

Distribution and status of Galliformes in the United Arab Emirates

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Abstract This paper reviews the distribution and status of Galliformes in the United Arab Emirates (UAE) over recent years. Hunting being strictly forbidden, the protection offered to bird species in general and Galliformes in particular in the UAE has helped them establish healthy breeding populations and some of them have expanded their range. Five species of Galliformes occur in the UAE, these being chukar partridge, sand partridge, black francolin, grey francolin and European quail. Sand partridge is a native resident breeder and is a regional priority species due to its restricted range. Grey francolin is a resident breeder and is expanding its range. Quail is a passage migrant and has now been confirmed as resident breeder in some areas. Its presence has been reported from areas that have witnessed an increase in fodder farms. The other two species, black francolin and chukar partridge were deliberately introduced and they have now established self sustaining breeding populations in some areas, however, they have not been able to spread to new areas as efficiently as the grey francolin.

Keywords Desert ecosystem, Galliformes introductions, habitat alteration, plantation, range expansion

Introduction

United Arab Emirates (UAE) is a confederation of seven individual emirates and the country is bordered by Saudi Arabia, Oman and the Arabian Gulf. It is a predominantly dry desert with a low human population density. The area of the country is more than 83,000 sq km with Abu Dhabi being the biggest emirate, almost 80% of the area. Sand dunes, salt marshes (*Sabkha* - areas with very high water table), gravel plains, mountains and valleys (*Wadis*) and coastal areas are the major habitats. Sand dunes are the dominant habitat type and about 80% of the country is desert. The *Hajar* range of mountains run from the north-east to the south-east of the country and has a maximum height of 1400 m. In addition to these naturally occurring habitats, new ones have been created by large-scale greening efforts in the form of plantations and forestation during the last three decades (Colingwood et al., 1997; Habeeb, 2001) (FIG. 1).

The avifauna of the country comprises over 430 species (EAD, 2007). Many are migratory water birds and use the long coastline of UAE as a stopover or wintering site. Additionally some species are escapees or were intentionally released and have now established feral breeding populations (Richardson, 1990).

Galliformes in the country are represented by five species; sand partridge *Ammoperdix heyi*, grey francolin *Francolinus pondicerianus*, quail *Coturnix coturnix*, black francolin *Francolinus francolinus* and chukar *Alectoris chukar*. Except sand partridge, these species have benefited from the availability of increasing suitable habitat and an absence of persecution, which has resulted in a phenomenal increase in their abundance and changes in their distribution (Bashir & Javed, 2005). In this paper we discuss the present distribution and status of these species in the UAE.

Methods

The historical distribution of native and introduced species was mapped using information from available literature (Aspinall, 1996; Richardson, 1990). Species sightings were recorded during field visits to different areas conducted at regular intervals throughout the UAE. Avifaunal surveys were conducted in all the emirates and all habitat types. These were general surveys conducted to record the avifauna of these areas and no specific effort was made to target Galliformes.

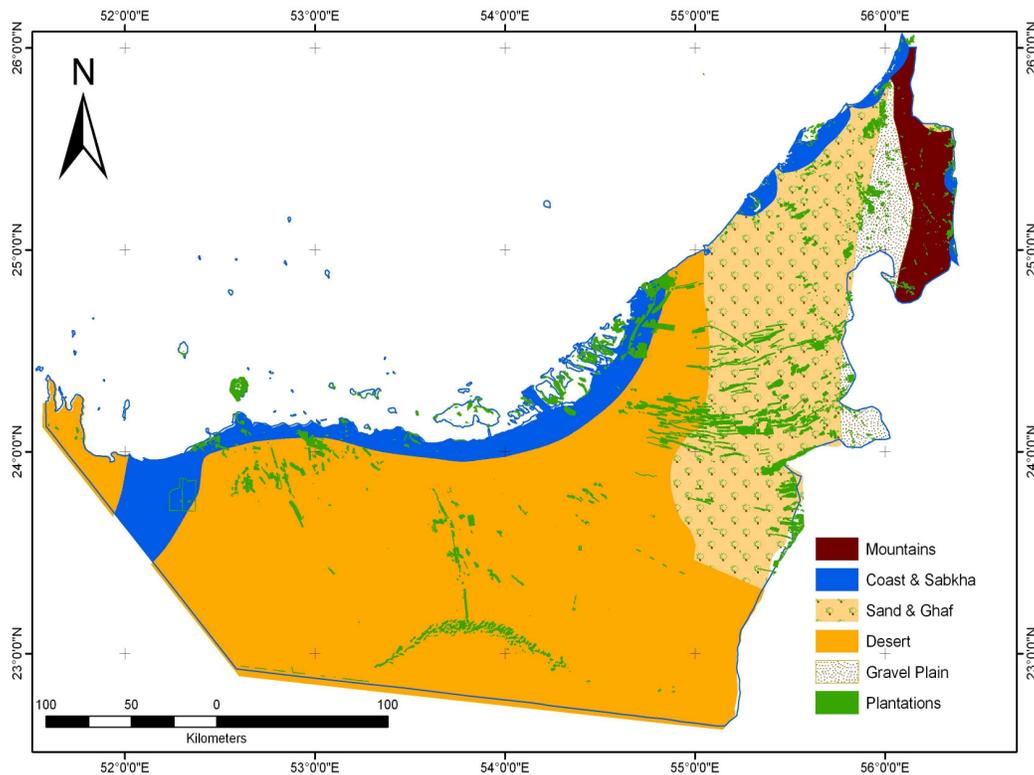


FIG. 1 Habitat types of UAE and the extent of plantations

Information from the last two decades, maintained by the Emirates Bird Records Committee was also used to map the distribution of various Galliformes species (Richardson, 1997; Richardson, 2003). Maps showing the past and present distribution of Galliformes species in the UAE were produced using ArcGIS.

Results

Sand partridge

Sand partridge (Arabic – *Hajal Falistini*) is a native to the UAE, but with a restricted range. It is a regional priority species because of its restricted range and because more than 1% of the breeding birds of this species in the Middle East occur in the UAE. It has a relatively high abundance in the mountain districts of the north east emirates and is absent from the western region. It inhabits sparsely vegetated slopes mostly near water. The species has not been able to spread in to new areas and it is still present in its native range (FIG. 2 & 3). The

estimated breeding population is between 1000 to 10,000 pairs. Jebel Hafit in Al Ain and Masafi area contains the viable populations, but breeding also takes place in many other valleys. The species is not under any specific threat as its preferred habitat is secure despite some local low scale rock quarrying. Thus, at present no conservation action is necessary.

Grey francolin

It is doubtful that grey francolin (Arabic – *Daraj Ramadi, Feree*) are native to the UAE. It is a resident breeder and is continuously increasing its range. It is a very common and widespread species avoiding the desert and the semi-desert. Very large areas of suitable habitat are available for the species and cultivations and roadside plantations have helped its spread. This species has undoubtedly been able to expand its range more extensively as compared to any other Galliformes species in UAE (FIG. 2 & 3). The estimated breeding population is 5000 to 10000 pairs which is still increasing.

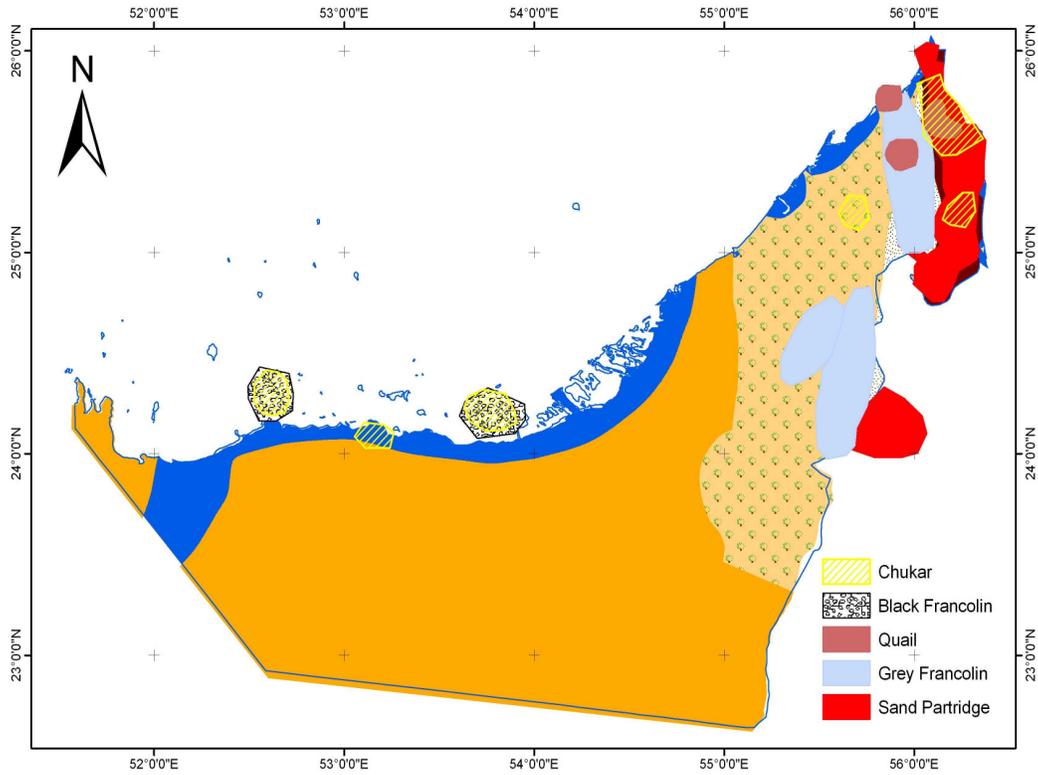


FIG. 2 Old distribution of Galliformes in UAE, before the extensive plantation

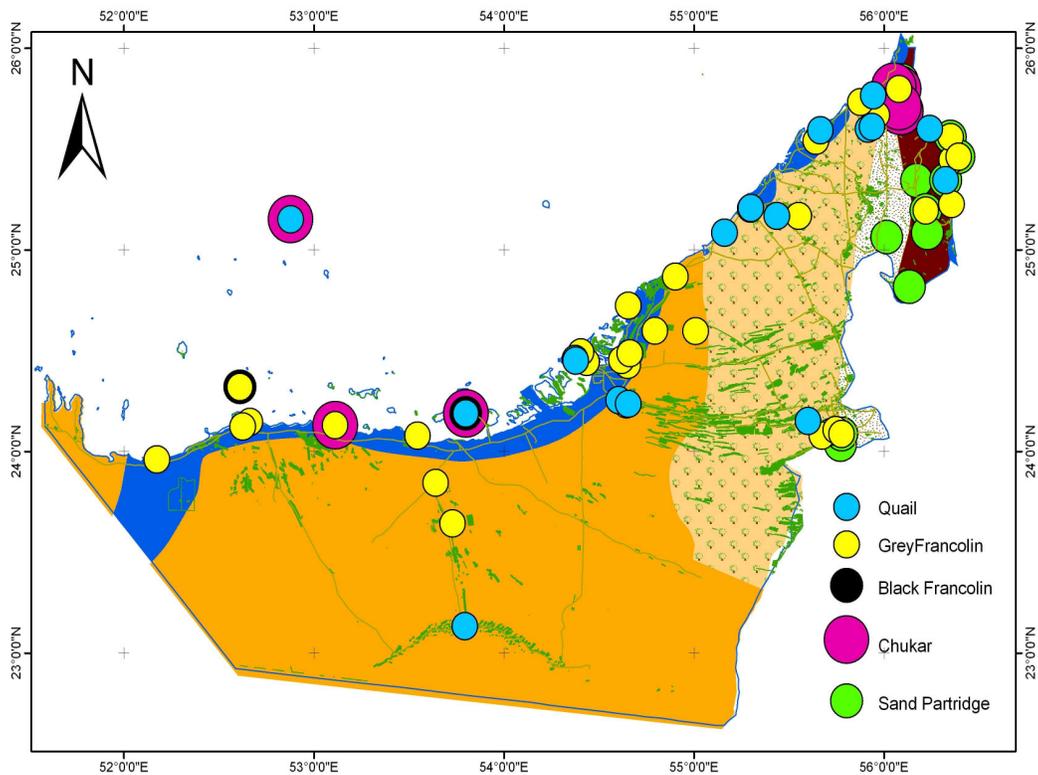


FIG. 3 Current distribution of Galliformes in UAE, affected by plantations

The population is under no threat and faces no persecution. It is frequently seen near habitations and plantations in towns and near roads. It is a very resilient species and can tolerate high levels of disturbance.

Quail

Quail (Arabic *Salwa-Samman, Feree-Safarat*) is a passage migrant in the UAE and has recently been confirmed as a resident breeder in the northern areas of UAE. Its presence has been reported from places which have witnessed an increase in the fodder farms. This increase was mostly in the eastern and northern areas even though this species has been sighted in some western areas that have plantations and fodder fields in predominantly desert regions (FIG. 2 & 3). The estimated breeding population in the UAE is 10 - 50 pairs. Based on calling males in Dubai, Ras Al Khaimah and Fujairah. The species does not face any direct threats but it is thought that the use of pesticides and fertilizers might reduce the amount of invertebrate food for the species.

Black francolin

Black francolin (Arabic - *Daraj Aswad*) was deliberately introduced in the UAE in late 1970's and is now a resident breeding species. It is mainly present on two islands Abu Al Abyad and Sir Baniyas in Abu Dhabi emirate and may occur locally elsewhere. Large-scale agricultural and animal husbandry practices on these islands provide these birds with adequate food and water. It has not been able to spread to new areas as efficiently as the grey francolin (FIG. 2 & 3). The estimated breeding population is around 100+ pairs. The species is not threatened.

Chukar

Chukar (Arabic - *Hajal Ramadi Ra's*) was introduced in the UAE in 16th Century and the subspecies present is *werae*. It is abundant above 500 m in some mountainous areas and is found on many near-shore islands where it has been recently introduced. This species relies on adequate supplies of food and water, which has limited its ability to spread so it has not naturally increased its range (FIG. 2 & 3). The estimated breeding population is between 100 to 1000 pairs and breeding has been confirmed from some sites in Abu Dhabi and the two islands of Abu Al Abyad and Sir Baniyas. The species is not under any kind of threat.

Discussion

Galliform species of UAE, whether native or introduced, have undergone changes in their distribution and status during the last three decades. Except sand partridge, which is the only native breeding species, all the other species have increased in range and abundance. Among the introduced species, the most extensively distributed is the grey francolin (FIG. 3) which has been able to colonize new areas that have come under plantations (Bashir and Javed, 2005). These plantations were possible due to the supply of unlimited water in many parts of the country. Roadside plantations provided corridors for the expansion of the species. Islands and some areas witnessed some of the recent introductions of this species. Galliformes in other neighbouring countries have witnessed the same kind of population increase and expansions (Hirschfeld, 1995; Eriksen and Eriksen, 2005; Eriksen et al., 2003).

Fodder fields all over the country provide excellent habitat for quail. Increases in these fodder fields has meant expansion of range of this species and with conditions optimal for breeding, this once passage migrant is now frequently heard singing during the breeding period. It has been reported from areas that have vast deserts with no natural vegetation because of the establishment of fodder fields as well as some offshore islands (Das etc), but probably while migrating.

Chukar and black francolin have not expanded their range in the same way as grey francolin, and are confined to areas where they were deliberately introduced. Chukar has witnessed an increase in its numbers at some of the sites where it was introduced.

Creation of habitat has helped Galliformes species to spread to areas where previously suitable habitat did not exist. Habitats have been created in the form of plantations, road side plantations, fodder fields, forests and gardens.

Galliformes have also benefitted from the protection accorded to birds and other wildlife in the country. Hunting is strictly forbidden, laws prohibiting hunting are actively enforced and trapping of live birds or collection of eggs is punishable under law (Aspinall, 1996) and this is likely to have helped Galliformes greatly. All the five species are not threatened in the UAE at present.

There are large gaps in the knowledge of status of species and very vague numbers of breeding birds are reported. Long-term and extensive species specific studies are required so that more accurate numbers can be reported.

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Biographical sketches

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