

Invasive Alien Birds in Palestine Bird Biodiversity



By Simon I. Awad

Palestine enjoys a privileged geographical location, lying between three continents: Asia, Europe, and Africa. Covering a small area compared to many other countries, its environment nevertheless contains a wide range of temperatures, rainfall, and topography. In addition, throughout history it has been the cradle of several different civilizations, religions, and cultures. The Bible contains the earliest written descriptions of the richness and diversity of bird species that existed in historic Palestine and its surrounding areas, and many of them can still be found here. Palestine profits greatly from this biodiversity and can be considered a sort of natural museum.

One of the best examples that illustrates this biological significance is the biannual bird migration for which the sky over Palestine is one of the most important paths. Five hundred million birds pass each year through this natural bottleneck between the desert and the sea. The Jordan Rift Valley is part of the Great Rift Valley/Red Sea flyway, which is the second most important flyway for migratory soaring birds (MSBs) in the world, and the most important route of the Africa-Eurasia flyway system. These habitats are a potent manifestation and symbol of Palestine's biodiversity, and we should continually remember the necessity to protect them. This includes the need to establish a wider network of ringing and monitoring stations for the observation of birds' presence and activities that at the same time will facilitate a more thorough recording of the various extant species.

Palestine took the lead in the Arab world when, in 1998, it started to monitor birds and watch migration through the process of ringing, obtaining international licenses for the setup of special stations to undertake identification and description of individual species and their habits. This process involves the capturing of individual birds that are then measured, with the details notated, and fitted with a ring that is fastened to one of their legs before they are released again into nature. The Environmental Education Center (EEC) of the Evangelical Lutheran Church in Jordan and the Holy Land (ELCJHL) initiated this endeavor in Palestine and the Arab world.

Three out of the 373 birds species identified and described in Palestine so far are considered to be introduced invasive alien birds species, introduced during the last decade: the Rose-ringed Parakeet (*Psittacula krameri*), the Common Myna (*Acridotheres tristis*), and the Indian Silverbill (*Lonchura*

malabarica). They originate from escaped cage-birds that have been able to spread throughout the region and have been successful in establishing breeding populations.

The Rose-ringed Parakeet (*Psittacula krameri*) is an elegant, bright-green bird with a red bill and a length that ranges between 37 and 43 cm, in addition to a tail of 18 to 23 cm. The male has a rosy-red necklace across its neck and nap – which is why it is called the Rose-ringed parakeet – and a narrow black bib across the side of the throat. The female looks like the male, but without the rosy-red and black lines. This bird occurs in all climates, especially in well-vegetated areas such as cultivated gardens and orchards with medium to tall trees. It is mostly seen on treetops.

It is an enthusiastic, noisy bird and highly gregarious. During breeding season these birds can be seen in pairs, and outside the season, they form flocks. They roost communally, often with other species, and nest in natural tree holes or enlarged holes made by other species, such as the Syrian Woodpecker, but very rarely in rock clefts or on buildings. They



usually lay one to four eggs and have an incubation period of 25 to 28 days. At 8 weeks, they fly, and they continue to be fed by the adult 3 to 4 weeks after leaving the nest. Their food consists of vegetables, fruits, seeds, nuts, fresh leaves, and dates.

The Rose-ringed Parakeet is considered an Afro-Asian parakeet species from the wide-ranging Parrots family that was introduced to central Israel from Iran in 1963 as a cage bird. It escaped in 1964 in Herzliya, and later, other cage birds escaped from zoos in the Tel Aviv area and started to spread to various areas between 1985 and 1990. The first record in the State of Palestine was documented in Sept 2000, in Beit Jala, by EEC researchers, and in April 2001 two nests were documented in Jerusalem. Subsequently, the species spread and was observed in various districts.

The Common Myna (*Acridotheres tristis*) is a strong, confident brown bird with a glossy black head and a yellow

bill and legs, with bright yellow bare skin behind the eyes. The large white patches on its wings and its white-tipped black tail are clearly visible when the bird is in flight. Having a length of 22 to 25 cm, the male and female look similar. There are found in urban and suburban areas, as well as in semi-desert, scrub, or plantation habitats.

It is a highly sociable, highly vocal species that is capable of mimicking human and other animal sounds. They form pairs during breeding season and flocks at other times. They roost communally, often with other species. They nest in any type of cavity and usually lay four to five eggs. The incubation period is 13 to 18 days in duration, and they often leave the nest before being able to fly. Their dependence on adults lasts for several weeks.

Its attractive looks conceal a very opportunist, aggressive, and noisy bird. Its strong feet and straight bill enable it to choose a wide variety of food types,

including snails, insects, birds' eggs and chicks, and other animal matter, as well as fruits and seeds. It is also considered to be a scavenger.

Originally an Asian native species from the Starling family, it has been introduced to a wide range of countries, including Israel in 1997, as an escaped cage bird from a local zoo in the Tel Aviv area. It has been spreading to different areas since 2000. EEC researchers documented it on March 2011 east of Bethlehem, and in July 2011 in the south of Hebron. Later in April 2013, the EEC documented one nest in Beit Sahour. In 2015 it was ringed by EEC staff at the Tulkaram ringing station. Since 2013 it has spread quickly and widely and has become a common species in most areas.

The Indian Silverbill (*Lonchura malabarica*) is a small, bright brown bird with a small silvery bill, hence the name Silverbill. Its underside is white and has a Black tail and white upper-tail cover. It is usually between 11 and 12 cm long, and the male and female are similar. It occurs in the Rift Valley (Jordan River, Dead Sea depression, and Jericho).

These are sociable birds, even during breeding season. They build their nests on low bushes or in holes by a well-rounded cup of grass and fine stem

lined with finer grass and feathers. They usually lay 2 to 7 eggs, and the incubation period lasts between 11 and 15 days. They are tended by both adults after fledging and fed about two weeks more. They have a conical bill that enables them to feed on grass seeds and crops.

Originally an Indian native species from the Estridine Finches family, the Indian Silverbill reached the Rift Valley in 1983 as an escaped cage bird and spread along the valley. The EEC began in 1998 to document this species as individuals and flocks in Jericho and the surrounding areas. In 2000, the EEC ringed the first species at Jericho Ringing Station, and afterward tens of this species have been ringed.

Threats and Concerns

Palestinian biodiversity has recently begun to suffer from invasive alien species that have been introduced to the region. According to the definition of the Convention on Biological Diversity (CBD): "Invasive alien species are plants, animals, pathogens, and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health. In particular, they impact adversely upon biodiversity, including decline or elimination of native species – through competition, predation, or transmission of pathogens – and the disruption of local ecosystems and ecosystem functions. Invasive alien species, introduced and/or spread outside their natural habitats, have affected native biodiversity in almost



every ecosystem type on earth and are one of the greatest threats to biodiversity. Since the seventeenth century, invasive alien species have contributed to nearly 40 percent of all animal extinctions for which the cause is known." (CBD, 2006) According to Birdlife International, alien species that become invasive are considered to be the main direct drivers of biodiversity loss across the globe. In addition, alien species have been estimated to cost international economies hundreds of billions of dollars each year.

The International Union for Conservation of Nature (IUCN) declared the Common Myna to be one of only three birds among the world's 100 worst invasive species. This bird behaves like extremist settlers by occupying other birds' territories, destroying their nests and eggs, killing their chicks, and competing for their food. Flocks of Rose-ringed Parakeets and Indian Silverbills also fly several kilometers to forage in farmlands and orchards, causing extensive damage. These species can become a serious agricultural pest. The three above-mentioned species

may affect the populations of other breeding bird species in the future and lead to a decrease in their numbers in nature. While native species are generally subject to an ecologically evolved system of natural checks and balances in which, for example, and among other factors, predators help prevent a species from uncontrolled reproduction, invasive species may reproduce out of control, partly or fully invading the ecological niches of a number of other species, and thus leading to their endangerment and possible extinction.

From personal observation I can assert that these three species, in particular, the Common Myna, have in the remarkably short time of their presence spread quickly and widely.

Furthermore, I have noted that the Common Myna (in Ramallah) has occupied the nests of House Sparrows and eaten its chicks, also showing aggressive behavior towards larger-sized birds such as the Hooded Crow and Jackdaw (in Shuafat, Jerusalem).

There are as yet no studies available to show the impact of these birds on the environment in Palestine. However, this fact merely underscores the need to make great efforts to monitor the non-native species that enter Palestine through wildlife trade or as caged birds.

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There is an urgent need to address the impact of invasive alien species. Article 8(h) of the Convention on Biological Diversity states: "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." (CBD, 2016)

Article photos by Simon Awad.