

THE MAIN FAUNA AND FLORA OF FARWA ISLAND, LYBIA

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Summary. Farwa island is considered as one of the biggest and most important island in Libya: it is located in the Mediterranean north western part of Libya, about 2 Km from the Abukamash coast, and it's about 150 Km western of Tripoli. It has a suitable climatic condition and unique diverse habitats of extensive tidal area, sand dunes, trees, mud flat, marshes, drying salt lakes, and beaches. The mean annual temperature is 19°C and the mean annual rainfall reaches 200 mm: these conditions provide a good habitat for many plant and animal species. The most common plant species at this area are: *Eucalyptus gomphocephala*, *Retama retam*, *Phoenix dactylifera*, *Artemisia campestris*, *Thymelaea hirsuta*, *Juncus maritimus*, *Helicrysum stoechas*, *Tamarix aphylla*, *Ephedra alata*, *Citrullus colocynthis*, *Ziziphus lotus*, *Lycium europaeum*. The most common mammal species seen in Farwa island are *Lepus capensis*, *Vulpes vulpes*, *Ictonyx libycus*, *Hystrix cristata*. There are many kinds of reptiles like lizards, snakes, and sea turtles. And also there are many kinds of arthropods like beetles, butterflies, moths, ants, bees, wasps, locusts, spiders and scorpions. Water birds form the most important fauna elements in Farwa island. This island is the most important area in Libya for many migratory birds, especially for the birds which are under world wide danger of extinction like *Thalasseus bengalensis*, *Ichthyaelus audouinii*, *Phalacrocorax aristotelis*, *Aythya ferina*, *Numenius tenuirostris*. There are many migratory bird species breeding at this island, the most common are *Sternula albifrons*, *Hydroprogne caspia*, *Sterna hirundo*, *Tringa tetanus*, *Larus cachinnas*, and *Charadrius alexandrinus*. Fawa Island provides many kinds of birds with proper conditions for nutrition, reproduction, sheltering and wintering, because of its different habitats and convenient climate condition.

Key Words. Biodiversity, Farwa island, fauna, flora, Libya.

INTRODUCTION

Farwa Island is the largest and most important island in Libya. It located in the Mediterranean, north western part of Libya, about 150 Km western of

Tripoli. The length of Farwa island is about 12 Km. Coordinates: between 11°15'E and 11°45'E, and 33°05'N and 33°08'N

Farwa Island has a suitable climatic condition. It situated in the Mediterranean climate zone, The mean annual temperature is 19°C and the mean annual rainfall reaches 200 mm, a characteristic feature of the climate is a great number of sunny days and northern wind dominating most of the year. Farwa island has unique diverse habitats of extensive tidal area, sand dunes, trees, mud flat, marshes, drying salt lakes, and beaches. These different conditions provide a good habitat for many plant and animal species. Farwa Island located in the Tripolitania region, this region the best documented ornithologically (Etayeb, 2002; Azafzaf et al., 2005; EGA-RAC/SPA, 2012; Isemmann et al., 2016), and other animal species (Zavattari, 1934; Hufnagl, 1972; Temple & Cuttelod, 2009; IUCN, 2013). Close Farwa Island the sea is very shallow and even small Mediterranean tides uncover some inter-tidal mud which attracts richer avifauna than the rest of the shoreline (Azafzaf et al., 2005, Isemmann et al., 2016). The aim of this study is to identify and determine the main biodiversity species in Farwa Island

This study were focused on direct observation, walking surveys, where opportunistic observations were made and secondary signs such as foot prints, tracks and scats detected and recorded by a digital camera. Additionally a trap camera were conducted to obtain data on the more secretive and nocturnal species.

RESULTS

Farwa Island is distinguished with its various environmental aspects leading to variety in the forms and kinds of wild plants and animals existing in the region, as follows:

PLANTS. The most common plant species at this area are: *Eucalyptus gomphocephala*, *Retama retam*, *Phoenix dactylifera*, *Artemisia campestris*, *Thymelaea hirsuta*, *Juncus maritimus*, *Helicrysum stoechas*, *Tamarix aphylla*, *Ephedra alata*, *Citrullus colocynthis*, *Ziziphus lotus*, *Lycium europaeum*.

INVERTEBRATES. It includes the group if Insects which are considered as the biggest group of animals in Farwa island. Coleoptera are the most widely spread insects in Farwa Island, which represent many beetles; along the sandy shoreline is present the Carabid beetle *Parallelomorphus* (Scarites) *laevigatus* (Petralia and Swehli, personal communication). Then Lepidoptera which include butterflies (Fig. 1) and moths. What comes later is Diptera



Figure 1. Old World swallowtail (*Papilio machaon*) from Farwa Island, Lybia.



Figure 2. *Chamaeleo chamaeleon* from Farwa Island, Lybia.

which include different kinds of flies, and Hymenoptera including ants, bees and wasps. The order of Orthoptera includes locusts, grass hopper and mantis. The island also hosts spiders and scorpions: two species of scorpions, *Androctonus australis* and *A. amoreuxi*, exist in most of the part of the island.

In general the group of Invertebrates needs further and wide investigations.

AMPHIBIANS. There is no any kind of amphibians seen at the moment in the island, that due to the absence of fresh water bodies.

REPTILES. Reptiles are known to be among the most successful vertebrate group in North Africa assisted by several physiological and behavioral adaptation (Schleich et al., 1996) Farwa island is rich with different kinds of reptiles where about many species of them are identified like *Chamaeleo chamaeleon* (Fig. 2), *Tarentola mauritanica*, *Stenodactylus sthenodactylus*, *Ophisops elegans*, *Chalcides delislei*, *Naja haje*, *Cerastes cerastes*.

BIRDS. Water birds form the most important fauna elements in this area (Etayeb, 2002; Azafzaf et al., 2005; EGA-RAC/SPA, 2012; Isemmann et al., 2016). Farwa Island provides many kinds of water birds with proper conditions for reproduction, nutrition, sheltering and wintering, because of its convenient climate condition and different habitats.

In this island there are different kinds of birds some of them are settling the year round like the House sparrow, the Striped bunting, *Columba livia*, the Hoopoe, Lanner falcon, the Lesser kestrel, the Long legged buzzard and the Griffon vulture.

Immigrant birds also are available which usually go to the south in autumn and to the north in spring, and usually spend winter in Farwa island or in the coastal zone in this region.

Great flamingo (*Phoenicopterus ruber*), Tern stone (*Arenaria interpres*), Curlew (*Numenius arquata*), Grey heron (*Ardea cinerea*), Little egret (*Egretta garzetta*), Mediterranean gull (*Ichthyaetus melanocephalus*), can be given as examples of important species in vest Farwa Island.

Other important species breeding at the Farwa Island are Common tern (*Sterna hirundo*), Little tern (*Sternula albifrons*), Caspian tern (*Hydroprogne caspia*), Red shank (*Tringa tetanus*), Yellow legged gull (*Larus cachinnans*), and Kentish plover (*Charadrius alexandrinus*).

MAMMALS. There are many species of mammals seen in Farwa Island including Red fox (*Vulpes vulpes*), Libyan Hare (*Lepus capensis*), Libyan striped weasel (*Ictonyx libycus*), Porcupine (*Hystrix cristata*), Algerian hedgehog

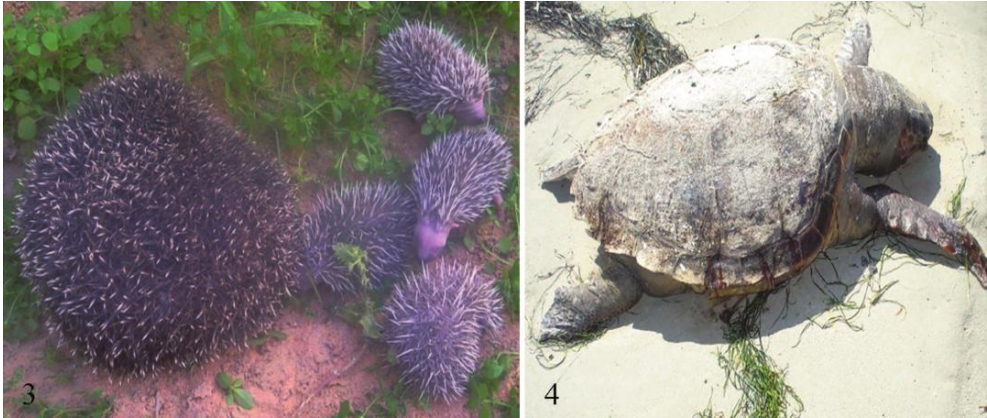


Figure 3. Algerian hedgehog (*Atelerix algirus*) from Farwa Island, Lybia.

Figure 4. Sea turtle (*Caretta caretta*) from Farwa Island, Lybia.

(*Atelerix algirus*) (Fig. 3), Kuhli bats (*Pipistrellus kuhlii*). Bsaisa (2008) reported the existence of all these species in Jafara plain in north western part of Libya, just close to Farwa Island.

MARINE ORGANISMS. The island has a worm coastal zone in which important marine organisms are available like Jelly fish, Sea anemone, Coral, Octopus, Dolphins and Loggerhead sea turtles (*Caretta caretta*) who put its eggs in the island beaches (Fig. 4) in addition to a big variety of bony and cartilaginous fishes.

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