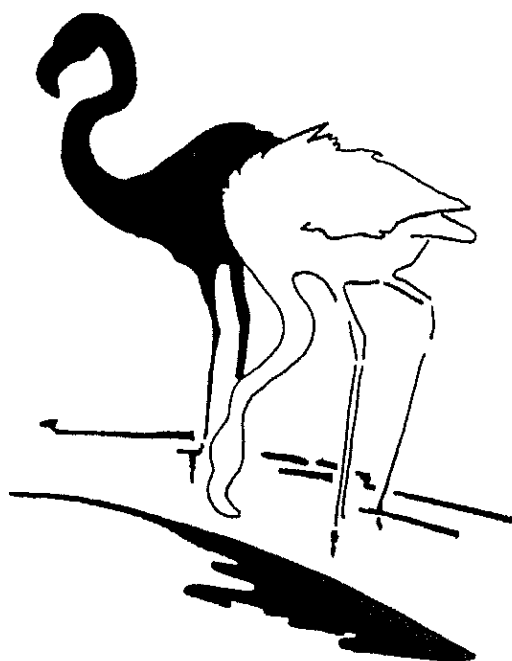


FLAMINGO SPECIALIST GROUP

Coordinator: Dr. A. R. Johnson

NEWSLETTER N° 8 **ANNUAL REPORTS 1995-1996**

March 1998



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Summary

This newsletter covers the years 1995-1996. Details of breeding by Lesser Flamingos *Phoenicopterus minor* and Greater Flamingos *Phoenicopterus ruber roseus* are given for 11 sites in 9 countries.

In the Western Mediterranean, a new colony of Greater Flamingos became established in Apulia, Italy, in 1996.

The long-term study of the Greater Flamingo continues in the Western Mediterranean with PVC ringing schemes running in France, Spain and Italy.

As part of the Wetlands International monitoring scheme, flamingos have been counted, along with other waterfowl, in an increasing number of countries.

The list of references contains 59 papers, most of which appeared in 1995-96.

Only few observations are available on the status of South-American populations for the same period (1995-1996).

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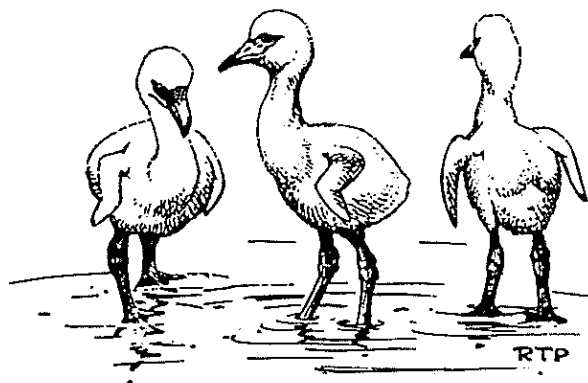
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Acknowledgements

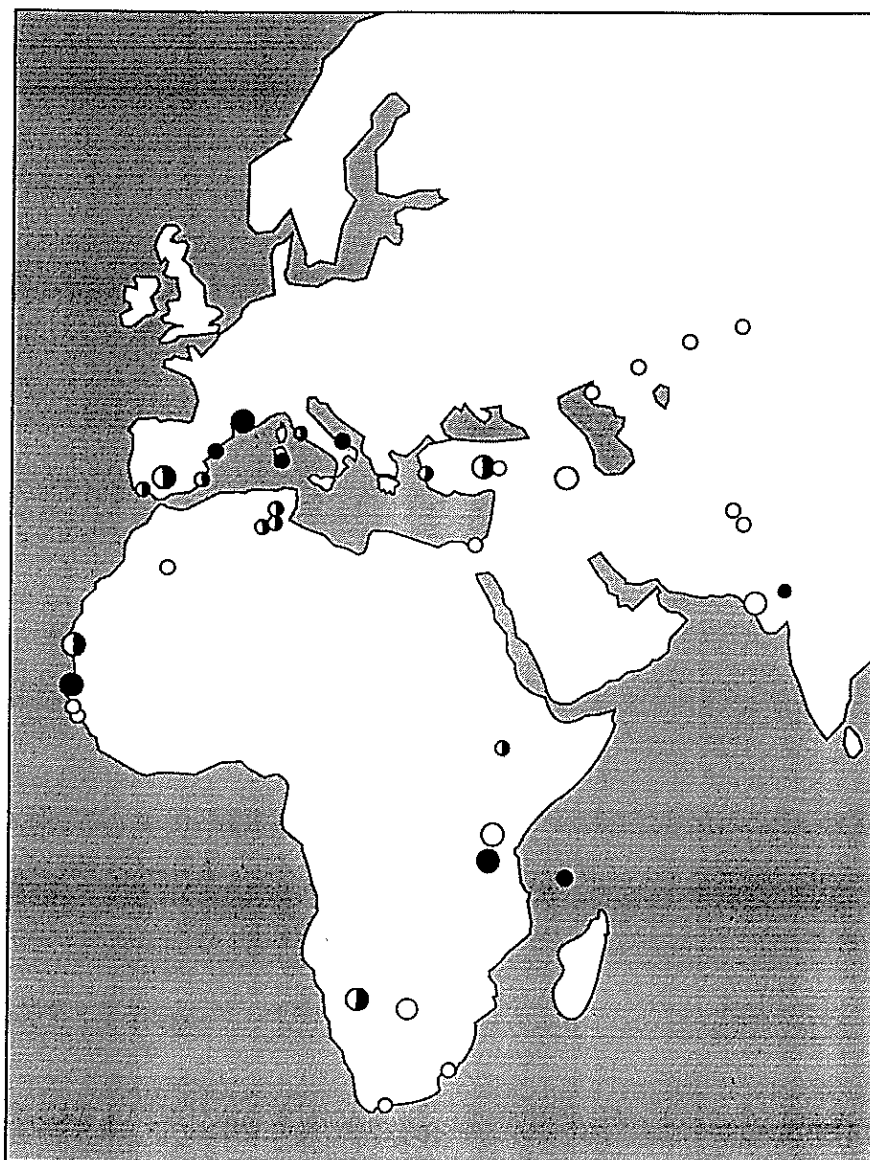
The editor is most grateful to Pierre-Yves Henry for his precious assistance with the editing of this newsletter.

Vignettes by Hilary Boys (front cover), Alan R. Johnson (pp.20, 36), Carol Ogilvie (p.27), Robert Tomy Peterson, (p.1), Michel Antoine Reglade (p.34), Dianne Wilker (pp.10, 26).

1995



BREEDING OF THE GREATER FLAMINGO IN 1995



- Known breeding sites **not reported** in 1995
- Known breeding sites **occupied** in 1995
(details in regional reports)
- ◐ Known breeding sites **with no reproduction** in 1995
(or unsuccessful attempts)

The map above shows all known sites where the Greater Flamingo has been reported breeding since 1940. The larger circles are the major sites, the smaller ones those colonised less frequently and/or by fewer birds.

News from the regions 1995

Compiled by Alan Johnson and Pierre-Yves Henry.

Old World

1 - EAST AFRICA

	Ethiopia	Kenya	Tanzania	Uganda	Total
Greater Flamingo	Jan 4,603	Jan 11,657 Jul 1,350	Jan 1,112	Jan 2	Jan 17,374 Jul 1,350
Lesser Flamingo	Jan 22,771	Jan 798,239 Jul 46,785	Jan 1,910,870	Jan 3,854 Jul 9,094	Jan 1,916,734 Jul 55,879

Table 1: January (Jan) and July (Jul) waterbird counts in East Africa (Dodman & Taylor 1995, Dodman & Taylor 1996).

January and July Waterbird counts in East Africa revealed the numbers of flamingos presented in table 1.

ETHIOPIA

During the mid-January 1995 census 4,185 Greater Flamingos and 22,296 Lesser Flamingos were counted at Lake Abijata but it is estimated from these sample counts that the totals for the whole lake would have been 19,181 Greaters and 102,190 Lessers (Dodman & Taylor 1995). Compared to previous counts in the same area Greater Flamingo numbers have decreased and Lessers have increased.

KENYA

The numbers of flamingos censused on several of the Rift Valley lakes between January and March 1995 are given in table 2.

The total of Greater Flamingos censused in

Kenya was 11,657 and 798,239 for Lessers.

In July 1995, 1,350 Greater Flamingos and 46,785 Lesser Flamingos were at the Lake Nakuru N.P. (Dodman & Taylor 1996).

TANZANIA

In January 1995 a total of 1,091,870 Lesser and 1,112 Greater Flamingos were censused in Tanzania, mainly on lakes Eyasi (700,000) and Manyara (377,369) (Dodman & Taylor 1995). On 17.07.95, P. Orsini, P. Bayle and J.C. Tempier saw thousands of juvenile Lesser Flamingos in the south of Lake Natron just reaching flying stage.

Geoffrey Howard (GEF Kenya) reported c. 1,000,000 flamingos on Lake Natron in December 1995 and about 500,000 on Lake Bogoria. Recently abandoned nests and crèches of chicks were seen at Natron.

	Bogoria	Elmenteita	Nakuru	Magadi
Greater Flamingo	6,143	1,058	36	609
Lesser Flamingo	248,499	118,160	411,152	19,614

Table 2: Mid-winter census on some of the Rift Valley lakes, in Kenya (Dodman & Taylor 1995).

UGANDA

The July census revealed a total of 9,094 Lesser Flamingos for Uganda. During this census, twenty-two Lessers were seen at the freshwater Lake Mburo. It supports the belief that they move between Western Uganda craters and Kenya via Lakes Victoria and Mburo. At the Lake Munyanyange (Kazinga Bird Sanctuary), numbers of flamingos were low (Dodman & Taylor 1996).

SEYCHELLES**Aldabra Islands**

In April research scientists on Aldabra discovered three complete Greater Flamingo nests and three partial nests in a pool where up to 19 individuals had been seen roosting. A chick was also sighted, the first recorded for Aldabra (source: Birdwatch-Seychelles Bird Group, 14, in *Oryx* (1995) 29: 232-233). See also p. 31.

2 - SOUTHERN AFRICA

	Botswana		Madagascar		Namibia		South Africa		Others		Total	
Greater Flamingo	Jan	1,205	Jan	669	Jan	14,924	Jan	24,158	Jan	31	Jan	40,987
	Jul	142	Jun	130	Apr	14,122	Jul	5,794			"Jul"	20,188
Lesser Flamingo	Jan	1,248	Jan	297	Jan	6,010	Jan	32,622	Jan	2	Jan	40,179
	Jul	21			Apr	25,078	Jul	3,903			"Jul"	29,002

Table 3: Waterbird counts in Southern Africa (Dodman & Taylor 1995, Dodman & Taylor 1996). "Others" includes Malawi, Zambia and Zimbabwe. Jan: January, Apr: April, Jun: June, Jul: July.

January and July Waterbird counts in Southern Africa revealed the numbers of flamingos presented in table 3.

BOTSWANA

The January 1995 census revealed 805 Greater Flamingos on the eleven sites in south-eastern Botswana which have been visited regularly since 1991 (Dodman & Taylor 1995). The flamingo totals given for the whole country are of 1,205 Greaters and 1,248 Lessers.

NAMIBIA

The January 1995 waterfowl census revealed totals of 30,754 Greater and more than 34,142 Lesser Flamingos in Namibia. In January, as in

April, the major sites were Sandwich Harbour mudflats for Greaters and Walvis Bay for Lessers (table 4) (from Dodman & Taylor 1996, corrected by Simmons, *in litt.*).

A few thousands of Greater Flamingos attempted breeding at Etosha in February but were unsuccessful due to little rain and receding water (Simmons, *in litt.*).

SOUTH AFRICA

The January 1995 waterfowl census (Dodman & Taylor 1995) revealed totals of over 24,000 Greater and 32,000 Lesser Flamingos in South Africa.

		January	April
Sandwich Harbour mudflats	Greater Flamingo	10,570	6,785
	Lesser Flamingo	28,132	24,055
Walvis Bay	Greater Flamingo	15,830	7,267
	Lesser Flamingo	28,132	24,055

Table 4: January and April census of the two main places for Flamingos in Namibia (from Dodman & Taylor 1996, corrected by Simmons, *in litt.*).

3 - WEST AFRICA

Mid-January Greater Flamingos census = 28,581.

Mid-January Lesser Flamingos census = 11,655.

(Dodman & Taylor, 1996).

SENEGAL

Because of the low water level in the Djoudj Nat. Park only 320 Greater Flamingos were observed during the mid-January 1995 waterfowl census but 2,195 birds were counted at Geumbeul (Dodman & Taylor 1995, Triplet *et al.* 1995). Lesser Flamingos were more abundant with 8,348 birds being counted in the Djoudj Nat. Park.

At Geumbeul, 467 nests were constructed in april but later abandoned (M. Smart, *in litt.*).

MAURITANIA

The mid-January waterfowl census revealed a total of 13,156 Greater Flamingos, most birds being observed at three sites near Rosso in

southern Mauritania: Diawling, Tianbrank, Bileyti (Dodman & Taylor 1995).

On 25.05.1995, 1,176 Lesser Flamingos were counted near the mouth of the Senegal river (O. Hamerlynck, P.N. Diawling) where there were 5,080 Greater Flamingos on 21.04.1995.

Greater Flamingos bred on both Grande and Petite Kiaone islands in 1995 with a total of 4,730 pairs. (Gowthorpe *et al.* 1996a; Gowthorpe *et al.* 1996b); 2,000 Lesser Flamingos were observed in the Banc d'Arguin Natural Park at the end of July 1995 (PNBA).

CAMEROON

One Greater Flamingo and 80 Lesser Flamingos were counted during the January Waterfowl census (Dodman & Taylor 1995).

NIGER

One Greater Flamingo was observed in January (Dodman & Taylor 1995).

4 - WEST MEDITERRANEAN

SPAIN

Ebro delta: For the third year in succession flamingos bred successfully in the salinas at Punta de la Banya in the Ebro delta. Laying began at the end of March/early April and continued through into May (some birds still incubating eggs in mid-June). The number of breeding pairs is not known exactly but it was around 1,500 with 1,294 chicks counted on aerial photographs once all birds were united in the nursery (A.Martinez i Vilalta, Parc Natural delta de l'Ebre).

Flamingos began spring feeding in ricefields of the delta on a small scale in 1993. The situation worsened in 1994 and 1995 when farmers accused the birds of damage estimated at around 1 million pesetas. Scaring methods (rockets) were employed by technicians in the evenings during the problem period which lasts from mid-April to mid-June (Jiménez i Llobera *et al.* 1996).

Fuente de Piedra (inf. M. Rendón Martos, A.M.A.): En enero de 1995, el centro de la reserva natural de la laguna de Fuente de Piedra

(Malaga) ha tenido un homenaje al señor Dr Antonio Valverde quien encuentro en 1963 por la primera vez una colonia de cria del Flamenco rosa en este lugar. Este año (1995), los flamencos no han criado en la reserva por falta de agua siguiente un invierno muy seco.

Editor's translation: A commemorative mosaic of tiles depicting a sketch by Dr. Antonio Valverde of the discovery of breeding flamingos (in 1963) at this lagoon was unveiled in January 1995 in Dr. Valverde's presence. In view of this it was a little disappointing that no flamingos bred at the reserve in 1995 because of low water levels due to low winter rainfall (info. M^r Rendón Martos).

In the **Balearic Islands**, local maximums of flamingos were reached in autumn in Mallorca (25 on 26.09) and in winter in Ibiza (170 on 17.11) (Rebassa *et al.* 1996).

PORTUGAL

The January 1995 waterfowl census, organised by CEMPA, revealed a total of 2,915 Greater Flamingos on three wetlands (Tejo and Sado

Estuaries, Castro Marim) (Costa & Rufino 1996).

FRANCE (inf. A. R. Johnson, Tour du Valat)
The Wetlands International mid-January 1995 waterfowl census covering all the wetlands along the Mediterranean coast revealed a wintering population of 25,000 Greater Flamingos (Fig. 2, p. 16), counts by Tour du Valat, CEEP, A. Tamisier, GRIVE, LPO Aude, GOR. In May, 55,700 birds were censused in the same region (Fig. 3, p.16).

Breeding took place again at the Etang du Fangassier where the species has nested every year since the early 1970s. About 13,000 pairs of flamingos attempted breeding, the first clutches being laid on April 9. Because of heavy rains at the end of April many eggs which were laid in depressions between the nest-mounds were lost. Many nests, and the depressions, were occupied by two successive pairs and at the end of the season 7,800 chicks took wing; 870 of these were ringed on 2 August.

The colony was under observation throughout the breeding season and 747 PVC Camargue-ringed birds of 15 age classes (4-18 years) were identified breeding. In addition, 24 birds ringed as chicks at Fuente de Piedra (Malaga, Spain) also nested.

The CSME, owners of the Etang du Fangassier, are to be thanked for restoring the eroded island in August 1995.

ITALY (inf. N.Baccetti, INFS, Bologna).

The mid-January 1995 waterfowl census revealed a total of 10,808 flamingos in Italy (incl. Sardinia) on 22 wetlands (INFS / IWC data bank).

In the salinas at Margherita di Savoia, **Apulia**, S.E. Italy, a colony of flamingos was observed on 28-29 August. There were 130-135 birds, 11 of which were at nests, two of them containing an egg. Many birds were frantically displaying in spite of the late date. Nest-building did not begin until June 4 and on 3-4 August there were still only 4 nests. The colony was abandoned in early September (Albanese *et al.* 1997; Bricchetti *et al.* 1996). At Orbetello (**Tuscany**) where a very small colony of Greater Flamingos was established in 1994 (26 chicks being raised, cf. Dall'Antonia *et al.* 1996), 45 nests were built in spring 1995 but, seemingly because of the low water level and disturbance from dredging, no breeding occurred. Of the 26 flamingo chicks ringed at Orbetello in August 1994, 18 were observed during 1995. Two birds were seen in the south of France, three in Sardinia and one in Tunisia.

The results of twice-monthly counts in the

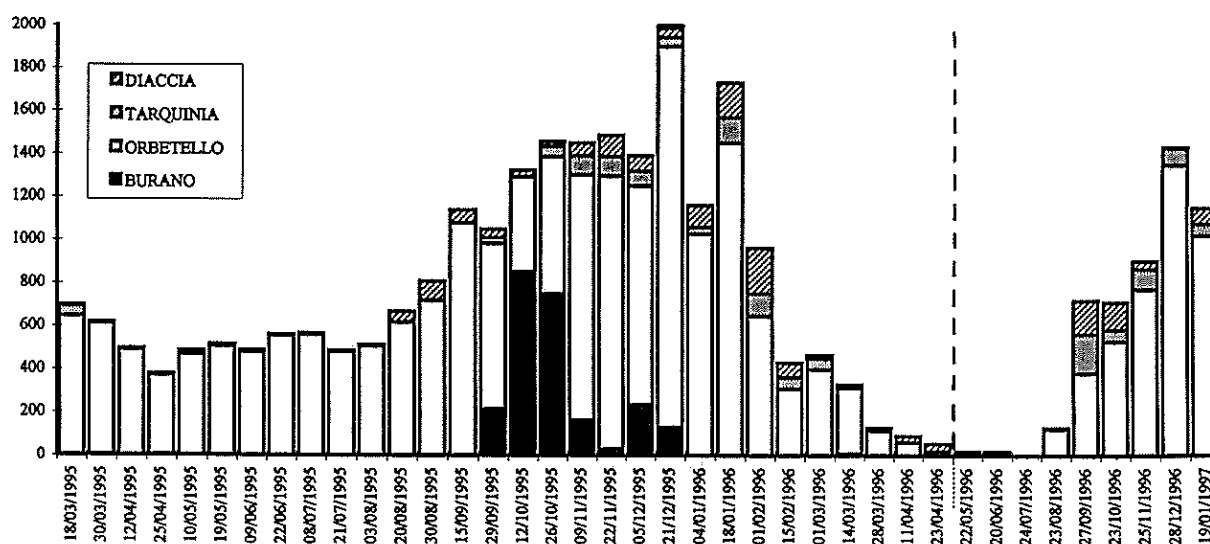


Figure 1: Bi-monthly census of Greater Flamingos in the Maremma region, Italy (Scutellà, *in litt.*). Dotted line indicates the end of twice-monthly monitoring.

Maremma region, Tuscany, (18.03.1995-19.01.1997) are given in the figure 1.

In Sardinia flamingos bred again in 1995 at Molentargius Lagoon on the edge of the city of Cagliari. Members of the Association for the Molentargius Park (A.P.M.) reported laying from 2 April through to the end of May. The whole colony was established this year on the site used as an annex colony in 1994, in the Quartu Sant Elena district. Between 700-900 pairs bred (Brichetti *et al.* 1996) and 635-685 chicks were raised. At least 33 birds ringed in the Camargue and 2 ringed at Fuente de Piedra are known to have attempted breeding at Molentargius in 1995 (inf. A. Atzeni).

MOROCCO

During mid-January, 1,074 flamingos were censused at the Sebkhia Bou Areg and 359 at the Merja Zerga (Schollaert *et al.* 1995).

ALGERIA

During the mid-winter count of January 1995 only 28 flamingos were observed. Unfortunately, more than 60% of the more important wetlands, including those widely used by flamingos, could not be visited (inf. Djahida Boukhefa, Ministère de l'Agriculture, Alger).

Locality	Date	Numbers
Halk El Menzel	10/01	1,275
Monastir salt ponds	10/01	508
Thyna salt ponds	11/01	200
Blidette Oasis	12/01	2
Sebkhia Kelbia	13/01	1,500
Ichkeul Lake	14/01	34
Djerba wetland	17/01	175
Sebkhia El Melah	17/01	135
Bahiret El Bibane	17/01	870
Jerba harbour	18/01	490
Boughrara Golf	18/01	1,460
Gourine (Mednine)	18/01	205
Sebkhia of Sejoumi	19/01	1,150
Rades salt ponds	29/01	2,450
Tunis Lake	29/01	370
Total	January	10,824

Table 5: January census in Tunisia (F.Maamouri, T. Rigaux, A. Hichem, Groupe Tunisien d'Ornithologie).

TUNISIA

The mid-January 1995 waterfowl census revealed a total of 10,824 Greater Flamingos (table 5) wintering on 15 wetlands in Tunisia. Some of the larger playas (the southern chotts, El Djem, Sidi el Hani) were not visited but it was a dry year.

5 - EAST MEDITERRANEAN

ALBANIA

The IWRB mid-winter waterfowl census revealed a total of 271 Greater Flamingos on the coast, at the Karavasta Lagoon and in the Salines at Narta (inf. T. Bino, Y. Kayser). Smaller groups of flamingos were reported from Karavasta and Narta in July-August 1995 (T. Bino, G. Jorgo). In Macedonia, 98 flamingos were seen at Lake Megali Prespa, altitude c.850 m., on 9.9.1995 (T. Bino).

GREECE

The mid-winter waterfowl census revealed a total of 6,349 flamingos at 17 sites (Handrinos, *in litt.*).

In the northern Aegean Sea, large numbers of flamingos were recently discovered on the island of Limnos, where the species had been sighted regularly since 1985.

They occur on two temporary wetlands, the saline Aliky Lagoon (600 ha) and the freshwater Chortarou Lake (c.250 ha). In early February 1995, there were 950 birds, this number increasing to 1,150 in late March, with up to 200 still present just prior to the latter site drying out in August (inf. C. Papaconstantinou, Hellenic Ornithological Society; G.I. Handrinos).

CYPRUS

From 3,000-7,142 birds at Larnaca Salt Lake and from 2,500-5,500 at Akrotiri Salt Lake in January 1995 (COS (1957) Ann.Rep., 1996). Smaller numbers on other wetlands and at other times of the year. In autumn, 500 at LSL on 11 Nov. but only 50 by 28 Nov. At ASL 700 on 8 Nov. increasing to 6,000 by 24 Nov.

These two main salt lakes were visited in

February 1995 when there were up to 1500 birds at Akrotiri and 6000 at Larnaca. Because of deep water only c.1000 birds could be checked for rings, none being seen (A. R. Johnson).

TURKEY

At Camalti Tuzlasi, about 1450 pairs of Flamingos attempted breeding (inf. M. Siki) but abandoned the nests at the end of May (Eken 1997).

6 - ASIA

UNITED ARAB EMIRATES

For results of mid-winter counts in the Dubai Creek, see Fig. 4 & 5 (p. 17-18).

INDIA

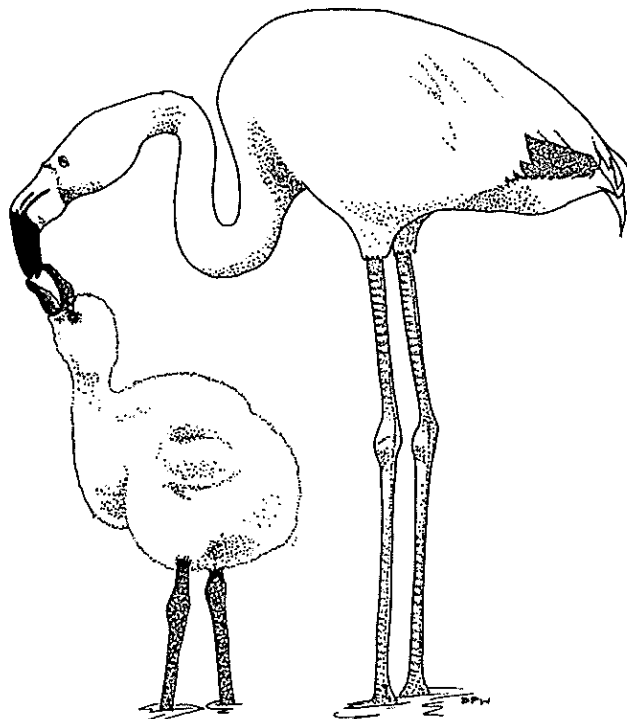
During the 1995-1996 season both Lesser and Greater Flamingos are reported (inf. S. N. Varu, S. Kumar) to have bred at Sambhar Lake, Rajasthan.

New World

Caribbean

BRITISH VIRGIN ISLANDS

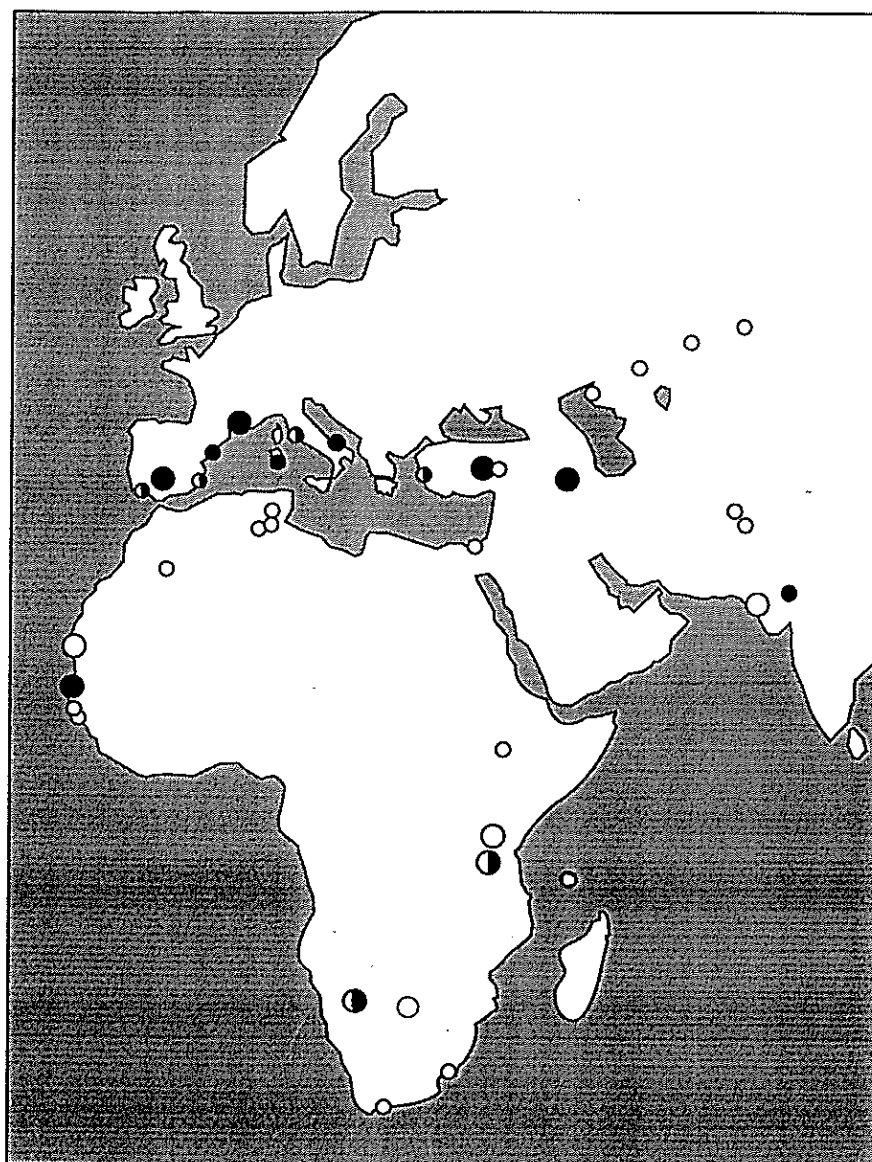
According to a short note in Wildlife Conservation (Jan./Feb. 1996, vol. 99, p.18), released Caribbean Flamingos bred on the island of Anegada in 1995. They produced 5 chicks, being the first breeding there since 40 years.



1996



BREEDING OF THE GREATER FLAMINGO IN 1996



- Known breeding sites **not reported** in 1996
- Known breeding sites **occupied** in 1996
(details in regional reports)
- ◐ Known breeding sites **with no reproduction** in 1996
(or unsuccessful attempts)

The map above shows all known sites where the Greater Flamingo has been reported breeding since 1940. The larger circles are the major sites, the smaller ones those colonised less frequently and/or by fewer birds.

News from the regions 1996

Compiled by Alan Johnson and Pierre-Yves Henry.

Old World

1 - EAST AFRICA

	Ethiopia		Kenya		Tanzania		Uganda		Total	
Greater Flamingo	Jan	3,186	Jan	16,250	Jan	318			Jan	19,754
			Jul	14					Jul	14
Lesser Flamingo	Jan	11,827	Jan	369,038	Jan	2,085	Jan	19,950	Jan	402,900
			Jul	191,152	Jul	3,290	Jul	12,300	Jul	206,742
Flamingo sp.					Jul	2,000,000			Jul	2,000,000

Table 6: January (Jan) and July (Jul) waterfowl censuses in East Africa (Dodman & Taylor 1996, Dodman *et al.* 1997).

January and July Waterbirds counts in East Africa revealed the numbers of flamingos presented in table 6.

Numbers of Lesser Flamingos were much lower than in 1995. The reduced coverage of Tanzania contributed to this but the Kenyan counts were really low.

ETHIOPIA

The African Waterfowl Census took place on 21.01.1996, the flamingo population of the Lake Abijata being estimated on the basis of sample counts: 19,000-29,800 Greater Flamingos and 73,000-88,000 Lesser Flamingos (Dodman & Taylor 1996).

KENYA

Flamingos continue the low decline they began in 1993, with 384,068 censused during the mid-January counts (c.f. tab.7). This trend is thought to be linked with the low rainfall and declining water level in the main lakes. In July, 191,166 flamingos of both species

were censused at Lake Nakuru (Dodman *et al.* 1997).

TANZANIA

During filming of a French TV programme "Okavango", a survey of Lake Natron and neighbouring lakes was made in January 1996, on the ground, by helicopter and ULM. Large numbers of Lesser Flamingos were seen on Manyara Lake (28.01) but could not be counted. About 150,000 Lessers were at Lake Embagai (31.01, 01.02), whilst at Lake Natron no breeding was witnessed although flamingos were present: c.200,000 on 29.01, but only c.30,000 on 01.02. The heavy rain which fell 27-28.01 may have caused many birds to move. About 30,000 recently built nests were seen in the south-eastern part of the lake (A.R. Johnson).

During mid-summer census, an estimated 2 million Lesser Flamingos were present at Manyara Lake. This species was also reported at Momela Lakes (Dodman *et al.*

	Bogoria	Elmenteita	Nakuru	Magadi
Greater Flamingo	516	14,560	646	
Lesser Flamingo	174,106	147,978		26,894

Table 7: Mid-January census on some of the Rift Valley lakes, in Kenya (Dodman & Taylor 1995).

1997).

UGANDA

During July waterfowl counts, Lesser Flamingos were reported from the Kyumbara Craters, where their numbers have been increasing in recent years. Earlier in the year, they attempted breeding but nests were

abandoned (for unknown reasons) (Dodman *et al.* 1997).

SEYCHELLES

Aldabra Islands

A maximum number of 26 flamingos was recorded for 1996 (M. Bergeson, c.f. p 31).

2 - SOUTHERN AFRICA

	Botswana	Mozambique	Namibia	South Africa	Others	Total
Greater Flamingo	Jan 2	Jan 969	Jan 15,091	Jan 3,412	Jan 270	Jan 19,475
	Jul 756		Apr 12,583	Jul 3,305	Jul 14	"Jul" 16,658
Lesser Flamingo	Jan	Jan 203	Jan 35,192	Jan 581	Jan 11	Jan 35,987
	Jul 133		Apr 7,643	Jul 6,215		"Jul" 13,9910
Flamingo sp.			Apr 15,000		Jan 270	Jan 270
					Jul 32	"Jul" 15,032

Table 8: Waterbird counts in Southern Africa (Dodman & Taylor 1996, Dodman *et al.* 1997). "Others" includes Madagascar, Zambia and Zimbabwe. Jan: January, Apr: April, Jul: July.

January and "July" Waterbirds counts in Southern Africa revealed the numbers of flamingos presented in table 8.

BOTSWANA

Only two Greater Flamingos were sighted in Botswana during the January waterbirds census (Dodman & Taylor 1996).

MOZAMBIQUE

About 1,000 Greater Flamingos were counted in January in the Archipelago, though higher numbers were present in preceding months (Dodman & Taylor 1996).

NAMIBIA

Mid-January counts revealed the numbers of flamingos presented in table 9.

Although more than 10,000 Greater Flamingos were seen next to Etosha area, no breeding was reported in 1996 (Simmons, *in litt.*).

ZAMBIA

One Greater Flamingo was observed at Chisamba in January (Dodman & Taylor 1996) and 14 were reported at Lochinvar in July (Dodman *et al.* 1997).

ZIMBABWE

Ten Lesser Flamingos appeared in January at Mahenye Island (Dodman & Taylor 1996).

	Fischers Pan Etosha NP	Mile 4 Saltworks	Walvis Bay	Total
Greater Flamingo	1,039	1,931	11,531	15,091
Lesser Flamingo			32,377	35,192

Table 9: Mid-January census on wetlands of potential importance for waterfowl in Namibia (Dodman & Taylor 1996).

3 - WEST AFRICA

Mid-January Greater Flamingos census = 28,581.

Mid-January Lesser Flamingos census = 11,655.

The Senegal Delta is the main place for Greater Flamingos and Lesser Flamingos totaling over 70 % of the estimated West African population (from Dodman & Taylor 1996).

SENEGAL

During the mid-January waterfowl census, 12,118 Greater Flamingos were counted, the greatest record coming from the Parc National des Oiseaux du Djoudj (PNOD) with 8,698 birds. Numbers of Lesser Flamingos are

increasing – 11,655 this year – the sightings being restricted to the PNOD (Dodman & Taylor 1996).

MAURITANIA

The mid-January waterfowl census revealed a total of 12,270 Greater Flamingos at the National Park of Diawling, near Rosso in southern Mauritania, the total for the country being 16,463 (Dodman & Taylor 1996).

April (17th) and June (1st) aerial surveys of the Banc d'Arguin National Park revealed a total of 30,800 Greater Flamingos with breeding on the Kiaone Islands: 8,000 birds on Grande Kiaone (west) and 3,000 on Kiaone East (Lamarche, Guidot and Niéri, *in litt.*).

4 - WEST MEDITERRANEAN

SPAIN

At the **Fuente de Piedra** Nature Reserve, Málaga (inf. M. Rendón Martos, A.M.A.), 16,500 pairs of flamingos bred and raised 13,352 chicks.

Both of these figures far exceed the maximum numbers previously recorded at this site. Rainfall prior to breeding was exceptionally abundant, and the lagoon remained flooded all year.

On 10 August, 1,300 of the chicks were captured and ringed.

For the fourth year in succession flamingos successfully bred in the salinas at Punta de la Banya in the **Ebro Delta**, where 5,008 birds were censused in mid-January (Inform n°7, 1996). The breeding island was occupied from the end of March on with laying mid-April, judging from the observation of the first chicks on 21 May. About 1,500 pairs attempted breeding and raised 945 young (aerial photos of 25 May and 25 July and information from A. Martinez Vilalta - Parc Natural del Delta de l'Ebre).

At **El Hondo** (Alicante) 600-700 flamingos attempted breeding in May 1996 but the nests, some of them with eggs, were later deserted (Aragoneses *in De Juana* 1996).

In the **Balearic Islands**, local maximums of flamingos were reached in autumn in

Mallorca (34 on 03.10) and in winter in Ibiza (130 on 23.12) (Rebassa *et al.* 1996).

FRANCE (inf. A. R. Johnson, Tour du Valat)

The Wetlands International mid-January 1996 waterfowl census covering all the wetlands along the Mediterranean coast revealed a total of 27,000 Greater Flamingos (Fig. 2). In May, 27,800 birds were censused in the same area (Fig. 3), counts by Tour du Valat, CEEP, A. Tamisier, GRIVE, LPO Aude, GOR. Most of them were breeding birds since 13,000 pairs nested at the Etang du Fangassier.

The breeding season was characterised by a rather late start and a short but heavy shower of rain at the end of April. The usual breeding island had been restored in Autumn 1995 and no nest mounds remained from previous years. Eggs were, therefore, laid on the flat ground and were swamped by the rain. This caused the birds move to a neighbouring island and to the dyke nearby where they bred successfully.

A total of 7,560 chicks fledged; 800 of these were ringed on 7 August.

The colony was under observation throughout the breeding season and 608 PVC Camargue-ringed birds of 16 age classes (4-19 years)

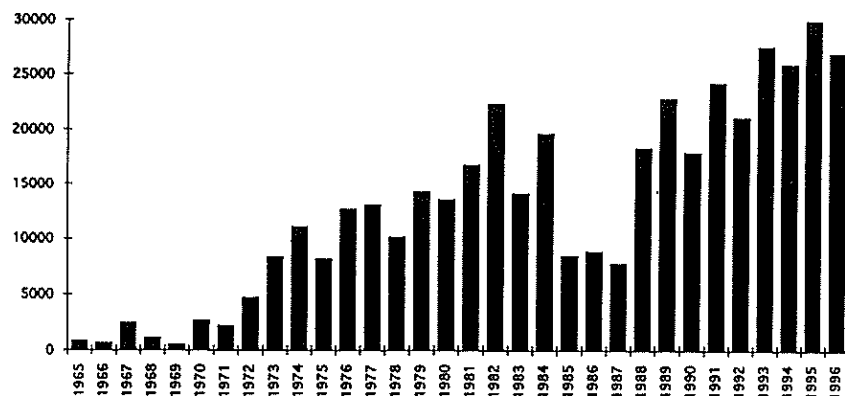


Figure 2: Mid-January census of Greater Flamingos along the Mediterranean coast of France, 1965-1996.

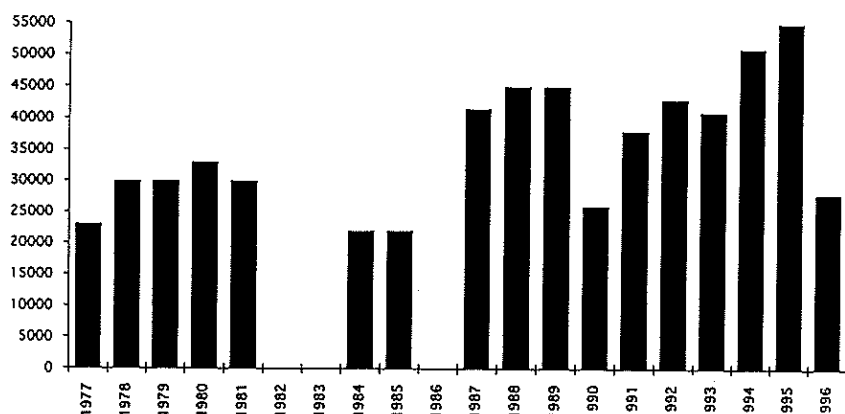


Figure 3: May-June census of Greater Flamingos along the Mediterranean coast of France, 1977-1996.

were identified breeding. In addition, 17 birds ringed as chicks at Fuente de Piedra (Málaga, Spain) also nested.

ITALY (inf. N. Baccetti, INFS Bologna).

The mid-January 1996 waterfowl census revealed a total of 7,919 flamingos in Italy (incl. 6,255 in Sardinia) on 20 wetlands (INFS / IWC data bank).

After the failed breeding attempts at the Salinas of Margherita di Savoia (Apulia) in 1995, flamingos nested there successfully this year. A summary of this remarkable event is given below, from Albanese *et al.* (1997).

In mid-January 1996, 243 flamingos were censused in the salinas. At the end of March, some birds took possession of an island, an eroded dyke. In mid-April and in August, when the colony was deserted, 107 chicks were counted in the nursery.

Most unusual was a second wave of breeding birds which colonised the island in September, at least one month after the colony had been

abandoned by all the previous breeders. On 31 October, nine adults were seen feeding chicks aged 5 days. They were observed again in November and finally took wing in December. This was the first-ever autumn breeding of the Greater Flamingo in the Mediterranean region and followed unusually heavy rains.

To summarise, laying was spread from mid-April through to the beginning of July with at least nine eggs laid at the end of September.

In Sardinia, Brichetti *et al.* (1997) report the breeding at Molentargius Lagoons (Cagliari) of 2000-2100 pairs of Flamingos

TUNISIA

In June, 15-17000 flamingos were observed at Lake Kelbia which was fully flooded at this time (H. Dlensi, *in litt.*), and the number of birds increased in August to 20-25,000, the majority being sub-adults (M. Smart, *in litt.*). It is unknown whether breeding was attempted or not in Tunisia this year.

5- EAST MEDITERRANEAN

ALBANIA

The Wetlands International mid-winter waterfowl census revealed the following numbers of Greater Flamingos: 8 on 15.01 at Karavasta and 12 on 20.01 at Narta (inf. T. Bino, C. Tourenq, Y. Kayser, S. Busuttil, J. Crozier, B.J. Dore, F. Bego).

GREECE

The mid-winter waterfowl census revealed a total of 6,237 flamingos at 21 sites (Handrinos, *in litt.*).

Large numbers of Flamingos were again observed wintering on the island of Lemnos (north of the Aegean Sea) with up to 6,000 reported in early January. Counts in early February revealed 4,270 birds with maxima of 3,800 on Alyki Lagoon and 2,400 on Chartaroun Lake (inf. C. Papaconstantinou, Hellenic Ornithological Society; G.I. Handrinos).

CYPRUS

Regular reports of up to 4,500 Greater flamingos in January 1996 at Akrotirni Salt Lake, and up to 375 at Kili Dam Pools and at the Larnaca Pools (COS (1957) Ann. Rep., 1997).

In October, there were up to 1,000 at Akrotirni and 1,350 at Larnaca until end November. Numbers were lower than normal due to lack of water.

TURKEY

Excellent coverage of Turkish wetlands. Flamingos observed on 12 / 67 sites. A total of 20,583 birds were counted between 8-30 January 1996. Relatively good winter weather. Tuz Gölü not visited ! (D.H.K.D., 1996).

Flamingos probably bred in 1996 at Lake Tuz since many juveniles were observed in July-August on the nearby lakes by G. Magnin (D.H.K.D.).

Flamingos did not breed successfully in 1996 at the Camalti Tuzlasi salt pans where they have nested successfully most years since 1980 (inf. M. Siki). Only late breeding attempts were reported. In late May, 37 pairs colonised a peninsula in Homa Lagoon, followed by a further 91 pairs in late July. The normally-used site was colonised by 250-300 pairs only in the second half of August (Eken 1997).

6- ASIA

DUBAI

An environmental protection plan which aims to encourage breeding by flamingos in Khor Dubai, U.A.E., has been drawn up by Kevin Hyland (1996). This report reviews observations of Greater Flamingos in Dubai Creek over the years (1987-1996) and explores the possibility of establishing a breeding colony.

This was the 10th year that mid-winter counts of flamingos were carried out in Dubai Creek (Fig. 4 & 5).

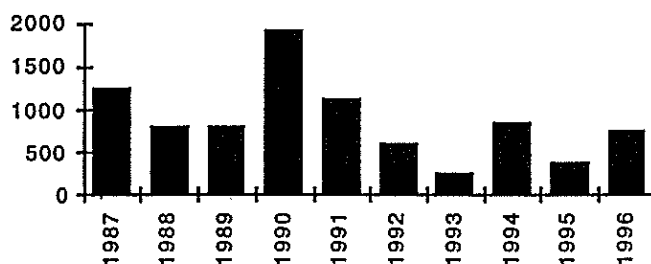


Figure 4: Numbers of Flamingos wintering at Khor Dubai, 1987-1996 (Hyland 1996).

INDIA

At Sambhar Lake (Rajasthan), where the Greater Flamingo was first recorded breeding in 1995, the species again nested in 1996, when 1,500 chicks were censused in January (Kumar 1996) and 20,000 adults of both species were present.

IRAN

In 1996, Greater Flamingos bred successfully at Uromiyeh Lake. Some of the chicks were marked with metal rings (J. Mansoori *fide* L. Tatin).

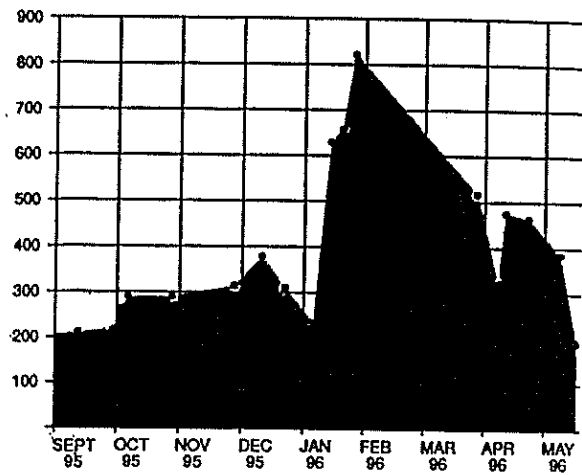
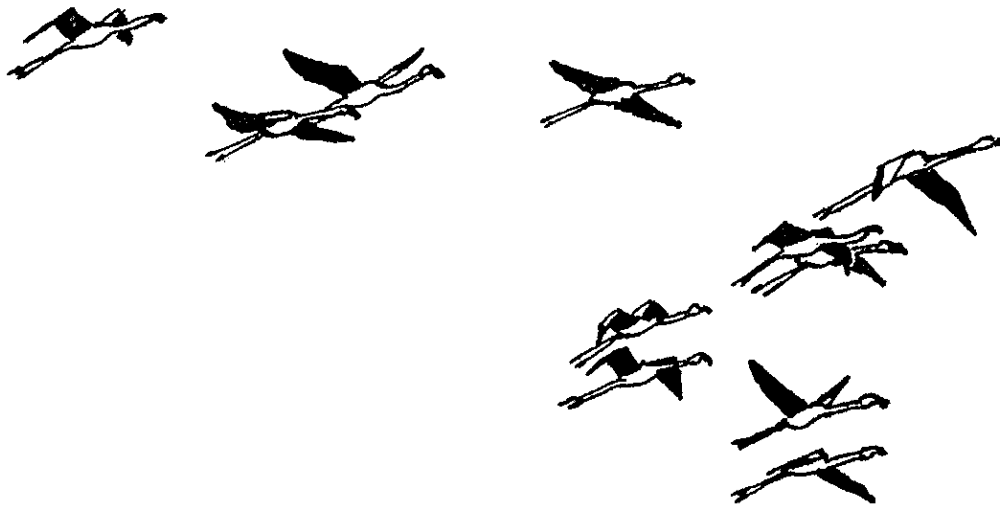


Figure 5: Numbers of Flamingos at Khor Dubai September 1995 - May 1996 (Hyland 1996).



Ringling



Flamingo ringing in 1995-1996

Old World

Phoenicopterus ruber roseus

FRANCE

Locality: Etang du Fangassier, Camargue, Bouches-du-Rhône (inf. Station Biologique, La Tour du Valat).

1995: 870 chicks were marked on the left tibia with PARIS MUSEUM stainless steel rings, and on the right tibia with yellow P.V.C. leg-bands engraved with a combination of four-letter codes commencing with CC-, CD-, CF- or CH- on 2 August 1995.

1996: 800 chicks were marked on the left tibia with PARIS MUSEUM stainless steel rings, and on the right tibia with yellow P.V.C. leg-bands engraved with a combination of four-letter codes commencing with CJ-, CL-, CN- or CP- on 7 August 1996.

SPAIN

Locality: Fuente de Piedra Reserve, Málaga (inf. M. Rendón, (A.M.A) and J. Calderón, J.J. Chans, (E.B.D)).

1996: 1300 chicks were marked on the right tibia with ICONA metal rings, and on the left tibia with orange P.V.C. leg-bands engraved with three letters or numbers, the first two separated by a black line engraved completely around the ring, on 10 August 1996.

GERMANY

Locality: Zwillbrocker Venn, Münsterland, Northern Westphalia (inf. J. Treep).

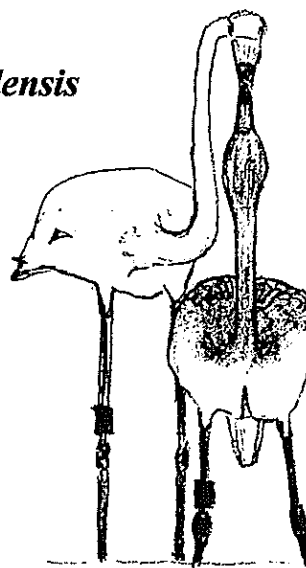
1995: One feral Greater Flamingo chick was ringed on 27.07.1995. The ring it received is red engraved with a white alpha-numerical code "ZV06".

Phoenicopterus chilensis

GERMANY

Locality: Zwillbrocker Venn, Münsterland, Northern Westphalia (inf. J. Treep).

1995: Seven feral Chilean Flamingo chicks were ringed on 27.07.1995. The rings are red engraved with white alpha-numerical codes in the series ZV01-ZV05, ZV07-ZV08.



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and

Request for sightings of ringed Flamíngos

Since 1977, almost 20,000 Greater Flamingo (*Phoenicopterus ruber roseus*) chicks have been ringed in the western Mediterranean with coded plastic leg bands. These are engraved in black with alpha-numerical codes of 3 or 4 digits. French rings (yellow or white) from the Camargue are placed on the right tibia, Spanish (orange) rings from Fuente de Piedra (Malaga) on the left tibia and Italian (blue) on

the left tibia. The black line engraved between the first two digits of the Spanish rings must be recorded to avoid confusion with other codes. These birds may be encountered in all Mediterranean countries, in Western Asia and in West Africa. All sightings will be acknowledged with a report on the bird's life history.

All recoveries should be addressed to:

Alan R. JOHNSON
Station Biologique
La Tour du Valat
Le Sambuc
13200 ARLES (France)

Anillamiento
Estación Biológica de Doñana
Pabellón del Perú
Avenida Maria Luisa s/n
41013 SEVILLA (Spain)

Nicola BACCETTI
INFS
Via Ca' Fornacetta 9
40064 OZZANO
DELL' EMILIA (Italy)

E-mails
France: alan.johnson@sansouire-tourduvalat.fr
Spain: charina@cica.es
Italy: infszumi@iperbole.bologna.it

Some noteworthy recoveries

Tehran LL 19777 ringed as chick on 2.08.1983 on Ashk Island (37°27'N 45°31'E), Lake Uromiyeh, Azerbaijan, Iran (inf. B. Behrouzi-Rad) was recovered (ring only) on 4.11.1994 at Molentargius (39°14'N 9°08'E), Cagliari, Sardinia (inf. C. Zucca). This is only the second recovery in Italy of a flamingo ringed in Iran (ed.).

Tehran LL 57208 ringed on 9.08.1994 on Dogouzlar Island (37°32'N 45°42'E), Lake Uromiyeh, Azerbaijan, Iran (inf. M. Revebeheni) was recovered on 17.01.1996 at Budhihal Lake (17°18'N 74°59'E), Sopur District Maharashtra, India (inf. S. A. Gaikwad).

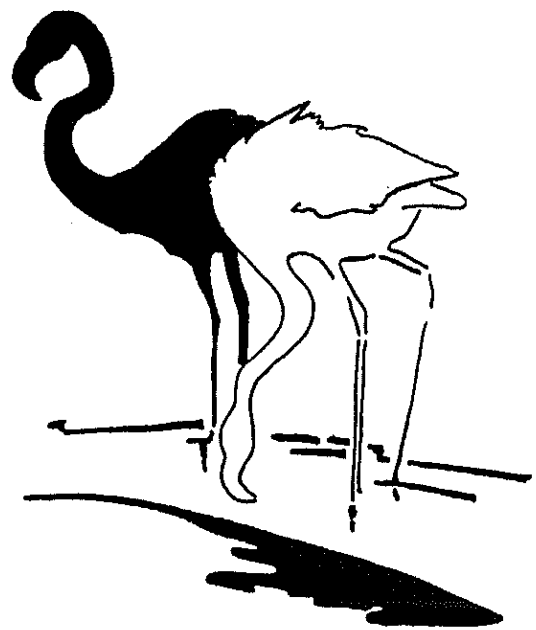


Paris CE 3960 ringed as chick on 17.07.1960 near Salin de Giraud (43°21'N 04°42'E) (Camargue), France (inf. Tour du Valat) found dead (for 2-3 days) under high tension lines on 31.07.1995 in the Salines de Thyna (Sfax) (34°40'N 10°45'E), Tunisia (inf. H. Dlensi). This bird died at age c.35 years 10 days (ed.).

Paris CD 3865 ringed as chick on 28.07.1957 near Salin de Giraud (Camargue), France, found freshly dead under high tension wires on 9.08.1995 near Aigues-Mortes (Gard), France. This bird died at age c.38 years 12 days which is a longevity record for the species in the wild (ed.).

Paris CE 0057 ringed as chick on 12.07.1959 near Salin de Giraud (Camargue), France, was observed feeding a chick on 25.06.1996 at the colony at Fuente de Piedra (Málaga), Spain (inf. M. Rendón Martos). This bird, a female, was aged 36 years, 11 months and 13 days (ed.).

Articles



Flamingo surveys at Sambhar Lake (Rajasthan), India

Harkirat S. Sangha

B-27, Gautum Marg, Hanuman Nagar, JAIPUR 302 021, India

(received March 1996).

Sambhar Lake (26°52'-27°02'N/ 74°54'-75°14'E) is probably the most important wintering area for flamingos (both Lesser and Greater) on the Indian subcontinent outside the Rann of Kutch. Large numbers of ducks and shorebirds also occur on passage and winter. It is listed by the Government of India as a wetland of international importance and is a Ramsar site.

Sambhar Lake lies at an altitude of 360m and is 70km west of Jaipur (Scott 1989). It is a shallow saline lake of 190 sq.km. It is 22.5 km long and varies in width from 3.2 to 11.2 km. The natural, undisturbed, continuous sheet of water lies in the west. The eastern part covering 80 sq.km is used for salt extraction and comprises of two brine reservoirs. The catchment area of the lake is 7560 sq.km. It is fed by four ephemeral streams, Mendha, Rupangarh, Kharian and Khandel as well as by numerous rivulets and surface runoff. The lake fluctuates in size due to droughts, floods and water discharge into the reservoirs for salt production.

While researching on Sambhar Lake it was realised that very little information is available in the literature on the avifauna of the wetland. Most published studies are devoted to salt production technology and examine only the algae as they affect the quality of salt. Moreover, these studies are only fragmentary and, at best preliminary.

A survey of Sambhar Lake was carried out on 16 October 1991 when the most numerous species censused were Lesser Flamingo (11,000), Greater Flamingo (6,000), Shoveler and some waders. By the end of December there were 8,000 Lesser Flamingos and 3-4,000 Greater. As a follow up to these visits I conducted regular counts in an attempt to monitor their numbers and work towards a plan for the conservation of these striking wetland birds - and their unique wetland

habitat.

During several visits to the wetland between October 1991 and March 1996 complete flamingo censuses were carried out and distribution of the two species plotted. Lesser Flamingos were always more abundant than Greater contrary to information available in recently published literature. Flamingos appear after the monsoon, and the length of time they remain here depends on the amount of water in the lake. Also, the number of birds visiting the lake varies considerably depending upon rainfall, salinity of the brine and the level of water in the lake. In normal rainfall years the lake starts drying up by February due to the high level of evaporation and diversion of lake water into the main reservoir of the salt production area through the sluice gates in the dam. However, the lake remains wet even in summer in 'flood' years. During one such year (July 1977-June 1978) flamingos were recorded at Sambhar Lake throughout the year.

This paper gives the results of whole-lake censuses of flamingos carried out regularly over the past five years (1991-1996).

1992-1993 : a visit was made during the mid-monsoon (1992) when the lake held 1,500 Lesser Flamingos. Other counts are given in table 1.

1993-94 : In addition to the counts given below 1,200 Lesser Flamingos were censused on January 30. During the last census on March 5 the lake was drying out but still held Lesser Flamingos.

1994-1995 : There was some water in the lake on July 16 but no flamingos. Following good rains the water was high on August 13 when there were 25 Lesser Flamingos.

1995-1996 : Record rains fell in August 1995.

The first flamingos to be seen were 458 Greater on September 17. There was a decrease in October before numbers increased in November and remained high through to March 1996, Lesser Flamingos outnumbering all others species put together on the lake.

	October 1992	December 1992	March 1993
Lesser Flamingo	2,500	6,400	500
Greater Flamingo	6	390	0

Table 1: Numbers of Flamingos during the winter 1992-1993.

Potential threats

The extraction of salt has been the sole human activity at this lake for more than a thousand years and flamingos and other waterfowl have been undisturbed. Unfortunately, it now seems that this unique wetland may not be spared for long from ecological changes as a result of developments on the main inflow rivers (Mendha and Rupangarh) planned by Rajasthan Government. Another recent human impact has been the exploitation of clay from the bed of the lake. This is used by hundreds of private salt manufacturing units which have sprung up recently on the periphery of the lake. The clay is spread on the salt pans due to its impermeability.

	October 1993	December 1993	March 1994
Lesser Flamingo	800	2,500	1,100
Greater Flamingo	-	550	500

Table 2: Numbers of Flamingos during the winter 1993-1994.

	October 1994	December 1994	March 1995
Lesser Flamingo	7,000	8,500	3,700
Greater Flamingo	1,000		

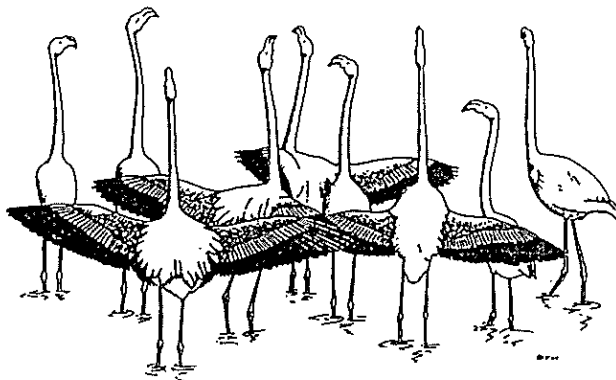
Table 3: Numbers of Flamingos during the winter 1994-1995.

Conclusion

Although flamingos are not seriously threatened at Sambhar Lake at present, they may come under threat at any time. The unpredictable nature of the salt lake environment and the use of the areas by birds requires further monitoring and research.

	October 1995	December 1995	March 1996
Lesser Flamingo	-	18,500	18,500
Greater Flamingo	150	4,000	4,000

Table 4: Numbers of Flamingos during the winter 1995-1996.



Sambhar Lake: A new breeding ground of flamingoes in India

Kumar, S. & Bhargava, R. N. (1996)

A large population of Lesser (*Phoeniconaias minor*) and Greater (*Phoenicopterus ruber*) flamingoes was observed in the vicinity of the receding waters of Sambhar Lake during the second week of January, 1995. The population was approximately 2,500 and 7,000 birds respectively. While surveying the vast 190 sq. km. of India's largest saline lake (a breeding site for the Greater flamingoes) large numbers of mud nests were found and in them numerous hatchlings. Young birds in various downy and juvenile stages were seen among the teeming adult population stalking the lake waters.

An approximate area of one hectare on the southern side had been occupied by about 1,100 mud nests arranged in 18 clusters. When the breeding site was visited, the nests were dry as the waters had already receded. The imprints of flamingo feet in and around the nest coupled, with fresh scoops in the mud were clearly visible, ample evidence that the birds had certainly been there when the area was inundated. Flamingoes have earlier been reported as casual visitors to the lake, later they were reported as permanent residents of Sambhar Lake. In fact, large populations of as many as 6,000 were reported in 1994. In the present study, it was found that they have started breeding at the lake and are using it as an alternate breeding ground to the well-known site in the Great Rann of Kutch.

Though the Thol lake sanctuary near Ahmedabad is considered as a possible breeding ground Sambhar Lake seems to be the second permanent site in India. This discovery assumes significance as human intervention in the area is on the increase.

In recent years, a few hundred salt manufacturing units have sprung up in the peripheral belt of the lake in Nagaur district. These units are robbing two to four feet of top soil of the lake bottom during the dry season to prepare salt beds. The removal of this bottom mud not only depletes the nutrients from the lake bed but also restricts the propagation of micro-organisms, other aquatic fauna and algae *Spirulina* which are food for the flamingoes. The process of removal of the soil involves frequent movements of tractors resulting in the destruction of these breeding grounds and imposes severe survival hazards for the flamingoes.

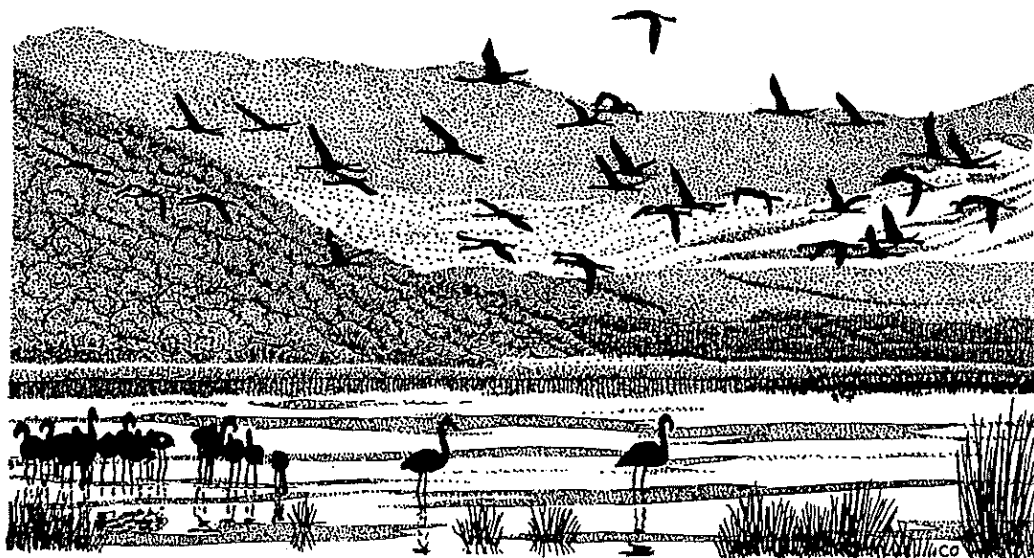
The Sambhar Lake has been recognised by the government of India as a wetland of international importance especially as waterfowl habitat. This habitat needs conservation measures to protect the area from excavation. It should be declared a sanctuary or wetland reserve, especially in view of it being a vital second breeding ground for the flamingoes.

Flamingos are back at Lake Nakuru

From Birdlife International Network News 4 (3): 7.

Lake Nakuru is famous for its vast flocks of Lesser Flamingo *Phoeniconaias minor* with sometimes over a million birds present. Since early 1996, lake levels have been very low and so have the numbers of birds. The flamingos are an important tourist attraction, and their absence has caused much concern and controversy even though the lake levels, and flamingo numbers, are known to fluctuate greatly. Much publicity has been given to the construction of a large new sewage treatment complex for Nakuru town, which some have blamed for the birds disappearance. This is

odd, since the plant will return clean water to the lake instead of the raw waste that has been pouring in until now. In any case, the level of the lake rose again recently, and the mid-year waterbird count on 6-7 July 1996 recorded more than 200,000 flamingos, a respectable total. This is not to say that all is well. Numbers of other birds remain unusually low reflecting a dearth of fish and invertebrate life. But it does show that a temporary absence of flamingos is, as expected, probably little cause for concern.



Flamingos in Ethiopia

(A brief status report on Lesser Flamingo *Phoenicopterus minor* in some Ethiopian Rift Valley Lakes)

Yilma Dellelegem ⁽¹⁾ and Sharew Desta ⁽²⁾

⁽¹⁾ Ethiopian Wildlife and Natural History Society, P.O. Box 3303, ADDIS ABABA, Ethiopia

⁽²⁾ Ethiopian Wildlife Conservation Organisation, P.O. Box 386, ADDIS ABABA, Ethiopia.

(received April 1996)

Summary

Of the six world Flamingo species, Lesser Flamingo, *Phoenicopterus minor* and Greater Flamingo, *Phoenicopterus ruber* are known to occur in many of the Ethiopian saline water bodies. The algal and benthic communities of these water bodies (Tudorancea and Harrison 1988) is a primary cause for the concentration of Flamingos on their edges. Even though past records of breeding attempts by *P. ruber* exist on Flat Island of Lake Shalla, visits made to this island in May 1994 and November 1995 reveal that there is no recent evidence of breeding.

Reports for some of the mentioned areas in Ethiopia date back to the 1960's and 1970's (Tuite 1979; Vareschi 1978). However, regular monitoring, especially on Lake Abijatta, has been initiated after the African Waterfowl Census came to effect in Ethiopia in 1990. Available sources of past and present populations are reviewed and data of regular and mid-winter counts summarised to give an overall understanding of current Flamingo status in Ethiopia.

a. Lake Metehara

The lava-dam Lake Metehara (Basaka), situated in the mid-section of the Ethiopian Rift Valley, showed a decrease in salinity by about a factor of 10. Conductivity dropped from 74170 MS to 7440 MS over 30 years and has increased in size over the past 20 years (Elizabeth *et al.* 1994). Prior to that (e.g. August / September, 1964), the lake was known to hold about 100,000 Flamingos (Tuite, 1979). The change is possibly due to

subterranean seepage from the basin and spillage from the nearby river Awash. This accompanied by a shift in phytoplankton community, *Spirulina platensis*, (main food of *P. minor*) was reportedly dominant in 1961 in Lake Metehara, but totally absent in 1991 (Elizabeth *et al.* 1994). During a visit to the lake in May 1995, no flamingos were seen.

b. Lake Abijatta

The shallow soda pan of lake Abijatta (conductivity 9100 MS-28, 130 MS; area = 200 km² - 160 km²) supports migrant and resident waterfowl, especially spectacular aggregations of *P. minor*. Lake Abijatta was established as a national park in 1970.

Until the recent past, there has not been a regular monitoring of Flamingo populations. However, in an attempt to quantify the world Flamingo population, Vareschi (1978) mentioned that Lake Abijatta held a guesstimate of 100,00 birds during 1972-1974.

Lake Abijatta is a terminal lake in a closed drainage system and this has reportedly made the lake's ecology sensitive to equilibrium between inflow and water uptake from the drainage system (Hillman, 1988). Owing to its shallow nature, its level has exhibited annual and inter-annual fluctuations since 1956. The present level of drop was first seen in 1987 with a peak drop documented in 1992-93.

As reported in 1987, this has greatly altered the fish eating bird population of the lake as well (disappearance of Pelicans and

Cormorants). Concomitant with this ecological change in the soda ash extraction project which is alleged to be the root cause for the change of the lake's ecology. Up until 1991, Lake Abijatta's salinity has increased by a factor of three over 65 years (Elizabeth *et al.* 1994).

Whatever the cause of the change in the lake Abijatta, the mid-winter waterfowl counts show that the site was favourable for flamingo aggregations during 1990-1993. Though there is a clear difference for figures between different years, the total population for both species was nearly 300,000 (*P. minor* = 233,000) in January 1993 (Syvertsen 1995). This estimate would be lower than the actual flamingo population because a significant proportion was feeding in the open water and these were not included in the count. Additionally, the system of count used was a guesstimate of sample shores and the figures obtained were usually lower than additional counts taken as a total count. It is understood that the flock counts are subject to under estimation of the population.

During 1990-93, the level of the lake Abijatta was at its lowest recorded. As a result, one could not go close to the lake shore (this was especially so in shallower sites), due to muddy conditions. This provided an opportunity to observe breeding attempts by *P. minor*. Abandoned eggs and large displaying flocks in breeding plumage were seen several times during this period. Observation of such large Flamingo assemblages on lake Abijatta during these years has initiated regular monitoring activities on the lake. According to bimonthly censuses carried out since January 1994, there is a strong annual fluctuation in both species populations. Mid-winter population count was 125,000 birds for January 1994 and 260,000 for January 1995. The population during August 1994 was 90,000 and 40,000 during June 1995. The lake level has recovered noticeably during 1994-1995 and low Flamingo number was observed when high lake levels were recorded. During most of the regular census, quite a low proportion of the population was feeding in open water. This is possibly an indication of the fact that the high lake level (through increased run-off), lowers the nutrition level. Limnological work in April 1995, revealed that *Spirulina* was totally absent from the lake (Zinabu G.M. pers.

comm.). The observed mid-winter high population can be attributed to the importance of Lake Abijatta as a wintering ground.

c. Lake Chitu

This lake is the most saline lake (conductivity = 4,100 MS; Area = 1.5 sq. km.) in the country and is known for its high *P. minor* concentration. During 1994-1995, an estimated population of 12,000 to 45,000 birds was recorded. Fluctuation of surface level is minimal. Fluctuation of *P. minor* at this site can be attributed to the importance of the lake relative to Lake Abijatta. During visits made to Lake Chitu in January 1992, and August 1992, the number of birds was only in the few hundreds. Despite its importance for Flamingos, this lake showed much lower densities as compared to Lake Abijatta.

d. Green Lake (Debre Zeit)

This lake was surveyed by the Important Bird Area survey team in November. The Important Bird Area Project is a programme which is currently identifying sites of birds and other biodiversity in the country. Even though the team has specifically seen the area for other objectives, the presence of *P. minor* in the deep crater lake was welcome news. At least 23,000 birds were recorded during this survey. A serious concern was that an estimated 2,000(+) corpses of birds were also counted during this survey. The Flamingos were not defensive of threats including stones thrown at them by shepherd boys. In fact, several birds were seen being attacked by herds boys during the survey, and dogs were chasing the weakened birds. It was clearly evident that their poor condition (weakness and listlessness), was a factor for the subsequent attacks they attracted. Probable causes are algal toxicity of the water and perhaps other pollutants in the water.

The Ethiopian Wildlife and Natural History Society had reported the situation to the government conservation body (Ethiopian Wildlife Conservation Organisation), and water samples from Lake Chitu, Green Lake, Abijatta and Zway have been taken for further analysis. This lake along with the swampy

Chelkleka support populations of *P. minor* from time to time in variable numbers.

e. Koka

This spillover from the Koka dam of the Awash river is only 85 km southeast of the nation's capital, Addis Ababa. It can cover a maximum area of 28,000 ha. during peak flooding season from July-September. It is currently the 20th largest artificial lake in Africa (Hughes & Hughes 1992) and is a wetland of high value for surrounding inhabitants. It is regularly used for some fishing and it supports vegetable cultivations and grazing around its edges. Tree cover around this lake is virtually absent, except for a patch of woodland composed of *Acacia sp.* and *Ficus sp.* on the lake's southeastern shores. Koka supports small numbers of *P. minor* in the dry season when the water has receded. Recent counts at the lake during IBA surveys in February, showed a maximum of 1,000 *P. minor* on its western edges.

Conclusion

Despite the critical problems it is facing, Lake Abijatta is still an important lake for the Lesser Flamingo. Attempts at breeding are good signs, but it is difficult to conclude that conditions are right for the birds to breed, in view of the threats the lake faces. Even though different speculations have been suggested, mass die-offs reported, do not have an understandable reason. This die-off can have serious effects on a population which is declining all over its range. Furthermore, several traditional sites for flamingos have become uninhabitable as a result of drastic changes in their benthic communities. Alteration, pollution and misuse appear to be major factors while increase in surface size (i.e. Lake Metehara) is more of a natural phenomenon. Lakes Chitu and Green seasonally serve to accommodate substantial

numbers as well. Awareness programmes and sustainable community projects are advisable to protect important sites, especially where this species has been observed to be persecuted. With regional autonomy in place, government authorities at all levels in the country would need to be aware of such problems, voice them and form a network with concerned bodies to protect species and sites.

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Flamingo news from Aldabra

From Bergeson, M. (1996)

The status of the Greater Flamingo on Aldabra is poorly documented. Penny (1974) stated, it has been observed since the middle of the last century, when Abott (1893) mentioned between 500 and 1,000 individuals of the species, but numbers are variable in these records. He also states that in 1967, the Royal Society Expedition saw a maximum of 55 birds. In the Aldabra data records there were reports of flock sizes numbering 50 in 1968, 37 in 1974, 31 in 1986, and 28 in 1989. More recent flock sightings have included 28 in 1995 and a maximum number of 26 observed so far in 1996.

When did these birds arrive on Aldabra and what is their present status? Penny states that they "may be an assembly of vagrants that have drifted over from Africa during migratory season at odd times, which are now living out their days in isolation, or perhaps it is a regular migrant flock". The fact that the number of flamingos appears to be slowly declining may support Penny's first hypothesis. Flamingos can live up to 50 years in the wild, a one-footed individual has been seen on Aldabra since 1976, so it may take some time for them to disappear.

On 17 April 1995 there was a successful nesting of Greater Flamingos, which produced one chick, and this was the first record of flamingos nesting on Aldabra.

On 1 October 1996, I observed 16 flamingos feeding in Basin Flamant on Grande Terre. Included in this group were 4 immature individuals, in three different growth stages.

I inspected the nesting site of 1995 and again found three complete nests and three incomplete nests. This time I also noticed that all three complete nests contained egg fragments. There were four immatures in three different stages of development suggesting three-four different broods. The fact that three different nests were used may infer that multiple pairs bred. But being that the life span of flamingos is long, maturity time is also fairly long. The more developed immatures may have been overlooked in the past, and the smallest one could be from the April 1995 breeding, suggesting that all the immatures are from successive nestings of the same pair.

Whatever the case flamingos are breeding on Aldabra. Will this reproduction keep the population surviving? Flamingos in other parts of the world breed in colonies of thousands. Maybe the initial courtship and breeding of the first pair brought the other pairs into breeding condition, creating a small colony. If so the trend may continue and the population will increase. Only time and continued observations will tell !

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Records of Andean Flamingos in Brazil

From Bornschein, M.R. & Reinert, B.L. (1996)

Past records:

- One juvenile obtained in 1952 at Jaraguá do Sul (26°28'S, 49°06'W), northeastern Santa Catarina, housed in the Museu do Seminário Coração de Jesus, in Corupa, Santa Catarina.
- One emaciated juvenile found on 19.05.1989 at Erval Velho (27°13'S, 51°23'W), midwest of Santa Catarina State, banded in Chile, housed in the Museu Nacional em Rio de Janeiro (Bege and Pauli 1990a, 1990b).
- One subadult at the Lago de Peixe (31°20'S, 51°05'W), southeastern Rio Grande do Sul (Antas 1990).

Additional record:

Three adults photographed in the fall of 1992 (A. Hoffmann, *comm. pers.*) at the Rio Grande do Sul, pictures published without proper identification by Porto (1992).

Status in Brazil:

- according to Silva and Caye (1992): accidental in Rio Grande do sul
- according to Bornschein (1992): accidental in Brazil
- according to the authors: likely to migrate to Rio Grande do Sul with more frequency than previously supposed, given the current numbers of records (Hoyo *et al.* 1992; La Peña 1992).

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Basle zoo's veteran Flamingos

Adelheid Studer-Thiersch

Oberwilerstrasse 135, CH-4054 BASEL, Switzerland

(received November 1995)

See: Studer, A. (1995). More about Basle's veteran Flamingos in Johnson, A. (1995).

In 1985, six of the Greater Flamingos (4 males, 2 females) imported into Basel Zoo in 1932 and/or 1938 were still alive. Three of them have died since, two males in 1991 and a female in 1995, all having been killed by foxes. One of these males was never involved in breeding, at least during the past 20 years, but the other two birds have bred more or less regularly. The second male was never successful whilst the female bred successfully in earlier years before the death of her former partner. Now her success has become more irregular and she last raised a chick in 1989 when she had spent at least 51 years in the zoo.

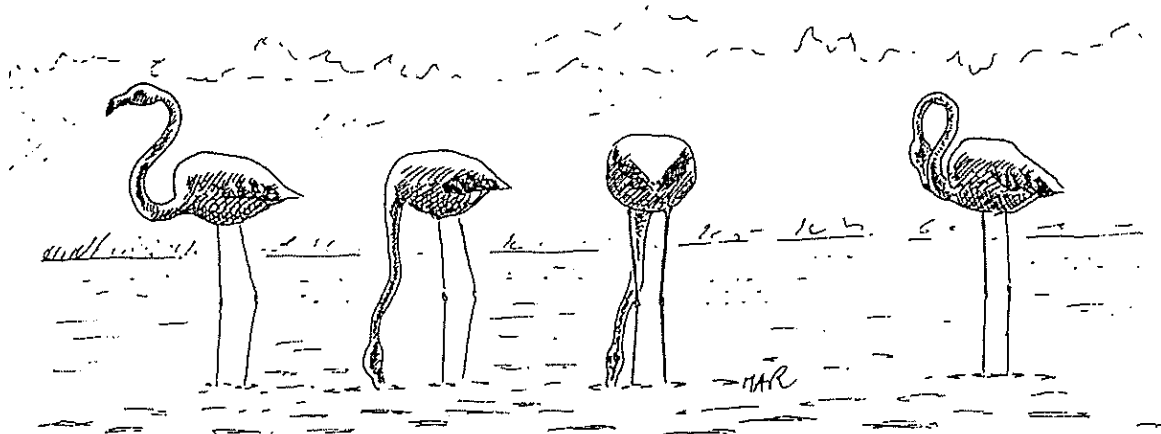
The three remaining old birds, which have at the moment spent at least 57 years in Basel Zoo, still breed. One of the males and the female have not raised any chicks over the past ten years but the second male has been the most successful breeder since 1985, having raised a chick during each successful season (four seasons failed due to foxes and the transfer of the flock to a new enclosure).

The next age class in the Basel flamingo collection was imported in 1954 and 1955. Of

the birds which arrived in 1954 (all of unknown age) one male and two females are still alive today. Those which arrived in 1955 had all hatched the previous year. All six surviving birds are males which still breed more or less regularly but three of them have not done so successfully over the past ten years.

Up until 1975, all birds imported or which hatched in the Basel Zoo, were pinioned; tendectomised between 1978 and 1986. Since 1988, only the primaries of one wing were cut in the first, sometimes the second year. The low and variable fertilization rate in the old males is linked to pinioning though the individual differences in the skill to copulate successfully in spite of this handicap is high, as is demonstrated by the example of the oldest bird, which is one of the most successful males we ever had.

Comments (A.R. Johnson, info C. King): The stud book of the Chicago Zoo reports the death on 30 September 1995 of a Carribean Flamingo born in November 1934. The bird therefore died aged 60 years and 10 months.



Announcements



Announcements

International Flamingo Symposium

Plans are progressing for the organisation of an international meeting of persons interested in flamingos, both in captivity and in the wild. This will take place in Miami, Florida, from 24-26 October 1998, during the annual meeting of the Colonial Waterbird Society. The scientific committee is composed of Guy Baldassarra, William Conway, Keith Bildstein, Chris Tuite, Susan Elbin, Alan Johnson, Cathy King, Adelheid Studer-Thiersch and Hernan Torres.

For further details contact Cathy King, Rotterdam Zoo, Postbus 532, NL-3000 AM ROTTERDAM (The Netherlands).

A Ph.D. on Flamingos

Manuel Rendón Martos, Director of the Fuente de Piedra reserve in Andalucia, defended his Ph.D. thesis on the importance of this major breeding site for the west Mediterranean population of flamingos, at Málaga University, Spain, in December 1996. Congratulations Manolo (ed.).

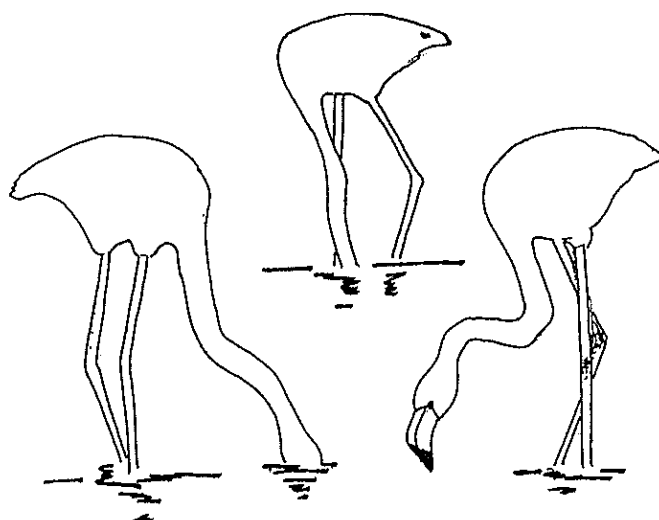
The 1997 Annual Flamingo Specialist Group Report

The 1997 Annual report is presently being edited. Please send any information for inclusion by May 30 so that it can be completed and circulated before the Miami Symposium.

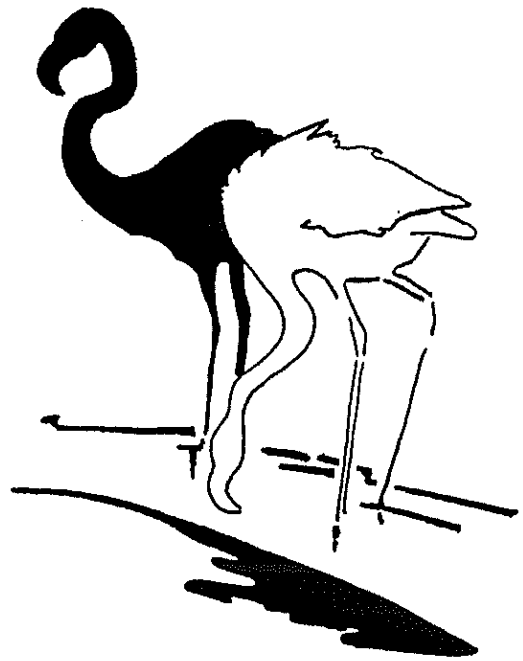
Conservation Award of the Association of Avian Veterinarians

The Association of Avian Veterinarians is currently accepting proposals for its 1% for Conservation Award. The A.A.V. donates 1% of its yearly net profits to one conservation project each year. The amount given is usually about \$3500. To qualify for this award, a project must involve direct field studies in the developing world, preferably involving avian fauna. The recipient study should be directly related to 1) critical habitat land acquisition or protection, 2) critical habitat land management, 3) development of management plans for critical habitat, or 4) field studies of avian fauna with priority being given to supporting veterinary input (by graduate veterinarians or veterinary students, preferably A.A.V. members) working in conjunction with wildlife biologists.

Please submit proposals by May 31, 1998 to the Conservation Committee of the Association of Avian Veterinarians, c/o A.A.V. Central Office, P.O. Box 811720, Boca Raton, Florida, 33481, U.S.A.



Some recent literature on Flamingos and their environment



Some recent literature on Flamingos and their environment

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