My 'local patch' at Dhahran Hills, Saudi Arabia

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Saudi Aramco's Dhahran community (hereafter simply referred to as Dhahran) is a community of c10 000 residents, made up of Saudi Aramco company employees and their families, and is located in the Eastern province of Saudi Arabia, between the cities of Dammam and Al-Khobar. It has been Saudi Aramco's headquarters for over 80 years and is located c10 km from the western shore of the Arabian gulf. The land rises progressively from sea level to a maximum altitude of c150 m in Dhahran. The climate is classed as arid and is characterized by hot, often humid, rainless summers and cool winters. In summer the daytime temperatures from April to October regularly rise above 40°C and occasionally exceed 50°C although in winter (December and January) temperatures drop to c18°C during the day and 10°C at night with occasionally nighttime lows of 2°C recorded. Average rainfall is 75 mm with most occurring between November and January. The shamal (northerly) winds usually blow across Dhahran in the early months of the summer, bringing dust storms that can reduce visibility to a few metres and that also occasionally disorientate passing birds causing them to make landfall in Dhahran. Dhahran is man-made, is enclosed by a security fence and has had a remarkable greening of the environment, which now helps support a varied range of flora and fauna, including a variety of birdlife. This greening has been made possible by the use of reclaimed and treated water for irrigation and the planting of many thousands of exotic trees and shrubs, which has dramatically enhanced the area's potential for migrant, wintering and breeding birds. Water, needless to say, is a precious commodity in Saudi Arabia and 'raw' water used for landscaping, is chlorinated brackish well water with a high level of total dissolved solids and makes up roughly 70 % of all the water used in the community. Reclaimed water from the 'Dhahran advanced wastewater treatment plant', which treats 10 million gallons a day, is treated to make it suitable for unrestricted irrigation. The biggest use of reclaimed water in the Dhahran community is for landscaping in common areas, public parks, playgrounds, golf course and athletic fields, all of which are attractive to birds. Spray fields, a percolation pond (formerly called lake Lanhardt) and waste treatment ponds are also part of the waste water treatment system. Ponds and areas like this are very scarce in Saudi Arabia, and as a result are very attractive to wildlife and birds in particular. The percolation pond is a large, 5 hectare (12 acre) sewage effluent pond that is surrounded

by phragmites reeds *Phragmites australis* which in turn is surrounded by tamarix *Tamarix aphylla* trees screening part of the perimeter and Banyan *Ficus benghalensis* and Mesquite *Prosopis juliflora* all growing nearby (Plate 1). Vegetation is characterized by a thin sprinkling of small shrubs, grass tussocks and occasionally large shrubby growth such as *Tamarix aphylla*. Plant variety is limited, with a small number of plants dominating the land. The next best habitat is the spray fields, and the watering of these fields is linked with the percolation pond, often with water being



Plate 1. The percolation pond (formerly lake Lanhardt). The premier birding location on my patch showing relatively low water levels in May. © *Jem Babbington*

sprayed onto the fields when the pond is full. These fields have rotational spray heads that are excellent perches for birds, especially shrikes, and distribute the water over large areas making the habitat green and attractive to birds especially migrants. The area is green for much of the year and has numerous grasses with plenty of seeds suitable for a number of species of birds. As a result of the above, Dhahran contains a high level of bird species with 265 different species recorded, comprising more than half of the 500 bird species recorded throughout all of Saudi Arabia. Six species that occur are listed on the Red List for Threatened Species by the International Union for Conservation of Nature (IUCN) as threatened with global extinction, including; Greater Spotted Eagle *Clanga clanga*, Eastern Imperial Eagle *Aquila heliaca* and European Turtle Dove *Streptopelia turtur* that are listed as vulnerable and the Basra Reed-warbler *Acrocephalus griseldis*, Saker Falcon *Falco cherrug* and Steppe Eagle *Aquila nipalensis* listed as endangered.

Dhahran is important ornithologically, both for its resident birds as well as for migrants and is on important north-south and east-west migratory pathways. It also serves as a globally important stop off site for birds migrating from Asia to wintering areas in Africa and from wintering areas in Africa to breeding areas in Europe and western Asia. The fact the location is on or near major migratory flyways is a major advantage with it being right in the middle of the East Asia/East Africa flyway, and also being encompassed by the Central Asian flyway as well as being just outside the Black sea/ Mediterranean flyway. As many as three billion birds transit the Arabian peninsula annually although the vast majority never stop for long, if at all (Shobrak 2011). There are many passage migrant's passing through on their way between their breeding and wintering grounds, as well as many more that arrive for the summer or winter seasons. The occasional big 'fall' of migrants can occur and these are often associated with changes in wind direction and strength that are almost always associated with cloud and/or dust storms. Spring migration occurs between mid January and late May peaking in late March and April and autumn migration occurs between mid August and early November but is less heavy than the spring migration (Figure 1). Only a small number of species are resident all year round, but the fact that 265 species of birds have been recorded in Dhahran shows the biodiversity of the area is attractive to migrants and vagrants. The large number of species recorded is

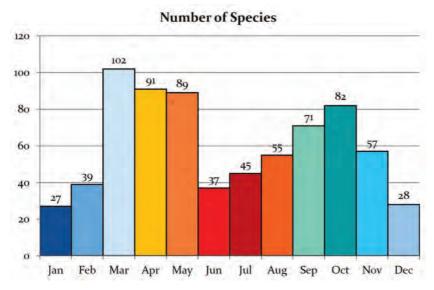


Figure 1. Total number of species recorded each month on the patch indicating the migration periods when most species are recorded.



Figure 2. Local patch map showing my daily walking route and habitat types. Map prepared by Karim Hussein and Chris Boland

also partly due to the small number of dedicated birdwatchers who have engaged in many hours of fieldwork over the years.

My local patch is only a small part of Dhahran, called Dhahran Hills, where I have been birding almost every day since August 2010 and have recorded 224 species comprising 45% of the 500 bird species recorded throughout all of Saudi Arabia and 85% of all the species recorded in Dhahran. I take the same walking route through my patch (Figures 2 & 3) almost every day to cover as many habitat types as possible. The area is away from the main housing areas and has no drivable roads so is relatively quiet and undisturbed as few people pass through the area. My local patch is centred on the percolation pond (Plate 1), as this is the best habitat in the entire area. It is a large, c5 hectare, sewage effluent pond, with its edge surrounded by *Phragmites australis* reeds. Some of the reeds have expanded to low lying areas next to the pond, which become inundated with water in the winter months and are excellent for crakes and reed-loving warblers. The pond is part of the complex system of water treatment and water re-use in Dhahran and contains mainly freshwater. The pond has a natural bottom and edge and provides wet mud areas for waders to feed. A species of Gambusia, probably Eastern Mosquitofish, was introduced to the pond to eat mosquito larvae and has become a favourite food source for many waterbirds. Water levels in the pond are controlled by large inlet and outlet valves, and are generally high in the winter months and drop in the summer. This is because water demand can be four times higher in the summer compared to the winter and a balance of supply and demand has to be made between the pond, golf course and public areas. The pond is attractive to ducks, herons, waders and cormorants. Ducks in particular enjoy the



Figure 3. Magnified local patch map showing my daily walking route and habitat types. Map prepared by Karim Hussein and Chris Boland.

safety of the pond as shooting is prohibited. Many passerines are attracted to the trees and other plants that grow around the pond.

The second pond on my patch is a smaller settling pond, c0.5 hectare in size, which is also part of the water treatment system for Dhahran and contains mainly freshwater. This has a concrete edge and a pumping station next to it but has a couple of small reed patches growing in the pond. As water is a scarce commodity in the desert the pond is attractive to many of the species that occur on the larger percolation pond but in smaller numbers due to its smaller size and concrete rather than natural bottom and edges.

Behind the percolation pond is a small area of jebals ('Jah-bahl' in Arabic means mountain, hill or slope). These flat-topped hills are formed from sedimentary marine deposits laid down during the late Tertiary, when the area was subject to intermittent submergence and deposition of sediments. They are made up mainly of limestone and are attractive and obvious features in an otherwise flat and featureless environment. These areas are particularly attractive to Rock Thrushes and Pharaoh Eagle Owl *Bubo ascalaphus* but also attract many other migrants.

To one side of the percolation pond and the jebals is the stony scrub desert area (Plate 2) that is attractive to wheatears, pipits and buntings. The area is mainly flat hard packed sand with a salty crust interspersed with small clumps of vegetation, mainly grasses. As it is a flat wide expanse of land it is also a good area for looking for birds of prey some of which use the ground to rest on. Small shrubs are used by shrikes and rollers and the ground itself by wheatears and buntings.





Plate 2 (left). The jebals and stony scrub desert area in front, March. © Jem Babbington

Plate 3 (right). The spray fields where excess treated water is pumped particularly if the percolation pond is full, April. © Jem Babbington

Between the settling pond and percolation pond is the spray fields area (Plate 3). These are wild grass and flower meadows fed by treated wastewater and have large rotational spray heads to distribute the water. They are a major attraction to migrant birds and many wintering birds also use the area. The areas remain green all year and have plenty of grasses with many seeds suitable for food. They can also have free-standing areas of water which are attractive to passing waders and the rough grass areas are used by passing harriers to hunt over. One edge of the main field has a raised embankment with tamarisk trees growing along it, which is excellent for migrant warblers. The interspersed bushes are used by shrikes and rollers among other species. The fields themselves are excellent for Quail on migration and Stonechats of various subspecies during the winter months.

STATUS

Common: Occurs annually in good numbers Uncommon: Occurs annually in small numbers Scarce: Occurs annually in very small numbers

Rare: Does not occur annually but has occurred more than five times in total

Vagrant: Has occurred less than five times in total

Migrant: Passage in spring and autumn

Winter visitor: Occurs during winter after migration has ended and stays for some time Summer visitor: Occurs during summer after migration has ended and stays for some time

Resident: Occurs all year round Breeds: Breeds every year

Resident breeder: Present throughout the years and breeding

Migrant breeder: Breeds but normally departs after the breeding season

Passage migrant: Normally only present enroute between breeding grounds and regular wintering areas

CHECKLIST OF BIRDS RECORDED

The following checklist includes all the bird species I have recorded with certainty in Dhahran. It also includes significant subspecies.

Gadwall *Anas strepera* Uncommon winter visitor October–March normally occurring in small groups of up to ten birds on the percolation pond. Also seen in much smaller numbers on the waste treatment pond.

- **Eurasian Wigeon** *Anas penelope* Uncommon winter visitor October–February normally occurring in small groups of up to thirty birds on the percolation pond. Also seen in much smaller numbers on the waste treatment pond.
- **Mallard** *Anas platyrhynchos* Uncommon winter visitor August–May normally occurring singly or in pairs but rarely in small groups of up to ten birds on the percolation pond.
- **Northern Shoveler** *Anas clypeata* Uncommon winter visitor August–May normally occurring in small groups of up to thirty birds on the percolation pond although highest count was 110 birds on 18 October 2012. Also seen in much smaller numbers on the waste treatment pond.
- **Northern Pintail** *Anas acuta* Scarce winter visitor October–February normally occurring singly or in pairs but rarely in small groups of up to ten birds on the percolation pond.
- **Garganey** *Anas querquedula* Uncommon winter visitor August–April, normally occurring in small groups of up to fifty birds on the percolation pond. Also seen in much smaller numbers on the waste treatment pond.
- **Eurasian Teal** *Anas crecca* Uncommon winter visitor August–April normally occurring in small groups of up to thirty birds on the percolation pond but occasionally in much larger numbers up to 100 birds. Also seen in much smaller numbers on the waste treatment pond.
- **Common Pochard** *Aythya ferina* Uncommon winter visitor September–December normally occurring in small groups of up to ten birds on the percolation pond. Also seen in much smaller numbers on the waste treatment pond.
- **Ferruginous Duck** *Aythya nyroca* Scarce winter visitor September–December, normally occurring singly or in pairs but rarely in small groups of up to ten birds on the percolation pond. The largest count in recent years was 23 birds on 14 September with 16 birds staying until mid November.
- **Tufted Duck** *Aythya fuligula* Uncommon winter visitor September–April, normally occurring singly or in pairs but rarely in small groups of up to ten birds on the percolation pond.
- **Common Quail** *Coturnix coturnix* Uncommon passage migrant mainly in spring January–April and again in September. Normally heard calling but also occasionally flushed from the spray fields as well as rarely the scrubby desert areas. Some years occurs in good numbers.
- **Little Grebe** *Tachybaptus ruficollis* Resident breeder normally occurring in small groups of up to ten birds on the percolation pond and waste treatment pond. Three or four pairs of birds breed each year mainly on the percolation pond.
- **Great Crested Grebe** *Podiceps cristatus* Scarce winter visitor October–April and former breeder on the percolation pond where they occur singly or in pairs. One pair bred in one year only (Lobley 2000).
- **Black-necked Grebe** *Podiceps nigricollis* Rare passage migrant and winter visitor September–April to the percolation pond and waste treatment pond. Normally seen singly but once four birds together.
- **Greater Flamingo** *Phoenicopterus ruber* Rare visitor to Dhahran with only a handful of records between November and January. The birds I saw were three juveniles on the waste treatment pond 18 June 2012. Birds are common on the coast nearby but rarely venture inland.

- **Black Stork** *Ciconia nigra* Vagrant. Two records of two birds. An immature at the percolation pond on 4 May 2011 with another, an immature at Dhahran Saudi Aramco Camp, flying over the percolation pond on 23 May 2012.
- **Western White Stork** *Ciconia ciconia ciconia* Vagrant. One record of one bird. An adult was at Dhahran Hills football field 17 September–20 October 2013.
- **Glossy Ibis** *Plegadis falcinellus* Vagrant. Two records of three birds. Two 26 August 2012 on the percolation pond and a single there 20 August 2014. All birds stayed until dusk when they flew off and were not seen again.
- **Little Bittern** *Ixobrychus minutus* A scarce passage migrant and casual breeder with all birds seen near water where they are mainly recorded singly. Breeding noted at the percolation pond in some years. Noted all months but not November and December.
- **Black-crowned Night-Heron** *Nycticorax nycticorax* Scarce, mainly passage migrant. Seen March–November. Most records from the percolation pond where birds seen on the lake-shore as well as in the surrounding trees. Birds were equally divided between juveniles and adults.
- **Squacco Heron** *Ardeola ralloides* Uncommon winter visitor and passage migrant seen in every month with the exception of June. Almost all records from the percolation pond and wet areas of the spray fields.
- **Western Cattle Egret** *Bubulcus ibis* A common winter visitor mainly to grassy areas of Dhahran but almost all birds roost in the reed beds and trees of the percolation pond but particularly the waste treatment pond. Formerly a scarce bird but now well over 100 individuals are present in winter and more than 200 counted on occasion. Birds recorded every month.
- **Grey Heron** *Ardea cinerea* Mainly an uncommon winter visitor and passage migrant to the percolation and waste treatment ponds, although birds have been recorded every month.
- **Purple Heron** *Ardea purpurea* An uncommon passage migrant seen in small numbers, although groups of more than ten have been recorded. They are normally seen flying overhead or in the reed beds around the percolation pond. They occasionally perch in trees near the percolation pond and are sometimes found in wet drainage ditches and the spray fields.
- **Western Great Egret** *Ardea alba* A scarce winter visitor and passage migrant seen August–March. Mainly seen singly on the percolation pond but also in trees surrounding the pond and rarely on the waste treatment pond.
- **Little Egret** *Egretta garzetta* An uncommon winter visitor and passage migrant seen in all months except July. Mainly seen singly on the percolation pond or perched in the trees surrounding the pond.
- Indian Reef Heron Egretta (gularis) schistacea A common visitor seen in all months. Mainly seen singly or in twos on the percolation pond and more recently on the golf course pond. Occasionally present in larger numbers with up to twelve birds having been seen on the percolation pond. Both dark and pale morphs are present but pale birds significantly outnumber dark individuals.
- **Great Cormorant** *Phalacrocorax carbo* An abundant, primarily winter visitor seen on the percolation pond, with over 1000 birds present in January 2012. It has been recorded in all months except June.

- **Western Osprey** *Pandion haliaetus* An uncommon visitor seen perched in dead trees near the percolation pond or overflying the pond and its surrounds. It has been recorded in all months except April and December.
- **Black-winged Kite** *Elanus caeruleus* A vagrant to Dhahran that was first recorded on 29 March 2012 in the spray fields adjacent to Dhahran Hills and remained until 17 April 2012. It was subsequently recorded in the same area on 20 April 2014.
- **European Honey-buzzard** *Pernis apivorus* A vagrant to Dhahran with records from January, March, May and June.
- **Crested Honey-buzzard** *Pernis ptilorhynchus* Over recent years an uncommon, but annual winter visitor to Dhahran with as many as six birds overwintering in some years. There is also a single summer record of two birds present on June 8, 2014 with at least one of these present until 5 July 2014. These birds roam widely throughout the Dhahran community and can be seen flying or perched in trees occasionally near the percolation pond but more commonly near the golf course.
- **Short-toed Snake-Eagle** *Circaetus gallicus* A vagrant to Dhahran with four records: on 31 March 2011, 22 October 2011, 11 February 2012 and 26 March 2013, all in the scrubby desert area.
- **Greater Spotted Eagle** *Aquila clanga* An uncommon, primarily winter visitor that is generally seen perched in trees close to the percolation pond. It has been recorded January–April and September–December.
- **Steppe Eagle** *Aquila nipalensis* A vagrant to Dhahran where a single bird was recorded flying over the spray fields 9 October 2013.
- **Eastern Imperial Eagle** *Aquila heliaca* A vagrant to Dhahran where single birds have been recorded in December and March. The most recent record was a bird seen perched on a telegraph pole, as well as seen in flight, 22 October 2011.
- **Bonelli's Eagle** *Aquila fasciata* A vagrant to Dhahran. My only record was a single juvenile seen flying 25 February 2016.
- **Northern Shikra** *Accipiter* (*badius*) *cenchroides* A vagrant to Dhahran where a single bird was seen flying over the scrubby desert area 30 October 2014 and a single male seen near the golf course 9 November 2016.
- **Eurasian Sparrowhawk** *Accipiter nisus* An uncommon winter visitor that is generally seen in flight over the spray fields close to the percolation pond or over areas of sparsely vegetated desert close to tree cover such as near the percolation pond. It has been recorded January–May and October–December.
- **Western Marsh-Harrier** *Circus aeruginosus* An uncommon winter visitor seen quartering over the reed beds of the percolation pond or the adjacent spray fields. It has been recorded January–April and September–December.
- **Hen Harrier** *Circus cyaneus* A vagrant to Dhahran with one record of an adult male flying over the jebals behind the percolation pond on 27 February 2014.
- **Pallid Harrier** *Circus macrourus* An uncommon passage migrant most commonly seen flying low over the spray fields near the percolation pond or occasionally perched on the ground. Females and juveniles are more commonly seen than adult males. It has been recorded March–May and September–October.
- **Montagu's Harrier** *Circus pygargus* A vagrant to Dhahran with two birds recorded on passage over the spray fields near the percolation pond on 22 April 2013 and another two 20 April 2014.

- **Black Kite** *Milvus migrans* An uncommon visitor to Dhahran mainly found in the undisturbed desert areas. It has been recorded March–May and in October.
- **Long-legged Buzzard** *Buteo rufinus* A vagrant to Dhahran with birds seen probably part of the small resident population in the Eastern province. It has been recorded in May and in February 2018.
- **Northern Steppe Buzzard** *Buteo buteo vulpinus* A passage migrant that is a vagrant to Dhahran that has been recorded in May, June and October presumably while on passage. Most records occur in May.
- **Water Rail** *Rallus aquaticus* An uncommon visitor to Dhahran that spends most of its time hidden in the reed beds surrounding the percolation pond, the waste treatment pond and golf course lake. It is rarely seen but often heard calling from its hiding place. It has been recorded in January, July, September and December.
- **Corncrake** *Crex crex* A passage migrant that is a vagrant to Dhahran. It is generally seen when flushed from the tall vegetation in the spray fields near to percolation pond. There are a few records from April, May and September.
- **Baillon's Crake** *Porzana pusilla* A rare migrant and winter visitor that has been recorded on the percolation pond and nearby waste treatment pond. Recorded in March, October, November and December.
- **Little Crake** *Porzana parva* An uncommon migrant that has been seen on wet areas around the percolation pond and wet drainage ditches. Recorded February–May and in September.
- **Spotted Crake** *Porzana porzana* An uncommon migrant that has been seen on the edges of the reed beds on the percolation pond and wet drainage ditches. Recorded March—May and September–November.
- **Grey-headed Swamphen** *Porphyrio porphyrio* A vagrant to Dhahran with birds recorded that are probably part of a range expansion of the breeding population in Sabkat al Fasl, Jubail, where it is a common resident breeder. There are three records from Dhahran: the first 29 October 2009 on the percolation pond when the bird was present for at least three days, the second on 12 December 2014 also on the percolation pond and more recently 2 December 2017–8 January 2018 on the Dhahran golf course pond.
- **African Swamphen** *Porphyrio madagascariensis* A vagrant to Dhahran with a single record of two birds on the percolation pond 14–18 December 2014.
- **Common Moorhen** *Gallinula chloropus* A resident breeder commonly seen in good numbers on the percolation pond, sewage treatment pond, golf course pond and wet drainage ditches around Dhahran.
- **Eurasian Coot** *Fulica atra* A casual breeder in Dhahran that has been recorded in all months of the year. It is seen in small groups on the percolation pond, often concealed in the reed beds surrounding the pond.
- **Black-winged Stilt** *Himantopus himantopus* A casual breeder in Dhahran that is primarily found on the percolation pond but can also be seen on the nearby spray fields, sewage treatment pond and wet ditches around Dhahran. It has been recorded in all months of the year though numbers fluctuate depending on time of year.
- **Northern Lapwing** *Vanellus vanellus* A scarce winter visitor with recent records being two in spray fields 12 November 2013 and 17–21 November 2017.
- **Spur-winged Lapwing** *Vanellus spinosus* An uncommon bird in the Eastern province that is a vagrant to Dhahran. It is rapidly spreading throughout Saudi Arabia with

- increased sightings in the Eastern province, so it is to be expected that sightings in Dhahran will also increase. Recorded in May and August–October.
- **Red-wattled Lapwing** *Vanellus indicus* A vagrant to Dhahran with a record of a single bird seen on the desert fringes near the percolation pond on 1 June 2014.
- **White-tailed Lapwing** *Vanellus leucurus* A scarce visitor to Dhahran that has been recorded on the percolation pond and the adjacent wet spray fields. Three birds were recorded on the spray fields 22 February 2014 and a single bird was present 9–21 August 2014.
- **Pacific Golden Plover** *Pluvialis fulva* A vagrant to Dhahran with two records of single birds 2 November 2013 and 23 August 2014. This bird appears to have become scarcer in recent years when compared with historic records with few records in the Eastern province.
- **Grey Plover** *Pluvialis squatarola* An uncommon passage migrant that can be seen on the muddy fringes of the percolation pond or in damp grassy areas such as the spray fields near the percolation pond.
- **Common Ringed Plover** *Charadrius hiaticula* A common passage migrant and winter visitor that is found on the muddy fringes of the percolation and sewage treatment ponds and may also be seen on wet drainage ditches in other parts of the camp.
- **Little Ringed Plover** *Charadrius dubius* Winter and summer visitor seen in all months of the year except December and January and may breed in Dhahran. Found in damp areas around the camp and can also be seen in the dry desert areas including near the percolation pond and spray field edges.
- **Kentish Plover** *Anarhynchus alexandrinus* Casual breeder seen in all months of the year except December and January in the damp areas around the camp and nearby desert areas. It can also be seen running on the road in the early morning before dawn. Has bred Dhahran.
- **Lesser Sand Plover** *Anarhynchus atrifrons* A vagrant to Dhahran. Occasionally seen on the percolation pond associated with other small waders. Records from 23 August 2011, 15 September 2013 and 22 September 2015.
- **Greater Sand Plover** *Anarhynchus leschenaultia* An uncommon passage migrant through Dhahran occasionally seen on the percolation pond. Records June, August and September.
- **Jack Snipe** *Lymnocryptes minimus* A scarce winter visitor that is usually seen when flushed from the long grass on the wet spray fields near the percolation pond. It has also been seen in a wet drainage ditch in Dhahran Hills. Birds seen each month October–April.
- **Pin-tailed Snipe** *Gallinago stenura* A vagrant to Dhahran with a single record of two birds 19 September 2011 seen in the vegetation at the edge of the percolation pond and a single at the settling pond 24 October 2012.
- **Great Snipe** *Gallinago media* A vagrant to Dhahran with a single bird seen at the edge of the percolation pond 22 October 2011.
- **Common Snipe** *Gallinago gallinago* A common winter visitor and passage migrant that is often hard to see. Found on the wet fringes of the percolation pond, on the sewage treatment pond, the wet spray fields and wet drainage ditches.

- **European Black-tailed Godwit** *Limosa limosa* A scarce passage migrant and winter visitor occasionally seen on the percolation pond. It has been recorded July–September and in December.
- **Bar-tailed Godwit** *Limosa lapponica* A vagrant to Dhahran that has only been recorded in September on the percolation pond.
- **Eurasian Whimbrel** *Numenius* (*phaeopus*) *phaeopus* A vagrant to Dhahran that is commonly seen on the coast. It has been recorded in Dhahran in August and October.
- **Eurasian Curlew** *Numenius arquata* A vagrant to Dhahran that is rarely seen inland. It can be found on areas of exposed mud on the percolation pond with records from 30 September 2011 and 11 September 2013.
- **Green Sandpiper** *Tringa ochropus* A common visitor to almost any wet area in Dhahran. Primarily a passage migrant and winter visitor, but it has been recorded in all months of the year. Rarely numbers exceed ten individuals.
- **Common Redshank** *Tringa totanus* An uncommon passage migrant and winter visitor. Most often seen singly on the percolation pond or other wet areas in Dhahran, though small flocks of up to eight birds have been recorded. Recorded January–April and August–December.
- Marsh Sandpiper *Tringa stagnatilis* An uncommon passage migrant and winter visitor that is most often encountered on the percolation pond in either ones or twos. Less commonly it is seen in small groups with a flock of up to five birds having been recorded. Recorded in January, February, April and July–December.
- **Wood Sandpiper** *Tringa glareola* A common winter visitor and passage migrant that can be found in all wet areas in Dhahran including the percolation pond, sewage treatment pond and wet drainage ditches. It has been recorded in all months of the year except March and June. Rarely large flocks are seen with the highest count approaching 100 birds on the percolation pond when it had very little water spring 2013.
- **Common Greenshank** *Tringa nebularia* An uncommon passage migrant and winter visitor most often seen on the percolation pond. It has been recorded in all months of the year except June.
- **Spotted Redshank** *Tringa erythropus* A vagrant to Dhahran with a single bird recorded on a wet drainage ditch 9 16 September 2014.
- **Terek Sandpiper** *Xenus cinereus* A scarce visitor to Dhahran that is generally seen on the exposed mud fringes of the percolation pond. It has been recorded March–May and in August and September.
- **Common Sandpiper** *Actitis hypoleucos* A scarce winter visitor and migrant found on the percolation pond and wet drainage ditches around Dhahran. It has been recorded in all months of the year except June.
- **Ruddy Turnstone** *Arenaria interpres* A scarce migrant that has been recorded infrequently in Dhahran in August and September on the percolation pond.
- **Sanderling** *Calidris alba* A vagrant to Dhahran with two birds present 24 28 November 2013, three birds 9 August 2014 and a single bird 23 August 2014.
- Little Stint Calidris minuta A common migrant and winter visitor seen in small flocks on the muddy fringes of the percolation pond and the sewage treatment pond where high counts have exceeded twenty birds and either singly or in groups of two or three on the wet ditches around Dhahran. Has been recorded in all months with the exception of January, February and June.

- **Dunlin** *Calidris alpina* An uncommon migrant and winter visitor found on the muddy fringes of the percolation pond and sewage treatment pond where numbers rarely exceed ten birds. Recorded in March and April and September–December.
- **Curlew Sandpiper** *Calidris ferruginea* A scarce migrant found in very small numbers of less than ten birds on the percolation pond. It has been recorded in March and April and August–November.
- **Temminck's Stint** *Calidris temminckii* An uncommon migrant and winter visitor seen in small numbers on the muddy fringes of the percolation pond and sewage treatment pond and on wet drainage ditches. Recorded in all months except February, June and July. Generally seen singly.
- **Long-toed Stint** *Calidris subminuta* A vagrant to Dhahran that has only been recorded once 4 October 2011 at the edge of the percolation pond.
- **Ruff** *Calidris pugnax* An uncommon migrant and winter visitor seen in small flocks on the percolation and sewage treatment ponds as well as wet areas of the spray fields. It has been recorded in all months of the year except February and June.
- **Cream-colored Courser** *Cursorius cursor* A true desert bird that is a scarce visitor to Dhahran. Seen on the desert fringes of spray fields and on grass verges adjacent to desert areas. Although a breeding resident in the Eastern province, it has only been recorded in Dhahran May–August.
- **Collared Pratincole** *Glareola pratincola* An uncommon migrant that is generally found on the wet spray fields close to the percolation pond. It has been recorded in both the spring migration period March–May and in the autumn in August and September. Generally more common in spring than autumn.
- **Black-winged Pratincole** *Glareola nordmanni* A vagrant to Dhahran with two birds present on the wet spray fields 23–26 April 2013 with one staying until 25 April 2013.
- Common Black-headed Gull *Chroicocephalus ridibundus* Common winter visitor December–March with occasional birds seen until June. Normally seen on the percolation pond and waste treatment pond where they are normally on the water but can also be seen standing on the water's edge. Normally occur in small numbers but can sometimes be seen in totals of over ten.
- **Great Black-headed Gull** *Ichthyaetus ichthyaetus* Rare visitor to the percolation pond with birds seen in February and March. Most records refer to single adults in summer plumage although occasionally younger birds occur.
- **Caspian Gull** *Larus cachinnans* Uncommon winter visitor October–March. Birds normally seen flying over in the late evening when going to roost often dropping down onto the percolation pond and waste treatment pond to wash. Normally occur in small numbers of less than five birds.
- **Armenian Gull** *Larus armenicus* A vagrant. One record of an adult on the percolation pond 4 February 2011.
- Heuglin's Gull Larus (fuscus/heuglini) heuglini Uncommon winter visitor September—March. Birds normally seen flying over in the late evening when going to roost often dropping down onto the percolation pond and waste treatment pond to wash. Occasionally birds spend the day on the percolation pond. Normally occur in small numbers but can sometimes be seen in totals of over ten.
- **Steppe Gull** *Larus* (*fuscus/heuglini*) *barabensis* Common winter visitor September–March. Birds normally seen flying over in the late evening when going to roost

- often dropping down onto the percolation pond and waste treatment pond to wash. Occasionally birds spend the day on the percolation pond. Often occurs in large numbers of fifty plus birds and is the commonest large white-headed gull.
- **Gull-billed Tern** *Gelochelidon nilotica* Uncommon with bird seen all months April–December. Most common in September with birds normally seen singly or in pairs on the percolation pond.
- **Little Tern** *Sternula albifrons* Uncommon passage migrant and summer visitor with most birds seen September–October and again March–April. Occasional birds seen in mid summer May–August but birds are commoner in the autumn passage period.
- **Saunders's Tern** *Sternula saundersi* Vagrant. One record of one bird. An adult summer plumaged bird that showed all the features of this species was on the percolation pond 14 July 2014. Birds are common on the coast nearby but rarely venture inland.
- **Common Tern** *Sterna hirundo* Vagrant. One record of one bird. An adult summer plumaged bird percolation pond 7 July 2013.
- Whiskered Tern *Chlidonias hybrid* Vagrant. One record of one bird. An adult summer plumaged bird percolation pond 11 July 2014. Birds are common during passage periods on the coast but are surprisingly rare in Dhahran.
- White-winged Tern *Chlidonias leucopterus* Mainly a passage migrant but has been seen in every month February–December excepting July. It is the commonest tern and is sometimes seen in small groups of up to five birds mainly on the percolation pond.
- **Rock Dove** *Columba livia* An uncommon breeding resident mainly seen in rocky desert areas and jebals.
- **European Turtle Dove** *Streptopelia turtur* An uncommon migrant that breeds. Mainly found in the trees surrounding the percolation pond. It has been recorded April-October
- **Eurasian Collared-Dove** *Streptopelia decaocto* An abundant resident breeder that can be seen anywhere within the Dhahran area.
- **Laughing Dove** *Spilopelia senegalensis* An abundant resident breeder that can be seen anywhere within the Dhahran area.
- **Namaqua Dove** *Oena capensis* An uncommon resident breeder that is generally seen in the dry desert areas of the camp or perched in the trees around the percolation pond.
- **Common Cuckoo** *Cuculus canorus* A scarce migrant that is generally recorded in trees close to the percolation pond or may be seen flying from perch to perch. Recorded March–May and September–October.
- **Eurasian Scops Owl** *Otus scops* A scarce migrant that is most often seen concealed in garden trees and for this reason is probably overlooked. Recent records are 26 August 2015 and 17 November 2016.
- **European Nightjar** *Caprimulgus europaeus* A scarce migrant that is most likely to be seen in the spring. Generally found under the trees close to the percolation pond but has also been seen on the berm along the wet spray fields. Recorded in April and May and September–November.
- **Egyptian Nightjar** *Caprimulgus aegyptius* A scarce migrant and winter visitor that is generally seen when flushed in the desert areas of the camp, but can also be seen close to housing in the community in the scrubby desert areas. Recorded January–April and September–December.

- **Common Swift** *Apus apus* A scarce migrant that may be overlooked when associated with the more common Pallid Swift. Generally seen in flight over the percolation pond. Recorded February–June and in August and September.
- **Pallid Swift** *Apus pallidus* A common sight over the percolation pond in January and February and seen in smaller numbers at other times of the year. It has been recorded in all months of the year except July and August.
- **European Roller** *Coracias garrulous* An uncommon migrant seen perched in trees near the percolation pond and around the Dhahran community. Recorded in April and May and July–October with the highest count being five birds together.
- **White-throated Kingfisher** *Halcyon smyrnensis* A scarce winter visitor that has been seen on the percolation pond and the small pond on the golf course. Records appear to have become more common in recent years. The most recent records were 13–18 February 2015 and 20 January 2017.
- **Common Kingfisher** *Alcedo atthis* A scarce winter visitor and migrant that is usually found on the percolation pond. It has been recorded January–March and August–December.
- **Pied Kingfisher** *Ceryle rudis* A vagrant to Dhahran seen on the percolation pond and the small pond on the golf course. Records from 22 October 2009 when a solitary bird was present for at least five days and a single bird on the golf course pond 13 18 February 2015.
- **Blue-cheeked Bee-eater** *Merops persicus* An uncommon migrant frequently seen perched on the ground in the desert areas around the percolation pond. It is also seen in flight over the percolation pond hawking for insects such as dragonflies. Recorded April–November.
- **European Bee-eater** *Merops apiaster* A common migrant that is often seen flying in medium size flocks over the community and is also seen around the percolation pond. Recorded March–May and July–October.
- **Eurasian Hoopoe** *Upupa epops* A resident breeder whose numbers are augmented by migrant birds in spring and autumn. It is most obvious probing for food on grassy areas but migrant birds can also be seen on the dry fringes of the spray field adjacent to the percolation pond.
- **Eurasian Wryneck** *Jynx torquilla* A scarce migrant most often seen in the trees surrounding the percolation pond. Recorded March–May and August–October.
- **Lesser Kestrel** *Falco naumanni* A scarce migrant that is occasionally seen hovering over the spray fields near the percolation pond. It has only been recorded in Dhahran in the spring March–May.
- **Common Kestrel** *Falco tinnunculus* An uncommon visitor to Dhahran that may be resident. It can be seen in most habitats but most commonly seen over the spray fields. Recorded January–April, June and September–December.
- **Eurasian Hobby** *Falco subbuteo* A rare migrant that has been seen on the spray fields adjacent to the percolation pond. The most recent records are from 15 September 2011 and 11 May 2013.
- **Peregrine Falcon** *Falco peregrinus* Vagrant. A single bird seen chasing Rose-ringed Parakeets 25 February 2013.

- **Alexandrine Parakeet** *Psittacula eupatria* A scarce resident that is occasionally seen in association with the smaller Rose-ringed Parakeet. Normally seen over the scrubby desert areas and edges of the community housing.
- **Rose-ringed Parakeet** *Psittacula krameri* Resident breeder that is frequently seen flying noisily, in small flocks, between places in the camp. It can also be seen perched in the tops of trees near the percolation pond but is rarely seen outside the residential community. The population has developed from introductions and escaped cage birds.
- **Red-backed Shrike** *Lanius collurio* A common migrant with the highest numbers recorded in late April and May, though it has also been recorded March, June and July. Smaller numbers also pass through in the autumn when it has been recorded September–November. Generally seen perched near the top of bushes in the wet spray fields or nearby trees.
- **Daurian Shrike** *Lanius isabellinus* A common winter visitor and migrant found in trees and bushes around the percolation pond and wet spray fields. Recorded January–May and September–December.
- **Turkestan Shrike** *Lanius phoenicuriodes* A common migrant and winter visitor found in trees around the percolation pond and wet spray fields. Present January–May and August–December.
- **Long-tailed Shrike** *Lanius schach* A vagrant to Dhahran with a single record (also the only record for Saudi Arabia) of a bird found on the Dhahran golf course that was present 14 February–4 April 2015.
- **Lesser Grey Shrike** *Lanius minor* A common migrant with the highest numbers passing through Dhahran April–June, with fewer birds seen August–October. Most commonly seen perched in bushes in and around the wet spray fields.
- **Mauryan Grey Shrike** *Lanius lahtora* A scarce migrant and winter visitor that is found around the percolation pond and wet spray fields and scrub areas of desert. It has been recorded in March, April and August–November.
- **Arabian Grey Shrike** *Lanius aucheri* A scarce migrant and winter visitor that is found around the percolation pond and wet spray fields and scrub areas of desert. It has been recorded in most months excepting April–June.
- **Woodchat Shrike** *Lanius senator* An uncommon migrant that is one of the earliest shrikes to pass through Dhahran with the first birds generally seen in and around the wet spray fields in February. It has been recorded February–May and August–October.
- **Masked Shrike** *Lanius nubicus* A scarce migrant that has been recorded March–June and in September and October. Often seen in the trees around the percolation pond and the wet spray fields. Is also found in the acacia trees that grow alongside wet drainage ditches.
- **Eurasian Golden-Oriole** *Oriolus oriolus* A scarce passage migrant through Dhahran where birds are mainly seen in the trees at the edge of the percolation pond. Birds have been seen late April–May and August–mid October.
- **House Crow** *Corvus splendens* A very common resident breeder that is now considered a pest. It is generally seen either perched or flying between perches in the residential community. Rarely seen away from the community but occasionally travels as far as the percolation pond and spray fields.
- **Brown-necked Raven** *Corvus ruficollis* Vagrant. A single bird seen flying over the spray fields 11 November 2013.

- **Hypocolius** *Hypocolius ampelinus* A regional specialty that is a scarce migrant and winter visitor to Dhahran. It has been recorded in trees near the percolation pond in April, October and November. Most recent record 15 April 2014.
- **Greater Short-toed Lark** *Calandrella brachydactyla* A scarce migrant and winter visitor found in scrubby and arid areas of Dhahran. Recorded in February and March and September and October. Small flocks of up to twenty birds occasionally occur.
- **Crested Lark** *Galerida cristata* A resident breeder that is commonly seen in rocky and scrubby desert areas and on fringes of the wet spray fields.
- **Eurasian Skylark** *Alauda arvensis* A scarce winter visitor found on the grassy fringes of wet spray fields. It has been recorded November–March.
- White-eared Bulbul *Pycnonotus leucotis* A very common resident breeder found in all habitats within the Dhahran area. It is particularly common in trees and gardens in the residential community but is often seen in the trees and scrub around the ponds and spray fields.
- **Red-vented Bulbul** *Pycnonotus cafer* An uncommon resident breeder that is increasing in numbers. It is mainly found in trees and gardens in the residential community.
- **Sand Martin** *Riparia riparia* A common migrant most commonly seen flying low over the percolation pond and nearby sprayfields. Occasionally see perched on the ground. Often in the company of other hirundines such as Barn Swallow. Recorded February—October.
- **Eurasian Barn Swallow** *Hirundo rustica* A common migrant most commonly seen hawking over the percolation pond and nearby spray fields. Often in the company of other hirundines such as Sand Martin and Red-rumped Swallow. Recorded in all months.
- **Eurasian Crag-Martin** *Ptyonoprogne rupestris* A vagrant to Dhahran that has been seen in the company of other hirundines over the percolation pond. Records of a single bird on 23 April 2008, 2 birds 25 April 2008 and 3 birds 2 May 2008. A further bird was seen 20 April 2012.
- **Common House-Martin** *Delichon urbicum* A common migrant with the largest passage during February when flocks of up to 150 birds have been seen over the percolation pond. Small numbers have also been recorded January, March, April, May and September.
- **Red-rumped Swallow** *Cecropis daurica* An uncommon migrant that is generally found flying over the percolation pond and associated spray fields. Recorded January–May and September and October.
- **Willow Warbler** *Phylloscopus trochilus* A common migrant that can be found in any area with trees or shrubs. It can be seen March–June and September–November.
- **Common Chiffchaff** *Phylloscopus collybita* A common migrant and winter visitor that can be seen in any area with trees or shrubs. It has been recorded in March, April, September and October.
- **Basra Reed-Warbler** *Acrocephalus griseldis* An endangered scarce migrant that may be under recorded. Can be found in the reedbeds surrounding the percolation pond or in other wet areas and the trees adjacent to the reedbeds on the percolation pond. It has been recorded in April, May, August and September. Most recent record 24 September 2012.

- **Great Reed-Warbler** *Acrocephalus arundinaceus* An uncommon migrant that can be found in trees and shrubs and nearby reedbeds in any of the wet areas around Dhahran including the percolation pond, spray fields and wet drainage ditches. Recorded April, May, September and October.
- **Indian (Clamorous) Reed-Warbler** *Acrocephalus* (*stentoreus*) *brunnescens* A resident breeder that can be seen and heard in any area of reeds around Dhahran. Its favoured location is the large reed beds of the percolation pond. Its numbers in Dhahran have grown significantly over recent years.
- **Moustached Warbler** *Acrocephalus melanopogon* A scarce migrant that can be seen in reed beds of the percolation and waste treatment pond, frequently at the base of the reeds. It has been recorded in February, March and November.
- **Sedge Warbler** *Acrocephalus schoenobaenus* A scarce migrant that can be found in reed beds of the percolation and waste treatment pond. It has been recorded March–May and September and October.
- **Caspian (Eurasian) Reed-Warbler** *Acrocephalus* (*scirpaceus*) *fuscus* An uncommon migrant and occasional breeder that may be resident. It can be seen and heard in the reed beds around the percolation pond. Recorded February–October.
- **Marsh Warbler** *Acrocephalus palustris* A single bird seen 29 March 2011 and another 9 May 2013 both in the same overgrown wet ditch behind the percolation pond.
- **Eastern Olivaceous Warbler** *Hippolais pallida* An uncommon migrant that has been known to nest in Dhahran. Most often seen in the trees around the percolation pond where recorded March–September.
- **Upcher's Warbler** *Hippolais languida* An uncommon migrant that is most often found in the trees and shrubs around the percolation pond and associated spray fields. Recorded March, April, October and November.
- **Common Grasshopper-Warbler** *Locustella naevia* A vagrant to Dhahran that has been seen in grassy areas close to the percolation pond. Recorded 21 March 1984, 18 September 1984 and 1 April 2012.
- **Savi's Warbler** *Locustella luscinioides* A scarce migrant that is most often heard reeling from the reed beds around the percolation pond. Recorded March, April, September and October. Most recent record was a bird singing at the percolation pond 3–16 March 2013.
- **Graceful Prinia** *Prinia gracilis* A resident breeder that is most commonly seen around the percolation pond and nearby wet spray fields but can also be seen along wet drainage ditches.
- **Eurasian Blackcap** *Sylvia atricapilla* A common migrant found in the trees around the percolation pond. Recorded April, May, September and October.
- **Garden Warbler** *Sylvia borin* A scarce migrant most recently seen in the wet spray fields close to the percolation pond. Recorded April, May and October.
- **Barred Warbler** *Sylvia nisoria* An uncommon migrant recorded April, May and October. It is most often seen in the trees and shrubs surrounding the percolation pond and the nearby sprayfields but has also been seen in the scrubby desert area.
- **Lesser Whitethroat** *Sylvia curruca* An uncommon winter visitor most often found deep in the upper parts of the trees or deep in the low shrubs around the percolation pond and spray fields. Recorded January–April and August–December.

- **Desert Whitethroat** *Sylvia minula* A rare migrant most likely to be found in the arid areas of Dhahran such as the scrubby desert area. Recorded February–April.
- **Hume's Whitethroat** *Sylvia althaea* A rare migrant most likely to seen in the low shrubs around the spray fields close to the percolation pond. Recorded in March.
- **Central Asian Lesser Whitethroat** *Sylvia* (*althaea*) *halimodendri* An uncommon migrant most likely to seen in the low shrubs around the spray fields close to the percolation pond. Recorded March.
- **Eastern Orphean Warbler** *Sylvia crassirostris* A scarce migrant found in the trees and shrubs surrounding the percolation pond and associated spray fields. Recorded March, April and September.
- **Asian Desert Warbler** *Sylvia nana* A scarce winter visitor found in the desert areas of Dhahran. It is generally seen in shrubs and plants at ground level. Has been recorded in March.
- **Common Whitethroat** *Sylvia communis* A common migrant that can be found in trees and bushes all over Dhahran. Recorded March–May and September and October.
- **Ménétriés's Warbler** *Sylvia mystacea* A scarce migrant most often seen in the low shrubs surrounding the spray fields close to the percolation pond. Recorded March and April.
- **Common Myna** *Acridotheres tristis* An abundant breeding resident that can be seen anywhere within Dhahran. The numbers of this species have exploded in Dhahran since the mid 1990s.
- **Common Starling** *Sturnus vulgaris* A scarce winter visitor recorded November–February. Generally seen flying near the percolation pond and spray fields.
- **Fieldfare** *Turdus pilaris* A vagrant to Dhahran with records 23 November–19 December 1973 (two birds) one 23 January and two 5 March 1976. More recently a single bird was recorded in the spray fields 26–27 April 2014.
- **Song Thrush** *Turdus philomelos* A common winter visitor often seen on the grassy areas around the residential complex but has also been recorded regularly in the spray fields near the percolation pond.
- **Rufous-tailed Scrub-Robin** *Cercotrichas galactotes* A migrant and casual breeder. Most often seen at ground level among the scrubby bushes around the percolation pond, spray fields and scrubby desert.
- **Spotted Flycatcher** *Muscicapa striata* A common migrant that can be found almost anywhere during the spring and autumn migrations. Recorded April–June and August–October.
- **Red-spotted Bluethroat** *Luscinia svecica* A common winter visitor most often seen or heard at ground level in the trees and scrub around the percolation pond and spray fields. Recorded January–March and September–December.
- White-spotted Bluethroat *Luscinia* (*svecica*) *cyanecula* A scarce passage migrant and winter visitor. Records February and March as well as September. Birds probably occur throughout the winter but cannot be safely identified unless a male in summer plumage is seen.
- **Thrush Nightingale** *Luscinia luscinia* A vagrant to Dhahran that may be overlooked. Recorded in Dhahran on the track alongside the percolation pond on 21 April 2006 and subsequent records from the same area in April 2012 and 2014.

- **Eastern (Common) Nightingale** *Luscinia* (*megarhynchos*) *golzii* A rare migrant that may be overlooked. Generally seen in the thick scrub around the percolation pond and spray fields.
- White-throated Robin *Irania gutturalis* An uncommon migrant that is most frequently seen on the ground under or near the trees around the percolation pond. Recorded March–May and September–October.
- **Semi-collared Flycatcher** *Ficedula semitorquata* A scarce migrant most often seen in trees around the percolation pond or residential areas. Recorded April.
- **Red-breasted Flycatcher** *Ficedula parva* A rare migrant or winter visitor with records of a single bird in November 1974, two birds present from November 1979–mid March 1980 and one bird 30 October–1 November 1983. Most likely to be found in the trees around the percolation pond. The most recent record is a single bird 10 October 2012.
- **Central Asian Black Redstart** *Phoenicurus* (*ochruros*) *phoenicuroides* A scarce winter visitor that has been seen in the rocky areas near the percolation pond and the jebals behind the spray fields. Recorded February and March.
- **Common Redstart** *Phoenicurus phoenicurus* A common migrant that can be seen in any vegetated area. Recorded March–May and October.
- **Common Rock Thrush** *Monticola saxatilis* An uncommon migrant most often seen in the arid rocky areas near the percolation pond and scrubby desert areas. Recorded February–May and September–October.
- **Western Blue Rock Thrush** *Monticola solitarius* A scarce migrant most often seen in the arid rocky areas near the percolation pond and scrubby desert areas. Recorded February, March and October.
- Whinchat Saxicola rubetra A common migrant that is most often seen perched in the top of small shrubs in the spray fields near the percolation pond. Recorded April and May.
- **European Stonechat** *Saxicola rubicola* Winter visitor that is often seen perched on the top of small shrubs in the spray fields adjacent to the percolation pond. Recorded January–April and November and December.
- **Western Siberian Stonechat** *Saxicola maurus* An uncommon winter visitor seen in the spray fields and recorded September–March.
- **Caspian Stonechat** *Saxicola maurus hemprichii* A scarce winter visitor seen in the spray fields and recorded September–March.
- **Byzantine Stonechat** *Saxicola maurus variegatus* A scarce visitor recorded in the spray fields February–March.
- **Northern Wheatear** *Oenanthe oenanthe* A common migrant most often seen in the dry fringes of the spray fields near the percolation pond and in the nearby arid scrubby desert areas. Recorded February–May and September and October.
- **Isabelline Wheatear** *Oenanthe isabellina* A common winter visitor and migrant most often seen in the arid areas and scrubby desert. Recorded January–May and August–December.
- **Desert Wheatear** *Oenanthe deserti* A scarce winter visitor found in the arid areas and scrubby desert. Recorded January–April and October–December.
- **Eastern Black-eared Wheatear** *Oenanthe (hispanica) melanoleuca* A scarce migrant generally seen in or near the spray fields adjacent to the percolation pond. Recorded in April, May and September.

- **Pied Wheatear** *Oenanthe pleschanka* A common migrant found in the spray fields and arid areas around the percolation pond and scrubby desert. Recorded February–May and October and November.
- Finsch's Wheatear Oenanthe finschii A single bird seen 7 March 2012 was the only record.
- **Eastern Morning Wheatear** *Oenanthe lugens* A scarce passage migrant and winter visitor seen in the scrubby desert area in October, December and January.
- **Red-tailed Wheatear** *Oenanthe chrysopygia* A scarce winter visitor seen in the arid rocky areas near the percolation pond. Recorded January–March and November and December. The most recent records were 6 January–18 February 2013 and 29 November–7 December 2013.
- **House Sparrow** *Passer domesticus* A resident breeder that can be found in all areas of Dhahran, frequently in large flocks in the spray fields in winter.
- **Spanish Sparrow** *Passer hispaniolensis* A rare winter visitor that may be found by carefully searching flocks of House Sparrows. Recorded in December and May.
- **Pale Rockfinch** *Carpospiza brachydactyla* A scarce migrant that has been recorded in rocky areas and jebals. Small flocks were seen in March and April 2011 including a large flock of 80 birds on 31 March 2011 near the jebals.
- **Yellow Wagtail** *Motacilla flava* A common passage migrant to the spray fields and surrounding scrubby desert. Often seen in large mixed subspecies flocks.
- **Blue-headed Wagtail** *Motacilla* (*flava*) *flava* An uncommon passage migrant seen February–April. Birds prefer the scrubby desert areas and dry areas at the edge of the spray fields. Normally seen singly in association with other Yellow Wagtails.
- Sykes's Wagtail Motacilla (flava) beema A common passage migrant seen February—April. Birds prefer the scrubby desert areas and dry areas at the edge of the spray fields. Normally seen in flocks of ten plus birds.
- **Grey-headed Wagtail** *Motacilla* (*flava*) *thunbergi* An uncommon passage migrant seen February–April. Birds prefer the scrubby desert areas and dry areas at the edge of the spray fields. Normally seen singly in association with other Yellow Wagtails.
- **Black-headed Wagtail** *Motacilla* (*flava*) *feldegg* A common passage migrant seen January–March. Birds can occur almost anywhere but prefer the scrubby desert areas and dry areas at the edge of the spray fields. Flocks of up to fifty birds have been seen together.
- **Eastern Black-headed Wagtail** *Motacilla* (*flava*) 'melanogrisea' An uncommon passage migrant seen January–March. Birds prefer the scrubby desert areas and dry areas at the edge of the spray fields. Flocks of up to ten birds have been seen together.
- Yellow-headed Wagtail *Motacilla* (*flava/tsutschensis*) *lutea* An uncommon passage migrant seen March and April mainly in the spray fields. Normally seen singly.
- **Citrine Wagtail** *Motacilla citreola* A scarce winter visitor seen around the percolation pond, in the spray fields and in surrounding wet drainage ditches. Recorded August–October.
- **Grey Wagtail** *Motacilla cinerea* A scarce winter visitor that is most often seen on the wet fringes of the percolation pond but may also be seen in the surrounding wet drainage ditches. Recorded in February, March and September–November.
- White Wagtail Motacilla alba A common winter visitor generally seen in small flocks in the arid areas near the spray fields as well as in the spray fields and the muddy fringes of the percolation pond. Recorded January–April and October–December.

- **Tawny Pipit** *Anthus campestris* A common winter visitor and migrant that is generally found in the arid areas of Dhahran such as the edge of the spray fields and the scrubby desert areas. Recorded January–May and September–December.
- **Meadow Pipit** *Anthus pratensis* A scarce winter visitor that can mainly be seen in the spray fields around the percolation pond. Recorded January–March and December.
- **Tree Pipit** *Anthus trivialis* A common migrant most often seen in the trees around the percolation pond and spray fields. Recorded March–May and September, October.
- **Red-throated Pipit** *Anthus cervinus* A common migrant seen on the muddy fringes of the percolation pond and the wet areas of the nearby spray fields. Recorded March–May and October, November.
- **Caucasian Water Pipit** *Anthus* (*spinoletta*) *coutelli* A common winter visitor that is seen around the percolation pond and nearby spray fields as well as the wet drainage ditches. Recorded January–April and October–December.
- **Indian Silverbill** *Lonchura malabarica* A resident breeder that is commonly seen in areas with tall flowing grasses such as the edge of the spray fields and surrounding wet ditches.
- **Common Rosefinch** *Erythrina erythrina* A vagrant to Dhahran most recently seen in the trees around the percolation pond 14 May 2011. Single birds seen 13 October 1978, 25 August 1979, 3 October 1980, 16 September 1982 and 10 September 1984.
- **Corn Bunting** *Emberiza calandra* A scarce winter visitor generally seen perched in the wet spray fields.
- **Eastern Cinereous Bunting** *Emberiza* (*cineracea*) *semenowi* A rare migrant that has been seen in Dhahran on the ground in the arid areas near the spray fields and in areas of long grass near the old cricket field. The most recent record was a female by the edge of the spray fields 7–8 April 2013.
- **Ortolan Bunting** *Emberiza hortulana* A common migrant that is most often seen in and around the spray fields close to the percolation pond. Recorded March–May and September.
- **Black-headed Bunting** *Emberiza melanocephala* A rare migrant most commonly seen in the autumn, though a female was recorded in Dhahran 22 April 1984 and more recently a female 8–9 May 2012.

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