

On the Birds Adorning the Courtyards of the Blessed Al-Aqsa Mosque in Al-Quds (Jerusalem), Palestine, with a Special Focus on Rock and Feral Pigeons

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Abstract

The blessed Al-Aqsa Mosque in the city of Al-Quds (Jerusalem), Palestine, which extends over an area of 144 thousand square meters (144 dunums), is of great importance to Palestinians, Arabs and Muslims. Despite numerous studies examining the unique features of the blessed Al-Aqsa Mosque, the birds that adorn its courtyards appear to have been subjected to significant neglect. Accordingly, the current study aims to identify the bird species that adorn the courtyards of the blessed Al-Aqsa Mosque, with a particular focus on the Rock and Feral Pigeons found there. The study relied on field visits and continuous monitoring, the use of guidebooks to identify birds, and occasional photography for documentation and verification purposes. Statistical data were analyzed and graphics were drawn using Microsoft Excel 2010. A total of 78 bird species have been recorded in the courtyards of the blessed Al-Aqsa Mosque, belonging to 16 orders and 33 families. Order Passeriformes represents the largest order (57.7%), while other non-passerine orders represent 42.3%. Muscicapidae, Accipitridae, Sylviidae and Fringillidae, and Columbidae are the prominent families. Aquatic birds are represented by only five species: the Cattle Egret (*Bubulcus ibis* Linnaeus, 1758), the White Stork (*Ciconia ciconia* Linnaeus, 1758), the Black Stork (*Ciconia nigra* Linnaeus, 1758), the Common Crane (*Grus grus* Linnaeus, 1758), and the White-breasted Kingfisher (*Halcyon smyrnensis* Linnaeus, 1758). Although the European Turtle Dove (*Streptopelia turtur* Linnaeus, 1758) is classified as vulnerable (VU), the rest of the species are considered of least concern (LC). Three species of exotic birds were found: The Indian Myna (*Acridotheres tristis* Linnaeus, 1766), the Ring-necked Parakeet (*Psittacula krameri* Scopoli, 1769), and the Monk Parakeet (*Myiopsitta monachus* Boddaert, 1783). Flocks of Rock and Feral Pigeons (*Columba livia* Gmelin, JF, 1789) are a familiar and beloved sight in the courtyards of the blessed Al-Aqsa Mosque, and these birds are often fed and cared for by Jerusalemites, worshippers, and visitors. Domestic cats (*Felis catus* Linnaeus, 1758) are potential predators of pigeons and other bird species at this sacred site in Palestine, as they are at the Grand Mosque (Masjid al-Haram) in Mecca in Saudi Arabia. Enhancing the vegetation cover in the courtyards of the blessed Al-Aqsa Mosque and managing it sustainably contributes to attracting birds, which add splendor and beauty to the holy site.

Keywords

The Blessed Al-Aqsa Mosque, Courtyards, Birds, Exotic Birds, Passerines vs. Non-Passerines, Rock/Feral Pigeons, Domestic Cats, Jerusalemites, Jerusalem, Al-Quds, Palestine

1. Introduction

Despite its relatively small area, Palestine (27,000 km²) is home to a large and important diversity of bird species, perhaps exceeding 551 species [1]. Despite the

multiplicity of studies concerned with birds and their monitoring in the Palestinian territories that Israel has occupied for decades, studies related to the birds of the blessed Al-Aqsa Mosque and its beautiful courtyards seem very rare and perhaps do not exist. In both the Gaza Strip (365 km²) and the West Bank (5640 km²) of Palestine, numerous bird surveys have been conducted in natural and urban ecosystems. These surveys have, in total, revealed the presence of hundreds of species of resident and migratory birds, both terrestrial and aquatic [2]-[12]. Moreover, in areas rich in water bodies such as ponds and wadis in the Gaza Strip and the West Bank, many studies revealed the occurrence of a considerable number of water bird species [13]-[16]. In fact, birds are among the most prominent wild vertebrates in Palestine, and this is naturally evident in the preservation of some of their species, alive or stuffed, in zoos and biological museums in the Palestinian territories [17]-[19].

The blessed Al-Aqsa Mosque, with its spacious, beautiful courtyards adorned with trees, shrubs, grasses, domes, and buildings [20], is located on a hill in the heart of Palestine. Palestinians travel daily to pray and worship at the blessed Al-Aqsa Mosque, especially during the holy month of Ramadan (Figure 1). Worshipers wander through the courtyards of the Mosque, carrying their children, belongings, and food, enjoying the shade of its large perennial trees and shrubs, enjoying the sight of a variety of birds, both singing and non-singing, that add natural beauty to the beauty of the blessed Al-Aqsa Mosque, which every Muslim in the world aspires to visit, pray, and worship in.



Figure 1. The view of the blessed Al-Aqsa Mosque, which captures the eyes, hearts, and souls, as Palestinians travel to it daily to pray and worship, especially during the holy month of Ramadan.

A recent study [20] showed that the courtyards of the blessed Al-Aqsa Mosque include 30 species of perennial trees and shrubs, distributed between the fruitful and non-fruitful, native and exotic. In general, plant species provide great services for birds such as shelter, shadow, feeding, mimicry, protection, resting, nesting and

reproduction, as many Palestinian studies indicated [15] [21]-[27]. Birds have not been sufficiently studied or surveyed in the courtyards of the blessed Al-Aqsa Mosque in Al-Quds (Jerusalem), Palestine. This mosque is of great importance to Palestinians, Arabs and Muslims from religious, spiritual, historical and cultural aspects, although it has been languishing, like the Palestinian territories, for a long time under the brutal Israeli occupation. Hence, the current study aims to conduct a survey of the bird species adorning the courtyard of the blessed Al-Aqsa Mosque in Al-Quds (Jerusalem), Palestine. The importance of the current work comes from the fact that it seems to be the first in dealing with bird fauna in this specific spot of the world.

2. Methodologies

2.1. Al-Quds (Jerusalem)

The city of Al-Quds (Bait Al-Maqdis or Al-Quds Al-Sharif), which is the capital of Palestine, is one of the important civilized and holy cities in the world. The city has been known since its foundation by many names: Yabous, City of David (Daoud), Ursalam, Ilya and Jerusalem [28]. The city of Al-Quds is the first of the two Qiblas and the third of the Two Holy Mosques, the place where the Prophet Muhammad (may God bless him and grant him peace), and the cradle of the Messiah (peace be upon him). The city of Al-Quds (Jerusalem) is distinguished by the importance of its geographical location, as it is located in the center of Palestine, specifically on one of the rocky hills, and there is a group of valleys around it [29]. The lands of Al-Quds are divided into two main parts: East Jerusalem or the Old City, which contains a group of religious monuments, the most important of which are the blessed Al-Aqsa Mosque and the Church of the Holy Sepulcher. West Jerusalem, or the New City, includes many modern places.

Al-Quds has an approximate height of 775 m above sea level. The Mamluks and the Ottomans succeeded in ruling Jerusalem, and then the British colonialism came, which controlled the city until 1948, and then the British Balfour Declaration led to an increase in the immigration of Jews to Jerusalem and all the Palestinian lands, and since 1969, Al-Quds has been under Zionist occupation to this day [30]. The city of Al-Quds and the blessed Al-Aqsa Mosque have suffered and continue to suffer from the injustice, violence and destruction of the Israeli occupation, especially the excavations carried out by Jews under the Al-Aqsa Mosque [30] [31], which threaten the entire mosque and its courtyards, which extend over an area of 144,000 square meters (144 dunums) (Figure 2).

2.2. The Blessed Al-Aqsa Mosque

The blessed Al-Aqsa Mosque is one of the largest and most beautiful mosques in the world. It is also one of the three mosques that Muslims travel to and is considered the first of the two Qiblas in Islam. It is located inside the Old City of Al-Quds in Palestine [30]. It is the entire area surrounded by the fence. The area of Al-Aqsa Mosque is approximately 144,000 square meters (144 dunums), and

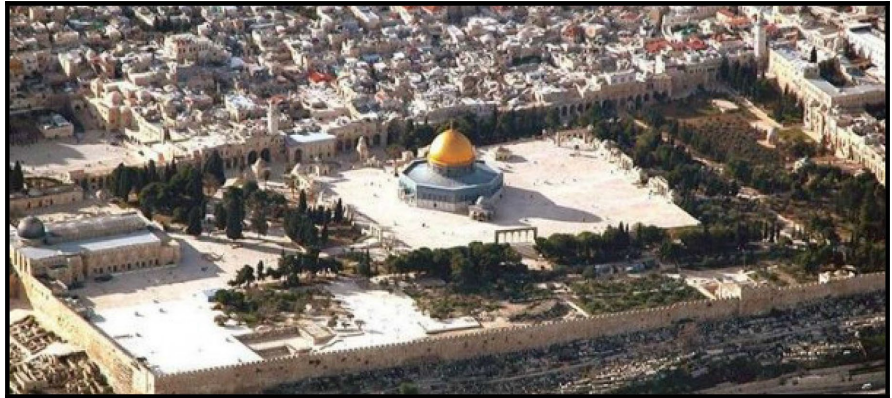


Figure 2. An aerial photography of the blessed Al-Aqsa Mosque and its courtyards (144 dunums).

includes the Dome of the Rock, Al-Qibli Mosque, Al-Marwani Mosque, Bab Al-Rahma Mosque, and several other landmarks, amounting to 200 landmarks [29] [32]-[34]. Al-Aqsa Mosque is located on a small plateau called the “Moorea Plateau”, and the rock is the highest point in it, and it is located in its heart. The courtyards of the blessed Al-Aqsa Mosque are adorned with many species of fruitful and non-fruiting trees and shrubs (Figure 3) [20], as well as countless species of herbaceous plants. The vegetation cover in the courtyards of the blessed of Al-Aqsa Mosque provides great economic, cultural and environmental services, as it attracts many elements of biodiversity; especially singing birds that adorn the place [20].



Figure 3. The courtyards of the blessed Al-Aqsa Mosque are adorned with many species of trees and shrubs that attract birds and provide them with valuable services such as shelter, food, rest, nesting, mimicry, protection, etc.

The area of the blessed Al-Aqsa Mosque occupies about one-sixth of the area of the Old City of Al-Quds. Its shape is polygon or semi-rectangular; the length of its western side is 491 meters, its eastern side is 462 meters, its northern side is 310 meters, and its southern side is 281 meters [35]. It is worth mentioning that the blessed Al-Aqsa Mosque is mentioned at the beginning of Surat Al-Isra in the Holy Quran as follows: “Holy is He Who carried His servant by night from the Holy Mosque (in Makkah) to the farther Mosque (in Jerusalem) whose surroundings We have blessed that We might show him some of Our Signs Indeed He alone is All-Hearing, All-Seeing” (17:1) (سُبْحَانَ الَّذِي أَسْرَى بِعَبْدِهِ لَيْلًا مِنَ الْمَسْجِدِ الْحَرَامِ إِلَى الْمَسْجِدِ الْأَقْصَى الَّذِي بَارَكْنَا حَوْلَهُ لِنُرِيَهُ مِنْ آيَاتِنَا إِنَّهُ هُوَ السَّمِيعُ الْبَصِيرُ).

For years, the blessed Al-Aqsa Mosque has been subjected to incursions by extremist Israeli settlers, with the protection of the Israeli police forces, without which a settler would not have been able to approach the blessed Al-Aqsa Mosque. These settlers perform religious rites and raise Israeli flags in order to provoke the feelings of Palestinian and non-Palestinian Muslims. Al-Mourabitoun and the Palestinian resistance fighters in the Al-Aqsa Mosque and its courtyards are subjected to abuse, beatings and killing [20]. Over the decades, many Palestinians have been martyred, many have been wounded and arrested by the Israeli police, army and border guards armed with the most powerful and finest firearms, rubber-coated iron bullets, stun grenades and tear gas grenades. The intensity of the Israeli incursions in recent years has increased in an effort to impose the so-called spatio-temporal policy of dividing Al-Aqsa Mosque [36] in light of a shameful global, Arab and Islamic silence and in light of the rush of some Arab and Islamic regimes supported and encouraged by the United States to normalize with Israel under the banner of “Abraham Agreements or Accords” [37].

2.3. Procedure

The current study relied on visits and continuous observations since 2020 for the species of birds in the courtyards of the blessed Al-Aqsa Mosque by specialists. During the study, the species of birds were scientifically classified according to the available guidebooks [38]-[44]. Moreover, many interviews and discussions were held with worshipers, workers and others to find out how the Palestinians deal with bird species spread in the place.

2.4. Photography and Data Analysis

During the study period, some photos of bird species were taken in the courtyards of the blessed Al-Aqsa Mosque for documentation and confirmation. However, some photos were used from websites or some Palestinian amateurs who are used to the professional and technical photography of birds in many ecosystems inside Palestine. Statistical data were analyzed and graphics were drawn using Microsoft Excel 2010.

3. Results

3.1. Bird Species Recorded

According to current data, at least 78 bird species are recorded in the courtyards

of the blessed Al-Aqsa Mosque, Al-Quds (Jerusalem), Palestine (**Table 1**). The species list was compiled based on field observations carried out by bird specialists (ornithologists). The recorded bird species belong to 16 orders and 33 families. Passeriformes represent the largest order with 45 bird species (57.7%), while other non-passerine orders represent 33 species (42.3%), as shown in **Figure 4**. Regarding bird families, Muscicapidae represents the largest family with 8 species (10.3%), followed by Accipitridae with 6 species (7.7%), Sylviidae and Fringillidae with 5 species each (6.4%), and Columbidae with 4 species (5.1%). Other families, consisting of 1 - 3 species, account for the remaining percentage (64.1%). All bird species recorded in the courtyards of the blessed Al-Aqsa Mosque are shown in **Figures 5-10**.

3.2. Aquatic Bird Species

Due to the absence of water bodies within the courtyards of the blessed Al-Aqsa Mosque, the recording of aquatic bird species was very limited, with only five bird species recorded (6.4%): The White Stork (*Ciconia Ciconia* Linnaeus, 1758), the Black Stork (*Ciconia nigra* Linnaeus, 1758), the Cattle Egret (*Bubulcus ibis* Linnaeus, 1758), the Common Crane (*Grus grus* Linnaeus, 1758), and the White-breasted Kingfisher (*Halcyon smyrnensis* Linnaeus, 1758). Most of these birds were observed passing in groups above the courtyards of the blessed Al-Aqsa Mosque. The latter bird is actually found throughout Palestine, and its distinctive calls can often be heard in the courtyards of the blessed Al-Aqsa Mosque.

3.3. Global Conservation Status

According to the International Union for Conservation of Nature and Natural Resources (IUCN) regional threat categories, **Table 1** shows that the European Turtle Dove (*Streptopelia turtur* Linnaeus, 1758) is classified as vulnerable (VU), which means that the species is considered to be at high risk of unnatural (human-caused) extinction without further human intervention. The rest of the bird species are considered to be of least concern (LC), which means that the species are unlikely to become endangered or extinct in the near future.

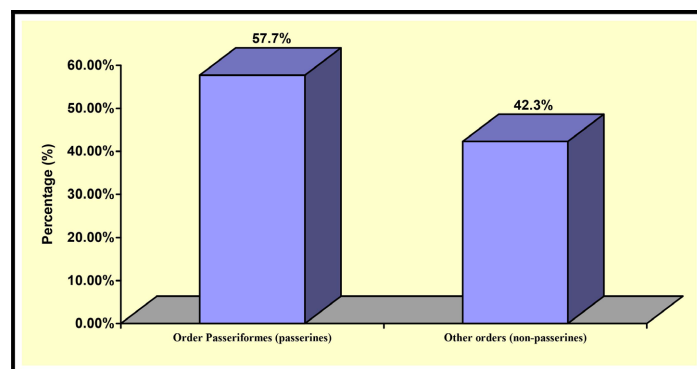


Figure 4. A graphic model showing the percentages of the passerine and non-passerine bird species recorded in the courtyards of the blessed Al-Aqsa Mosque.

3.4. Exotic Bird Species Recorded

Of the 78 bird species recorded in the courtyards of the blessed Al-Aqsa Mosque, three exotic (invasive or alien) species have been encountered (3.8%). These are the Indian or Common Myna (*Acridotheres tristis* Linnaeus, 1766), the Ring-necked Parakeet (*Psittacula krameri* Scopoli, 1769), and the Monk Parakeet or Quaker Parrot (*Myiopsitta monachus* Boddaert, 1783). They are well known to Palestinians. They appeared in the country due to their potential escape from cages in zoos or as a result of deliberate release into the open. Of these, the Indian Myna is the most widespread and is now as common as a breeder bird in various habitats, including public gardens and parks, agricultural orchards, etc. in Palestine.

Table 1. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque, Jerusalem.

Family	Scientific/Latin Name	Common Name	Arabic/Local Name	Global Status
رتبة البجعيات Pelecaniformes				
Ardeidae البلسونية	<i>Bubulcus ibis</i>	Cattle Egret	أبو قردان (بلسون المائنية أو القطعان)	LC
رتبة اللققيات Ciconiiformes				
Ciconiidae اللققية	<i>Ciconia ciconia</i>	White Stork	اللقق الأبيض	LC
	<i>Ciconia nigra</i>	Black Stork	اللقق الأسود	LC
رتبة الجوارح العابرة Accipitriformes				
Accipitridae الكواسر	<i>Circaetus gallicus</i>	Short-toed Snake Eagle	عقاب الحيات أو الثعابين	LC
	<i>Milvus migrans</i>	Black Kite	الحدأة السوداء	LC
	<i>Accipiter nisus</i>	Eurasian Sparrowhawk	الباشق الأوراسي	LC
	<i>Pernis apivorus</i>	European Honey Buzzard	حوام النحل الأوروبي – حوام العسل	LC
	<i>Buteo buteo</i>	Common or Steppe Buzzard	حوام السهول (سقاوة أوراسية)	LC
	<i>Buteo rufinus</i>	Long-legged Buzzard	الحوام طويل الساقين	LC
رتبة الصقريات Falconiformes				
Falconidae الصقرية	<i>Falco tinnunculus</i>	Common Kestrel	العوسق (صقر الجراد)	LC
	<i>Falco naummani</i>	Lesser Kestrel	العويسق	LC
	<i>Falco subbuteo</i>	Eurasian Hobby	الكونج (الثويهين)	LC
رتبة الكركيات Gruiformes				
Gruidae الكركية	<i>Grus grus</i>	Common Crane	الكركي	LC
رتبة الدجاجيات Galliformes				
Phasianidae الدجاج (الحجول والتدارج)	<i>Alectoris chukar</i>	Chukar Partridge or Chukar	الشنار	LC
رتبة الحماميات Columbiformes				
Columbidae الحمامية	<i>Columba livia</i>	Rock or Feral Dove (Pigeon)	الحمام الصخري	LC

Continued

	<i>Streptopelia turtur</i>	European Turtle Dove	اليمامة القمرية (الرقطية)	VU
	<i>Spilopelia senegalensis</i>	Laughing (Palm-Senegal) Dove	اليمامة الضاحكة (فاخته النخيل)	LC
	<i>Streptopelia decaocto</i>	Eurasian Collared Dove	اليمامة المطوقة الأوراسية	LC
رتبة الببغايات Psittaciformes				
Psittacidae الببغاوية	<i>Psittacula krameri</i>	Ring-necked Parakeet	ببغاء الذرّة (الببغاء وردي الطوق)	LC
	<i>Myiopsitta monachus</i>	Monk Parakeet (Monk Parrot)	الببغاء الراهب	LC
رتبة الوقواقيات Cuculiformes				
Cuculidae الوقواقية	<i>Clamator glandarius</i>	Great Spotted Cuckoo	الوقواق المرقط الكبير	LC
رتبة السبديات Caprimulgiformes				
Caprimulgidae السبدان	<i>Caprimulgus europaeus</i>	European Nightjar	السبد الأوروبي (ملهي الرعيان)	LC
رتبة البوميات Strigiformes				
Strigidae البومية	<i>Athene noctua</i>	Little Owl	أم قويق (البومة الصغيرة)	LC
	<i>Otus scops</i>	Eurasian Scops Owl	التيج الأوراسي (بومة الأشجار الباهتة)	LC
	<i>Asio otus</i>	Long-eared Owl	البومة القراء أو طويلة الأذن	LC
رتبة السماميات Apodiformes				
Apodidae السمام	<i>Apus apus</i>	Common Swift	السمامة الشائعة	LC
	<i>Apus pallidus</i>	Pallid Swift	السمامة الباهتة	
	<i>Tachymarptis melba</i>	Alpine Swift	سمامة الجبل أو سمامة الصرود	LC
رتبة الشقراقيات Coraciiformes				
Alcedinidae القاوندية	<i>Halcyon smyrnensis</i>	White-breasted Kingfisher (White-throated Kingfisher)	السماك أبيض الصدر (القاوند)	LC
Meropidae الوروارية	<i>Merops apiaster</i>	European Bee-eater	الوروار الأوروبي	LC
رتبة قرنيات المنقار Bucerotiformes				
Upupidae الهددية	<i>Upupa epops</i>	Eurasian Hoopoe	الهدد	LC
رتبة النقاريات أو القرعيات Piciformes				
Picidae اللوانية	<i>Dendrocopos syriacus</i>	Syrian Woodpecker	نقار الخشب السوري	LC
	<i>Jynx torquilla</i>	Eurasian Wryneck	اللواء الأوراسي (أبو لوي)	LC
رتبة العصفوريات أو الجوائم Passeriformes				
Hirundinidae السنونية	<i>Hirundu rustica</i>	Barn Swallow	السنونو (عصفور الجنة)	LC
	<i>Cecropis rufula</i>	European Red-rumped Swallow	السنونو أحمر العجز	LC
	<i>Ptyonoprogne obsoleta</i>	Pale Crag Martin	خطاف الشواقي الباهت	LC
Motacillidae (الذعريات)	<i>Motacilla flava</i>	Yellow Wagtail	الذعرة الصفراء (السفرية)	LC
	<i>Motacilla alba</i>	White Wagtail	الذعرة البيضاء (الكرکز)	LC

Continued

	<i>Anthus trivialis</i>	Tree Pipit	جُشنة الشجر (أبو فصية الشجر)	LC
Pycnonotidae اليلبية	<i>Pycnonotus xanthopygos</i>	White-spectacled Bulbul	البلبل أصفر العجز	LC
Turdidae السُمَّنات	<i>Turdus merula</i>	Common Blackbird	الدج (الشحورور/السودية)	LC
	<i>Turdus philomelos</i>	Song Thrush	السمنة المغنية	LC
Muscicapidae خاطفات الذباب أو الشوربية (المدبايات)	<i>Erithacus rubecula</i>	European Robin	أبو الحناء (الحمرية)	LC
	<i>Luscinia svecica</i>	Bluethroat	المسهر (أزرق الزور)	LC
	<i>Saxicola torquata</i>	European Stonechat	القلعي الأوروبي (أبلق الرعيان)	LC
	<i>Phoenicurus ochruros</i>	Black Redstart	الحميراء الدبساء (فرخ السمن)	LC
	<i>Phoenicurus phoenicurus</i>	Common Redstart	الحميراء الشائعة (الحمروش)	LC
	<i>Ficedula albicollis</i>	Collared Flycatcher	خاطف الذباب المطوق	LC
Cisticolidae الهوازج الرشيقية	<i>Ficedula semitorquata</i>	Semi-collared Flycatcher	خاطف الذباب شبه مطوق	LC
	<i>Muscicapa striata</i>	Spotted Flycatcher	خاطف الذباب المنقط	LC
	<i>Prinia gracilis</i>	Graceful Prinia (Warbler)	الفسية (الهازجة الرشيقية)	LC
Phylloscopidae الخناشع الورقية	<i>Phylloscopus collybita</i>	Common Chiffchaff	النقشارة الذهبية	LC
	<i>Phylloscopus trochilus</i>	Willow Warbler	نقشارة الصفصاف	LC
Paridae القرقفيات	<i>Parus major</i>	Great Tit	القرقف الكبير	LC
Sylviidae الخناشع (الدخل)	<i>Sylvia melanocephala</i>	Sardinian Warbler	خنشع أو دخلة سردينيا	LC
	<i>Sylvia borin</i>	Garden Warbler	دخلة الحدائق أو البساتين	LC
	<i>Sylvia atricapilla</i>	Blackcap	أبو قلنسوة	LC
	<i>Sylvia communis</i>	Common Whitethroat	الدخلة بيضاء الحنجرة الشائعة	LC
	<i>Sylvia curruca</i>	Lesser Whitethroat	الدخلة بيضاء الحنجرة الصغيرة	LC
Laniidae الصرديّة أو الدقوش	<i>Lanius nubicus</i>	Masked Shrike	الصرد المقتع أو الدقناش القبطي	LC
	<i>Lanius collurio</i>	Red-backed Shrike	الصرد أحمر الظهر	LC
	<i>Lanius senator</i>	Woodchat Shrike	الدقناش الشامسي (الصرّد أحمر القنّة)	LC
Oriolidae الصفاري	<i>Oriolus oriolus</i>	Eurasian Golden Oriole	الصفير الذهبي	LC
Passeridae العصفورية	<i>Passer domesticus</i>	House Sparrow	العصفور المنزلي (الدوري)	LC
Nectariniidae المغتريات	<i>Cinnyris osea</i>	Palestine Sunbird	عصفور الشمس الفلسطيني	LC
Corvidae الغرابية	<i>Garrulus glandarius</i>	Eurasian Jay	الزريقي (أبو زريق)	LC
	<i>Corvus cornix</i>	Hooded Crow	الغراب البلدي	LC
	<i>Coloeus monedula</i>	Western Jackdaw	غراب الزرع	LC
Emberizidae العنبريات	<i>Emberiza hortulana</i>	Ortolan Bunting (Ortolan)	درسة الشعير (النوري الأمريكي)	LC
	<i>Emberiza caesia</i>	Cretzschmar's Bunting	الدرسة زرقاء الرأس	LC
Sturnidae الزراير	<i>Sturnus vulgaris</i>	European Starling	الزرزور الأوروبي	LC
	<i>Onychognathus tristramii</i>	Tristram's or Dead Sea Starling	زرزور البحر الميت	LC

Continued

	<i>Acridotheres tristis</i>	Common (Indian) Mynah	المينا الهندية الشائعة	LC
Fringillidae الحساسين	<i>Carduelis carduelis</i>	European Goldfinch	الحسون الذهبي	LC
	<i>Carduelis spinus</i>	Eurasian Siskin	حسون الشوك (الطرنجان)	LC
	<i>Carduelis chloris</i>	European Greenfinch	الخضر (الخضيري)	LC
	<i>Fringilla coelebs</i>	Common Chaffinch	الزرعي (الصغنج أو الطقطوق)	LC
	<i>Fringilla montifringilla</i>	Brambling	الشرشور الجبلي	LC



Figure 5. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) Cattle Egret (*Bubulcus ibis*), (B) White Stork (*Ciconia ciconia*), (C) Black Stork (*Ciconia nigra*), (D) Short-toed Snake Eagle (*Circaetus gallicus*), (E) Black Kite (*Milvus migrans*), (F) Eurasian Sparrowhawk (*Accipiter nisus*), (G) European Honey Buzzard (*Pernis apivorus*), (H) Common Buzzard (*Buteo buteo*), (I) Long-legged Buzzard (*Buteo rufinus*), (J) Common Kestrel (*Falco tinnunculus*), (K) Lesser Kestrel (*Falco naumanni*), and (L) Eurasian Hobby (*Falco subbuteo*).

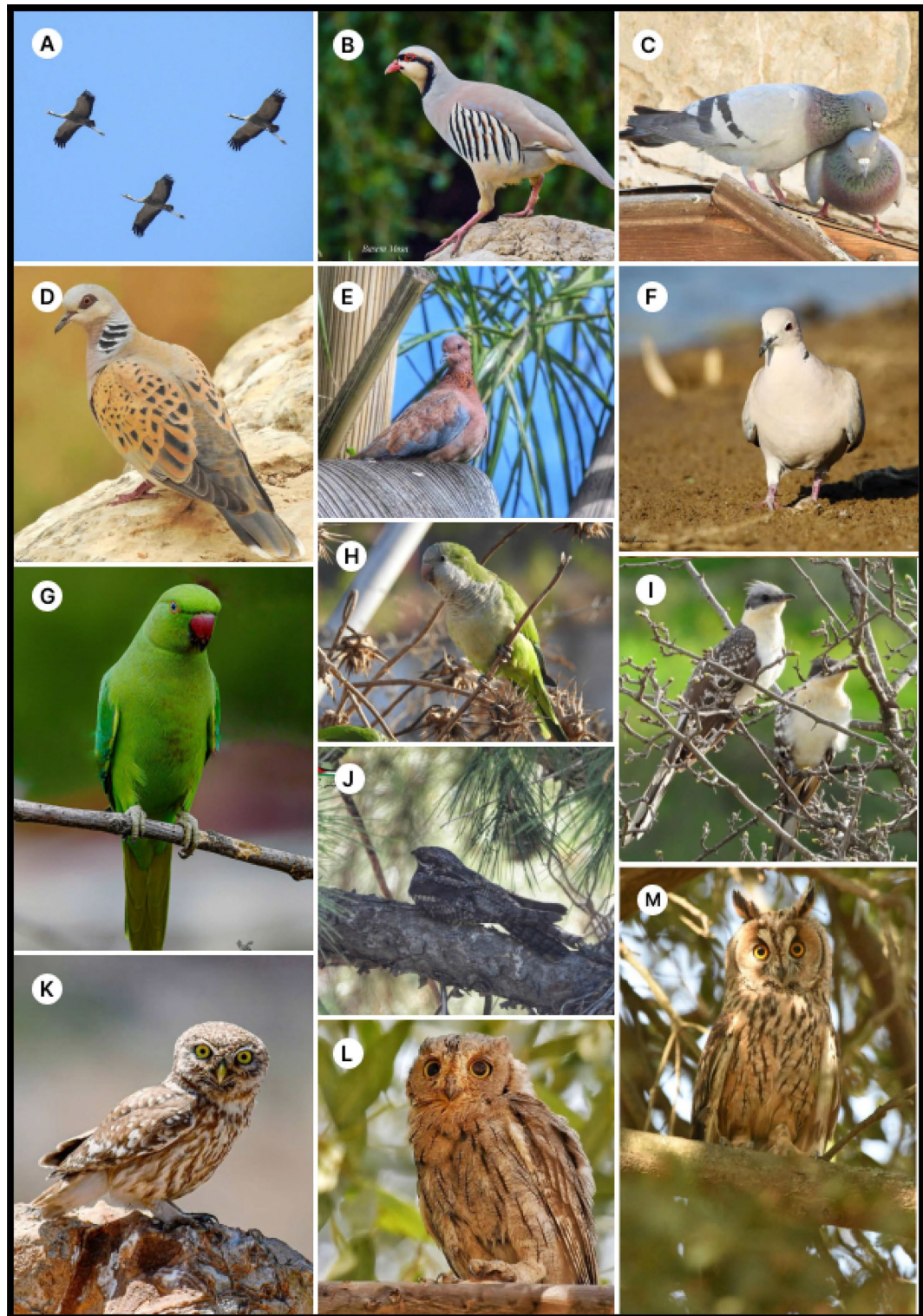


Figure 6. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) Common Crane (*Grus grus*), (B) Chukar Partridge (*Alectoris chukar*), (C) Rock or Feral Pigeon (*Columba livia*), (D) European Turtle Dove (*Streptopelia turtur*), (E) Laughing Dove (*Spilopelia senegalensis*), (F) Eurasian Collared Dove (*Streptopelia decaocto*), (G) Ring-necked Parakeet (*Psittacula krameri*), (H) Monk Parakeet (*Myiopsitta monachus*), (I) Great Spotted Cuckoo (*Clamator glandarius*), (J) European Nightjar (*Caprimulgus europaeus*), (K) Little Owl (*Athene noctua*), (L) Eurasian Scops Owl (*Otus scops*) and (M) Long-eared Owl (*Asio otus*).

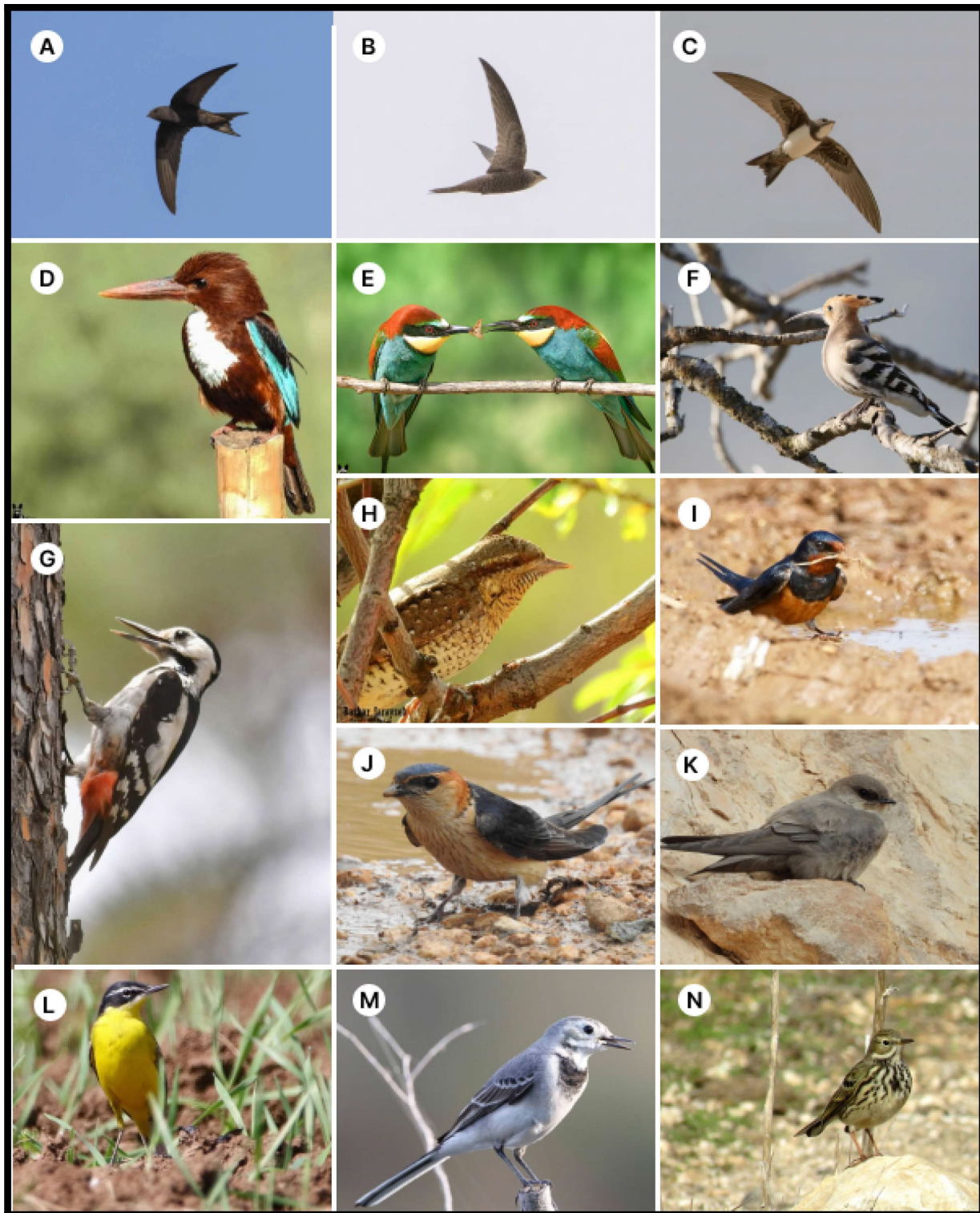


Figure 7. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) Common Swift (*Apus apus*), (B) Pallid Swift (*Apus pallidus*), (C) Alpine Swift (*Tachymartus melba*), (D) White-breasted Kingfisher (*Halcyon smyrnensis*), (E) European Bee-eater (*Merops apiaster*), (F) Eurasian Hoopoe (*Upupa epops*), (G) Syrian Woodpecker (*Dendrocopos syriacus*), (H) Eurasian Wren-neck (*Jynx torquilla*), (I) Barn Swallow (*Hirundo rustica*), (J) European Red-rumped Swallow (*Cecropis rufula*), (K) Pale Crag Martin (*Ptyonoprogne obsoleta*), (L) Yellow Wagtail (*Motacilla flava*), (M) White Wagtail (*Motacilla alba*), and (N) Tree Pipit (*Anthus trivialis*).



Figure 8. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) White-spectacled Bulbul (*Pycnonotus xanthopygos*), (B) Common Blackbird (*Turdus merula*), (C) Song Thrush (*Turdus philomelos*), (D) European Robin (*Erithacus rubecula*), (E) Bluethroat (*Luscinia svecica*), (F) European Stonechat (*Saxicola torquata*), (G) Black Redstart (*Phoenicurus ochruros*), (H) Common Redstart (*Phoenicurus phoenicurus*), (I) Collared Flycatcher (*Ficedula albicollis*), (J) Semi-collared Flycatcher (*Ficedula semitorquata*), (K) Spotted Flycatcher (*Muscicapa striata*), (L) Graceful Prinia (*Prinia gracilis*), (M) Common Chiffchaff (*Phylloscopus collybita*), and (N) Willow Warbler (*Phylloscopus trochilus*).

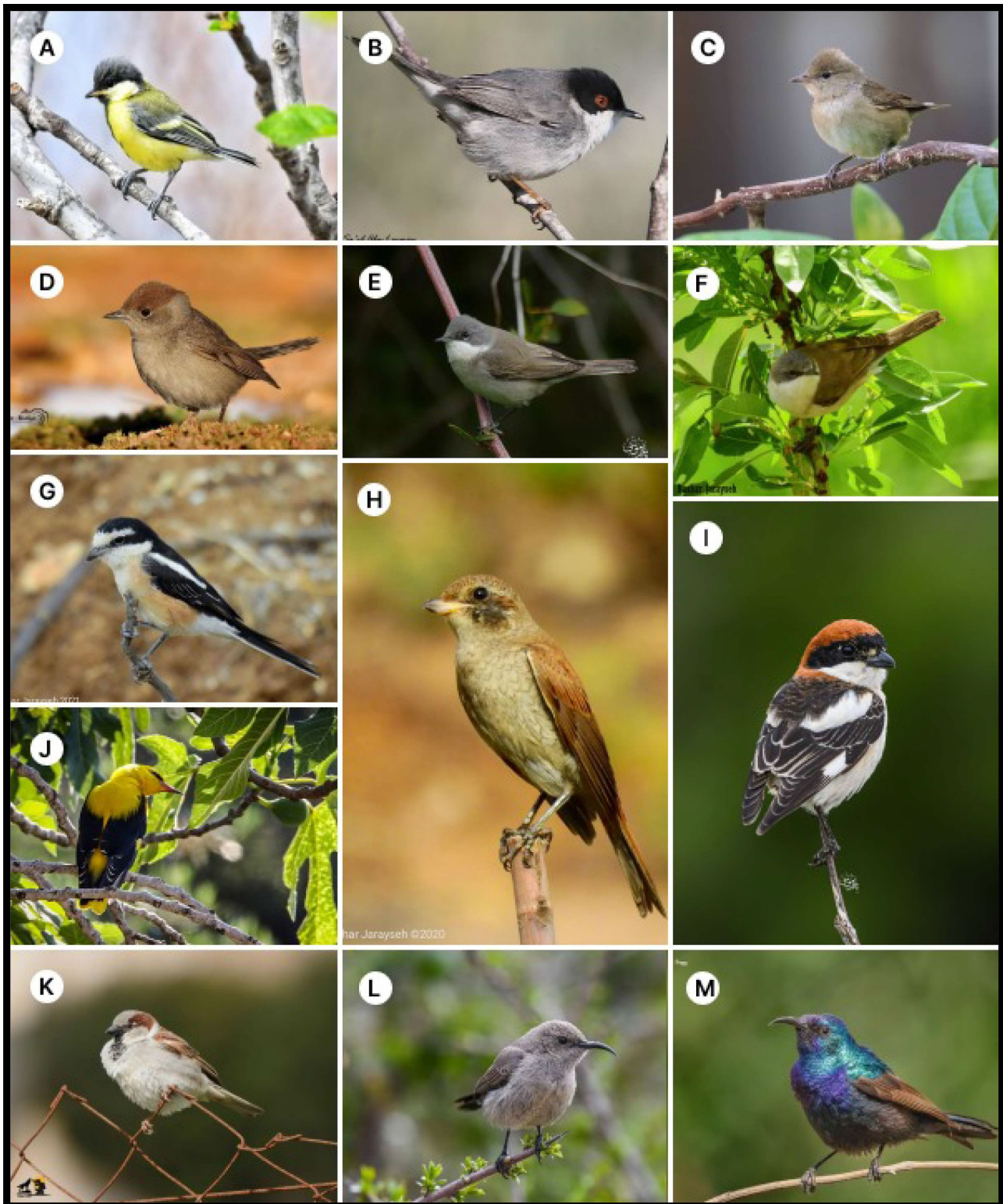


Figure 9. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) Great Tit (*Parus major*), (B) Sardinian Warbler (*Sylvia melanocephala*), (C) Garden Warbler (*Sylvia borin*), (D) Blackcap (*Sylvia atricapilla*), (E) Common Whitethroat (*Sylvia communis*), (F) Lesser Whitethroat (*Sylvia curruca*), (G) Masked Shrike (*Lanius nubicus*), (H) Red-backed Shrike (*Lanius collurio*), (I) Woodchat Shrike (*Lanius senator*), (J) Eurasian Golden Oriole (*Oriolus oriolus*), (K) House Sparrow (*Passer domesticus*), and (L & M) Palestine Sunbird (*Cinnyris osea*).

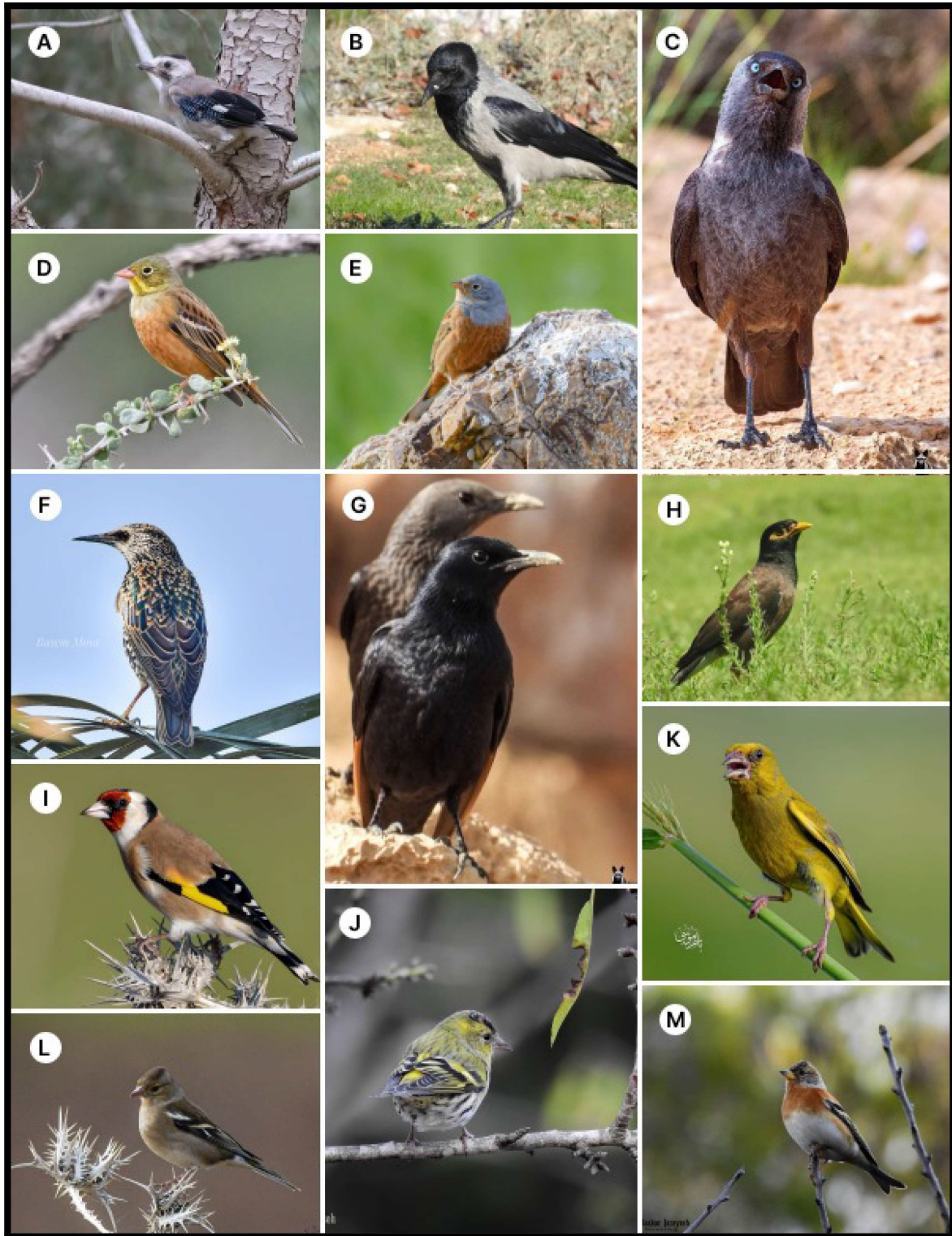


Figure 10. Bird species recorded in the courtyards of the blessed Al-Aqsa Mosque: (A) Eurasian Jay (*Garrulus glandarius*), (B) Hooded Crow (*Corvus cornix*), (C) Western Jackdaw (*Coloeus monedula*), (D) Ortolan Bunting (*Emberiza hortulana*), (E) Cretzschmar's Bunting (*Emberiza caesia*), (F) European Starling (*Sturnus vulgaris*), (G) Tristram's or Dead Sea Starling (*Onychognathus tristramii*), (H) Indian Myna (*Acridotheres tristis*), (I) European Goldfinch (*Carduelis carduelis*), (J) Eurasian Siskin (*Carduelis spinus*), (K) European Greenfinch (*Carduelis chloris*), (L) Common Chaffinch (*Fringilla coelebs*), and (M) Brambling (*Fringilla montifringilla*).

3.5. Rock and Feral Pigeons of the Courtyards of the Blessed Al-Aqsa Mosque

The Rock or Jerusalem Pigeon (*Columba livia* Gmelin, JF, 1789) is a familiar sight in the courtyards of the blessed Al-Aqsa Mosque and Jerusalem, and is often seen fluttering around the mosque. It is, of course, a beloved bird by Jerusalemites, worshippers and visitors to the blessed Al-Aqsa Mosque (Figure 11). The flocks of this bird have become one of the most famous and lively features of Al-Aqsa Mosque and its courtyards. As worshippers and visitors approach the courtyards of the blessed Al-Aqsa Mosque, they encounter large flocks of Rock Pigeons flying around and above the mosque, its minarets, and its domes, as if welcoming them. Sometimes, individuals of Feral Pigeons, often of different colours, can be seen among flocks of Rock Pigeons. In fact, Feral Pigeons are birds derived from domesticated Rock Pigeons, which escaped from humans and became independent, after becoming “feral”. Worshippers and visitors often enjoy feeding the Rock and Feral Pigeons and are often seen scattering seeds for the birds to pick up, hoping to receive a reward from God. The pigeons at Al-Aqsa Mosque have become an integral part of Jerusalemite life, with many Jerusalemites carrying small bags of seed to feed the pigeons. They sometimes stand among the flocks of flying pigeons to capture vibrant, unforgettable photos of their time in the Holy City. Some women from the Old City of Jerusalem send leftover rice or dry bread to place on the stone benches scattered throughout the courtyards of the blessed Al-Aqsa Mosque, where pigeons and crows come to feast on these foods.

Rock pigeons are known for their ability to adapt to urban environments in Jerusalem. They breed and nest in a variety of natural and artificial sites, including buildings, bridges, building ledges, and rooftops. They may also exploit abandoned buildings and rooftop spaces, including areas around water tanks. These pigeons built their nests in holes and openings in houses and buildings surrounding the blessed Al-Aqsa Mosque and its courtyards. The pigeons are abundant due to their high reproductive capacity, and their numbers are constantly increasing. This is due, of course, to the abundance of natural food or that provided by Jerusalemites and visitors to the blessed Al-Aqsa Mosque. Jerusalemites rarely hunt them or eat them as a source of protein. One of the main reasons Rock Pigeons perch on the roofs and domes of Al-Aqsa Mosque is for safety and protection. The elevated perches provide the pigeons with a high vantage point that allows them to monitor potential predators, such as Domestic Cats. Jerusalemites said that pigeons can die under the wheels of vehicles while crossing roads, either alone or in small numbers.

3.6. Domestic Cats: A Potential Predator of Pigeons in the Courtyards of the Blessed Al-Aqsa Mosque

Domestic Cats (*Felis catus* Linnaeus, 1758), with different colors and sizes, are widely distributed in the courtyards of Al-Aqsa Mosque (Figure 12). They are potential predators of Rock and Feral Pigeons there and in other areas of Al-Quds



Figure 11. Rock Pigeons (*Columba livia* Gmelin, JF, 1789) are often seen hovering and fluttering among the worshippers who scatter food for them in the courtyards of the blessed Al-Aqsa Mosque.

(Jerusalem). Often, a cat will sneak into flocks of pigeons (doves), attack a pigeon, and then snatch it out of sight to devour it. This is clearly evident from observing the predation itself or from some worshippers seeing the remains of pigeons and their distinctive feathers in marginal areas of the courtyards of the blessed Al-Aqsa Mosque.

3.7. Why Do Domestic Cats Dominate the Courtyards of Al-Aqsa Mosque?

Jerusalemites, worshippers, visitors, and Al-Aqsa guards are accustomed to seeing, feeding, and caring for tens of Domestic Cats prevailing in the courtyards of

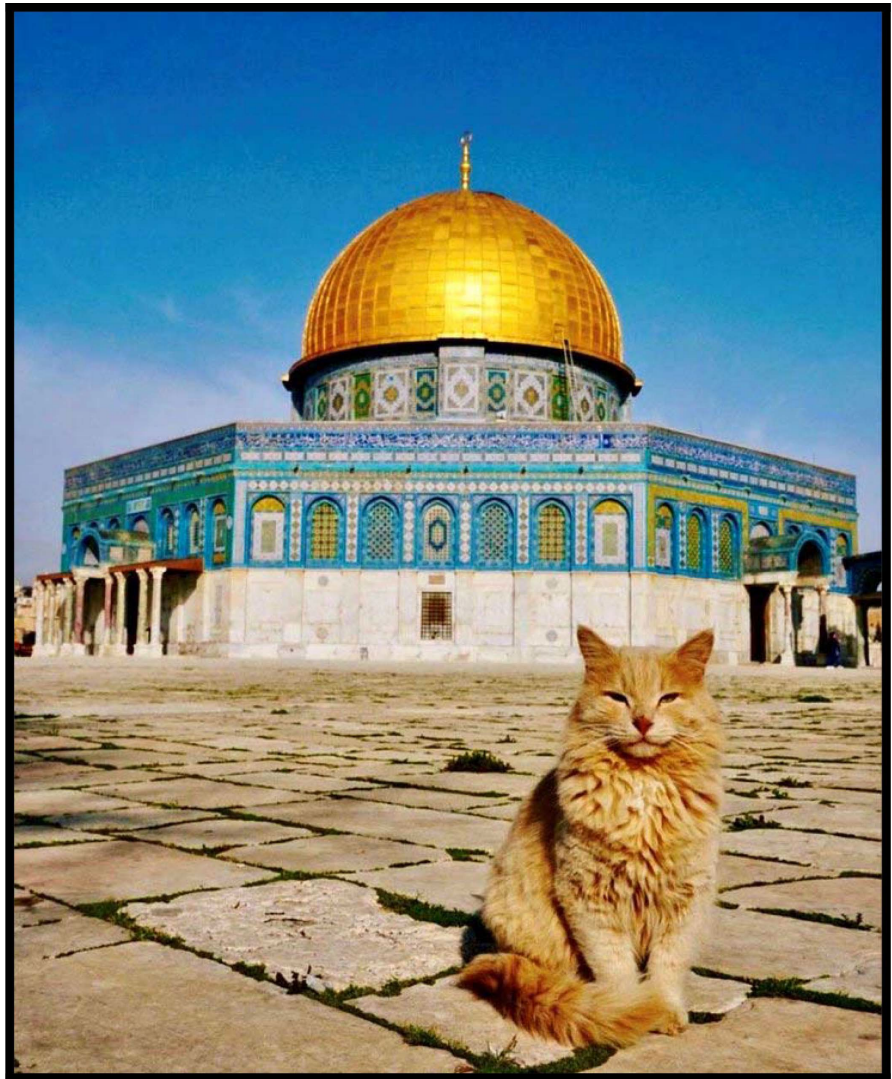


Figure 12. Domestic Cats (*Felis catus* Linnaeus, 1758) are a common component and are widely distributed in the courtyards of Al-Aqsa Mosque.

the blessed Al-Aqsa Mosque. It was stated that some Jerusalemites come to the blessed Al-Aqsa Mosque before dawn for prayer and feed the cats pieces of spiced boiled meat (sausages). In fact, the cats have become accustomed to the food offered by Jerusalemites and worshippers, whether at the gates of the blessed Al-Aqsa Mosque or inside it. Some worshippers say that feeding the cats, pigeons, and crows at Al-Aqsa has become the responsibility of guards and some Jerusalemites, who bring whatever they can from their homes to feed these animals. Jerusalemites call the person who feeds cats “*Abu Hurairah*”, a nickname for one of the companions of the Prophet Muhammad, peace and blessings be upon him, who was known for his love of cats.

4. Discussion

Palestine (27,000 km²) is characterized by a high diversity of wild vertebrates, en-

compassing diverse ecosystems and habitats extending from north to south and from east to west. The 551 bird species identified by Meiri *et al.* [1] demonstrate that birds are the most prominent vertebrates in Palestine, supported by migratory birds that follow multiple routes during their spring and autumn migrations [45] [46]. The current study estimates the presence of 78 bird species in the courtyards of the blessed Al-Aqsa Mosque, but this preliminary list is not intended to be static and will surely need to be updated at some point, especially since the interest in birds of the Palestinian territories has recently started during the last twenty years after the number of studies related to bird surveys increased, and so did the number of hobbyists competing in documenting the birds that reside in the region or visit it from time to time (Personal Communications). Despite its very limited area of 144,000 square meters (144 dunums), the blessed Al-Aqsa Mosque and its spacious courtyards are home to many important birds, numbering at least 78 species. This represents 14.2% of the total bird species in Palestine, which, according to Meiri *et al.* [1], amounts to 551 birds, including resident, migratory, terrestrial, and aquatic birds.

Being a scavenging bird [47] [48], the Cattle Egret (*Bubulcus ibis* Linnaeus, 1758) is usually seen in small groups hovering over the courtyards of the blessed Al-Aqsa Mosque, or roaming the yards near cultivated areas, searching for and feeding on terrestrial invertebrates that might harm plants [49]. Therefore, Palestinian farmers throughout Palestine consider it a friend of the farmer [10]. This bird is very common in local wastewater treatment plants and municipal solid waste landfills due to its scavenging feeding [50]. Although the White-breasted Kingfisher (*Halcyon smyrnensis* Linnaeus, 1758) is considered an aquatic bird, it is also common in terrestrial habitats, which is why sightings of it are common in the study area. It is often identified by its beautiful colors and distinctive call during flight.

The White Stork (*Ciconia ciconia* Linnaeus, 1758) and the Black Stork (*Ciconia nigra* Linnaeus, 1758) are large birds in the stork family, Ciconiidae. They are shy-looking birds, and are easily recognized by their beautiful colors. The plumage of the adult White Stork is mostly white, with black feathers on the wings. The latter has mostly black plumage with white underparts. Both have long red legs and a long, pointed red beak [43] [44]. Black and White Storks are migratory birds in the eastern Mediterranean region [51], including Palestine, sometimes seen in the skies over the Blessed Al-Aqsa Mosque and Jerusalem. The White Stork is more common, while the Black Stork is rarer but still visible. The Common Crane (*Grus grus* Linnaeus, 1758), some of whose flocks are sometimes seen above the courtyards of the blessed Al-Aqsa Mosque, is considered an aquatic bird, or rather a wading bird, because it prefers moist habitats and searches for its food in shallow water [52] [53]. It is a common winter visitor and passage migrant in Palestine [11].

In contrast, terrestrial birds were the dominant form in the blessed Al-Aqsa Mosque courtyards, due to the nature of the area, its buildings, and its vegetation,

which includes trees, shrubs, and herbaceous plants, all of which provide valuable services to birds. The study results showed that 57.7% of the birds in the Al-Aqsa Mosque courtyards belong to the passerines or songbirds. Most of these species depend on the vegetation cover for their biological and ecological survival. Therefore, the sounds of these birds attract the ears of worshippers and visitors, who enjoy their beautiful melodies and enchanting shapes. Similarly, Abd Rabou [15] [26] found that the Passeriformes order was the largest, representing 62.5% of the bird species recorded on the main campus of the Islamic University of Gaza, Gaza Strip. This campus is rich in native and exotic plant species that attract a diverse array of birds [26].

Within the passerine group, the Muscicapidae, Sylviidae, and Fringillidae families are the largest in terms of number of species. This is expected in urban ecosystems containing trees, shrubs, and buildings on which these birds depend for their livelihood. Abd Rabou [15] [26] reported somewhat similar results where Muscicapidae, Fringillidae, and Laniidae were the largest passerine families on the main campus of the Islamic University of Gaza, Gaza Strip. In fact, these birds are characterized by their small size and often need concealment and protection. They feed mainly on invertebrates or plant materials found in the environment of the blessed Al-Aqsa Mosque. Not only the aforementioned families, but most passerine families find in the blessed Al-Aqsa Mosque and its botanical features a safe haven that provides them with the food, rest, breeding, nesting, protection, and shelter they need from enemies.

The Palestine Sunbird (*Cinnyris osea*) is the only nectarivorous (nectar-feeding) bird in the eastern Mediterranean [54] and the only endemic species in Palestine, living in various natural, rural, and urban environments rich in flowering plants [15] [26] [40]. Although the bird is commonly seen sucking nectar from the flowers of many plants scattered throughout the Al-Aqsa Mosque courtyards, the Tree Tobacco (*Nicotiana glauca* Graham), an invasive species in Palestine, is a major food source for this species in various environments in the eastern Mediterranean [54] [55]. Many sunbirds (Nectariniidae) are among the passerine birds involved in dispersing plant seeds (pollination), as shown by Corlett [56].

The swift is a common bird, frequently seen in the skies above the blessed Al-Aqsa Mosque and its courtyards. It is distinguished by its exceptional flying ability and is considered one of the fastest birds in flat flight. Its wings are curved and its tail is forked. The general appearance of swifts resembles that of swallows and the martins, which have also been recorded in the courtyards of the blessed Al-Aqsa Mosque. All of these creatures are small, graceful, insectivorous birds, and are widely distributed, especially during migration. Numerous studies have documented different species of these birds (swifts, barn swallows, and martins) in most parts of Palestine [1] [2] [11] [16] [41]. The presence of these birds has prompted many researchers, such as Al-Safadi [57], Hahn *et al.* [58] and Bloch *et al.* [59] to study the reproductive biology and foraging behavior of some of their species in Palestine.

Raptors, also known as birds of prey, are a group of carnivorous birds characterized by their sharp talons and hooked beaks, which they use to catch and kill their prey. Examples of the raptors recorded in this study included kites, eagles, buzzards, hawks, falcons and owls (see **Table 1**). They are skilled hunters with keen eyesight and powerful wings, enabling them to soar and dive at high speeds. Wherever they live, in Palestine and around the world, raptors play a vital role in their ecosystems, as they are among the most important predators in the food chain. Some raptors also feed on animal carcasses, helping to clean them and prevent the spread of disease [60]. Unlike Accipitriformes and Falconiformes, which are diurnal, Strigiformes (owls) are nocturnal, meaning they sleep during the day and hunt at night. Unfortunately, the Palestinian territories suffer from the overhunting and trafficking of wild birds, especially raptors, both in the West Bank and the Gaza Strip (**Figure 13**), which has led to their threatened existence [10] [15] [18]. One need only take a field trip to the markets and shops selling pet animals in the Palestinian territories to realize the extent of the disaster in hunting and trading raptors or birds of prey. In fact, the trade in illegally caught raptors is a global phenomenon and may threaten many species [61] [62]. Globally, 18% of raptors are threatened with extinction and 52% have declining populations [63].



Figure 13. Many wild birds are hunted and sold in markets and pet shops in the Palestinian territories: (A) Common or Steppe Buzzard (*Buteo buteo*), (B) Song Thrush (*Turdus philomelos*), (C) European Turtle Dove (*Streptopelia turtur*), and Hooded Crow (*Corvus cornix*).

Many wild birds, including some invasive species, are hunted by some wildlife hunters in Palestine, both in the West Bank and the Gaza Strip. Poaching is considered one of the most significant problems facing wildlife, particularly rare birds, in Palestine, as indicated by numerous local studies [18] [64]-[68]. There are many reasons for hunting birds, some for food, some for unknown reasons, some for sale at low prices to zoos, and some for trade in markets or pet shops (Figure 13) [69] [70]. Hunting and trafficking of wild birds is not limited to Palestine, but is spreading to other Middle Eastern countries [71]-[79].

Of all the bird species recorded in the courtyards of the blessed Al-Aqsa Mosque and considered of least concern by the International Union for Conservation of Nature (IUCN), the European Turtle Dove (*Streptopelia turtur* Linnaeus, 1758) is classified as vulnerable (VU). Locally, the species along with other dove and bird species is hunted, traded and eaten by Palestinians (Figure 13) [69] [70] [80]. Globally, the species has experienced a sharp decline in population numbers over the past decades [81]. Habitat destruction in breeding and wintering areas, as well as poaching (both legal and illegal), are considered the main causes of this decline [82]. Thus, protecting the bird requires a global conservation strategy that includes habitat and hunting management [83].

With regard to invasive bird species in the Palestinian territories, three have been recorded in the courtyards of the blessed Al-Aqsa Mosque. The Indian Silverbill or White-throated Munia (*Euodice malabarica* Linnaeus, 1758), which has not been recorded in the courtyards of the blessed Al-Aqsa Mosque, is known to be another invader found in other parts of Palestine [1] [3] [84]. Because of their distinctive characteristics, urban landscapes attract relatively large numbers of invasive bird species in certain areas of the world [85] [86]. The annoying Indian Myna causes significant losses to farmers because it attacks crops and fruits. From an ecological perspective, it is considered a threat to many wildlife species and many domestic animals as well, as explained by Abd Rabou [65] and Handal and Qumsiyeh [87]. This bird has been recorded in several Middle Eastern countries over the past two or three decades [88]-[96]. According to Holzapfel *et al.* [97], the Indian Myna is listed among the 100 worst invasive species worldwide and is implicated in numerous negative impacts on native bird biodiversity. Some Gazan farmers consider the Indian Myna a friend due to its ability to eat insect pests, including the Red Palm Weevil (*Rhynchophorus ferrugineus* Olivier, 1790) [65], which has become a threat to Date Palm trees in the Gaza Strip over the past two decades [98].

Large numbers of the invasive Rose-ringed Parakeet are now being commonly caught and sold at Palestinian markets and shops selling pets because of its attractive colors and ability to learn and imitate speech [69]. These birds pose many potential dangers locally because of their feeding on agricultural crops, especially fruits and their competition with some local wild birds, especially cavity-nesting ones [66] [99]. Monk Parakeet numbers are growing rapidly in the region, and the species has expanded from mostly urban areas into agricultural environments [100]

[101]. Awad *et al.* [4] confirmed that bird watchers and wildlife photographers reported seeing Monk Parakeets in several West Bank governorates after their arrival from Israel, which had brought them from abroad.

The Rock Pigeon or Dove (*Columba livia* Gmelin, JF, 1789), which is a member of the Columbidae family, is a common feature of Palestinian ecosystems, both natural and human-made, including the courtyards of the blessed Al-Aqsa Mosque. The Rock Pigeon is the ancestor of all Domesticated and Feral Pigeons and is often found in large numbers in rural areas, towns and cities. It is common for visitors and worshippers to see Feral Pigeons among the flocks of the Rock Pigeons in the courtyards of the blessed Al-Aqsa Mosque in various colors. In fact, Feral Pigeons are the most successful avian colonies of the cities and are characterized by wide variation in plumage [102] [103]. Flocks of the gentle Rock Pigeon are a familiar and enjoyable sight for Palestinians wherever they go, from the north to the Negev Desert in the south, and from the eastern borders of Palestine, where the Dead Sea and the Jordan River are located, to the Mediterranean coastal plain.

Some Palestinians sometimes hunt certain species of doves for food, especially in marginal areas or those experiencing difficult military conditions, such as the Gaza Strip in the far southwest of Palestine [80]. In the courtyards of the blessed Al-Aqsa Mosque, that blessed spot in the world, the Palestinians view the Rock Pigeons differently. Jerusalemites, worshippers, and visitors feed the Rock Pigeons and scatter seeds for them to pick up, hoping for God's reward for this good deed. No one hunts the Rock Pigeons, as their aesthetic value in the courtyards of the blessed Al-Aqsa Mosque is great and not overlooked. This act is not limited to the courtyards of the blessed Al-Aqsa Mosque, but is common throughout the world.

This human behavior, fueled by a love for Rock and Feral Pigeons, has been observed in various courtyards and urban sites around the world (Personal Observations in Alexandria of Egypt, Mecca or Makkah al-Mukarramah of Saudi Arabia, Amman of Jordan, Tel Aviv of Palestine, Budapest of Hungary, Valletta of Malta, Madrid of Spain and Massachusetts of USA). Rock and Feral Pigeons have become accustomed to consuming waste grain and seeds, and human food waste, including bread and other leftovers in urban areas [104]. This reliance has led to their thriving populations in cities and towns across the world. As in many cities around the world, in the Swiss city of Basel, huge flocks of Rock and Feral Pigeons naturally search for food in the streets, squares, parks, and agricultural areas surrounding the city, as well as on sidewalks and railway lines [105].

As is the case with Rock Pigeons in the courtyards of the blessed Al-Aqsa Mosque, there is usually a state of respect, appreciation, and love for Rock Pigeons, known as Pigeons of the Grand Mosque or Pigeons of Al-Haram or Pigeons of al-Hema, in the areas surrounding the Grand Mosque (Masjid al-Haram) in Mecca (Makkah al-Mukarramah) and the Prophet's Mosque (Al-Masjid an-Nabawi) in Medina (al-Madinah al-Munawwarah or Taybah), Saudi Arabia [106]. Typically, adequate food for Rock Pigeons, including wheat, corn, and other food items, is provided at holy sites in Saudi Arabia by pilgrims, visitors, and local residents [107],

as shown in **Figure 14**. Once again, many people around the holy sites in Palestine and Saudi Arabia are taking souvenir photos of themselves surrounded by flocks of Rock and Feral Pigeons, feeding those grains, or holding them in their arms (see **Figure 11**).



Figure 14. Pilgrims and Umrah performers visiting the Holy House of God or local residents enjoy providing enough food for the Rock Pigeons in Mecca (Makkah al-Mukarramah), Saudi Arabia.

Domestic cats are very common in Palestine, including Al-Quds (Jerusalem) [108] [109]. They are known to be fierce and efficient predators, and their motivation to hunt and kill is not unlike that of their wild ancestors [110]. They take a wide range of wildlife species, including birds [111] [112]. This behavior of cats is a result of cats' natural predatory instincts and is not necessarily driven by hunger, as even well-fed cats will hunt birds if given the opportunity. What's worse in the predation behavior of cats is that cats hunt for fun, and will catch and kill many more small animals than they eat, including birds. Rock and Feral Pigeons are a common food source for Domestic Cats in urban environments. Adult and young Rock, Feral and Domestic Pigeons, along with their eggs, are at risk from Wild Cats (*Felis silvestris*) and Feral and Domestic Cats in the Gaza Strip, as pointed out by Abd Rabou and Abd Rabou [80]. Similar to what sometimes happens in the courtyards of the blessed Al-Aqsa Mosque, Domestic Cats have been observed attacking and preying on members of the Rock and Feral Pigeon flocks that prevail in the areas surrounding the Grand Mosque in Mecca, Saudi Arabia, during the Hajj and Umrah seasons (Personal Observations).

5. Conclusion

The courtyards of the blessed Al-Aqsa Mosque constitute an urban environment adorned with thirty species of native and exotic trees and shrubs, and seventy-eight species of birds, both passerine and non-passerine. These vital elements interact

with each other, enhancing the beauty of this religious, spiritual, and historical site in the world, which most Arabs and Muslims aspire to visit, pray, and worship in. Rock and Feral Pigeons are abundant in the place and receive constant care and feeding from Jerusalemites, visitors, and worshippers. To increase the number of birds on this blessed site, it is recommended to enhance the vegetation cover and manage it sustainably to attract these beautiful and indispensable creatures.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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