



ALL ABOUT GREATER FLAMINGO

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Introduction

Together with bulls and horses, Greater Flamingoes (*Phoenicopterus roseus*) are part of the symbolic figures of the Camargue scenery. The Tour du Valat carries out a program to study this species.

The Greater Flamingo is listed in the Bird Directive 79/409/EEC, applicable since April 2nd, 1979; and is therefore protected in 25 countries of the European Union.

About 100,000 Greater Flamingoes have been counted in the western area of the Mediterranean. The Tour du Valat has run a ringing program since 1977, in order to monitor this population. Nowadays, a “Greater flamingo network” is set up between countries along the Mediterranean to gather data concerning the flamingo census, ringing, and ring reading (around 25,000 per year), and therefore enabling the study of the breeding area at the scale of the Mediterranean.

Since the 90's, the Tour du Valat has organised Flamingo sponsorship along with its Italian and Catalan partners. Collected funds are used to buy observation material for the new network partners, which are often badly equipped.



Greater Flamingoes in the
Camargue

Details of Flamingo species

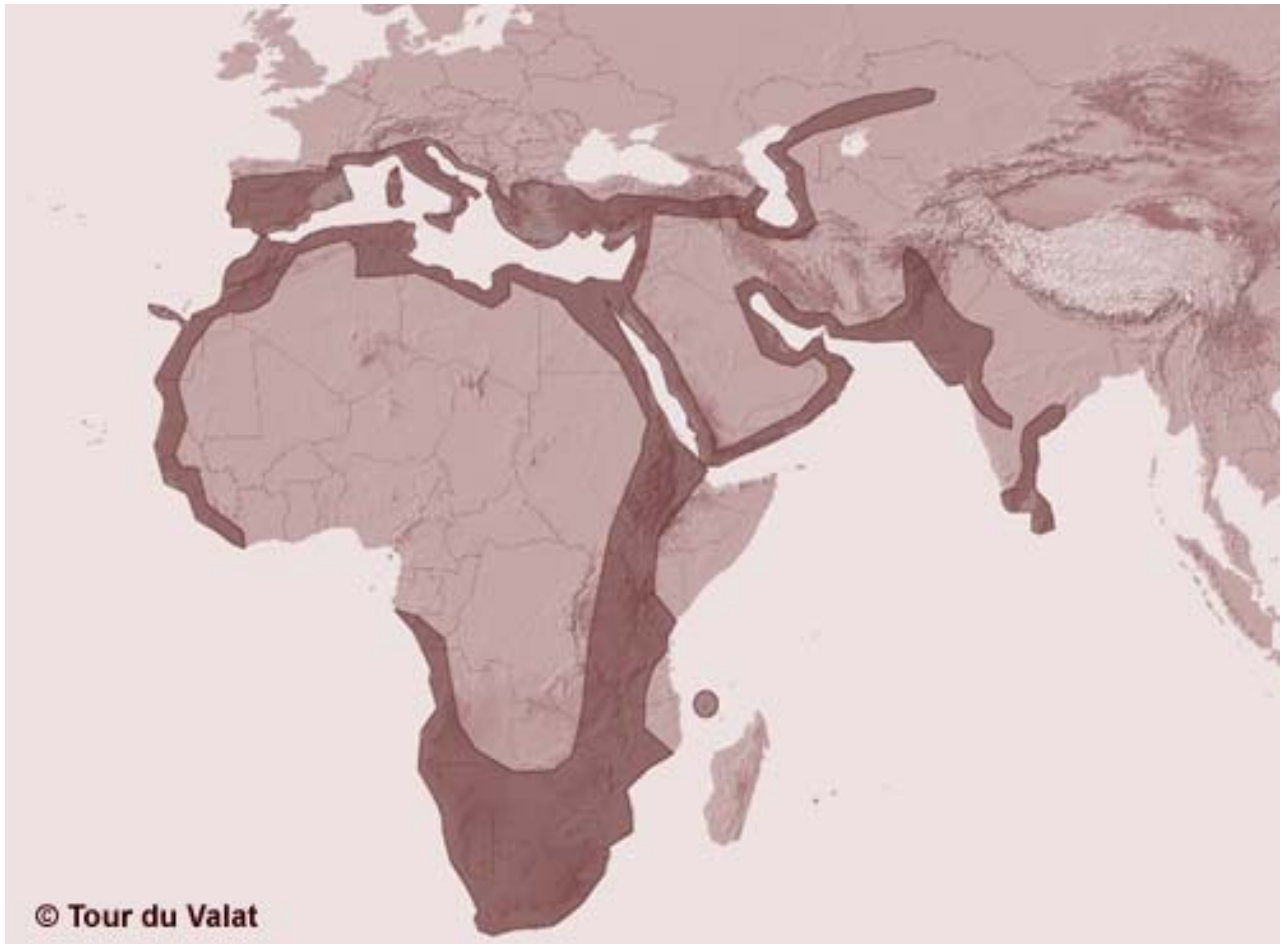
Different species of flamingoes in the world

- The Andean Flamingo (*Phoenicoparrus andinus*): approx. 100,000 individuals
- The James Flamingo (*Phoenicoparrus jamesi*): approx. 50,000 individuals
- The Chilean Flamingo (*Phoenicopterus chilensis*): approx. 500,000 individuals
- The Caribbean Flamingo (*Phoenicopterus ruber*): approx. 90,000 individuals
- The Greater Flamingo (*Phoenicopterus roseus*) – subspecies of the Caribbean Flamingo: between 500,000 and 800,000 individuals.
- The Lesser Flamingo (*Phoeniconaias minor*): approx. 3 000,000 individuals.

At first glance, they may look similar to each other, but certain features such as size, leg colour or beak allow easy identification.



All flamingoes species



Flamingoes in the world

Morphological characteristics of the flamingo

Greater Flamingoes are large birds (maximum height 187 cm; maximum overall length 207 cm; females 2 kg, males 4.5 kg) and are long-lived. Their survival varies, and depends on their individual characteristics (sex, age) as well as their environment. In 1938, the zoo of Basle in Switzerland received two adult flamingoes. One of these birds is still alive and would thus be more than 65 years today. In the wild, the flamingo ADH, ringed in 1977 on the Fangassier lagoon was observed January 16, 2004, so at 30 years-old, is the oldest wild flamingo presently known.

Flamingoes' habits and anatomy make them remarkable.

The shape of their beak and the way they feed are peculiar. Moreover, thanks to a gland enabling them to void salt through their nostrils, they are the only species which can live in salted areas. In addition, they are one of the few species to raise their chicks in a nursery. Finally, its pink colour is extremely rare in the wild.

Flamingoes synthesize the pigments necessary for their colouring from carotenoids they find in their food, by consuming unicellular algae and seeds of watery plants. These "first hand" carotenoids are oxidized by consuming aquatic invertebrates such as *Artemia salina* or insect larvae. Development of the pink pigment is linked to their plumage.

At birth, the chicks are clad in a white down and their legs and bill are pink. After several days, the down becomes grey and their legs and bill become black. They will not acquire their full pink plumage until they are 4 years old, when they also become sexually mature.



Greater Flamingo eating *Artemia salina*



A Greater Flamingo with a chick

The life of the Flamingo

Greater flamingoes are considered gregarious. They breed in colonies of hundreds to thousands of individuals. Pairs are not faithful from one year to the next, yet individuals of the same age tend to pair together (Cezilly & Johnson 1995). Nuptial parades start at the end of the autumn and pairs are formed the following summer.

Flamingoes breed and nest on islets surrounded by water, for protection from predators such as boars and foxes. Their hummock-shaped nests are made of mud, measuring 10 to 20 cm high. The clutch is incubated by both partners (for 1-4 days each) over 28-30 days.

Chicks wander outside the nest once they are a week old. After approximately 12 days, they gather in a crèche as they are abandoned by the parents during the day. Each parent relocates its chick among hundreds thanks to its unique cry. Parents feed their chick by producing a liquid from their crop, which is high in protein. Feeding lasts from 15 to 30 minutes, chicks will not forage for themselves until they fledge at 75 to 80 days.



Aerial view of the crèche



The crèche on an islet



A Greater Flamingo feeding his chick



Adults and chicks on the Fangassier islet in the Camargue

Migration

In the autumn, most flamingoes leave the Camargue and head south, so as to avoid cold weather. For the newly fledged young, only those in good body condition tend to fly south (Barbraud et al... 2003). The choice of wintering site may depend on the direction of the wind when they disperse from the crèche (Nager et al. 1996).

Numerous adult and juvenile flamingoes winter in North Africa (Morocco, Algeria, and Tunisia) and in West Africa (Mauritania, Senegal). Others head to the eastern part of the Mediterranean (Turkey, Israel, and Egypt).

Young flamingoes often remain for 2 to 3 years on or nearby their first wintering site. Afterwards, they increasingly converge on the breeding sites during the spring season.



Greater Flamingoes flight

Nomadics birds?

Very few flamingoes breed at their birth site, and adults are not faithful to a breeding area from one year to another, and therefore causing wide exchange of individuals between colonies. It seems that all flamingoes born in the western Mediterranean belong to the same population, though they are not born and don't breed at the same place. Such a population, composed of various inter-connected colonies, is usually called a meta-population.

Flamingoes in the Camargue

For years, flamingoes have nested on natural islets. The embankment of the Rhone has affected the natural evolution in of the Camargue. Natural islets have disappeared because of breakwaters built to avoid floods as well as salt water incursion.

Recently, flamingos have not been able to find the favourable conditions for nesting, resulting in less breeding. Flamingoes remain fragile and vulnerable. They tend to nest in fewer and limited sites, chosen for their quietness and climatic conditions. Therefore, Flamingoes tend to avoid nesting in Camargue. Nevertheless, since 1969 they have been coming back, settling on an islet located on the eastern side of the Fangassier lagoon. However, there is not enough room for the whole colony, and numerous flamingoes are compelled to settle on a neighbouring breakwater where they are not able to breed.



The crèche on the Fangassier lagoon in the Camargue



Aerial view of the colony

A nice story

In 1970, thanks to collaboration between the Tour du Valat; the Salins group, the Parc Naturel Regional de Camargue and WWF, the construction of an artificial islet in the Fangassier lagoon has provided a stable breeding site for the species (Johnson 1975 – 1997).

The experiment started to be successful in 1974. Two years later, after many necessary restorations, the islet has become their primary breeding site.



The construction of artificial nests

The ringing of Greater Flamingoes

Since 1977 the Tour du Valat has organised a research program and the ringing of Greater Flamingoes. 800 chicks are ringed every year. In 1984, an observation post was built so as to follow up breeding (recognize breeders, study the colony's behaviour, etc.).

Nowadays, these birds are studied all around the Mediterranean, therefore allowing a better understanding of the global population.

This experience, organised by the Tour du Valat, tries to offer high level scientific results to the efforts of conservation, which have brought back the Greater Flamingo as a symbol of the Camargue.

Yet Flamingoes remain vulnerable because of briny, salted and low waters. A threat is hanging over most wetlands on which they depend: changes, drainage, pollution, water sports, etc. The survival of Flamingoes now dependent on efficient conservation measures taken in the Camargue, Andalusia, and all other concerned Mediterranean countries.



Ringing a Greater Flamingo in Turkey



Measuring a flamingo in Turkey

Flamingoes and rice

Since years, Flamingoes sometimes feed in rice fields, causing huge damage to agricultural lands when rice is at its first growing stage. Moreover, rice fields are becoming even more attractive as natural feeding sites drain. Therefore, the Tour du Valat, along with the Parc Naturel Regional suggest mid- and long term solutions to rice growers.

For example, they place lights and frightening guns at their disposal. The efficiency of these measures has not yet been proved, and this project may take many years before it is successful.

Adopt a flamingo

Why?

If you decide to adopt a flamingo, you'll support a network of observers at the scale of the Mediterranean. By adopting a flamingo, you'll participate actively to the study and protection of flamingoes by financing equipments.

The rings reading, put on the feet of the flamingoes, is difficult and sometimes very hard due to the bad quality of our equipments. For example, a basic pair of binoculars allows to read a flamingo ring within 50 meters, which is very rare. However with a telescope, observations and readings could be efficient as far as 300 meters. If you adopt a flamingo, we will send you, by email, regular updates of the movements of your flamingo.

How much will it cost to you?

Your contribution to adopt a flamingo is 25 euros per year. It will enable us to buy new equipments.

How to do it?

To adopt a flamingo, you just have to print the form here under and return it with your payment.

Some information

Price of a telescope : 1.000 euros.

More than 100.000 flamingoes to study and observe in the west part of the Mediterranean.

About 22.000 ring readings per year (30,000 for 2007).



Form to complete and return to :

Tour du Valat

Le Sambuc

13200 Arles

Please make your cheque out to : Tour du Valat

I would like to support the activities of Tour du Valat

and I donate €

Name.....

Organisation.....

Address.....

Postcode..... Town.....

Email.....*

Phone number (optional).....

** If you give us your email address we can send you informations about the open day (February) and the Festival of Birds (May).*