The birds of Nechisar National Park, Ethiopia

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During a multi-disciplinary survey of Nechisar National Park, Ethiopia, between July and September 1990 (Duckworth *et al.* 1992), a principal aim was to document the bird communities then in the park and to identify which were most diverse, important or threatened.

Nechisar is a small (750 km^2) park at an average altitude of 1100 m in the Rift Valley (6°N, 37°E), containing grassland, forest and bushland. Two sites were surveyed most intensively: the area between the Kulfo river and the park headquarters (17 July to 23 August) and an area near the eastern park boundary around the Sermale river (26 August to 23 September) (Fig. 1). Birds were observed opportunistically on foot daily for the ten-week period, to identify those present in the range of vegetation types over a wide area. Observer activity, spread throughout the day, was least during 03:00 to 07:00 and 19:00 to 21:00. A limited amount of mist-netting was carried out in riverine forest.

Combined daily counts from all observers allowed estimation of the relative abundance of every species in each habitat on a five point scale as given in Table 1. Few birds were breeding: the main season seems to be during the rains of April and May (Duckworth *et al.* 1992). Few specimens were taken, so species which could be considered difficult to identify are listed only provisionally.

This account considers the status of bird species by habitat within Nechisar. More complete documentation of birds in Nechisar is in Duckworth *et al.* (1992).

Completeness of the survey

In total, 315 bird species were recorded from the park and its immediate surroundings during the survey (Table 1). Urban & Brown (1971) list approximately 450 species as occurring in the southern Ethiopian Rift Valley; we added several species, but this leaves about 150 'missing'. Most can be explained by one or more of the following.

Species not recorded, but which are likely to occur

1. Species living in poorly-surveyed habitats or areas of the park. Large tracts of Nechisar remained unchecked, although representative areas were chosen as far as possible. Marshlands received little coverage.
2. Elusive species, in particular those in dense or difficult habitat, or those usually found by voice which were silent for the non-breeding period.
3. Groups difficult to identify where more species may have been present than we identified (e.g. pipits *Anthus*, batises *Batis*, glossy starlings *Lamprotornis*).
4. Migrants. Many Palaearctic migrants were arriving in the second half of the survey and so were only recorded around the Sermale area, although they were presumably also occurring around the Kulfo. Ash (1980) listed 161 Palaearctic migrants from the Rift Valley, many of which could occur at Nechisar.

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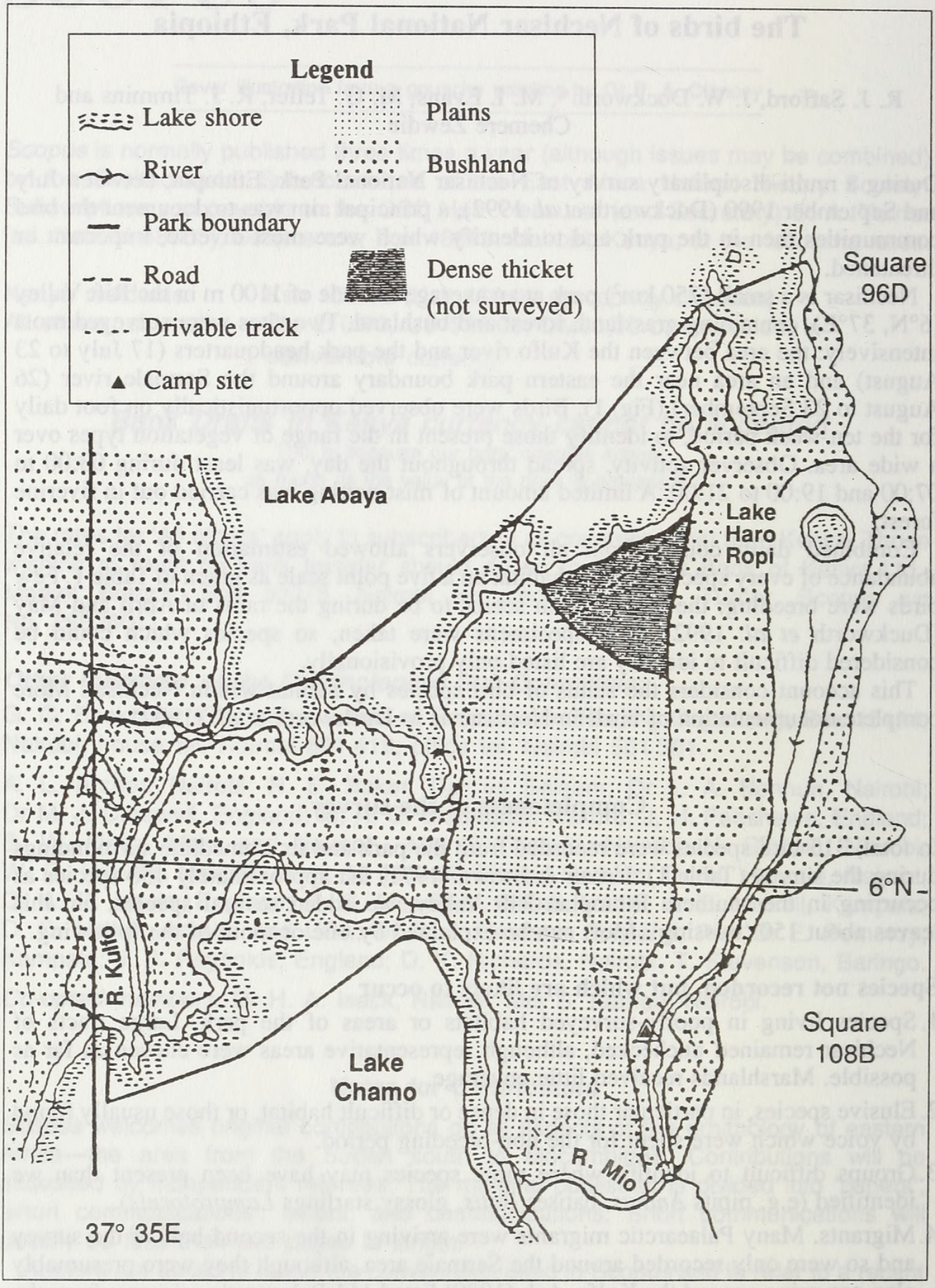

Figure 1. *Map of Nechisar National Park, Ethiopia*

Species genuinely absent

Many species must have distributions more restricted than merely North, South, East or West Rift Valley (into which Urban & Brown (1971) subdivide Rift Valley distribution), for example, due to habitat specialization.

Considering the above, the great majority of species occurring in the park during July to September were probably found in this survey, but the total number of species using Nechisar will exceed 350 and may be around 400.

Range extensions and confirmations

The check-list of Ethiopian birds (Urban & Brown 1971) breaks down Ethiopian bird distribution into several units: Nechisar falls in "Rift Valley (south) [RV(s)]". The following species recorded in Nechisar are not listed for RV(s): Cuckoo Hawk *Aviceda cuculoides*, Bat Hawk *Macheiramphus alcinus*, Banded Snake Eagle *Circaetus cinerascens*, White-eyed Kestrel *Falco rupicoloides*, Yellowbill *Ceuthmochares aereus*, White-faced Scops Owl *Otus leucotis*, Donaldson-Smith's Nightjar *Caprimulgus donaldsoni*, Star-spotted Nightjar *C. stellatus*, Scarce Swift *Schoutedenapus myoptilus* (identified provisionally), Lilac-breasted Roller *Coracias caudata*, Flappet Lark *Mirafra rufocinnamomea*, Mountain Wagtail *Motacilla clara*, Black Cuckoo-Shrike *Campephaga flava*, Icterine Warbler *Hippolais icterina* (identified provisionally), Olivaceous Warbler *H. pallida*, Desert Cisticola *Cisticola aridula*, Collared Sunbird *Anthreptes collaris*, Stripe-breasted Seedeater *Serinus reichardi* and Jameson's Firefinch *Lagonosticta rhodopareia*, while the ranges of Ovampo Sparrowhawk *Accipiter ovampensis* (identified provisionally), Wahlberg's Eagle *Aquila wahlbergi*, Scaly Francolin *Francolinus squamatus* and African Wood Owl *Ciccaba woodfordii* are expressly stated to be uncertain but RV(s) is not mentioned. Northern White-tailed Bush Lark *Mirafra albicauda* was overlooked by Urban & Brown (1971) and Boran Cisticola *Cisticola bodessa* not then recognized. Discounting these last two species, this gives 19 extensions of range from those in Urban & Brown (1971) and four range confirmations.

Bird communities: species richness and overlap

Figs 2 and 3 summarize the species totals and overlap of bird communities in each habitat surveyed. These habitats are described more fully in Duckworth *et al.* (1992).

Forest habitats

Three forest areas were surveyed: the 30-m high, largely closed-canopy forest along the Kulfo river (Kulfo Riverine Forest [KRF]), the Groundwater Forest (GWF) around (and watered by) the Arba Minch springs and the more open, varied (in structure and composition) forest along the Sermale river (SRF). A total of 143 species was recorded; SRF held the most species (Fig. 2), largely because its structure and composition benefited several (primarily) bushland species.

The overall forest species richness was only 70 per cent of that of bushland. None of the "critical species" for East African forest bird conservation (*sensu* Stuart 1985) was found. These forests are isolated from others and very distant (about 1400 km) from the

two refugia (east coast i.e. east Kenya and Tanzania, and central i.e. western Uganda) from which most of the East African forest avifauna is derived (Diamond & Hamilton 1980); this may explain their low species richness.

The forests, especially those around Arba Minch, are nonetheless of tremendous importance: for their mammals (Duckworth 1992), to the local community, as a park attraction and as an educational resource, as well as being a refuge for several local and vulnerable birds. Being isolated forests, they are important in any consideration of regional diversity. They are critically threatened by illegal collection of firewood and construction timber (Duckworth *et al.* 1992).

Outside the park, a tiny (smaller than 2 ha) relict of highland forest (mixed broad-leaved and juniper *Juniperus*, rich in epiphytes i.e. unit F4 of Urban & Brown [1971]) survives on a mountain top at 2180 m a.s.l., east of the Sermale river where a few forest birds not seen in the park were found (Table 1).

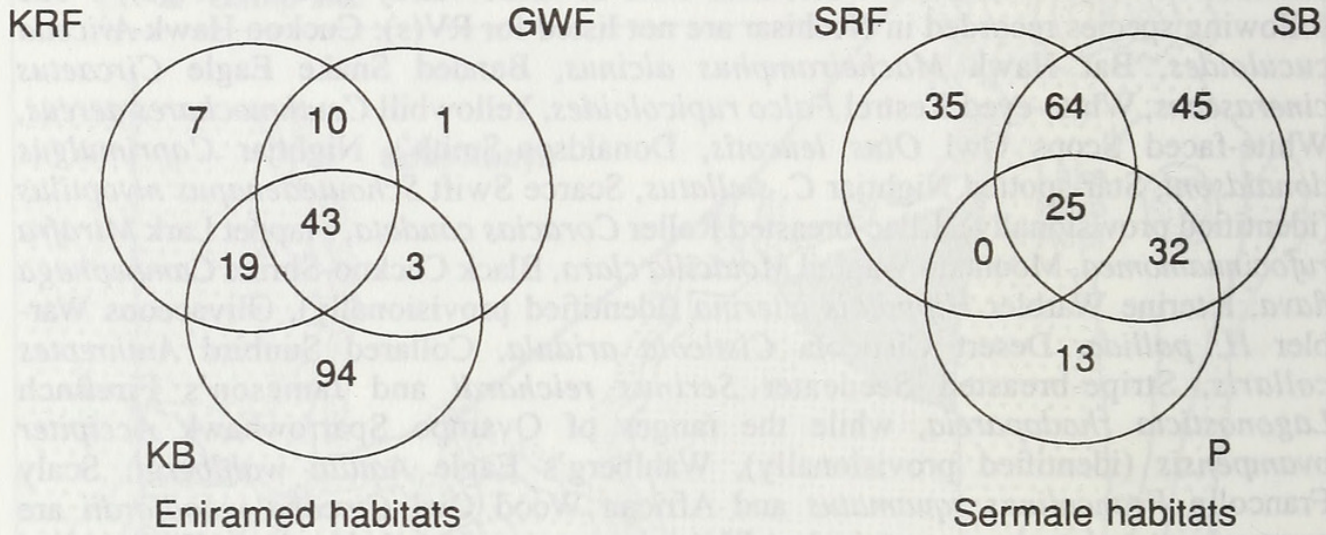

Figure 2 *Analysis of bird communities by different regions of Nechisar National Park. Numbers refer to the number of species identified in each region regardless of their abundance. Palaearctic migrants have been included as the different habitats within each diagram were surveyed separately*

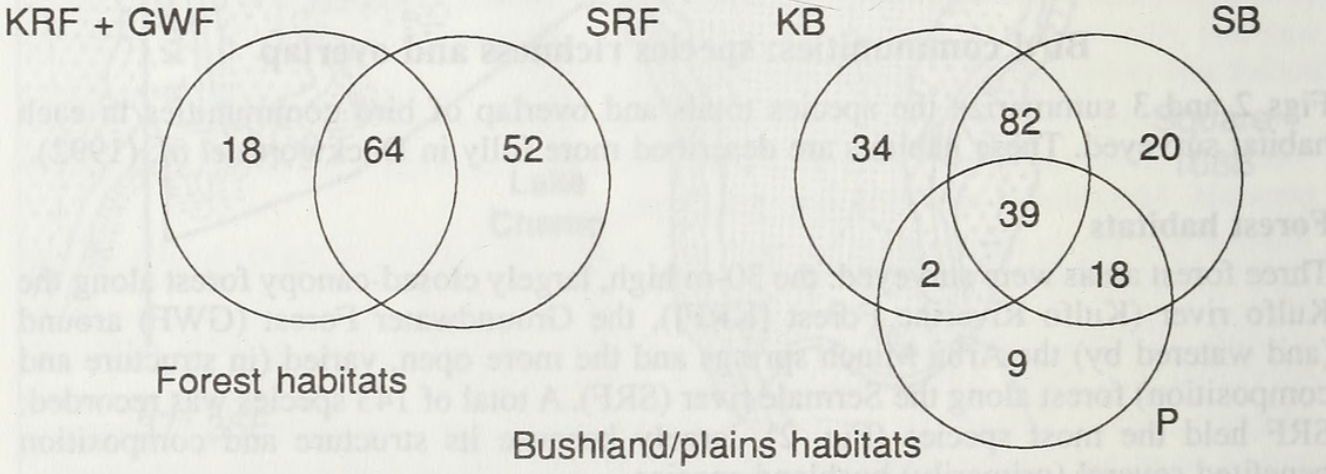

Figure 3. *Analysis of bird communities by habitat in Nechisar National Park. Numbers refer to the number of species regarded in each habitat, regardless of their abundance. As different areas of comparable habitat have been surveyed at different times, Palaearctic migrants have been excluded*

Bushland habitats

Bushlands cover much of Nechisar, and two areas were surveyed fairly comprehensively: thick, well-watered bushland in the flat plain between the Kulfo river and Arba Minch escarpment, and dryer, more open bushland between the Hot Springs and the plains. Limited fieldwork also took place in bushland at several points around Lakes Chamo and Abaya (including Hitu, where the vegetation was dense and low, unlike any other site visited in Nechisar), Dagabulle ridge and the lower slopes of the Amaro Mountains, to 2180 m a.s.l.

Species total

Most striking about the bushlands was the abundance of birdlife, compared to the forests and plains, reflected in the numbers of individuals seen and the high species total of 204. The park bushlands are connected to huge areas of fairly similar habitat outside the park (rather than being isolated patches, like the forests) from which to draw their fauna.

Variation between areas

Species totals for the Kulfo and Sermale bushlands were 159 and 166 respectively. Only 121 (59 per cent) of the combined total of 204 species were recorded in both areas. This figure exaggerates the difference, as several forest species (not found around the Sermale) visited the Kulfo bushland (*e.g.* Great Sparrowhawk *Accipiter melanoleucus*), whilst plains species penetrated the Sermale bushland (*e.g.* Little Bee-eater *Merops pusillus*, Flappet Lark *Mirafra rufocinnamomea*). Furthermore, Palaearctic migrants arriving during September and so only recorded around the Sermale are sure to occur elsewhere. Striking differences were apparent, such as the abundance of Yellow-necked Spurfowl *Francolinus leucoscepus*, Spotted Thicknee *Burhinus capensis*, Slender-tailed Nightjar *Caprimulgus clarus*, Lilac-breasted Roller *Coracias caudata*, Yellow-bellied Eremomela *Eremomela icteropygialis* and Mouse-coloured Penduline Tit *Remiz musculus* around the Sermale compared to their absence or rarity in the denser Kulfo bushland. The road south of Arba Minch town passes through drier, more open bushland contiguous with the Kulfo bushland, but containing several of these latter species.

Two bushland species were only found around Hitu: Gabar Goshawk *Melierax gabar* and Northern Red Bishop *Euplectes franciscanus*. Four passerines recorded in the Amaro mountains (Singing Cisticola *Cisticola cantans*, Pin-tailed Whydah *Vidua macroura*, Bronze Mannikin *Lonchura cucullata* and Red-naped Widowbird *Euplectes ardens*) were observed in the Park only around Lake Haro Ropi. The vegetation of this latter area was continuous with and had characters of the higher-altitude vegetation in the valleys on the Amaro mountains and it may be that this area (unfortunately only visited once) holds further hill species.

Much bushland bird community variation may be attributed to vegetation structure, which varied from dense, continuous thicket with deep shade, to scattered bushes in open grassland.

Uniqueness

Around the Kulfo 94 (59 per cent) of the 159 species recorded from bushland were not found in the adjacent forests; around the Sermale habitat boundaries were less clear-cut and only 45 (27 per cent) of 166 were not found in the adjacent plains or riverine vegetation.

The plains

Although grasslands are considered by Urban & Brown (1971) alongside bushland, the distinct Nechisar Plains deserve separate treatment. Only 11 (16 per cent) of the 70 species recorded from the plains were not found elsewhere; this small proportion is due mainly to bushland species using scattered bushes on the plains (e.g. Lilac-breasted Roller, White-crowned Shrike *Eurocephalus rueppelli*).

Species of the open, treeless grasslands formed a small but very distinct community. The dominant resident passerines were Zitting Cisticola *Cisticola juncidis*, pipits (probably including Plain-backed *Anthus leucophrys*) and Northern White-tailed Bush Lark *Mirafra albicauda*; Kori and (probably) Black-bellied Bustards *Otis kori* and *Eupodotis melanogaster*, Abyssinian Ground Hornbill *Bucorvus abyssinicus* and Smith's Francolin *Francolinus levaillantoides* fed in the grass; Kestrel *Falco tinnunculus*, Swallow-tailed Kite *Chelictinia riocourii* and Spotted Eagle Owl *Bubo africanus* were the common predators, later joined by Montagu's Harrier *Circus pygargus*; Star-spotted Nightjar *Caprimulgus stellatus* was probably also common. Small bushy patches or isolated trees or bushes providing shade or lookouts were used by further species, especially Spotted Thicknee, Taita Fiscal *Lanius dorsalis* and raptors such as Grey Kestrel *Falco ardosiaceus* and Dark Chanting Goshawk *Melierax metabates*. The plains graded fairly abruptly into bushland, but several species seemed to prefer this ecotone (e.g. Little Bee-eater, Black-cheeked Waxbill *Estrilda erythronotus*, Wattled Starling *Creatophora cinerea*), where also the less strict plains species (e.g. Flappet Lark) met bushland birds (e.g. Rattling Cisticola *Cisticola chiniana*).

Such a specialized and structurally simple habitat would be expected to support few species, but more might have been hoped for. The low species total (as for nocturnal mammals: Duckworth 1992) could mainly be due to the plains' isolation from similar habitat. Only one (Flappet Lark) of 12 lark species known from the grasslands and savannas of south Ethiopia (*sensu* Urban & Brown [1971]; i.e. south and east of Nechisar) was found; more might occur in unchecked areas, but this difference must be genuine. However, the presence of Northern White-tailed Bush Lark is remarkable; Nechisar is its only known locality in Ethiopia, as the birds Benson (1946) published as *M. albicauda* are now considered to be Singing Bush Lark *M. cantillans* (Ash 1992, Safford 1993.). The plains community is of great interest as it contained two species little known in Ethiopia: Northern White-tailed Bush Lark and Star-spotted Nightjar as well as an as yet unidentified nightjar *Caprimulgus* sp.

Systematic list of birds recorded in Nechisar National Park

Table 1 summarizes most of the data gathered on habitats used, abundances therein, breeding indications, moult and for Palaearctic migrants, the date of the first record. These headings are explained opposite.

Table 1. *Bird species recorded in and around Nechisar National Park, July to September 1990. The peak daily count and a subjective assessment of status is given (see text for amplification). Species where identification is provisional marked *. Bracketed group identifications are not included in the species totals for each habitat where they were also identified to species.* ***Key to abbreviations below***

Habitat

krf Riverine forest along the Kulfo river.
gwf Ground-water forest around Arba Minch springs.
kb Bushland between the Kulfo river and Arba Minch escarpment.
srf Riverine forest, restricted to within 50–100 m of the Sermale river.
sb Bushland covering most of the park, in particular between the Nechisar Plains and the Amaro mountains at the park boundary; Dagabulle ridge; Hitu. This habitat category was the most varied: most records refer to the area between the Hot Springs and Nechisar Plains.
p Plains. Species occurring in areas with widely and irregularly scattered bushes and in small, isolated wadi-like bushy areas are included, along with the true open grassland species.
o Areas outside but adjacent to the park; 'm' refers to the Amaro mountains as far as the tiny relict highland forest at 2180 m, east of the park; 't' refers to Arba Minch town.
w Water (Lakes Chamo, Abaya and Haro Ropi and small pools in sb near Lake Chamo). Only species associated with standing water are included.
of Overflying species. Species passing overhead, either on migration or flying between other areas.

Abundance

Within each park habitat (excluding o), relative abundance for each species is indicated in two ways: the maximum daily count (all observers combined), and a general assessment, where definitions approximately follow those of Urban & Brown (1971):

a Abundant: found daily in fair to large numbers (ten or more),
c Common: a few found almost daily,
f Frequent: quite often found, but special effort needed to do so,
u Uncommon: seldom found, but of regular occurrence,
r Rare: found seldom (typically only one or two records) and irregularly.

Where a species' abundance varied within one habitat type, the abundance in its favoured area is given. Categories for Palaearctic migrants may be unreliable as birds were arriving or passing through only towards the end of the survey.

Breeding indications

b Proof of current or recent breeding (including incompletely-grown juvenile)
d Display including courtship feeding
t Territory held
s Song heard
j Fully-grown juvenile
• No breeding indications, but judged to be regularly present in suitable habitat.

Moult; based on field observations, so very incomplete

c Complete moult in progress (remiges and / or rectrices)
i Moult observed only on head or body (indeterminate whether complete or partial)
pj Post-juvenile moult.

Palaearctic migrants

The date represents the first sighting of these species.

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
Black-necked Grebe *Podiceps nigricollis*					9f							
White Pelican *Pelecanus onocrotalus*			6r	85f	3u							
Pink-backed Pelican *P. rufescens*				57u	6u							
*(pelican sp.) *P. onocrotalus / rufescens.*					259c							
Long-tailed Cormorant *Phalacrocorax africanus*					3c				•			
Darter *Anhinga rufa*				1r	8c				•			
Grey Heron *Ardea cinerea*					3f				•			
Goliath Heron *A. goliath*					2f	2r				b		
Black-headed Heron *A. melanocephala*				1r								
Purple Heron *A. purpurea*					3r							
Squacco Heron *Ardeola ralloides*					5f				•			
Cattle Egret *Bubulcus ibis*				50u	2u				t	•		
Green-backed Heron *Butorides striatus*		1u	1r		2f	1r				j		
Great White Egret *Egretta alba*					1f				•			
Little Egret *E. garzetta*					2f				•			
Night Heron *Nycticorax nycticorax*				1r	4f				•			
Hamerkop *Scopus umbretta*					1r	1r			•			
Abdim's Stork *Ciconia abdimii*									t			
Woolly-necked Stork *C. episcopus*		1r										
Saddle-billed Stork *Ephippiorhynchus senegalensis*					2r	2r			•			
Marabou *Leptoptilos crumeniferus*			5f	27c	2f				t	•		
Yellow-billed Stork *Mycteria ibis*				14u	2u				•			
Hadada *Bostrychia hagedash*	12c	3f		13r		2u			•			
Sacred Ibis *Threskiornis aethiopica*					3r							
*spoonbill sp. *Platalea alba / leucorodia*					2r							
Lesser Flamingo *Phoeniconaias minor*					144f							
*(flamingo sp.) *Phoenicopterus ruber / Phoeniconaias minor*					120r	40u						
Egyptian Goose *Alopochen aegyptiacus*					6c				t			
Garganey *Anas querquedula*					2r							16 Sep
Secretary Bird *Sagittarius serpentarius*						1r	4f		•			
African White-backed Vulture *Gyps africanus*			38a			5u	5r	t	•			
Rüppell's Vulture *G. rueppellii*			16f			16u	1r	t	•			
Hooded Vulture *Neophron monachus*			50a			3u		t	•			
Egyptian Vulture *N. percnopterus*							1r					
Lappet-faced Vulture *Torgos tracheliotus*			7u			6u	3r	t	•			
White-headed Vulture *Trigonoceps occipitalis*			2u			2u	1r	t	•			
Lammergeyer *Gypaetus barbatus*			2u			2r	1r	t	•			
Montagu's Harrier *Circus pygargus*							3c					14 Sep
Harrier Hawk *Polyboroides radiatus*	1r	1r	1r			1r	1u		t			
Banded Snake Eagle *Circaetus cinerascens*	1u	1r			1r				•			
Brown Snake Eagle *C. cinereus*	1r		1r			2u						
Short-toed Snake Eagle *C. gallicus*			2r	2r		1r	2r	1r				
Bateleur *Terathopius ecaudatus*	2f	1r	4c			2f	4c	4f	tm	b		
Shikra *Accipiter badius*			1u			1f	1f			j		
Great Sparrowhawk *A. melanoleucus*	1r	1r	1r						•			
Little Sparrowhawk *A. minullus*	1r	1u	1u			1r				j		
*Ovampo Sparrowhawk *A. ovampensis*			1r									
African Goshawk *A. tachiro*	1u	1u	1r							d		
Tawny Eagle *Aquila rapax*			2u			1u	2u	2u		d	c	
Verreaux's Eagle *A. verreauxi*			2r									
Wahlberg's Eagle *A. wahlbergi*			1r									
Augur Buzzard *Buteo augur*			3f			1r			m	•		
African Hawk Eagle *Hieraaetus spilogaster*	1r		2r			2u	2r		m	•		
Long-crested Eagle *Lophaetus occipitalis*	2u		3f			2r			tm	d		
Gabar Goshawk *Melierax gabar*							1 Hitu					
Dark Chanting Goshawk *M. metabates*	1r		3f			1r	2f	3f		•		
Martial Eagle *Polemaetus bellicosus*			1f				1r			•		
Fish Eagle *Haliaeetus vocifer*	3c		2u		4c	2f	2u	1r		b		

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
Black Kite *Milvus migrans*			1r			2u	1u	2u	mt			
Cuckoo Hawk *Aviceda cuculoides*			1r			2r			•			
Swallow-tailed Kite *Chelictinia riocourii*							1r	5f				
Black-shouldered Kite *Elanus caeruleus*			1r			2f	2f	m	•		c	ix
Bat Hawk *Macheiramphus alcinus*			1r									
Osprey *Pandion haliaetus*			1r									
Grey Kestrel *Falco ardosiaceus*							1r	1r				
Lanner Falcon *F. biarmicus*								t				
*hobby sp. *F. cuvieri / subbuteo*			1r		1r		1r	1r				
Peregrine Falcon *F. peregrinus*			2r						•			
White-eyed Kestrel *F. rupicoloides*								1r				
Kestrel *F. tinnunculus*								8c				
Harlequin Quail *Coturnix delegorguei*							3r	2r				
*(quail sp.) *C. delegorguei / coturnix*			1r				1r					
Yellow-necked Spurfowl *Francolinus leucoscepus*				6u				18a	32c		•	
Smith's Francolin *F. levaillantoides*								12c			•	
Crested Francolin *F. sephaena*				9a			8c	23a			•	
Scaly Francolin *F. squamatus*			1r								•	
Helmeted Guineafowl *Numida meleagris*				27c			4u	38a	35c		j	
Button Quail *Turnix sylvatica*								1r	1r			
Black Crake *Limnocorax flavirostra*					1u				•			
*Black-bellied/Hartlaub's Bustard *Eupodotis melanogaster/hartlaubii*								4f		•		
Kori Bustard *Otis kori*							2r	25c		•		
Jacana *Actophilornis africanus*					7c					•		
Crowned Plover *Vanellus coronatus*							1r	6c		•		
Wattled Plover *V. senegallus*								1r				
Spur-winged Plover *V. spinosus*					12c					•		
Common Sandpiper *Actitis hypoleucos*	3c				15c		1r					28 Jul
Wood Sandpiper *Tringa glareola*					1r							31 Aug
Greenshank *T. nebularia*				1r								15 Sep
Green Sandpiper *T. ochropus*			1r		1r		2r					25 Jul
*Common / African Snipe *Gallinago gallinago / nigripennis*	recorded from Arba Minch Water Technology Institute											
Curlew Sandpiper *Calidris ferruginea*					7r							
Little Stint *C. minuta*					2r							
Black-winged Stilt *Himantopus himantopus*					3c					•		
Avocet *Recurvirostra avosetta*					1r							
Spotted Thicknee *Burhinus capensis*							3f	2u		•		
Senegal Thicknee *B. senegalensis*					9f			1r		•		
White-winged Black Tern *Chlidonias leucopterus*					40c							i viii
Gull-billed Tern *Gelochelidon nilotica*					9f							
*sandgrouse sp. *Pterocles* sp.								1r	20r			
Lemon Dove *Aplopelia larvata*	2f	4c					1r			•		i viii
Olive Pigeon *Columba arquatrix*	4r	3u								•		
Speckled Pigeon *C. guinea*				4r				30r	mt	•		
Namaqua Dove *Oena capensis*				8u			1r	6u		t	•	
Ring-necked Dove *Streptopelia capicola*				4u			5u	2f	2r	t	•	
Mourning Dove *S. decipiens*				4u	50c		3f	8a	20c	t	ds	
Red-eyed Dove *S. semitorquata*	12a	5f		11c			10c	6f		mt	ds	
Laughing Dove *S. senegalensis*				10c			1r	6f	5u	t	•	
Blue-spotted Wood Dove *Turtur afer*	1r	1u		1u			1r			m?	•	
Emerald-spotted Wood Dove *T. chalcospilos*	1r	1u		14a			3f	6c		m?	s	
Tambourine Dove *T. tympanistria*	2f	1u		1r			1r			j		
Bruce's Green Pigeon *Treron waalia*	4f			1r			5u			m	s	
Orange-bellied Parrot *Poicephalus rufiventris*	3u			4f			2f	5c		•		
White-bellied Go-away Bird *Corythaixoides leucogaster*				12c			4u	17c		•		c viii
Bare-faced Go-away Bird *C. personata*				2r			8c		m	•		

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
White-cheeked Turaco *Tauraco leucotis*	8c	6f	3r			4u			m	s		
Didric Cuckoo *Chrysococcyx caprius*						1r						
Klaas' Cuckoo *C. klaas*						3u	2u		•			
Great Spotted Cuckoo *Clamator glandarius*						1r						
*Black and White / Levaillant's Cuckoo *C. jacobinus / levaillantii*						1r						
Eurasian Cuckoo *Cuculus canorus*						1r						8 Sep
Yellowbill *Ceuthmochares aereus*	3f	4f	2u			5u	2r			s		
White-browed Coucal *Centropus superciliosus*	2u	1r	8f			4f	9f	1r		s		
Spotted Eagle Owl *Bubo africanus*			1u			1u	2u			s		
Verreaux's Eagle Owl *B. lacteus*						2r	1r			s		
African Wood Owl *Ciccaba woodfordii*	2f		3f			3f				s		
Pearl-spotted Owlet *Glaucidium perlatum*			1r			3f	1f			s		
White-faced Scops Owl *Otus leucotis*			1r				1r			s		
Scops Owl *O. scops*	3u	2r	8c			5f	2u			s		
Slender-tailed Nightjar *Caprimulgus clarus*			1f			1r	30a	5u	t	s		c viii
Donaldson-smith's Nightjar *C. donaldsoni*							1r					
Dusky Nightjar *C. fraenatus*			2u				1u	1r		•		
Star-spotted Nightjar *C. stellatus*			1r				2u	2f		•		
*Nightjar sp. *Caprimulgus* sp.								1r				
*Mottled Swift *Apus aequatorialis*					2r				t			
*Little Swift *A. affinis*					6f							
*White-rumped Swift *A. caffer*					5u							
*Horus Swift *A. horus*					1r							
Alpine Swift *A. melba*			1r		3u				m			
*Nyanza Swift *A. niansae*					7?		50?					
*(dark swift sp.) *Apus* sp.					100c	50c			t			
Palm Swift *Cypsiurus parvus*					6u							
*Scarce Swift *Schoutedenapus myoptilus*					1r							
Speckled Mousebird *Colius striatus*			1r		30a		50a		mt	d		
Blue-naped Mousebird *Urocolius macrourus*					6u		15u		t	•		
Narina's Trogon *Apaloderma narina*	5f	3u				2u			m	j		c viii
Giant Kingfisher *Ceryle maxima*					1u	2r				•		
Pied Kingfisher *C. rudis*			1u			2c				•		
Malachite Kingfisher *Alcedo cristata*						4c				•		
Striped Kingfisher *Halcyon chelicuti*			2f			3u	6c		t	t		
Chestnut-bellied Kingfisher *H. leucocephala*			1r		1f				t	j		i ix
Woodland Kingfisher *H. senegalensis*			1r			1r				•		
Pygmy Kingfisher *Ispidina picta*	4a	1r	1r			1r				jd		
Eurasian Bee-eater *Merops apiaster*					100a				t			8 Aug
Little Bee-eater *M. pusillus*							7f	5f		j		
Blue-breasted Bee-eater *M. variegatus*	6f	2u	25a			6c	14c		m	j		
Lilac-breasted Roller *Coracias caudata*			2u			2u	6c	10c	t			
Rufous-crowned Roller *C. naevia*			1r				2u	2r		•		
Broad-billed Roller *Eurystomus glaucurus*	8c	2r	10c		8f	1r			j			c viii
Hoopoe *Upupa epops*			2u				5f					
*wood hoopoe sp. *Phoeniculus* sp.	10f		10f			6f	10f			j		
Scimitarbill *P. cyanomelas*			2r		4f		2r	4f		•		
Silvery-cheeked Hornbill *Bycanistes brevis*	36a	10f	2r			5u				•		
Von der Decken's Hornbill *Tockus deckeni*	3r	1r	8c			8f	17c	2r		jt		
Red-billed Hornbill *T. erythrorhynchus*			2r				3u			•		
Hemprich's Hornbill *T. hemprichii*		10f	3u			2u	2u		mt	j		
Grey Hornbill *T. nasutus*	16a	6c	6f			5c	7c	14c		b		
Abyssinian Ground Hornbill *Bucorvus abyssinicus*						3r	3u	14c	m	•		
Double-toothed Barbet *Lybius bidentatus*	6c	2u				4f				•		
Red-fronted Barbet *L. diadematus*			2c			1r	2f			•		
Black-billed Barbet *L. guifsobalito*			1r		3f		1u	1u	m	s		
Red-fronted Tinkerbird *Pogoniulus pusillus*	5f	5f	2c			2f	2f		m	s		
Red and yellow Barbet *Trachyphonus erythrocephalus*			1r				3f			•		
Black-throated Honeyguide *Indicator indicator*			2u			1f	1u		m	j		

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
Lesser Honeyguide *I. minor*	1r		2u			1r			m	•		
Scaly-throated Honeyguide *I. variegatus*	1u		1r			1r				•		
Wahlberg's Honeybird *Prodotiscus regulus*			1u				1r			•		
Nubian Woodpecker *Campethera nubica*	3u		2f			2f		2f		j		
Cardinal Woodpecker *Dendropicos fuscescens*			6c			2u		5f		b		
Grey Woodpecker *Mesopicos goertae*						1u				•		
Bearded Woodpecker *Thripias namaquus*	1r		3f			2u		2u		d		
Northern White-tailed Bush Lark *Mirafra albicauda*								6c		•		
Flappet Lark *M. rufocinnamomea*								2u		5c	d	
House Martin *Delichon urbica*									m			18 Sep
Striped Swallow *Hirundo abyssinica*			7u		280c			10f		m		
African Rock Martin *H. fuligula*			1r					1r		m		
Eurasian Swallow *H. rustica*				350a	1000a				mt			16 Jul
Mosque Swallow *H. senegalensis*					6u							
Wire-tailed Swallow *H. smithii*			2r							t		
Black Rough-wing *Psalidoprocne pristoptera*			3r					12r		m		
African Sand Martin *Riparia paludicola*					1r							
Sand Martin *R. riparia*					2u			8f				25 Aug
Drongo *Dicrurus adsimilis*	6c		6c		7c		12a	21a	3u	t	•	c viii
Black-headed Oriole *Oriolus larvatus*	6c		8c		4c		5c		9c		bs	
Cape Rook *Corvus capensis*									m	•		
Thick-billed Raven *C. crassirostris*			2u		28f				t	•		
Fan-tailed Raven *C. rhipidurus*			12f			4u		2r	2r	mt	d	
Black Tit *Parus leucomelas*						1r						
Mouse-coloured Penduline Tit *Remiz musculus*								4f			s	
White-rumped Babbler *Turdoides leucopygius*			6f			6c		12f		m	•	
Rufous Chatterer *T. rubiginosus*	5u		5u		11c		24c	30c			b	
Black Cuckoo Shrike *Campephaga flava*			1u					2u		•		
Red-shouldered Cuckoo Shrike *C. phoenicea*			2f			2f		3f		j		
White-breasted Cuckoo Shrike *Coracina pectoralis*	2f		2f		5f		3f		2u		b	
Northern Brownbul *Phyllastrephus strepitans*	11a		21a		22a		30a		20a	m	•	
Common Bulbul *Pycnonotus barbatus*	11a		35a		30a		7c		14c	mt	•	
White-browed Scrub Robin *Cercotrichas leucophrys*			5c					2f			sd	
Spotted Morning Thrush *Cichladusa guttata*			2u						t		sj	
White-browed Robin Chat *Cossypha heuglini*	4c		4c		2u		5c		4f		js	c vii
Red-capped Robin Chat *C. natalensis*	4c		2u		1r						jt	pj vii
Rüppell's Robin Chat *C. semirufa*									m	•		
*Sprosser / Nightingale *Luscinia luscinia / megarhynchos*						1r						22 Sep
Little Rock Thrush *Monticola rufocinerea*									m	•		
Isabelline Wheatear *Oenanthe isabellina*						1r		1u				7 Sep
Northern Wheatear *O. oenanthe*						2u		8f				14 Sep
*Pied / Black-eared Wheatear *O. pleschanka / hispanica*						1r						17 Sep
White-fronted Black Chat *Pentholaea albifrons*								2u		•		
Whinchat *Saxicola rubetra*								2u		4f		31 Aug
Stonechat *S. torquata*									m			
Cliff Chat *Thamnolaea cinnamomeiventris*								3u		•		
White-winged Cliff Chat *T. semirufa*									m	•		
Northern Olive Thrush *Turdus abyssinicus*	3u				3u				m	•		
African Thrush *T. pelios*	5c		3f		1u			1r	1r	m	s	
Lesser Swamp Warbler *Acrocephalus gracilirostris*						4f					s	
Grey-backed Camaroptera *Camaroptera brachyura*	27a		17a		20a			6c		5c	m	s
Grey Wren Warbler *C. simplex*			1r					1r		•		
Desert Cisticola *Cisticola aridula*								2r			s	
Boran Cisticola *C. bodessa*			1r					9c		mt	s	
Singing Cisticola *C. cantans*						1r			m	s		
Rattling Cisticola *C. chiniana*			20c					46a		t	js	
Red-faced Cisticola *C. erythrops*									m	s		

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
Winding Cisticola *C. galactotes*					3f					s		
Zitting Cisticola *C. juncidis*								7c		s		
*Croaking / Stout Cisticola *C. natalensis / robusta*					1r							
Yellow-bellied Eremomela *Eremomela icteropygialis*								6f	4u	s		
*Icterine Warbler *Hippolais icterina*	recorded from Water Technology Institute											26 Sep
Olivaceous Warbler *H. pallida*					1r			2u				23 Aug
Buff-bellied Warber *Phyllolais pulchella*					3f			2u		t	•	
Willow Warbler *Phylloscopus trochilus*					3f		1f			m		8 Sep
Brown Woodland Warbler *P. umbrovirens*										m	s	
Tawny-flanked Prinia *Prinia subflava*										m	s	
Northern Crombec *Sylvietta brachyura*					5c			6c	1r		•	
Red-faced Crombec *S. whytii*					5c			3f			•	
*Collared Flycatcher *Ficedula albicollis*								1r				21 Sep
Black Flycatcher *Melaenornis edolioides*					2u			4u	3f		•	
*Dusky Flycatcher *Muscicapa adusta*										m		
*Spotted Flycatcher *M. striata*								2f		m		30 Aug
Lead-coloured Flycatcher *Myioparus plumbeus*					2u			2u	4u		t	
*batis sp. *Batis minor / orientalis*					4f			4u	2f	m	•	
Wattle-eye *Platysteira cyanea*				9c	5c	1r					bjs	
Paradise Flycatcher *Terpsiphone viridis*				8c	3c	1u		3f	5u	mt	s	
*Plain-backed Pipit *Anthus leucophrys*					1r			15f	7c	m	bs	
Tree Pipit *A. trivialis*						1r		1r	2r	m		10 Sep
African Pied Wagtail *Motacilla aguimp*							2c				•	
Grey Wagtail *M. cinerea*								1r				
Mountain Wagtail *M. clara*					5c						bs	
Yellow Wagtail *M. flava*						2f		3f				14 Sep
Northern Puffback *Dryoscopus gambensis*			3f		2f		2f		5f	7f	mt	b
Tropical Boubou *Laniarius ferrugineus*			13c	6c		1r		3f		1r	m	b
Slate-coloured Boubou *L. funebris*					8c			2r		2f	sd	
Grey-headed Bush Shrike *Malaconotus blanchoti*				5c		4c	4c		3c	1f	m	dj
Sulphur-breasted Bush Shrike *M. sulfureopectus*					4c			2u		7c	b	
Brubru *Nilaus afer*					4f			2u			•	
Black-headed Tchagra *Tchagra senegala*					2f			3u		6c	mt	s
Fiscal *Lanius collaris*								1r			mt	b
Taita Fiscal *L. dorsalis*								2u		1r	s	
Grey-backed Fiscal *L. excubitorius*					6f			24a	11c		•	c ix
White-crowned Shrike *Eurocephalus rueppelli*					10c			24c	12f		bd	
Helmet Shrike *Prionops plumata*			9c	5f		10c		10c	18c		b	
Violet-backed Starling *Cinnyricinclus leucogaster*					16u							
Wattled Starling *Creatophora cinerea*								58f	97c	t	•	i ix
Blue-eared Glossy Starling *Lamprotornis chalybaeus*					6f				2u	mt	•	
Rüppell's Long-tailed Glossy Starling *L. purpuropterus*					20c			21c	3r	t	•	
Red-winged Starling *Onychognathus morio*										m		
Superb Starling *Spreo superbus*					2r			8u	15a	t	j	
Red-billed Oxpecker *Buphagus erythrorhynchus*					3r		9u		16f	m	•	
Collared Sunbird *Anthreptes collaris*				26a	23a	20a		8f	7c		j	
Eastern Violet-backed Sunbird *A. orientalis*					10c			8c	3r	t	db	i viii
Malachite Sunbird *Nectarinia famosa*										m	•	
Mariqua Sunbird *N. mariquensis*					2r			1r		t	•	
Beautiful Sunbird *N. pulchella*				1r		9c		3u	19a	1r	t	bds
Scarlet-chested Sunbird *N. senegalensis*			2r		2u			4u	2u		mt	b
Variable Sunbird *N. venusta*										m	•	
Montane White-eye *Zosterops poliogastra*										m	•	
Grosbeak Weaver *Amblyospiza albifrons*			2r		14f			15r			d	
Red-headed Weaver *Anaplectes rubriceps*			4f			12c		3f	1u		b	iviii
White-winged Widowbird *Euplectes albonotatus*				5r				4r			•	
Red-naped Widowbird *E. ardens*								3r		m	•	
Northern Red Bishop *E. franciscanus*								11	Hitu	m	•	i ix
Black-winged Red Bishop *E. hordeaceus*					1r			1r			•	

	krf	gwf	kb	oh	w	srf	sb	p	o	b	m	Pm
Baglafecht Weaver *Ploceus baglafecht*									m	•		
Black-headed Weaver *P. cucullatus*			30f			4u		1r		•		i
Masked Weaver *P. intermedius*			40a			35c		28a		•		i
Little Weaver *P. luteolus*			10f			2r		10u		•		
Spectacled Weaver *P. ocularis*			2r						m	•		
Chestnut Weaver *P. rubiginosus*			40c				4u			•		
Vitelline Masked Weaver *P. velatus*			9f			2r		15f		•		
Red-billed Quelea *Quelea quelea*	8r		60f				22f	4u	t	•		i
Red-billed Buffalo Weaver *Bubalornis niger*					5c		51a	35c		•		
White-headed Buffalo Weaver *Dinemellia dinemelli*								4r			•	
White-browed Sparrow Weaver *Plocepasser mahali*			30c			10f		50a	t		b	
Grey-headed Sparrow *Passer griseus*			5f				40c	50c	mt		•	
Yellow-spotted Petronia *Petronia pyrgita*			4f				4u	3u	m		•	
*indigo-bird sp. *Hypochera* sp.			30u						t		•	
Pin-tailed Whydah *Vidua macroura*						1r		1r	mt		•	
Paradise Whydah *V. paradisaea*			2r								•	
Black-cheeked Waxbill *Estrilda erythronotus*							2r				•	
Yellow-bellied Waxbill *E. melanotis*									m			
Fawn-breasted Waxbill *E. paludicola*						1r						
Crimson-rumped Waxbill *E. rhodopyga*						30f		2u	10u		•	
*Jameson's Firefinch *Lagonosticta rhodoparaeia*					2r				m		•	
Red-billed Firefinch *L. senegala*			4f			2r		9f	t		s	
Green-backed Twinspot *Mandingoa nitidula*	4f		8f								j	
Red-cheeked Cordon-bleu *Uraeginthus bengalus*			12f			5u		10f	t		b	
Cut-throat *Amadina fasciata*			2r						t		•	
Bronze Mannikin *Lonchura cucullata*						10u			m		•	
Cinnamon-breasted Rock Bunting *Emberiza tahapisi*	1r						6u		m		s	
Yellow-rumped Seed-eater *Serinus atrogularis*			11u				8u				•	
African Citril *S. citrinelloides*									mt		•	
Stripe-breasted Seed-eater *S. reichardi*							8r		t			
Total species recorded	80		56		160	34		53	123	164	71	121

Notes on species

Status: Records of interest, particularly those highlighted by J.S. Ash (*in litt.* 1991) are discussed. Most supporting identification details are in Duckworth *et al.* (1992).

Black-necked Grebe *Podiceps nigricollis*

Nine in breeding plumage on Lake Abaya on 16 September; the observers were very familiar with this species (not known from the area: J.S. Ash *in litt.* 1991) and Little Grebe *P. ruficollis*.

Spoonbill sp. *Platalea alba* /*P. leucorodia*

Although *P. leucorodia* has not been reported south of 8° 30N (J.S. Ash *in litt.* 1991), H. Bayer showed us film of a spoonbill, apparently this species, from Lake Chamo. No spoonbills were seen clearly enough by us to identify to species.

Cuckoo Hawk *Aviceda cuculoides*

On 22 July one hunted in KB. On 1 September one perched below the canopy of an *Acacia* by the Sermale river was joined in flight by a second bird, circling up and away

down the valley. Another circled near Hitu on 13 September. This species is little-known in Ethiopia; the race is *A. c. verreauxi* in NE Lake Abaya (J. S. Ash *in litt.* 1991).

Bat Hawk *Macheiramphus alcinus*
One seen well but briefly flying rapidly along Lake Chamo shore at 10:40 on 22 August. In Ethiopia, "only known from two localities, but could occur [at Nechisar]" (J. S. Ash *in litt.* 1991); although this hour seemed unusual for a crepuscular species, the all-dark plumage with untidy paler areas around the belly combined with the rather falcon-like shape and flight pointed straight to this species, with which the observer was already familiar in the field.

Black Kite *Milvus migrans*
A distinct influx was noted in late September. Records were predominantly of yellow-billed birds, presumably *M. m. parasitus*. The few black-billed birds could not be assigned to any particular subspecies (juveniles of any race have black bills).

Lammergeyer *Gypaetus barbatus*
This was the only recorded species regarded as globally near-threatened (*sensu* Collar & Andrew 1988). Almost daily records from the Arba Minch escarpment probably related to only one or two pairs. The sporadic records from the Sermale area were probably wandering birds.

Short-toed Snake Eagle *Circaetus gallicus*
All showed characters of the resident form *C. g. pectoralis*, often accorded specific rank as Black-breasted Snake Eagle.

Banded Snake Eagle *C. cinerascens*
Nine sightings from KRF and GWF contrasted with only one outside: in large trees by the Lake Abaya ferry terminal (near Dagabulle). The species is known from near Nechisar (J. S. Ash *in litt.* 1991).

Chanting goshawks *Melierax* spp.
The few chanting goshawks that could be checked showed the bars on the rump typical of Dark Chanting Goshawk *M. metabates*, but Pale Chanting *M. canorus* may also have been present.

Hawks *Accipiter* spp.
Brief views and prior unfamiliarity with the species meant that many were not identified. Shikra *A. badius* seemed to be the commonest species. An individual in KB on 25 July resembled Ovampo Sparrowhawk *A. ovampensis* (rare in Ethiopia, but known from this part: J. S. Ash in *litt.* 1991). It was watched in a small *Acacia* in good light at 15–20 m range: the basis for identification was the upper-tail covert and tail pattern. The upper-tail coverts showed some white, but this was not as extensive as on Little Sparrowhawk (with which the observers were already familiar). The closed tail had alternate broad dark brown and paler brown bands; the feather-shafts in the paler brown areas were white, with a small surrounding part of the feather also pale. When skins of all possible *Accipiter* species (and also Gabar Goshawk *Melierax gabar*) were compared at the British Museum, Natural History (BMNH), *A. ovampensis* was the only species to show these prominent white tail feather-shafts.

Wahlberg's Eagle *Aquila wahlbergi*
A dark phase bird was seen well on 5 August and there were possible records in July. The species is known from near Nechisar (J. S. Ash *in litt.* 1991). Simmons (1990, 1991) suggested that southern Sudan and Ethiopia might be the destination of the large population of this species breeding in southern Africa (vacated from April to August); observers at Nechisar during this period might gather useful information.

Peregrine Falcon *F. peregrinus*
At least two inhabited the Arba Minch escarpment, sometimes hunting over KB. One photographed in bushland near the north shore of Lake Chamo appeared to be of the resident race *F. p. minor.*

White-eyed Kestrel *Falco rupicoloides*
An immature (dark-eyed) was seen well on the plains on 9 September; detailed notes compared with Brown *et al.* 1982 and skins at BMNH confirmed the identification. Nechisar is far outside the known range in Ethiopia but there are records from not far away in northern Kenya (J. S. Ash *in litt.* 1991).

Donaldson-Smith's Nightjar *Caprimulgus donaldsoni*
Two singles found in SB between the Sermale river and the plains. The small size and beautiful bright rufous plumage made identification easy; the photographs were checked against skins at BMNH. Previously recorded near Nechisar (J. S. Ash *in litt.* 1991).

Star-spotted Nightjar *C. stellatus*
Two road casualties were collected. One (SB, 14 September), now in the BMNH (specimen no. 1991.12.2) and detailed photographs of the other (plains, 23 September) were compared with skins at the BMNH by RJS and P. R. Colston, and confirm the identification. Plain Nightjar *C. inornatus* was eliminated mainly by the extent of white on the tail. All sight records (up to three per night) came from plains or SB, except one (17 September) in KB near the park headquarters; *C. inornatus* was not always eliminated. Urban & Brown (1971) give the Ethiopian distribution as NE, SE and S (?) Ethiopia, everywhere uncommon, with the comment "This appears to be a desert species, but very little is known about it". Fry *et al.* (1988) add that the species is locally common in the Awash valley and northern Kenya, inhabiting "semi-desert: dwarf bushed grassland and sandy patches in black lava fields". *C. inornatus*, frequent to common throughout Ethiopia (Urban & Brown 1971), would have been less surprising, although BMNH has a specimen of *C. stellatus* from Lake Zwai in the Rift Valley, north of Nechisar (specimen no. 1939.12.9 - 3976).

Nightjar sp. *Caprimulgus* sp.
A wing (length 186 mm) salvaged from a decomposing corpse on the plains on 3 September is not yet identified; it has been deposited in the BMNH (specimen no. not yet assigned).

Swifts Apodidae
Fry *et al.* (1988) advises against field identification of any all dark swift in East and

North-east Africa. The suggested identifications in Table 1 all concern species known from within a short distance of Nechisar (J. S. Ash *in litt.* 1991).

Scarce Swift *Schoutedenapus myoptilus*
A swift seen well flying with presumed Nyanza Swifts *Apus niansae* by Lake Chamo, 26 August, appeared to be this species, seen elsewhere in Africa by one of the observers. Urban & Brown (1971) list the species as a rare resident around cliffs and gorges in west Ethiopia, possibly breeding in August; however it is little-known, some populations being migratory, so a small Rift Valley passage is possible (and since Urban & Brown [1971] it has been recorded from the Lake Abaya area: J. S. Ash *in litt.* 1991). Britton (1980) calls it a highland species which sometimes descends to lower ground to feed.

Blue-breasted Bee-eater *Merops variegatus*
Many individuals showed the extent and shade of blue characteristic of this species, but this was very variable, some apparent adults entirely lacking blue and thus resembling Cinnamon-chested Bee-eater *M. oreobates*. Fry (1984) dismissed previous sight records of *M. oreobates* from near Lake Chamo as probably referable to *M. variegatus*. Furthermore, J. S. Ash (*in litt.* 1992) collected birds at Lake Abaya which resembled *M. oreobates* in the field but which proved to be *M. variegatus*.

Wood Hoopoe sp. *Phoeniculus* sp.
No large wood hoopoes showed any trace of green gloss to any of the plumage, being variably purplish-blue glossed. In most (perhaps all) flocks a few had entirely red bills, but fully-glossed (apparently adult) birds with black bills, sometimes with red bases, were also seen. These black-billed birds resembled perfectly (in their violet and blue gloss and bill colour) the form *P. somaliensis neglectus* as described in Fry *et al.* (1988) (which is the expected form, according to Urban & Brown [1971]). However, this leaves the red-billed birds unexplained: the only red-billed forms given by Fry *et al.* (1988) for Ethiopia are *P. purpureus niloticus* in the extreme west and Violet Wood Hoopoe *P. damarensis* in the extreme south; neither form seemed quite to fit the Nechisar birds in their gloss. Britton (1980) considers *P. p. somaliensis* and *P. p. neglectus* as comprising an incipient species, which Fry *et al.* (1988) call Black-billed Wood Hoopoe *P. somaliensis*, lacking green. Perhaps the red-billed birds suggest that *neglectus* and *purpureus* have not diverged fully?

Hemprich's Hornbill *T. hemprichii*
Around Arba Minch several records were of groups of up to ten flying high over the town towards hills outside the park. The very sporadic sightings suggested somewhat nomadic behaviour. The far more frequent records around the Hot Springs were still unpredictable (most in flight), with some apparent preference for the slopes of the Amaro Mountains rather than the flat floor of the Rift Valley. Some were identified by call, which was readily distinguished from the other *Tockus* spp. found, although Crowned Hornbill *T. coronatus*, not seen by us, was not eliminated in 'call only' records.

Northern White-tailed Bush Lark *Mirafra albicauda*
This species frequented the most barren parts of the plains, where Flappet Larks *M.*

rufocinnamomea were not found. It was very difficult to observe closely, flushing silently only at close range and then dropping into grass. On 20 September one was mist-netted (specimen in BMNH: 1991.12.1). This is the only confirmation of the species' presence in Ethiopia since the first records, also from Nechisar, in 1912 (Friedmann 1937), which were overlooked by Urban & Brown (1971). Safford (1993) and Ash (1992) give further details.

Mountain Wagtail *Motacilla clara*
All records were from the Kulfo river; Urban & Brown (1971) record it from highland streams but not the Rift Valley.

Taita Fiscal *Lanius dorsalis*
Most showed all black folded wings, but one had thin pale terminal fringes to secondaries and tertials (about a third of Taita Fiscal skins at BMNH showed indistinct buff fringes to these feathers, as opposed to the distinct white fringes on all Somali Fiscal skins). Thus there is no reason to suppose that Somali Fiscal *L. somalicus* was present. In southern Ethiopia the two are sympatric south of 5° 30N, but there are records of Somali Fiscal as far as 7°N (J. S. Ash *in litt.* 1991); Nechisar is thus an extension of known range for Taita Fiscal.

[Icterine Warbler *Hippolais icterina*
A bird at the Water Technology Institute on 26–27 September resembled this species (especially the long primary projection and yellow/grey-green colour), known in Ethiopia by only seven records (four in autumn; J. S. Ash *in litt.* 1991). The observer was familiar with all *Hippolais* species.]

Rattling and Boran Cisticolas *Cisticola chiniana* and *C. bodessa*
These extremely similar species were locally common, allowing observation of habitat differences. They could only be distinguished by voice; the Chaffinch *Fringilla coelebs*-like song of Boran was nothing like any vocalization of Rattling, but exactly as described by Ash (1974). Both were restricted to bushland, but were absent from the dense KB with *Acacia tortilis* and other tall species around KRF and GWF.

Rattling occurred (often in presumed family parties) in the following areas visited: open areas lacking trees over 5 m with or without grass in KB (e.g. between the park HQ, the town and Kulfo camp and along the main road south from Arba Minch town); scrub on the flat land above the Arba Minch escarpment (at the Bekele Molla hotel); SB around the Hot Springs. One Boran sang from low scrub on the Arba Minch escarpment, directly below the hotel. Boran was also common in open grassy bushland on the hills between Lake Chamo and Lake Abaya, and on Dagabulle ridge; and from the lower slopes up to 2100 m in the Amaro mountains to the east of the park, where the bushland was variable and patchy in structure, being regularly burnt.

The two species' distributions thus seemed completely exclusive although both could be heard from the Bekele Molla hotel and the Water Technology Institute. Altitudinal separation cannot explain the distributions and no correlation with vegetation structure or composition was apparent. The most consistent difference was that sloping areas were inhabited by Boran, flat areas by Rattling.

Ash (1974) found Boran in "thicker and lusher cover" than Rattling, and also found both species at Arba Minch (one Boran in thick bushes "on top of the escarpment",

Rattling common "on the slopes, 50–100 m below"; compare with our records above). Erard (1974a) also discussed the habitat differences; he suggested that Rattling "prefers the poorer, more open areas, in which it is much more abundant than the Boran, which dominates on the other hand when the height and density of the woody vegetation increases". Clearly more study is needed on the ecological relationships of these two species.

Zitting Cisticola *C. juncidis*
This was the only cisticola common on the plains (at about 1100 m a.s.l.). Urban & Brown (1971) say it is not found in Ethiopia above 900 m a.s.l., but one was collected at Lake Abaya in 1912 (Friedmann 1937).

Desert Cisticola *C. aridula*
Two cisticolas on the plains on 14 September differed from Zitting Cisticola by their pale sandy colouration with conspicuous sandy-white rumps; their song and horizontal song-flight also fitted this species, little known in Ethiopia but recorded not far to the south and south-east (J. S. Ash *in litt.* 1991).

Flycatcher *Ficedula* sp.
A brown bird on 22 September had prominent white primary bases. J.S. Ash (*in litt.* 1991) suggests that *F.* (*albicollis*) *semitorquata* is most likely, but all *Ficedula* species are rare in Ethiopia.

Yellow-rumped Seedeater *Serinus atrogularis*
Great variations were noted in appearance, even within flocks, some birds resembling *S.a. reichenowi*, others like *S. a. xanthopygius*, regarded as a separate species by Erard (1974b). These two forms are listed by Urban & Brown (1971) as Rift Valley (east and west) respectively and seem to overlap in distribution in Nechisar.

Stripe-breasted Seedeater *S. reichardi*
Eight in the Sermale Valley (near Lake Haro Ropi) on 20 September and one in Arba Minch town on 23 September were carefully checked to eliminate Streaky Seedeater *S. striolatus* (seen in Addis Ababa). Although occurrence at Nechisar may appear surprising as Urban & Brown (1971) consider it a species of highland grassland and forest, it is now also known from a short distance south of Nechisar (J. S. Ash *in litt.* 1991).

Jameson's Firefinch *Lagonosticta rhodopareia*
The systematics and separation of this species and African Firefinch *L. rubricata* are confusing. Examination of skins at BMNH of the taxa which could occur in the area (*L. rhodopareia rhodopareia* and *L. rubricata hildebrandti*) showed that the females clearly differed (nine of nine *hildebrandti* skins did not show red lores, while six of six *rhodopareia* had vivid red lores). If this difference is valid (Goodwin [1982] does not mention it), *L. rhodopareia rhodopareia*, based on the red lores of at least one female, occurs in Nechisar. J. S. Ash (*in litt.* 1991) has recorded both species from NE Lake Abaya and *L. rubricata* at Arba Minch.

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