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## The avifauna of Mole National Park, Ghana

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### Summary

Mole National Park (4840 km<sup>2</sup>) is situated entirely in the Sudanian zone. Habitats include different types of Sudanian woodland, riparian forest on (mainly) seasonal rivers, a few laterite pans (bovals) and small seasonal floodplains, and the rocky escarpment of Konkori. We recorded 270 species on two visits in August–September 2004 (at the peak of the rains) and March 2005 (near the end of the dry season). Taking into account all existing references and unpublished reports, at least 350 species have been recorded (excluding some doubtful identifications). At least 36 of 37 Sudanian biome-restricted species known from Ghana are present. Over the past 30 years, the avifauna has undergone few changes: some species of wet grassland have disappeared (due probably to over-grazing by large mammals), but overall the area has not become any drier, as shown by recent records of cuckoos and other species with northward extensions of known range. The “Data Deficient” Dorst’s *Cisticola* *Cisticola guinea* is locally common. Speckled Mousebird *Colius striatus*, which may have appeared in Mole in the 1970s, is no longer to be found.

### Résumé

Le Parc National de Mole (4840 km<sup>2</sup>) est situé entièrement dans la Région soudanienne. Les milieux comprennent différents types de forêt claire soudanienne, des forêts semi- sempervirentes longeant des rivières (surtout) temporaires, quelques cuirasses latéritiques herbeuses et plaines inondées saisonnièrement, et l’escarpement rocheux de Konkori. Nous avons observé 270 espèces au cours de deux visites: août–septembre 2004 (au milieu des pluies) et mars 2005 (fin de la saison sèche). Après examen de toutes les références et rapports non publiés, l’avifaune de Mole comprend au moins 350 espèces (après exclusion d’identifications douteuses). Au moins 36 des 37 espèces restraints au biome soudanien connues du Ghana sont présentes. Après 30 ans, l’avifaune n’a que peu changé: quelques espèces de prairies inondées ont disparu (sans doute à cause du surpâturage local par la grande faune), mais dans l’ensemble le climat ne s’est pas asséché, comme en témoigne la présence de plusieurs coucous et autres espèces s’étendant

apparemment vers le nord. La Cisticole de Dorst *Cisticola guinea* (“données insuffisantes”) est localement commune. Le Coliou strié *Colius striatus*, peut-être apparu dans les années 1970, a disparu.

### Introduction

Mole National Park, covering some 4840 km<sup>2</sup>, is the largest wildlife reserve in Ghana, protecting a large area of Sudanian woodland in the north of the country. The elevation ranges from 120 to 490 m a.s.l. (Schmitt & Adu-Nsiah 1993); the topography is mostly flat, with a narrow scarp running north–south. Most of the watercourses (which drain into the White Volta) are seasonal. The National Park (a Game Reserve since 1958) was gazetted in 1971.

With the creation of an important system of roads in the late 1960s, and the challenge presented by the conservation of (initially) important populations of large mammals, the park has attracted some scientific activity in past decades, including a few bird surveys. The latter were conducted mainly by students from overseas in the summer rains of 1968 (Harvey & Harrison 1970), and in July–August 1974 and 1975, and from 28 October to 3 December 1975 by Greig-Smith (1976), who drew up a first checklist of birds in tabulated form, taking into account earlier records, published or unpublished. Other (brief) accounts from that period include Genelly (1969, who identified some 90 species, July–October 1966), Maze (1971, 101 species in January, April and August 1967 and 1968), Sutton (1965, 1970, who visited in late March 1964 and December–January 1968–9), Taylor & Macdonald (1978, a brief April 1976 visit), Wink (1976) and Macdonald (1978a, b) who added a few records of migrants. Payne (1985, 2004) studied firefinches and indigobirds in October 1975, and his other records are included in Greig-Smith (1976, 1977a). Of all the above, Greig-Smith’s own work was the most thorough: he recorded some 250 species himself and his tabulated list includes just over 300. However, the identity of some may be queried, he missed some records (by Sutton 1970), misplaced a few others (originating from other localities), and gave no localities for even the rarer species. The status of most species was incompletely documented: in a later publication, Greig-Smith (1977a) mentioned partial periods of passage for a number of Palaearctic migrants, but his list of intra-African migrants does not include dates, with a few exceptions discussed in the text. Apart from Sutton (1970) who stopped briefly at Konkori, other observers concentrated their activities in the south-east, around the park headquarters (Samole) and Lovi camp.

Dutson & Branscombe (1990) spent 6–9 August 1988 in Mole and briefly listed their observations. Otherwise Mole was not much visited again until January–March 1993, when Wilson (1993) studied its mammals. His account of birds is useful for the larger species but identifications of small species (with many omissions and some errors) have to be treated with caution.

We spent just over six weeks in the park, from 6 August to 9 September 2004 and 5–15 March 2005. Most rain falls from May–September, with the first scattered storms in March–April. By the 2000s the road system in the park had collapsed, and in the wet season of 2004 we worked from several bush camps on the boundary (Ducie, Jang, Kananto, Degbere, Mognori), around the Samole headquarters, and walked to Brugbani and a little beyond (Fig. 1). In March 2005 it was possible to drive through and we camped near Old Ducie, at Konkori, Nyanga, Lovi and on the Mole river near Asibey's pools. We revisited Samole and Mognori. A small amount of mist-netting was carried out on two days in August, mainly to check breeding condition. In all we recorded 270 species.

Mole NP offers tourist accommodation in the form of a motel ideally situated on a small plateau overlooking the Samole floodplain (called "Mole marsh" in various publications). Eco-tourists have shown renewed interest in Mole since 2002, and several birdwatchers who have visited (mostly in the dry season) have kindly made their records available. We have also examined two unpublished reports on dry-season visits of 1–2 days (Baha el Din & Baha el Din 1996, Plat 1997). Some of the wildlife guards working in Mole have a good knowledge of birds, especially Zachariah Wareh: we worked with all of them in the field and found their testimony useful in several respects. J.F. Walsh (*in litt.*) paid several short visits to Mole from 1971–9 and carried out aerial surveys in later years, from which he sent some unpublished records.

The updated annotated list below includes 350 species. Reasons for rejecting some doubtful records are given. The possibility that the region has undergone some environmental changes in the last 30 years is discussed in the light of small modifications in the composition of the avifauna. Nomenclature follows Dowsett & Forbes-Watson (1993) with few exceptions (cf. Dowsett-Lemaire & Dowsett 2007); we now recognize *Circaetus beaudouini* as a species distinct from *C. gallicus* (following Clark 1999). The suffixes of some species names have changed following David & Gosselin (2002a, b).

### Habitats

The whole of Mole NP falls within the Sudanian vegetation zone (White 1983, syn. "Sudan-Guinea Savanna" in Fishpool & Evans 2001), and Sudanian woodland is the most extensive vegetation type. The park is traversed by several streams and rivers. Most of the smaller streams dry up in the dry season, although some on the Konkori escarpment are permanent; the larger Mole and Lovi rivers retain some pools in all months. The vegetation map in Schmitt & Adu-Nsiah (1993) shows an extensive floodplain in the basin of the Mole river in the south-east, and many small patches of woodland elsewhere get waterlogged in the rainy season. Rocky outcrops are concentrated along the Konkori escarpment in the centre of the park (Fig. 1). A few

buildings are to be found in the southeast (at Samole), including the park headquarters, staff accommodation, a museum and the Mole motel.

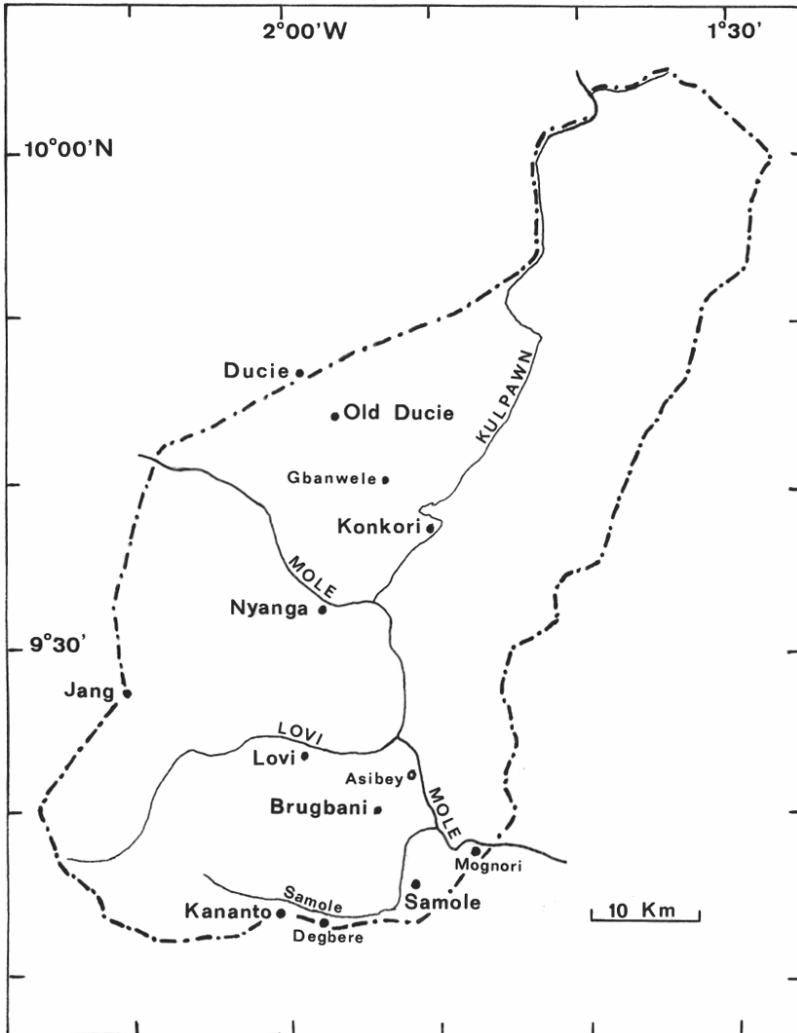


Figure 1. Mole National Park, showing rivers, streams and sites visited. The Haraba-Haraba pool is half way between “Asibey” (= Asibey’s pools) and Brugbani.

The following broad vegetation types can be recognized (following White 1983): **Fresh-water swamps.** The Samole stream was dammed in the 1960s below the motel, thus creating two permanent pools, "Dam 1" and "Dam 2": these have no floating vegetation but are bordered by trees on one side and seasonally flooded grassland on the other. Seasonally flooded grassland and seasonal pools are frequent in the Mole river basin (e.g. Asibey's pools); sedges occur in the wetter sections, but there are no reed beds (*Typha*, *Phragmites*) as such. The flooded grassland below the motel is no longer as tall and dense as in the 1970s and 1980s, following intensive grazing by Elephants and other mammals fleeing poachers in the centre of the park (J. Jimah pers. comm.). Some 25 years ago the grass cover was over 2 m tall, more than twice as high as today. The large Sabory pool near Mognori, ringed by sedges and grass and covered by *Nymphaea*, never dries up. Maximum flooding in the Mole marsh (below the motel) is attained in late July or in August.

**Bovals.** These are a special kind of dry edaphic grassland characteristic of the Sudanian region (spelled "bowal" by White 1983). The soil, on laterite pans, is too shallow for trees to grow, and is covered in the rains by thin grassland, rarely more than 40 cm tall. A few small pools may form in rocky depressions. Bovals are especially conspicuous in the vicinity of Brugbani camp: the three largest are at least 1 km<sup>2</sup> each.

**Wooded grassland and woodland.** Woodland in Mole is often rather open, with the distinction between woodland and wooded grassland (the latter with less than 40% tree cover) not clearcut. Wooded grassland often replaces woodland in slightly waterlogged sections of the plateau. *Mitragyna inermis* wooded grassland is associated with floodplains; *Ziziphus mauritiana* is common on the edge of some pools. Dry woodland and wooded grassland away from floodplains include many of the tree species characteristic of Sudanian woodland: *Azelia africana*, *Combretum fragrans*, *Daniellia oliveri*, *Detarium microcarpum*, *Erythrophleum africanum*, *Isobertinia doka*, *Lophira lanceolata*, *Parkia biglobosa*, *Piliostigma thonningii*, *Pterocarpus erinaceus*, *Terminalia avicennioides*, *Vitellaria paradoxa*. *Detarium* is dominant on shallow soils locally (as near Brugbani), sometimes in mono-specific stands (8–10 m high). Much of the woodland or wooded grassland elsewhere is 12–15 m tall; along the southern boundary, woodland on deeper soil is more luxuriant and reaches a height of c. 20 m (with *Azelia*, *Daniellia*, *Isobertinia*, *Parkia*, *Vitellaria* among the larger trees). Only near Jang did we see a significant presence of *Acacia* spp. (mixed with broad-leaved trees such as *Vitellaria* and *Pterocarpus erinaceus*, which are both very common): *A. gourmaensis*, medium-sized *A. dudgeoni* and large (12–15 m) *A. sieberiana* all occur in dry woodland, with *A. polyacantha* (16–18 m) near small streams. Baobabs *Adansonia digitata* are very uncommon in Mole (e.g. Jang camp).

**Semi-evergreen forest.** Essentially riparian and found on most of the streams or rivers in the park; the width varies from a single line of trees to > 100 m on one or both sides of the river. On the Samole below the motel, the riparian vegetation is not wide, but consists of a dense low thicket of *Cola laurifolia*, *Morelia senegalensis*, *Nauclea latifolia*, the creeper *Uvaria chamae*, with the occasional tall tree (*Diospyros*

*mespiliformis*, *Manilkara multinervis*, *Syzygium guineense*, *Vitex doniana*) and especially *Khaya senegalensis* which can reach over 30 m. A good example of dense riparian forest is at Mognori on the Mole river, where the forest is up to 25 m tall and at least 50 m wide, with an abundance of liane tangles: *Celtis integrifolia*, *Cola laurifolia*, *Diospyros mespiliformis*, *Pterocarpus santalinoides* are all important large trees, *Parinari congensis* occurs in the flooded section and *Lonchocarpus cyanescens* is the largest woody liane. Further upstream and south of the Lovi confluence the forest is almost continuous and very dense, being 20–25 m tall: *Ceiba pentandra* and *Khaya senegalensis* are occasional emergents (over 30 m). At Kananto on the southern boundary the forest reaches at least 100 m wide and is equally tall. At the level of Nyanga camp the Mole is much wider and sandier; dense thickets on permanent pools are dominated by *Quisqualis indica* and low bushes of *Mimosa pigra*. Along the Lovi river riparian vegetation is not as continuous and is somewhat more deciduous, with clumps of thicket and scattered tall trees. Finally, the Konkori escarpment is lined with numerous strips of riparian forest: *Raphia sudanica* is conspicuous in that area, other common trees being *Azelia africana*, *Berlinia grandiflora*, *Khaya senegalensis*, *Manilkara multinervis*, *Syzygium guineense*, *Uapaca togoensis*. In a small patch of forest on the edge of Haraba-Haraba pool several *Nauclea pobeguini* stand in the water, reaching a height of 15–18 m: this tree is typical of swamp forest in the Guineo-Congolian region and was not reported from Mole by Schmitt & Adu-Nsiah (1993).

**Anogeissus groves.** Away from streams, patches of tall (20–25 m) dry forest dominated by *Anogeissus leiocarpus* occur locally, as near the entrance road. This is apparently on an old village site but *Anogeissus* can only grow where the water table is high. Some groves of *Anogeissus* can also be found on the edge of floodplain, often mixed with *Ceiba pentandra* (e.g. near Degbere camp). Dry thickets or forest may form also on the edge of bovals (e.g. near Brugbani) with deciduous tree species such as *Pterocarpus lucens*.

### The avifauna

The status of migrants is given after the species name: AM = intra-African migrant; PM = Palearctic migrant. Greig-Smith (1976) is mentioned as GS. Names of observers who provided unpublished records are abbreviated as follows: RC (R. Cruse), RD (R. Demey), AH (A. Hester), DH (D. Hoddinott), JJ (J. Jimah), RBP (R.B. Payne), ASR (A.S. Riley), DS (D. Shackleford), TTE (T. Traub-Evans), KV (K. Valentine), JFW (J.F. Walsh), ZW (Z. Wareh). Species observed by us are marked \*.

### Phalacrocoracidae

\**Phalacrocorax africanus* Long-tailed Cormorant. Uncommon visitor, as in GS. Singles on two dates, Aug 2004.

### Ardeidae

*Botaurus stellaris* Great Bittern. PM. A specimen collected Oct–Nov 1971 (Grimes 1987), and the only certain Ghanaian record, is no longer in the museum at Samole.

*Ixobrychus minutus* Little Bittern. Considered resident by GS, with records in the rains (Harvey & Harrison 1970) and dry season (Wink 1976, Wilson 1993). No recent records, and its status has probably changed, as the Mole marsh now appears unsuitable, especially in the dry season.

*I. sturmii* Dwarf Bittern. AM. The only dated records are: one Jul–Oct (Genelly 1969), three records Jul–Sep (Harvey & Harrison 1970), one 9 Sep 2004 (pers. obs.) just outside the park. Unlikely to be resident (as in GS), but an uncommon rains visitor.

\**Nycticorax nycticorax* Black-crowned Night Heron. On several rivers and streams, and Mole marsh. Most records Aug–Mar, extreme dates late Jul (Harvey & Harrison 1970) and late Mar (Sutton 1965). Treated as AM by GS, but could also be PM.

*Gorsachius leuconotus* White-backed Night Heron. Rare in riparian thickets on the Samole stream below the motel, judging by convincing descriptions by ZW (early 2000s). Probably moves out in the dry season, but there is permanent suitable habitat on the Mole river.

\**Ardeola ralloides* Squacco Heron. Regular in Mole marsh. Treated as both AM and PM by GS, but all dated records fall between 12 Oct (Genelly 1969) and Apr (Maze 1971), suggestive of Palaeartic origin.

\**Bubulcus ibis* Cattle Egret. AM. Common visitor to marsh or grassland, with extreme dates 16 Oct (2004, RD) and 20 Apr (ASR & DH).

\**Butorides striata* Green-backed Heron. Widespread in riparian vegetation on the edge of water and common in Mole marsh; occupied nest in a *Mitragyna* by Dam 1 (Sep).

\**Egretta garzetta* Little Egret. PM? One or two by Dam 1 on 8–14 Mar 2005. Recorded from 10 Feb (RC) to late Mar (Wink 1976).

\**E. intermedia* Intermediate Egret. Uncommon visitor to pools (one record Aug 2004, one in early Mar 2005), as in GS.

\**E. alba* Great White Egret. PM/AM? Uncommon. All dated records fall between 20 Aug (Harvey & Harrison 1970) and 20 Apr (ASR & DH). Treated as AM by GS.

\**Ardea purpurea* Purple Heron. Treated as both PM and AM by GS, and dated records (several observers) are all from 22 Aug to 20 Apr, when frequent, with one exception on 16 Jun 1976 (JFW). This suggests most are Palaeartic, and there are recoveries in Ghana of birds ringed in Europe for this and the next species (Grimes 1987).

\**A. cinerea* Grey Heron. Treated as both PM and AM by GS; frequent between extreme dates of 6 Aug (Genelly 1969) and 20 Apr (ASR), suggesting Palaeartic origin.

\**A. melanocephala* Black-headed Heron. Uncommon visitor at least Aug–Apr (several observers).

*A. goliath* Goliath Heron. Vagrant: singles recorded Aug 1968 (Harvey & Harrison 1970), sometime Jan–Mar 1993 (Wilson 1993) and Mar (Grimes 1987).



**Scopidae**

\**Scopus umbretta* Hamerkop. Common at pools and rivers.

**Ciconiidae**

*Mycteria ibis* Yellow-billed Stork. The only reports are by Maze (1971) for Jan, Apr and Aug 1967 and/or 1968. No nesting record in Mole. A colony reported by a ranger in a village east of the park (Harvey & Harrison 1970), was probably of Marabou Stork (Grimes 1987). None of the nesting colonies elsewhere in N Ghana is known to have been occupied after 1949 (Grimes 1987); colonies at Daboya and Gambaga on the White Volta were abandoned before 1971 (JFW).

*Anastomus lamelligerus* Openbill Stork. AM. The only dated records are late Jan (Wilson 1993) and one below the motel Jan 2005 (JJ).

*Ciconia abdimii* Abdim's Stork. AM. One 27 Feb 2003 (ASR) and one 26–27 Mar 2005 (AH). Probably on passage between its winter quarters in southern Africa and breeding range in the Sahel. Also known from nearby Damongo, 2 Apr (Macdonald 1979). Two other records from Mole sometime between Jan and Mar (Maze 1971, Wilson 1993) lack details sufficient to separate them from Black Stork.

*C. nigra* Black Stork. PM. Three, 10 Jan 1990 (Walsh 1991); one from at least 13–26 Feb 2002 (Cruse 2002); one, 27 Feb 2003 (Riley 2004).

\**C. episcopus* Woolly-necked Stork. Listed as AM by GS, but probably largely resident, with local movements. One pair resident in Mole marsh in the rains, and a few on the Lovi-Mole rivers and smaller streams at both seasons, at least Aug–Apr (pers. obs., ASR, DH). Occupied nests (one with two young, 21 Jan 1988; one with three and two with two young, 19 Jan 1999) in large *Ceiba* trees near the Mole-Lovi confluence (JFW).

*C. ciconia* White Stork. PM. One collected in Mole (GS, Grimes 1987: 240), but the specimen, date and other details have been lost.

\**Ephippiorhynchus senegalensis* Saddle-bill Stork. Apparently resident (not AM as in GS). One pair bred several times in Mole marsh: a nest in a *Khaya* contained two young 4–6 weeks old, early Jan 2002 (Portier 2002); two juveniles with an adult, 27 Feb 2003 (Riley 2004); a pair nest-building on top of an old Hamerkop nest in a *Vitex doniana* c. 22 m tall, early Sep 2004 (pers.obs.), one bird still nest-building on 17 Oct (RD) and two young fledged about Feb (wildlife guards). Also present in the Mole floodplain further north (to Asibey's pools and Lovi). Two pairs resident in the Mole/Lovi valley 1983–90, including one with a nest containing three eggs, 29 Oct 1986, one pair at a nest with one egg and two young, 17–19 Nov 1987, and the latter nest containing four eggs, 26 Oct 1988 (JFW).

\**Leptoptilos crumeniferus* Marabou Stork. One nest about half way up a big *Ceiba* tree, on the edge of the Lovi river 1 km west of Lovi camp, contained two big young, 11 Mar 2005. This is a traditional nesting site, in the past occupied by more than one pair (five nests with eggs, 22 Oct 1986, JFW in Grimes 1987; 11 nests with eggs or young, 17 Nov 1987; three trees with 16 nests containing eggs or young, 11 Jan 1990, all reported by JFW). Nests also occupied Mar 1969 (Greig-Smith 1977b). Also seen frequently Mar 1964 (Sutton 1965).

### Threskiornithidae

*Threskiornis aethiopicus* Sacred Ibis. AM. The only record appears to be Mar 1993 (Asibey's pools, Wilson 1993). Listed by GS on the basis of a nesting colony north of the Lovi attributed tentatively to this species, based on a ranger's report (Harvey & Harrison 1970), but probably in error for Marabou Stork.

\**Bostrychia hagedash* Hadada. Common (up to 20 in Mole marsh) in flooded grassland, pools and rivers throughout.

### Anatidae

\**Dendrocygna viduata* White-faced Whistling Duck. Greig-Smith (1977a) considered it present only in the wet season, but there are a number of records from Jan–Apr, although in 2005 they had left by Feb (wildlife guards). Up to 50 in Mole marsh Aug–Sep (pers. obs.), and 250 mid-Oct 2004 (RD).

\**Plectropterus gambensis* Spur-winged Goose. Treated as resident by GS, but perhaps mainly a rainy season visitor (Taylor & Macdonald 1978), when common. Present at least Aug to 27 Feb (ASR), with a single later record, 27 Mar 2005 (AH). Usually in small numbers, but up to 12 in Mole marsh 16–18 Oct 2004 (RD).

*Sarkidiornis melanotos* Knob-billed Duck. AM. One record, of three in Jan 1967 or 1968 (Maze 1971).

*Nettapus auritus* Pygmy Goose. Listed as resident by GS, but not seen by him in five months. More likely an irregular visitor: the only dated records (both from Mole marsh) are of a pair sometime Jan–Mar (Wilson 1993) and two pairs apparently prospecting old trees, 22 Aug 1968 (Harvey & Harrison 1970).

### Accipitridae

\**Aviceda cuculoides* African Cuckoo Hawk. Treated as AM in GS, but perhaps an uncommon resident. We saw a pair near the motel Aug and Mar, and one further north (Brugbani, Aug). The only other dated record is 16 Mar 2003 (ASR).

*Pernis apivorus* Honey Buzzard. PM. One acceptable record, 8 Oct 1975 (RBP; Grimes 1987), one possible, 20 Sep (Genelly 1969).

*Elanus caeruleus* Black-shouldered Kite. One 27 Feb 2003 (ASR); one sometime Jan–Mar (Wilson 1993). A skin collected in Mole (Grimes 1987: 241), has disappeared from the local museum. Requires extensive open grassland and unlikely to be more than a vagrant in Mole.

\**Milvus migrans parasitus*. Yellow-billed Kite. AM. Rare in the rains (one sighting in five weeks, 22 Aug 2004), frequent by mid-Oct 2004 (RD), with extreme dates late Jul (Harvey & Harrison 1970) to Apr (Maze 1971). One report of a probable Palaearctic Black Kite *M. m. migrans*, 5 Apr (Taylor & Macdonald 1978).

*Haliaeetus vocifer* African Fish Eagle. Considered resident by GS, and used to nest on occasion on the Samole below the motel (Greig-Smith 1977b), but has not done so in recent years (wildlife guards). No sightings in 2004–5; one passing through, 29 Jan 2008 (TTE). Has become rare in Ghana, following the damming of the Volta.

\**Gypohierax angolensis* Palm-nut Vulture. Widespread from Old Ducie south; usually near riparian forest or water. Seen eating *Raphia* nuts at Konkori. Up to four

adults and three immatures in Mole marsh, Aug–Sep 2004. Fairly common even though *Elaeis* and *Raphia* palms are few in the south of the park.

\**Necrosyrtes monachus* Hooded Vulture. Common (small numbers) throughout.

\**Gyps africanus* African White-backed Vulture. Common and widespread, up to seven near motel (rains 2004) and over 20 near Nyanga, 8 Mar 2005.

\**Trigonoceps occipitalis* White-headed Vulture. Frequent: one or two pairs near motel, also from Nyanga to southern boundary.

\**Circaetus beaudouini* Beaudouin's Snake Eagle. AM?. A pair seen at close range over the Konkori scarp, 7 Mar 2005. Also observed 10–11 Feb 2003 (RC) and 3 Apr 2007 (AH). Harvey & Harrison (1970) reported a pair on several occasions up to mid-Aug near the motel: the dates suggest this species, and not the Palaearctic *C. gallicus* (as in GS), separable with difficulty and often considered conspecific.

*C. gallicus* Short-toed Snake Eagle. PM. Sightings 31 Mar (Wink 1976, Grimes 1987), 5 and 8 Apr (Macdonald 1978a), if correctly identified. Macdonald (1978a) wrote that it is possible that some of his records referred to *C. beaudouini*.

\**C. cinereus* Brown Snake Eagle. Uncommon: one motel scarp 24 Aug; recent dry-season reports (RC, ASR).

\**C. cinerascens* Western Banded Snake Eagle. Adults in display flight over the Konkori scarp, 7 Mar 2005, and over the Lovi, 11 Mar. A probable breeding pair 27–29 Mar (Grimes 1987); observed 20 Apr (ASR & DH) and in Jun (JFW). GS treated it as a rare resident in riverine situations, a comment erroneously changed by Grimes (1987) to “occasionally in wet season”.

\**Terathopius ecaudatus* Bateleur. Common throughout.

\**Polyboroides typus* African Harrier Hawk. Uncommon, at Old Ducie, Konkori, Jang and Lovi.

*Circus aeruginosus* Eurasian Marsh Harrier. PM. Seen 16 Oct 2004 (RD), 8–9 Feb (Plat 1997), 27 Feb 2003 (ASR) and 26 Mar 2005 (AH).

*Melierax metabates* Dark Chanting Goshawk. The only records are of one near the motel, 14 Aug 1968 (Harvey & Harrison 1970) and singles 25 Feb (RC) and 27 Feb (ASR). GS attributed a record to M. Edmunds and L. Grimes, but this was not repeated in Grimes (1987).

*M. gabar* Gabar Goshawk. Uncommon, several reports, including melanistic individuals (Genelly 1969, RD).

\**Accipiter ovampensis* Ovambo Sparrowhawk. AM. One below the motel, 14 Mar 2005. A melanistic bird reported, 16 Mar (Riley 2004).

\**A. badius* Shikra. Treated as AM by GS, but more likely an uncommon resident. Seen on both visits, Old Ducie, Samole.

\**Butastur rufipennis* Grasshopper Buzzard. AM. Typically a dry-season visitor attracted to grass fires. Seen by GS (no dates given, but Jul–Aug most unlikely). Dated records Feb (RC, ASR), 13 Mar (pers. obs.), 3 Apr (AH) and up to 35 birds at a fire sometime Jan–Mar (Wilson 1993).

\**Kaupifalco monogrammicus* Lizard Buzzard. The commonest small raptor in woodland and riparian forest; vocal (strongly territorial).

\**Buteo auguralis* Red-necked Buzzard. Listed as AM by GS, but probably resident. One over the motel scarp 7 Aug; common over the Konkori scarp, Mar. Greig-Smith (1977b) had birds displaying in Nov, Sutton (1970) saw one 19 Dec, and ASR several times Feb–Apr.

*Aquila wahlbergi* Wahlberg's Eagle. Considered resident by GS and Grimes (1987), but perhaps essentially AM, with the main breeding grounds in southern and E Africa (Brown *et al.* 1982, Meyburg *et al.* 1995). Dated records are Aug (Harvey & Harrison 1970, Dutton & Branscombe 1990), Sep 2006 (KV) and sometime Jan–Mar (Wilson 1993).

*A. rapax* Tawny Eagle. AM. Considered resident by GS although he did not see any himself. In Ghana, mainly a dry-season visitor, from Dec (Grimes 1987); additional data by JFW (nine records) and others (DH, ASR, DS) are all Oct–May. Dated records in Mole are Feb (Baha el Din & Baha el Din 1996) and one sometime Jan–Mar (Wilson 1993). Aug records by Harvey & Harrison (1970) seem odd and may not be correct.

\**Hieraaetus spilogaster* African Hawk Eagle. Appears widespread: seen over the motel scarp, at Mognori, Brugbani (pair calling) and Jang (all Aug); a pair carrying prey over Konkori scarp, 7 Mar, was probably nesting.

*H. pennatus* Booted Eagle. PM. Only record is a dark phase individual, 10 Feb 2003 (Cruse 2003).

\**H. ayresii* Ayres's Hawk Eagle. One (with a pale face) seen closely twice over the motel scarp Aug–Sep. Also reported Feb–Mar (RC, AH, ASR).

*Lophaetus occipitalis* Long-crested Eagle. Few records: GS, Wilson (1993), JFW (in Dec 1971).

\**Polemaetus bellicosus* Martial Eagle. Uncommon. Used to breed just below the motel (wildlife guards) but stopped several years ago.

### **Sagittariidae**

*Sagittarius serpentarius* Secretary Bird. Not resident (as reported in GS, who did not see it but gave one undated report), but vagrant. Wilson (1993) saw it only once in three months (Jan–Mar); reported by some wildlife guards from bovalls.

### **Falconidae**

\**Falco naumanni* Lesser Kestrel. PM. Small passage northward in 2005: five flying north 13 Mar, one 15 Mar. Some 50 birds reported in Jan 1968, including 20 at a bush fire on 7 Jan (Maze 1971).

*F. tinnunculus* Common Kestrel. Treated as both AM and PM by GS, but status requires clarification. Two over the motel scarp, early Sep (Harvey & Harrison 1970); one specimen (Grimes 1987: 241); singles seen 14 Feb 2003 (RC) and 17 Mar 2003 (ASR). Greig-Smith (1977a) mentioned records Oct–Dec, but they included Nov–Dec records credited to Sutton (1970), which were not from Mole but from Tumu, in the far north of Ghana.

\**F. alopes* Fox Kestrel. One calling, rocky outcrop on the Konkori scarp, 7 Mar 2005. Plat (1997) mentioned one at the motel, early Feb 1997, but probably a wanderer there: suitable rocky outcrops or cliffs are not present in the south.

\**F. ardosiaceus* Grey Kestrel. Singles or pairs seen regularly in Mole floodplain and woodland.

\**F. chicquera* Red-necked Falcon. We saw only one, at the motel scarp, Aug; few other reports, including Feb–Mar (Harvey & Harrison 1970, RC, ASR).

\**F. cuvierii* African Hobby. Few records: GS; one 8 Mar (Samole, pers. obs.); a sub-adult photographed 20 Apr 2002 (ASR & DH).

*F. subbuteo* Eurasian Hobby. PM. Singles, 6 Apr (Taylor & Macdonald 1978), 27 Mar 2005 (AH).

\**F. biarmicus* Lanner Falcon. One near motel, 15 Aug 2004; one seen 9 Apr (Taylor & Macdonald 1978); Feb (RC); Mar (ASR).

### **Phasianidae**

\**Francolinus albobularis* White-throated Francolin. Avoids floodplains but common in woodland and edge of bovals. Noisy in the rains (Aug), but already singing in Mar, just before or with the first storms. Not recorded mid–Oct (RD) when perhaps silent.

\**F. bicalcaratus* Double-spurred Francolin. Very common, woodland and grassland.

*Coturnix chinensis* Blue Quail. AM. Moist grassland, treated as resident by GS, but unlikely to be more than a rainy season visitor (Grimes 1987), as there is no suitable habitat in Mole in the dry season. Dry-season reports by Maze (1971) and Wilson (1993) therefore seem doubtful, given the added difficulty of identifying this species. Greig-Smith's undated records would have been between Jul and Nov.

\**Ptilopachus petrosus* Stone Partridge. Very common, any woodland, grassland, riparian and dry *Anogeissus* forest.

\**Numida meleagris* Helmeted Guineafowl. Abundant near the motel, less in evidence elsewhere.

### **Rallidae**

\**Amaurornis flavirostris* Black Crake. Local: a few in Mole marsh, at pools with herbaceous (Mognori) or wooded vegetation (Nyanga, Lovi, Haraba-Haraba).

\**Porphyryla alleni* Allen's Gallinule. AM. Harvey & Harrison (1970) reported it frequently in Mole marsh in the rains (Jul–Sep), and Maze (1971) from Apr; small numbers seen by GS. Probably decreased, with over-grazing of the Mole marsh: only one seen in Mole marsh twice in Aug 2005.

\**Gallinula chloropus* Common Moorhen. A pair near Mognori (permanent pool) Mar. Also reported from Mole marsh (GS) and Asibey's pools (Wilson 1993).

### **Gruidae**

*Balearica pavonina* Black Crowned Crane. Two records: in the 1960s (GS); one bird at Lovi, 15 Oct 1975 (R.B. Payne in GS and *in litt.*). Now very rare in W Africa.

### **Heliornithidae**

\**Podica senegalensis* African Finfoot. Two under tree cover in the Mole river, Mognori (Aug 2004). A young one found drowned in a fishing net in the same area,

17 Oct 2004 (RD). Seen further upstream, north to Asibey's pools (Mar 2005): one disturbed from a tree and cautiously came back to it, perhaps nesting. Five seen from helicopter on the Mole river, 19 Jan 1990 (JFW).

### Otididae

\**Neotis denhami* Denham's Bustard. AM. Uncommon dry-season visitor, with extreme dates 17 Dec 1971 (JFW) and Apr (Maze 1971). Wilson (1993) saw single birds on three occasions, Jan–Mar. One in burnt grass, 13 Mar 2005.

\**Eupodotis melanogaster* Black-bellied Bustard. GS did not see any in the rains and treated it as AM; but more likely a rare resident. We saw a male on a boval (Brughani), 8–22 Aug, looking alarmed: kept coming back to same area (nesting female?).

### Rostratulidae

*Rostratula benghalensis* Painted Snipe. Vagrant: a male caught, 8 Apr 1976 and two seen next day (Taylor & Macdonald 1978). Four females, 12 Feb 2003 (RC).

### Jacanidae

\**Actophilornis africanus* African Jacana. Locally common: several pairs on water-lilies at Mognori pool. A pair with young (3/4 size) at Asibey's pool, Mar. In Mole marsh numbers fluctuate with amount of water.

### Recurvirostridae

*Himantopus himantopus* Black-winged Stilt. Four present for several days in Mole marsh (Wilson 1993). Known by wildlife guards as an occasional visitor.

### Burhinidae

\**Burhinus senegalensis* Senegal Thick-knee. AM. Very common in dry grassland near the dams below the motel, Mar 2005. Up to 12 calling at night there, 27 Feb to 20 Apr (ASR). Heard on the Mole river at Nyanga. All dated records are Jan–Apr, but likely to arrive before (recorded mainly from late Oct in the north of the country: Grimes 1987).

\**B. capensis* Spotted Thick-knee. AM. No records Aug–Sep, but several calling in open, dry woodland near Nyanga camp, and Brughani boval, 7–9 Mar. Probably only in the dry season, as suggested by Grimes (1987).

### Glareolidae

*Pluvianus aegyptius* Egyptian Plover. Vagrant: two at pools below the motel sometime Jan–Mar (Wilson 1993); there was at one time a specimen in the collection at Samole (Grimes 1987).

*Rhinoptilus chalcopterus* Bronze-winged Courser. AM. Three specimens 31 Dec to 19 Mar (Grimes 1987: 242); sight records on the road at night, late Mar (Sutton 1965).

*Cursorius temminckii* Temminck's Courser. AM. A group of 11 on the playing field at Samole sometime Jan–Mar (Wilson 1993); a group of four at the same place in a later year (ZW).

### Charadriidae

*Charadrius pecuarius* Kittlitz's Plover. Still only one record (GS) in the rains of 1974 or 1975.

\**C. forbesi* Forbes's Plover. Although recorded from "marsh" by GS, we saw this species only on bovals. Three pairs in Aug, one with a full-grown immature; a fourth male alarm-calling in such a way that nesting female suspected. We did not see any in Mar, but probably resident with local movements: there are records Dec–Jan (Sutton 1970), Mar (Wilson 1993, JFW), Apr (Maze 1971). Breeding Jul–Aug: one chick 25 Aug (Greig-Smith 1977b); a clutch of three on a boval, Aug 1991 (Wilson 1993).

\**Vanellus senegallus* African Wattled Lapwing. Fluctuating numbers in Mole marsh: 1–2, early Aug 2004; up to six, mid-Oct (RD), several pairs and alarm-calling, Mar. Also Nyanga camp, Mar, and other records Jan–Apr (several observers). "Nesting" Jul on bovals (Greig-Smith 1977b).

*V. albiceps* White-headed Lapwing. Two at Nyanga on the Mole river, 20 Dec 1968 (Sutton 1970), is still the only record.

*V. spinosus* Spur-winged Lapwing. Irregular visitor: the only dated report is one at Mole marsh, 27 Feb 2003 (ASR). There are other, undated, acceptable reports from wildlife guards from same area.

*V. lugubris* Lesser Black-winged Lapwing. Two by the pools below the motel, 27 Feb 2003 (ASR).

### **Scolopacidae**

\**Gallinago gallinago* Common Snipe. PM. One in sedges at Asibey's pools, 13 Mar 2005. Listed by Greig-Smith (1977a) on several dates in Nov.

*G. media* Great Snipe. PM. A specimen from Mole was apparently collected in Oct (Greig-Smith 1977a, Grimes 1987).

*Numenius phaeopus* Whimbrel. PM. Three reported seen and heard in flight over the motel, 21 Aug 1968 (Harvey & Harrison 1970) (not Sep, *pace* Greig-Smith 1977a).

*Tringa stagnatilis* Marsh Sandpiper. PM. Reported by Greig-Smith (1977a) in late Nov.

*T. nebularia* Greenshank. PM. Reported by Greig-Smith (1977a) in early Dec.

\**T. ochropus* Green Sandpiper. PM. Several at pools, throughout the park, 6–14 Mar 2005. Reported 19 Dec (Sutton 1970) and 17 Mar (ASR).

\**T. glareola* Wood Sandpiper. PM. From 27 Jul (Harvey & Harrison 1970) but only once in Aug 2004 (small group 14–15 Aug). Two at Asibey's pools, 10–13 Mar, seems to be the latest recorded date.

\**Actitis hypoleucos* Common Sandpiper. PM. Greig-Smith (1977a) noted birds from 29 Jul to mid-Nov; late Jul is a normal arrival date of birds from Eurasia, and not a sign of over-summering, as he suggested. Single by Dam 1, 2 Sep 2004; singles at pools at Nyanga and below motel, 8–14 Mar. Latest report 3 Apr (AH).

*Philomachus pugnax* Ruff. PM. Reported by Greig-Smith (1977a) in early Dec.

### **Pteroclididae**

\**Pterocles quadricinctus* Four-banded Sandgrouse. AM. Common dry-season visitor, well known to wildlife guards. Several pairs coming to drink at dusk at pools throughout the park, 5–13 Mar. Sutton (1970) found it "numerous" Dec–Jan and Greig-Smith (1977a) presumably saw it on his Nov visit (unlikely on his other visits, Jul–Aug). Latest record 26 Mar (2005, AH).

### Columbidae

*Streptopelia turtur* European Turtle Dove. PM. Singles collected in Mole 12 Oct and 12 Nov 1971 (Walsh & Grimes 1981); Greig-Smith (1977a) had records in the second half of Nov and early Dec. No records since.

\**S. senegalensis* Laughing Dove. Common near habitation (Samole) and all bush camps.

*S. decipiens* Mourning Dove. Status uncertain. Listed by GS as a rare resident, but there are no other documented reports: may have been an irregular visitor in the 1970s. Maze (1971) listed it, but as he did not mention the common *S. vinacea*, his could have been misidentified; similarly, Harvey & Harrison (1970) saw some only in flight, which leaves doubt as to the identification. Grimes (1987) lists no other records from the north of Ghana, but JFW saw some occasionally in the northeast 1971–6.

\**S. vinacea* Vinaceous Dove. Commonest dove species, throughout woodland and other vegetation. Greig-Smith (1977a) considered there were very few Jun–Sep (which was not the case in 2004), with numbers greatly augmented in the dry season, and a huge influx then is supported by Taylor & Macdonald (1978).

*S. roseogrisea* African Collared Dove. Two, “well seen” on 5 Apr 1976 (Taylor & Macdonald 1978), were exceptional vagrants from the Sahel. The only record for Ghana.

\**S. semitorquata* Red-eyed Dove. Common, especially in riparian formations and *Anogeissus* groves (floodplains).

\**Turtur abyssinicus* Black-billed Wood Dove. Very common throughout, woodland and riparian vegetation.

\**T. afer* Blue-spotted Wood Dove. Confined to riparian thickets and forest, throughout but especially common on the Konkori scarp, thus more local than *T. abyssinicus*.

*Oena capensis* Namaqua Dove. AM. GS has two undated records (one, by N.C. Davidson, would be in the rains of 1974 or 1975), including a specimen. One near motel, 27 Mar 2005 (AH).

\**Treeron waalia* Bruce’s Green Pigeon. Mostly in the south of the park, with largest numbers feeding on fruit of *Ficus platyphylla* and *F. ingens* below the motel (Aug–Sep). Fewer in Mar.

\**T. calvus* African Green Pigeon. More widespread than last (throughout the park); flocks feeding with it on same fruiting figs, but also on ripe fruit of *Nauclea latifolia*, *Vitex doniana*, *Cissus populnea*.

### Psittacidae

\**Poicephalus robustus* Brown-necked Parrot. Locally in pairs or family groups (of four) in the south, feeding on the last fruits (seeds) of *Daniellia oliveri*, Aug 2004. GS considered it resident, but we saw none in Mar 2005, and no doubt it is subject to at least local movements.

\**P. senegalus* Senegal Parrot. Common throughout, feeding on seeds of *Daniellia* and of *Mitragyna*.



\**Agapornis pullarius* Red-headed Lovebird. Uncommon in riparian situations. A male feeding a begging immature on the edge of Haraba-Haraba pool, Aug. Noted late Mar (AH).

\**Psittacula krameri* Rose-ringed Parakeet. Very common, often in small flocks. A pair investigated a broken stump of a *Khaya*, 1 Sep 2004. Very fond of seeds of *Margaritaria (Phyllanthus) discoidea* (Kananto forest).

### **Musophagidae**

*Tauraco persa* Green Turaco. Considered resident by GS, but probably only an occasional wanderer from further south (it is common in Bui NP to the southwest, north to 8°47'N). Occasionally seen by wildlife guards, last recorded in the dry season of 2002 in thin riparian forest below the motel (ZW).

\**Musophaga violacea* Violet Turaco. Widespread in riparian forest, wooded floodplain, thicket clumps in woodland. Fond of figs and other fruit (e.g. *Vitex doniana*).

\**Crinifer piscator* Western Grey Plantain-eater. Very common throughout, woodland and riparian formations. Fond of fruit (including *Nauclea latifolia* close to the ground) and also especially of the young foliage of *Daniellia oliveri*.

### **Cuculidae**

*Clamator jacobinus* Jacobin Cuckoo. AM. White-breasted birds reported four times Jul–Sep (Harvey & Harrison 1970), also seen by GS (undated).

\**C. levaillantii* Levaillant's Cuckoo. AM. Listed as resident by GS, this is actually a rains visitor: not arrived in Gbele Wildlife Reserve (just to the north) by 5 Mar 2005 (pers. obs.), but one calling in the north of Mole (Old Ducie) 5 Mar, and several on later dates further south; common Apr (ASR & DH). Widespread and noisy in dense woodland, riparian forest and wooded floodplain, Aug–Sep. Still calling 16–18 Oct (RD). No records Dec–Feb.

\**Pachycoccyx audeberti* Thick-billed Cuckoo. Two calling birds in riparian forest at Mognori on the Mole, 27 Aug 2004; further north at “Office Loop”, 10 Mar 2005. Two reported 25 Feb 1996 (Baha el Din & Baha el Din 1996).

\**Cuculus solitarius* Red-chested Cuckoo. AM. Not reported before 2004, but voice known to ZW and other guards. Widespread in the rains, especially in riparian forest and edge of floodplain: commonly heard around the motel and elsewhere in the south, but not at Ducie. Singing activity decreased during Aug, with fewer calling early Sep.

\**C. clamosus* Black Cuckoo. AM. Singing in several places from 8 Mar, usually in riparian situations (Nyanga camp south to Mognori and Samole Loop). Possibly overlooked Aug–Sep because of lack of calls. Two heard, 9 Feb 2003 (R. Cruse *in litt.* and 2003) are exceptionally early for a savanna environment.

\**C. gularis* African Grey Cuckoo. AM. Heard throughout the park, 5–15 Mar 2005; other sound records 27 Feb to 20 Apr (ASR). Silent Aug, but one seen 21 Aug. Not recorded with certainty by GS, and unlikely to call Jul–Sep.

\**Chrysococcyx klaas* Klaas's Cuckoo. Treated as AM by GS, but more likely resident, singing at both seasons (rains and Mar). Also recorded Oct (Greig-Smith

1977b), Jan (Maze 1971) and Apr (AH, ASR & DH). Widespread in riparian situations, throughout.

\**C. caprius* Didric Cuckoo. AM. Widespread in riparian situations and floodplains. Conspicuous Aug–Sep (when its ploceid hosts were breeding), one chased by a *Euplectes hordeaceus* at Jang. Already calling below the motel 9 Mar, and on the Lovi 11 Mar. Still noisy mid–Oct (RD). Duration of dry season absence uncertain.

\**Ceuthmochares aereus* Yellowbill. At least two calling and seen in liane tangles and dense canopy in riparian forest at Mognori, Aug 2004, are the first records for Mole. Not found further north in Ghana.

*Centropus grillii* Black Coucal. AM. GS considered it resident in small numbers, but probably a rainy season visitor. One reported 8 Aug 1988 (Dutson & Branscombe 1990). No subsequent records, and unknown to the wildlife guards.

\**Centropus senegalensis* Senegal Coucal. Very common, all habitats.

### **Tytonidae**

\**Tyto alba* Barn Owl. Heard at Jang (Sep) and Asibey’s pools (Mar). Formerly known only from a road-kill skin (Harvey & Harrison 1970, GS).

### **Strigidae**

\**Otus senegalensis* African Scops Owl. Throughout, woodland and *Anogeissus* forest. Very vocal in Mar, calling less Aug–Sep.

\**O. leucotis* White-faced Owl. Locally in woodland (Mole airstrip, Nyanga) and *Anogeissus* forest (Mognori).

\**Bubo africanus* Spotted Eagle Owl. Widespread from Konkori scarp southwards: rocks, open woodland, edge of roads.

*B. lacteus* Verreaux’s (Giant) Eagle Owl. An adult seen Mar 1993 (Helsens 1996), no locality given, is the only record. An “almost certain” sighting of one on the Damongo scarp (Harvey & Harrison 1970) became “a certain sighting Mole” (Grimes 1987), but Damongo is outside the park.

\**Scotopelia peli* Pel’s Fishing Owl. First reported in 2003 (Cruse 2003, ASR). An immature calling at dawn and dusk at Dam 2, 7 Sep 2004, suggests post-breeding dispersal. Occasionally seen there in the rains by wildlife guards (not in the dry season once the Samole stream dries up). Observed by day on the Mole (adult with immature) and Lovi rivers (one roosting in a *Diospyros mespiliformis*), Mar 2005.

\**Glaucidium perlatum* Pearl-spotted Owlet. A few in woodland and riparian forest throughout, but especially common at Jang, where *Acacia* spp. are frequent.

### **Caprimulgidae**

\**Caprimulgus pectoralis (nigriscapularis)* Fiery-necked Nightjar. Three feeding over Dam 1 at dusk, 31 Aug 2004: short tail, squat silhouette and well-marked white patch in wing. Whistled song well known to several wildlife guards. Song not heard in Aug–Sep or Mar, but imitated by resident *Cossypha albicapilla* at Kananto.

\**C. tristigma* Freckled Rock Nightjar. Not listed by GS, although Sutton (1970) reported it from Konkori scarp, where it was common, Mar. One singing around the motel, Aug–Sep, more frequently in Mar, often from the roof of the chalets, and

occasionally drinking from the motel pool. Present around the motel from at least 2003 (RC, ARS).

\**C. climacurus* Long-tailed Nightjar. Not singing in the rains but one seen at Brughani, 22 Aug. Widespread in Mar, when singing.

\**Macrodipteryx longipennis* Standard-winged Nightjar. AM. Not reported in the peak of the rains (Jul–Sep) and its inclusion in GS (as his own record) may be based on his Nov visit. Otherwise known to occur from at least Jan (Macdonald 1979) to Apr (Maze 1971). Widespread (Old Ducie to Samole), in small numbers, Mar; up to four males on airstrip mid-Mar (ARS).

### **Apodidae**

\**Telacanthura ussheri* Mottled Spinetail. Very local, probably because Baobabs (a favourite nesting tree) are uncommon in Mole. Singles or pairs seen at Jang (around a Baobab), on the southwest boundary, Sep, and at Nyanga, Mar. Harvey & Harrison (1970) saw it at Lovi.

\**Cypsiurus parvus* Palm Swift. Widespread in small numbers (nests in *Borassus* palms). *Apus pallidus* Pallid Swift. PM. Not in GS, but two on 19 Dec 1971 (Walsh in Walsh & Grimes 1981).

\**A. apus* Eurasian Swift. PM. Recorded irregularly in small numbers on double passage: from 7 Aug (pers. obs.) to early Nov (Greig-Smith 1977a), and Mar–Apr. In 2005 first noted 15 Mar; last date 21 Apr (ASR & DH).

\**A. affinis* Little Swift. Not noted on buildings by GS, but a few pairs had been breeding on the motel shower block for some years, attending nests in Mar and Aug.

\**A. caffer* African White-rumped Swift. Very local, treated as AM by GS, but we observed it Mar and Aug, albeit more often in the rains, when several pairs were flying around culverts on the southern boundary road; a group of seven, 13–14 Aug, probably contained juveniles. At least one on the Konkori scarp, Mar.

\**A. horus* Horus Swift. At least two on the southern boundary road, 13 Aug 2004, next to *A. caffer*. Identified by moderately forked tail but more extensive white on the rump than *A. caffer*. One low over water at Dam 1, 9 Mar 2005. First records for Ghana (Dowsett *et al.* in press).

### **Trogonidae**

\**Apaloderma narina* Narina's Trogon. Discovered in Aug 2004 in tall-canopy forest at Degbere, Mognori, Kananto, and near the Lovi river; also in thicket, edge of boval at Brughani. Very noisy in Aug, not heard in Mar.

### **Alcedinidae**

\**Alcedo quadibrachys* Shining Blue Kingfisher. Only on well-wooded sections of the Mole river, from Nyanga to Mognori, both seasons.

\**A. cristata* Malachite Kingfisher. Small numbers by streams and pools, throughout.

\**Ceyx pictus* African Pygmy Kingfisher. Treated as resident by GS (his visits Jul–Nov), but probably mainly a rains visitor (AM), already common in Mar, from late Feb (ASR). Widespread in riparian situations, thicket clumps in floodplains and edge of bovals.

\**Halcyon leucocephala* Chestnut-bellied Kingfisher. AM. Common dry season visitor, from Nov (Grimes 1987) to at least 21 Apr (ASR & DH). No records in the peak of the rains, except one reported 3 Aug (Harvey & Harrison 1970). In any woodland, but often near river banks where breeding.

\**H. malimbica* Blue-breasted Kingfisher. Common in riparian forest and woodland, even on small streams (Brugbani), *Anogeissus* groves, throughout.

\**H. senegalensis* Woodland Kingfisher. AM. A rains visitor, nesting Jul–Aug (Greig-Smith 1977b). Less common than *H. malimbica*, edge of riparian forest. Not seen in Mar, and all dated records Jul–Oct, but likely to arrive by May if not earlier (Grimes 1987).

\**H. chelicuti* Striped Kingfisher. Apparently more widespread in Mar (any woodland) than in the rains, when most conspicuous in the motel area: perhaps subject to local movements away from woodland with very tall grass.

\**Megaceryle maxima* Giant Kingfisher. A few on large pools on the Mole and Lovi rivers. Occasionally visits the Samole stream (motel area) in the rains.

*Ceryle rudis* Pied Kingfisher. Uncommon visitor to pools below motel: GS (undated), up to three reported by Genelly (1969) late Aug to Sep, one on 17 Oct 2004 (RD).

### **Meropidae**

\**Merops pusillus* Little Bee-eater. A few pairs locally near water and in flooded grassland.

\**M. hirundineus* Swallow-tailed Bee-eater. At least a partial AM in Ghana, moving south in the dry season (Grimes 1987), but patterns of movement not clear at Mole. Present in small numbers in the main rains (several observers), singles Oct (Genelly 1969) and Dec (Sutton 1970, JFW), a few Feb 1979 (JFW). Uncommon Mar 2005 (a few Konkori to Nyanga). In any woodland.

\**M. bulocki* Red-throated Bee-eater. Many nests occupied (feeding young) in sandbanks on the Mole at Nyanga and Samole, Mar 2005. More widespread in the rains, throughout open areas.

*M. albicollis* White-throated Bee-eater. AM. Double passage (to and from breeding grounds in the Sahel): only dated records are of flocks, 16–17 Oct 2004 (RD) and 20 Apr 2002 (ASR & DH). No dates given in Greig-Smith (1977a).

\**M. apiaster* European Bee-eater. PM. Double passage: a small group on passage south 7 Sep 2004; recorded mid-Oct (Greig-Smith 1977a). Passage north started 8 Mar 2005, with more 12 Mar, still passing 28 Mar (AH).

\**M. nubicus* Northern Carmine Bee-eater. AM? There was a well-known breeding colony (Grimes 1987), on the Mole river just north of Nyanga camp, reported late Mar 1964 (Sutton 1965) and presumably the same one with some 24 nests and 100 birds in early 1993 (Wilson 1993). This colony deserted (nest holes still present) Mar 2005, but likely still breeds in the area, in scattered pairs or small groups. Pairs occasionally seen on the Lovi, at the edge of bovals (Brugbani) and dry Samole stream. Dated records mid-Aug (Harvey & Harrison 1970) to Apr (Maze 1971), but probably rare in the rains (Grimes 1987) and we had none Aug to early Sep.

### Coraciidae

*Coracias garrulus* European Roller. PM. Singles 17 Mar 2003 (ASR) and 6 Apr 1976 (Taylor & Macdonald 1978).

\**C. abyssinicus* Abyssinian Roller. AM. Apparently dry season visitor, dated records between 16 Oct (RD) and 21 Apr (ASR), with one reported 7 Aug (Dutson & Branscombe 1990). We had no records Aug–Sep, but found it common in Mar. Maze (1971) saw 50 at a bush fire, 7 Jan 1968.

\**C. naevius* Rufous-crowned Roller. AM. Small numbers between at least 8 Feb (Plat 1997) and 20 Apr (ASR). Widespread from Gbanwele camp to Samole, Mar 2005.

\**C. cyanogaster* Blue-breasted Roller. Likely resident in small numbers, rather than a passage migrant as claimed by Greig-Smith (1977a). One in woodland at Ducie, another near Brugbani, Aug. Harvey & Harrison (1970) saw a group of four in the rains, while RC reports it for Feb and RD for Oct.

\**Eurystomus glaucurus* Broad-billed Roller. AM. Treated as resident by GS, but “wholly migrant” by Greig-Smith (1977a), based on wildlife guards’ records Mar–Aug, Dec. Silent Aug–Sep 2004, but up to 10 feeding at dusk over pools; several records Oct (Genelly 1969, RD). Numbers seemed to be increasing over the period 5–15 Mar 2005, when very noisy. Usually in riparian situations.

### Phoeniculidae

\**Phoeniculus purpureus* Red-billed Wood Hoopoe. Widespread and common in woodland and riparian forest.

\**P. aterrimus* Black Wood Hoopoe. Widespread in woodland, less common than last. Resident in GS, but considered migratory (moving south out of Mole) by Taylor & Macdonald (1978), because they had no records in early Apr 1976. This was misinterpreted by Grimes (1987) as “moved south into Mole at the end of the dry season”. Widespread in Mar (pers. obs) and Apr (ASR), and we do not feel Taylor & Macdonald’s suggestion is correct.

### Upupidae

\**Upupa epops* Hoopoe. AM/PM. None Aug–Sep 2004; a few calling in dry woodland near Brugbani and Samole (referable to the African population), Mar. A few other dry season records apparently involve both African and Palaearctic birds (GS, Taylor & Macdonald 1978, Wink 1976), although the latter are likely to be rare this far south. Extreme dates 10 Dec (Sutton 1970) to 7 Apr (Taylor & Macdonald 1978).

### Bucerotidae

\**Tockus erythrorhynchus* Red-billed Hornbill. First report was two birds 7–9 Aug 1988 (Dutson & Branscombe 1990); known to wildlife guards for several years. We found singles or pairs in *Anogeissus* floodplain below the motel and at the edge of bovals near Brugbani (Aug and Mar); also in woodland near Ducie and Jang.

\**T. nasutus* African Grey Hornbill. AM. Only three records of singles Aug–Sep 2004. Passage of loose flocks of up to 20, 17–23 Oct (Genelly 1969) and 16–18 Oct 2004 (RD). Very common throughout in Mar; other records Jan–Apr (several observers).

\**Bucorvus abyssinicus* Abyssinian Ground Hornbill. Widespread in small numbers in woodland (Old Ducie to Jang), and bovals (near Brughani).

### **Lybiidae**

\**Pogoniulus chrysoconus* Yellow-fronted Tinkerbird. Common in woodland and riparian forest throughout, calling both seasons. Seen eating figs and mistletoe berries.

\**Lybius vieilloti* Vieillot's Barbet. Widespread in woodland.

\**L. dubius* Bearded Barbet. Widespread in woodland and riparian formations. In addition to figs, seen feeding on fruit of *Nauclea* and *Cissus populnea*.

### **Indicatoridae**

\**Indicator indicator* Greater Honeyguide. Widespread in woodland; singing sporadically in Mar and early Aug 2004 but silent after 24 Aug. Only males, usually adults, seen guiding.

\**I. minor* Lesser Honeyguide. More local than last, usually in riparian formations. Singing Mognori Aug, and Konkori Mar.

\**I. willcocksii* Willcocks's Honeyguide. One singing in a 20 m *Khaya* in riparian forest on a stream down the Konkori escarpment, 7 Mar 2005. First record for Mole.

### **Picidae**

*Jynx torquilla* Eurasian Wryneck. PM. Seen near the motel, early Nov 1975 (Greig-Smith 1977a); a specimen (Grimes 1987: 244), no longer in existence, was one shot on 22 Oct 1971 (JFW).

\**Campethera punctuligera* Fine-spotted Woodpecker. Frequent and widespread in relatively tall woodland.

\**C. abingoni* Golden-tailed Woodpecker. Confined to riparian forest, from Konkori south to Lovi, Mole and Samole rivers, Haraba-Haraba pool.

\**Dendropicos fuscescens* Cardinal Woodpecker. Frequent in riparian forest (widespread), more rarely in very tall woodland (Degbere).

\**Mesopicos goertae* Grey Woodpecker. Mainly in riparian forest or woodland, common in *Anogeissus* groves.

\**Picoides obsoletus* Brown-backed Woodpecker. Frequent in mixed bird parties in woodland, especially in the south.

### **Alaudidae**

\**Mirafra rufocinnamomea* Flappet Lark. Particularly common on bovals, uncommon elsewhere in woodland (Konkori to the south). Much display in Aug, very little in Mar, after first storms.

\**Galerida modesta* Sun Lark. Common on all six bovals visited in the Brughani area (Aug and Mar), and on the bovals between Gbanwele and Konkori (Mar). In groups of up to six. Listed by GS as Crested Lark *G. cristata* (see list of rejected species below).

*Eremopterix leucotis* Chestnut-backed Sparrow-Lark. AM. Listed as a rare migrant by GS, without dates, but "many seen throughout the reserve", 16–17 Feb 1979 (JFW). Reported 13 Feb 2003 (RC) and sometime Jan–Mar (Wilson 1993).

### **Hirundinidae**

\**Psalidoprocne obscura* Fanti Saw-wing. AM. Riparian situations throughout, at least Mar–Sep. Several family groups, with shorter-tailed immatures still interacting with

adults, Aug–Sep. Reported Jan (Maze 1971), but needs confirmation; ASR found none in Feb. A few pairs north to Konkori early Mar; small numbers late Mar to Apr (several observers).

\**Riparia riparia* European Sand Martin. PM. Two with *Hirundo rustica* over Dam 1, 1 Sep 2004. Up to 200, Oct (Greig-Smith 1977a).

*R. paludicola* Plain Martin. Irregular visitor? Three, 3 Apr 1976, one next day (Taylor & Macdonald 1978). A report of 100–200, 10 Feb 2003 (Cruse 2003) is surprising and may have involved some *R. riparia* (RC *in litt.*).

*Pseudhirundo griseopyga* Grey-rumped Swallow. AM. Only records are a few flocks, probably 50–100 individuals in all, 4–9 Apr (Taylor & Macdonald 1978), and several pairs, Dec 1971 (JFW).

\**Hirundo semirufa* Rufous-chested Swallow. Treated as AM by GS, but seen Aug and Mar: a few pairs around bovals (Brugbani) and one at pool at Old Ducie.

\**H. senegalensis* Mosque Swallow. More widespread than last (both seasons), any woodland, Nyanga and Lovi to extreme south. Likely resident, not AM as in GS.

\**H. abyssinica* Lesser Striped Swallow. Widespread around rocks (Konkori), culverts, pools in woodland. Nesting Aug (Dutson & Branscombe 1990). In the dry season occasionally drank in pools below the motel. Resident, not AM as in GS.

\**H. daurica* Red-rumped Swallow. One pair seen at close range, including when resting in a tree, Konkori scarp, 7 Mar 2005. “Considerable numbers between 22 and 28 August” (Greig-Smith 1977a) is unusual and perhaps not this species. Genelly (1969) mentioned it but was not sure of his identification.

\**H. preussi* Preuss’s Cliff Swallow *Hirundo preussi*. AM. About 15 with migratory *Delichon urbicum*, north of Asibey’s pools, 12 Mar 2005. Several at ponds below the motel, Dec 1971 (JFW).

\**H. fuligula* Rock Martin. One pair around rocks, Konkori scarp, 7 Mar 2005. Listed by GS on the basis of Harvey & Harrison (1970), but their birds were on the Damongo scarp, outside the park.

\**H. smithii* Wire-tailed Swallow. Pairs usually near water (on several rivers including Lovi and Mole), occasionally visiting dams below the motel (where breeds occasionally); also over bovals, around culverts on the southern boundary road and near Brugbani, where one pair breeding under a culvert, Aug. Probably resident, not AM as in GS.

*H. leucosoma* Pied-winged Swallow. GS listed it as a common migrant in moderate numbers, but the only dated records are of up to three birds from Mognori and the motel, late Jul to early Aug (Harvey & Harrison 1970).

\**H. rustica* European Swallow. PM. Extreme dates of double passage are 30 Aug 1968 (Harvey & Harrison 1970) and 1 Sep (2004, when we saw at least 30) to early Nov (Greig-Smith 1977a), and 11 Mar (2005) until at least 20 Apr (ASR & DH).

\**H. lucida* Red-chested Swallow. Listed as AM by GS, but probably resident: seen at both seasons, more widespread in the rains. Often near water.

\**Delichon urbicum* House Martin. PM. On passage (Greig-Smith 1977a) from 23 Oct (Genelly 1969), but probably earlier, to 9 Apr (Macdonald 1978a). Flocks of several

hundreds in Nov (Greig-Smith 1977a), 750+ on 20 Dec (Sutton 1970) and 300–400 in Mar (Grimes 1987). Small numbers may winter (there is a Jan record of one, by Macdonald 1978a).

### **Motacillidae**

*Motacilla flava* Yellow Wagtail. PM. Reported on several occasions from 5 Oct (Genelly 1969) to late Mar (Wink 1976).

*M. aguimp* African Pied Wagtail. Vagrant, Aug (Harvey & Harrison 1970), Oct (Grimes 1987). Appears as *M. alba* in GS.

*Anthus leucophrys* Plain-backed Pipit. Irregular visitor? We never found it on bovals, where GS saw small numbers. Occasionally in open grassland near the motel (late Jul to early Aug, Harvey & Harrison 1970, ZW).

\**A. trivialis* Tree Pipit. PM. Winters late Oct (Greig-Smith 1977a) to 9 Apr (Macdonald 1978a); said to be common in the 1970s (GS), but only two singles in Mar 2005.

*A. cervinus* Red-throated Pipit. PM. Two birds, 5 Apr 1976 (Taylor & Macdonald 1978).

*Macronyx croceus* Yellow-throated Longclaw. One in Mole marsh, 20 Apr 2002 (ASR & DH). Rare in same area (ZW).

### **Campephagidae**

\**Campephaga phoenicea* Red-shouldered Cuckoo-shrike. AM. Considered resident by GS, later partial migrant, with numbers augmented in the rains (Greig-Smith 1977a). Common in the rains, in riparian formations throughout the park, *Anogeissus* groves, wooded floodplain and thickets. Rarely recorded in the dry season: one male, 13 Dec 1971 (JFW), only two sightings of single males, 11–12 Mar (pers. obs.), but common in Apr, including one yellow-shouldered male (ASR & DH).

\**Coracina pectoralis* White-breasted Cuckoo-shrike. Local in tall woodland (five localities, from Old Ducie to the southern boundary).

### **Pycnonotidae**

\**Chlorocichla flavicollis* Yellow-throated Leaflove. Several pairs in moist riparian forest, Konkori scarp; more local to the south, in dense riparian forest on the Mole (Mognori, Office Loop).

\**Pycnonotus barbatus* Common Bulbul. Very common throughout.

### **Turdidae**

\**Turdus pelios* West African Thrush. Common throughout woodland, riparian forest, around camps.

\**Luscinia megarhynchos* Common Nightingale. PM. One record Mar (Greig-Smith 1977a); one, 8 Oct 1975 (RBP); one singing in thickets on the Mole (Nyanga), 8 Mar 2005.

\**Cossypha niveicapilla* Snowy-crowned Robin Chat. AM/resident. GS considered it resident, but there is a clear influx in the rains. In Mar, widespread in small numbers in thick riparian vegetation (Old Ducie to Samole). Much more numerous in the rains, when it also occupies deciduous thickets than in leaf. Vocal imitations (Aug 2004) entirely of local birds: *Kaupifalco monogrammicus*, *Ptilopachus petrosus*, *Clamator levaillantii*, *Cuculus solitarius*, *Merops apiaster*, *Indicator indicator*, *Oriolus auratus*, *Malaconotus sulfureopectus*.



\**C. albicapilla* White-crowned Robin Chat. More restricted ecologically than *C. niveicapilla*, to riparian forest with an evergreen element (where resident). Very common on the Lovi, Mole and Samole; numerous in riparian patches on the Konkori scarp. Dominates *C. niveicapilla* in evergreen (as on the Mole). Thought essentially non-imitative (Keith *et al.* 1992), but this is not always so: vocal imitations include songs of *Kaupifalco monogrammicus*, *Ptilopachus petrosus*, *Halcyon malimbica*, *Tockus nasutus*, *Caprimulgus pectoralis*, *Indicator indicator*.

*Phoenicurus phoenicurus* Common Redstart. PM. GS listed it based on a record by Sutton (1970), but this was from Tumu. Few records; normally winters further north: one male 17 Feb 1979 (JFW), one male in Mar 1993 (Helsens 1996) and another 26 Feb 2002 (Cruse 2002).

*Saxicola rubetra* Whinchat. PM. Wintering Dec–Mar (Greig-Smith 1977a, Macdonald 1978a); probably scarcer now, with one recent record, 26 Mar 2005 (AH).

\**Cercomela familiaris* Familiar Chat. Very conspicuous on the Konkori scarp (where also reported by Sutton 1970). A pair seen occasionally around buildings at the motel.

\**Myrmecocichla albifrons* White-fronted Black Chat. Woodland, uncommon to locally common north of Brugbani.

\**M. cinnamomeiventris* Mocking Chat. Seems confined to rocky woodland on the Konkori scarp. Not listed by GS, though reported from Konkori by Sutton (1970).

### **Sylviidae**

\**Melocichla mentalis* African Moustached Warbler. Common in tall grass, usually near water, in floodplain and wooded grassland.

\**Acrocephalus schoenobaenus* Sedge Warbler. PM. First record, one on 27 Feb 2003 (ASR). Several seen and heard calling in sedges on the permanent Sabory pool near Mognori, 13 Mar 2005. This is the only good habitat for this species at Mole, and it could be expected to winter there.

\**A. scirpaceus* European Reed Warbler. PM. A few, early Oct to early Nov (Greig-Smith 1977a); one singing in thicket on the Mole river, Nyanga, 8 Mar 2005.

\**Hippolais polyglotta* Melodious Warbler. PM. Small numbers in early Nov (Greig-Smith 1977a), Feb (RC), late Mar (Walsh & Grimes 1981) and 3 Apr (AH). We found it common (in song) in the south of the park, north to Lovi, in woodland, edge of riparian forest, thickets, *Anogeissus* groves, Mar 2005. Although Grimes (1987) quoted Greig-Smith (1977a) as giving records Oct–Apr, especially in closed canopy at “sites of abandoned villages”, these details are not in the reference cited.

\**H. (pallida) opaca* Western Olivaceous Warbler. PM. First report, one on 27 Feb 2003 (ASR). Two singing in a small grove of *Acacia sieberiana* in Konkori camp, 7 Mar 2005.

\**Eremomela pusilla* Green-backed Eremomela. Common in woodland and all other wooded habitats.

\**Sylvietta brachyura* Northern Crombec. Small numbers in woodland, thickets on bovals, edge of riparian forest.

\**Phylloscopus trochilus* Willow Warbler. PM. Probably arrives Sep: Greig-Smith (1977a) shows presence Oct–Nov; none seen by 9 Sep 2004 when we left. Wintering

not known. We found it common throughout, 5–15 Mar, and still passing on 3 Apr (AH).

*P. collybita* Common Chiffchaff. PM. One record: 16 Jan (Cruse 2006). Greig-Smith considered (1977a) his possible sightings uncertain.

\**Hyliota flavigaster* Yellow-bellied Hyliota. Locally in tall woodland, mainly near the southern boundary, also near Brugbani.

*Sylvia borin* Garden Warbler. PM. Southward passage Oct to early Dec (Greig-Smith 1977a); no spring records.

*S. communis* Common Whitethroat. PM. Small numbers from early Oct (Greig-Smith 1977a) to at least 11 Jan (Sutton 1970).

### **Cisticolidae**

\**Cisticola juncidis* Zitting Cisticola. Not reported until Aug 2004, when we found a few singing in medium-short wet grassland below the motel.

\**C. natalensis* Croaking Cisticola. Common in floodplain grassland, on some bovals, and in patches of water-logged wooded grassland.

\**C. guinea* Dorst's Cisticola. *C. ruficeps* in GS; see Dowsett-Lemaire *et al.* (2005). Locally common in short, open woodland, either on sand (as between Brugbani and Haraba-Haraba pool) or waterlogged clay (near Ducie, between Mole and Brugbani, near Mognori, Degbere). Once in well-drained, open woodland north of Kananto. Often with *C. natalensis* in wet situations, and with *C. rufus*, *C. cantans* and *Emberiza affinis* in dry woodland. Very noisy Aug–Sep, still singing Oct (RD), not singing Mar.

\**C. rufus* Rufous Cisticola. Listed with a query by GS. Common in dry woodland throughout, singing from the top of tall trees. In the dry season (when silent), favours remaining patches of unburnt grass in the largely burnt-over woodland.

\**C. brachypterus* Short-winged Cisticola. In moister and more open situations than *C. rufus*: at the edge of waterlogged grassland, in floodplain with bush layer or small trees (*Ziziphus*, *Mitragyna*), moist ecotone between riparian forest and dry woodland, where common.

\**C. aberrans* Rock-loving Cisticola. Listed by GS based on Harvey & Harrison (1970) from the Damongo scarp, outside the park. A few found in rocky woodland on the Konkori scarp, Mar 2005.

\**C. lateralis* Whistling Cisticola. Very common throughout in rank grass, shrubs and thicket clumps in woodland, and at the edge of riparian forest. Sings from tall trees and feeds in trees, thickets and grassland. Tends to be in better-developed woodland than other cisticolas, and has larger territories.

\**C. erythroptus* Red-faced Cisticola. More local than other cisticolas, always near marsh and streams, in rank grass and shrubs.

\**C. cantans* Singing Cisticola. Widespread in dry woodland, favouring the shrub layer. More scattered than *C. rufus*, but common; sings at all seasons.

\**C. galactotes* Winding Cisticola. Confined to Mole marsh, particularly in sedges; common and noisy in the rains, not heard in Mar.

\**Prinia subflava* Tawny-flanked Prinia. Very common in rank grass and shrubs in woodland and floodplain.

\**Heliolais erythropterus* Red-winged Warbler. Common in rank grass and shrubs in woodland, locally in floodplain grassland and edge of riparian vegetation. Frequently counter-sings with *Prinia subflava*.

\**Apalis flavida* Yellow-breasted Apalis. GS included it on the basis of a record by M. Edmunds and L. Grimes but Grimes (1987) later rejected the record. Common in riparian thickets or forest, in shrub layer or small trees (*e.g.* in *Morelia* and *Cola laurifolia* on the Samole below the motel), also in taller trees including *Anogeissus*. Throughout.

\**Camaroptera brachyura* Grey-backed Camaroptera. Very common in riparian formations throughout, and small thickets in floodplain, edge of bovals or in woodland.

\**Hypergerus atriceps* Oriole Warbler. Common in riparian forest or mainly evergreen thickets, from the Konkori scarp southwards. Feeds in the shrub layer and mid-stratum.

### **Muscicapidae**

\**Bradornis pallidus* Pallid Flycatcher. Fairly common throughout in woodland.

\**Melaenornis edoloides* Northern Black Flycatcher. Common on the edge of riparian forest and floodplain (especially *Anogeissus*), in tall trees with open ground nearby.

\**Ficedula hypoleuca* Pied Flycatcher. PM. Common from early Oct, wintering (Greig-Smith 1977a), to 9 Apr (Macdonald 1978a). Widespread in woodland and edge of riparian formations.

*Muscicapa striata* Spotted Flycatcher. PM. A few from early Oct (Greig-Smith 1977a) to 26 Mar (Wink 1976, AH).

\**M. aquatica* Swamp Flycatcher. Low in riparian forest on the edge of large stretches of water, very local (edge of Dam 1, Haraba-Haraba pool, Mole river at Nyanga).

\**M. caerulescens* Ashy Flycatcher. One in tall *Nauclea pobeguinii* trees at Haraba-Haraba pool (19 Aug). Not found in Mar but photographed at the same spot, 29 Jan 2008 (TTE).

\**Myioparus plumbeus* Lead-coloured Flycatcher. Widespread in riparian forest and woodland, dry *Anogeissus* forest, thickets on the edge of bovals.

### **Platysteiridae**

\**Batis senegalensis* Senegal Batis. Common in woodland and on the edge of riparian forest.

\**Platysteira cyanea* Common Wattle-eye. Common in riparian forest (even in thin riparian on the Samole and Brugbani streams), and in riparian woodland.

### **Monarchidae**

\**Elminia longicauda* African Blue Flycatcher. Common in riparian forest and thickets, even small thickets on the edge of pools, *e.g.* Old Ducie.

\**Terpsiphone viridis* African Paradise Flycatcher. Resident (GS), or partial migrant with numbers augmented in the rains (Greig-Smith 1977a). In the rains, common in

riparian forest and woodland, also in *Anogeissus* forest, thickets on the edge of bovals, some thicket clumps in woodland. In Mar, quite common still, but more strictly riparian.

### **Timaliidae**

\**Turdoides plebejus* Brown Babbler. Common in woodland and at the edge of riparian woodland.

\**T. reinwardtii* Blackcap Babbler. Common in riparian forest with some evergreen elements, as on the Konkori scarp, along the Mole and Lovi rivers, along some of the Samole, Haraba-Haraba pool.

### **Paridae**

\**Parus leucomelas (guineensis)* White-winged Black Tit. Common in all woodland types.

### **Remizidae**

\**Anthoscopus parvulus* Yellow Penduline Tit. Only three sightings, of pairs in woodland (Ducie, Brugbani, Jang); one feeding on the flowers of *Detarium*. GS considered it common.

### **Certhiidae**

\**Salpornis spilonotus* Spotted Creeper. A few in woodland, usually in mixed parties. One at a nest, 8 Feb (Plat 1997).

### **Nectariniidae**

\**Anthreptes longuemarei* Western Violet-backed Sunbird. Four sightings, in woodland or canopy of riparian forest (Asibey's pools). A pair feeding on *Ziziphus* flowers, Aug; a male with young, feeding on *Daniellia* flowers, Mar.

\**A. platurus* Pygmy Sunbird. AM. Common visitor in the dry season (Greig-Smith 1977a), present from at least 16 Oct (RD) to 27 Mar (AH). None Aug–Sep 2004, but very common in Mar 2005.

\**Nectarinia verticalis* Green-headed Sunbird. Fairly common in well developed riparian forest, from Konkori south to Mognori and Degbere. Frequently taking nectar in *Berlinia* flowers, and mistletoes.

\**N. senegalensis* Scarlet-chested Sunbird. Abundant throughout, woodland, thickets and forest. One occupied nest in a tall *Daniellia*, another in an *Acacia dudgeoni* (Aug).

\**N. venusta* Variable Sunbird. Rare (GS); one male in breeding dress Nov (Greig-Smith (1977b)). Two in eclipse plumage, in riparian forest at Haraba-Haraba, 19–21 Aug 2004.

\**N. cuprea* Coppery Sunbird. Locally common in wet, open bush and woodland, especially in floodplains (in *Ziziphus* and *Mitragyna*), riparian thickets or forest. Taking nectar of Teak *Tectona grandis* at Mognori, of *Vitex doniana*, *Berlinia grandiflora*.

\**N. coccinigastra* Splendid Sunbird. Widespread in riparian forest and woodland, also tall woodland not far from rivers. Often at flowers of *Berlinia grandiflora*, and at mistletoe flowers in *Ceiba*.

\**N. pulchella* Beautiful Sunbird. Common in riparian woodland or forest, and wooded floodplain (*Mitragyna*); feeding on *Vitex doniana* flowers, Mar. Most birds in (partial) eclipse plumage Aug 2004, but in breeding dress and breeding Aug–Oct (Genelly 1969, Greig-Smith 1977b).

### **Zosteropidae**

\**Zosterops senegalensis* Yellow White-eye. Common in riparian forest and woodland, thickets, *Anogeissus* forest, more local in dry woodland (not far from water).

### **Oriolidae**

\**Oriolus auratus* African Golden Oriole. Considered a dry-season visitor by Greig-Smith (1977a), but probably largely resident, as we found it equally common and vocal at both seasons. Widespread in riparian forest and woodland, edge of floodplain (feeding on figs), more local in *Anogeissus* forest and dry woodland.

### **Laniidae**

*Lanius gubernator* Emin's Shrike. A male near Konkori, 12 Jan 1969 (Sutton 1970). An adult and juvenile near Mognori, 16 Aug 2006 (Hoddinott 2007, AH).

\**L. senator* Woodchat Shrike. PM. Winters from Dec (Greig-Smith 1977a) to 9 Apr (Macdonald 1978a); probably longer, as present in the north of Ghana Oct–May (Sutton 1970, Grimes 1987). We saw two in open woodland, 8 and 14 Mar.

\**Corvinella corvina* Yellow-billed Shrike. In groups, locally in fairly open woodland. Likes some open ground for hunting, as on the edge of bovals and bush camps. Scattered, throughout the park.

### **Malaconotidae**

\**Nilaus afer* Brubru. Widespread in woodland.

\**Dryoscopus gambensis* Northern Puffback. Common in riparian forest and woodland, *Anogeissus* forest, any thickets.

*Tchagra minutus* Marsh Tchagra. Harvey & Harrison (1970) collected a specimen and GS had small numbers in marsh. No further reports.

\**T. senegalus* Black-crowned Tchagra. Very common throughout woodland and wooded grassland (edge of floodplains).

\**Laniarius aethiopicus* Tropical Boubou. Local in riparian forest with dense thickets, on the Samole river at Degbere, Kananto, near Haraba-Haraba, on the Mole north of Asibey's pools.

\**L. barbarus* Yellow-crowned Gonolek. Common in riparian thicket and forest throughout. Less numerous on the Konkori scarp.

\**Malaconotus sulfureopectus* Sulphur-breasted Bush Shrike. Common throughout in riparian forest and woodland, and floodplain with tall trees (especially *Anogeissus*).

\**M. blanchoti* Grey-headed Bush Shrike. Frequent but widespread, in riparian forest and also tall woodland.

### **Prionopidae**

\**Prionops plumatus* White Helmet Shrike. Widespread in woodland, *Anogeissus* groves. In groups, sometimes with *Anaplectes rubriceps* and *Dicrurus adsimilis*.

### Dicruridae

\**Dicrurus ludwigii* Square-tailed Drongo. Confined to tall riparian forest on the Mole, from Mognori north to area of Asibey's pools; also at Kananto (on the Samole).

\**D. adsimilis* Fork-tailed Drongo. Common in all woodland types.

### Corvidae

*Ptilostomus afer* Piapiac. Apparently rare, the only certain observations being of one accompanying a Warthog *Phacochoerus aethiopicus* (ZW), and five on 27 Feb 2002 (RC). Maze (1971) reported up to 30 in Aug, and GS "small numbers" in riparian forest; however, given that neither of these observers listed *Lamprotornis caudatus*, which is typical of riparian forest, misidentification is a possibility.

\**Corvus albus* Pied Crow. Irregular visitor to the buildings area; we had only one record, Aug.

### Sturnidae

\**Lamprotornis purpureus* Purple Glossy Starling. Widespread in woodland, Mar and Aug. Large flocks came to roost at Ducie from feeding areas outside the park, Mar. Apparently not more numerous in the dry season, as suggested by Greig-Smith (1977a).

\**L. chalcurus* Bronze-tailed Glossy Starling. Rare: one pair in woodland north of Brugbani, 13 Mar 2005, next to *L. chloropterus* and *L. purpureus*. Identified by relatively large size and red-orange eye. Reports of large numbers (Harvey & Harrison 1970, Maze 1971) probably erroneous (Harvey & Harrison wrote "probable examples"), most likely of *L. purpureus*. GS was unsure of the species he saw (*L. chalcurus* or *L. chalybaeus*).

*L. chalybaeus* Greater Blue-eared Starling. Reported Oct–Nov (R.B. Payne in Greig-Smith 1977a). A species of dry woodland characterized by *Acacia* and Baobabs. No other reports.

\**L. chloropterus* Lesser Blue-eared Starling. AM. Absent in the rains, local in woodland in Mar: near Nyanga, north of Brugbani (with other *Lamprotornis*). Small numbers Dec–Mar (Sutton 1970, Macdonald 1978b, RC, pers. obs.). Not listed by GS.

\**L. caudatus* Long-tailed Glossy Starling. Not listed by GS. Known to wildlife guards for at least 20 years. Pairs and small groups in open wooded floodplains and edge of riparian forest, at both seasons. Widespread from the Mole river at Nyanga to the south. Regular below the motel.

\**Cinnyricinclus leucogaster* Violet-backed Starling. AM. Breeding visitor Feb–Jul (Greig-Smith 1977a and several observers). Widespread by Mar in woodland and riparian forest, one occupied nest hole at Brugbani, 9 Mar. We saw none Aug–Sep, but Harvey & Harrison (1970) had a male, 23 Aug.

\**Buphagus africanus* Yellow-billed Oxpecker. GS recorded it "frequently in moderate numbers". Now less common: one on a Warthog below the motel, Aug–Sep; one on the back of a Buffalo *Syncerus caffer* near Nyanga, 8 Mar; one over the Mole marsh, 9 Mar. Warthog (also recorded by Dutson & Branscombe 1990) and

Buffalo said to be the main hosts, more rarely Kob *Kobus kob* (ZW); JFW saw one with Roan Antelope *Hippotragus equinus*, Dec 1971.

### Passeridae

\**Passer griseus* Northern Grey-headed Sparrow. Commensal and common, but also in woodland and on the edge of floodplain. Greig-Smith (1977a) suggested the woodland populations may increase in the dry season.

\**Petronia dentata* Bush Petronia. Partial AM, more numerous in the dry season, throughout woodland, from at least mid-Oct (RD) to Mar (pers. obs.). Uncommon Aug–Sep, with 1–2 at three localities.

*Sporopipes frontalis* Speckle-fronted Weaver. One record: breeding on “acacia” flats below the motel (probably *Ziziphus* or *Dichrostachys*, as there are no acacias), with many nests and at least 20 birds, 5 and 26 Oct 1975 (Greig-Smith 1977b; R.B. Payne *in litt.*), far to the south of its usual distribution. No other records in Ghana.

\**Plocepasser superciliosus* Chestnut-crowned Sparrow Weaver. Common in woodland and at the edge of riparian formations, usually where there is some thick undergrowth.

### Ploceidae

\**Ploceus luteolus* Little Weaver. Widespread in Mole, in territorial pairs in riparian woodland, *Acacia* woodland and wooded floodplain (*Anogeissus*, *Ziziphus*, *Mitragyna*). Several nests in *Acacia dudgeoni* and *A. gourmaensis* at Jang, some occupied, next to wasps’ nests, Sep. Some birds changing into breeding dress, early Mar; a male working on a nest at Dam 1, 9 Mar.

\**P. nigricollis* Black-necked Weaver. Small numbers in evergreen riparian forest from the Konkori scarp and Nyanga (Mole river) south to Mognori, and on the Samole (common at Kananto). Several nests in a loose cluster in *Quisqualis* thickets over the water at Nyanga, with several birds working on well-advanced nests, 8 Mar.

\**P. heuglini* Heuglin’s Masked Weaver. Only one record, at Jang, Sep. One fresh nest and an old one in a large *Acacia sieberiana*, not occupied then.

\**P. cucullatus* Village Weaver. Small numbers in riparian vegetation, feeding in forest and adjacent woodland and breeding in colonies on the edge of water, Aug–Sep.

\**P. melanocephalus* Black-headed Weaver. Two pairs seen by Harvey & Harrison (1970) in the rains of 1968, one collected. We found single males chasing females and a few nests in bushes low over water at three localities, Aug 2004: Haraba-Haraba pool, Mole river at Mognori, Samole stream near Brugbani. Several unoccupied nests in low *Quisqualis* thicket over a pool of the Mole river at Nyanga, Mar 2004. No other reports in Ghana (Grimes 1987).

\**Anaplectes melanotis* Red-headed Weaver. Occasional in woodland, *Anogeissus* forest and on the edge of riparian formations. Often feeds in association with *Prionops plumatus*. Male in breeding dress at Old Ducie, 6 Mar (pers. obs.), and 18 Oct (RD). Nests solitary (pers. obs.); five new nests together in a *Pterocarpus* containing an occupied nest of *Milvus migrans*, Feb 1979 (JFW).

\**Quelea erythropus* Red-headed Quelea. “AM?” in GS, but not included as a migrant in Greig-Smith (1977a), and probably resident. “Abundant” in GS, but no more than small numbers locally in 2004–5, in floodplain grassland on the Samole, Mole river at Nyanga and Haraba-Haraba. Breeding Jul–Sep (Greig-Smith 1977b). We saw it at both seasons, in flocks of up to 20 in Aug (when in breeding dress) and a few dozen in Mar. Maze (1971) had flocks in Jan and Apr.

\**Q. quelea* Red-billed Quelea. AM. At least one well seen, in non-breeding dress with bishops, 14 Mar 2005, on the edge of Dam 2. Close to southern limit of range, and may not occur annually. No previous reports.

\**Euplectes afer* Yellow-crowned Bishop. Considered abundant by GS; conspicuous but small numbers in floodplain grasslands at Samole, Mole from Haraba-Haraba to Mognori, 2004–5. Breeding Jul–Aug (Greig-Smith 1977b) and Sep (pers. obs.); still in full dress mid-Oct (RD).

\**E. hordeaceus* Black-winged Bishop. Widespread, locally common in tall grass with bushes in open woodland.

\**E. franciscanus* Northern Red Bishop. Widespread in large flocks in the dry season. Breeds in floodplain grassland with *Mitragyna*, particularly common at Mognori, even in tall mint scrub, and locally on bovals, singing from tall trees on the edge.

\**E. macroura* Yellow-mantled Whydah. Widespread in open woodland with extensive grass cover, in *Mitragyna* floodplain, and on some large bovals.

### **Estrildidae**

*Nesocharis capistrata* Grey-headed Oliveback. Known only in riparian vegetation on the Lovi river (Harvey & Harrison 1970); also seen by GS.

\**Pytilia hypogrammica* Yellow-winged Pytilia. One male in short woodland near Samole, Aug, is our only record. One previous record (GS, who treats it as AM, but no reason to suppose this is a migrant).

\**P. phoenicoptera* Red-winged Pytilia. Widespread at both seasons, in woodland with small thickets from Lovi to Mognori. Resident, not AM as in GS.

\**Lagonosticta rufopicta* Bar-breasted Firefinch. Widespread in riparian thickets on the Lovi, Mole and Samole.

\**L. senegala* Red-billed Firefinch. Common in thickets and short woodland, especially near settlements but also edge of bovals.

\**L. rara* Black-bellied Firefinch. In ranker growth than other firefinches: tall grass and rich woodland, edge of riparian forest or thickets. Local: Samole and Kananto-Degbere to Brugbani and Lovi.

\**L. larvata* Black-faced Firefinch. Widespread in any woodland, throughout.

\**Estrilda caerulescens* Lavender Waxbill. Locally common, with small numbers in thickets at edge of floodplain and riparian forest from Lovi south.

\**E. melpada* Orange-cheeked Waxbill. Common in rank grass, open woodland and near water.

\**E. troglodytes* Black-rumped Waxbill. Several at Jang and boundary road near Jang, Sep 2004. A few below motel, 27 Mar 2005 (AH). These are the first reports.



\**Uraeginthus bengalus* Red-cheeked Cordon-bleu. Common in small thickets in woodland, floodplain and riparian formations.

\**Ortygospiza atricollis* African Quailfinch. First recorded 2004–5: several pairs or singles in Mole marsh, both seasons; in the Samole plain, in a boval near Brugbani, and in short woodland on the Brugbani road, Aug.

*Eudice cantans* African Silverbill. One record, of two small groups, 4–6 Jan 1978 (Macdonald 1978b), south of their normal range in Ghana.

\**Spermestes cucullatus* Bronze Mannikin. Very common in any grassland.

*Amadina fasciata* Cut-throat Finch. Vagrant: a few seen once in the dry season, at a pool at Samole, early 2000s (ZW).

### **Viduidae**

\**Anomalospiza imberbis* Parasitic Weaver. One in non-breeding dress seen at close range, in company with bishops, on the edge of Dam 2, 14 Mar 2005. Stubby, deep horn-coloured bill and short tail were diagnostic. One previous record in the north of Ghana (Grimes 1987).

\**Vidua chalybeata* Village Indigobird. Identified only near Samole headquarters, Aug–Sep, Mar, singing with imitations of *Lagonosticta senegala*.

\**V. camerunensis* Cameroon Indigobird. Several males in breeding dress singing at edge of thickets near Kananto camp, clearly imitating calls and songs of *Lagonosticta rara*, one of the known hosts (Payne 2004) and the only possible one in Mole, Aug 2004. Tape-recorded at Lovi camp, Oct 1975, with imitations of *L. rara* (Payne 1982, then under the name *V. raricola*).

\**V. larvaticola* Baka Indigobird. Males in breeding dress at Brugbani camp, boval near Steep Hill, short woodland between Samole and entrance gate (group of several males imitating song of *Lagonosticta larvata*), Aug–Sep 2004. Also collected at Lovi (Payne 2004).

\**V. wilsoni* Wilson's Indigobird. Identified with certainty only on the edge of riparian forest at Mognori, Aug 2004, where a male (breeding dress) and a female were associating with *Lagonosticta rufopicta*, the known host (Payne 2004). Also collected at Lovi (Harvey & Harrison 1970, Payne 1982, 2004) and tape-recorded near Mole motel, Oct 1975 (Payne 1982).

\**V. macroura* Pin-tailed Widow. Any open and relatively short grassland, of floodplain, open woodland and bovalls.

\**V. interjecta* Exclamatory Paradise Widow. Widespread, as is its host, *Pytilia phoenicoptera*, in woodland, floodplain and the edge of bovalls near Samole, Brugbani, Haraba-Haraba, Mognori, Aug–Sep 2004. Observed and photographed Oct (RD, Payne 1985).

\**V. togoensis* Togo Paradise Widow. Two males in short woodland near Samole, Aug 2004.

### **Fringillidae**

\**Serinus mozambicus* Yellow-fronted Canary. Very common in woodland, floodplain.

\**S. gularis* Streaky-headed Seedeater. Common in well-developed woodland, mainly in the south of the park. Complex song, includes imitations of *Merops hirundineus* and *Parus leucomelas*. Singing a lot in the rains, not in Mar.

### **Emberizidae**

*Emberiza hortulana* Ortolan Bunting. PM. An adult male filmed near the motel, 23 Mar 2006 (Lister 2007). New for Ghana.

\**E. tahapisi* Cinnamon-breasted Rock Bunting. AM. Dry season visitor, extreme dates 1 Oct (Genelley 1969) to Apr (Greig-Smith 1977a). Widespread from the Konkori scarp southwards, along roads and bare ground near motel, Mar 2005.

\**E. affinis* Brown-rumped Bunting. Locally common in woodland, especially open, short woodland, from Ducie southwards.

\**E. cabanisi* Cabanis's Bunting. Local in tall woodland especially in the south (Degbere-Kananto, Mognori, Brugbani) but also near Konkori.

### **Breeding records**

Greig-Smith (1977b) summarized breeding records up to 1975 but most (*e.g.* "males in breeding dress") cannot be back-dated to month of egg-laying. The data available suggest a concentration of breeding in Jun–Aug for many species. Some species start Feb–Mar, but the start of breeding in Mole generally remains little documented due to scarcity of visits Apr–Jun.

*Butorides striata*. Pair replacing each other on nest (brooding) early Sep (= laying Aug).

*Ephippiorhynchus senegalensis*. Laying probably Oct (details above).

*Leptoptilos crumeniferus*. Laying probably Nov (details above). Clutches Oct–Jan (*per* JFW).

*Streptopelia vinacea*. Mating 21 Aug.

*S. semitorquata*. Nest-building 19 Aug.

*Turtur abyssinicus*. Mating 28 Aug.

*Apus affinis*. At least three nests with nestlings Aug (= laying Jun–Jul).

*Merops bulocki*. Many occupied nests Mar (= laying mainly late Jan to Feb). A large proportion of birds mist-netted by Greig-Smith (1977b) in Jul–Aug were moulting.

*Hirundo smithii*. A pair feeding three juveniles at the motel 16–18 Oct (RD) (= laying probably Aug).

*Campephaga phoenicea*. Dependent fledgling 29 Aug (= laying late Jun to Jul).

*Pycnonotus barbatus*. Dependent fledgling 29 Aug (= laying late Jun to Jul). Three of four adults were half-way through primary moult late Aug.

*Turdus pelios*. Dependent fledgling 26 Aug (= laying late Jun to Jul). A female had a brood-patch at stage of brooding nestlings, 29 Aug (= laying Aug).

*Cossypha albicapilla*. A female had a brood-patch at stage of brooding nestlings, 30 Aug (= laying Aug). A male in primary moult, same date.

*C. niveicapilla*. Two males in early primary moult 30 Aug.

- Eremomela pusilla*. Large dependent fledgling 12 Aug (= laying Jun).
- Cisticola rufus*. Small fledglings 13 Aug (= laying late Jun to Jul). Feeding nestlings 25 Aug (= laying Jul to early Aug).
- C. brachypterus*. Nest-building 7 Sep.
- C. lateralis*. Independent immatures, with adults, 22 Aug to 5 Sep, suggesting breeding was over.
- C. cantans*. Independent immatures, with adults, 27 Aug to 5 Sep, suggesting breeding was over.
- Prinia subflava*. Feeding nestlings 4 Sep (= laying Aug).
- Bradornis pallidus*. Independent immature with adult, 24 Aug.
- Melaenornis edolioides*. A family with recently fledged young, 16 Aug 1974 (= laying Jul) (JFW).
- Batis senegalensis*. Nearly independent juvenile 16 Aug; dependent fledgling 21 Aug (both = laying Jun).
- Platysteira cyanea*. Female begging from male (*i.e.* incubating) 25–26 Aug (= laying Aug).
- Elminia longicauda*. Dependent, almost full-grown fledgling, 18 Aug; another 19–21 Aug (both = laying Jun); fledgling being fed early May (= laying Mar) (TTE).
- Terpsiphone viridis*. Dependent fledgling 30 Aug (= laying late Jun to Jul).
- Anthroptes longuemarei*. Dependent fledgling fed by male 14 Mar (= laying late Jan to early Feb).
- Nectarinia senegalensis*. Female nest-building in tall *Daniellia*, 17 Aug, had laid before end Aug. Another feeding a large juvenile 19 Aug (= laying Jun). One feeding small fledgling, 29 Aug (= laying Jul). One feeding nestlings in *Acacia dudgeoni*, 6 Sep (= laying Aug).
- N. cuprea*. Female feeding at nest, 9 Mar (= laying Feb).
- Zosterops senegalensis*. Pair with full-grown juvenile, partly dependent, 5 Sep (= laying Jun–Jul).
- Dryoscopus gambensis*. Female nest-building 15 Aug. A male in early primary moult, 22 Aug.
- Cinnyricinclus leucogaster*. Pair attending nestlings, 9 Mar (= laying Feb).
- Ploceus luteolus*. Female brooding, 5 Sep (= laying probably Aug). Male nest-building Mar.
- P. nigricollis*. Pairs finishing nest, 8 Mar.
- P. melanocephalus*. Males displaying Aug, one mating 21 Aug.
- Anaplectes melanotis*. Male nest-building 18 Oct (RD).
- Euplectes afer*. Female nest-building 1 Sep.
- Estrilda melpoda*. Nest-building 26 Aug.
- Serinus mozambicus*. Dependent fledgling 15 Aug (= laying Jun).

## Discussion

### Species rejected or in need of confirmation

**Ten species reported in Mole before 1976, not listed by Greig-Smith (1976) but apparently accepted by Grimes (1987).** Of these, at least the following nine appear unlikely.

*Neophron percnopterus* Egyptian Vulture. An adult along the motel scarp, 9 Aug 1968 (Harvey & Harrison 1970), included by Snow (1978) and Grimes (1987), should not be accepted as the only record for Ghana in the absence of supporting information. Confusion with *Gypohierax angolensis* is possible.

*Gyps rueppellii* Rüppell's Griffon Vulture. Accepted by Grimes (1987) based on an "uncertain" sighting of one in Mole, 11 Jan 1969 (Sutton 1970). No other acceptable records in Ghana (Dowsett *et al.* in press).

The following five species reported by Harvey & Harrison (1970) are all forest zone species and likely misidentified: Black Goshawk *Accipiter melanoleucus*, Square-tailed Saw-wing *Psalidoprocne nitens*, Simple Leaflove *Chlorocichla simplex*, Leaflove *Pyrrhurus scandens* and Blue-throated Brown Sunbird *Nectarinia cyanolaema*. *N. cyanolaema* from "riverine forest at Lovi" could have been the closely-related *N. verticalis*, not listed by the authors but common in riparian forest, and *Psalidoprocne nitens*, seen next to *P. obscura*, could have been a juvenile of the latter.

*Eremomela icteropygialis* Yellow-bellied Eremomela. Reported by Harvey & Harrison (1970) and Taylor & Macdonald (1978) is, in W Africa, resident in *Acacia* woodland in the Sahel and not known to undergo irruptions: we believe that confusion with *E. pusilla* cannot be ruled out. There are no other records for Ghana.

*Lagonosticta rubricata* Blue-billed Firefinch. Harvey & Harrison thought they saw one at Lovi, but the species was not found by Payne (2004), nor by anyone else, and its presence requires confirmation.

*Ploceus velatus (vitellinus)* African Masked Weaver is the tenth species not in Greig-Smith (1976) but in Grimes (1987), based on Harvey & Harrison (1970). We saw what appeared to be a female of this species near the clinic at Mole, 7 Sep 2004. These records require confirmation, but Sutton (1970) reported it nesting at Damongo, late Mar.

### **Species in Greig-Smith (1976) which should be rejected or considered unconfirmed**

*Alopochen aegyptiaca* Egyptian Goose. Two reported Aug 1968 (Genelly 1969), but this would be only the second Ghana record and the observer made no mention of the common *Plectropterus gambensis*.

*Accipiter tachiro* African Goshawk. Doubtful records of this rain forest species by Genelly (1969), whose description of the voice is inaccurate. Harvey & Harrison (1970) reported "what was probably an immature". One sight record in Greig-Smith (1976) should be considered uncertain. Noisy, with unmistakable display calls never heard by recent observers in Mole.

*Falco peregrinus* Peregrine Falcon. The only report is in Greig-Smith (1976); confirmation is desirable: *F. biarmicus*, not mentioned, is more likely.

*Turnix hottentottus* Black-rumped Buttonquail. A rare species of moist grassland, essentially a rains migrant, but Maze (1971) claimed to have seen five in Apr (end of dry season). This (one of two reports for Ghana) cannot be accepted in the absence of supporting details.

*Pluvialis squatarola* Grey Plover. One report of this mainly coastal species in Apr (Maze 1971) should not be accepted in the absence of identification details.

*Tringa totanus* Redshank. One reported near Damongo, 23 Aug (Harvey & Harrison 1970), repeated as “Sept?” in Greig-Smith (1977a), is from outside the park.

*Cuculus canorus* Eurasian Grey Cuckoo. Greig-Smith (1976) listed this as PM/AM?, early Dec (Greig-Smith 1977a), but *C. gularis* certainly occurs, and silent birds of either are difficult to identify. Not included by Grimes (1987).

*Colius striatus* Speckled Mousebird. Recorded by Greig-Smith (1976) as “rare: seen regularly in small numbers” without further details; apparently interpreted by Grimes (1987) as “c. 5 or less” and attributed to race *nigricollis*, although no records exist from anywhere in W Africa west of Nigeria (H. Schifter *in litt.*). Wilson (1993) wrote that he saw it eight times, but his report includes a number of errors. Unknown to wildlife guards, including two who have been working in Mole for some 25 years. J.F. Walsh (*in litt.*) never saw it in Ghana, 1970–6 and 1979, including several days in Mole. Should be deleted from the country’s avifauna until proof is obtained (Dowsett *et al.* in press).

*Caprimulgus inornatus* Plain Nightjar. Listed as an intra-African migrant by Greig-Smith (1976) on the basis of “nightjars....probably of this species” (Harvey & Harrison 1970), and records by M. Edmunds and L. Grimes. A male reported by Dutson & Branscombe (1990), is best considered unconfirmed (G. Dutson *in litt.*). Confusion with *C. pectoralis* possible.

*Merops orientalis* Little Green Bee-eater. Based on two reported by Maze (1971) in Apr, but this would be the only record as far south as Ghana, and Maze did not report the fairly common *M. pusillus*. Rejected by Grimes (1987).

*M. malimbicus* Rosy Bee-eater. One reported near Lovi, 7 Aug (Harvey & Harrison 1970) far from its normal non-breeding range.

*Galerida cristata* Crested Lark. Reported from bovals, accepted by Grimes (1987). This would be the only record in Ghana of a species normally found in extensive sandy plains in the Sahel. Probably confused with *G. modesta*, the characteristic lark of bovals in W Africa.

*Acrocephalus rufescens* Greater Swamp Warbler. A pair “almost certainly of this species” seen in “reeds” below the motel (Harvey & Harrison 1970). There was no suitable habitat then as today, and this record must be considered unproven.

*Lanius collaris* Fiscal Shrike. Wet season sightings claimed by Genelly (1969) and Harvey & Harrison (1970), but details such as birds “searching for insects” and “thick cover” suggest *Laniarius aethiopicus* (which neither report listed).

***Later records that should be rejected or require confirmation***

*Ceyx lecontei* African Dwarf Kingfisher. A record of this rain forest species in Cruse (2002) was later withdrawn (Cruse 2003).

*Erythropygia galactotes* Rufous Bush Chat. PM. One on 10 Feb 2003 (Cruse 2003) would have been the first report this far south (and in Ghana), but it was not well seen and the observer considers it unproven (R. Cruse *in litt.*).

*Hippolais icterina* Icterine Warbler. One “almost certainly this species”, 4 Apr 1976 (Taylor & Macdonald 1978), was accepted by Grimes (1987), but there is no supporting description and difficult to separate from *H. polyglotta*. Few authentic records from W Africa.

*Muscicapa gambagae* Gambaga Flycatcher. One report, 7–8 Apr (Taylor & Macdonald 1978), with a brief description that does not exclude the possibility of *M. striata*.

*M. ussheri* Ussher’s Flycatcher. A record of this forest species (Plat 1997) is surely erroneous.

*Estrilda astrild* Common Waxbill. Listed by Plat (1997) but more likely *E. troglodytes*.

**Composition of the avifauna**

With some 350 species now reported from Mole, the avifauna can be considered as reasonably well known. However, the near-lack of data for May–June and the short duration of most visits mean that the status of many migrants and the duration of their stay remain incompletely documented.

Numbers of waterbirds seem low, but large sections of the park are inaccessible in the rainy season due to flooding and poor road infrastructure, so they may be underestimated.

Although the list of Palaearctic migrants is quite long, most appear uncommon and have been seen mainly on passage. The few species that seem to winter regularly include *Hippolais polyglotta*, *Phylloscopus trochilus*, *Ficedula hypoleuca* and *Lanius senator*. *Acrocephalus schoenobaenus* may winter at permanent vegetated pools (*e.g.* near Mognori). Numbers of three other wintering species, *Anthus trivialis*, *Saxicola rubetra* and *Muscicapa striata*, seem to have decreased in recent decades (as in their European range, BirdLife International 2004).

The avifauna is typically Sudanian, and 36 of the 37 species considered endemic to the Sudanian (Sudan-Guinea) biome that occur generally in Ghana (Fishpool & Evans 2001) are represented in Mole NP, the exception being *Muscicapa gambagae*, which requires confirmation. When the taxonomic limits of indigobirds become better known (Payne 2004), more *Vidua* species may be added to this biome list, especially *V. wilsoni* and *V. larvaticola*. Most of these Sudanian species are to be found in the two most characteristic and extensive vegetation types in Mole: woodland and riparian forest/thicket. One falcon (*Falco alopex*) is confined to rocky outcrops at Konkori and one lark (*Galerida modesta*) to bovals.

The presence of Guineo-Congolian forest zone species is negligible. *Tauraco persa* is a wanderer from the forest-savanna transition zone to the south. The discovery of *Indicator willcocksi* singing in riparian forest on the Konkori scarp may seem surprising, but this species penetrates locally into the forest galleries of the Sudanian region: Chappuis (2000) tape-recorded it in the Sudanian region of S Chad, at Moundou (8°35'N, 16°1'E), and we heard and saw it further north in Ghana, on the Kulpawn river (Gbele Wildlife Reserve, at 10°24'N, 2°4'W and 10°34'N, 2°13'W, Mar 2005). As already discussed in Dowsett-Lemaire & Dowsett (2007), *Psalidoprocne obscura* should not be considered as Guineo-Congolian (pace Fishpool & Evans 2001), as it breeds in the Sudanian region, and may occur in the Guineo-Congolian region mainly as a non-breeding migrant.

### Changes to the avifauna over 30 years

The surroundings of the motel, including Mole marsh, have always been much visited over the years, and we can assume that some species changes observed in this area are real. In particular *Centropus grillii* and *Tchagra minutus* have not been recorded since the 1980s and 1970s respectively, and this can be explained by habitat changes. As poaching has been increasing over the years, large mammals were forced to concentrate in the better-protected area in the vicinity of the motel and park headquarters. Over-grazing was noticeable in the rains of 2004, both in the marsh and surrounding woodland, up to only 1 km north of the motel. As a result the height of the marsh vegetation has decreased, as related to us by the wildlife guards, and Mole marsh today no longer seems suitable for these two birds. The recent appearance of *Cisticola juncidis* and *Ortygospiza atricollis* in Mole marsh can also be attributed to the presence of shorter grass. The latter, however, was also found in some bovals and may have been overlooked in the past.

More than 50 species have been added since Greig-Smith (1976): several are rare or uncommon migrants, or local residents of rocky outcrops (a habitat not visited by Greig-Smith). A few of the latter, mentioned by Sutton (1970), had been overlooked. Others belong to groups that evidently posed identification problems at the time (*Lamprotornis* starlings, *Vidua* indigobirds). However, species such as *Podica senegalensis*, *Pachycoecyx audeberti*, *Cuculus solitarius*, *C. clamosus*, *Ceuthmochares aereus*, *Scotopelia peli*, *Caprimulgus pectoralis*, *Apaloderma narina*, *Muscicapa caerulescens* were not recorded until 1990 (*Podica*), 1996 (*P. audeberti*) or 2003–4 (albeit some of them were already known to wildlife guards for longer). They all inhabit the riparian forests of the southeast, and it is possible that they were overlooked in the 1970s through their discreet behaviour, or their voice being unknown to the observers. It seems odd that birds with distinctive calls, like *Cuculus solitarius* and *Apaloderma narina*, could have remained unnoticed for long, but this question cannot be settled. In any case, with the exception of *Podica senegalensis*, these “recent” records represent extensions of known range towards the north (Grimes 1987). The presence of a few *Tockus erythrorhynchus*, first reported in 1988, might

suggest a slight drying of conditions in the south of the park, or merely result from a small increase of the population in Ghana as a whole: the species is particularly common in the *Acacia* woodlands of Bui NP to the southwest (pers. obs.), and could have spread from there. Finally, the discovery of *Apus horus* in 2004 extends the range considerably to the southwest from S Niger (Dowsett *et al.* in press), but this species can be overlooked or confused with other white-rumped swifts.

Two species from the Sahel, *Streptopelia roseogrisea* and *Sporopipes frontalis*, were recorded in 1976 and 1975 respectively, the latter even breeding below the motel. These events were not apparently repeated, and they may have been related to drought years in the Sahel.

To conclude, from all the evidence put together, there is no indication that the region of Mole has become drier in the last three decades. There remains the mystery of the sudden and geographically limited appearance of *Colius striatus* in the 1970s, followed by its disappearance. It may even be wondered if it was correctly identified in the first place, as several people who visited northern Ghana in the late 1960s or 1970s (including L.G. Grimes, M.A. Macdonald and J.F. Walsh) never saw it, in Mole or elsewhere.

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### References

- BAHA EL DIN, M. & BAHA EL DIN, S. (1996) Birding Ghana. A trip report 12–29 February 1996. Privately published. Available from the African Bird Club.
- BIRDLIFE INTERNATIONAL (2004) *Birds in Europe. Population estimates, trends and conservation status*. BirdLife International, Cambridge.
- BROWN, L.H., URBAN, E.K. & NEWMAN, K. (eds) (1982) *The Birds of Africa*, vol. 1. Academic Press, London.



- CHAPPUIS, C. (2000) *Oiseaux d'Afrique, 2. West and Central Africa*. (11 CDs). Société d'Etudes Ornithologiques de France, Paris.
- CLARK, W.S. (1999) Plumage differences and taxonomic status of three similar *Circaetus* snake-eagles. *Bull. Brit. Orn. Club* 119: 56–59.
- CRUSE, R. (2002) in Recent reports. *Bull. Afr. Bird Club* 9: 145.
- CRUSE, R. (2003) in Recent reports. *Bull. Afr. Bird Club* 10: 59, 135
- CRUSE, R. (2006) in Recent reports. *Bull. Afr. Bird Club* 13: 102.
- DAVID, N. & GOSSELIN, M. (2002a) Gender agreement of avian species names. *Bull. Brit. Orn. Club* 122: 14–49.
- DAVID, N. & GOSSELIN, M. (2002b) The grammatical gender of avian genera. *Bull. Brit. Orn. Club* 122: 257–282.
- DOWSETT, R.J. & FORBES-WATSON, A.D. (1993) *Checklist of Birds of the Afrotropical and Malagasy Regions. Vol. 1. Species limits and distribution*. Tauraco Press, Liège.
- DOWSETT, R.J., DOWSETT-LEMAIRE, F. & HESTER, A. (in press) The avifauna of Ghana: additions and corrections. *Bull. Afr. Bird Club* 15.
- DOWSETT-LEMAIRE, F., BORROW, N. & DOWSETT, R.J. (2005) *Cisticola dorsti* (Dorst's Cisticola) and *C. ruficeps guinea* are conspecific. *Bull. Brit. Orn. Club* 125: 305–313.
- DOWSETT-LEMAIRE, F. & DOWSETT, R.J. (2007) The avifauna of the Proposed Kyabobo National Park in eastern Ghana. *Malimbus* 29: 61–88.
- DUTSON, G. & BRANSCOMBE, J. (1990) *Rainforest Birds in South-west Ghana*. Study Rep. 46, International Council for Bird Preservation, Cambridge.
- FISHPOOL, L.D.C. & EVANS, M.I. (eds) (2001) *Important Birds Areas in Africa and Associated Islands*. Pisces, Newbury.
- GENELLY, R.E. (1969) Birds of the Mole game reserve, Ghana. *Niger. Field* 34: 171–182.
- GREIG-SMITH, P.W. (1976) The composition and habitat preferences of the avifauna of Mole National Park, Ghana. *Bull. Niger. Orn. Soc.* 12: 49–66.
- GREIG-SMITH, P.W. (1977a) Bird migration at Mole National Park, Ghana. *Bull. Niger. Orn. Soc.* 13: 3–14.
- GREIG-SMITH, P.W. (1977b) Breeding dates of birds in Mole National Park, Ghana. *Bull. Niger. Orn. Soc.* 13: 89–93.
- GRIMES, L.G. (1987) *The Birds of Ghana*. Checklist 9, British Ornithologists' Union, London.
- HARVEY, W.G. & HARRISON, I.D. (1970) The birds of the Mole game reserve. *Bull. Niger. Orn. Soc.* 7: 43–52, 63–75.
- HELSENS, T. (1996) New information on birds in Ghana, April 1991 to October 1993. *Malimbus* 18: 1–9.
- HODDINOTT, D. (2007) in Recent reports. *Bull. Afr. Bird Club* 14: 99.
- KEITH, S., URBAN, E.K. & FRY, C.H. (eds) (1992) *The Birds of Africa*, vol. 4. Academic Press, London.
- LISTER, S.M. (2007) First record of Ortolan Bunting *Emberiza hortulana* for Ghana. *Bull. Afr. Bird Club* 14: 75–76.
- MACDONALD, M.A. (1978a) Records of Palaearctic migrants in Ghana. *Bull. Niger. Orn. Soc.* 14: 66–70.

- MACDONALD, M.A. (1978b) Additions to local avifaunas. Mole game reserve, Ghana. *Bull. Niger. Orn. Soc.* 14: 88.
- MACDONALD, M.A. (1979) Evidence for migration and other movements of African birds in Ghana. *Rev. Zool. Afr.* 93: 413–423.
- MAZE, R.L. (1971) A preliminary study of the Guinea savanna avifauna at the Mole game reserve in Ghana. *Ghana J. Sci.* 10: 38–48.
- MEYBURG, B.U., MENDELSON, J.M., ELLIS, D.H., SMITH, D.G., MEYBURG, C. & KEMP, A.C. (1995) Year round movements of a Wahlberg's Eagle *Aquila wahlbergi*, tracked by satellite. *Ostrich* 66: 135–140.
- PAYNE, R.B. (1982) Species limits in the indigobirds (Ploceidae, Vidua) of West Africa: mouth mimicry, song mimicry and description of new species. *Misc. Publ. Mus. Zool. Univ. Michigan* 162: 1–96.
- PAYNE, R.B. (1985) The species of parasitic finches in West Africa. *Malimbus* 7: 103–113.
- PAYNE, R.B. (2004) Genera *Lagonosticta* and *Vidua*. Pp. 359–378, 419–451 in FRY, C.H. & KEITH, S. (eds) *The Birds of Africa*, vol. 7. Christopher Helm, London.
- PLAT, S. (1997) *Ghana '97, an "Off-track" Birding Trip Report*. Privately published. Available from the African Bird Club.
- PORTIER, B. (2002) in Recent reports. *Bull. Afr. Bird Club* 9: 145.
- RILEY, A. (2004) in Recent reports. *Bull. Afr. Bird Club* 11: 174.
- SCHMITT, K. & ADU-NSIAH, M. (1993) *The Vegetation of Mole National Park*. Forest Resource Management Project, GWD/IUCN Project 9786, Accra.
- SNOW, D.W. (ed.) (1978) *An Atlas of Speciation in African Non-passerine Birds*. British Museum (Natural History), London.
- SUTTON, R.W.W. (1965) Notes on birds seen in Ghana in 1964. *Bull. Niger. Orn. Soc.* 2: 55–62, 102–107.
- SUTTON, R.W.W. (1970) Bird records from Ghana in 1967 and 1968/1969. Parts 1 & 2. *Bull. Niger. Orn. Soc.* 7: 53–56, 76–92.
- TAYLOR I.R. & MACDONALD M.A. (1978) The status of some northern Guinea savanna birds in Mole National Park, Ghana. *Bull. Niger. Orn. Soc.* 14: 4–8.
- WALSH, J.F. (1991) On the occurrence of the Black Stork *Ciconia nigra* in West Africa. *Bull. Brit. Orn. Club* 111: 209–215.
- WALSH, J.F. & GRIMES, L.G. (1981) Observations on some Palaearctic land birds in Ghana. *Bull. Brit. Orn. Club* 101: 327–334.
- WHITE, F. (1983) *The Vegetation of Africa*. UNESCO, Paris.
- WILSON, V.J. (1993) A zoological survey of Mole National Park north-western Ghana. Part II. Birds (dry season list). Unpubl. report to Forest Resource Management Programme, GWD/IUCN Project 9786, Accra.
- WINK, M. 1976. Palaearktische Zugvögel in Ghana (Westafrika). *Bonn. zool. Beitr.* 27: 67–86.