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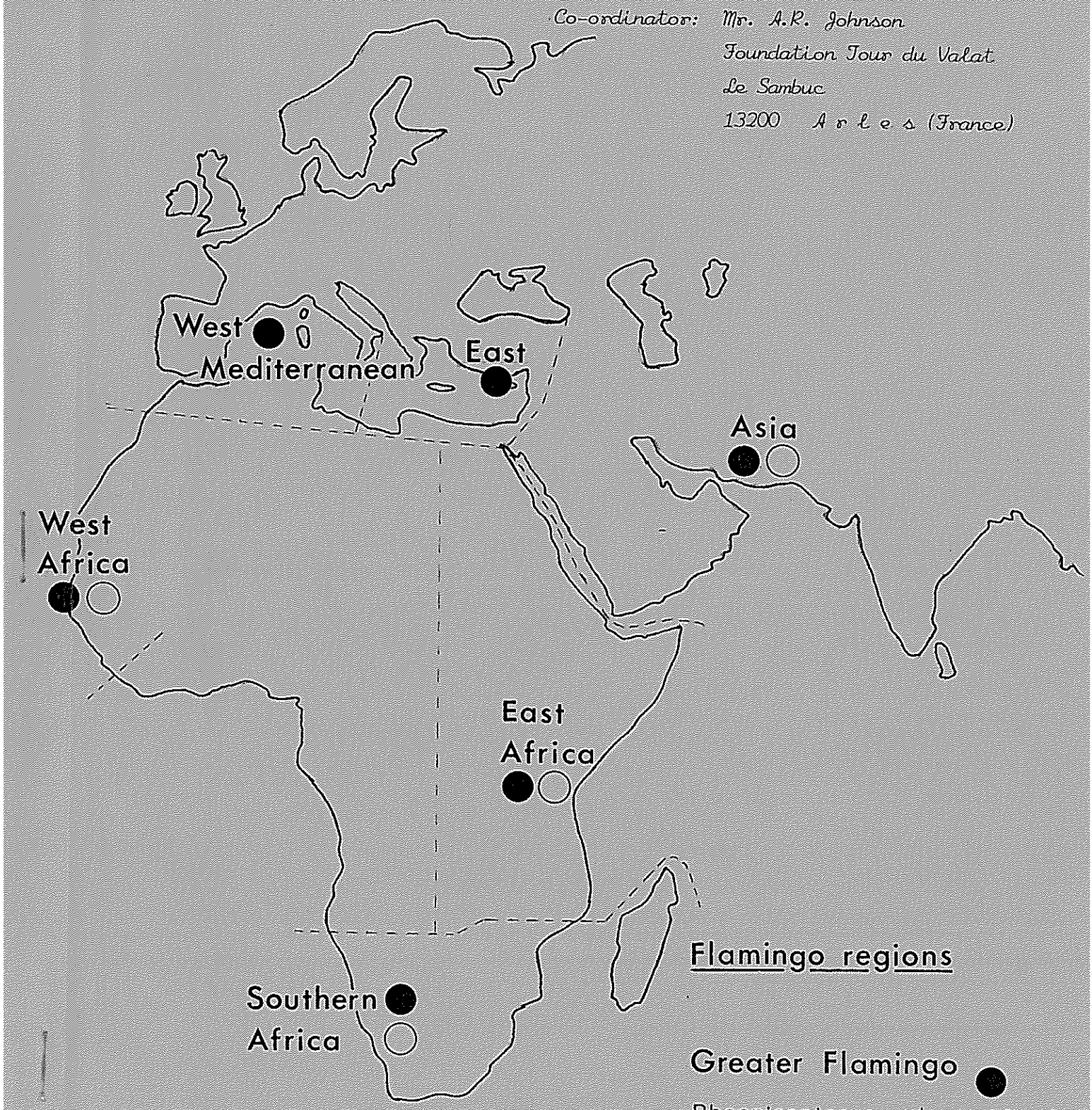
FLAMINGO WORKING GROUP — OLD WORLD

NEWSLETTER No.1 JUNE 1980

Co-ordinator: Mr. A.R. Johnson
Foundation Tour du Valat
Le Sambuc
13200 Arles (France)



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INTRODUCTION

The Flamingo Working Group (F.W.G.) is now a joint group of the International Council for Bird Preservation and the International Waterfowl Research Bureau. It was created as one of I.C.B.P.'s world working groups in 1971 under the chairmanship of Dr. R. T. Peterson and with Dr. Ph. Kahl as secretary. The group was reorganised in 1978 when it was decided that a sub-group should be established to deal with the flamingos of the Old World. The present Co-ordinator accepted to undertake his functions on behalf of the parent organisations at the I.W.R.B.'s XXIVth Executive Board Meeting held in Carthage, Tunisia in November 1978. His election by I.W.R.B. is for a period of four years, whilst on I.C.B.P.'s behalf the co-chairmen (Dr. Alexander Sprunt is chairman of the New World group) will stand down after the 1982 World Conference, after which the group will be reconstituted.

There is little doubt that the group's most noteable achievement so far has been the organisation of the Flamingo Symposium held in Slimbridge, England in July 1973, and the publication of the symposium proceedings in book form : Flamingos, Kear, J. & Duplaix-Hall, N. (1975). Poyser, Berkhamsted. It is now seven years since this most valuable foundation stone was laid and it is time to start building upon it.

This sub-group will endeavour to play its role in achieving the aims as they were set out by I.C.B.P. and published in the I.W.R.B. Bulletin No.32, Dec. 1971 : 13-14. They are listed below.

1) Develop a network of correspondents to report on changes in status of flamingo populations or threats to the integrity of flamingo habitats.

   (a) For action by pertinent National Sections

   (b) For action by Central Secretariat

   (c) For consideration for inclusion in Red Data Book

   (d) For inclusion in The President's Letter or other pertinent publication

2) Draw up an inventory of flamingo habitats for eventual publication and to guide research and the deployment of observers.

(a) Location of area, physical dimensions, brief description

(b) Relative importance to flamingos, i.e., feeding, breeding

3) Organise censuses on a meaningful time schedule of all areas known, or thought, to harbour flamingos, including captive populations.

4) Determine legislative status of flamingos and their habitats.

(a) Existing protective measures, both national and international

(b) Development of proposals for increased legal protection for flamingos and their habitats

5) Co-ordinate and promote research of all phases of flamingo biology and conservation ; screen, recommend and promote research proposals for funding.

6) Render advice on the development or improvement of conservation programmes for flamingos in response to crisis situations, or initiate programmes to prevent crisis situations.

7) Develop a bibliography and library on flamingos.

These aims were slightly modified, in particular re-worded by I.C.B.P. in 1979 and to the above should be added

8) Organise meetings or conferences on flamingo conservation and issue or sponsor publications as the need or opportunity arises.

The following persons were already members, or accepted to join the World Working Group on Flamingos in 1979.

Dr. Roger Tory Peterson (Chairman), Neck Road, Old Lyme, Connecticut 06371, U.S.A.

Mr. Alan R. Johnson (Co-ordinator Old World Group), Foundation Tour du Valat, Le Sambuc, 13200 Arles, France

Dr. Alexander Sprunt IV, National Audubon Society, Tavernier, Florida 33070, U.S.A.

Sir Peter Scott, The New Grounds, Slimbridge, Gloucester GL2 7BT, England

Mr. William G. Conway, New York Zoological Society, Bronx, New York 10460, U.S.A.

Mr. Leslie H. Brown, P.O. Box 24916, Karen, Kenya

Dr. Stuart Hurlbert, Dept. of Biology, San Diego State University, San Diego, California 92182, U.S.A.

Dr. Jan Rooth, Research Institute for Nature Management, Leersum, Kasteel Broekhuizen, The Netherlands

Sr. Jürgen Rottman, Unidad de Vida Silvestre, Corporacion Nacional Forestal, Avda. Bulnes 285 - Apto. 401, Santiago, Chile

Mr. H. H. Berry, Ecological Institute, Etosha National Park, P.O. Okaukuejo, 9224, South West Africa

José Alberto Ottenwalder, Chairman of Zoology and Curator of Mammals, Museo Nacional de Historia Natural, Plaza de la Cultura, Santo Domingo, Rep. Dominicana

Dr. Chris Tuite, The New Grounds, Slimbridge, Gloucestershire GL2 7BT, England

Miguel Angel Hernandez Garcia, Direccion General de la Fauna Silvestre, Depto. De Conservacion, Secretaria de Agricultura y Recursos Hidraulicos, Mexico, D. F. Mexico

It should be noted that these persons are members of the World Working Group and that membership of the Old World sub-group is open to all who are interested in flamingos and in receiving the Newsletter. May they make themselves known to the Co-ordinator.

THE NEWSLETTER

A first Newsletter cannot be produced without encountering certain minor administrative and financial problems, the most important of which remains the one of knowing just how many Newsletters to produce. This will only become known after circulation of the first issue and for this reason it has been photocopied, making it easy for further copies to be made as required. It has been sent out to all senior members and to persons with whom the Co-ordinator has been in contact during his first year in office.

Hopefully, readers will make suggestions if a different layout from the present is desired. They will also be active in contributing something to the Newsletter in the way of short notes or articles of interest to the group. The ball must now be kept rolling ! This should not be difficult since, although we are dealing with only two species, the scope of activities is wide and the area under consideration vast-almost one third of the earth's land mass. In view of this the Old World has been broken down into six geographical units or "Flamingo regions" in order to facilitate the presentation of news items. These are not, of course, isolated populations ; it is a well known fact that birds are occasionally or in some cases regularly moving between these.

Many languages are spoken throughout the Old World and it is to be hoped that most readers will be satisfied if the Newsletter is produced in English and French ! It is written on an entirely voluntary basis ; stationary and mailing costs can, however, become expensive items and according to how many have to be produced and on the financial assistance available from I.C.B.P. and I.W.R.B. it may eventually be necessary to ask members to cover such costs.

Information contained in the Newsletter may be reproduced elsewhere, but the source of the information must be quoted. The next issue will appear when there is sufficient material available to merit its appearance but in any case at least one Newsletter per year should be produced. The next one will carry a full list of the group's members (names and addresses), those who have filled in and returned the form accompanying Newsletter No. 1. It will also carry a review of all flamingo ringing and marking

which has been carried out in the Old World.

NEWS FROM THE REGIONS

A summary is given on the status, distribution and numbers of flamingos occurring in each region. This is followed by notes of interest sent in by correspondents or gleaned from reports and papers. Coverage of the different regions is unequal and there is a bias of data from the West Mediterranean. Where information is lacking this should not be interpreted as meaning that any major change has taken place.

EAST AFRICA. Both species breed in Kenya and Tanzania and the Lesser Flamingo has bred in Zambia and attempted to breed in Uganda and Zaire. They also occur in the Sudan, Somali, Ethiopa and Malawi. The Lesser is by far the most numerous with an estimated 1 to 1½ million birds as opposed to about 50,000 Greaters. There is probably some movement of birds between this region and southern Africa.

Correspondents/ information : Kenya, L. H. Brown, C. Tuite.

Since this Newsletter carries a review by C. Tuite of research carried out on Lesser Flamingos in this region there is little to add here. No one is apparently specially working on either species at present. Leslie Brown reports that Greaters may possibly be decreasing in numbers but no count data are available to substantiate this. Could some of the birds have moved to Botswana ?

Recent literature : Part of Chris Tuite's excellent thesis on the Lesser Flamingo has formed the basis of a paper on this species' population size, distribution and biomass density in the Eastern Rift Valley.

SOUTHERN AFRICA. Both species occur throughout southern Africa including Malagasy, and breed in Namibia and Botswana. The Greater also breeds in South Africa and the Lesser has attempted to do so. There is probably some movement of birds between this region and East Africa. Lessers can number up to about 1 million birds and Greaters about 75,000.

Correspondents/information : Botswana, paper by Robertson & Johnson. South Africa, P. D. Morant and paper by Boshoff. Namibia, H. H. Berry and C. F. Clinning.

The paper by Robertson & Johnson gives details of the first breeding record for both Greater and Lesser Flamingos on the Makgadikgadi salt pans in Botswana in 1978. This in itself is excellent news since it increases the known number of potential breeding sites for the species'. Further, the numbers of Greaters involved places this 1978 colony second in size only to those established in the Great Rann of Kutch, India. Indeed, the number of breeding pairs would appear to have exceeded 17,000. This figure represents the number of Greater chicks in the crèches in June with over 500 more adults still incubating. No Lesser chicks were identified but close to 800 adults were seen at nests.

South Africa. Greater Flamingos are only occasional breeders here with a maximum of 800 nests recorded in 1960. It is noteworthy, therefore, that another colony was established in 1977-78 on a dam in Cape Province. Because of the drying out of the site the chicks had to be caught and transported to a neighbouring wetland, an operation which was largely successful (see Boshoff).

WEST AFRICA. Throughout most of the Old World flamingos frequent essentially areas of brackish or salt water but in only a few places do they occur actually in the sea. In West Africa, however, sand banks and mud flats along the Atlantic coast form the main feeding and breeding grounds for both species. Mauritania holds the largest concentrations of flamingos, in particular on the Banc d'Arguin where both species occur. The Greater can be found throughout the region, from Morocco down to Guinea Bissau, and breeds in Mauritania and Senegal. The Lesser is confined to the area lying between the Banc d'Arguin and the Senegal delta. It has not been found breeding since 1965. Greaters probably number up to about 80,000 and Lessers not more than one or two thousand. Recoveries of Spanish and French ringed flamingos have shown that there is some movement of Greaters between the West Mediterranean and this region.

Correspondents/information : Senegal, A. Dupuy, F. Roux, M. Sylla. Mauritania, Parc National du Banc d'Arguin (J. & E. Trotignon, J. G. Walmsley, R. A. Williams), F. Roux.

In spite of the difficulties encountered in reaching some of the flamingo areas, this region is quite well covered by the activities of the National Parks Service in Senegal and the Parc National du Banc d'Arguin in Mauritania. Senegal : Two papers by A. Dupuy document the first records of Greater Flamingos breeding in Senegal, in the Saloum National Park in 1976 and in 1979. Some of the young birds from the latter colony were ringed (see requests for information) by the National Parks Service whose staff is actively watching for Camargue-ringed birds and carrying out a regular census. Ground and aerial surveys by F. Roux have revealed 7,000 Greaters in the Djoudj National Park in January 1979 to which can be added a further 14,000 on the Mauritanian side of the Senegal delta, along with 500 Lessers.

Mauritania : Information gleaned from the reports of the P.N.B.A. shows that two winter counts carried out on the main flamingo haunts in 1978-80, both revealed a total of around 60,000 Greaters. Only 15 Lessers were observed in January 1980. Greaters breed most years and about 1,000 well-grown chicks were sighted at one colony in August 1979. The winter expedition of 1979-80 noted several Camargue-ringed birds on the Banc d'Arguin ; from many thousands of un-ringed birds this indicates a low rate of exchange between West Africa and the West Mediterranean region. Faeces were collected and it is hoped that their analysis will help show what the Greater's diet is on these inter-tidal sand banks and mud flats.

WEST MEDITERRANEAN. Greater Flamingos occur regularly in the Maghreb countries, Spain, southern France and Sardinia. They occur less frequently and in smaller numbers in Portugal, Sicily and on mainland Italy. They breed most years in the Camargue and, when water levels permit, in Tunisia and Spain. There is a regular immigration into the Camargue in spring and an emigration in autumn. Few areas, however, are strictly seasonal and if water levels permit they can support flamingos in varying numbers the year round, the temporary wetlands bordering the Sahara being an exception. Some birds migrate as far as Senegal and there is also one recovery from Turkey of a Camargue ringed flamingo. Counts indicate that the population of the West Mediterranean is on the increase and is presently estimated at about 65-70,000 birds.

Correspondents/information : Morocco, P. Beaubrun, M. Thevenot. Algeria, Institut Nat. Agronomique, J.P. Ducrotcy. Tunisia, R. & L. Britton, M. Czajkowski, A. El-Gharbi, Farther P. Lauthe, O. Pineau, M. Smart. Spain, J. Amat, Mrs. A. Baker, M. Blasco, E. Carp, X. Castroviejo, R. Coronado, X. Ferrer, A. Martinez, J. Mario Vargas, J. Muntaner, M. Rodriguez, J.P. Taris. France, A. Blasco, P. Cramm, A. Gau, H. Hafner, A.R. Johnson, O. Pineau, G. Oliver, P. Orsini, A. Tamisier, J.P. Taris, J.G. Walmsley. Sardinia, C. Dettori, G. Fantoni, G. Launay, A. Mocci-Demartis, G. Pinna , A. Secci. Sicily, B. Massa.

Spain : Breeding has taken place over the three-year period 1977-79 at two places in Spain and in each case involved several thousands of pairs of flamingos. The colonies established in Fuente Piedra have formed the basis for two short publications by Antuñez et .al. and Blasco et .al. In the Marismas of the Guadalquivir, two out of the three attempts were successful, the 1979 colony being destroyed by flooding and by predation by wild boars (Sus scrofa). At both sites management techniques were successfully employed when the water levels dropped rapidly before the chicks were on the wing. At the latter site, the crèche was herded by horsemen to the nearest water hole of the Coto Donana National Park whilst in Fuente Piedra water was pumped from a well into the lagoon.
Camargue : Several thousands of pairs breed each year in the salines and the maximum recorded has been 9 370 nests in 1977. The colonies are wardened by the Parc Naturel Regional de Camargue with financial assistance from the French section of the W.W.F. Problems of site erosion, caused by the birds themselves and by wave action, has been overcome by the building of an artificial island in a well protected part of one of the lagoons. Artificial nest mounds attracted the flamingos to the site as the former island became degraded in 1974-75 and it has been the sole colony in use since 1976. Part of the crèche of chicks has been captured and ringed over the past three years, with coloured plastic leg bands (see requests for information), and the sightings of these birds are bringing in much interestingdata on plumage development and movements (see papers by Johnson, Orsini and Pineau).
Sardinia : Unprecedented numbers of flamingos now occur in Sardinia, particularly in the Oristano and Cagliari regions in autumn and winter. Recoveries and sightings of ringed birds show that they are moving between the island, the Camargue and Tunisia in particular. In autumn 1978, about 150 flamingos died on the lagoons in the Oristano area, on Sale Porcus in particular. The cause was not clearly established but suggest insufficient food resources for the weaker (mostly juvenile) birds unable to build up energy reserves after migration. Analysis of mud samples by Dr. J. Smith in London for botulism, proved negative. Fortunately, no such deaths occurred in autumn 1979. Detailed counts have been carried out by Mocci-Demartis (in press) whilst further counts are still being made and rings read by members of the L.I.P.U. and Italian section of the W.W.F.
Maghreb countries : Tunisia has the largest number of wetlands favourable to flamingos (during wet years). These have been observed on an irregular basis by members of the Forestry Service and by visiting ornithologists. Summer counts there over the past three years have not exceeded about 20,000 birds and these are suggestive of a lower population during these relatively dry years. The most recent record of a breeding attempt dates back to 1977 when the colony was established in a lagoon rather easily accessible and the eggs were taken by local inhabitants. The Forestry Service has received a telescope and tripod

and it is hoped that a greater number of rings can be read in the Tunis area where flamingos are easily approachable on several water bodies. Following the 1978 I.W.R.B. Tunis meeting a symposium was organised on the ecology and conservation of colonially nesting waterfowl and the Co-ordinator presented a paper on these aspects of the flamingos of the West Mediterranean.
Algeria : The Greater Flamingo has still never been proved to breed in Algeria but is present on several wetlands in flocks reaching up to a total of about 5,000, usually less. I.W.R.B. mid-winter counts are made over much of the country and these are supplemented by more regular visits to wetlands in the province of Oran. A symposium was held in Algeirs in June 1979 on Algerian avifauna and the co-ordinator presented a paper on flamingos (see Johnson).
Moroco : There is no record of breeding since 1968 and the species occurs only in relatively small numbers on most wetlands along the Mediterranean and in particular Atlantic coasts, max, count about 3,000 birds. It is reassuring that one of the most important wetlands for the species, the Merja Zerga, has recently been declared a protected area (national park of 7,000 ha.).

EAST MEDITERRANEAN. The Greater Flamingo breeds regularly in Turkey and occasionally in the Sinai. The species also winters in these two areas as well as in Libya, Cyprus and Syria but is rare or absent from the Lebanon, Israel, Jordan and much ofEgypt. There would appear to be little movement between the West Mediterranean and the East, but ringing has shown that birds of Iranian origin can travel west as far as Libya. This region probably supports about 40,000 flamingos.

Correspondents/information : Cyprus, R. Foers.

Cyprus : This island constitutes an important passage and wintering site for Greater Flamingos of which up to about 10,000 are regularly recorded. They frequent principally two wetlands, the Akrotiri salt lake and the Larnaca salt lake. This information, along with an analysis of 23 years of observations by the Cyprus Ornithological Society, is contained in a document produced by Squadron Leader Foers, reviewing records and migratory trends from 1956 to 1978. Few if any flamingos summer on the island and it would appear that the birds have their breeding grounds in Iran and Turkey in particular. (See Foers in recent literature)

ASIA. The Greater Flamingo breeds in N. W. India, S. W. Russia, Iran and Afghanistan and has once been recorded from Kuwait. In addition, it regularly occurs in Iraq, Pakistan, Sri Lanka and the Persian Gulf states. It is rare in Bangladesh. The Lesser Flamingo appears only to occur in N. W. India where it probably breeds though not so far witnessed. Greaters have been ringed in large numbers in Russia and Iran and recoveries show that there is some movement between this region and the East Mediterranean. Count data are rather scanty but the region is thought to support some tens of thousands of Lessers and perhaps up to almost half a million Greater Flamingos.

Correspondents/information : Iraq, report by Carp & Scott, India, Dr. Salim Ali, U.S.S.R. articles in Russian by Poslavski et al and Volkov, translated by I.W.R.B.

Iraq : A joint mission by the I.W.R.B. and the University of Basrah visited a total of 55 wetlands in Iraq in January and February 1979 in

order to carry out waterfowl counts. These were made from the ground since flying, as formally planned, was not authorised. The observers were able to count just over 3,000 Greater Flamingos on what is just a small fraction of the country's total wetland area (see Carp & Scott in recent literature).

India : Dr. Salim Ali and members of the Bombay Nat. Hist. Society have recently visited the Great Rann of Kutch. This area has sheltered the largest colonies of Greater Flamingos on record with over 200,000 breeding pairs in 1960. Dr. Ali reported large flocks of flamingos present in December 1979 but the water level resulting from the monsoons was apparently too deep to allow any breeding this season.

U.S.S.R. (North-East Caspian): It would appear that there has been a contraction of the Greater Flamingo's former breeding range but that colonies are still established at one site. The species is most abundant in autumn along the eastern shore of the Caspian where up to 10,000 were recorded in September 1970 and more than 12,000 in November 1971. Because of changing water levels there has been a shift of the wintering population over the past 20 years from the south-eastern Caspian north to Krasnovodsk Bay, where 20,000 were recorded in 1970. During severe winters these birds move south out of the Soviet Union.

(Central Kazakhstan): At around 50° N latitude this is the furthest north that any flamingos occur anywhere in the world. Breeding would appear to be quite regular and the colonies sometimes very large with a figure of 8,000 breeding pairs given for 1958, and a total of more than 50,000 individuals. The following year, 15-18,000 pairs were recorded. More recently, in 1960, 1970 and 1971 about 7,000 chicks were recorded at the colonies in August each year.

Some ringing has been carried out of both flightless, moulting adults and chicks. Recoveries show that they migrate south down the Caspian to winter in the southern Caspian, Iran, Iraq and North Africa (Egypt). Volkov reports a recent decrease of the population which he attributes in part to habitat change brought about by a lowering of water levels as a result of irrigation for agriculture.

LESSER FLAMINGOES IN EAST AFRICA : A REVIEW 1969 - 1976.

By Chris Tuite

Since 1969, there have been two studies in East Africa which have been directly concerned with the biology of Lesser Flamingoes. The first was a limnological investigation of Lake Nakuru by Dr. Ekkehard Vareschi (University of Munich) from 1972 until the beginning of 1974 and the second was done by myself from January 1974 until May 1976 and was primarily concerned with looking at how the flamingo population uses the Eastern Rift Valley lake system and what factors cause birds to move from one lake to another. As a result of the earlier work by Leslie Brown and these two studies, we now know a considerable amount of the detailed ecology of this flamingo species. It will be interesting in the future to see how far the ecology of P. minor is similar to the two much rarer and comparatively unknown New World algivorous types - James' and the Andean flamingo.

Possibly the most significant result of the two recent studies in relation to the future conservation of P. minor has been the development of a fairly clear understanding of the factors affecting the dispersal of Lesser Flamingoes in East Africa. These results are summarised in brief below.

In 1968/9, C. J. Pennycuick and G. A. Bartholomew carried out aerial pho-

tographic censuses of most of the Eastern Rift Valley lakes. Their total population estimate for East Africa was about 1 million birds. More than 90% of this total were located on lakes Nakuru and Bogoria (formerly Hannington)- in other words the population was clumped at these two sites. At the time, this result appeared to confirm the more anecdotal observations made by a number of people and the conclusion that Lake Nakuru and its northerly neighbour, Bogoria, were the most important lakes in the Rift Valley as far as maintaining the flamingo population was concerned. Two slightly unexpected results of the Pennycuick and Bartholomew survey were the very high degree of clumping with so few birds apparently favouring the other available lakes and the total figure of about 1 million was rather lower than had previously been suggested.

During 1973, the picture of Lesser Flamingo distribution changed slightly in that numbers at Lake Bogoria decreased dramatically to almost nothing whereas numbers at Nakuru increased, suggesting that the birds from Bogoria had mostly moved to Nakuru. In mid 1973, Vareschi censused 1.4 million Lesser Flamingoes at Nakuru.

In early 1974 there began a dramatic change when the number of birds at Nakuru started to decline sharply so that by August of that year they were down to 25,000. From the end of 1974 until May 1976 (the end of my study period), the number of residents at Nakuru fluctuated between 4000 and 13000. After the drop in numbers at Nakuru, the birds moved out to the other lakes, which in consequence were then holding considerably more than prior to 1974. No other lake or pair of lakes appeared to be substituted as a population centre so that the population became much more dispersed. Also, the total number of birds censused during surveys between Aug/Sept 1974 until 1976 was always about half a million which is significantly less than the 1.0 - 1.4 million found in the surveys from 1969 to early 1974.

The most obvious factor to look at when trying to explain these changes in distribution was the food supply. The clumped pattern with large numbers at lakes Nakuru and Bogoria was associated with the presence of dense blooms of the planktonic alga Spirulina platensis. The decreases in flamingo occupance at these lakes followed marked declines in Spirulina density. Sampling at a large number of the other lakes to which the birds dispersed, showed that Spirulina was almost totally absent. Instead it was found that feeding had changed to the exploitation of benthic diatoms growing on the surface of the lake sediments. Diatom standing crops appear to be fairly constant from place to place and over time but their productivity is much lower than Spirulina so that the density of grazing flamingoes which can be supported is much less. When only diatoms are available the birds are therefore forced to disperse as the carrying capacity of each lake is limited.

Although it had been known since the early work of P.M. Jenkin and others that Lesser Flamingoes do sometimes eat diatoms, the significance of this alternative "fall back" food supply was not appreciated. The most significant consequence for the conservation of this species must be the realisation that to ensure survival, the maximum number and diversity of lakes must continue to be available to support the birds through the lean periods of low Spirulina availability when the population is forced to disperse.

Total population size

The results of the more reliable censuses that have been carried out during the past 10 years suggest that the previous estimates of both the number in East Africa and the total world population should be revised. Leslie Brown has suggested that a figure of 6 million seems likely for the toltal world population of P. minor. This figure is derived by assuming an average population of 4 - 5 million in East Africa and a further 1 million in southern Africa. The censuses made by aerial photography during the last decade do not bear these figures out. The maximum number recorded for East Africa is in fact 1.0 -1.5 million. The earlier higher figures have also been computed by assuming that there are relatively discrete populations in East and southern Africa. From theoretical range calculations and observations (I.S.C. Parker) of unusually large numbers of birds (1 million or more) on the Makarikari Pan in Botswana during the last few months of 1974 when numbers in East Africa had apparently declined, I suggest that the available evidence points to there being a single population with individuals moving between East and southern Africa.

Based on my results and these assumptions, a total world population figure of 2.0 - 2.5 million would seem to be more appropriate.

Another factor which undoubtedly contributed to the lower numbers recorded from late 1974 to 1976 was mortality. Although impossible to quantify, I did observe large numbers of deaths at several lakes during this period - perhaps not unexpected under conditions of relatively poor food availability. Only a continuation of censusing will show whether population declines in East Africa are mainly caused by emigration or mortality, what the total species population really is and whether birds do move between East and southern Africa. As these birds are relatively easy to census by aerial photography (unlike most avian populations) the population could be monitored by carrying out one census every 2 - 5 years covering as much of the overall range as possible. There are obvious possibilities for co-operation here between people working in East Africa and southern Africa.

A REQUEST FOR INFORMATION ON LESSER FLAMINGO BREEDING :

To try and maintain a long-term record of breeding by Lesser Flamingoes throughout their range, it would be most helpful if anyone who has observations of breeding colonies since 1970 could let me have a note of the observation, including as much information as possible.
Please send to : Dr. C.H. Tuite, The Wildfowl Trust, Slimbridge, Glos, U.K.

REQUEST FOR INFORMATION ON MARKED FLAMINGOS :

The next Newsletter will carry a full record of all flamingo marking that has been carried out on wild birds throughout the Old World. This document should be useful in showing which are the best techniques to be used to obtain the information one requires. It will also allow any persons considering colour-ringing with plastic leg bands to avoid duplicating an existing scheme. If you have marked any flamingos and this information has not been published in an international journal, or you think it might not be known to the co-ordinator, could you please send details of the species concerned, the type of mark used, age of birds, locality and date of trapping and marking and a summary of results (recoveries, sightings, contacts etc.) to the co-ordinator.

REQUESTS FOR SIGHTINGS OF DARVIC-RINGED FLAMINGOS :

A total of 1,858 flamingo chicks have been ringed in the Camargue over the three breeding seasons 1977-1979, and more are likely to be marked in the future. The rings used are placed on the birds' right tibia and are made of PVC Darvic, either yellow or white in colour. They are engraved with a unique combination of three letters repeated three times around the ring (in black). A piece of brightly coloured tape stuck between the letters indicates the year of ringing. They can be read through a telescope at a distance of up to 300 m. They are likely to be sighted anywhere in the West Mediterranean or West Africa. Please report any observations to the co-ordinator, all will be acknowledged.

Further, young Greater Flamingos have also been ringed by the National Parks Service of Senegal in the Saloum Delta National Park, in February 1979. Twenty-three birds were marked, 20 with orange metal rings and 3 with yellow plastic rings. The metal rings carry three numbers and the plastic ones two letters. Please report any sightings either to La Direction des Parcs Nationaux, B.P. 5135, DAKAR, Senegal, or to the co-ordinator who will pass on the information.

RECENT LITERATURE ON FLAMINGOS

Old World :

Antuñez, A., Blasco, M. & Vargas, J.M. (1979). Informe sobre Phoenicopterus ruber L. en la laguna de Fuente Piedra durante 1978. Dept. de Zoologia, Universidad de Malaga.

Blasco, M., Lucena, J. & Rodriguez, J. (1979). Los Flamencos de Fuente Piedra. Naturalia Hispanica No. 23. ICONA, Madrid.

Boshoff, A. F. (1979). A Breeding Record for the Greater Flamingo in the Cape Province. Ostrich 50 : 124.

Carp, E. & Scott, D.A. (1979). The wetlands and waterfowl of Iraq. Cyclostyled report of the joint I.W.R.B./Univ. of Basrah expedition, 10 Jan to 3 Feb 1979.

Dupuy, A.R. (1979). Reproductions des Pélicans blancs et Flamants roses au Sénégal. L'Oiseau et R.F.O. 49 : 323-324.

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To be returned to the sub-group Co-ordinator : Mr. A.R. Johnson, Foundation Tour du Valat, Le Sambuc, 13200 ARLES (France).

I received the first Newsletter of the F.W.G. - Old World and would like to be considered a member of the group. (Please print name and address in block capitals) Mr. Mrs. Miss.....

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My languages are.....

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Space below for any comments :