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# World Working Group on Storks, Ibises and Spoonbills

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**REPORT 2  
1984**



Jaribu Stork, Venezuela (photo: C. Luthin)

**International Council for Bird Preservation**

Produced by:  
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In but several years, the communication network of the World Working Group on Storks, Ibises, and Spoonbills has grown considerably, and a very large volume of information on this group of birds is beginning to surface. Over 120 individuals from over 40 countries have contributed to this report. (A list of participants of the Working Group and their addresses is forthcoming.) In this, the second annual report of the Working Group, two types of summaries are presented: SPECIES STATUS REPORTS and REGIONAL REPORTS. Unfortunately, not all species and but several regions can be included in this report due to space and time limitations; those remaining shall be included in the next issue, however. There is a strong bias towards tropical America and South and East Asia, for there exists less published material than what is available on European/African species. Also, the greatest number of unknown and endangered species occur in these countries, and they are given priority by the Working Group.

I have not attempted to summarize the present status of the popular White Stork in Europe. Indeed, there is enough information available to produce a substantial book on this subject, but this is beyond the scope of this report. Since the results of the 1984 White Stork Census are still being compiled, a summary at this time is premature. The World Working Group on Storks, Ibises, and Spoonbills and the International Council for Bird Preservation are developing plans for an international White Stork conservation symposium, to be held in October, 1985, at Walsrode, West Germany. During this symposium, the status of the species will be elucidated, the various problems with its survival will be discussed, and a comprehensive conservation plan for the White Stork will be developed.

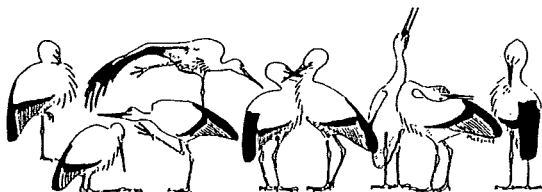
I am always eager to receive new information for inclusion in the Working Group reports. The large number of individuals who have provided information are to be thanked, and I hope all of these persons shall continue to play an active role in the Group. In order to have a more efficient and expanded communication web, we are developing regional coordinators to facilitate the flow of information.

The Working Group library is rapidly expanding as new reprints and reports are received. The library is meant to be a clearinghouse of information on this group of (primarily) aquatic species of birds and their habitats, and is intended to be a »working resource«. A selected list of bibliographic references is presently being compiled, and will be distributed to Working Group participants by the end of 1984. Please consider the Working Group library as you encounter new or obscure references on storks, ibises, and spoonbills.

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#### ABBREVIATIONS:

E = Endangered  
V = Vulnerable  
R = Rare  
I = Indeterminate



## RESEARCH AND CONSERVATION PRIORITIES: STORKS, IBISES, & SPOONBILLS

### AMERICAS

1. Determine status of JABIRU in all of Central America, and establish critical habitat needs. Promote strict protection of all nest sites and frequently-used wetlands.
2. Monitor coastal breeding ciconiiforms in Central America and northern South America, including AMERICAN WOOD STORK, ROSEATE SPOONBILL, WHITE IBIS, SCARLET IBIS, and protect significant wetlands which regularly harbor breeding colonies.
3. Further elucidation of breeding status of MAGUARI STORK in South America, particularly in the north of the continent. Perhaps radio-telemetry to follow movements of this migratory species. Strict protection of storks necessary.
4. Initiate research on various unknown ciconiiforms in the Neotropics (SHARP-TAILED IBIS, GREEN IBIS, PLUMBEOUS IBIS, PUNA IBIS, ANDEAN BUFF-NECKED IBIS), and further status determination of the three stork species.

### EUROPE, MIDDLE EAST, AFRICA

5. Determine most critical wintering grounds for migratory species, including WHITE STORK, BLACK STORK, WALDRAPP, SPOONBILLS, and investigate degree of protection these areas are afforded.
6. Promote international cooperation on protection of migratory species. (See 5., above.)
7. Expand information on breeding status of storks, ibises, and spoonbills in most African nations, especially unknown species or those with limited distributions (e.g. MADAGASCAR CRESTED IBIS, OLIVE IBIS, SPOTTED-BREASTED IBIS, DWARF OLIVE IBIS).
8. Encourage establishment of Massa National Park in Morocco for protection of WALDRAPP colonies.

### ASIA / AUSTRALIA

9. Careful, region-by-region investigations on the breeding status of the following indeterminate, threatened, or endangered species: EASTERN WHITE STORK, STORM'S STORK, BLACK STORK, WOLLY-NECKED STORK, MILKY STORK, BLACK-NECKED STORK, GREATER ADJUTANT, LESSER ADJUTANT, GIANT IBIS, WHITE - SHOULDERED IBIS, BLACK - FACED SPOONBILL.
10. Further investigations on the habits of the ORIENTAL CRESTED IBIS in China, development of captive breeding program for the species, and increase international cooperation on the conservation of this critically endangered species. **HIGHEST PRIORITY.**
11. Encourage strictest protection (via legislation, posting of guards, establishment of reserves and sanctuaries) of significant colonial ciconiiform breeding sites (e.g. Sundarbans, Wat Phai Lom, Mekong Delta, coastal mangroves of Malaysia and Indonesia, inland sites in India).

12. Develop monitoring and communication system and network for migratory species (EASTERN WHITE STORK, EUROPEAN WHITE STORK, BLACK STORK, OPENBILL STORK, BLACK-NECKED STORK, BLACK-FACED SPOONBILL) throughout breeding and non-breeding ranges.
13. Cooperation on All-Asia wetland mapping program of ICBP/IUCN/WWF during 1985 - 86.

## AMERICAS: SPECIES STATUS REPORTS

### AMERICAN WOOD STORK (*Mycteria americana*)

#### USA

(News Release of the U.S. Department of the Interior Fish and Wildlife Service, 14 March, 1984):

The Department of the Interior's U.S. Fish and Wildlife Service has added the U.S. breeding population of the wood stork, *Mycteria americana*, found in the states of Florida, Georgia, South Carolina, and Alabama, to the endangered species list, Service Director Robert A. Jantzen announced. The action follows an extensive review of available information concerning the species and a determination by the Service that breeding populations of the birds are continuing to decline.

Estimates indicate the breeding populations, located mainly in peninsular Florida, have declined by 75 percent since the 1930's. Much of the decline can be attributed to human manipulation of water tables through construction of drainage canals, levees, and lumbering of large cypress trees that offer nesting habitat. The nesting population of wood storks declined from more than 20,000 pairs during the 1930's to approximately 10,000 by 1960. Since 1978, fewer than 5,000 pairs have bred each year.

The wood stork, also commonly known as the wood ibis, is the only stork native to the United States and a cousin of the white stork of Europe and Asia known for its legendary, but mythical, role in human obstetrics. Adult wood storks stand over 3 feet tall with a five foot wingspan. The breeding and feeding habits of this white wading bird are closely linked to wetlands, primarily shallow ponds and cypress-mangrove swamps. The mainstay of the stork's diet is small fish, and an entire flock of the birds will often descend on a small pond or section of swamp to feed by groping the muddy bottom with their long, sensitive beaks.

Feeding habits depend upon a period of high water that causes an increase in the number of fish, followed by a drying period that concentrates the fish in a smaller area and makes them easier prey for the feeding flocks of birds. The drying period, when feeding is easier, triggers the stork's breeding season which lasts from November to April or May. During these months the birds congregate in colonial nesting or rookery sites mainly found in mangrove and cypress swamps. The rest of the year they can be found throughout most of the Southeast.

The location of rookery sites may shift according to the amount of rainfall, depth of water, and other such variables. This shifting, as well as the fact the birds spread far and wide when not breeding, prompted the Service to not recommend areas of critical habitat for the stork.

As a result of listing the wood stork as an endangered species, the Fish and Wildlife Service will work with State wildlife agencies and South Florida water management districts to curb the species' decline. The ruling does not affect nonbreeding populations of wood storks found west of Alabama at times.

#### MEXICO

Three nesting sites of the Wood Stork were located on the Gulf Coast of Mexico during the aerial surveys by the National Audubon Society in the 1970's. In the Usumacinta Delta, between 8,000 and 10,000 pairs constitute the »healthiest and most productive population of this species in North America« (Sprunt and Knoder, 1980). Additional smaller colonies were located on the Pacific Coast of Mexico (see below).

Observations of breeding colonies on Mexican (West) Coast, 1971 - 79 (Knoder, et al, 1980)

| date          | Location                 | colony size<br>(no. nests) |
|---------------|--------------------------|----------------------------|
| 15 July, 1972 | near town of Nuxco       | 30                         |
| 11 Feb., 1975 | near town of Nuxco       | 75                         |
| 11 Feb., 1975 | SE Bank of Rio Ometepec  | 30                         |
| 11 Feb., 1975 | Laguna Pastoria          | 100                        |
| 11 Feb., 1975 | Lagoon SE Piedra Blanca  | 75                         |
| 12 Feb., 1975 | Mar Muerto               | 225                        |
| 3 March, 1979 | near town of Nuxco       | 500                        |
| 4 March, 1979 | Coast, due W. Mapastepec | 350                        |

#### COSTA RICA

A breeding colony of 3000 pairs exist on Isla Pajaros (Prov. Guanacaste) in the west of the country. A smaller colony (200 prs.) is known from Estero Madrigal. Isla Pajaros, which lies in the Rio Tempisque drainage, is protected as part of the Refugio de Fauna Silvestre Dr. Rafael Lucas Rodriguez Caballero (Palo Verde). The birds can also be found in the Laguna Mata Cano Negro (Prov. Alajuela) and marshes and lagoons of Puntarenas Province. The following regions are recommended for protection: Mata Redonda, Pozo de Agua, Corral de Piedra, Estero Madrigal (lagoons in Guanacaste), marshes of the Golfo de Nicoya, and Peninsula de Osa. In addition, the Laguna Mata Cano Negro is a significantly valuable wetland, and is proposed as a wildlife refuge (J. Sanchez, pers. comm.).

#### PANAMA

A small colony of 20 pairs exist in the delta of the Rio Pavo, on the eastern side of the Peninsula de Azuero, central Panama. These birds move seasonally to unknown areas. Other breeding sites may also exist in the country (F. Delgado, pers. comm.).



American Wood Stork near nest area, Palo Verde, Costa Rica (photo: C. Luthin)

## VENEZUELA

Approximately 9,000 Wood Storks were observed during an aerial census of coastal and interior wetlands in 1983. Of these, ca. 3,000 occurred on the coast (2,849) and in the Lake Maracaibo basin (192). The rest (5,901) were counted in the llanos. These were non-breeding flocks and individuals. The population of Wood Storks in the country appears to be quite high. (Ramo and Busto, 1984).

## SURINAME

A breeding population of 400 pairs was recorded in 1970. No data on breeding population size exist for subsequent years. Seasonal (January to August) non-breeding populations have fluctuated between 2,000 (1983) and 3,750 (1970) in the years from 1970 to 1983. The species is protected at present by a yearly decree, and may be given full protected status in the future (Spaans & deJong, 1984).

## MAGUARI STORK (*Ciconia = Euxenura maguari*)

status: indeterminate  
V (Venezuela)

During the 1983 aerial census of northern South American wetlands, 82 Maguari Storks were observed in the Venezuelan llanos, and none were seen on the coast of the country. Fourteen nest sites were located during the census (Ramo and Busto, 1984). In Suriname, the species is a non-breeder. Some tens of individuals occur in the country, mostly on the coast from December to June (Spaans & deJong, 1984). Betsy Thomas has studied the population dynamics of the Maguari over a ten-year period in a part of the llanos, and she reports significant (in some cases 90 - 100 %) population declines. Research results on nestling behavior and growth, ecology, and adult behavior are to be published soon (B. Thomas, pers. comm.). The species occurs widely in the Chaco-Pantanal region of northern Argentina, Paraguay, and Brazil, but its status is unknown.

## JABIRU (*Jabiru mycteria*)

This magnificent stork species inhabits vast wetlands from Mexico south to Argentina. Although they occur seasonally in single or mixed-species feeding aggregates, the Jabiru nests solitarily. Undoubtedly, for this reason the Jabiru has never been abundant in Central America. As information on this species accumulates, there is growing concern for the small populations which exist in the various Central American countries. From available data, the following is a country-by-country account of the status of the Jabiru in Central and northern South America.

## MEXICO

During the years 1971 - 1980, the National Audubon Society of the United States flew aerial censuses of Mexico's coastal wetlands. The Jabiru was included in these surveys. The storks have a resident breeding population in the Usumacinta River Delta of Campeche and Tabasco States. This extensive wetland is formed by the confluence of the Rio Usumacinta, Rio San Pedro y San Paulo, and the Rio Palizada as they flow across a flat plain into the Gulf of Mexico (Knoder, Plaza, and Sprunt, 1980). The survey results follow.

| Year         | Numbers:<br>Adults/Juveniles | Year         | Nests                               |
|--------------|------------------------------|--------------|-------------------------------------|
| 1971 (April) | 16                           |              |                                     |
| 1972 (July)  | 5/1                          |              |                                     |
| 1974 (May)   | 11                           |              |                                     |
| 1975 (Feb.)  | 18/3                         | 1975 (Feb.)  | 1-- 2-3 young                       |
| 1976 (May)   | 13                           | 1976 (Jan.)  | 3                                   |
| 1977 (Jan.)  | 19                           |              |                                     |
| 1978 (May)   | 89/6                         |              |                                     |
| 1979 (March) | 11                           | 1979 (March) | 2-- one w/<br>young, one w/<br>eggs |
|              |                              | 1980 (Feb.)  | 2                                   |

Primary concentrations of *Jabiru* were observed to the south of Laguna Terminos in the Bay of Campeche, as well as some further to the west. One nest was in a mixed ciconiiform (storks, herons, egrets) colony: the others were isolated from other species. The nests were built on the tops of tall red mangroves in the coastal mangrove fringe (J. Ogden, pers. comm.). Twice a *Jabiru* was observed foraging with Wood Stork flocks in the vast wetlands of the coast of Quintana Roo (w. Yucatan Peninsula), and this region needs further investigation (A. Lopez-Ornat, pers. comm.). The Working Group is presently making plans to further investigate the status of *Jabiru* in southern Mexico. It is possible that the large number of the *Jabirus* observed in 1978 were birds which breed outside of the country, either in Belize or Guatemala.

## BELIZE

This small country maintains the healthiest breeding population of *Jabirus* known for all of Central America. Between 1973 and 1979, Mr. W. Ford Young of the Belize Audubon Society surveyed the numerous wetlands for *Jabiru* nests, using his private airplane. Over a ten-year period, 1969-1979, sixteen nests were known for the country. At least seven of these nests have since been abandoned. As many as 16 individuals have been observed together. The population is seasonal in Belize, leaving the country from June until November. The storks nest from late December to April.

With funds provided by the W.W. Brehm Fund for International Bird Conservation, two aerial censuses of Belize's wetlands, on 25 February and 29 April, 1984, were flown by Mr. Young, Dora Weyer, and pilot John Fuller. The survey encompassed all coastal and interior wetlands where *Jabirus* are known to breed and forage. All known nest sites were surveyed from the air, and ground checks were made in certain areas. During the February flight, a total of 8 adults were observed; an additional 9 young were counted from three active nests. During the later flight, two additional (empty) nests were located, with adults nearby. A total of 6 adults (and the three young observed in February) were counted. Nests were located west of Orange Walk near San Antonio at Mexico Lagoon, Willows Bank, and Bocotora Pine Ridge. Nests and individual birds are difficult to detect due to the density of the forest and the abundance of small ponds where the storks may forage, so the census results are undoubtedly a conservative estimate of the status of the *Jabiru* in Belize (W. Ford Young, pers. comm.). Further censuses and investigations are planned for the Belize *Jabiru* population.

## GUATEMALA

A few solitary individuals were sighted in the northern third of the country by Robert W. Grant during ornithological studies in the country. It is unknown whether there is a breeding population in the country. There is probably movement in the storks between the three adjoining countries, Guatemala, Belize, and Mexico, and a complete survey is recommended.



Jaribu Stork, Venezuela (photo: C. Luthin)

#### NICARAGUA

Camacho (1983) reports on the status of Jabiru in Nicaragua. Although the actual population size is unknown, his observations between 1974 and 1982 led him to the conclusion that the Jabiru is IN DANGER OF EXTINCTION in the country. In these nine years, he observed a total of 70 individuals, divided into two disjunct (?) populations, one on the Pacific side of the country, where he reports 38 sightings from Cuenca de los Grandes Lagos, and 32 from the Atlantic side. This is apparently the »stronghold« of the species, as only there were nests observed: three by Camacho, and a fourth by another ornithologist. These were observed in Sacate de Sabana in the northeast of the country. Camacho believes there is seasonal movement between the two distinct groups. A rapid loss of breeding habitat has probably brought the species to near extinction in Nicaragua.

#### COSTA RICA

Seven nests, and a total population of 40 Jabirus are known from Costa Rica. These are found in the northwest of the country, in the Rio Tempisque drainage of Guanacaste Province. Four of the nests fall within the border of the Palo Verde National Park; these nests are threatened by the possible deregulation of sections of the Park, which would open these areas to agricultural development. The wetlands are designated for intensive sugar cane production. The disturbance caused by habitat alteration and fire-management of the cane fields would undoubtedly spell the demise of the four nests. It is possible that Jabirus may exist on the Costa Rica-Nicaragua border, as they are known to exist in the same region in Nicaragua. Some individuals have been observed seasonally in the Laguna Cano Negro in Alajuela Province. Extensive studies of the Jaribu have been completed by Working Group member Julio Sanchez, and his research findings are presently being written.

#### VENEZUELA

During aerial surveys of coastal and interior wetlands by Dr. Cristina Ramo, Benjamin Busto, and Stewart Reid in 1983, a total of 223 Jabirus were located. Only three were seen on the coast, 18 in the wetlands surrounding Lake Maracaibo, and 202 in the extensive »llanos« of the central region of the country (Ramo and Busto, 1984). During the early part of the wet season, large concentrations of Jabirus congregate in the rice fields in the llanos. However, the species is widely dispersed when nesting, so it is difficult to know the breeding numbers. Thomas (1981) has made observations of nesting Jabirus in the llanos. Additional articles are now in press (B. Thomas, pers. comm.).

#### SURINAME

Based on aerial censuses in 1983, when 11 Jabirus were observed in the country, and from previous studies, de Jong and Spaans (1984) estimate the breeding population of the country at »probably less than 10 pairs« and a nonbreeding population of a maximum of 100 - 150 individuals, probably decreasing. In the 1983 census, no Jabirus were reported from Guyana and French Guiana.

#### SOUTH OF THE AMAZON

The Jabiru is also found in the Chaco-Pantanal of Brazil-Paraguay-Argentina. Here, the species apparently has a relatively secure population (»common in the pantanal and adjacent moist eastern chaco, and also in the southwestern fringes (Tucumán) of the chaco; only of sporadic occurrence in the south-central chaco and not known in the northern Paraguayan and Bolivian portions« (Short, 1975). In Argentina, occurring north to Tucumán, Santiago del Estero, Santa Fe and Corrientes; occasionally to Córdoba and Buenos Aires (Nores and Yzurieta, 1980). No current status report has been received.

## SCARLET IBIS (*Eudocimus ruber*)



Present known distribution of *Jabiru mycteria* in Central America

## AMERICAN WHITE IBIS (*Eudocimus albus*)

### USA

The White Ibis is an abundant species occurring on the East Coast from South Carolina to Florida. During extensive coastal surveys coordinated by the U.S. Fish and Wildlife Service in 1975 and 1976, approximately 60 colonies of the ibises were located, over half of which contained at least 100 nests. Two colonies numbering as many as 20,000 nests (Pumpkinseed Island, Drum Island, South Carolina) were censused (Osborn & Custer, 1978). Populations on Pumpkinseed Island have fluctuated over a nine-year period from 3,000 to 19,500 nests, and spring tide mortality is extremely high (43 - 95 %) (P. Frederick, pers. comm.).

### MEXICO

Numerous small colonies of this ibis occur on the Pacific Coast of Mexico (14 colonies, numbering 20 - 600 nests, 1972), and several large colonies have been found on the Gulf Coast (807 - 2,225 nests, 1973 - 76). These aerial survey reports appear in Sprunt & Knoder, (1980) and Knoder, et al, (1980).

### PANAMA

Small colonies are found on various islands at the entrance of the Panama Canal, and sections of the Azuero Peninsula (F. Delgado, pers. comm.).

### VENEZUELA

This species appears to be expanding its range in the country, where it is competing with Scarlet Ibis and hybridizes with them (Ramo and Busto, 1982). The Venezuelan White Ibis is a smaller bird than that from Florida, and may be a distinct subspecies (C. Luthin, in prep.). At present, central Venezuela is the southeasternmost extent of the White Ibis.

status: vulnerable

E (coastal Venezuela, Trinidad)

I (Brazil, Colombian llanos)

In addition to Scarlet Ibis, eleven other waterbird species were censused. Based on data from these censuses, recommendations for protection of vital wetlands in these countries will be developed. Census participants have contributed information on important wetlands for the ICBP/IWRB Neotropical Wetlands Project. The following are census data from 1983 and 1984. Additional details of the census are printed in the W.W. Brehm Fund Newsletter »Flying Free«, Vol. 1, No. 2 (Winter, 1983), and Vol. 2, No. 1 (Spring, 1984).

| country/site  | numbers (prs.) |  |
|---|----------------|--|
|   | 1983           | 1984   |
| Venezuela   |                |  |
| coast (Puerto Cabello, Unare)                                       | 315            | 0  |
| Orinoco Delta (Pedernales, Isla ca. 1000 de Mariusa, Isla Corocoro) |                | 1280   |
|   |                | (island of Cano Manamo, Punta pescador, Isla Corocoro) |
| Ilanos (22 colonies, 1983)  | 64,423         | no data received to date                               |
| Guyana  | 0              | 0  |
| Suriname  | 1,850          | 10,930   |
| French Guiana   | 0              | 300  |
| n. Brazil   | 0              | (not flown)  |

These data have been provided by the research teams, which included Ben de Jong, Cristina Ramo, Benjamin Busto, and Stewart Reid.

Approximately 9,000 Scarlet Ibis were sighted in Brazil during wetland aerial censuses by R.G. Morrison of the Canadian Wildlife Service in 1982, the majority (7,530) of which were in the Amazon. Breeding colonies are reported from Marajó Island (Amazon Delta) (D.M. Teixeira, pers. comm.), and this area needs further investigations. Unknown numbers also occur in the Colombian llanos adjacent to the western llanos states of Venezuela. An unusual sighting of three Scarlet Ibis was reported from Anango, upper River Napo, Napo Province, on the Amazonian slope of the Andes in Ecuador (Fernando Ortiz, pers. Comm.).

Although the breeding numbers of Scarlet Ibis is quite large, it must be noted that 95 % of the breeding pairs counted in 1983 were among the 22 colonies in the Venezuelan llanos, and 87 % of the total population were found in only four colonies. With the increasing pressure for agricultural development of the llanos, these important breeding sites may be threatened. Due to a very limited (and decreasing) amount of mangrove forest on the Venezuelan coast, the coastal breeding population has dropped to zero in 1984. Urgent protection of these remnant mangrove sites is strongly encouraged.

In French Guiana, the Scarlet Ibis faces a similar threat: human disturbance. De Jong and J. Betlam, during a visit to the country in 1983, found a thriving industry which produced handicrafts (artificial »flowers«) from Scarlet Ibis feathers, which are sold to tourists. This »flower« industry appears to be important in the economy of the city of Sinnamary. The species is legally hunted from 1 December to 15 February, and there is no control on the sale of the feather products. However, a proposal for new game protection is being written. One solution proposed by de Jong and Betlam is as follows: »Since we had the impression that the construction of 'flowers' from Scarlet Ibis feathers is the prime reason for killing these birds, a solution could be sought in replacing the feathers with artificially-dyed

domesticated bird feathers. We obtained dyed feathers (from China) in Suriname which were almost identical in color to Scarlet Ibis feathers. Substitution with these feathers could be an important step towards total protection of the Scarlet Ibis in French Guiana.«

The reduction of breeding colonies in Trinidad and Venezuela appears to be directly related to human disturbance to the colonies. Pesticide contamination does not seem to be a significant problem, based on small samples of eggs taken from Suriname and Venezuela (llanos) in 1983. Only small concentrations of organochlorine contaminants were found in the eggs analysed (A. Spaans, pers. comm.).



Roseate Spoonbill, Costa Rica (photo: C. Luthin)

## ROSEATE SPOONBILL (*Platalea* = *Ajaia ajaja*)

The following is a condensed summary of the status of the Roseate Spoonbill in the northern part of its range (i.e. USA northern South America).

| country/site                                   | population   | source   |
|--|--|--|
| USA  |  |  |
| Florida  | ca. 1000 prs. (1975-76; present)                       | (Osborn & Custer, 1980; J. Ogden, pers. comm.) |
| Louisiana                                      | 150-200 indivs.  | G. Farnell                                     |
| Mexico   |  |  |
| Gulf coast                                     | 3250 prs (1971)  | Sprunt & Knoder, 1980;                         |
| Pacific coast                                  | ca. 100 prs. (1971-79)                                 | Knoder, et al, 1980                            |
| Belize   | 0 (last colony gone)                                   | D. Weyer                                       |
| Costa Rica                                     |  |  |
| Isla Pajaros, Isla San Pablo                   | 600 prs.   | J. Sanchez                                     |
| Panama   |  |  |
| Rio Grande (Prov. Coclé)                       | small numbers  | F. Delgado                                     |
| Venezuela*                                     |  |  |
| Coast, Lake Maracaibo                          | 624 individuals (n.b.)**                               | Ramo & Busto, 1984                             |
| Orinoco Delta                                  | 92 individuals (n.b.)                                  | Ramo & Busto, 1984                             |
| llanos   | 228 individuals (n.b.)                                 | Ramo & Busto, 1984                             |
| Guyana   | 130 individuals (n.b.)                                 | de Jong  |
| Suriname (coast)                               | 10's of breeding prs.<br>up to a few 100's individuals | Spaans & de Jong,<br>1984                      |
| n.e. Brazil                                    | 100 individuals (n.b.)                                 | de Jong  |
| Ecuador  |  |  |
| Archipelago de Jambeli, Prov. El Oro (Pacific) | ca. 50 individuals                                     | Fernando Ortiz                                 |
| Bahía de Caráguéz, Prov. Manabi                | ca. 50 individuals                                     | Fernando Ortiz                                 |

\* The aerial census of coastal/interior wetlands of Venezuela was prior to the onset of the breeding season of Roseate Spoonbills, so no breeding numbers exist for this country

\*\* n.b. = nonbreeding



## EUROPE, MIDDLE EAST, AFRICA: SPECIES STATUS REPORTS

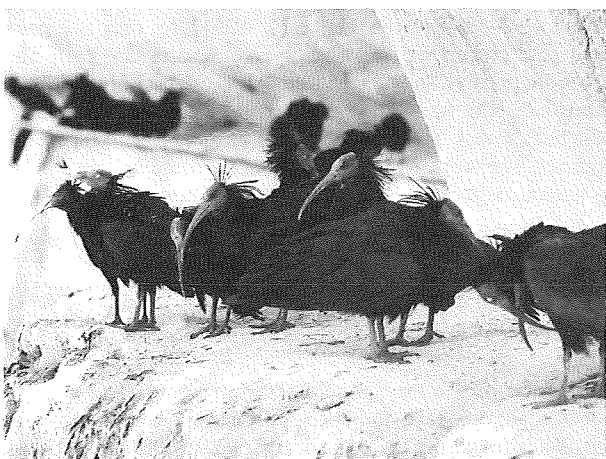
### WALDRAPP IBIS (*Geronticus eremita*)

status: endangered

This rare ibis exists in approximately 13 colonies in the world, twelve of which are in Morocco. Efforts by the World Wildlife Fund have elucidated the present breeding status of this species. An effort has been made to establish a national park (Massa) in Morocco for the protection of the ibis, but as of early 1984, the national park had still not been created. Udo Hirsch, the principal investigator on the Waldrapp projekt, was unable to visit Morocco to census the Waldrapps in 1983, »but according to information received, I (Hirsch) believe that the total number of Waldrapp ibises in Morocco did not change« (Hirsch, 1984), i.e., ca. 350 - 400 freelifving individuals (367 counted in 1982) (Hirsch, 1983).

The Waldrapp breeding colony in Birecik, Turkey, has dwindled to but several pairs in recent years. In an effort to bolster reproductive output by the colony, a breeding aviary was established. The following is excerpted from Hirsch's 1983 report: The Turkish ornithologists Mr. Recit Akcakaya and Mr. Can Bilgin observed the captive breeding programme for the Waldrapp as well as the wild population. Their work was financed in part by the Society for the Protection of Wildlife, Istanbul. In 1983, 13 Waldrapps arrived in Birecik. At the same time, five adults and four young were released from the aviary. Of the ten young released in 1982, four to five were still alive, bringing the total to 26 - 27 in the Birecik area. Some of the adults which were released nested with the wild birds (some were previously wild caught). All together, eight pairs raised 17 chicks. In June, all of them migrated with the adults to the south. Nine young birds released in 1982 and 1983 remained near the aviary. Approximately 35 birds migrated to the south.

For the first time in 1983, the Waldrapps did not breed in the town of Birecik, but rather in the (safe) neighborhood of the aviary. This is a very positive change, as was hoped and encouraged by the IUCN/WWF project. In the aviary, six pairs nested, and ten young fledged. Unfortunately, some of the young show deformities. A total of 38 birds lived in the aviary in 1983. As of December, 1982, 481 Waldrapps were housed in 34 zoos. This figure is incomplete, however, as various zoos did not report their totals.

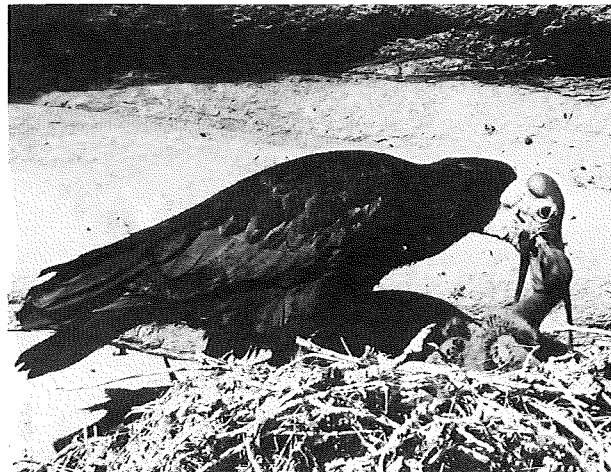


Waldrapp colony, Birecik, Turkey (photo: U. Hirsch)

### BALD IBIS (*Geronticus calvus*)

status: vulnerable

The Bald Ibis inhabits highland grassy plains of South Africa, where it nests colonially on cliff ledges, similar to the Waldrapp of northern Africa and Turkey. The ibises forage primarily in dry indigenous grasslands and ryegrass pastures, where they search for insects, earthworms, and small invertebrates. They selectively utilize grasslands immediately after a winter (June, July) burning (Manry, 1982, 1984). The Bald Ibis population has been much reduced due to habitat destruction (e.g. conversion of grasslands to commercial timber production), localized hunting, and disturbance to nesting colonies, and the total (species) population is estimated at »no more than 8.000 individuals«, and is therefore considered to be »highly vulnerable« (D. Manry, pers. comm.). A study of breeding sites was undertaken in Transvaal by the Nature Conservation Division of the Transvaal Provincial Administration in 1982 and 1983. In 1983, 41 of 50 colonies were visited, and it was determined that approximately 400 pairs raised 277 young. The total Transvaal population numbers ca. 2.250 birds. During the study, human disturbance and predation attempts were observed at several colonies, and these activities were effectively halted by authorities (Allan, 1982, 1983). A ringing program was initiated in 1972, and between 1972 and 1977, 226 nestlings were ringed. A small group of nine birds is being held in Pretoria Zoo in an effort to develop a captive breeding program. Although unsuccessful since their capture in 1982, with the construction of a proposed breeding facility, it is hoped that the ibises will begin to reproduce (D. Allan, pers. comm.).



Bald Ibis at nest, Transvaal, South Africa (photo: D. Allen)

### DWARF OLIVE IBIS (*Bostrychia bocagei*)

status: indeterminate

This retiring forest ibis of the island of Sao Tom e Principe (Gulf of Guinea) was last seen/collected in 1928, and by CITES criteria is considered extinct. However, this species, similar to the larger mainland *Bostrychia* species, is »notoriously inconspicuous«, and may still occur in small numbers on the island. ICBP has developed a project to investigate the endemic birds of Sao Tomé, and researchers would search for this rare ibis (N. Collar, ICBP African Red Data Book).

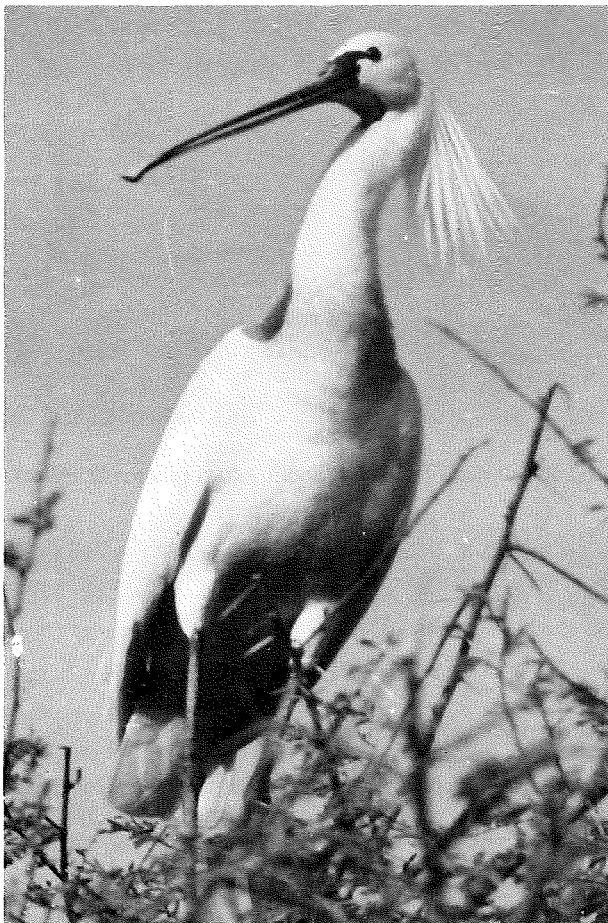
## WATTLED IBIS (*Bostrychia carunculata*)

status: locally abundant

This relatively unknown species is reported as »extremely common in the highland areas of Ethiopia, especially in the Bale and Addis Ababa areas. It has adapted itself well to living under urban conditions, and they are easily seen wherever is any mud for them to probe in« (Dr. Jesse C. Hillman, in lit. to David Manry).

## EURASIAN SPOONBILL (*Platalea leucorodia*)

The only known breeding population of this species in northern (W.) Europe is found in the Netherlands; the total population for the country is 220-240 pairs, located in several colonies (Naardermeer Zwanenwater, island of the Waddensea). Three students at the University of Amsterdam, Jeroen van Wetten, Petra de Goeij, and Jan Kemper, have been studying the Zwanenmeer colony (60 prs.) and their foraging activities. A limiting factor in the success of the population appears to be related to food availability. In March and April, the spoonbills forage close (within 15 km) to the breeding colony, but in May they begin to move further away, and often forage 30 km from the colony. Shallow waters of the tidal areas of the Waddensea are being increasingly used, and the Waddensea island colonies are increasing in numbers of breeding pairs. It is suggested by the students that the mainland colonies will decline (as fresh-water foraging sites start to be used less), and the tidal feeding grounds and Waddensea colonies will continue to grow in importance for the species (J. van Wetten, pers. comm.).



Eurasian Spoonbill, Bangladesh (photo: Reza Khan)

## EUROPE, MIDDLE EAST, AFRICA: REGIONAL REPORTS

### DENMARK

Report of Hans Skov, Stork Group of the Dansk Ornithologisk Forening:

#### WHITE STORK (*Ciconia ciconia*)

The stork has been decreasing in Denmark for many years. Before 1857, about 10.000 pairs bred in Denmark; after 1900, about 4.000 pairs. During 1939, approximately 1.100 - 1.200 pairs were known; in 1952, only 222 pairs. The storks continued to decrease from 60 pairs in 1970 to 36 pairs in 1978, 31 pairs in 1979, 25 pairs in 1980 and 1981, 20 pairs and 21 pairs, in 1982 and 1983, respectively. The Stork Group of the Ornithological Society has been attempting to help the last storks in the country. (Note, no 1984 report received to date.)



White Stork pair at nest, Netherlands. (photo: R. Van Beek)

#### BLACK STORK (*Ciconia nigra*)

The Black Stork was common in Jutland (eastern Denmark) about 1850, and the population was estimated at 150 pairs. The population decreased to half of that in 1900, and declined to 20 pairs in 1920. During the war years, 1939-1945, only two pairs bred, and during the following five years, only one pair. The stork disappeared altogether in 1952, but one pair bred in 1953. Since 1953, the storks have not bred in Denmark, although a pair built a nest in 1965. The storks are seen each year in the country. The stork no longer occurs as a breeding species due to habitat destruction and disturbance by humans.

#### EURASIAN SPOONBILL (*Platalea leucorodia*)

During the 1920's, the Spoonbill bred in Denmark (Vejlerne), but in small numbers. The species bred in the country again in the 1940's (max. 6 pairs), and from 1962 to 1969. The species has not bred in the country since 1969, although it is sighted every year.

## YUGOSLAVIA/GREECE

The following is excerpted from a report, »Report on a Trip to Yugoslavia and Greece (15 April to 17 May, 1983, by A.J. Crivelli, B.A. Beasley, R.L. Ross, submitted to ICBP Headquarters, England.

### GLOSSY IBIS (*Plegadis falcinellus*)

Several pairs of the ibis were observed at Sasko Lake (ca. 30 km from Lake Skadar, 42° 10' N, 19° 20' E, Yugoslavia), breeding among other ciconiiforms. No census is available. Additional breeding birds were observed in a mixed colony at the deltas of the Axios-Loudios-Aliakmon Rivers, 40° 35' N, 22° 50' E, Greece. This is the first breeding of this species described for this area.

### EURASIAN SPOONBILL (*Platalea leucorodia*)

Several small colonies of the spoonbill were located, including Sasko Lake (Yugoslavia), (ca. 25 pairs), Lake Mikra Prespa (40° 45' N, 21° 06' E), Greece, and the deltas of the Axios-Loudios-Aliakmon Rivers.

## IRAN

Report by Ms. Ellen Tavakoli:

### WHITE STORK (*Ciconia ciconia*)

Common in west Iran (Azerbaijan, Angouran Arasbaran, and Kiamaki protected regions, north of Lake Urumieh to the borders of Turkey and Russia), Mainkaleh peninsula, Mazandaran; foothills (to 3500 m) of Caucasus, Iranian side of Aras River; Fars (Firoozabad) and Bakhtegan, South Iran, where they occur throughout the year. Wintering populations known from Shadegan, Khuzistan, and various regions where breed (above). White Storks were observed by Ms. Tavakoli on rooftops in Khoi City, Azerbaijan (July, 1983), on top of the pillars of the ancient Pasargade palace of Cyrus the Great in Fars, and in the plains of Firoozabad in January, 1981. The Iranian culture has historically revered the stork as a holy bird, and there appears to be no threat to the species. White Stork counts are being developed in the country.

### BLACK STORK (*Ciconia nigra*)

Throughout the year in a newly protected wetland near Isfahan, Central Iran. This is the only known breeding site for the storks. Wintering Black Storks are known from Bahu Kalat and Hara National Parks, Persian Gulf.

### SCARED IBIS (*Threskiornis aethiopicus*)

Endangered in the past, now no recent information due to war in the area, i.e. Dez National Park and Shadegan marshes in Khuzistan.

### GLOSSY IBIS (*Plegadis falcinellus*)

Widespread in Iran. Quite common in Fars (i.e. vicinity Parishan and Bhakhtegan Lakes) throughout the year. Southern Iran. Breeding at Lake Parishan (100-200 pairs, 1983), and at Tashk in Lake Bakhtegan region, as well as unknown numbers around Lake Urumieh in Northwest Iran. Wintering in Seistan wetlands (Hamoun Saberi), East Iran; in the Caspian littoral (Miankaleh, Seyed Mahale), Mazandaran, North Iran.

### EURASIAN SPOONBILL (*Platalea leucorodia*)

A small population (ca. 50 pairs) regularly breed at Lake Urumieh, Doguzlar islands. In summer, 1983, seven chicks were ringed from 15 nests. Breeding colonies known also from Miankaleh, Mazandaran, Lake Parishan (20-30 pairs), and Lake Bakhtegan. The spoonbills winter in river deltas near Bandar Abbas (Hara and Bahu Kalat), Persian Gulf. The Iranian Department of Environment has initiated annual censusing of the spoonbills, and other waterbird species. White Stork counts are being developed in the country.

## SUDAN

Report by Gerhard Nikolaus, formerly living in Sudan. (Nikolaus is presently writing the bird atlas of Sudan).

### YELLOW-BILLED STORK (*Mycteria ibis*)

Not uncommon. Normally in small parties near pools and deeper water. Breeding in south Malakol together with Marabus. Migrate north to south with the rainy season, leaving the Sudd region during the flood period.

### AFRICAN OPENBILL STORK (*Anastomus lamelligerus*)

No danger. Often in large flocks. The most common local stork in Sudan (although Nikolaus has never seen a breeding colony in Sudan).

### ABDIM'S STORK (*Ciconia abdimii*)

Common breeder in North Sudan in trees and on houses like the White Stork of Europe. Concentrate in large numbers before southward migration in August/September. During ringing of the storks at their nests, Nikolaus noticed that there was high mortality (ca. 50 %), probably due to pesticide spraying in the region. This may pose a serious threat to the stork in the future.

### WHITE STORK (*Ciconia ciconia*)

Numerous recoveries of ringed storks from Europe (see Nikolaus and Backhurst, 1982). Several thousand overwinter, mainly in the Rahad irrigation scheme and the Curina Marsh. Common during autumn passage from late August to late October in groups of 1,000 to 2,000, mainly in the Gedaref-

Medani-Sennar Region and around Nyala-Buron. The storks frequent short-grass savanna, feeding on grasshoppers, rats, etc. No ringed storks were observed in the Gedaref-Medani region, although over 1.000 individuals were checked, suggesting that these storks are coming from the eastern part of their range. The storks are still hunted in Sudan, often for fun. Not protected by law in the country. Many storks are killed by poisoned bait.

**BLACK STORK**  
(*Ciconia nigra*)

Wintering in Sudan in small numbers. Usually seen singly or in small groups of as many six birds, associated with fresh-water wetlands and on the Red Sea. Wintering population estimated at 100. Although the storks are not protected by law, there seems to be little danger from hunting.

**WOOLY-NECKED STORK**  
(*Ciconia episcopus*)

Mainly a bird of woodland and savanna, often seen in pairs or small groups after brushfires. Seasonal migrants. No danger.

**SADDLEBILL STORK**  
(*Ephippiorhynchus senegalensis*)

Resident. Always single or in pairs, associated with large swamps mainly south of 10° N. Will be affected by the Jonglai Canal (Sudd) (if completed), and other swamp diversion projects.

**MARABOU STORK**  
(*Leptoptilos crumeniferus*)

Breeding in large colonies in South Sudan. Seasonally migratory. No danger.

**SHOEBILL**  
(*Balaeniceps rex*)

Primarily in the Sudd Swamp, South Sudan. This population was censused by air, and estimated at 5.500 individuals. The total Sudan population is estimated at 7.000. This species, inhabiting extensive papyrus swampland, could be severely impacted by the Jonglai Canal (if completed), and is vulnerable to burning and grazing of swamplands.

**HADEDAH**  
(*Bostrychia hagedash*)

Occurs in pairs throughout the south of Sudan, in swamps, wetlands, and savannas. No danger.

**SCARED IBIS**  
(*Threskiornis aethiopicus*)

Common, associated with most wetlands throughout the country. Seasonal north-south movements with the rainy season. The birds leave the Nile Sudd for breeding to the north and northwest, around July/August. No danger.

**WALDRAPP**  
(*Geronticus eremita*)

Once a common winter visitor to the Red Sea (20 - 30 years ago). Between 1980 and 1983, only one record of a single bird moving north at Suakin, 18 March, 1983.

**GLOSSY IBIS**  
(*Plegadis falcinellus*)

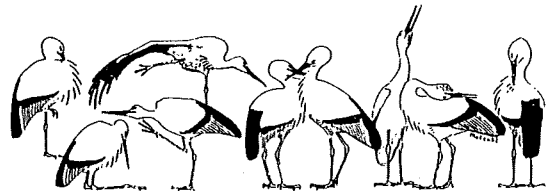
Common winter visitor. Large numbers arrive in Sudan in early August, occasional reports of several hundreds from areas the White Nile. Movements along the Red Sea coast. Ring recoveries from the Caspian Sea.

**EURASIAN SPOONBILL**  
(*Platalea leucorodia*)

Breed at Red Sea in April, population estimate ca. 200 - 500. A small colony reported from coastal mangroves between Suakin and Port Sudan. No threat to resident population. Wintering Palearctic migrants occur in small groups throughout Sudan, coming principally from Bulgaria, Rumania, Hungary. No danger.

**AFRICAN SPOONBILL**  
(*Platalea alba*)

One known breeding colony of 50 - 100 pairs along the Kangen River, near Jebel Kasangor (ca. 5° 40' N, 34° 00' E). Migrate north to Khartoum, Rahad, and Kassala in the late dry season (May/June). Uncommon. No known danger.



**ZIMBABWE (Lomagundi)**

Report of D.V. Rockingham-Gill, President, Ornithological Association of Zimbabwe:

**WHITE STORK**  
(*Ciconia ciconia*)

An estimate of 5.000 ± 200 birds occurs within a 6500 square kilometer region (Umboe Rural Council Area). The storks are »very opportunistic in feeding habits and will move from ploughed field, to fire (burned fields), to outbreaks of caterpillars, etc., making it difficult to get more than a general impression«. The population status is not well known. The Ornithological Association of Zimbabwe will participate in a national census this year.

**BLACK STORK**  
(*Ciconia nigra*)

Fourteen birds have been counted in the same area as mentioned above, and the numbers appear to be decreasing since 1980. The species is considered rare and vulnerable in the area. Severe drought conditions have probably been responsible for the decline.

## SOUTH AFRICA

Report of David Allan, Nature Conservation Division, Transvaal Provincial Administration. See also species report of Bald Ibis.

### WHITE STORK (*Ciconia ciconia*)

A major campaign for censusing the White Stork in Southern Africa (November, 1984 to April, 1985) is being developed, sponsored by the Southern African Ornithological Society. This is intended to be complementary to the 1984 White Stork census undertaken in Europe during the breeding season. A trial run in 1983 yielded over 1.000 reports.

### BLACK STORK (*Ciconia nigra*)

The storks breed on cliffs in the Transvaal. Forty nest sites were located between 1976 and 1981, and the total Transvaal population is estimated at 50 - 70 breeding pairs (Tarboton, 1982).

The Transvaal ornithologists are compiling an atlas of birds for the region. »There is an urgent need for detailed work on our rarer species, such as Saddlebill, Openbill, Yellowbill (African Painted), Woolly-necked and Marabou Storks. Some do not and may not ever have bred in South Africa, others have definitely declined as breeding species. The common migrant Whitebellied (Abdim's Stork) has never been censused here. The other three ibises and the African Spoonbill present no conservation problem at present«.

## ASIA: SPECIES STATUS REPORT

### MILKY STORK (*Mycteria cinerea*)

overall status: vulnerable  
status: E (Vietnam), E (Malaysia), V (Indonesia)

Since the last report (Summer, 1983), the status of this species has been somewhat better elucidated. In southern Vietnam the species was common before the war, but now is very rare, and only single individuals are reported from the coastal mangrove forests. (Ca. 50 % of the mangroves were destroyed directly by herbicides in the war.) No breeding sites are known, although a small breeding colony may exist in the Minh hai Melaleuca forest (Vó Quy, Le Dien Duc, pers. comm.). Two groups of Milky Storks were located during an aerial survey of the Malasia coastline in 1983 numbering  $110 \pm 10$  individuals. These were observed in mangrove forests/mud flats in Perak State in the west (D. Wells, D. Parish, pers. comm.).

An expedition organized by a team of ornithologists from the University of East Anglia (U.K.) surveyed Milky Storks in Malaysia and Indonesia from July to October, 1984. The maximum number of storks counted at one time on the western coast of Malaysia was 101; these were observed near a large saline pool frequently used by the storks, several kilometers south of the village of Kuala Gula in Perak State. Among the storks, no immatures or two year old birds were seen, suggesting that the storks are no longer breeding in this areas. The storks were observed most frequently among mangroves, often in the company of Lesser Adjutants.

The expedition team progressed to Pulau Dua, an island bird sanctuary of the northwestern coast of Java. The colony of storks observed by Kahl in the 1960's is no longer breeding on the island, although it is still used as a resting site for Milky Storks. These birds may be breeding on nearby Sumatra, where the storks are known, but their status is entirely unknown.

A small breeding colony was located on Pulau Rambut, another island off the Javan coast. Twenty one breeding pairs, and a total of 84 birds were counted. The storks invariably raised two young per nest. Although the team visited the island long after the initiation of breeding, nonetheless very young storks were still present in some nests during their August visit. Additional immature storks, fully independent of the adults, were roosting among the nesting pairs, suggesting a lengthy breeding period for the species. Only diurnal foraging activities were recorded for this group of storks. The birds are capable of very long distance foraging flights, and were often seen foraging in rice fields in small groups on mainland Java. A total of ca. 350 - 400 km of coastline in Java were surveyed, and a total estimate of storks is  $322 \pm 27$  for this area. The birds were less frequently encountered as the team progressed eastward, and none were sighted beyond the community of Cirebon.

Although no thorough surveys have ever been undertaken on the eastern mangrove-covered coast of Sumatra, numerous reports of small groups of the storks have been received. The university expedition team suggests that the bulk of the breeding population of Milky Storks occurs in Sumatra, and the birds then disperse to Malaysia and Java. Additional small numbers have been sighted as far eastward as Sulawesi (at least 25 are known to occur there, and there may be many more). Single individuals have been recorded on Bali, and on the southern coast of Java.

On Java, it is known that the storks are captured by trappers, and probably taken as food. A limiting factor for the species is a very limited amount of nesting habitat, as they require fairly extensive tracts of tall trees for breeding. This may be why there may no longer be reproduction on the coast of Malaysia (preliminary report by Gary Allport).

Based on the survey results, the total population of the storks may be conservatively estimated at 1.000 (editor's estimate). The Milky Stork may be the most threatened of the storks. Certainly further investigations and surveys need be undertaken to determine their overall status and to locate the breeding colonies.

### EASTERN WHITE STORK (*Ciconia boyciana*)

status: vulnerable

Since the last report of the Working Group, we have no additional population estimates for the species, i.e., based on surveys undertaken by Soviet scientists, 400 - 500 breeding pairs exist in the USSR. Additional research on the storks was undertaken in spring-summer, 1984 by our Soviet colleagues, and the report of Dr. S. M. Smirenskii follows.

»This summer was better for storks than for our stork ringing programme. The number of nests in Chingansky Reserve has increased since 1983, but has not yet reached the high figure registered in 1975. There were six eggs in one nest and all nestlings have successfully fledged! During July and August it was raining cats and dogs and the level of the Amur River was as high as during any time in the past century. The marshes and meadows were for the most part entirely under water. I suppose that during the next 2 - 3 years the number of storks in the Middle Amur region will increase due to the favorable conditions.«

»Unfortunately, the heavy rains were a hindrance to our ringing efforts. We observed more than 40 nests near Lake Bolon, in Chingansky Reserve and to the north of Zeya-Bureya Plain (to the Selemdga River), but the majority of nests were located 8 - 15 m high, on the tops of very weak dead trees. The trunks of these trees could barely bear the weight of the nest, let alone a man, and often the trunk was even broken by the wind. Although we could occasionally climb to the bottom of the nests, we were often unable to catch the nestlings without endangering the nest itself. Also for this reason, and because of the rains, we did not use helicopters at all«.

»During the last ten years, the stork nests have been built higher than ever. Nests which we could previously reach for banding and measuring young (e.g. 1981) now stand empty. Our timing was less than optimal, and we were only able to ring young from a few nests. Since we took so long at these nests, we arrived too late at the other nests. Because getting to the nest and young was our main difficulty this season, we shall build staircases at some nest trees during this coming winter. For the season, we ringed 19 nestlings from 9 nests. Colored, numbered rings and government metal rings were used«.

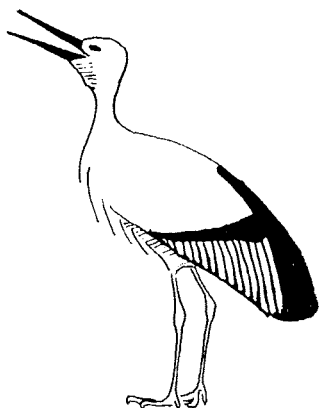
In spring, 1984, Chinese scientists flew aerial censuses for cranes and storks in the wetlands of Heilongjiang Province, the northeasternmost corner of China. Over 100 storks were counted, including a number of nests (D. Parish, pers. comm.).

We have yet to receive a full census report. Apparently the Eastern White Stork population in China is stronger than originally estimated. For the last two winters, several hundred of the storks were observed in wetlands adjacent to the Yangze River. With the discovery of a wintering population of over 800 Siberian Cranes at Poyang Lake, part of the Yangze drainage system, the Chinese government immediately declared a 22,000 hectare reserve. Since the Eastern White Stork is also known from this area, they shall be afforded complete protection as well. We applaud the action by the Chinese government for establishing this significant wildlife sanctuary.

We hope that in winter 1984-85, the Chinese scientists can continue and expand their investigations in the Yangze wetlands in order to locate important wintering grounds of the Eastern White Storks. Perhaps storks ringed by Dr. Smirenskii and Dr. Andronov can be located by our Chinese colleagues.

A captive management program for the rare stork is being developed by the Vogelpark Walsrode, in cooperation with other facilities which maintain these birds. Kyoko Matsumoto Archibald spent five months at the Vogelpark in winter-spring, 1984, making behavioral observations on the eleven Eastern White Storks housed there. Despite her success in establishing at least one, and probably three good pairs, the birds failed to breed in this year. Although the storks may have been yet too young this year, it is hoped that they will breed in 1985. Mrs. Matsumoto Archibald has located at least 38 Eastern White Storks in captivity, and will be developing a studbook for the species for responsible breeding and management.

With breeding success of the storks, the Vogelpark hopes to initiate efforts to develop a reintroduction program for the species into Japan and Korea, where the storks have already disappeared from the wild.



## BLACK-NECKED STORK (*Ephippiorhynchus asiaticus*)

status: rare/vulnerable

The Black-necked Stork, occurring in scattered localities from India eastward to Vietnam, Indonesia, and Australia, is one of the least-known of the storks. It is nowhere abundant, and in many areas already extirpated. The largest populations of the storks occur in northern Australian fresh-water wetlands (Kimberleys, Top End, Cape York, and Atherton Regions). Additional populations occur further to the south, associated with riverine swamps in eastern Barkly Tableland, Eastern Old, northern Murray-Darling, and northern rivers of the South-East. The De Grey River of the Pilhara also has a breeding population (*Atlas of Australian Birds*). Healthy breeding numbers were located in extensive wetlands of southern Irian Jaya (Indonesian New Guinea) during an expedition in 1983 (D. Bishop, pers. comm.).

Small breeding numbers still occur in mangrove and Melaleuca forests of southern Vietnam, where it is considered »vulnerable« (Le Dien Duc, pers. comm.). Extremely infrequent, solitary reports occur from Thailand, primarily from Trang on the west coast of the Peninsula. These are undoubtedly wanderers, and no breeding occurs in the country (B. Lekagul, P. Round, pers. comm.). Historically, the birds have been recorded from Bangladesh, but no recent records exist (Husain, 1979; S.U. Sarker, pers. comm.). The storks occur in the Indian Sundarbans, but their breeding status is unknown (K. Mookherjee, pers. comm.). A solitary record exists for Bangladesh (Khan, 1982). As many as seven nests of the storks have been seen in Bharatpur Bird Sanctuary (Keoladeo National Park, Rajasthan) (Kahl, 1967). In 1984, 12 storks were counted in the Park, and a variety of storks have been observed outside of the park's boundary (R. Kannan, pers. comm.). In Gujarat State to the west, the species is a resident, but nowhere common. The birds are sighted from Kachchh, including Babiya Dam, Vijaysagar Dam, Chhari Dhandh, Ganga Creek near Mandvi Port, Dhandh between Loriya Bhirandiyara (Banni area). The maximum number observed was six, at Babiya Dam on 25 February, 1978. The bird is always seen at Vijaysagar Dam. Breeding is not recorded (R.M. Naik, S.N. Varu, pers. comm.). A small number of sightings are reported from Kaziranga National Park (Assam, ne India) (anon., »Birding Trip to Northern India«). The southernmost breeding group is found in Yala National Park, Sri Lanka. This small resident population is probably isolated from the mainland Indian populations (Hoffmann, 1984; S.W. Kotagama, pers. comm.).

## GREATER ADJUTANT (*Leptoptilos dubius*)

status: unknown, perhaps endangered

The species was once abundant in the river swamp forests of Burma (Smythies, 1953), but only occasional sightings are now reported from the country, and the stork may no longer be breeding in Burma (J. Sayer, pers. comm.). Similarly, the Adjutant occurs as a visitor in Thailand, but no longer breeds there (P. Round, pers. comm.). The species may still breed in Vietnam, but certainly only in small numbers (Vo Quy, pers. comm.). The Adjutant is considered »vulnerable« in Vietnam (Le Dien Duc, pers. comm.). The stork is extremely rare in Bangladesh, reported from Pabna, Sylhet, Chittigong, Chittigong Hill Tracts. The species has not been sighted in the Sundarbans of Bangladesh for several years (Husain, 1979; S. U. Sarker, pers. comm.). The species is considered endangered in Bangladesh.



The first report of this stork nesting in India was by Kahl (1970). He located a nest in Kaziranga Wildlife Sanctuary, Assam, where egg-laying began in September. During a Dutch birding tour of India in January, 1983, additional sightings of Greater Adjutants were recorded, and at least four nests were located in the areas Kaziranga, Mikir Hills, and near Kahora. Once common near Calcutta, they no longer occur there. A pair is reported from north Bengal, September, 1983 (Caoch Behar District), foraging in paddy fields (K. Mookherjee, pers. comm.). Birds are reported seasonally from Bharatpur Bird Sanctuary, Rajasthan (Kahl, 1970), and during monsoons in Kachchh and north Gujarat. Its status is unknown in the state, and breeding is unrecorded. The Adjutant is conspicuously rare throughout (R. M. Naik, A. Banerjee, pers. comm.).

## LESSER ADJUTANT (*Leptoptilos javanicus*)

status: vulnerable

The Lesser Adjutant tends to be more associated with coastal swamp and mangrove forests, whereas the Greater Adjutant occurs in inland fresh-water swamps and wetlands as well, and is more of a scavenger than the Lesser. A total population estimated at »no more than 200 individuals« exists along the west coast of Malaysia, as determined by aerial censusing during 1983 (D. Wells), and the species is vulnerable in the country. Very small numbers of the storks are known from southern Vietnam, where they are probably breeding in the mangrove and Melaleuca forests (Vo Quy, Le Dien Duc, pers. comm.). Several solitary sightings are reported from Thailand in recent years, and the species is certainly gone as a breeding species (P. Round, pers. comm.). A breeding population of the storks still exists in the Sundarbans of Bangladesh. Several pairs breed in the mangroves of the River Naaf within Arakan Province of Burma and Teknaf of Bangladesh. These birds breed between August and December.

The species is particularly threatened by the loss of mature trees for nesting, and by increased disturbance by wood cutters and fishermen in the forests (S. U. Sarker, pers. comm.). The Lesser Adjutant occurs in the Bharatpur Bird Sanctuary of Rajasthan (India), and in the Indian Sundarbans, but their breeding status is unknown (Reza Khan, pers. comm.). Small numbers were reported by a Dutch bird-watching group in Kaziranga Wildlife Sanctuary and other areas of Assam (anon., »Birding Trip to Northern India - 1983«). Kahl (1970) also located 36 nests at Laokhowa Reserve near Nowgong, Assam, in November, 1967. He also made observations of Lesser Adjutants at Grand Lac, near Siem Reap, Cambodia (Kampuchea); no recent reports from this area have been located.

## ORIENTAL CRESTED IBIS (*Nipponia nippon*)

status: endangered, extirpated (wild) in USSR, Korea, Japan

The original range of the Crested Ibis included the eastern half of China as far north as Heilongjiang Province, Korea, Japan, and the Soviet Union (see map). The species has not been observed in the Soviet Union since 1963, and the last sighting in Korea was of two birds on the DMZ in winter 1977 - 78 (Thiede, 1982; G. Archibald, pers. comm.). In Japan, the ibises last bred in the wild in 1973. In winter 1980 - 81, in an attempt to rescue the species in Japan, the last of the wild birds were captured and placed into a breeding station. Unfortunately, these birds have not successfully bred, and only three of the original six survive.

The exciting discovery of a remnant wild breeding population in China in 1981 has sparked new optimism for the survival of the species. Here follows a brief summary of the ibis story in China, as reported by Dr. Liu Yinzeng of the Institute of Zoology, Beijing.

»At present, the Crested Ibis (*Nipponia nippon*) has become one of the rarest and most endangered species in the world. Only several decades ago, the Crested Ibis was widely distributed in eastern China, and La Touche (1931 - 34) recorded two forms: the white form and grey form. (Editor's note: The Crested Ibis becomes grey during the breeding season, when it »paints« its feathers with a substance it produces itself.) The ibis was rapidly decreasing in the '50's, and no records were available during 1960 - 1980 in China.

»In May, 1981, a team of ornithologists from the Institute of Zoology, Academia Sinica, rediscovered a group of the Crested Ibis in Yang-xian, Shaanxi Province, following an exhaustive (3 year, eleven province, 20,000 km) search. These ibises inhabit the central part of the southern slope of the Qinling Range (106° 54' - 108° 46' E, 33° 11' - 43' N), and at an altitude of 500 - 1400 m above sea level.

»This group was named 'Crested Ibis Group No. 1 in the Qinling Range'. Since then, research work has been conducted on this group of ibises with emphasis on reproduction, food habits, feeding behavior, and nesting habitat. Their breeding period is from the second half of March to late April. Two to four eggs are laid in each clutch, and the period of hatching is about 30 days. During the whole breeding season, each pair appears to defend an obvious territory. The ibis feed on larvae of both aquatic and terrestrial insects and soil invertebrates, such as earthworms. Their diets change with the seasons, and winter intake seems to decline. (The ibises are provided supplementary food by the researchers. Ed.'s note)«

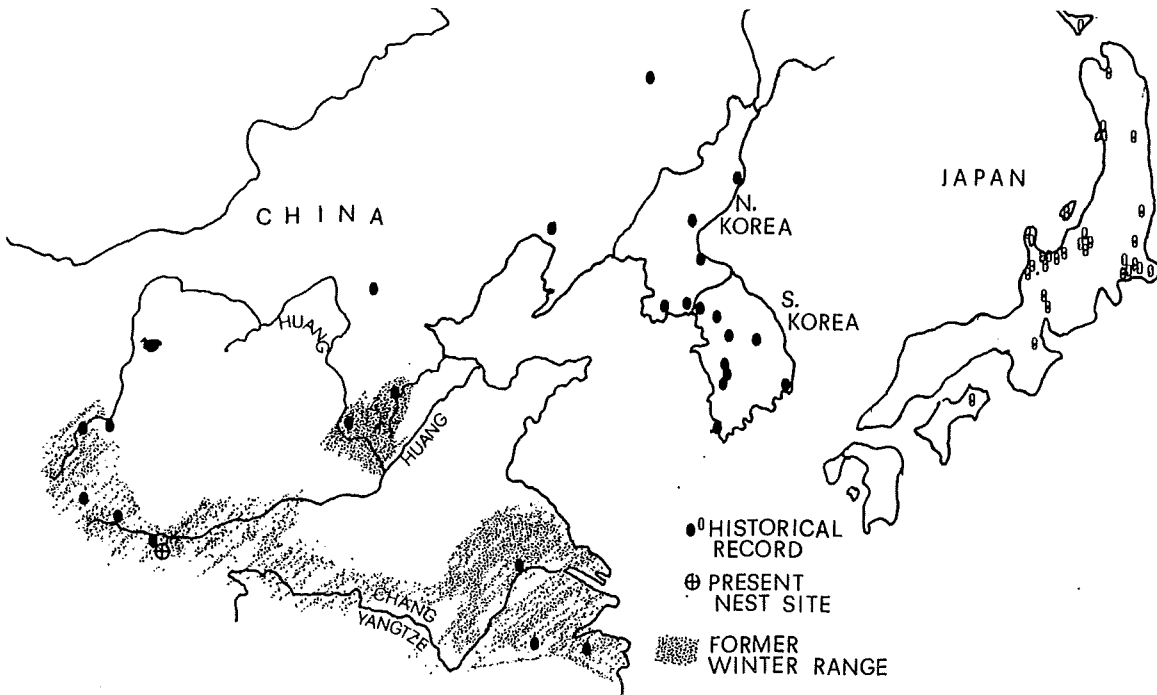
»So far as I know, this small population is the only breeding group known from the wild for the entire world. In the four years since discovery, 1981 - 84, the number of this group has increased from 9 to 17 (see table)«.

The nesting site of the breeding group of ibises has been protected and stringently guarded by the Chinese government. Dr. Liu and a small team of scientists maintain constant vigilance on the nests and the birds, which move to lowlands adjacent to the Hanjiang River, about 20 km away from the breeding site, during the dry summer months, July to October. The birds return with their young to the breeding grounds to spend the winter. (See map.)

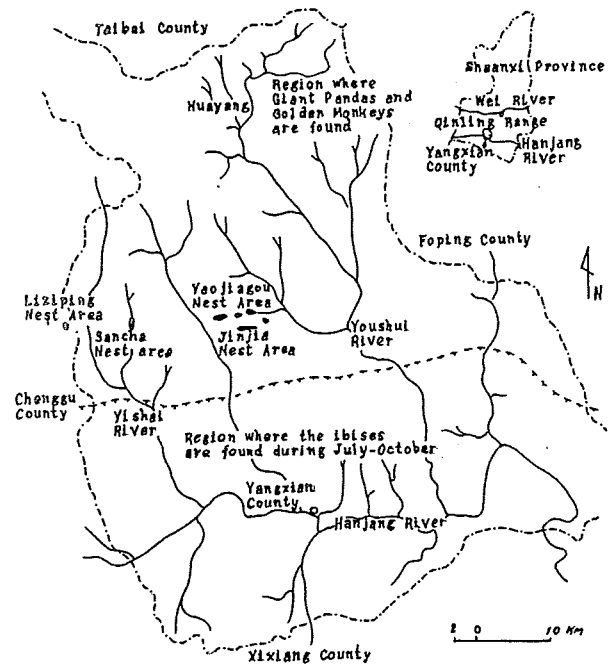
A workshop to establish long-term conservation priorities for the Crested Ibis was organized by the Chinese government in May, 1984. The three-point conservation plan calls for continued protection, expanded research, and captive propagation. A propagation facility will be built at the Peking Zoo in 1985. The Vogelpark Walsrode (W. Germany) is designing the breeding facility, based on experiences it has had with ibis breeding facilities. The W.W. Brehm Fund of the Vogelpark is providing field equipment to the government for developing their research program, and will contribute funds towards the construction of the breeding center. Further details of the conservation program for the species are outlined in »Flying Free«. Vol. 2, No. 2, (newsletter of the W.W. Brehm Fund, Summer - Autumn, 1984).

| Years                    | 1981   | 1982 | 1983 | 1984 | Total      |
|--------------------------|--------|------|------|------|------------|
|                          | Found  |      |      |      | population |
|                          | 6 ads. |      |      |      |            |
| Number Fledged Survivors | 3*     | 2    | 1    | 5    | 17         |
| Mortality                | 4      | 1    | 2    | 1    |            |

\* One weak individuals which had fallen from the nest was taken to the Peking Zoo, where it remains to date.



Historic and present distribution of the Oriental Crested Ibis (from, Thiede, U. 1982. Japanibis und Japanische Nachtigall als Beispiele zweier Pole im Naturverständnis der Japaner. Hamburg: Gesellschaft für Natur- und Völkerkunde Ostasiens e.V.)



Map of nesting areas of Oriental Crested Ibis, Shaanxi Province, P.R. China. (Liu Yenzing)

Oriental Crested Ibis on Demilitarized Zone, Korea. (photo: G. Archibald)





## WHITE-SHOULDERED (DAVISON'S) IBIS (*Pseudibis davisoni*)

status: unknown, vulnerable, E (mainland Asia), V (Borneo)

The status and ecology of this species is for the most part unknown. On mainland Asia, the species may occur only in Vietnam, where it is reported by local people as occasional in western wetlands of the Mekong River plain not far from the Kampuchean (Cambodian) border. I expect that there are some breeding pairs of these birds in southern Vietnam (Vo Quy, pers. comm.). Le Dien Duc (pers. comm.) reports that they have been observed in recent years in Dong Thap Muoi (Mekong Delta), but their breeding status is entirely unknown. The ibises have been extirpated from Thailand and Malaysia, the last known report occurring from Thale Noi of the Thai peninsula over five years ago (D. Wells, P. Round, pers. comm.).

Since 1979, the ibis has been sighted several times in various locations in Kalimantan (Indonesian Borneo). The several reports are copied verbatim below.

Philip Morgan (Singapore): I have recently been up the Sg. Mahakam in E. Kalimantan ... I am pleased to say that the Black Ibis is still there. A flight of seven birds flew over our boat above Long Iram on 2 October, 1983, and I saw two birds on a shingle bank in the middle of the stream on 19 October ...

Derek Holmes (Jakarta, Java, 9 May, 1984): I wanted to inform you of one, or two, near certain *Pseudibis davisoni* last month in Kalimantan. The location was some 8 km east of the Seruyan River in Central Kalimantan, in an area known as Sukamandang, at about 112° 15' E, 2° 15' S. Unfortunately the identification has to be mainly by a process of elimination. The first, on 7 April, was flying at about canopy height up a small tributary river at dusk ... The second record was on 8 April, about 3 km downstream from the last, at mid-morning. It could well have been the same bird of course. It was soaring over a swampy cleared area along the same river, surrounded by primary forest. The clearing consisted of submerged swamp grasses, etc. I had the impression it had been feeding there. Perhaps these records lack sufficient positive evidence to be accepted (as a confirmed sighting) but I am personally convinced. For me it was evidence that this relict species is still extant in Kalimantan. It struck me that, at least in this part of its range, it is a bird of forest habitat similar to *Ciconia stormi*. I don't know whether Joe Marshall's birds of the Barito (River, C. Kalimantan, 1979) were in forest habitat—they were on a river sandbank, but a considerable way upstream, and I imagine it was well-wooded terrain. I see from Smythies Birds of Borneo that it was seen at Pangkalanbuun (downstream on the adjacent river) in 1942.

D. Holmes (1 August, 1984): I have just been up the Mahakam (River, E. Kalimantan), and saw three more (*P. davisoni*), again in flight only, at the mouth (or near it) of the river Pahu where it joins the Mahakam, upstream from the lakes. An additional five (unconfirmed) sightings on one of the lakes. Searching through old records, I see I noticed a record of an ibis of black colour flying over open country about 50 miles NE of Banjarmasin (December, 1974), which at the time I put down as Glossy Ibis (which must be even less likely?), and then three unidentified black large waterbirds which flew across the main Banjarmasin airport road in swampy country. Perhaps the Black Ibis is not as rare as previously believed, but we need to know more, and I am anxious to see a proper survey made of all the Kalimantan wetlands.



## ASIA: REGIONAL REPORTS INDIA

Most communication in India has been with scientists in several of the northern states, and particularly Gujarat in the west. The following summary is a condensation of reports received to date. Information (for Gujarat) has been provided by M. Dharmakumarsinghi (Bavnagar), S. N. Varu (Kachchh), Dr. R. M. Naik, Dr. V. C. Soni, and A. K. Banerjee (Saurashtra University, Rajkot), and S.A. Bhatt and N.C. Bhatt (Wildlife Conservation Society, Bavnagar).

### GUJARAT

#### PAINTED STORK (*Mycteria leucocophala*)

Breeding July to October (shortly after onset of rains) in city of Bavnagar (s. central Gujarat), at Peal Garden, Motibaugh, Rupam Talkies, and Bhid-Bhanjan. The 1983 season was very good for the storks, and 170 nests were recorded in the city. A breeding colony is found in Ghoga (20 km from Bavnagar), near the sea. The storks forage primarily in fresh-water habitats, but occasionally on the coast and in salt pans.

Painted Stork colonies were observed in Thangadh, Varsdar, Wadhwan, Vithalgadh, Jakhwada, and Sanand (Saurashtra), observed by G. Gopakumar (A. Banerjee, pers. comm.). In Kachchh (nw Gujarat), the storks are recorded at Ningal Tank, Hamirsar Tank, Bhuj, Babiya Dam, Dhaneti Dam, Bhuj Dam, Ler Dam, Sinay Dam, Kasvati Dam, Meghiro Pond, Chatarradi Tank, Surbari Creek, Chhari Dhandh, Kotescheer seashore, and Banni area. As many as 150 storks (including ca. 50 juveniles) were observed at Ningal Tank November, 1980. Breeding occurs at this site.

#### OPENBILL STORK (*Anastomus oscitans*)

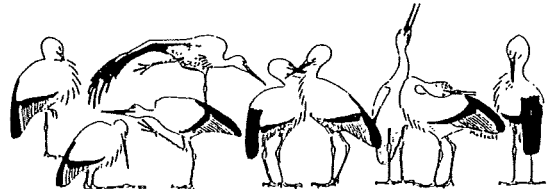
Common in central and north Gujarat. One breeding colony near Ahmedabad is recorded. It is probably breeding elsewhere, too (R. Naik). A very large breeding colony was located by Banerjee in July, 1984, ca. 150 km from Rajkot. The stork is resident in Kachchh, and recorded at Vijaysagar Dam, Babiya Dam, and Chaduva Tank. Maximum number seen together is three. Breeding in Kachchh is not recorded.

#### WHITE STORK (*Ciconia ciconia*)

Winter visitor in Kachchh in good numbers in Banni area (Chhari Dhandh and Dhandh between Loriya Bhirandiyara). Ca. 300 - 400 birds observed at Chhari Dhandh on 26 January, 1980 (S. N. Varu).

#### BLACK STORK (*Ciconia nigra*)

Winter visitor to Gujarat. Status unknown.



**BLACK-NECKED STORK**  
(*Ephippiorhynchus asiaticus*)

Resident in Gujarat, but breeding status entirely unknown. Not common anywhere in Gujarat. In Kachchh, the stork is resident, and locally migratory. As many as six birds were sighted at Babiya Dam (25.2.78), and it is always at Vijaysagar Dam. Additional reports occur from Chhari Dhandh, Ganga Creek near Mandvi Port, Dhandh between Loriya Bhirandiyara (Banni area).

**WOOLY-NECKED STORK**  
(*Ciconia episcopus*)

Uncommon in Gujarat. Eight storks and two nests have been observed in Gir Forest (Saurashtra), and this may be the only breeding site which still exists for the stork. Breeding attempts in the past two years have failed (A. Banerjee, pers. comm.).

**GREATER ADJUTANT**  
(*Leptoptilos dubius*)

Seasonal in Gujarat, during monsoons. Not known to breed in the state. The species is endangered in Gujarat. In 1983, a pair was seen in Nayari Dam reservoir in Rajkot District. Further investigations are underway in the state to learn of this species' status (A. Banerjee, pers. comm.). See also species report.

**INDIAN WHITE IBIS**  
(*Thereskiornis melanocephalus*)

Highly localized during breeding season. Only a few nesting locations known in the state (R. Naik). Breeding colonies exist at Newport, near the coast during April and May (A. Banerjee), and in Victoria Park, Bavnnagar, where 70 nests were reported in 1977, 10 in 1983, and 50 in 1984 (S. A. Bhatt, N. C. Bhatt). Resident in Kachchh. Seen at many tanks, dams, and creeks. As many as 25 - 30 recorded at Ningal Tank (December, 1977). Breeding in Kachchh is not recorded (S. N. Varu).

**INDIAN BLACK IBIS**  
(*Pseudibis papillosa*)

Very common in south Saurashtra, and locally common during the breeding season. Resident. A large number of nesting sites are known from throughout Gujarat; 50 are reported from Rajkot and Sasan (Gir Forest) (V. C. Soni). In Kachchh, it is very common at dams and village ponds. Ca. 15 - 20 ibises were counted at Chhatardi Tank, Bhuj, (January, 1978). Breeding known from near Ningal Tank.

**GLOSSY IBIS**  
(*Plegadis falcinellus*)

Rare in Saurashtra and Kachchh. Breeding not recorded in Gujarat. In 1983, six pairs were observed in Khijhadia Bird Sanctuary in Jamnagar District, and ca. 25 birds were sighted at Anand. In Kachchh, the bird is a winter visitor. Ca. 30 birds sighted at Chhari Dhandh on 26 January, 1980.

**EURASIEN SPOONBILL**  
(*Platalea leucorodia*)

Breeding and resident in Gujarat. Nesting colonies are known from Bavnnagar and Ghoga. Forty nests were counted in Victoria Park (Bavnnagar) in 1977, 40 in 1983, and none in 1984. Visit tanks and dams in Kachchh, with maximum numbers approaching 300 individuals (September, 1980) at Dhandh between Lolaya Bhirandiyara.

In addition to the numerous report from Gujarat, a few additional reports have been received from other regions of India. These shall be treated species-by-species. See also species reports elsewhere.

**OPENBILL STORK**  
(*Anastomus oscitans*)

Dr. N. Majumdar (Zoological Survey of India, Calcutta) reports a population of ca. 5,000 Openbills for Kulik Forest, District of West Bengal. Numbers of the storks were sighted in Kaziranga Wildlife Sanctuary (Assam) by a Dutch Bird group in January, 1983.

**WHITE STORK**  
(*Ciconia ciconia*)

The species occurs throughout northern India during the winter month. Twenty birds were observed in Bharatpur Bird Sanctuary (Keoladeo National Park, Rajasthan) in March, 1983, and 22 are reported from within 15 km of Madras city (January, 1983). (R. Kannan, pers. comm.). Further information on wintering distribution of the White Storks is being gathered by Dr. Majumdar.

**SRI LANKA**

Summary from Hoffman (1984), *National Red Data List of Endangered and Rare Birds of Sri Lanka*, and from T. Hoffman and S. Kotagama, pers. comm.

**PAINTED STORK**  
(*Mycteria leucocephala*)

Common and abundant in Sri Lanka. A large breeding group can be found in the Colombo Zoo.

**OPENBILL STORK**  
(*Anastomus oscitans*)

Common and abundant. Several nesting colonies known in Wilpattu National Park, Yala National Park, Kalametiya, and elsewhere.

**BLACK-NECKED STORK**  
(*Ephippiorhynchus asiaticus*)

A small resident population breeds in Yala National Park. The storks can be seen in the low-country Dry Zone, coastal plains, and lagoons. Habitat loss and disturbance may contribute to the decline of this species.

**LESSER ADJUTANT**  
(*Leptoptilos javanicus*)

»Scarce«. Found in remote low-country Dry Zone jungles. Breeding status unknown. Classified, »species with naturally small numbers in Sri Lanka and thus latently endangered«. Decline due to loss and disturbance of habitat and shooting.

**GLOSSY IBIS**  
(*Plegadis falcinellus*)

»Greatly endangered species; numbers reduced to critical level«. Widely distributed last century, it had not been observed for decades. In 1982, 26 were observed in Kalametiya Lagoon near Hungama. The species may re-establish itself, though no breeding has been observed.

## BANGLADESH

Report of Dr. S. U. Sarker, Dr. M. Reza Khan, and S. M. U. Rashid (University of Dhaka; Dr. Khan is presently with Al Ain Zoo, Abu Dhabi):

### OPENBILL STORK (*Anastomus oscitans*)

Resident, uncommon, endangered, and sparsely distributed in Bangladesh, particularly in lowland districts. In the middle of the century, flocks of hundreds of storks were observed in low-lying areas of Chittagong, Barisal, Khulna, Comilla, Dhaka, Faridpur, Pabna, Rajshahi, Jamalpur, Mymensingh, and Sylhet Districts. A number of the storks ringed at Wat Phai Lom (Near Bangkok, Thailand) during the 1960's were relocated in Bangladesh between April and July, shortly after the storks fledged. The main flight of the storks was across Burma into the Brahmaputra and Ganges Deltas; the storks returned to Thailand for breeding (McClure, 1974). The numbers of storks in the country is now much reduced. From ten visits to the Sundarbans, Dr. Sarker estimates a population of 50 - 70, and ca. 30 in Pablakhali Sanctuary in the Chittagong Hill Tracts. Eleven storks flew over Dhaka City on 13 November, 1981. The storks have been observed foraging in flocks in shallow water ditches, »jheels«, »beels«, canals, and newly plowed land between October and January in Pabna (west central). A flock of ca. 100 were observed by ornithologists at Hail Haor (Sylhet Distr.) in May, 1984. Flocks numbering as many as several hundred cross coastal regions from Teknaf (se Bangladesh, on Burma border) to the Sundarbans between October and December. These constitute migratory birds (Khan, pers. comm.). Prior to 1947, Openbills were commonly killed in large numbers by English hunting parties. This tradition is still maintained by a select number of hunters. Bird trappers using traditional methods also continue to take their toll. These activities have all contributed to the decline of the species in the country. In the Sundarbans and the Kanalong Valley forest reserve in the Chittagong Hill Tracts, the storks are threatened as a result of the cutting of large trees used by the storks for nesting, and due to direct exploitation by villagers, who visit the roost colonies at night and capture the birds. The breeding status of the storks is unknown in the country. Although they were once breeding in the Sundarbans, it is feared that they no longer breed there.

### WOOLY-NECKED (WHITE-NECKED) STORK (*Ciconia episcopus*)

Once resident, now a winter visitor. Rarely found in Pabna, occasionally seen on sandbanks of the Jamuna and Padma Rivers. Regularly killed by poachers. Status unknown.

### LESSER ADJUTANT (*Leptoptilos javanicus*)

Resident, uncommon in the Sundarbans and other mangrove tracts associated with the River Naaf in southeastern Bangladesh. It is a rare species in other districts. Solitary individuals are occasionally sighted in the sal forests, haors, and in the central plains during winter. An estimated 100 storks live in the Sundarbans, where they breed in the mangroves between August and December (see also species report).

### GREATER ADJUTANT (*L. dubius*)

Probably extirpated in the country. See species report.

### INDIAN WHITE IBIS (*Threskiornis melanocephalus*)

Resident, locally migratory, regularly seen in the mangroves and mudflats along the coastal belt. Occasional in Pabna and Sylhet Districts, and probably others. Known from Chittagong District, where ca. 150 birds have been sighted in the swamplands. The ibises have been observed foraging in ditches and shallow water bodies in agricultural regions.

### EURASIAN SPOONBILL (*Platalea leucorodia*)

Winter visitor, rare, occasionally reported from Sylhet, Sundarbans, and other districts.

In addition to the above-mentioned species, the following species have been reported from Bangladesh (but have not been seen recently): Painted Stork (*Mycteria leucocephala*), (Eastern) White Stork (*Ciconia boyciana*), Black-Necked Stork (*Ephippiorhynchus asiaticus*) (one sighting from Manikganj, 1979), Black Ibis (*Pseudibis papillosa*), and the Glossy Ibis (*Plegadis falcinellus*), (Z. Husain, 1979, *Birds of Bangladesh*; R. Khan, 1982, *Wildlife of Bangladesh, A Checklist*, R. Khan, pers. comm.).

## BURMA

The following data were reported by several scientists working on the UNDP National Parks Programme in Burma during 1981 - 83. Except for their observations, there have been no ornithological investigations in the country for many years (J. Sayer, pers. comm.).

### PAINTED STORK (*Mycteria leucocephala*)

Six observed in rice paddies, (July, 1982), between Salin and Minbu (20° 30' N, 90° 40' E). Over 30 sighted near Moyingyi (December, 1982), central plains. Ca. 20 at Zokonok (May, 1983), and possible sighting at Hlawga, early 1983.

### OPENBILL STORK (*Anastomus oscitans*)

Ca. 200, mostly immature, between Salin and Minbu, July, 1982. Approximately 200 sighted north of Taungul Pass, October, 1982, and four storks over Pegu River (November, 1982), and several at Hlawga Lake, early 1983. At least 70 storks were sighted at Moyingyi during May, 1983. It has been demonstrated (McClure, 1974) that many storks ringed at Wat Phai Lom (Thailand) move through Burma, to Bangladesh during the non-breeding season (May, June, July). Perhaps many of the storks sighted in Burma come from the Wat Phai Lom colony.

### BLACK STORK (*Ciconia nigra*)

Two groups of three storks at Kyatthin and 35 km north of Shwebo (22° 50' N, 95° 35' E and 23° 35' N, 95° 35' E), April, 1982.

### WOOLY-NECKED STORK (*Ciconia episcopus*)

Single storks at Yenwe R. F. (18° 15' N, 95° 10' E), November, 1981. Singles observed between Shwebo and Kyatthin (23° 35' N, 95° 35' E), April, 1982, and between Salin and Minbu (20° 30' N, 94° 40' E), July, 1982.

**GREATER ADJUTANT**  
(*Leptoptilos dubius*)

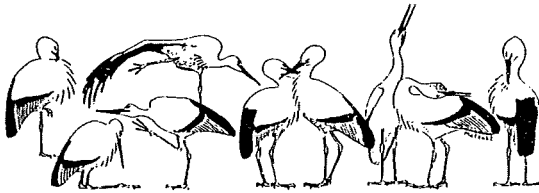
Singles observed in the Central Delta (December, 1982), near Zhazi (December, 1982), and an unfledged young near Akyol (November or December, 1982; species unknown; may also be *L. javanicus*).

**LESSER ADJUTANT**  
(*Leptoptilos javanicus*)

A total of nine observed, in pairs and single birds, over fields and over the coast north of Taungul (February, 1983).

**INDIAN WHITE IBIS**  
(*Thereskiornis leucocephalus*)

Four individuals observed a few miles west of Masili (Minbu District, 20° 30' N, 94° 40' E), July, 1982. The species recorded at Hlawga Lake, early 1983, and numerous from the mouth of the Rangoon River (May, 1983). The ibises have been spotted at Moyingyi (central Burma) during December, 1982 (2 individuals), and during May, 1983, a group of approximately 50 were sighted there.



## THAILAND

Report of Dr. Boonsong Lekagul and Phil Round (Association for the Conservation of Wildlife, Bangkok):

»The situation in Thailand for this group of birds (storks, ibises, and spoonbills) is extremely critical. Most have been reduced to near extinction. At present, the only species of storks nesting in Thailand are *Anastomus oscitans* and *Mycteria leucocephala*, and the latter is close to extinction. The other storks and ibises are recorded only as wandering individuals. While Thailand's swamps have been largely drained for agriculture, there can be no doubt that it is direct human persecution that has prevented large waterbirds from maintaining small populations in our few remaining wetlands.«

**PAINTED STORK**  
(*Mycteria leucocephala*)

One breeding site, at Thalae Noi Non-Hunting Area, peninsular Thailand. Breeding is in a swamp forest near the Thalae Noi (lake). The total population is 15 - 20 storks, with 3 - 5 nests each year. Although protected from hunting, the colony is still visited by local villagers, who take the young storks for food. Recruitment and production of young has been zero for several years. Since breeding habitat does not seem to be a limiting factor, »at Thalae Noi, the key to success is protection from poaching« (Bob Dobias, pers. comm.).

**OPENBILL STORK**  
(*Anastomus oscitans*)

The very large stork colony associated with the Wat Phai Lom Buddhist temple (ca. 50 km from Bangkok) has fractioned in 1984, and a new breeding colony has started at Wat Tarn En (ca. 58 nests). Another stork colony is reported from Nong Si-maw to the north, but an investigation in early May revealed no nests. Nonetheless, a large flock of storks (several hundred) was sighted in the vicinity. At Wat Phai Lom, there was an estimated population of just over 16,000 adults and full-grown storks in 1984. The Wat Phai Lom colony seems to be more-or-less holding its own. The limiting factor is nesting space, and it has been often observed that storks must wait some weeks or even months for an available nest site. Many nests are placed on very weak bamboo branches, and are susceptible to windthrow. At Wat Tarn En, available nest sites are also very limited, and there, too, many nests are placed in bamboo branches when sites in sturdy trees are unavailable. At both sites, nesting could likely be enhanced by planting more trees and shrubs for nesting. The Wildlife Conservation Division of the Royal Forest Department has taken a strong interest in the fate of the Openbills.

**INDIAN WHITE IBIS**  
(*Thereskiornis melanocephalus*)

A group of over 100 ibis are regularly seen at Wat Tarn En, but their breeding status is still uncertain. Small groups of these ibis likely occur elsewhere, as well. In January, 12 were spotted in Ayutthaya (P. Round, pers. comm.).

Black-necked Storks, Greater Adjutants, Lesser Adjutants, and Painted Storks are occasionally seen in different parts of the country. These are likely seasonal wanderers, and are almost certainly not breeding in Thailand. A single Black Stork was observed near the Mekong River, within the Golden Triangle (P. Round). The White-shouldered Ibis and Giant Ibis have not been seen for many years in Thailand, and are certainly extinct within the country.



Colony of Indian White Ibis (photo: Reza Khan)



Indian Painted Storks at Thalae Noi, Thailand, the last breeding site for the species in the country. (photo: C. Luthin)

## VIETNAM

Report of Dr. Vo Quy (University of Hanoi) and Dr. Le Dien Duc (University of Hanoi):

### MILKY STORK (*Mycteria cinerea*)

Endangered in Vietnam. Once common before the war, now only single individuals seen in the southern coastal wetlands. Perhaps a small breeding colony exists in the Minh Hai Melaleuca forest. (See Milky Stork species report.)

### PAINTED STORK (*Mycteria leucocephala*)

There are four small breeding groups of 5 - 10 pairs each in the mangrove forest and the Melaleuca forest in Minh Hai Province (southern Vietnam). These birds may also occur in the lowlands of the Mekong.

### OPENBILL STORK (*Anastomus oscitans*)

Endangered in Vietnam. A total breeding population of several hundred pairs is known from several small colonies in the mangroves of Minh Hai Province.

### WOOLY-NECKED STORK (*Ciconia episcopus*)

Endangered in the country. Occasionally observed in pairs, but breeding sites are unknown. May breed in the mangroves of the South.

### BLACK-NECKED STORK (*Ephippiorhynchus asiaticus*)

A vulnerable species. Solitary breeders among other colonial species in the mangrove and Melaleuca forests of the South.

### GREATER & LESSER ADJUTANTS (*Leptoptilos dubius* and *L. javanicus*)

Vulnerable. The two species are seen on the coast and in floodplains in the south of the country. Breeding occurs only in small groups in the mangrove/Melaleuca forests of Minh Hai Province. The total number of breeding birds known is approximately 50 individuals. (No distinction is mentioned between the two species.)

### INDIAN WHITE IBIS (*Threskiornis melanocephalus*)

These ibis breed only in the Minh Hai mangrove forests, where four breeding groups have been located. Breeding numbers are estimated at 500 - 1,000. Approximately 100 resident birds sighted Jan., 1984 at Bac Lieu on the Mekong Delta. (G. Morris, pers. comm.)

**GIANT IBIS**  
(*Pseudibis gigantea*)

Endangered. Very rare, only individuals reported from Dong Thap Muoi lowlands, Mekong River wetlands close to the Kampuchean border. No breeding sites have been located in recent years, although they are suspected breeding in the south of the country.

**WHITE-SHOULDERED (DAVISON'S) IBIS**  
(*Pseudibis davisoni*)

Similar to Giant Ibis, seen in Dong Thap Muoi lowlands, Mekong River to the Kampuchean border. Their breeding status is unknown, but the species is considered endangered in the country.

**GLOSSY IBIS**  
(*Plegadis falcinellus*)

Breeding species in country. Status unknown.

**BLACK-FACED SPOONBILL**  
(*Platalea minor*)

Wintering N. Vietnam, rare. Found in small groups (5 - 10 birds) on coast in Red River Delta.

**General information on national wetland conservation.**

No national legislation exists for wetland protection in the country. In 1980, the Vietnam government established an agency for environmental protection. One project of the agency has included research and conservation of bird populations in the Mekong Delta mangroves and Melaleuca forests. Several wetland reserves have been proposed, and these may be established in 1985.

The mangrove forest of Minh Hai Province is the largest mangrove area of Vietnam, consisting of ca. 150.000 hectares. This is the major breeding area of many waterbirds in the country, including many of the ciconiiforms. Approximately 50 % of the forest was destroyed by chemical toxins during the years 1968 - 1970, and many areas are currently threatened by clear-cutting (for timber and to use the land for agriculture), and by the creation of private fish ponds. Three small »core reserves« totalling 360 hectares are proposed to protect the breeding colonies of waterbirds.

The Melaleuca forest, somewhat inland from the mangrove forest, had an area of ca. 200.000 ha prior to the war. At present only 50.000 ha remain. The government is developing a sustained yield management plan for this forest. Despite attempts to replant the forests, re-establishing tracts of forest has been complicated by the persistent toxic effects of defoliant herbicides used during the war.

A third major wetland area is the fresh-water marsh associated with the inland delta of the Mekong. This area, named Dong Thap Muoi, is a major breeding area for numerous waterbird species. It is in these wetlands that the Giant Ibis and the White-shouldered Ibis still exist. These various wetland sites may be among the most important wetlands for waterbird species in Southeast Asia.

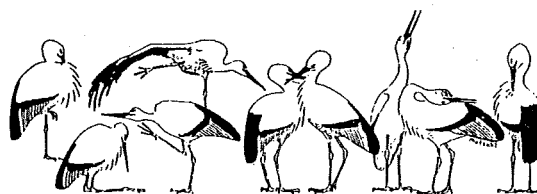
## SINGAPORE

An unusual sighting of eleven Glossy Ibis were reported by C. Hails during June, 1984. The birds, mostly in breeding plumage, spent several weeks at a series of prawn ponds, near the only remnant tract of mangrove swamp on the island. This is the first record for Singapore. The next closest location is Vietnam, so the birds are some distance out of their recognized range.

## IRIAN JAYA (INDONESIAN NEW GUINEA)

David Bishop, during a World Wildlife Fund sponsored expedition to the wetlands of Southeast Irian Jaya, discovered »enormous numbers of wading birds throughout the region, including White, Glossy, and Straw-necked Ibis, Royal Spoonbill, and Black-necked Storks (among other waterbirds). They all breed in large numbers at the end of the wet season (April/May) in large colonies.«

A long-term project to study these birds and to develop reserve areas is being carried out, with assistance from ICBP/WWF and IUCN.



## HONG KONG

Report of Michael Chalmers (Hong Kong Bird Watching Society):

**EASTERN WHITE STORK**  
(*Ciconia boyciana*)

During winter 1979 - 80, a single bird wintered in the Deep Bay/Mai Po area, and the following year, two individuals were seen. In the following two winters, however, the storks have not been seen in these wetlands.

**BLACK STORK**  
(*Ciconia nigra*)

Small numbers (up to 15) occur in Hong Kong from October to early March, with most reports during December and January. The storks are not reported every year.

**EURASIAN SPOONBILL**  
(*Platalea leucorodia*)

Maximum number of 30 reported in the winter, October to April, with highest occurrence in January and February. During winter 1983 - 84, »several« were sighted.

**BLACK-FACED SPOONBILL**  
(*Platalea minor*)

This rare spoonbill is recorded virtually every year in Hong Kong. Between 30 and 40 were sighted in the winter 1983 - 84.