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## NOTES ON CICONIIFORMES AT CAPE COAST, GHANA

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This paper describes the occurrence of the herons (Ardeidae), a stork (Ciconiidae) and an ibis (Threskiornithidae) in the Cape Coast area in southern Ghana (5° 05' N, 1° 00' W) based on general observations made between December 1975 and July 1977, and on 92 regular counts at an area of salt-pans and marsh at Iture (about 10 km west of Cape Coast) between 24 March 1976 and 3 July 1977. Comparisons are made of the status of the species at the above sites with that on the dry Accra Plains 150 km to the east (information from Grimes 1972 unless otherwise stated).

Systematic list

**LITTLE BITTERN** Ixobrychus minutus All records were between 8 May and 29 June, but probably also present in July. May breed locally as at least three pairs were seen near U.C.C. (University of Cape Coast) on 29 June 1977 performing long circular patrolling flights. The male of one pair had a bright red bill, probably indicating that it was in breeding condition. Wet-season influx and breeding in the Accra Plains (Taylor pers. comm.).

**DWARF BITTERN** I. sturni Only one record, of two birds at U.C.C. on 16 June 1976. It was suspected that they were visiting a nest at about 3.5 m in a thicket in the middle of a temporary marsh, but this could not be confirmed. Two records from the Accra Plains and one from Keta (Grimes 1972) were also in the wet season.

**NIGHT HERON** Nycticorax nycticorax Present throughout the year, but in small numbers except between April and July when over 60 birds have been seen flying over U.C.C. at dusk on the way to Fosu Lagoon in Cape Coast. Their roost has not been located, but is certainly at least 8 km from Fosu. No birds in immature plumage have been seen. Resident and formerly breeding in the Accra Plains.

**SQUACCO HERON** Ardeola ralloides Difficult to observe, but present all year. More numerous or more obvious in the wet season when many birds acquire the blue bill of breeding plumage. The situation is complicated by the potential presence of both Palaearctic and African stock. Probably mainly Palaearctic migrants in the Accra Plains (Grimes 1972), but occasionally breeding (Taylor, pers. comm.).

**CATTLE EGRET** A. ibis An abundant dry-season visitor, mainly from October to May (by which time some birds are in full breeding colours) but with a few wandering groups remaining during the summer. No evidence of breeding, but does so commonly in the Accra Plains where there is also a large dry-season influx.

**GREEN-BACKED HERON** Butorides striatus A bird of a wide range of habitats - mangrove swamp, open lagoons, salt-pans, freshwater marshes, the wooded edges of Cape Coast reservoir (Brimsu) and once at an overgrown pool in a dense cocoa plantation. Particularly frequent in mangroves near Elmina. Presence of adults with red legs and immature birds suggest breeding in the wet season at which time records became much more frequent. Resident (and breeding - Taylor pers. comm.) in the Accra Plains.

**BLACK HERON** Egretta ardesiaca Records from Iture (Table 1) indicate absence between August and January, but several were seen at Elmina on 11 Jan. 1976. In both years the peak count was in May (25 May 1976 and 11 May 1977) with relatively high numbers remaining in June and July. Only inland record of one feeding at U.C.C. farm pond on 28 March 1976. No evidence of breeding. Resident in Accra Plains and a scarce breeder (Grimes 1972, pers. obs. 1977).

**GREAT WHITE EGRET** E. alba Present throughout the year, but relatively scarce between August and April (Table 1). Birds with black bills present from March, but no evidence of breeding. Predominantly a bird of the salt-pans and coastal lagoons, but small numbers not infrequent on inland freshwater habitats. Two seen in oil-palm plantation about 40 km inland on 4 June 1977. Resident and breeding on the Accra Plains.

**YELLOW-BILLED EGRET** E. intermedia A separate account of this species is being prepared. Present all year but with passage May to July.

**LITTLE EGRET** E. garzetta Present all year, but data from Iture revealed no obvious pattern in the large variations in numbers (Table 1). Predominantly a bird of the salt-pans and open lagoons, but not infrequent (usually in small numbers) inland. No evidence of breeding. Resident and breeding on the Accra Plains.

**REEF HERON** E. gularis Almost all individuals were dark, although they showed great variation in the amount of white in the wing and in the darkness of the body plumage, and white-phase birds were not usually distinguished from E. garzetta. The two species tended to move separately even when present together, and only the occasional white bird flew with flocks of dark individuals. Table 1 shows a possible increase during the wet season (April to September) but the data from the two years gave slightly different indications. Most found on salt-pans and lagoons, but regular on rocky and sandy beaches and in small numbers inland. Possibly breeds locally as a few apparently immature birds have appeared in the wet season. Resident and breeding in the Accra Plains.

**GREY HERON** Ardea cinerea Recorded in every month except August-October (Table 1) but always in small numbers. Origin unknown, but concentration

Table 2. Maximum numbers and frequency of occurrence of herons at Iture, March 1976 and June 1977

		Jan	Feb	Mar	Apr	May	Jun	Jly	Aug	Sep	Oct	Nov	Dec
No. of counts	1976			2	3	7	5	6	3	4	5	9	8
	1977	8	6	8	5	7	6						
<u>E. ardesiaca</u>	1976			3(2)	0	53(3)	14(2)	22(5)	0	0	0	0	0
	1977	0	10(2)	0	3(5)	58(1)	8(1)						
<u>E. alba</u>	1976			1(1)	1(2)	10(6)	19(2)	27(5)	0	1(1)	2(2)	1(1)	0
	1977	1(1)	2(3)	2(6)	6(3)	13(5)	15(5)						
<u>E. garzetta</u>	1976			9(2)	3(3)	21(6)	46(4)	42(6)	4(2)	12(2)	6(3)	47(9)	10(8)
	1977	20(8)	35(6)	23(8)	21(5)	9(7)	23(6)						
<u>E. gularis</u>	1976			6(2)	6(3)	6(6)	25(4)	12(6)	1(2)	13(4)	3(3)	7(9)	2(8)
	1977	4(8)	6(6)	4(8)	12(5)	8(7)	12(6)						
<u>A. cinerea</u>	1976			1(2)	1(2)	1(2)	0	1(1)	0	0	0	2(5)	1(3)
	1977	1(1)	1(3)	1(2)	0	0	1(1)						

Values in parenthesis are the numbers of counts each month when the species was present.

of records in the dry season may suggest primarily Palaearctic stock. Records mainly from coastal sites, but occasionally found inland. Dry-season visitor to the Accra Plains.

**BLACK-HEADED HERON** A. melanocephala Five, all apparently sub-adult birds, in September, January and March to May. Three records were of a single bird (perhaps the same one) on a dry rice-field, and on 17 March 1977 two were feeding in an oil-palm plantation on the edge of a secondary forest reserve about 40 km inland. Dry-season visitor to Accra Plains.

**PURPLE HERON** A. purpurea Recorded at Iture between October and June (Table 1) but this may not reflect the situation in the more favoured inland habitats for which only incomplete data are available. Dry-season visitor to the Accra Plains.

**BISHOP STORK** Ciconia episcopus Seven birds at Cape Coast reservoir (Brimsu) on 16 May 1976 were apparently moving as they flew off on an early-morning thermal. A very southerly record for this species. No records for the Accra Plains, but was common at Mole National Park (9° 16' N) in early April 1976.

**OPEN-BILL STORK** Anastomus lamelligerus Not recorded anywhere in the Cape Coast area despite the presence of apparently suitable habitat. This is in marked contrast to the common occurrence on marshes in the Accra Plains. Records also from Tafo (6° 15' N, 0° 22' W) and Swedru (5° 32' N, 0° 43' W).

**GLOSSY IBIS** Plegadis falcinellus One at Iture on 5 Dec. 1976. This single record from the Cape Coast area contrasts with the regular occurrence in the Accra area.

### Discussion

We can classify the status of the Ciconiiformes recorded at Cape Coast with respect to seasonality as follows:

Resident, no seasonal variation	<u>E. garzetta*</u>
Resident, high nos. in wet season	<u>N. nycticorax*, A. ralloides*,</u> <u>E. striatus, E. gularis?</u>
Resident, wet season passage	<u>E. ardesiaca, E. alba*, E. intermedia</u>
Wet-season visitor	<u>I. minutus*, I. sturmii?</u>
Dry-season visitor	<u>A. ibis (mainly), A. cinerea**,</u> <u>A. melanocephala, A. purpurea**,</u> <u>C. episcopus, P. falcinellus*</u>
Vagrant	

(\* Indistinguishable migratory Palaearctic and Ethiopian populations;

\*\* Seasonality compatible with Palaearctic immigration.)

The short-term increase in numbers of E. ardesiaca, E. alba and E. intermedia at the beginning of the wet season suggests a one-way passage through the area to breeding grounds elsewhere. In Mid-West Nigeria

Table 2. Comparison of seasonality of herons at four West African localities

	Ivory Coast (Brunel & Thiollay 1969)	Cape Coast	Accra Plains (Grimes 1972*)	Mid-West Nigeria (Heigham 1976)
<u>I. minutus</u>	Res.	May-Jly	Wet	May-Sep
<u>I. sturmi</u>	-	Jun	Jun-Jly	NR
<u>N. nycticorax</u>	Oct-Apr	Apr-Jly	Res.	Aug-Jan
<u>A. ralloides</u>	Res.	Res.	Aug-May	Dec-Apr
<u>A. ibis</u>	Oct-May	Oct-May	Oct-May	Oct-May
<u>B. striatus</u>	Res.?	Wet	Res.	Res.
<u>E. ardesiaca</u>	-	Feb-Jly	Res.	NR
<u>E. alba</u>	Sep-May	May-Jly	Res.	Dec-Aug
<u>E. intermedia</u>	NR	May-Jly	May-Jly	Dec-May
<u>E. garzetta</u> )	lumped	Res.	Res.	Nov-May
<u>E. gularis</u> )		Apr-Sep	Res.	NR
<u>A. cinerea</u>	Oct-Mar	Nov-May	Sep-Apr	Nov-Apr
<u>A. milanocephala</u>	-	Sep-May	Nov-Apr	Jan-Jly
<u>A. purpurea</u>	Sep-Apr	Oct-Jun	Oct-Apr	Feb-Jun

Only the main season is indicated. NR = no record.

(\* except I. minutus and E. intermedia)

(Heigham 1976) and Ivory Coast (Brunel & Thiollay 1969) at about the same latitude the last two species are also seasonal but with a different pattern (Table 2). Discrepancies in seasonality show also in I. minutus, N. nycticorax, Ardeola ralloides, Ardeola melanocephala and A. purpurea (Table 2).

Similar differences exist between Cape Coast and the Accra Plains (Table 2). Although only 150 km apart, the two areas are quite different in character. The Cape Coast plains are relatively wet (75-100 mm rain/annum) while the Accra Plains, a southern extension of the savanna, is one of the driest parts of Ghana (under 75 mm on the coast). This difference in climate is reflected in the avifauna with typical savanna birds such as Ptilopachus petrosus, Poicephalus senegalus, Musophaga violacea and many others being common in Accra but very rare or absent at Cape Coast. Differences in the seasonality of herons between these areas may therefore reflect relatively small-scale movements between habitats. I have data which suggest that this is so for some passerine species, for example Estrilda troglodytes, which is resident in dry plains at Accra and Winneba but a wet-season visitor to Cape Coast.

Among the herons E. ardesiaca has a longer season in Accra than in Cape Coast. A. ralloides has a shorter season in Accra, while the two areas agree in respect of A. ibis and the three species of Ardea. No comparison can be made of those species which are present all year but in seasonally variable numbers as Grimes (1972) gave no data on seasonality for his 'residents'.

The data on seasonality from these four areas in Upper Guinea indicate that although several species of Ethiopian Ardeidae are locally seasonal, the pattern of movements in West Africa generally is more complicated and cannot yet be described with any accuracy.

The season of Ardea cinerea and A. purpurea at Cape Coast suggested the possibility of Palaearctic migrants. According to Moreau (1972), any individual of these species in the northern tropics are likely to be of Palaearctic origin. The data from Ghana and Ivory Coast (Brunel & Thiollay 1969) support that view, but those from Nigeria for A. purpurea (Heigham 1976) indicate that the situation may again be more complicated than appears at first sight.

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