermore, Eason et al. (2016) reported that the Eurasian blackcap is also hunted using fine-mesh nets on trees and shrubs in Egypt. Balmaki & Barati (2006) stated that the presence of threatened bird species in the wildlife trade indicates inadequate implementation of conservation measures. Our survey identified two Endangered, one Vulnerable, and two Near Threatened bird species. Among them, the saker falcon (*Falco cherrug*) stands out as one of the most affected species globally, with an estimated 8% of the European population illegally killed or taken annually in Northern and Central Europe and the Caucasus (Brochet et al., 2019). The Saker falcon faces threats such as deliberate shooting, poisoning by pigeon keepers, and unintentional or negligent poisoning (BirdLife International 2021a; Mainjargal et al., 2021). In Syria, our observations acknowledged dozens of falcons are caught during the spring and fall migration seasons, where hunters and falconers spread throughout the Syrian desert and the Qalamoun region (Anti-Lebanon mountains) to catch falcons due to the high prices these birds fetch in the market. This species was also found in the animal market in Tabuk, Saudi Arabia, with prices ranging from 2,934 to 8,802 US dollars per bird (Aloufi & Eid, 2014). It was also recorded in Jordan's social media trade market (Eid & Handal, 2018). Additionally, hunting of this species was confirmed in the arid steppes of eastern and western Iraq (Raza et al., 2011). The saker falcon is highly valued in Arabia for falconry, contributing to significant trapping and consumption rates in Saudi Arabia, Qatar, Bahrain, Kuwait, and the UAE, albeit posing a significant threat to its population due to mortality rates before acquisition (ERWDA 2003). The steppe eagle (*Aquila nipalensis*) is globally classified as an Endangered species facing several threats that impact its population (BirdLife International 2021b). One such threat is the collection of young eagles from their nests (Derlink et al., 2018; Katzner et al., 2022). Moreover, recent studies utilizing social media to assess wildlife impacts have revealed the illegal killing of the steppe eagle in Jordan, despite legal protection for the species within the country (Eid

& Handal, 2018). This survey revealed the presence of 11 raptors in trade using Facebook, indicating the illegal activities of hunting and collecting individuals. This poses significant conservation threats, disrupts ecosystems, harms animal welfare, and undermines legal regulations (Meyburg et al., 2020). Therefore, it is necessary to enforce laws, raise awareness, monitor trade activities, collaborate with stakeholders, provide alternative livelihoods, and implement rescue and rehabilitation programs (Kwok et al., 2021), which are essential to protect raptors and their habitats. The European goldfinch (*Carduelis carduelis*) has been documented in trade in our study, with adult individuals and nests containing eggs or chicks for sale. This species is highly popular as a cagebird (Louadj et al., 2022; Craves & Anich, 2023). It is captured intentionally or unintentionally as by-catch (Khelifa et al., 2017) since it is valued for its tuneful voice or breeding and hybridization with domestic canaries (*Serinus canaria*) (Handal et al., 2021). They were notably traded in Amman's animal market, with 1,221 individuals for sale (Eid et al., 2010), and significant confiscations occurred between 1996 and 2011, indicating substantial trapping levels likely contribute to observed declines, particularly in the northern part of Jordan (Eid & Qaneer, 2013). Similar trends were noted in Lebanon and the West Bank, highlighting the widespread trade impact (Abi-Said et al., 2018; Handal et al., 2021). Despite its Least Concern status by IUCN ((BirdLife International, 2019), the European goldfinch population in Arabia is declining due to ongoing trapping, nest/chick collection, and smuggling between countries, with evidence noted for specimens smuggled from Syria to Jordan and Lebanon, further elevating trade numbers (Eid et al., 2010). The Persian squirrel (*Sciurus anomalus*) trade was observed on the Facebook market in Syria, where 40 individuals were documented. This species has significantly decreased population numbers and distribution in Syria due to forest degradation, destruction, trade, and smuggling to neighboring countries (Aidek et al., 2021). Despite its global Least Concern status according to the IUCN Red List, this species faces Endangered status in Jordan due to its restricted population in forested areas and escalating threats, notably collection for trade (Eid et al., 2020). Furthermore, records indicate its presence in trade within animal markets in Amman, Lebanon, and Iraq (Eid et al., 2011; Abi-Said et al., 2018). Additionally, the Facebook market revealed the trade of two Vulnerable mammalian species according to the IUCN Red List: the sand gazelle (*Gazella marica*) and the goitered gazelle (*Gazella subgutturosa*) (IUCN, 2017). Among these, 21 sand gazelles were offered for sale, including ten skins, with live individual prices as high as 900 US dollars, a significant sum compared to Syria's GDP per capita estimated at 515.9 US dollars in 2023 by the

World Bank. Regional assessments of Arabian mammals underscore the sand gazelle's vulnerability, estimating a remaining wild population of only 1,750-2,100 individuals, primarily hunted for meat and sport (Mallon et al., 2023). Similarly, the goitered gazelle is classified as Near Threatened in the Arabian Peninsula, factoring in a rescue effect but highlighting a dwindling population of less than 1,000 individuals (Mallon et al., 2023). Both gazelle species face significant threats in Syria, with hunting pressures contributing to drastic population declines. This species was almost extinct in Syria, but during the war and due to hunters' inability to go to certain areas, its population has increased dramatically in the desert, especially in the eastern and southern regions of Suwayda. Recent efforts by relevant authorities in Syria to pursue the poachers and to stop gazelle hunting were critical to conserving the remaining population (Ahmad Aidek pers. obs.). In our survey and based on the regional Red List assessment of mammals in the Arabian Peninsula (Mallon et al., 2023), three Endangered species were identified: the Arabian wolf (*Canis lupus*), striped hyena (*Hyaena hyaena syriaca*), and the Persian fallow deer (*Dama mesopotamica*). Aloufi & Eid (2016) investigated the hunting of hyenas and wolves and provided insights into using animal derivatives for folk medicine in Jordan and Saudi Arabia. Additionally, young wolves are believed to impart courage to children if kept as pets, with prices reaching as high as USD 1,335, as observed in the Facebook trade market in Jordan (Eid & Handal, 2018). These animals are also captured in Iraq for exhibition purposes (Raza et al., 2016). Similarly, the striped hyena faced hunting pressure for its derivatives used in folk medicine in Jordan and Saudi Arabia (Aloufi & Eid, 2016) and was documented in animal markets in the West Bank, Palestine, and Iraq (Raza et al., 2016; Handal et al., 2021), as well as in the Facebook animal market in Jordan (Eid & Handal, 2018). In Syria, hunters and local communities frequently pursue hyenas and wolves, driven by the desire to boast about their hunts and the prevailing myths that these animals attack humans, sheep, and cows. Many parts of the hyena are used in magic, sorcery, and superstition, with these animals or their parts often being smuggled to Lebanon, Iraq, and Jordan (Aidek et al., 2024a). Regarding wolves, their fangs are extracted and decorated with gold to be worn as brooches on the chests of children when they are born in the eastern region of Syria (Plate 2), driven by superstitions that wolf fangs repel demons and bestow prestige and strength upon the child as they grow.



Plate 2. Brooch of tusk wolf. The jeweler Kasem Faraj. (© Ahmad Aidek)

The herpetofauna group was the least represented in our survey results despite its dominant presence in the overall trade in Syria. For instance, the Levantine tortoise (*Testudo graeca*) was primarily requested for purchase rather than being offered for sale, with many traders seeking to buy Syrian turtles, especially smaller ones, on Facebook. These turtles are frequently found in local markets in Syria and are sometimes smuggled into neighboring countries (Aidek et al., 2024c). The trade-in herpetofauna is also widespread in other Arabian countries, as documented in several studies (Amr et al., 2007; Soorae et al., 2008; Dakdouk, 2009; Eid et al., 2010; Aloufi & Eid, 2014; Raza et al., 2016; Abi-Said et al., 2018; Handal et al., 2021). This lower representation in the survey could be due to factors such as the commonality of trade in animal markets, the relatively low prices of these species (e.g., the Greek tortoise not exceeding \$6), or their availability in the wild. Additionally, *Ophiomorus vittatus* is traded as a pet in Syria, often collected from the coastal region and brought to animal markets in Damascus. These animals are

sold as exotic East Asian creatures, priced around \$15 each. However, many of these animals die due to the breeders' lack of experience in proper care, highlighting a significant issue in the pet trade (Aidek et al., 2024b). Our study highlights the significant and multi-layered challenges posed by the illegal wildlife trade in Syria, mainly via social media platforms like Facebook. The findings emphasize the extensive bird trade, driven by cultural traditions and economic incentives, with species like the Eurasian blackcap and the European goldfinch particularly vulnerable. The presence of threatened species, including the saker falcon and steppe eagle, underscores the urgent need for enhanced conservation measures. Furthermore, the illegal trade extends to mammals, such as the Persian squirrel and various gazelle species, reflecting broader regional and global trends. Effective enforcement of wildlife protection laws, raising public awareness, and providing alternative livelihoods are critical steps to mitigate these illegal activities. Collaborative efforts among stakeholders and continuous wildlife trade monitoring are essential to safeguard Syria's biodiversity and ensure sustainable conservation outcomes.

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