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An annotated check-list of birds occurring at the Parc National des Oiseaux du Djoudj in Senegal, 1984-1994

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Summary

During 25 expeditions from 1984 to 1994, 316 species were recorded at the Parc National des Oiseaux du Djoudj in Senegal. Eight species are thought to have been recorded for the first time in Senegal and 51 species are new for the park and the immediate area. We present an annotated list with information on status, abundance, population trends, seasonal occurrence of intra-African and Palearctic migrants, maximum counts, breeding data of 60 species, and where relevant, comments referring to previously published material. This list highlights the importance of Djoudj for wintering Palearctic migrants.

Résumé

De 1984 à 1994, au cours de 25 séjours effectués au Sénégal, 316 espèces ont été observées dans le Parc National des Oiseaux du Djoudj; huit d'entre elles ont été notées vraisemblablement pour la première fois dans le pays tandis que 51 autres sont nouvelles pour le parc et ses environs immédiats. Les auteurs présentent une liste rassemblant les informations suivantes sur ces espèces: statut, abondance, évolution des populations, phénologie de la migration des migrateurs inter-africains et paléarctiques, comptages et commentaires pertinents relatifs aux publications antérieures. Cette liste met l'accent sur l'importance du Djoudj en tant que zone d'hivernage des migrateurs paléarctiques.

Introduction

Since February 1984, small teams from France, Britain, Germany and the Netherlands have made regular visits of one to three months to the Parc National des Oiseaux du Djoudj (Djoudj) in northern Senegal (Fig. 1). From 1990 to 1993 over 500 people from 25 different countries participated in an International

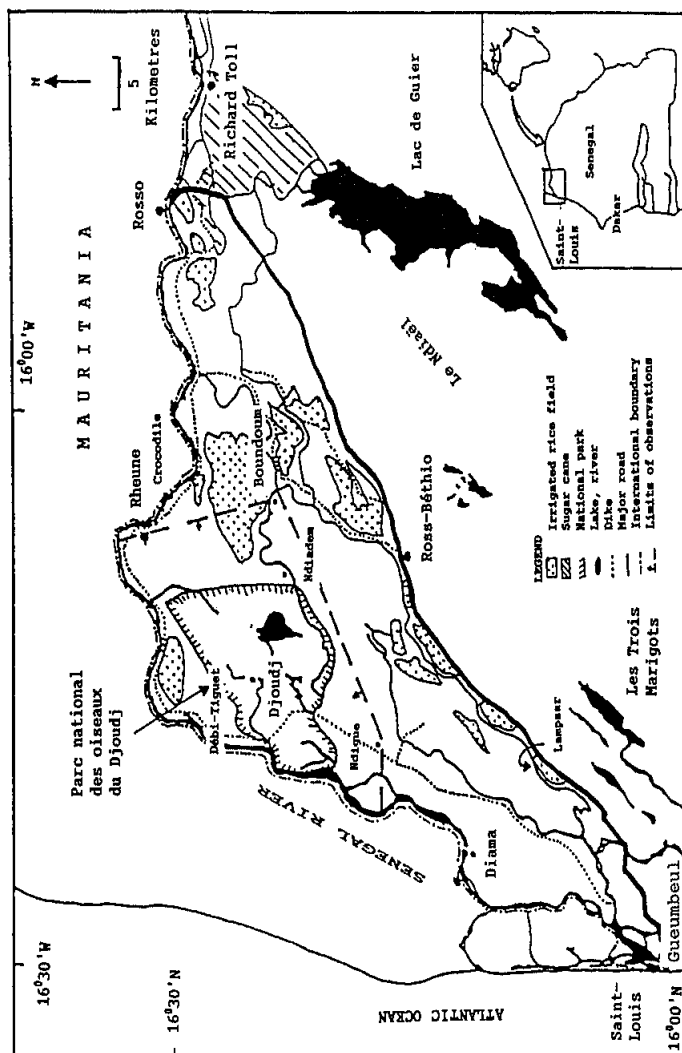


Figure 1. Location of Parc National des Oiseaux du Djoudj.

Ornithological Expedition (IOE) based at Djoudj for periods of up to eight months (Appendix 1 lists the dates of expeditions).

This paper presents a systematic list of birds recorded by the expeditions. The objectives were to carry out ringing studies and surveys of wintering Palaearctic migrants. For this reason the most detailed species accounts are for Palaearctic migrants. Observations are also included from the immediate area surrounding the park (Fig. 1 shows the limits of the observation area). All records, and particularly those of rare or unusual species, have been carefully reviewed by experienced observers. Doubtful records are omitted. Some of the International Waterfowl Counts (IWC), co-ordinated by the International Waterfowl and Wetlands Research Bureau (IWRB) are included. In 1988 the national parks service (Service des Parcs Nationaux du Sénégal) was assisted with the annual counts by Dutch and French ringers. Since 1989 they have been carried out by staff from Djoudj National Park and the French Office National de la Chasse (ONC), aided by French ringers in 1990 and IOE participants from 1991-93.

Observations fell within the period 25 August to 1 May, although the precise dates varied from year to year (relatively few observations were made prior to mid-October). The expedition periods usually spanned more than one calendar year, so *e.g.* November 1987 to February 1988 is referred to as 1987-88. Counts were made daily (all counts given in the text are for a one-day period unless specified) and notes on breeding, foraging behaviour and plumage details were also taken. These data are summarized for each species.

Previous information on abundance and seasonal occurrence for the majority of species at Djoudj is limited to that available in Dupuy & Suiro (1983) and Morel & Morel (1990). This paper provides further information on these subjects.

Djoudj: location, status, and habitats

Djoudj (16°10'N, 16°18'W) is located in the southern Sahel zone, c. 30 km from the coast in the Senegal delta (Fig. 1). The Senegal river forms the northern border and semi-arid, sandy plains surround the park south of the river. Djoudj National Park is protected under the Ramsar convention and is a UNESCO world heritage site.

Most of its 160 km² is flooded from September to November, after which the water-level quickly drops, and by February most of the pools are dry. The largest water-body, the Grand Lac, is dry by April. From 1991 to 1993 many water-courses were choked with Water Lettuce *Pistia stratiotes*, which invaded after new dams in the lower section of the Senegal river reduced the salinity of the water. There are large areas of open water, reed-beds of *Phragmites* and *Typha* spp., low sedge-beds of *Carex* spp., and Tamarisk *Tamarix senegalensis* scrub, and smaller areas of stands of *Acacia* spp. trees, *Salvadora persica* scrub and sandy plains interspersed with *Salicornia* *Salsola bariosma*.

Results and discussion

During the study period, 316 species were seen, as listed below. This compares with 250 noted for Djoudj by Dupuy & Suiro (1983). Fifty-three species were recorded for the first time at Djoudj and the immediate area. Sixty species were recorded breeding by the expeditions and a further 21 by Dupuy & Suiro (1983). We probably missed breeding species in the wet season as there was little or no coverage during this period. Several additional species are reported for the Djoudj tetrad by Morel & Morel (1990), although it is impossible to know how many of these refer to records within the park. Additional species which were not recorded during the study period but which are known from records prior to 1984 are given in Appendix 2, along with two species listed by Dupuy & Suiro (1983) for Djoudj but for which the records were actually outside the national park.

Eight species were recorded for the first time in Senegal (scientific names of birds are given in the systematic list); Bonelli's Eagle, Pectoral Sandpiper, Long-billed Pipit, Black Redstart, Marsh Warbler, Barred Warbler, Lesser Whitethroat and Red-breasted Flycatcher. Marsh Warbler, Barred Warbler and Lesser Whitethroat usually winter further east in Central or East Africa and Red-breasted Flycatcher usually in Asia and less frequently in northern Africa (Glutz von Blotzheim & Bauer 1991, 1993).

There were considerable year to year fluctuations in the numbers of some Palaearctic migrants. For example in 1992-93, Blackcap, Sardinian Warbler and Spectacled Warbler were far more numerous than in all other winters. Sardinian and Spectacled Warblers usually winter further north, in the southern saharan zone (Glutz von Blotzheim & Bauer 1991). This area experienced severe drought in 1992-93 which probably resulted in the two species shifting south into northern Senegal.

A locust *Locusta migratoria* invasion in January and February 1994 resulted in severe defoliation of most of the trees and shrubs in the study area. By late March most of the trees had recovered, although fruiting of *Salvadora persica* was delayed. Relatively few Palaearctic passerines were present during this period. However, several species of raptors, including Swallow-tailed Kite, Black Kite and Lesser Kestrel, benefitted from the abundance locust prey.

Since the 1950s, rice has been cultivated along the Senegal river valley (Morel & Morel 1990) and from 1991 has expanded into the buffer zone around the park near Poste de Commandement and Poste de Crocodile (Fig. 1). Many water-birds, wagtails and seed-eating passerines feed in the paddy-fields during the day and return to roost inside the park. Mullié *et al.* (1991) commented on the large amounts of pesticides that are applied to the paddy-fields and documented many cases of birds being poisoned. If the area of cultivation continues to increase close to the park, many more birds will be at risk from poisoning.

Abbreviations used in the systematic list**Status and abundance codes**

A = Afrotropical species/subspecies.

A-B = Afrotropical species recorded breeding during 1984-94.

PM = Palaearctic migrant.

AM = North American species.

PA = Passage migrant.

WV = Winter visitor.

? = Unsure *e.g.* "PM?" means probably a Palaearctic migrant.

R = Rare: five or less birds during the 1984-94 study period.

S = Scarce: six to 20 records.

U = Uncommon, seen infrequently.

F = Frequent, one to ten birds seen most days.

C = Common, up to 100 birds seen most days.

V = Very abundant, more than 100 birds seen most days.

* = New species for the park.

** = New species for Senegal.

Locations (see Figs. 2 and 3.)

CES, Croc, Dinko, EM1, Hog and Khar = ringing sites.

OD = Ouvrage du Djoudj.

PC = Poste de Commandement.

PG = Poste de Gainthe.

PGT = road turning for Poste de Gainthe

TA = Mirador Tantale.

References, including IWC counts (Some published elsewhere.)

12-13 Jan 1989 (IWC) = Schricke *et al.* 1990.

mid-Jan 1990 (IWC) = Schricke *et al.* 1991.

15 Jan 1991 (IWC) = Girard *et al.* 1991, Fouquet 1991, Perennou 1991.

12 Jan 1992 (IWC) = Girard *et al.* 1992.

19 Jan 1993 (IWC) = Trollet *et al.* 1993, Fouquet 1993.

mid-Jan 1994 (IWC) = Triplet & Yésou 1994.

M&M = Morel & Morel 1990.

Podicipedidae

Tachybaptus ruficollis Little Grebe. A-B, C. Most numerous Jan-Feb. Max. 270 (110 at Lac du Lamantin, 60 at Grand Lac and 90 at Tieguel) on 15 Jan 1991 (IWC). Several pairs with 1-4 chicks, 9 Nov to 24 Feb.

Phalacrocoracidae

Phalacrocorax carbo Great Cormorant. A-B, V. Max. 3840 on 18-19 Jan 1988 (IWC). Three breeding colonies, all in Tamarisk bushes: Marigot du Djoudj (c. 600 nests, Jan 1994, IWC); Grand Mirador (60 nests, Jan 1994); Poste de Crocodile (908 individuals, 35 nests, Dec 1985). Breeding staggered Sep-Mar, with 1-3 (mostly three) chicks of various stages of growth most months. An adult with a

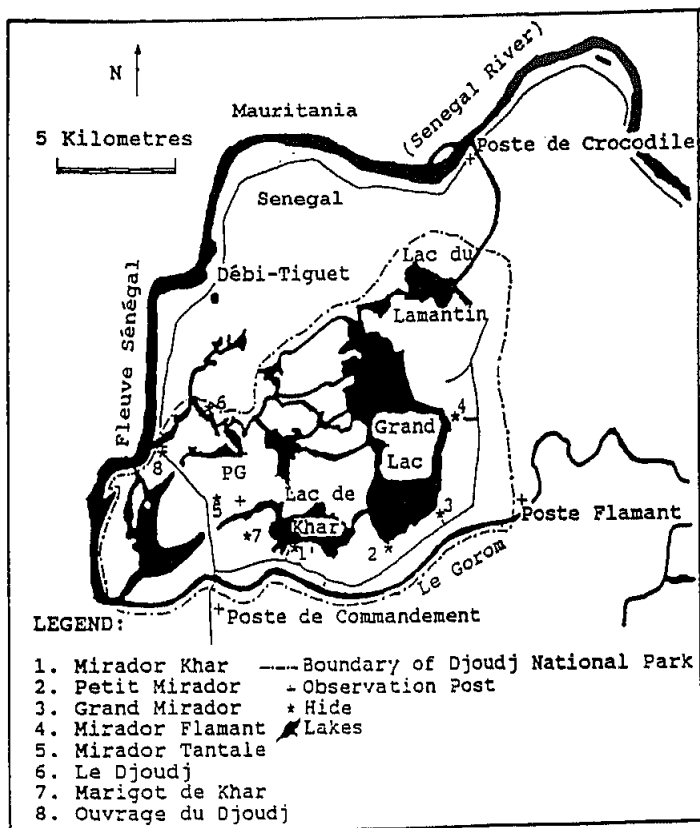


Figure 2. Study areas in P.N. des Oiseaux du Djoudj.

slight crest and only chin and throat white was seen near PC, 15 Dec 1992. It might have been of race *P. c. sinensis*, which occurs along Moroccan coast (Brown *et al.* 1982), or *P. c. maroccanus* (resident Morocco to Mauritania). However, dark individuals of *P. c. lucidus* have been recorded in E Africa (Urban & Jefford 1974). *P. africanus* Long-tailed Cormorant. A-B, C. Max. 2944 at Poste de Crocodile,

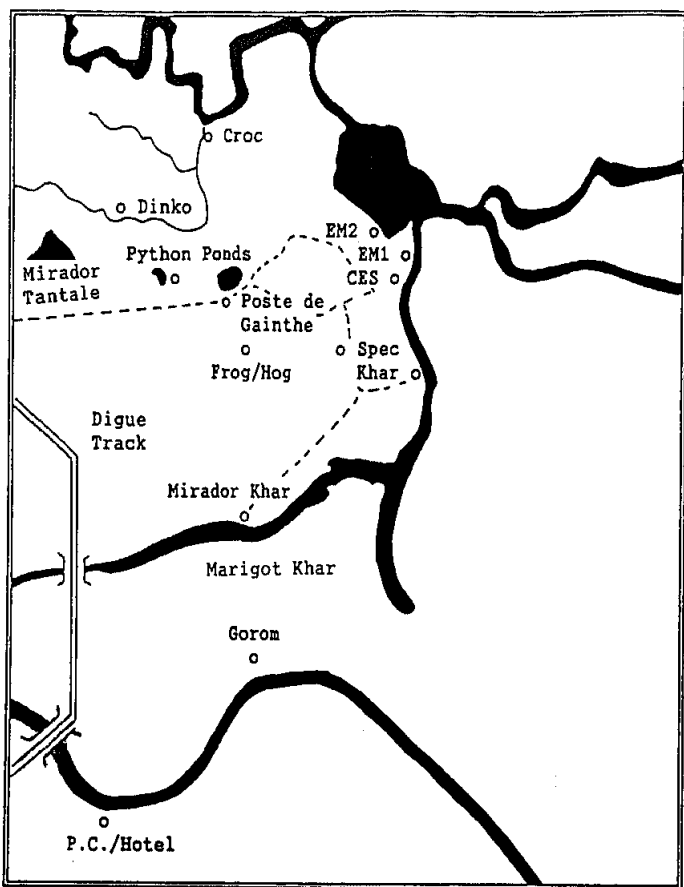


Figure 3. Study sites around Poste de Gainthe.

Dec 1985. Few counts > 100 since 1990. Breeding at Poste de Crocodile, 85 chicks in Oct 1985.

Anhingidae

Anhinga melanogaster Darter. A-B, C. Max. 1868 at Poste de Crocodile, Dec 1985. Few counts > 100 since 1990. Small groups throughout the park, occasionally

larger concentrations. Breeding (number of pairs unknown) at Poste de Crocodile, chicks hatched 22-25 Oct 1986.

Pelecanidae

Pelecanus onocrotalus Great White Pelican. A-B, V. Max. counts ranged from 13524 in Jan 1994 (IWC) to 2000 in 1992-93. Breeding Nov-Apr on islands in the Djoudj river: 85 healthy chicks and 106 dying, 24 Dec 1985; 18 nests deserted (water-level too high), 1987; c. 1500 chicks, mid-Mar 1991 (I. Bindia pers. comm.); c. 700 on 18 Jan 1993 (some had moved outside of the park to form a new colony); 3300, Jan 1994 (IWC). None bred 1986 and 1988.

P. rufescens Pink-backed Pelican. A-B, F. Max. c. 10 pairs breeding at Poste de Crocodile, Dec 1985.

Ardeidae

Botaurus stellaris Eurasian Bittern. PM, R. One seen, 18 and 22 Mar 1990. Four other Senegal records: three in M&M, including two separate observations at Djoudj; one by Sauvage & Rodwell (unpubl.).

Ixobrychus minutus Little Bittern. PM, F. 20 Oct to 15 Apr. Max. ten at Dinko on 23 Feb 1993 and five at EM1 in Feb 1993. Total 92 ringed 1985-1993, max. 43 in 1991-92. Occurs in reed-beds throughout study area. All examined in the hand were Palaearctic *I. m. minutus*. Only one record of resident in W African *I. m. payesii* exists from Senegal River valley (Morel 1972).

I. sturmii Dwarf Bittern. A, R, *. Two records (B. Tréca pers. comm.): one at PG, 19 Jan 1988; one at Gorom river, 18 Jan 1993. Scarce wet season breeder in N Senegal (Morel 1972); two other records from Senegal delta during the dry season (Sauvage & Rodwell unpubl.).

Nycticorax nycticorax Black-crowned Night Heron. A-B + PM, V. Max. 5000 at Marigot de Khar in Jan 1994 (IWC) and 4000 at Marigot de Tieguet on 18-22 Jan 1993 (IWC). Roosts of several hundred (occasionally over 1000) in Tamarisk bushes at PC, PG, Grand Lac, Lac de Khar and along the Djoudj river. Breeding at Poste de Crocodile and Lac de Khar (several hundred nests with eggs, 1985 and 28 Aug 1987).

Ardeola ralloides Squacco Heron. A-B + PM, F. Max. 45 in the park on 30 Dec 1991 and 60 at Ndigue on 3 Mar 1993. A wing-tagged bird from Camargue, Jan 1990.

Bubulcus ibis Cattle Egret. A-B, F. Max. 1290 at Débi, 12 Jan 1994 (Triplet & Yésou 1995). Counts > 100 rare except Jan-Feb 1994 when large numbers fed on locusts in study area.

Butorides striatus Green Heron. A-B, F. Max. ten, 20 Sep 1992. Less numerous Oct-Nov, uncommon Dec-Apr. Recently fledged young, Oct.

Egretta ardesiaca Black Heron. A-B, F. Max. 120 at Ndigue, 27 Feb 1993.

E. gularis Western Reef Heron. A + PM, F. Max. 200 at Ndigue, 22 Nov 1987, but rarely > 10 present. Two observations of white morphs: one at Gorom, 27 Feb 1990 (Fouquet 1990); one at Ndigue, late Jan 1993.

E. garzetta Little Egret. A-B + PM, C. Max. 1228 at Poste de Crocodile, Dec 1985. Breeding at Poste de Crocodile and Lac de Khar (many nests occupied, 27 Aug 1987). A wing-tagged bird from Camargue, Jan-Feb 1991.

E. intermedia Yellow-billed Egret. A-B, F. Max. 20 on 3 Mar 1992 but rarely > 5 present. Many nests occupied at Lac de Khar, 27 Aug 1987.

E. alba Great Egret. A-B, V. Max. 3413, 15 Jan 1991 (IWC). Large numbers at EM1/2 during Feb and around water-holes drying out. Breeding at Poste de Crocodile; many nests occupied at Lac de Khar, 27 Aug 1987.

Ardea purpurea Purple Heron. A-B + PM, C. Max. 576 on 18-19 Jan 1988 (IWC). Often large numbers feeding at EM1/2. Breeding in 1985 up to late Dec (no information on location or numbers). Dupuy (1975) found a colony of 80 occupied nests in reeds, Dec 1974. On separate occasions a Little Stint and a Wood Sandpiper were killed and partly eaten.

A. cinerea Grey Heron. A-B + PM, C. Max. 740 on 18-19 Jan 1988 (IWC). Occasionally large numbers fed around pelicans fishing at EM1/2. No information on current breeding status, although many bred at Poste de Crocodile in 1974 (Dupuy 1976).

A. melanocephala Black-headed Heron. A, S. Four records totalling eight birds, Dec-Jan.

A. goliath Goliath Heron. A, R. Two records of singles: 1 Dec 1987; 6 Mar 1992. **Scopidae**

Scopus umbretta Hamerkop. A, U. 27 Nov to 26 Feb. Only records: one at Dinko, 20 Feb 1990; max. eight at Ndigue, 1991-92.

Ciconiidae

Mycteria ibis Yellow-billed Stork. A-B, C. Max. ranged from 306 (Poste de Crocodile) in Dec 1985 to 83 in 1991-92 (IWC). Breeding at Poste de Crocodile (chicks fledged late Dec 1985) and Marigot de Tantale (20 pairs with recently fledged young, Jan-Feb 1987; 50-100 individuals, Nov-Dec 1987).

Ciconia nigra Black Stork. PM, F. 9 Oct to 16 Apr. Max. 30 on 15 Jan 1991 (IWC); usually > 15 wintering. Between 1923 and 1972 unrecorded in W Africa, returning to winter in Senegal delta, 1972 (Roux & Dupuy 1972).

C. ciconia White Stork. PM, U. 11 Nov to 27 Mar. Thirty records: two 1989-90; ten 1990-91; six 1991-92; 11 1992-93; one 1993-94. Max. each winter: 25 birds on 12-13 Jan 1989 (IWC); 24 on 13 Dec 1990 and 15 Jan 1991 (IWC); 45 on 21 Nov 1991; 65 on 17 Nov 1992; 30 on 19 Jan 1994. Declined considerably since 1960s, e.g. 4000 in Senegal delta, 15 Nov 1958 (Morel & Roux 1962).

Ephippiorhynchus senegalensis Saddle-billed Stork. A, R. Two records: one feeding in paddy-fields close to the park, Nov 1993; two north of Débi, 17 Jan 1994 (IWC). Four other records from Senegal delta (M&M).

Leptoptilos crumeniferus Marabou Stork. A-B, F. Max. 54 on 3 Feb 1992 but rarely > 10. Frequently found at the Great White Pelican colony after chicks hatched (Dec-Feb). A small colony bred at Djoudj once, Dec 1981 (Dupuy 1982).

Threskiornithidae

Plegadis falcinellus Glossy Ibis. PM, V. 15 Oct to 21 Apr, most abundant Nov-Feb. Max. ranged from 186 in 1988-89 (IWC) to c. 1000 in 1991-92.

Threskiornis aethiopica Sacred Ibis. A-B, C. Max. from 40 in 1990-91 to 898 at Poste de Crocodile, Dec 1985. Breeding (number of pairs unknown) at Poste de Crocodile and Lac de Khar, Jan 1989.

Platalea leucorodia Eurasian Spoonbill. PM, V. 6 Oct to 21 Apr, most abundant Jan. Max. from 254 in 1987-88 (IWC) to 1965 in 1991-92 (IWC). Several colour ringed birds from Netherlands and Spain.

P. alba African Spoonbill. A-B, C. Max. from 24 in 1989-90 (IWC) to 362 at Poste de Crocodile, Dec 1985. Bred (number of pairs unknown) at Poste de Crocodile, Dec 1985, and Lac de Khar, Dec 1985, Oct 1986. Dupuy (1976) recorded several pairs, Jan 1975.

Phoenicopteridae

Phoenicopterus ruber Greater Flamingo. A + PM, V. Max. from 4581 in 1992-93 (IWC) to 24755 in 1988-89 (IWC). Colour ringed birds from Camargue and Spain seen regularly.

Phoeniconaias minor Lesser Flamingo. A, V. Max. 5300 in 1987-88, 6000 in 1988-89, 46500 on 26 Feb 1990 (Fouquet 1990), 15000 on 23 Mar 1990, 6156 in 1990-91 (IWC), 9000 in 1991-92, 2800 in 1992-93 (IWC), 4700 in 1993-94 (IWC). Origin of birds visiting Djoudj unknown. Prior to 1983 there were large numbers in Mauritania (Naurois 1965), but since 1983 max. 1700 at Aftout es Sahéli, Jan 1987 (Lamarche 1988), and several thousand on Mauritanian side of Senegal delta (B. Lamarche pers. comm.).

Anatidae

Dendrocygna bicolor Fulvous Whistling Duck. A-B, V. Max. from 205 in 1989-90 to 32620 in 1986-87 (Dupuy 1987). An albino, 5 Mar 1992. Four pairs with up to ten chicks each, late Dec to Jan.

D. viduata White-faced Whistling Duck. A-B, V. Max. from 2704 in 1992-93 (IWC) to 66050 in 1985-86 (Diouf 1986). An albino, Feb 1988. One pair with chicks, 14 Nov 1987.

Thalassornis leucotis White-backed Duck. A, R. Five, 15 Jan 1991 (IWC). Regular at Djoudj, 1975-76 (Roux *et al.* 1976-77).

Alopochen aegyptiaca Egyptian Goose. A-B, C (V 1990-91). Max. from 32 in 1987-88 (Meininger 1988) to 2662 in 1991-92 (IWC). Broods of up to nine chicks, Oct-11 May (B. Tréca pers. comm.), and egg laying until c. 24 Mar in 1994. Laying in Senegal delta until early Feb in 1993 (Triplet *et al.* 1993). Several nests were in or on top of hides.

Tadorna tadorna Common Shelduck. PM, R. Two at Lac de Khar, 12-28 Feb 1990 (Fouquet 1990). Two other Senegal records, including two immatures at Djoudj (Roux *et al.* 1976-77).

Plectropterus gambensis Spur-winged Goose. A-B, C (V 1991-92). Max. from 140 in 1990-91 (IWC) to 2469 in 1987-88 (IWC). A bird sitting, probably incubating

eggs, 31 Mar 1993 and several days thereafter. Nesting previously recorded Senegal delta, Aug-Nov (Morel 1972); chicks seen until Feb (Dupuy 1976).

Sarkidiornis melanotos Knob-billed Duck. A, C. 24 Oct to 9 Apr, scarce until late Nov. Max. from 38 in 1988-89 (IWC) to 1074 in 1991-92. Usually in small groups. *Nettapus auritus* Pygmy Goose. A, R. Three records: two birds, 16 Oct 1991; one at Boundoum, 2 Feb 1992; a pair at PG, 8 Sep 1992. Large numbers at Djoudj in 1975 e.g. 40 in Feb 1975, 300 moulting in Dec 1975 (Roux *et al.* 1976-77).

A. penelope Wigeon. PM, C. 26 Nov to 30 Mar but common only Jan to early Feb. Max. from ten in 1988-89 (IWC) to 420 in 1991-92 (IWC).

A. strepera Gadwall. PM, R. Two records: two birds, 12-13 Jan 1989; two, 6 Nov 1991. Previously recorded at Djoudj in Jan 1974 and max. 39, Jan-Mar 1975 (Roux *et al.* (1976-77)).

A. crecca Green-winged Teal. PM, C. 20 Nov to 6 Apr, scarce in Nov and Apr. Previously recorded Senegal delta until 17 Mar (Roux *et al.* 1976-77). Max. from 166 in 1991-92 (IWC) to 1500 in 1988-89 (IWC).

A. platyrhynchos Mallard. PM, R. Two flying past PG, 13 Feb 1992. Two other Senegal records: one in Bouet (1955); two shot near Djoudj (Dupuy 1971). M&M speculated that both records involved feral birds.

A. acuta Northern Pintail. PM, V. 17 Oct to 22 Apr, extremely abundant late Oct to early Mar. Previously recorded Senegal delta until 7 Apr (Roux *et al.* 1976-77). Max. from 39125 in 1987-88 (IWC) to 240984 in 1985-86 (Diouf 1986).

A. querquedula Garganey. PM, V. 30 Aug to 18 Apr, extremely abundant Oct to early Mar. Earliest arrival at Richard-Toll, 13 Jul (Morel & Roux 1966). Max. from 51691 in 1989-90 (IWC) to 180202 in 1986-87 (Dupuy 1987).

A. clypeata Northern Shoveler. PM, V. 28 Oct to 19 Apr. Max. from 437 in 1987-88 (IWC) to 33700 in 1985-86 (Diouf 1986).

A. discors Blue-winged Teal. AM, R. A pair at Lac de Khar, 25 Mar 1989; both sexes clearly seen out of water, including head and body patterns and (of male) blue forewing; full description lodged with Editor. Two other Senegal records, including a male at Djoudj (Roux *et al.* 1976-77).

Marmaronetta angustirostris Marbled Teal. A-B, R. Two records: a pair at Lac de Khar, 25 Mar 1986; one bird, 18 Jan 1993 (IWC). Small numbers in the Senegal delta, 1968-76 (Roux *et al.* 1976-77); a pair bred at Djoudj, 1979 (Dupuy & Sylla 1981).

Aythya ferina Pochard. PM, C-R. 25 Oct to 28 Feb, common late Nov to mid-Feb, scarce otherwise. Some years rare, e.g. only one observation 1988-89 (IWC) and 1992-93. Max. from one, to 1500 in 1983-84.

A. nyroca Ferruginous Duck. PM, U. 15 Nov to 21 Feb. Max. from one bird in 1992-93 to 50 in 1991-92.

A. fuligula Tufted Duck. PM, U. 11 Nov to 28 Feb. Max. from one observation of four birds in 1989-90 (IWC) to 50 in 1991-92.

Pandionidae

Pandion haliaetus Osprey. PM, F. 16 Oct to 21 Apr. Max. 14 on 17 Feb 1992 but rarely > 5 present.

Accipitridae

Pernis ptilorhynchus Honey Buzzard. PM, S, *. Three records: one near Grand Lac, 15 Jan 1991 (Fouquet 1991); up to two present, 1 Feb to 25 Mar 1992 (eight observations); an immature near Khar, 26 Dec 1992. Five other Senegal records: four in M&M, one by Sauvage & Rodwell (unpubl.).

Elanus caeruleus Black-shouldered Kite. A-B, F. Max. 12 on 6 Dec 1988. Five breeding records: collecting nest material, 28 Aug 1987; newly fledged chicks at PG, early Jan 1989; two chicks reared near Grand Lac, Dec 1992; newly occupied nest at Boundoum, 5 Feb 1993; two eggs in a nest 2m up a small bush south of Grand Lac, 3 Mar 1993. Nesting at Richard-Toll, Feb-Apr, Oct (M&M).

Chelictinia riocourii Swallow-tailed Kite. A, S. Nine records, 21 Dec to 22 Feb. Max. 158 feeding on locusts near Poste de Crocodile, 12 Jan 1994 (Triplet & Yésou 1995).

Milvus migrans Black Kite. A + PM, F. Max. 500, including a flock of 200 feeding on locusts, 4-6 Feb 1994 (Triplet & Yésou 1995). Four other flocks of > 100 prior to 1994. Fifteen *M. m. migrans* on 8 Feb 1990 and more abundant than *M. m. parasitus* in late Feb.

Haliaeetus vocifer River Eagle. A-B, F. Three pairs breeding: at Croc; near PC; near PGT (same nest used 1990-91 and 1992-93). Chicks nearly full grown, early Apr 1991, late Jan 1993.

Neophron percnopterus Egyptian Vulture. A? + PM, R. Two records: an immature at PG, 18-21 Jan 1991; an immature flying, 30 Jan 1992. Four other records from NW Senegal, including two singletons at Djoudj (M&M).

Necrosyrtes monachus Hooded Vulture. A, R. Three records: several near Ndigue, 14 Nov 1987; one, 16 Dec 1990; one, 2 Mar 1991.

Gyps africanus White-backed Vulture. A, R. Five records of singles, all in Mar.

G. rueppellii Rüppell's Griffon Vulture. A, R. Two records: one, 5 Jan 1993; two, 25-26 Mar 1993.

G. fulvus European Griffon Vulture. PM, R. One, 22-25 Nov 1991. One other record from Djoudj (Dupuy 1976); several from elsewhere in Senegal delta (M&M).

Circus gallicus European Snake Eagle. PM, U. 30 Nov to 15 Apr, regular late Jan to Mar, scarce otherwise. Up to three wintering. Northward migration noted, 19 and 21 Feb 1993.

C. cinereus Brown Snake Eagle. A, R. Two records of singles: 23 Mar 1990; 12-18 Jan 1991.

Circus macrourus Pallid Harrier. PM, U. 1 Nov to 22 Mar. Max. 15 NE Grand Lac, 7 Jan 1991 (Fouquet 1991), but rarely > 4 present. Only two records 1992-93.

C. pygargus Montagu's Harrier. PM, C. 15 Oct to 14 Apr, few before Nov. Roosted with Marsh Harriers from early Nov, most departing late Mar. Max. for each roost: east of Poste de Crocodile, c. 100 on 13 Nov 1991; east of Débi, 160 on 15 Feb 1992. Melanistic birds regular. Several had been wing-tagged in Spain.

C. aeruginosus Marsh Harrier. PM, C. 30 Aug to 21 Apr. Large roosts from early Nov in dry paddy-fields close to park perimeter, most departing late Mar. Max.

for each roost: east of Poste de Crocodile, c. 200 on 3 Nov 1991; near OD, 69 on 25 Nov 1991; east of Débi, 389 on 16 Feb 1992 and 390 on 28 Jan 1993; Boundoum, 110 in Jan 1987.

Melierax metabates Dark Chanting Goshawk. A, U. 25 Dec to 23 Mar. All observations of singles. Immatures seen Dec, Feb, Mar 1992-93.

Buteo buteo Common Buzzard. PM, R, *. Three records of singles: 14 Nov 1992 and 30 Dec 1992 (subspecies unrecorded); one Palearctic *B. b. vulpinus* resting on ground at Boundoum, 2 Feb 1993. Five other Senegal records: four in M&M; one by Sauvage & Rodwell (unpubl.).

B. rufinus Long-legged Buzzard. PM, S, *. Six records: one, 9 Feb 1987; one on three occasions, 6-17 Dec 1991; at least two on six occasions, 30 Jan 1992; one flying northwest with Black Kites over PG, 27 Feb 1993; one, 15 Jan 1994 (B. Tréca pers. comm.). Uncommon winter visitor to Senegal, mainly recorded Richard-Toll (M&M).

Aquila rapax Tawny Eagle. A, S. Ten records of singles, 26 Oct to 16 Mar.

A. wahlbergi Wahlberg's Eagle. A, R, *. Three records of singles: four observations, 1-17 Mar 1992; one near Grand Lac, 31 Jan 1993; one, 9 Mar 1993. Four other records from N Senegal (M&M).

Hieraetus fasciatus Bonelli's Eagle. PM, U, **. 15 Nov to 4 Apr. At least two present, 1990-91, 1991-92 and 1992-93. Seven observations, 30 Dec to 15 Feb 1990-91; frequent 1991-92, 21 Dec to 26 Feb; 1992-93, 15 Nov to 4 Apr. Included sub-adults: one, larger than nearby Marsh Harrier, with underwing and breast cinnamon, dark bar fringing underwing coverts, pale patch at base of primaries, dark terminal tail-band (full details lodged with Editor); another, possibly third-year. In S Mauritania small numbers wintering and on passage (Lamarche 1988).

H. spilogaster African Hawk Eagle. A, R, *. A pair, 29 Mar to 9 Apr 1993. Quite rare at Richard-Toll (Morel 1972).

H. pennatus Booted Eagle. PM, S. Nine records of singles, 29 Oct to 18 Apr (none Nov-Jan): one, 1990-91; four, 1991-92; three, 1992-93.

Polemaetus bellicosus Martial Eagle. A, R. Two records: a juvenile, 12 Jan 1992 (Girard 1992); one, 5 and 18 Jan 1993 (Fouquet 1993).

Falconidae

Falco naumanni Lesser Kestrel. PM, U. 31 Oct to 24 Mar, mainly Jan-Feb, every winter from 1990-91. Max. nine in 1990-91, 100 in 1991-92, several hundred N Djoudj in 1992-93 and up to 3200 feeding on locusts near Poste de Crocodile in Jan 1994 (Triplet & Yésou 1995).

F. tinnunculus Kestrel. PM, F. 25 Oct to 21 Apr. Max. mixed flock of 840 Kestrels and Lesser Kestrels feeding on locusts on 16 Jan 1989 and < 100 feeding with Lesser Kestrels, 12 Jan 1994 (Triplet *et al.* 1993).

F. ardosiaceus Grey Kestrel. A, R. Three records: one, 19 Jan 1988; one at PG, 13 Jan 1991; two at Rheune, 12 Jan 1992 (Girard 1992). Three other records from NW Senegal: two (including one at Djoudj) in M&M; one by Sauvage & Rodwell (unpubl.).

F. chicquera Red-necked Falcon. A, F. Up to three present.

F. subbuteo Hobby. PM, S. Two records of singles wintering: 22 Dec 1991 to 9 Mar 1992; 26 Jan to 26 Mar 1993. Four other Senegal records (M&M) although scarce but regular in The Gambia (Gore 1990).

F. biarmicus Lanner. A + PM, U. 20 Nov to 30 Jan. Up to two present. A single N African *F. b. erlangeri* seen, 10 Feb 1984. Four other records of *F. b. erlangeri* from Richard-Toll (Morel & Roux 1966) and one at Ndiàël on 19 Jan 1993 (Fouquet 1993).

F. peregrinus Peregrine. PM, F. 7 Nov to 4 Apr. Three records prior to 1989-90, thereafter two (probably Palaearctic *F. p. peregrinus*) each winter. Smaller birds, less boldly streaked on underside and sometimes with a pinkish wash, noted 1990-91 and 1991-92, subsp. unknown. Two at Djoudj in 1972 perhaps N Russian *F. p. calidus* (Jarry & Larigauderie 1974), which occasionally reaches Mauritania (Lamarche 1988), although usually winters in S and E Africa (Brown *et al.* 1982). *F. p. pelegrioides* Barbary Falcon. PM, S, *. Four records: one at PG, 24 Jan 1991; at least two, 16 Dec 1991 to 13 Mar 1992 (seven observations); two at Ndigue, 14-15 Jan 1992 (Girard 1992); two, 22 Jan 1993. Nine other Senegal records: one in M&M, two in Yésou & Triplet (1994, 1995); six by Sauvage & Rodwell (unpubl.). Breeds NW Africa south to Mauritania (Brown *et al.* 1982).

Phasianidae

Coturnix coturnix Common Quail. PM, F. 15 Oct to 3 Apr. Up to 20 attracted to a tape lure.

C. delegorguei Harlequin Quail. A, R, *. One at Boundoum, 15 Feb 1984. Rare in Senegal: recorded in Senegal delta at Dakar Bango and Gandiol (Rochebrune 1884); one recent record (1987) from Gueumboul (Sauvage & Rodwell unpubl.).

Francolinus bicalcaratus Double-spurred Francolin. A-B, U (F 1991-92). Up to four present. A pair displaying on 23 Oct 1991 were probably nesting late Oct to Nov.

Turnicidae

Turnix sylvatica Little Button-Quail. A, R, *. Two records: one, Jan 1990; one, 16 Mar 1990. Scarce in Senegal: recorded Richard-Toll (Morel 1972) and in Senegal delta at Gueumboul (Sauvage & Rodwell unpubl.).

Rallidae

Crex egregia African Crane. A, R, *. An adult caught in a reed-bed at Croc, 31 Jan 1992. Two other Senegal records: one at an oasis 75 km northeast of Dakar (Morel 1972); one in Casamance (Sala 1983). Considered a scarce resident in The Gambia (Gore 1990).

Porzana parva Little Crane. PM, U. Twenty five records, 11 Dec to 12 Apr, most (17) in 1991-92. Max. three, 20 Jan 1992. One other Djoudj record (M&M), although at Richard-Toll not considered rare (Morel & Roux 1966, 1973).

P. porzana Spotted Crane. PM, U (V-1987). 3 Jan to 29 Mar. Exceptionally common Jan-Feb 1987, e.g. several hundred calling at PG, one every c. 10 m in flooded areas.

Amaurornis flavirostris Black Crake. A-B, F (R 1990-91), *. Up to four adults present. Five chicks at PG, 20 Dec 1991; a juvenile at EM1, 28 Feb to 1 Mar 1993. Also occurs Richard-Toll and considered common in suitable areas throughout Senegal (Morel 1972).

Porphyrion alleni Allen's Gallinule. A-B, R, *. Two records: one, 17 Jan 1988; an adult with a juvenile at CES, 1-15 Mar 1993. Regular at Lac de Guier, May-Jun, and north of Dakar (Morel 1972).

P. porphyrio Purple Swampphen. A-B, C. Scarce until Jan. Occasionally flocks > 100, max. 550 at Grand Lac, 15 Jan 1991 (Fouquet 1991). Chicks at Ndigue, late Jan to early Feb 1993, Jan 1994 (Triplet & Yésou 1994) and Mar-Apr 1994.

Gallinula chloropus Moorhen. A?-B + PM, C. 16 Oct to 21 Apr. Max. 250 on 15 Feb 1992. Mostly immatures. All adults examined in the hand were Palearctic *G. c. chloropus*. *G. c. meridionalis* previously recorded breeding (Dupuy & Suiro 1983).

Fulica atra Eurasian Coot. PM, U. 20 Nov to 5 Apr. Status variable: max. from one in 1992-93 to 450 in 1987-88 (IWC).

Gruidae

Balearica pavonina Black Crowned Crane. A-B, C. Small flocks and family groups (adults with fledged chicks) regular. Jan-Apr up to 350 (Max. 350, Jan 1994, B. Tréca pers. comm.) west of Grand Lac.

Otididae

Ardeotis arabs Arabian Bustard. A-B, F. Max. ten on 25 Oct 1991 but rarely > 5 present.

Eupodotis senegalensis White-bellied Bustard. A-B, F. Unrecorded before 7 Dec. Up to five present west of Grand Lac.

Jacaniidae

Actophilornis africanus Lilytrotter. A-B, C. Max. c. 200 on 30 Jan 1992, most abundant along the Djoudj river. Two half-grown chicks, 23 Oct 1991; four nearly full-grown, 24 Oct 1991.

Rostratulidae

Rostratula benghalensis Painted Snipe. A-B, F. Many captured in open reed-beds with exposed mud. Max. 17 at Croc, 10 Feb 1991. Juveniles frequently caught.

Recurvirostridae

Himantopus himantopus Common Stilt. A + PM, C. Max. 200 on 2 Feb 1993. *Recurvirostra avosetta* Avocet. PM, V. 17 Nov to 21 Apr, scarce until late Dec. Most abundant when pools at Gueumbeul were dry. Max. 3050 (2950 at Grand Lac, 100 at Lac de Khar), 27 Feb 1990.

Burhinidae

Burhinus oedipnemos Stone Curlew. PM, R. One with Senegal Thick-knees at OD, 12 Dec 1991.

B. senegalensis Senegal Thick-knee. A-B, C. Up to 70 at daytime roosts at OD and PC.

B. capensis Spotted Thick-knee. A, R, *. One west of Grand Lac, 14 Dec 1991 to 11 Jan 1992.

Glareolidae

Pluvianus aegyptius Egyptian Plover. A, S, *. Three records: two, 26 Aug 1987; one, 22 Nov 1987; one near Débi, 2 Nov 1991. More frequent during wet season both at Djoudj (I. Bindia pers. comm.) and further inland along Senegal River (Morel 1972).

Cursorius cursor Cream-coloured Courser. A + PM, U. 13 Nov to 10 Apr. Usually in pairs or small groups. Max. 17 at PG-Boundoum, 3 Feb 1988.

C. temminckii Temminck's Courser. A, R. Four south-west of Djoudj, 20 Dec 1987 (Meininger 1988).

Glareola pratincola Pratincole. A-B + PM, V. Very abundant late Aug and from mid-Nov to Apr. Max. 600 near Débi, 1 Jan 1991 (Fouquet 1991), and 1650 feeding on locusts near PG, 19 Jan 1994 (Triplet & Yésou 1995). Recorded breeding at Djoudj, Jun (Dupuy 1977), and at Lac de Guier, May-Jul (Morel & Roux 1966).

Charadriidae

Charadrius dubius Little Ringed Plover. PM, F. 15 Oct to 21 Apr. Small numbers throughout study area. Max. 20 at Lac de Khar, 2 Apr 1993. One singing and displaying, 6 Feb 1990.

C. hiaticula Ringed Plover. PM, F. 16 Oct to 21 Apr. Small numbers throughout study area. Max. 40 on 25 Dec 1987 (Meininger 1988).

C. pecuarius Kittlitz's Plover. A-B, F. Max c. 50 near PC, 26 Feb 1993. Chicks: 26 Aug 1987; two, c. 7 days old, 24 Oct 1991.

C. alexandrinus Kentish Plover. A + PM, F. Most numerous Feb-Mar. Max. 30 at PC, 26 Feb 1993.

Pluvialis apricaria Golden Plover. PM, R. Two records: three, 24 Nov 1991; two, 15-16 Jan 1994 (B. Tréca and personnel of Djoudj pers. comm.). Three other Senegal records, all at Djoudj: two in M&M; one in Yésou & Triplet (1995).

P. squatarola Grey Plover. PM, U. 11 Nov to 2 Mar. Absent or scarce some years, max. six in 1991-92.

Vanellus senegallus Wattled Lapwing. A-B, U. Up to five present.

V. tectus Black-headed Lapwing. A, R. One, 29 Jan 1992. Common in the surrounding area.

V. spinosus Spur-winged Lapwing. A-B, C. Small numbers throughout study area (21 pairs, 12 Nov 1987). Max. 69, mid-Jan 1994 (Triplet & Yésou 1994). Young chicks, 14 Oct to 1 Nov.

V. vanellus Northern Lapwing. PM, U. One, 17-19 Jan 1987; 23 observations, 27 Nov 1992 to 27 Mar 1993 (including one reported in Girard *et al.* 1992). All singles except: two, 17 Dec 1992; five, 28 Feb 1993. Four other Senegal records: two from Senegal delta (M&M); one in Smet & Gompel (1980); one seen by P. Bailleul (pers. comm.). Rare in Mauritania, although large invasions occasional along coast (Lamarche 1988).

Scolopacidae

Calidris canutus Red Knot. PM, R. Four singletons: 25 Nov 1991; 24 Nov 1992; 19 Mar 1992; at Boundoum, 9 Jan 1991.

C. minuta Little Stint. PM, C. 30 Aug to 21 Apr. Large concentrations at Grand Lac and Lac de Khar, late Mar to early Apr. Max. 3000+, 30 Mar 1989 and early Apr 1991.

C. temminckii Temminck's Stint. PM, U. 29 Oct to 15 Apr, scarce until late Dec and in 1990-91. Max. five, 1 Feb 1992.

C. melanotos Pectoral Sandpiper. AM, R, **. One at EM2 with other small waders, 3-4 Apr 1993; slightly larger than Curlew Sandpiper, short bill and long neck recalling Ruff; upright stance; face, neck and breast buff with fine dark streaking, sharply cut off from white belly; upperparts brown with dark feather centres; wing and tail pattern in flight as Ruff; call at take-off "wrrrr", lower-pitched than Curlew Sandpiper; fuller details lodged with Editor. Six other W African records: one on Príncipe (Frade 1959); one, Mauritania (Lamarche 1988); one, Ghana (Hedenström *et al.* 1990); two, Côte D'Ivoire (Fishpool & Demey 1991); one, Gabon (Alexander-Marrack 1992).

C. ferruginea Curlew Sandpiper. PM, F. 15 Oct to 21 Apr. Max. 150 on 25 Dec 1987 (Meininger 1988).

C. alpina Dunlin. PM, F. 16 Oct to 21 Apr. Max. 89 at Grand Lac, 16 Mar 1992.

Philomachus pugnax Ruff. PM, V. 30 Aug to 21 Apr. Enormous roost near Grand Mirador, max. c. 200,000 in Jan 1991 and 1992 (Trollet & Girard 1991, Trollet *et al.* 1992). Most birds fed in paddy-fields outside the park during the day. In early Mar 1972, 700,000-1,000,000 roosting at Djoudj (Jarry & Larigauderie 1974).

Limnocyptes minimus Jack Snipe. PM, U. Caught from 10 Nov to 20 Mar, small numbers until late Jan, more frequent on passage, Feb to mid-Mar. Max. 12 on 1 Feb 1987. Scarce some years, e.g. one record 1990-91.

Gallinago gallinago Common Snipe. PM, F. 15 Oct to 21 Apr. Max. 20 on 15 Jan 1991.

Limosa limosa Black-tailed Godwit. PM, V. 30 Aug to 21 Apr; small numbers late Aug, becoming very abundant Nov-Feb, few remaining Apr. Several thousand most years, max. 6000 roosting at Ndigue, 10 Nov 1987.

L. lapponica Bar-tailed Godwit. PM, U. 23 Oct to 14 Apr. Up to five present, although scarce most years.

Numenius phaeopus Whimbrel. PM, S. Eight records, 30 Aug to 3 Apr, 1-2 birds.

N. arquata Curlew. PM, S. Sixteen records, 30 Aug to 12 Mar, up to three birds.

Tringa erythropus Spotted Redshank. PM, C. 15 Oct to 21 Apr, scarce Oct-Nov, very abundant Jan to mid-Apr. Max. 750 at Lac de Khar, 2 Apr 1993.

T. totanus Redshank. PM, F. 30 Aug to 30 Apr. Small numbers throughout study area. Max. 200 at Grand Lac, 30 Apr 1988.

T. stagnatilis Marsh Sandpiper. PM, F. 31 Aug to 30 Apr. Small numbers throughout study area. Max. 50 at Grand Lac, 30 Apr 1988.

T. nebularia Greenshank. PM, F. 30 Aug to 21 Apr. Max. 50 on 25 Dec 1987 (Meininger 1988).

T. ochropus Green Sandpiper. PM, F. 30 Aug to 21 Apr. Max. c. 20 at Lac de Khar, 2-3 Apr 1993.

T. glareola Wood Sandpiper. PM, C. 30 Aug to 21 Apr. Small flocks throughout study area. Max. 50 on 25 Dec 1987 (Meininger 1988) and 30 Aug 1992.

Actitis hypoleucos Common Sandpiper. PM, F. 30 Aug to 21 Apr. Small numbers throughout study area. Max. 12 on 3 Feb 1992.

Arenaria interpres Ruddy Turnstone. PM, R. Three records of singles: 20 Jan 1987, 11 Jan 1988, 26 Oct 1992.

Laridae

Larus cirrhocephalus Grey-headed Gull. A, F. Max. 30 in the park, 30 Aug 1992 and at Ndigue, 8 Feb 1993.

L. ridibundus Black-headed Gull. PM, F. 2 Nov to 18 Apr. Most abundant Feb-Apr 1992. Max. 120, mid-Jan 1994 (Triplet & Yésou 1994).

L. genei Slender-billed Gull. A, F. Occasionally large numbers at Grand Lac. Max. 200 on 16 Mar 1993.

L. fuscus Lesser Black-backed Gull. PM, U. 30 Aug to 18 Apr. Most abundant 1991-92, scarce other years. Max. 15 on 25 Dec 1987 (Meininger 1988).

Sternidae

Gelochelidon nilotica Gull-billed Tern. A + PM, C. Max. 392 heading towards a roost, 26 Jan 1990. Large numbers migrating north, late Feb to early Mar 1991.

Sterna caspia Caspian Tern. A-B + PM, C. Max. 270 on 22 Feb 1992.

S. maxima Royal Tern. A, S. Eight records of singletons.

S. sandvicensis Sandwich Tern. PM, U. 28 Oct to 4 Apr. Max. 20 in the park, mid-Jan 1994 (Triplet & Yésou 1994); several hundred on passage at Ndigue, Nov 1987.

S. hirundo Common Tern. PM, S. Three records: one, late Oct 1986; hundreds on passage at Ndigue, 13 Nov 1987; one, 17 Feb 1992.

S. albigrons Little Tern. A-B + PM, U. Mostly Palaearctics on passage, Oct-Nov and Mar-Apr; rare Dec-Feb. Thousands at Ndigue, Nov 1987, is our only record of > 10 birds. C. 20 pairs bred, Jul 1979 (M&M).

Chlidonias hybrida Whiskered Tern. PM, C. 30 Aug to 21 Apr, scarce until mid-Nov. Occasional large influxes on passage, max. 392 on 16 Feb 1992. Breeding plumage first seen, 3 Mar.

C. niger Black Tern. PM, F. 30 Aug to 18 Apr, most abundant on passage until mid-Nov. Max. 250 on 30 Aug 1992 and 254 at Grand Lac on 11 Nov 1987. Rarely > 5 wintering.

C. leucoptera White-winged Black Tern. PM, C. 30 Aug to 21 Apr, scarce until Dec, most numerous Jan-Feb. Occasional large influxes on passage. Max. 1200 at Marigot de Khar, 1 Feb 1993, and several thousand at Ndigue, 13 Nov 1987.

Pteroclididae

Pterocles exustus Chestnut-bellied Sandgrouse. A-B, C. Flocks of up to 100. Two small chicks south of the park, 28 Apr 1988, and two near PC, 9 May 1990 (V. Mansaly pers. comm.).

Columbidae

Turtur abyssinicus Black-billed Wood Dove. A, R. Five, 25 Dec 1987 (Meininger 1988). Occurs in Acacia scrub west of Ndigue.

Oena capensis Namaqua Dove. A-B, C. Max. 18 on 18 Dec 1992. Three nests with 1-2 eggs, Jan-Feb 1990 and 1991 (Fouquet 1990, 1991).

Columba guinea Speckled Pigeon. A-B, F. Max. 33 near PC, 13 Dec 1992. A pair nesting at PG raised two broods in 1992; Jan to 26 Feb (two chicks fledged), second still being raised mid-Apr.

Streptopelia decipiens Mourning Dove. A-B, C. Max. c. 100 at PC, 8-18 Feb 1993. Nesting Oct-Apr.

S. vinacea Vinaceous Dove. A, U. 23 Nov to 5 Mar. Most observations 1990-91; up to four present.

S. roseogrisea African Collared Dove. A-B, F. Recorded from 4 Nov, scarce until mid-Dec. Pairs at many locations, max. 15 on 13 Jan 1992. Nest with eggs, Feb 1993.

S. turtur Turtle Dove. PM, S. Sixteen records, 10 Nov to 18 Apr, all but two of singles; max. 18 on 18 Mar 1992.

S. senegalensis Laughing Dove. A-B, C. Max. c. 20 at PC, 8-18 Feb 1993. Nest with one egg at Dinko, 21 Jan 1991.

Psittacidae

Psittacula krameri Rose-ringed Parakeet. A, S. Eight, 22 Nov 1987.

Cuculidae

Clamator glandarius Great Spotted Cuckoo. A + PM, U. 30 Aug to 24 Jan. All immatures (mainly Palearctics?). Up to four present.

Cuculus canorus Common Cuckoo. PM, R. Two records: one, 11-13 Nov 1987; one, 12 Nov 1992. Most leave Mauritania and N Senegal by Oct (Morel & Roux 1966, Lamarche 1988). Yellow-billed Cuckoo *C. gularis* usually occurs south of 15°N (M&M) but twice collected in wet season at Richard-Toll (Morel & Roux 1962).

Chrysococcyx klaas Klaas's Cuckoo. A, R, *. One record: one bird captured, 10-13 Nov 1992. Wet season visitor to Richard-Toll (Morel 1972).

C. caprius Didric Cuckoo. A, S. Twelve records, 27 Nov to 7 Feb, all singles.

Centropus senegalensis Senegal Coucal. A, U. Up to two present; absent some years.

Tytonidae

Tyto alba Barn Owl. A-B, F. Up to five roosting at PC. Three chicks in hide at Dinko, 18 Jan 1988.

Strigidae

Otus scops Common Scops Owl. PM, F. 22 Oct to 26 Mar. Up to seven roosting at PC; several caught at Gorom. All identified from examination in the hand (all of which were *O. s. scops*) or occasionally by voice. Dupuy & Suiro (1983) consider *O. s. scops* rare and *O. s. senegalensis* common.

O. leucotis White-faced Owl. A-B, U. Max. five at Python Ponds, 23 Mar 1990. Immatures on three occasions, Feb 1993.

Bubo lacteus Verreaux's Eagle Owl. A, R, *. One east of PC, 25 Feb 1990 (Fouquet 1990).

Asio flammeus Short-eared Owl. PM, U. Twenty records, 23 Oct to 29 Mar: three singles, 1990-91; 12 records in 1991-92 (max. six on 10 Dec 1991); five, 1992-93 (max. three, Jan 1993). One previous Djoudj record (Dupuy 1971); small numbers observed near Richard-Toll (M&M).

A. capensis African Marsh Owl. A, R. Two records: four observations of 1-2 (including two roosting together at EM2, 20 Nov), 20 Nov to 24 Dec 1991; one, 15 Jan 1993. Only one Casamance record (Sala 1983, listed in M&M), although Dupuy & Suiro (1983) record this species for Djoudj. Small numbers regular in The Gambia (Smalley 1983) and Mar-Oct in S Mauritania (Lamarache 1988).

Caprimulgidae

Caprimulgus climacurus Long-tailed Nightjar. A-B, C. Up to 25 roosting at PC; smaller numbers elsewhere. Singing throughout observation period. One nest (two eggs) incubated near CES, 18 Apr 1992.

C. eximius Golden Nightjar. A, R. Two records: one in semi-desert west of Grand Lac, 23 Jan 1991; one, 11 Nov 1992. Rare in the park (Dupuy & Suiro 1983); mainly recorded near Richard-Toll (Morel 1972, 1980).

C. aegyptius Egyptian Nightjar. PM, R, *. One seen west of Grand Lac, 21 Feb 1991. Quite common around Richard-Toll, Dec-Feb (Morel & Roux 1966).

C. ruficollis Red-necked Nightjar. PM, R, *. One caught at PG, 19 Jan 1993, identified from photographs as *C. r. ruficollis* by G.J. Morel. Two other Senegal records, both near Richard-Toll (Morel & Roux 1962, 1966).

Macrodipteryx longipennis Standard-winged Nightjar. A, S. Nineteen records since 1990-91, 28 Oct to 4 Mar, all singles. Mainly occurs N Senegal Jul-Oct (Morel 1972).

Apodidae

Cypsiurus parvus Palm Swift. A, S. Thirteen records, 13 Dec to 20 Mar, all singles.

Apus pallidus Pallid Swift. PM, R. Three records: two, 27 Feb 1992; one south of Ndigue, 28 Jan 1993 (Fouquet 1993); two heading north over Gorom, 3 Apr 1994. Two other Djoudj records (M&M); small numbers elsewhere in Senegal (Dupuy 1970, Sauvage & Rodwell unpubl.).

A. apus European Swift. PM, U. Eighteen records (26 birds), 5 Dec to 18 Apr, majority passing through mid-Apr. Probably common on autumn passage, e.g. 50 on 30 Aug 1992.

A. affinis Little Swift. A, U. Most in Apr, max. eight, 18 Apr 1992.

Coliidae

Urocolius macrourus Blue-naped Mousebird. A-B, C. Max. 50 at PC, 27 Mar 1989. A pair nested in a *Balanites aegyptiaca* tree c. 4 m from ground, Mar 1992; a pair copulating and nest building, 14 Feb 1993.

Alcedinidae

Halcyon leucocephala Grey-headed Kingfisher. A, U. Up to five at PG, 1991-92.

H. senegalensis Senegal Kingfisher. A, U, *. Recorded until 7 Dec. Up to six present. Quite common in N Senegal during wet season (Morel 1972).

H. heliaci Striped Kingfisher. A, R. Three records: one south-west of Djoudj, 10

Feb 1990 (Fouquet 1990); one near PG, 17 Mar 1991 (W. Mädlow pers. comm.); one at Ndigue, 6 Feb 1993.

Alcedo cristata Malachite Kingfisher. A-B, F. A pair bred inside a hut at PG, chicks fledged c. 18 Oct 1991.

A. quadribrachys Shining Blue Kingfisher. A, R, *. One, 24 Oct 1992 (B. Tréca pers. comm.). All other Senegal records are south of 14°N (M&M).

Ceryle rudis Pied Kingfisher. A-B, C. Max. 72 on 6 Dec 1988.

Meropidae

Merops pusillus Little Bee-eater. A, F. Max. 11 on 15-19 Jan 1991.

M. albicollis White-throated Bee-eater. A-B, C. 30 Aug to 6 Dec (most depart by early Nov), observed once in Jan and four times, Mar-Apr. Max. 30 on 17 Oct 1991. Juveniles mid-Oct.

M. orientalis Little Green Bee-eater. A, S, *. Six records. Max. 22 on 11 Jan 1994 (Yésou & Triplet 1994). Not considered rare at Richard-Toll (Morel 1972).

M. persicus Blue-cheeked Bee-eater. A-B, C. Most departed by late Nov although some remained until early Jan; thereafter rarely seen until mid-Mar. Max. 1000 roosting near PG, 19 Nov 1987. In NE Djoudj, 21 nesting holes, Oct 1986; recently fledged young in the park from mid-Oct.

M. apiaster European Bee-eater. PM, U. 27 Aug to 3 Apr; mainly on passage Oct, mid-Mar to early Apr; scarce Nov-Feb (four records). Max. 40 on 22 Oct 1991, but rarely > 10. In N Mauritania, groups of up to 50 head south Jul to late Aug (Lamarche 1988). However, in Senegal, autumn passage previously recorded only at Thiès on 29 Sep, but common on spring passage (Morel & Roux 1966). Found south of 14°N, Dec-Feb (M&M).

M. nubicus Carmine Bee-eater. A, R. One at PG, 23 Jan 1993.

Coraciidae

Coracias abyssinica Abyssinian Roller. A, F. Up to six present.

C. garrulus European Roller. PM, S, *. Passage migrant only. Two autumn records at PG: five, 30-31 Aug 1992; one, 28 Oct 1992. Six records of singles on spring passage, 17 Feb to c. 5 Apr (three in 1990-91, two in 1991-92, one in 1992-93). Small numbers (tens) recorded on autumn passage near Richard-Toll, 20 Aug to 9 Sep (Morel 1972); many in late Aug between Dakar and St.-Louis (Sauvage & Rodwell unpubl.).

Phoeniculidae

Phoeniculus purpureus Green Wood-Hoopoe. A, R, *. One, 24 Nov 1991. Occurs further inland in suitable habitat.

Upupidae

Upupa epops Hoopoe. A + PM, F. *U. e. epops*: up to six, 2 Nov to 19 Apr. *U. e. senegalensis* (distinguished by darker mantle and no white in crest), up to three seen.

Bucerotidae

Tockus erythrorhynchus Red-billed Hornbill. A, F. Up to six in the park; more numerous at Ndigue.

T. nasutus Grey Hornbill. A, U. Up to two present.

Lybiidae

Lybius vieilloti Vieillot's Barbet. A, R. Two records: one near Ndigue, 17 Jan 1993 (Fouquet 1993); one near Mirador Tantale, 30 Jan 1993.

Indicatoridae

Indicator indicator Greater Honeyguide. A, R, *. One, 7 Nov 1991 (B. Tréca pers. comm.). Rare in N Senegal (M&M).

Picidae

Jynx torquilla Wryneck. PM, F. 13 Oct to 6 Apr. Up to five present.

Dendropicos goertae Grey Woodpecker. A-B, F. At least five pairs in the park. Max. 11 birds at PC, 19 Apr 1992. Recently fledged young caught, Feb 1991.

Alaudidae

Mirafrja javanica Singing Bush Lark. A, R. Two records: three, 11 Jan 1992; one north-east of Grand Lac, 25 Jan 1993.

Alaemon alaudipes Hoopoe Lark. PM, S, *. Four records: one east of PC, 3 Mar 1990 (Fouquet 1990); one at EM2, 1 Nov 1992; five observations of up to three birds in semi-desert near Poste Flamant, 18 Jan to 4 Feb 1993; one, 15 Mar 1994 (B. Tréca pers. comm.). Five other Senegal records since 1974 (Morel & Ndao 1978). Uncommon Mauritania south of 17°30'N (Lamarche 1988).

Calandrella brachydactyla Short-toed Lark. PM, C. 31 Oct to 17 Mar. Max. several hundred roosting in the park, Jan 1993 (Fouquet 1993). Rarely > 10 before Jan. One NW African *C. b. rubiginosa* ringed near Khar, 4 Dec 1992. One other Senegal record of *C. b. rubiginosa*, Richard-Toll, Mar (Morel & Roux 1966).

Eremopterix nigriceps White-fronted Finch-Lark. A, F. Max. 20 in the park, 1990-91; several hundred from Djoudj to St.-Louis, 22 Nov 1987. Invaded N Senegal in 1972; now common throughout the country (Morel & Ndao 1978).

E. leucotis Chestnut-backed Finch-Lark. A-B, C. Max. c. 50 on 16 Feb 1992, but flocks > 20 rare. Single chicks, 18 Dec 1991, 20 Apr 1992.

Galerida cristata Crested Lark. A-B, C. Max. 65 on 6 Dec 1988. Recently fledged chicks, 26 Mar 1993 and 2 Apr 1994; a female with brood patch, 3 Apr 1994. Nesting at Djoudj, Jan-Feb (Dupuy 1976).

Hirundinidae

Riparia riparia European Sand Martin. PM, V. 30 Aug to 21 Apr, small numbers until mid-Oct, very abundant late Oct to Apr, migration north from mid-Feb. Up to 2,000,000 estimated wintering. Roosts in reed-beds and often rests on ground during day.

R. paludicola African Sand Martin. A, R, *. One, 30 Jan 1992. Recorded further inland along Senegal River at Matam 15°30'N, 13°15'W (Morel & Roux 1962).

Hirundo rustica European Swallow. PM, C. 27 Aug to 19 Apr. Common on passage up to late Nov (max. 40 in one day); migrating north from 26 Jan, most Mar-Apr (max. 300). Scarce Dec-Jan. Roosts with Sand Martins in reed-beds and occasionally inside buildings during sandstorms.

H. senegalensis Mosque Swallow. A, R. One found dead at PC, 17 Jan 1991 (Fouquet 1991). At Richard-Toll from Mar (Morel 1972).

H. daurica Red-rumped Swallow. PM, S. Fourteen records, 10 Feb to 17 Apr, mainly Mar. Max. ten in hirundine roost along the Djoudj river, 21-23 Mar 1991. *Delichon urbica* House Martin. PM, U. 6 Nov to 19 Apr; mainly on passage, 6-24 Nov and Feb-Apr; rare Dec-Jan. Max. 20 during strong NE winds, 27 Mar 1989. Six roosted under eaves of buildings at PG during strong sandstorms, 3-5 Feb 1991; one caught roosting with Sand Martins in a reed-bed, 6 Mar 1992. Previously unrecorded on autumn passage and few winter records Dec-Feb (M&M), except in 1991-92 (Sauvage & Rodwell unpubl.).

Motacillidae

Motacilla flava Yellow Wagtail. PM, V. 15 Oct to 25 Apr. Roosts of up to c. 100,000 on 12 Nov 1991 and c. 250,000, Dec 1992. Smaller numbers feeding inside the park. Five subsp.: *M. f. iberiae* and *M. f. flava* most numerous; *M. f. flavissima* and *M. f. cinereocapilla* wintering in small numbers (*M. f. flavissima* more numerous on passage); three records of *M. f. thunbergi* (males caught 4 Dec 1992, 19 Jan 1993 (Fouquet 1993), 25 Feb 1993. One other Senegal record of *M. f. thunbergi*, Apr (Morel & Roux 1966); none of *M. f. cinereocapilla*, although 1-2% caught in large roosts in Mauritania were *M. f. cinereocapilla* (Lamarche 1988). *M. cinerea* Grey Wagtail. PM, R, *. A female seen along Gorom river, 3 Mar 1990 (Fouquet 1990). Four other Senegal records (M&M).

M. alba White Wagtail. PM, C. 15 Oct to 20 Apr. Max. 50, roosting with Yellow Wagtails.

Anthus campestris Tawny Pipit. PM, C. 30 Oct to 21 Apr, most abundant Jan-Feb, max. 100 on 5 Feb 1993, rarely > 10 other months.

A. leucophrys Plain-backed Pipit. A, R. Three records: one, Feb 1990; one north-east of Débi, 27 Jan 1993 (Fouquet 1993); one caught, 3 Apr 1993.

A. similis Long-billed Pipit. A, U, **. One caught at PG, 12 Mar 1989; six birds ringed (one retrapped after one year) and up to four seen, 3 Nov 1991 to 1 Feb 1992 and 13 Nov 1992 to 29 Mar 1993. These were closest to *A. s. asbenaicus* but measured slightly larger than museum specimens. Identification based on coloration, size and bill length (larger than Tawny Pipit) and wing formula (numbering ascendantly, emarginated to P6; P6 1-3 mm < P5), which differs from Plain-backed Pipit; full details lodged with Editor; see Fig. 4. *A. s. asbenaicus* rare Mali, mostly in Niger inundation zone (Lamarche 1981). Found in short vegetation close to scrub but elusive.

A. trivialis Tree Pipit. PM, F. 26 Oct to 12 Apr, most abundant Jan-Mar. Max. 50 on 8 Mar 1993 but rarely > 5 present.

A. cervinus Red-throated Pipit. PM, U, *. 19 Dec 1991 to 19 Apr 1992; up to five present but rare Feb-Apr. Eight north-east of Débi, 27 Jan 1993 (Fouquet 1993). Quite common on spring passage north of Lac de Guier (Morel & Roux 1966) and wintering in S Senegal (Morel 1972, Sala 1983).



Figure 4. Long-billed Pipit *Anthus similis*, captured at Djoudj.

Laniidae

Nilus afer Brubru Shrike. A, S, *. Nine records of singles; up to 8 Feb.

Lanius isabellinus Isabelline Shrike. PM, U, *. 12 Dec to 3 Apr. Frequent 1991-92: three first-years caught and an adult seen. Two first-year females caught, 1992-93. One other Senegal record, Dec 1982 (Schifter 1986); four from The Gambia (Gore 1990). Rare Mauritania: small numbers on passage at Nouakchott and at five locations in southern Sahel (Lamarche 1988).

L. excubitor Great Grey Shrike. A, F. Up to seven present, of resident race *elegans*.

L. senator Woodchat Shrike. PM, C. 30 Aug to 17 Apr. Max. 30 around PG, Dec 1992. All examined in the hand were *L. s. senator*.

Oriolidae

Oriolus oriolus European Golden Oriole. PM, U, *. One autumn record (previously unrecorded autumn in Senegal): a male over EM1, 19 Oct 1991. More frequent on spring passage: two, 29 Apr 1988; 19 from 15 to 19 Apr 1992, max. ten (nine males, one female), 19 Apr; a male, 10 Apr 1993.

Sturnidae

Lamprolornis chalybaeus Blue-eared Glossy Starling. A, C. Flocks of up to 100.

L. caudatus Long-tailed Glossy Starling. A, F. Max. 30 on 16 Jan 1993.

Spreo pulcher Chestnut-bellied Starling. A, U. Max. 14 in the park, 26 Nov 1991, but more abundant in surrounding villages.

Buphagus africanus Yellow-billed Oxpecker. A-B, F. Max. 19 on 19 Apr 1992. One nesting, Sep 1992 (B. Tréca & M. Sakho pers. comm.).

Corvidae

Corvus albus Pied Crow. A-B, U. Up to four seen.

C. ruficollis Brown-necked Raven. A, R. One near Débi, 2-3 Jan 1993.

Pycnonotidae

Pycnonotus barbatus Garden Bulbul. A-B, U. Up to two present; absent some years.

Turdidae

Saxicola rubetra Whinchat. PM, S. Sixteen records (17 birds), 30 Oct to 19 Apr. *S. torquata* Stonechat. A-B (+ PM?), S. 8 Nov to 20 Mar. Total 16 birds recorded, including four pairs that stayed briefly, 1987-90. *S. t. moptana* has once bred Djoudj and held territories at several locations in Senegal delta (Jarry & Larigauderie 1974, M&M). Some perhaps Palearctic *S. t. rubicola*, of which vagrants known S Mauritania (Keith *et al.* 1992) and Mali (Lamarche 1981).

Oenanthe oenanthe Wheatear. PM, C. 18 Oct to 21 Apr. Max. 21 on 6 Dec 1988. Three subsp.: *O. o. oenanthe* most frequent among birds identified in the hand; *O. o. leucorrhoa*, several caught (not always possible to separate from *O. o. oenanthe*); *O. o. seebohmi*, three singles, 12 Jan 1988, 11 and 21 Mar 1992. *O. o. seebohmi* unrecorded at Djoudj before, although known from Senegal delta and across N Senegal (M&M, Sauvage & Rodwell unpubl.).

O. hispanica Spanish Wheatear. PM, U. 29 Oct to 26 Mar. Up to five present; absent some years.

O. deserti Desert Wheatear. PM, S. Six records: singles on 21 Dec 1987, 14 Jan 1991 (Fouquet 1991), 25-30 Nov 1991, 21 Jan 1993 (Fouquet 1993) and 25 Mar 1993; two (male, female), 5 Jan to 20 Feb 1993. Small numbers winter in Senegal delta (Morel 1980). Common Mauritania north of 17°N (Lamarche 1988).

O. isabellina Isabelline Wheatear. PM, S. Six records: singles on 8 Feb 1987, 27 Jan 1988, 26 Oct 1991, 27 Nov 1991 and 25-26 Jan 1993 (Fouquet 1993); two, 26 Oct to 27 Nov 1991. Jarry & Larigauderie (1974) recorded up to nine around the park, 26 Feb to 17 Mar 1972; common N Senegal, with one other Djoudj record (M&M).

Myrmecocichla aethiops Ant-Chat. A, U. Up to two present.

Monticola solitaria Blue Rock-Thrush. PM, R, *. A first-winter male at PC, 3-17 Mar 1993. Recorded on passage at Richard-Toll and wintering at several coastal locations (M&M).

Phoenicurus ochruros Black Redstart. PM, S, **. Three records: a female caught and seen several times at PG, 10-17 Apr 1992 (body plumage grey-brown to charcoal-grey; rump, undertail coverts, outer rectrices orange; full description lodged with editor); a male seen at PG, 14 Apr 1992; a female at PC, 5 Dec 1992 to 6 Mar 1993. Rare winter visitor Mauritania, mainly along coast from Nouadhibou to Nouakchott (Lamarche 1988); one record S Mali (Lamarche 1981).

P. phoenicurus Redstart. PM, F. 15 Oct to 23 Apr, most (max. 18) on passage, Oct-Nov and Mar-Apr. Up to four wintering, Dec-Feb.

Cercotrichas podobe Black Scrub-Robin. A-B, C. Max. 15 on 18 Dec 1992. Singing throughout observation period. Nest with young, 29 Apr 1988; one incubating eggs at PC, 16 Feb 1990 (Fouquet 1990).

C. galactotes Rufous Scrub-Robin. A + PM, F. Up to nine seen. Singing throughout observation period.

Luscinia megarhynchos Nightingale. PM, U, *. Mainly on passage, 17 Oct to 20 Nov and 26 Mar to 19 Apr. One, 18 Dec 1992; one singing at PC, 9 Jan 1992 (Girard 1992). Small numbers winter along Senegal River valley (Morel & Roux 1966).

L. suecica Bluethroat. PM, C. 15 Oct to 16 Apr. Many captured (up to ten per day). Three males (6 and 9 Jan 1988, 27 Feb 1992) were *L. s. suecica*, all others examined in the hand were *L. s. cyaneola*.

Sylviidae

Locustella luscinioides Savi's Warbler. PM, F. 9 Nov to 19 Apr; scarce until mid-Dec and in Apr. Max. ten caught per day. Song heard Dec-Feb. Previously recorded Senegal River, 11 Dec to 2 Apr (Morel & Roux 1966, 1973).

L. naevia Grasshopper Warbler. PM, F. 22 Oct to 20 Apr; scarce until Dec and in Apr. Max. 13 caught, 20 Dec 1992. Song heard Dec-Feb. Previously recorded Senegal River twice, in autumn (Sep-Oct) and winter, and in small numbers, 6 Mar to 13 May (M&M).

Acrocephalus paludicola Aquatic Warbler. PM, R. Two records: one at PG, Jan-Feb 1987; one caught at EM2, 8 Feb 1993 (head pattern of blackish stripes separating rich golden-buff central and superciliary stripes; full description lodged

with Editor). Previous Djoudj records include: three caught, 2-17 Mar 1972 (Morel & Roux 1973); c. 50 records, 12 Dec 1973 to 17 Mar 1974 (including 26 ringed Mar, K. Shulze-Hagen pers. comm.); one additional record (undated) (Jarry & Roux 1982).

A. schoenobaenus Sedge Warbler. PM, V. 15 Oct to 25 Apr; most abundant late Nov to late Feb; few remaining Apr. Max. 109 caught on 25 Jan 1992; much less abundant 1992-93. Song heard mostly Dec-Feb. Common winter visitor at Richard-Toll, 19 Aug to early May (Morel & Roux 1966).

A. palustris Marsh Warbler. PM, R, **. One seen well and heard in prolonged song by observer (P. Triplet) familiar with the species, 16 Jan 1994 (Yésou & Triplet 1994, P. Yésou *in litt.*). Two possible records from The Gambia (Gore 1990); mainly winters E and S Africa (Cramp 1983).

A. scirpaceus Reed Warbler. PM, C. 15 Oct to 1 May. Common in winter, *e.g.* up to 39 caught per day, Nov-Jan; very abundant spring passage from Feb and especially Mar-Apr, *e.g.* max. 378 caught, 17 Mar 1993. Autumn passage at Richard-Toll, mid-Sep to mid-Nov; only one winter record; spring passage 14 Feb to 30 Jun (Morel & Roux 1966).

A. arundinaceus Great Reed Warbler. PM, U, *. 16 Oct to 21 Apr. Small numbers caught most months (most in 1991-92). Max. seven singing at PG, 1 Dec 1987. Previous Senegal records, Richard-Toll: twice during winter (Dec, Feb); five occasions during spring passage, 17 May to 20 Jun (Morel & Roux 1966).

A. baeticatus African Reed Warbler. A, F. Up to seven caught per day. Less abundant 1992-93. Only one previous record (a bird ringed) at Djoudj (Jarry & Roux 1982), although quite common in *Typha* beds at Richard-Toll (Morel & Roux 1962).

Hippolais polyglotta Melodious Warbler. PM, F, *. Autumn passage, 26-27 Aug 1987, and small numbers (max. eight on 15 Apr 1992) on spring passage, 21 Mar to 20 Apr. One winter record: one, Dec 1991. At Richard-Toll, autumn passage mid-Aug to early Nov; less frequent on spring passage, Feb-Jun (Morel & Roux 1966). Usually winters S Senegal (Sala 1983, Sauvage & Rodwell unpubl.).

H. pallida Olivaceous Warbler. PM, C. 30 Aug to 23 Apr. Max. 60 at PC, 14 Mar 1992. Most trapped were *H. p. opaca*. Eight S Algerian *H. p. reiseri* caught: six, 20 Oct to 24 Nov 1991; two (plus one retrap from Oct), Feb to 21 Mar 1992. Song heard throughout observation period. Two other Senegal records (Jun, Sep) of *H. p. reiseri*, at Richard-Toll (M&M).

Sylvia nisoria Barred Warbler. PM, R, **. Two first-winter birds captured: 7 Feb 1990; a female, 10 Apr 1993. Large size, heavy bill, blue-grey upperparts, traces of wing-bars and white in outer rectrices, and yellowish eyes, distinguished them from congeners (Fig. 5); full details lodged with the Editor. Usually migrates to E Africa (Glutz von Blotzheim & Bauer 1991); few records west of main range, closest at Lake Chad, NE Nigeria, Oct (Dowsett 1969).

S. hortensis Orphean Warbler. PM, F. 24 Oct to 21 Apr, small numbers until mid-Feb. Max. 16 caught, 10 Mar 1993. At Richard-Toll: autumn passage, 15 Sep to

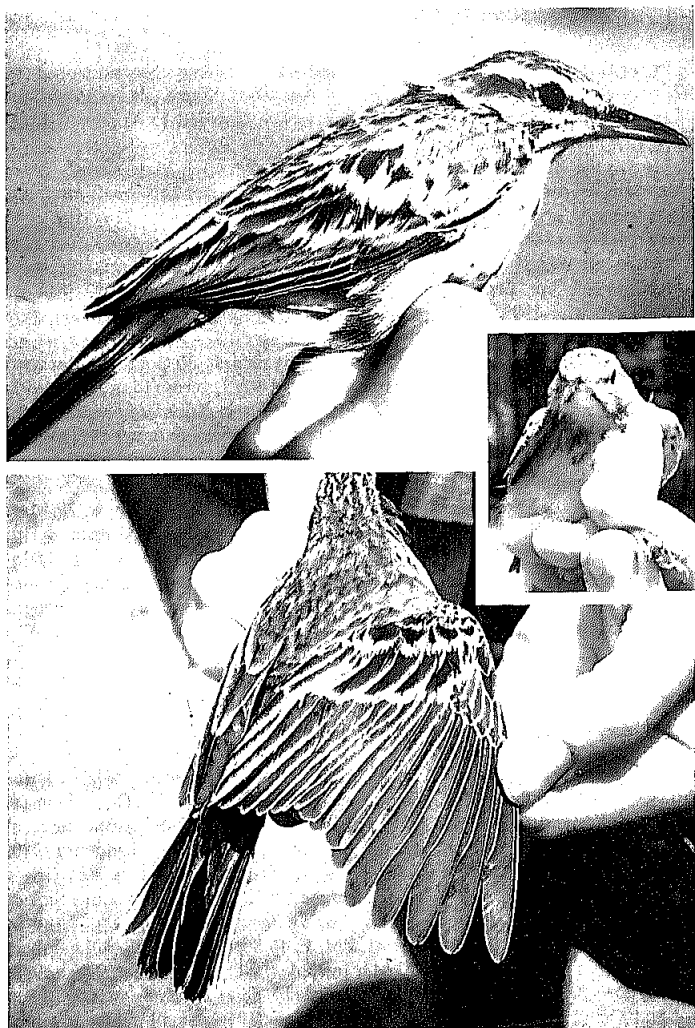


Figure 5. Immature Barred Warbler *Sylvia nisoria*, captured at Djoudj.

late Oct; in small numbers during winter; spring passage, Feb to 28 May (Morel & Roux 1966).

S. borin Garden Warbler. PM, F. 31 Aug to 1 May. Small numbers on passage to 27 Nov and 5-17 Apr (max. 21 caught, 10 Apr 1993). Scarce (six records) Dec-Mar. On passage at Richard-Toll, mid-Sep to late Nov and 15 Apr to 15 June; once in winter (Morel & Roux 1966).

S. atricapilla Blackcap. PM, U (C 1992-93). 18 Oct to 1 May, slightly more abundant on passage, Nov-Dec and Mar-Apr. Most years only small numbers. Exceptionally abundant 1992-93 (690 ringed), max. 33 on 14 Nov 1992. At Richard-Toll, 15 Oct to 30 Jun (Morel & Roux 1966).

S. communis Whitethroat. PM, F. 15 Oct to 29 Apr, uncommon until Dec, most abundant Feb-Apr. From 1987-90 only 11 caught. Frequent since 1990, max. 42 caught, 24 Mar 1993. Common winter visitor at Richard-Toll from late Aug (Morel & Roux 1966).

S. curruca Lesser Whitethroat. PM, U, **. Thirty records, 30 Oct to 22 Mar: two caught, Jan 1987; seven records (*c.* 10 birds), 1991-92; 22 birds (15 caught), 1992-93. Identified by plumage and wing formula. Mainly in *Salvadora persica* scrub. Main winter range Ethiopia to Chad (Glutz von Blotzheim & Bauer 1991); small numbers winter Mali (Lamarche 1981); rare Mauritania, mostly on autumn passage (Lamarche 1988).

S. melanocephala Sardinian Warbler. PM, U (F 1992-93), *. 5 Nov to 29 Mar. Scarce most years, except 1992-93 when 117 ringed, max. 14 at Gorom, 4 Feb 1993. Regular around Lac de Guier, Feb 1978; six other Senegal records in M&M. Usually winters further north in Saharan zone (Glutz von Blotzheim & Bauer 1991), although considered uncommon in Mauritania (Lamarche 1988). Drought conditions further north probably resulted in greater abundance in Senegal, 1992-93.

S. cantillans Subalpine Warbler. PM, V. 14 Sep to 21 Apr, most abundant Dec to mid-Feb, few remaining Apr. Max. 104 at five sites in the park, 17 Dec 1992. Song (mainly sub-song) throughout observation period. At Richard-Toll 15 Aug to early May (Morel & Roux 1966).

S. conspicillata Spectacled Warbler. PM, U (F 1992-93), *. 3 Nov to 20 Mar. Three singles, 1990-91; eight, 1991-92. Frequent 1992-93 with counts > 5, Dec-Feb; max. 18 (Hog, Khar), 19 Feb 1993, and ten at Ndigue, 6 Feb 1993. Five other Senegal records: Gueumbeul, Trois-Marigots, Lac de Guier (M&M, Meininger 1988, Fouquet 1993, Sauvage & Rodwell unpubl.). Locally common winter visitor Mauritania, south to Senegal delta (Lamarche 1988). Drought conditions further north probably resulted in greater abundance in Senegal, 1992-93.

Phylloscopus trochilus Willow Warbler. PM, F. 16 Sep to 23 Apr. Small numbers on passage, 14 Oct to 30 Nov and 3 Mar to 23 Apr; max. nine caught, 9 Apr 1993. Scarce Dec-Feb (nine birds). Previously recorded N Senegal only on passage, 8 Sep to mid-Oct, 10 Mar to early Jun (Morel & Roux 1966). Small numbers winter Mauritania (Lamarche 1988).

P. collybita Chiffchaff. PM, V. 13 Oct to 19 Apr, most abundant Nov to mid-Feb, scarce Apr. Max. 445 from Python Pools to CES, 18 Jan 1992. Northward migration first recorded 17 Jan. Song throughout observation period, including three records of Spanish *P. c. brehmii* calling, Jan 1990 and 1991, Feb 1992. At Richard-Toll, 20 Sep to 15 May (Morel & Roux 1966).

P. bonelli Bonelli's Warbler. PM, U. 2 Nov to 21 Apr. Up to three wintering and five on spring passage, 15 Mar to 21 Apr. Song, Mar. Previously recorded N Senegal, early Sep to 12 Jun (Morel & Roux 1966).

Cisticola galactotes Winding Cisticola. A-B, F. Max. nine, OD to PGT, 14-21 Feb 1993. Song throughout observation period. Recently fledged chicks seen up to Jan.

C. natalensis Striped Cisticola. A, R, *. One in low sedge near PG, 24-26 Feb 1992. Two other Senegal records, closest at Cap Vert (M&M).

C. juncidis Zitting Cisticola. A-B, C. Max. 36 at two locations, 6 Feb 1993. Recently fledged chicks seen Oct to 8 Mar.

C. aridula Desert Cisticola. A, R, *. One, Feb 1993. Usually in dry grassland, further inland.

Spiloptila clamans Scaly-fronted Warbler. A, U (F 1992-93), *. 10 Dec 1992 to 5 Mar 1993, max. 15 on 19 Jan 1993. Common at Richard-Toll (Morel 1972).

Prinia fluviatilis River Prinia. A-B, C. Max. 23 at three locations, 20 Feb 1993. In reed-beds, flooded scrub and adjacent areas. Recently-fledged chicks seen up to Jan. After discussions with G.J. Morel, analysis of biometric data by D. Kelly and of recordings by R.J. Dowsett and F. Dowsett-Lemaire, all prinias in the park were identified as River Prinias. Some Tawny-flanked Prinias *P. subflava* may occur in drier habitats.

Camaroptera brevicaudata Grey-backed Camaroptera. A, F. Two pairs at PG, six individuals at PC and one near Khar.

Eremomela icteropygialis Grey-backed Eremomela. A, R. One, 6 Mar 1993.

E. pusilla Green-backed Eremomela. A, R, *. One, 21 Jan 1993. Rare in lower Senegal River valley (Morel 1972).

Sylvietta brachyura Nuthatch Warbler. A-B, F. Up to five present. Two juveniles caught with an adult at PC, 3 Apr 1991.

Muscicapidae

Muscicapa striata Spotted Flycatcher. PM, U. Up to three on autumn passage, 17 Oct to 21 Dec; less frequent on spring passage, 12-19 Apr. Two winter records, singles, Feb 1990 and 1992. Only on passage at Richard-Toll, early Sep to late Oct, 27 Apr to 16 May (Morel & Roux 1966); rare winter visitor south of Dakar (M&M), although several hundred winter Mauritania along Senegal River valley (Lamarche 1988).

Ficedula hypoleuca Pied Flycatcher. PM, F. Passage migrant: abundant autumn passage, 31 Aug to late Oct, max. 100+ at PG and Khar, 18 Oct 1991; 1-2 from late Oct; two spring records, singles, 19 Apr 1992, 10 Apr 1993. Previously recorded on passage N Senegal, early Sep to mid-Nov, Apr-May (Morel & Roux

1966). Not known to winter N Senegal although considered a rather numerous winter visitor to Mauritania, in dry woodland near water (Lamarche 1988).

F. parva Red-breasted Flycatcher. PM, R, **. Two first-years captured: 10-13 Nov 1991 and 19-20 Nov 1992 (distinctive tail-pattern obvious; full description lodged with Editor). Usually winters Arabia to Vietnam, although small numbers regularly reach N Africa, west to Morocco (Glutz von Blotzheim & Bauer 1993). One other sub-Saharan record, S Sudan between 1909 and 1915 (Sclater & Mackworth-Praed 1918).

Batis senegalensis Senegal Puff-back Flycatcher. A-B, F. Two pairs at PC; a pair at PG; singles at several other locations. A female incubating eggs, 1 Apr 1992 (chicks 7-10 days old, 16 Apr). One Mar breeding record in M&M.

Nectariniidae

Anthreptes platyura Pygmy Long-tailed Sunbird. A, R. Several at PC, late Jan 1990.

Nectarinia senegalensis Scarlet-breasted Sunbird. A, R. A male at PC, 5 Apr 1993.

N. pulchella Beautiful Sunbird. A-B, F, *. 31 Aug to 21 Apr. Up to six present, 5 Apr to late Nov; scarce Dec-Feb. Male displaying, 19 Apr 1992; juveniles caught up to Nov. Nesting at Richard-Toll, Jun-Oct (Morel 1972).

Emberizidae

Emberiza hortulana Ortolan Bunting. PM, R, *. A female caught, 11 Apr 1993. Six other Senegal records, including three at Richard-Toll (M&M).

Serinus mozambicus Yellow-fronted Canary. A, R. Two records: c. 50 at Débi, 28 Jan 1987; seen on 25 Feb 1993. Rare N Senegal (Morel 1972).

S. leucopygius Grey Canary. A-B, U. Up to six present, Nov to mid-Jan; scarce Feb-Mar. One record prior to 1991. One incubating at PC, 14 Feb 1992.

Ploceidae

Ploceus luteolus Little Weaver. A, S. Thirteen records; up to three present.

P. vitellinus Vitelline Masked Weaver. A-B, U. Large breeding colony near PC, 30 Aug 1992 (empty in Oct). Four in breeding plumage at Ndigue, 30 Jan 1993.

P. cucullatus Village Weaver. A-B, R. Five records: Oct 1986; 26 Aug 1987; several caught, 14 Nov 1987; one at Poste Flamant, 10 and 24 Jul 1989 (V. Mansaly pers. comm.).

P. melanocephalus Black-headed Weaver. A-B, V. Many colonies. Breeding completed by mid-Oct.

Quelea quelea Black-faced Dioch. A-B, V.

Euplectes afer Yellow-crowned Bishop. A-B, C. Max. c. 5000 near PC, 30 Mar 1993 (exceptional). Males displaying and defending territories up to Nov, recently fledged young seen Oct. Nesting at Richard-Toll until Sep (Morel 1972).

Bubalornis albirostris White-billed Buffalo-Weaver. A, U. Up to 15 at nests (not breeding) near PC.

Passer domesticus House Sparrow. A, F. First recorded in the park, 3 Feb 1987. Rare before 1990. Max. 20 at PC, Apr 1994.

P. griseus Grey-headed Sparrow. A-B, U. Up to six present.

P. luteus Golden Sparrow. A-B, V. Max. c. 5000 near PC, 18 Feb 1993.

Vidua chalybeata Senegal Indigo-Finch. A-B, F. Max. 15 at Khar, 17 Feb 1990 (Fouquet 1990). Males displaying until early Jan.

V. orientalis Broad-tailed Paradise Whydah. A, R. Four records of 1-5 birds, Feb-Apr.

Estrildidae

Estrilda troglodytes Black-rumped Waxbill. A, R. Two records: six at PC, 14 Mar 1992; seen, 9 Feb 1993.

E. bengala Red-cheeked Cordon-bleu. A, U. Up to five present.

Lagonosticta senegala Senegal Fire-finch. A-B, F. Max. 21 at PC, 14 Mar 1992. Juveniles caught most months.

Amandava subflava Zebra Waxbill. A-B, F. Up to 30 present. Juveniles caught most months.

Ortygospiza atricollis Quail-Finch. A-B, F (S 1990-91). Max. 20 on 7 Dec 1991 and 4 Apr 1993. A female with brood patch caught, Mar 1993. Nesting at Richard-Toll until Feb (Morel & Morel 1962).

Lonchura cantans Warbling Silverbill. A-B, F. Max. 49 at PC, 1 Mar 1992. Young chicks, Nov; eggs and newly fledged young, Feb.

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Appendix 1

Dates and participants of the expeditions who supplied records.

Year	Month										
	A	S	O	N	D	J	F	M	A	M	
1983-84							x				
1984-85							x	x			
1985-86											
1986-87						x	x				
1987-88	x			x	x	x	x		x	x	
1988-89						x		x	x		
1989-90						x	x	x	x		
1990-91					x	x	x	x	x		
1991-92			x	x	x	x	x	x	x		
1992-93	x	x	x	x	x	x	x	x	x	x	
1993-94						x		x	x		

1983-84: 8-28 Feb. P. Mann, J. Melter, E. Reinke.

1984-85: 7 Feb to 4 Mar. H. Hötter, T. Kepp, P. Mann, J. Melter.

1986-87: 18 Jan to 14 Feb. B. Beyer, L. Gizart, H. Hötter, J. Melter, A. Sauvage, C. Schmitt, M. Schölten.

1987-88: 25-28 Aug, 6 Nov to 11 Feb, 28 Apr to 1 May. B. Beckers, A. Beintema, L. van den Bergh, G. Boerma, P. Dubois, G. Gerritsen, P. Ghijssels, L. Gizart, T. van der Have, H. Hötter, T. Kölsch, J.-L. Lucchesi, P. Meininger, J. Melter, E. Osieck, E. Reincke, A. Sauvage, H. Visser, J. Winkelmann, Rijksinstituut voor Natuurbeheer.

- 1988-89: 8-22 Jan, 4 Mar to 10 Apr. L. Gizart, N. Hecker, J.-L. Lucchesi, A. Sauvage, V. Schricke, P. Triplet.
- 1989-90: 17 Jan to 11 Apr. P. Bayle, B. Bayou, R. Beecroft, F. Boléat, J. Brochet, D. Butterfield, J. Chesneau, P. Delaporte, F. Dupuy, J. Edrich, M. Fouquet, O. Girard, L. Gizart, F. Jeudy, J.-L. Lucchesi, P. Pilard, A. Sauvage, V. Schricke, R.E. Sharland, P. Triplet, B. Trollet, J. Trouvilliez, P. Zeddane.
- 1990-91: 9 Dec to 9 Apr. T. Bara, P. Chable, J.-L. Clavier, A. Collet, M. Fouquet, C. Fridlender, O. Girard, L. Gizart, A. Hardy, F. Ibañez, F. Léger, P. Sagot, A. Sauvage, B. Trollet. International Ornithological Expedition, 54 participants.
- 1991-92: 15 Oct to 25 Apr. M. Fouquet, O. Girard, B. Trollet. International Ornithological Expedition, 200+ participants.
- 1992-93: 30 Aug to 1 May. M. Fouquet, P. Triplet, B. Trollet, P. Yésou. International Ornithological Expedition, 200+ participants.
- 1993-94: 8-20 Jan, 27 Mar to 6 Apr. A. Beintema, D. Kelly, S. Rodwell, C. Stoates, J. Sutcliffe, P. Triplet, P. Yésou.
- B. Tréca and R. Devisse visited Djoudj on many occasions throughout the study period.

Appendix 2

Additional species recorded at Djoudj and in surrounding area, prior to 1984, and species rejected from the Djoudj list.

Species recorded prior to 1984

- Podiceps cristatus* Great Crested Grebe (Morel 1972).
- Podiceps nigricollis* Black-necked Grebe (Dupuy & Suiro 1983).
- Ciconia episcopus* Woolly-necked Stork (Dupuy 1971, Morel 1980).
- Anas americana* American Wigeon (Roux *et al.* 1976-77).
- Aegypius tracheliotus* Lappet-faced Vulture (Dupuy & Suiro 1983).
- Falco columbarius* Merlin (Dupuy & Suiro 1983).
- Numida meleagris* Helmeted Guinea fowl (Dupuy & Suiro 1983).
- Gallinula angulata* Lesser Moorhen¹ (Morel 1972).
- Eupodotis ruficrista* Crested Bustard (Dupuy & Suiro 1983).
- Calidris alba* Sanderling (Dupuy & Suiro 1983).
- Rhynchops flavirostris* African Skimmer (Dupuy & Suiro 1983).
- Oxylophus jacobinus* Jacobin Cuckoo (Dupuy & Suiro 1983).
- Caprimulgus inornatus* Plain Nightjar (Morel 1972, 1980).
- Caprimulgus europaeus* European Nightjar¹ (Morel 1980).
- Tchagra senegal* Black-crowned Tchagra (Dupuy & Suiro 1983).
- Emberiza calandra* Corn Bunting¹ (Morel 1980).
- Amadina fasciata* Cut-throat Weaver (Dupuy & Suiro 1983).

¹Location given as Senegal delta in original reference, although listed as occurring at Djoudj and the surrounding area by Dupuy & Suiro (1983).

Species rejected from the Djoudj list

Turdoides fulvus Fulvous Babbler. Listed by Dupuy & Suiro (1983), but record actually from close to St.-Louis (Morel & Ndao 1978).

Acanthis cannabina Linnet. Listed by Dupuy & Suiro (1983) although there is only one published Senegal record, from Richard-Toll (Jarry & Larigauderie 1971).



Fiscal Shrike – Pie-grièche fiscale – *Lanius collaris*

Photo: M. E. J. Gore