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Survey on some captured raptors with remarkable observations on honey buzzard *Pernis apivorus* (Linnaeus, 1758) from some Iraqi bird-markets: A case study from Qadissiya Governorate, Southern Iraq

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ABSTRACT

Despite of the remarkable conservation efforts to save the diversity and population of wildlife, both population and diversity have been still under the threat of decline. Thus the current investigation was designed to highlight the situation of raptors that hunted and selling in local markets of Al-Qadissiya Governate, Iraq. Thirty five individuals of raptors were recorded. These individuals represented 11 species belonging to 2 orders: Acciptriformes and Falconiformes. The most significant feature honey buzzard was observed as the first observation of this species in this province. In addition, two out of 11 species were listed under the endangered (EN) category, i.e., *Neophron percnopterus* and *Aquila nipalensis*, while, one species was detected under Near Threatened (NT) category, i.e., Steppe Eagle, *Aegypius monachus* according to International Union of Conservation Nature (IUCN), while 8 species were classified under the Least Concern (LC) category. Thus, these observations confirm the deterioration in wildlife situation in Iraq as a result of adverse effects of human activities.

Article type: Report.

INTRODUCTION

Despite of the immensity of conservation efforts that have focused on the observation of population trends and diversity of species, the dramatic decline in population and diversity have been still recognised evidently (McClure *at al.* 2018). A variety of drivers might trigger off these consequences in wildlife such as abiotic drivers (physical, chemical and topographical components of the habitats), and biotic drivers (competitors, predation risk and the quality and availability of prey), in addition to the human activities or, in another word, anthropogenic effects (Lwis *et al.* 2017; Hussein Hnoosh 2021). Human activities might be considered the main destructive and influential drivers on wildlife diversity (Hunter 2007). These human behaviours accomplished various reasons, however, principally they focused in two aspects; first, the benefits from nature that extend from recreation and wellbeing to economic detail (Mekonen 2020). In addition the public perception about the importance of biodiversity to ecological services to maintain healthy life that are still underestimated (Cortés-Avizanda *et al.* 2018). Birds of prey is one of the vital organisms that play a key role in ecological functions in many biological directions via feeding on the carcasses of dead animals, control the distribution and population of other species, as well as control spreading diseases (Tinajero *et al.* 2017). In spite of these vital functions of these creatures, the populations of raptors species have showed an obvious deterioration during last decades at different levels (Burbano-Girón *et al.* 2022). Buzzard is a raptor belonging to the order Accipitriformes and family Accipitridae (Mindell *et al.* 2018). Until 2012, there were 20 different species of Buzzard in Iraq (Salim *et al.* 2006 & 2012), since the mid of the last century, the population trend of different buzzard species have predominantly declined

due to a variety of motives such as urbanization process, prosecution, habitat-destruction, as well as using the organic agricultural pesticides, for instance, organochloride (Gryz & Krauze-Gryz 2019; Eichenwald *et al.* 2021). In Iraq, the Accipitriformes order consists of considerable taxa of different species, however, some additional species have been added to the Iraqi list after publishing the Annotated Checklist of the Birds of Iraq by Salim *et. al.* (2012), the newly-added species to the list were Crested Honeu Buzzard and Sooty Falcon (Salim *et al.* 2020, 2021). In the last few years, a little awareness was demonstrated to the birds of prey. Al-Sheikhly *et al.* (2011), Al-Sheikhly & Al-Azawi (2019), Salim *et al.* (2012) and Salim *et al.* (2020) have reported some of raptors species population and conservation status in the marshes of South of Iraq in addition to some other locations within Iraq (Salim *et al.* 2006). Abou-Turab *et al*. (2021) re-spotted an Egyptian Vulture, *Neophron percnopterus* with mentioning a list of birds of prey that were observed in two different habitats in Basra Governorate, Southern Iraq. Determining the threats confronting raptors in Iraq, is still underestimated. Al-Sheikhly (2011) highlighted the economic issue of trading birds of prey in some Iraqi governorates located in middle and north of the country. Al-Rammahi & Mohammad (2022) reported that the main reasons of declining the population trend of raptors in Al-Najaf desert were the trapping and hunting processes, however, this requires more research and investigation. The main aim of the current survey is to highlight the list of hunted raptor species in Al-Qadissyia Province, Iraq, and highlight the conservation status of each species in order to create the idea about these threatened species.

MATERIAL AND METHODS

Study Area

Al-Qadissiya Governorate locates in the South Central Iraq. Shat Al-Hilla and Al-Shamia rivers were considered the biggest water streams that pass through the governorate. This city is surrounded by five provinces that are Babil and Al_Najaf from the north and west of Al-Qadissiya respectively, while both Wassit and ThiQar locate in the East of the city and Muthanna locates in the South of Al-Qaissiya [International-Agency Information and Analysis Unite (IAU) and United Nations Office for the Coordination Humanitarian Affairs (OCHA), 2009]. Agricultural activities are the most human features followed by governmental employment (Wedaa *at al.* 2022; Fig. 1).

Fig. 1. Map of Al-Qadissiya Governorate.

Bird Surveys

Bird survey for hunted birds of prey was conducted from February to July 2022. The survey incorporated 3 markets for trading birds: Suq Al-Jeneaze, Suq-Haraj and Suq Al-Manacha. All raptors that are exhibited at these marked were recorded to the species level.

RESULTS

The most significant feature in current findings is observation of European Honey-Buzzard *Pernis apivorus* (Fig. 2A). This species was hunted in Al-Qadissiya Province. Thirty five individuals of raptors were recorded during the current survey. These individuals represented 11 species belonging to two orders: Acciptriformes contains 9 species including Egyptian Vulture, *Neophron percnopterus*, Griffon Vulture, *Gyps fulvus*, Cinereous Vulture, *Aegypius monachus*, Eurasian Marsh-Harrier, *Circus aeruginosus*, Eurasian Sparrowhawk, *Accipiter nisus*,

Eurasian Buzzard *Buteo buteo*, Steppe Eagle, *Aquila nipalensis*, Black-Winged Kite, *Elanus caeruleus* and European Honey-Buzzard, *Pernis apivorus*, while, the second order was Falconiformes that included the following two species; Lesser Kestrel, *Falco naumanni* and Common Kestrel *Falco tinnunculus* (Table 1; Fig. 2A-D).

Table 1. List of captured birds of prey that were observed in Al-Qadissiya markets.

Order	Common Name	Scientific Name
Acciptriformes	Egyptian Vulture	*Neophron percnopterus*
	Griffon Vulture	*Gyps fulvus*
	Cinereous Vulture	*Aegypius monachus*
	Eurasian Marsh Harrier	*Circus aeruginosus*
	Eurasian Sparrowhawk	*Accipiter nisus*
	Eurasian Buzzard	*Buteo buteo*
	Steppe Eagle	*Aquila nipalensis*
	Black-Winged Kite	*Elanus caeruleus*
	European Honey-Buzzard	*Pernis apivorus*
Falconiformes	Lesser Kestrel	*Falco naumanni*
	Common Kestrel	*Falco tinnunculus*

According to the International Union for Conservation Nature (IUCN) red list, interestingly, the two species out of 12 observed ones were listed under endangered (EN) category, i.e., *N.percnopterus* and *A. nipalensis*, while one species was detected under Near Threatened (NT) category, i.e., Steppe Eagle *A. monachus.* However, eight species were categorized under the category of Least Concern (LC), consisting of *G. fulvus*, *C. aeruginosus*, *A. nisus, B. buteo, E. Caeruleus, P. apivorus*, *F. naumanni* and *F. tinnunculus* (Table 2). The most significant feature in current findings is observation of European Honey-Buzzard *Pernis apivorus* (Fig. 2A). This species was hunted in Al-Qadissiya Province and it is respected as a first record in south of Iraq.

DISCUSSION

European Honey-buzzard, *P. apivorus* was classified as Least Concern (LC) species according to the IUCN Red List (BirdLife International 2021a). Its breeding population range extends from East Europe in Russia and Kazakhstan to the west of Europe in Spain and France. In addition, the breeding population can be detected in northern Mediterranean, while, the migration range can be detected in Africa and Middle East (Orta and Garcia, 2020). In Iraq, this species was recorded In Dalmaj Wetland during bird survey (Salim et al. 2020). Last record in Iraq for this species was by Salim and Al-Hamzawi (2019) who observed the Honey Buzzard in the Northern Iraq (Iraqi Kurdistan Region) in addition to other locations during the comprehensive survey that was accomplished by the IUCN between 2015 and 2019. However, the only record as hunting species was mentioned in 2010 by Cities Trade Database that is released by UNEP-WCM who reported Honey Huzzard species as one of the trading species in Iraq (Raza *et al.* 2010). Though, the current survey is considered the first observation of this species as trading species in Southern Iraq. In general, this species is hunted during its passage on migration pathway for various reasons including commercial (van Maanen *et al*. 2001). The list of hunting bird of prey that were recorded in this work contained three species that deemed at the risk of continuous declining (Table 2) included: *N. percnopterus, A. Nipalensis, A. monachus* (BirdLife International 2021d). In addition, other 8 species observed in Al-Qadissiya markets were under the Least Concern category consisting of *G. fulvus*, *C. aeruginosus*, *A. nisus*, *B. buteo, E. Caeruleus, P. apivorus*, *F. naumanni* and *F. tinnunculus* (BirdLife International 2021d).

Table 2. The conservation status according to the IUCN red list for captured birds of prey in Al-Qaddissiya markets.

Scientific Name	Conservation Status
Neophron percnopterus	EN
Gyps fulvus	LC
Aegypius monachus	NT
Circus aeruginosus	LC
Accipiter nisus	LC
Buteo buteo	LC
Aquila nipalensis	EN
Elanus caeruleus	LC
Pernis apivorus	LC
Falco naumanni	LC
Falco tinnunculus	LC

EN: Endangered, NT: Near Threatened, LC: Least Concern.

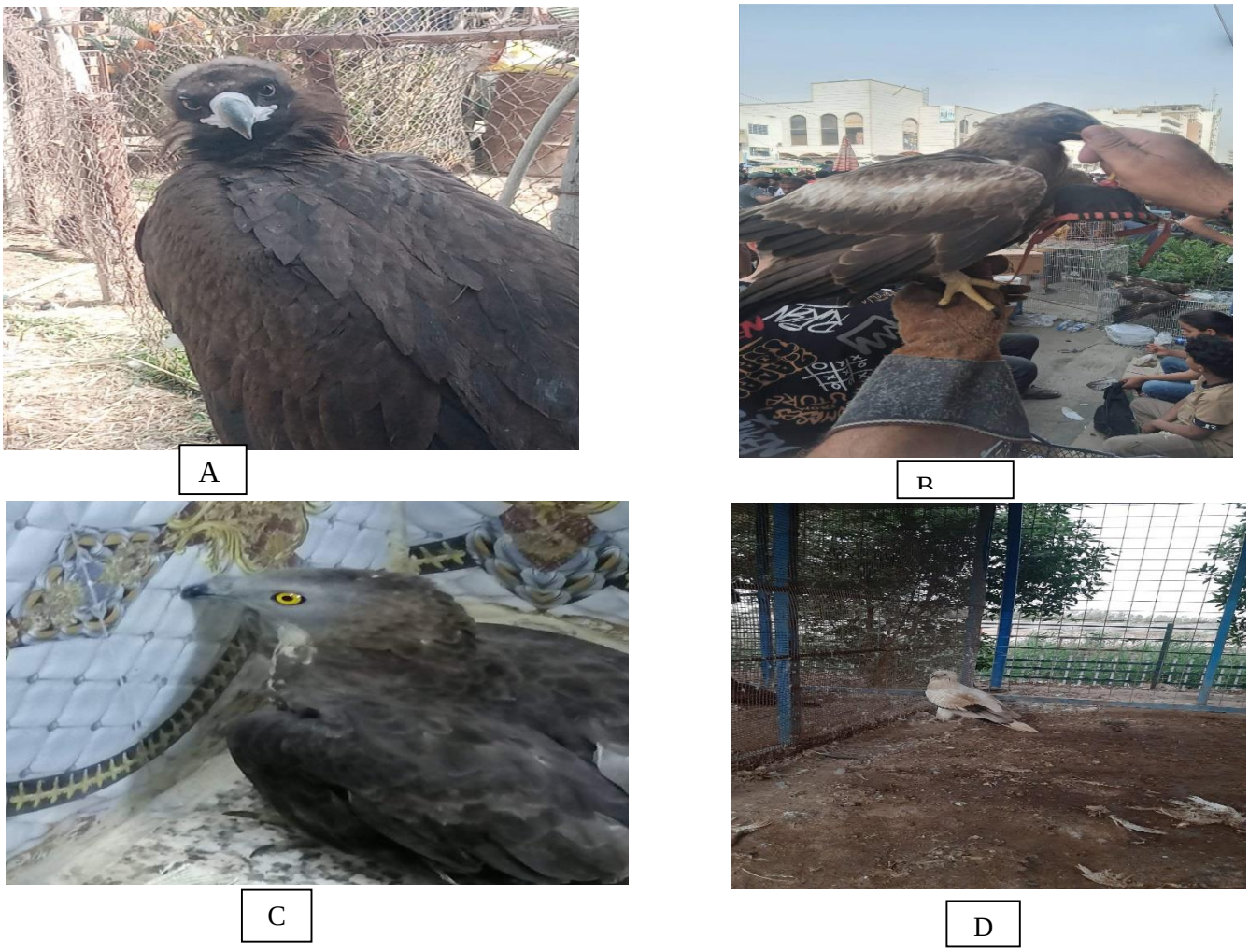

Fig. 2. Four of observed raptors that recorded in Al-Qadissiya markets; (A) Buzzard *Pernis,* (B) *Neophron percnopterus,* (C) *Aegypius monachus* (D) *Aquila nipalensis.*

Al-Sheikhly (2011) and Raza *et al.* (2011) reported ten species found in the Iraqi markets that distributed in four Iraqi provinces, consisting of *Falco cherrug, F. biarmicus, F. peregrines, Milvus migrans, M. lineatus, F. naumanni, F. pelegrinoides, Chlamydotis macqueenii, Otis tarda* and *Tetrax tetrax*. There is considerable point that these lists of raptors species are entirely dissimilar to the current recorded list. In exception, the species *F. naumanni* was noted in both studies. This finding denotes the risk of population declining to wide range of raptors species. Bird hunting and trading exercises in Iraq are very common human activities especially south of Iraq under the deficiency of prohibiting limitations. Although, the legislations of wildlife conservation in Iraq assure the protection of birds, the application of these rules are not yet active to conserve the wildlife (Raza *et al*. 2011).

CONCLUSION

In sum, the current findings affirm the adverse effect of human activities in Iraq on biodiversity and bird species population in particular for raptors species. These activities primarily relate to economic and recreational issues.

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