

INTRODUCED, CAPTIVE, CAGED AND ESCAPED EXOTIC AND NATIVE BIRD SPECIES IN THE LITTORAL AREA OF LEBANON

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ABSTRACT

Some introduced exotic bird species may cause damages to the ecosystem they are introduced to; others may have no effect or can be beneficial to humans and ecosystems. Whatever the case is, the exotic bird species remain an issue in Lebanon, especially that they are not given the appropriate priority at the national level. With the recent intentional or accidental introduction of exotic species, the problem is increasing and therefore necessitating comprehensive evaluation of the status and origin of these species in Lebanon. Since many of the introduced species are escapes from cages, it was necessary to also evaluate both status and origin of all caged birds in order to see whether they are introduced or native to the country.

Keywords: bird, captivity, introduced species, alien invasive, exotic, evaluation, status, origin, Lebanon

INTRODUCTION

During 2011 and early 2012, regular bird watching activities were conducted in Lebanon, on behalf of the National Council for Scientific Research, in different areas of the littoral zone, with an aim to study “the impact of habitat evolvment and human disturbance on the birds of littoral areas in Lebanon”. Over the course of this study, some incidental but significant subsidiary observations on occurrence and/or breeding of introduced, released or escaped exotic bird species were made. Similarly, few species of wild native residents or normal passage migrants were also observed in captivity. Both introduced exotic and native caged birds attracted attention not only because of their relatively higher frequency of occurrence in the littoral zone than in any other area of Lebanon but also because their status and origin merit to be evaluated as a step prior to deciding on their future, especially when knowing that article 8(h) of the Convention on Biological Diversity that was ratified by Lebanon in 1994 states that “each contracting party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”. Similarly, one of the recommendations of the Arabian ornithological and conservation conference in Bahrain 2000, was to “prevent the introduction of exotic species and to undertake to control or eradicate exotic species”. In response to this recommendation Gregory and Nasrallah (2001) published a paper on the breeding of Bank Mynah in Kuwait. Gregory (2002) published a study on the captive origin

of bird species in Kuwait, and Bara (2002) published a paper in which he describes the establishment of the exotic Common Mynah in Lebanon. Other exotic species in Lebanon appeared in the papers of Ramadan-Jaradi and Ramadan-Jaradi (2002) and Ramadan-Jaradi *et al.* (2004). Prior to the conference of Bahrain, only three papers of relevance to exotic species were, to best knowledge, published by Jennings (1986; 1992) and Richardson (1992). However, Ramadan-Jaradi and Ramadan-Jaradi (1999) provided information on three exotic species of concern.

THE STUDY AREA

The study area encompassed the entire littoral zone in the country, from Naqoura in the south to Cheikh Zennad in the north, including all littoral cities, towns and townships. The studied coastline length is about 200km, and the coastal zone width varies between 8-12km inland.

METHODS

To census birds, the 20-minute point-count method was used, whereby all species noted during this time period are recorded at different places and different times of year in the most characteristic habitats of a given area (Blondel, 1975; Blondel *et al.*, 1981). This method is semi-quantitative and changes in abundance of a species are estimated by changes in the frequency of this species over a series of point counts. This method covers both wild and escaped species.

Birds in markets and pet shops are counted individually and owners are questioned about their origin or other information of relevance. All species that are caged for rehabilitation are not included in this present study.

For a more thorough study, notes published on escaped or introduced bird species in previous published papers were added to the results of the field study undertaken during 2011-2012.

RESULTS

The largest bird market in Lebanon is an annex to the Sunday market under the bridge "Jisr El Wati" at Nahr Beirut area. A large number of bird species is on display there for sale as pets. There are many species of parrots and parakeets (Psittacidae), bulbuls (Pycnonotidae), finches (Fringillidae), mynahs and starlings (Sturnidae), pigeons and doves (Columbidae), larks (Alaudidae), quails, pheasants, partridges (Phasianidae), waxbills (Estrildidae), sparrows (Ploceidae), kestrels, buzzards, (Accipitridae), falcons (Falconidae) and buntings (Emberizidae) on sale. Much lower numbers and varieties of bird species occur in pet shops or other markets that are distributed in nearly every city and town.

From time to time it is familiar to see adults and kids running between cars in crowded places or at red signals in some of Beirut streets. They exhibit their goods for sale, including live birds such as bee-eaters, sparrow-hawks, falcons, goldfinches, budgerigars, *etc...*

With so many "lovers of birds" there are many wild species in captivity. Subsequently, there is clearly a high chance of some escaping.

The following list of birds includes 37 species distributed as follows:

Two species are deliberately but unsuccessfully introduced (Rock Partridge and Common Pheasant),

Eighteen species are occasionally successfully or unsuccessfully introduced,

Seventeen species are captured from wild in Lebanon.

Chukar Partridge *Alectoris chukar*

Common and widespread resident breeder principally at 1200–2000m. asl, preferring rocky areas with sparse and low vegetation. Scattered at lower altitudes (700–1100m) and considerably decreased in some sites (*e.g.* Jabal Rihane: 260–1350) due to persecution and poisoning of water points by villagers against foxes (Ramadan-Jaradi *et al.*, 2008). In 1952, 12 juvenile Chukar have been recorded by West (1954) at an altitude of 300 meters and Kumerloeve (1962) noted that Mackintosh recorded it at 495 meters in the Antelias Valley and that he (Kumerloeve) heard it calling in the Litany Valley few kilometers offshore (*c.* 200 m.). The occurrence of the species at low altitudes in the past has been confirmed today by the elderly people met during birding trips. In the littoral zone, the Chukar is found in cages exposed for sale to be reared in backyards either for hobby or to be used as an appellatant during hunting or trapping activities.

Rock Partridge *Alectoris graeca*

Deliberately introduced in 1994–1995 and breeding confirmed, near cedar of Maasser Al Chouf, in very small numbers (Ramadan-Jaradi & Ramadan-Jaradi, 1997). Native to Europe (closest places are Greece and Bulgaria), the Rock Partridge that was imported by the Association for Hunting in Lebanon couldn't avoid the shotguns in the next two years until it disappeared in 2000 (*pers. obs.*).

Black Francolin *Francolinus francolinus*

Only one record: at Anjar (Lebanon) in 1958 (Tohmé & Neuschwander, 1974; Ramadan-Jaradi *et al.*, 2008). The nearest wild populations are in North Syria at *c.* 400 km NE of Anjar. They are resident with local movements. The black Francolin is found on several occasions on sale in the main Sunday market and in few pet shops, having been apparently imported from Syria.

Quail *Coturnix coturnix*

Uncommon and localised migrant breeder in Beqaa, on Palm Islands and elsewhere. Very common passage migrant over most of the country from mid-February–late May and early August–late November, with peaks in March and September. Few overwinter in December–February, mainly in the Beqaa Valley (Ramadan-Jaradi *et al.*, 2008). Locally trapped with nets and recorded for sale in cities, towns and townships, especially during the migration season.

Common Pheasant *Phasianus colchicus*

Sporadic occurrence of deliberate introductions or escapes with one breeding record at Daraya in 1995 (Ramadan-Jaradi, 1997).

Kestrel

The most common and widespread resident raptor breeding in Lebanon (Ramadan-Jaradi & Ramadan-Jaradi, 1997). Found in a wide variety of habitats from sealevel, including Palm Islands, to 2600m asl. Also a common passage migrant in early March–mid-May and

late August–early November and widespread in winter from November–late February. Often seen on sale mainly as juveniles illegally taken from their nests in the wild (see photo below).



Eurasian Sparrowhawk *Accipiter nisus*

A common passage migrant over most of the country in March–early May and September–early November, with a few overwintering in November–late February in montane areas and the Beqaa Valley. Observed on sale in markets and apparently originates from injured birds shot by illegal hunters.

Common Buzzard *Buteo buteo*

Widespread and common passage migrant on a broad front from late February–mid-May and early August–November, and a common regular winter visitor in November–mid-March, with most in the Beqaa Valley. Occasionally seen on sale by people walking between crowded cars or at a red signal. They apparently originate from captured birds in neighboring countries.

Long-legged Buzzard *Buteo rufinus*

Breeding was confirmed in spring 1995, 1996 and 1997 (Ramadan-Jaradi & Ramadan-Jaradi, 1999; Beale & Sprenger, 2001; 2003; Ramadan-Jaradi *et al.*, 2004) and 2000, 2006-2007 (GR-J). Present year-round with largest numbers in spring (March–April) and to a lesser extent in autumn (September–November). Uncommon in winter from November–early March in most of the country, being most frequent in the Beqaa. Occasionally observed on sale between cars or in markets and sometimes with people caring for them after they are found injured by illegal hunting in the country.

Rock Dove *Columba livia*

A fairly common resident in the mountainous rocky areas of the Lebanon and Anti-Lebanon ranges and to a lesser extent in some sea cliffs, including Raouché (Pigeon Rock of

Beirut). Many feral¹ pigeons *Columba livia* F. *domestica* have returned to wild or semi-wild conditions, some inhabiting (for over 30 years) the upper storeys of tall buildings abandoned since the civil war in Beirut – these birds constitute the main prey of Peregrine Falcons *Falco peregrinus* that winter every year at the top of an empty 25-story tower (Ramadan-Jaradi *et al.*, 2008). Keeping pigeons is a tradition in Lebanon where very few fanciers keep fancy pigeons whereas the others keep and breed high flying pigeons (tipplers). Escaped racing and homing pigeons also may contribute to the feral pigeon flocks.

Barbary Dove *Streptopelia risoria*

Also known as the Ring-neck or Ringed-turtle Dove, is a domesticated bird. Its distribution is a result of escapees from aviaries that adapt to their new wild surroundings. It is commoner in the Pine Forest and the campus of the American University of Beirut where it lives together with the Collared Dove *Streptopelia decaocto*.

Red Turtle Dove *Streptopelia tranquebarica*

Also known as the Red Collared Dove, is a small pigeon which is a resident breeding bird in the tropics in the Indian subcontinent. One at el Mina, Tripoli, on 2 October 1999, was presumably an escape, although records exist for Iran and Oman (Marc Almecija, pers. comm.; Ramadan-Jaradi *et al.*, 2008).

Namaqua Dove *Oena capensis*

One near Anjar in the east Beqaa Valley on 16 May 2006 (Haraldsson, 2008; pers. comm.). Previously, one at Ras Beirut on 7 July 2003 and one at Baabda on 6 February 2005 where both showed worn feathers indicating possible escapes from cages (Ramadan-Jaradi *et al.*, 2008).

Ring-neck Parakeet *Psittacula krameri*

Several small breeding colonies were established at the American University of Beirut (Ramadan-Jaradi, 1997; 1999), Horsh Beirut, Khaldeh, Ain Seaada and Ryaq (GR-J). Single at Aammiq on 30 April 2005 (Richard Prior, pers. comm.) is also, like the other Ring-neck parakeets, believed to be an escape (Ramadan-Jaradi *et al.*, 2008). Commonly noted on sale in the bird pet shops and markets, having been mostly imported or originated from recaptured escaped birds.

Alexandrine Parakeet *Psittacula eupatria*

An exotic bird that belongs to south and south-east Asia. Only one record of a free flying individual at the AUB campus on 6/10/2010 (John Waterbury, pers. comm.) that should preferably be considered an escapee.

Senegal parakeet *Poicephalus senegalus senegalus*

An exotic bird species that stayed in the campus of the American University of Beirut for about one year (John Waterbury, pers. comm.). This bird obviously escaped from captivity after apparently being imported from a captive bred collection or perhaps from its native range that includes southern Mauritania, southern Mali to Guinea and Lobos Island.

¹ A feral bird is a bird that has adapted to life in an ecosystem to which it is not native.

Peach-faced Lovebird *Agapornis roseicollis*

A species of lovebird native to arid regions in southwestern Africa. Occasionally observed as escaped from captivity but regularly seen for sale in pet shops, having been imported.

Budgerigar *Melopsittacus undulatus*

An exotic that has bred in pet shops. Occasionally noted as escaped from captivity but regularly observed for sale in bird markets. Occasional records are possibly of local captive origin.

Golden Oriole *Oriolus oriolus*

Breeding confirmed and the species is considered as scarce migrant breeder (mid-April–mid-July) in south Lebanon, mainly south of Zahrani (Ramadan-Jaradi & Ramadan-Jaradi, 1999). Common on passage in early April–late May (mainly May) and late August–late October (mainly September) across much of the country (including Beirut and Palm Islands). The bird has occasionally been observed for sale in the bird markets.

Eurasian Magpie *Pica pica*

Only four records: several reported in the south of the country in October 1967 and August 1968 by 4–5 observers (Benson, 1970), one in woodland north of Baabda on 15 April 1984 (Khairallah, 1986), and one poor flyer (presumably originated from escapes) over main road Beirut-Tripoli on 4 September 2000 (Ramadan-Jaradi & Ramadan-Jaradi, 2002).

Temminck's Horned Lark *Eremophila bilopha*

Found breeding at Ras Baalbeck between 27 April–4 May 2000 (Ramadan-Jaradi & Ramadan-Jaradi 2002). One individual was seen in a cage at a restaurant in Baalbek city in the Beqaa, pointing out as such to the locality in the nearby from which it was taken.

White-spectacled Bulbul *Pycnonotus xanthopygos*

Very common and widespread breeding resident in most scrub and wooded habitats, from sea-level to *c.* 1000m, and locally in Beqaa. Occasionally noted for sale, usually as juvenile of local origin, in markets and pet shops.



© G. Ramadan-Jaradi- White-spectacled Bulbul

Bank Mynah *Acridotheres ginginianus*

Occasionally noted for sale in markets and pet shops, having been imported from India.

Common Mynah *Acridotheres tristis*

Localised resident population (nests in tree cavities and behind outer airconditioning units in buildings) of five colonies presumably originated from escapes: one colony established in 1999 at the Pine Forest of Beirut (Bara, 2002); one in 2003 at the campus of the American University of Beirut, one in 2006 at the Beirut Central District, one near the Beirut Museum and one at Tripoli city in 2007 (Ramadan-Jaradi *et al.*, 2008). Since they have become established, these colonies are in continuous increase, with at least 200 individuals regularly observed at the present five colonies, chiefly in the Pine Forest of Beirut. Regularly on sale in bird markets, having been imported from Asia.



Rose-coloured Starling *Sturnus roseus*

Apparently irregular scarce passage migrant or possibly breeding rather than vagrant (Ramadan-Jaradi *et al.*, 2008). Six at Koura on 23 June 2003 that were captured by villagers in May (Ramadan-Jaradi *et al.*, 2004) and exposed for sale in the village.

Superb Starling *Lamprotornis superbus*

An exotic African bird that was seen in a public garden near the airport of Beirut. Since 45% of the exotic bird species were recorded not far from the airport there is a high probability that they escaped, for a reason or another, from the cargo section of the Beirut Airport.

Starling *Sturnus vulgaris*

Common autumn migrant in early October–late November and scarce in March. Abundant in winter from December–mid-March in most cultivated and open areas of Beqaa Valley, less regular elsewhere, including Beirut. Captured in the wild, but raised in homes and shops for eating insects.



European Greenfinch *Carduelis chloris*

Very common and widespread breeding resident (mid-March–mid-August), usually from sea level to *c.* 1850m, chiefly in cedar, pine and mixed groves, maquis, garrigues, orchards, cultivation and ravines with trees. It also breeds in the campus of the American University of Beirut and in Horsh Beirut (GR-J). Scarce passage migrant in late February–early May and mid-September–late November. In early November–early March, the resident population is augmented by large numbers of migrants (Ramadan-Jaradi *et al.*, 2008). Often seen for sale in bird markets, having been captured mostly with lime sticks in the wild.

Goldfinch *Carduelis carduelis*

Very common breeding resident (early March–mid-August) in a wide variety of habitats, usually from mid-altitudes to *c.* 1850m asl. Frequent in conifers, orchards and cultivated areas. Scarce on passage from late February–early April and late September–late November. Considerable winter immigration in late November–mid-February (Ramadan-Jaradi & Ramadan-Jaradi, 1999). The Goldfinch is considered one of the most popular cage bird appreciated for its song. Most of the captive birds originate from wild trapped birds.

Zebra Finch *Taeniopygia guttata*

A native species to Australia that has regularly been noted for sale in the bird markets, having been obviously imported. Occasional records in wild are likely of captive origin.

Purple Grenadier *Uraeginthus ianthinogaster*

An exotic species found in eastern Africa and that has regularly been noted for sale in the bird markets, having been obviously imported. Few individuals occasionally seen free-flying should be considered escapees.

Zebra Waxbill *Amandava subflava*

The Zebra Waxbill is found in grassland and savannas south of the Sahara in Africa. It is introduced to many countries, including Lebanon. Commonly noted for sale in the bird

markets, having been mostly imported. The few occasional records of free-flying individuals should preferably be considered of captive origin.

Indian Silverbill *Euodice malabarica*

No previous records in Lebanon. Two were observed at el Mina, Tripoli, on 9 February 2000, and were considered presumably escapes (Marc Almecija, pers. comm. in Ramadan-Jaradi *et al.*, 2008).

Java Sparrow *Padda oryzivora*

The Java Sparrow, also known as Java Finch, Java Rice Sparrow or Java Rice Bird is a small passerine bird. This estrildid finch is a resident breeding bird in Java, Bali and Bawean in Indonesia. It is a popular cage bird. Irregularly recorded free-flying individuals are clearly of captive origin.

Common Chaffinch *Fringilla coelebs*

Very common breeding resident (mid-March–late July) in most habitats at mid to high altitude, with highest densities in cedar groves, fir and pine forests, river valleys and orchards. Very common on passage and in winter in early October–late April (Ramadan-Jaradi *et al.*, 2008). This species is commonly for sale in bird markets, usually taken from wild with lime sticks, cage traps and recently mist-net.

Canary *Serinus canaria*

An exotic that is regularly noted for sale in the bird markets, having been imported from a captive bred collection. Nowadays, the Canary bird is considered one of the most popular cage birds in the country.

Syrian Serin *Serinus syriacus*

Very common migrant breeder from late April–mid-August in rocky mountainous areas. Mainly recorded in open cedar, pine and fir forests. During post-breeding dispersal, commonly found above the tree-line. Some migrants from outside Lebanon probably arrive in early October–late March. Until sixties, this was the second most popular cage bird after the Goldfinch. Now the species is in decline (Ramadan-Jaradi, unpubl.) and it is barely met by those who capture it.

Black-headed Bunting *Emberiza melanocephala*

Very common and widespread migrant breeder from late- April–late July in mountainous areas; highest densities in orchards at 1400–1500m asl, but also common in Cilician fir *Abies cilicica* and Turkey oak *Quercus cerris* var *pseudocerris* forests at c. 1900m. Less common at lower altitudes in the Lebanon and Anti-Lebanon ranges, in open hilly terrain with few trees or in terraced valleys, and in Beqaa. No breeding records below 500m. Very common on passage from sea-level to high altitude, principally in mid-April–late May and less commonly in late August–mid-October. A species that is commonly for sale in the bird markets during summer time, mainly taken with lime sticks or cage-traps.

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