

## **NOTES ON THE BIRDS OF LENGETIA FARM, MAU NAROK**

*By*

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### **Introduction**

The following paper is the summary of five years observation and notes on the birds of this high-altitude mixed farm. The notes were made in order to resolve their status, distribution, breeding and migration dates, and the effect on them of the change-over from natural to agricultural conditions. From 1953, when the farm was first occupied, to 1960 only a very few notes were made, and this summary is mainly based on notes made during the following five years.

The 250 species listed have been identified from the farm either by sight or sound, except where instanced in the text. I have included a locally-extinct species, the Ostrich, as being of interest, although unlikely to re-occur. The title heading for each species, giving the English and scientific for the bird under reference, plus the names of any other bird mentioned in the text, follow Praed and Grant. Only the English names are normally used where these birds are also mentioned in the text. The nomenclature of those species not found in Praed and Grant is taken from Witherby.

### **Topography and Climate**

Beyond the western wall of the central Rift Valley, 35 miles west of Gilgil, lies a high plateau, between 9,000 ft. and 10,000 ft. above sea-level. This plateau runs more or less north-west and south-east for about 50 miles, and consists of open grassland, wedged in by thick forest on either side; it is occupied mainly by Masai tribesmen and is virtually in its primaeval state. Traversing this open plain from east to west is the farming district of Mau Narok, about 12 miles long by 3 miles wide. This farmland has been intensively developed from its virgin state over the last 13 years mainly with cereal crops and exotic grass leys for sheep. Lengetia Farm lies at the western end of this district and consists of 1,900 acres of both flat and steeply ridged land. The south and west sides are bordered by cedar and olive forest, and the remainder is quite open; before 1953 the latter was covered with sour grasses and light bush, but now more than half is under crops and leys. Across the farm a number of windbreaks of pine and cypress have been planted. Three semi-permanent streams run north and south through the farm, and in the

middle of a flat waterlogged field lies a small dam of about an acre of water. The annual rainfall averages 41", the rainy periods occurring in April/May, heaviest in July/August, and again in November/December. The average shade temperature at noon is 70°F, and at night there is often a frost. The prevailing wind is from the east, and is fairly strong in the dry season. The climate is generally equable, and does not suffer the extremes that occur at lower altitudes.

### **The Habitats**

The area contains four habitats (I) Forest, (II) Open Grassland, (III) Rocky Stream-beds and Lightly Wooded Valleys, and (IV) Aquatic.

(I) The Forest covers 200 acres along a two mile boundary being the edge of the main forest which lies inside the Masai Reserve. In fact many birds seem to prefer this edge of forest, which has been subjected to successive fires and where much secondary growth has arisen. Further in, where there is less ground cover, and less light penetrates the towering cedars, bird-life seems comparatively scarce. Over 50 of the resident species live in the forest edge habitat. The garden should be included here, as although it has been made a quarter of a mile from the forest, it has gradually attracted many species from there.

(II) The Open Grassland covers about 1,500 acres and is practically treeless. 20 species are resident or breed in this area, but it is a great attraction to migrants and birds of prey.

(III) The Rocky Stream-beds and lightly Wooded Valleys are the haunt of the Mackinder's Owl nightjars, Black Duck and Wryneck.

(IV) The Aquatic habitat consists of a dam set in an open windy marshland, this never-the-less has been the primary attraction for 45 species of birds.

The effect of cultivation does not seem to have an adverse action on any species, except the Capped Wheatear, and most birds which existed on the natural grasses seem to thrive even better on planted crops. The Ostrich, which has been locally exterminated, is more likely the victim of "civilisation" than of cultivation. Species unobserved before cultivation, which are beginning to colonise the farm include the Black-shouldered Kite, Ring-necked Dove and Pied Wagtail; other birds, especially certain species of sparrows and weavers not yet listed for the farm, are moving nearer each year.

### **Vegetation**

The vegetation is divided sharply between the forest and open grassland; there is hardly any park-like land. The forest consists mainly of

cedar, *Juniperus procera* Hochst. ex Endl., and brown olive, *Olea africana* Mill., with a few Kenya olive, *O. hochstetteri* Baker; most of this timber is in a dry and over-mature state. There is hardly any bamboo, podo or mukeo, which all occur on the farms a few miles to the east, and are indicative of a slightly higher rainfall. The secondary growth along the edge of the forest consists of a large number of species of shrubs and small trees, as well as numerous young cedars. The grassland is composed mainly of short grasses flowering not more than 18" high, together with some heather and light bush, such as *Berberis holstii* Engl., on the ridges where the soil is deeper. Where cattle were stockaded in the past, nettles, thistles and tussock grass cover the ground.

### Migration

The large number of migratory birds, comprising some 50 species, seen regularly on passage, seem to indicate that this area lies across a definite migration route, possibly two routes. Flanked by thick forest, the Mau Narok belt of open land may act as a funnel for birds moving north and south, or east and west, especially as it includes a number of small dams which provide convenient resting places.

### Breeding

Most of the small birds have their main breeding season in April/May, and the forest birds may breed again in November/December. The breeding dates are derived from any associated evidence, i.e. from display to the presence of fledglings, and refer roughly to the egg-laying period. The word "pair" is used rather loosely in the text, generally as opposed to "single" or "flock", rather than to denote "male and female".

### Systematic List

OSTRICH, *Struthio camelus massaicus* Neum.

Formerly a resident, breeding locally between 9,000' and 10,000', according to a reliable Masai tribesman, Lunge Ole Kisaga, who has lived here for 50 years. He says they were seen in numbers up to a 100, away from the forest on the open grasslands. When I arrived in 1953, I found only a cock and two hens, and these were soon wantonly destroyed.

GREAT CRESTED GREBE, *Podiceps cristatus* Linnaeus.

Rare visitor to the dam: two records only, a single bird on 7.vi.63, and two birds on 4.xi.63.

LITTLE GREBE, *Poliiocephalus ruficollis* (Pallas).

Resident, only absent for short spells. Found on the dam and sometimes on smaller pools; breeds, juveniles being seen in August. In April 1964, 15 birds stayed on the dam for 2 days, and were in every stage of plumage, from near-white immatures to almost black adults.

**WHITE-NECKED CORMORANT, *Phalacrocorax carbo lugubris* Rüppell.**

Passage migrant. Three records for October and December 1963, one bird being immature.

**LONG-TAILED CORMORANT, *Phalacrocorax africanus* (Gmelin).**

Uncommon passage migrant, but occurring most months.

**[WHITE PELICAN, *Pelecanus onocrotalus* Linnaeus.]**

A party of about a dozen birds seen over Lutyens' farm on 13.vii.65. The birds were really too high for us to distinguish the species, but this seemed the most likely.

**GREY HERON, *Ardea cinerea* Linnaeus.**

Occasional visitor to dam in winter months; immatures seen November 1960 and September 1965. Rather shy than following species, and I consider they are mostly palæarctic migrants.

**BLACK-HEADED HERON, *Ardea melanocephala* Vigors & Children.**

Visitor, more frequent than the Grey Heron, although only singly as that species. Much more common, and seen in small flocks on farms a few miles to the east, where there is wetter land.

**PURPLE HERON, *Pyrherodia purpurea* (Linnaeus).**

Uncommon visitor, although one immature bird stayed 6 months. Has been seen locally in small flocks.

**GREAT WHITE EGRET, *Casmerodius albus* (Linnaeus).**

Regular visitor, about alternate months, always singly, with yellow bill. Usually stays for one or two days only.

**YELLOW-BILLED EGRET, *Mesophoyx intermedius* (Wagler).**

Occasional visitor to dam, and is probably a passage migrant from the south, going north to breed, as all records are for the month of May.

**BUFF-BACKED HERON, *Bubulcus ibis* (Linnaeus).**

Regular annual passage migrant in small numbers in March and April, when a few birds are seen resting on their way north.

**SQUACCO HERON, *Ardeola ralloides* (Scopoli).**

One record for 17.xi.65, the bird staying for two days on the farm. The bird was heavily streaked with brown on its flanks, and may have been an immature, or even been *A. idae* (Hartlaub). It perched freely on tall cedar trees when disturbed.

**GREEN-BACKED HERON, *Butorides striatus* (Linnaeus).**

One record for October 1964. This was a pale bird, looking like a miniature Grey Heron; it had bright yellow legs, but the colour of the legs seems to vary, for the colour of legs of birds seen in Narok and Baringo were both different; no two textbooks give the same description, which may be due to marked seasonal variations.

**HAMMERKOP, *Scopus umbretta* (Gmelin).**

Visitor to dam and small pools; recorded for most months. Always singly. Usually very tame, and stays several days.

**WHITE STORK, *Ciconia ciconia* (Linnaeus).**

"Winter" visitor and passage migrant, with some birds staying on through June and July. In 1960, many of the birds that stayed behind appeared to be sick and dying, and observers from Molo reported the same thing; they may have eaten locusts or other insects killed by spraying. White Storks become most numerous in the New Year when ploughing starts, and they are generally to be seen following the tractors, sometimes lining the furrow for a hundred yards or more. They appear to exhaust the food supply of the fresh-turned soil quickly, and then stand patiently until the tractor returns. They eat mainly small flying and larval insects, although their prize catch is the mole-rat (*Tachyoryctes*), which, if they are allowed to keep, occupies them a quarter of an hour in trying to swallow. They make

no attempt to rob each other, but often lose their prey to Marabou Storks (*Leptoptilos*) and Steppe and Tawny Eagles (*Aquila rapax*) which are often at hand and take advantage of the Stork's tameness which allows it to approach within a few feet of the tractor and so find the mole-rats before they can dive beneath the furrow out of which the plough has just thrown them. At dusk the Storks roost either on an open field of short grass, or on the tops of the tall cedars on the edge of the forest; as they settle down for the night they indulge in some bill-clattering. There seems to be some danger in the ground roosting habit, as many birds have been found with broken legs (about a dozen on the farm last year) and they may take off in the night when alarmed by a small predator such as a jackal, and fly into the wire fences. The frequency of these accidents must constitute a considerable factor in their death rate. In the morning they fly back to the working tractors about an hour after sunrise; if the tractor has moved into another field they go there directly, and I have seen them move low down from a ground roost to some new ploughing over a hill, which indicates they find their way by ear. From January to February there are about 200 birds on the farm, and probably 2,000 in the district. On a brilliant cloudless morning in March I have watched small parties from many farms joining up into a group of a 1,000 birds spiralling up on a thermal, the flock nearly disappearing out of sight overhead, before gliding off northwards at great speed.

**BLACK STORK, *Ciconia nigra* (Linnaeus).**

Rare "winter" visitor, recent dates being 13.ii.61, and 1.iii.61. Both were in pairs, and unaccompanied by other species.

**WOOLLY-NECKED STORK, *Dissoura episcopus* (Boddaert).**

One record of 50 to 60 birds flying east, 9.00 a.m., 27.xi.60, low over the house, into a strong wind, on a clear sunny day, when their white necks showed up clearly.

**ABDIM'S STORK, *Sphenorynchus abdimii* (Lichtenstein).**

A not uncommon visitor, only in the "winter" months, there being no records for May to October inclusive. Often in company with White Storks. By far the most common occurrences are in November and December, when it occurs in flocks up to 200.

**OPEN-BILL, *Anastomus lamelligerus* Temminck.**

On 29.xi.64. 150 to 200 birds flew eastwards over the farm about midday. They made their way into a strong wind by circling up until they were almost out of sight, then gliding down until they nearly reached the ground. Finally they must have picked up a more favourable wind, as they made a bee-line for the Rift Valley at a great height. Again on 18.xi.65, in company with Mr. Leslie Brown, I saw a large flock of nearly 400 birds 4 miles west of the farm; these also were flying due east, and the following day I saw another flock of 200. A few days previously several of these storks were actually seen resting on the farm.

**SADDLE-BILL, *Ephippiorhynchus senegalensis* (Shaw).**

Passage migrant: one record, 29.xi.60, bird flying low over farm eastward, 10.00 a.m. Also observed by others on dams to the east, up to 9,500 ft., at least three times.

**MARABOU, *Leptoptilos crumeniferus* (Lesson).**

Variable visitor, sometimes a few, sometimes many, at times staying for weeks, sometimes not seen for months. On 31.iii.53, several hundred roosted in cedar trees on farm. Often appear with White Storks, (q.v.), on which they prey, robbing them of the mole-rats they catch when following the plough. Appear at lambing time to feed on the afterbirth with vultures, but generally not often seen to eat carrion.

**WOOD-IBIS, *Ibis ibis* (Linnaeus).**

One immature bird visited dams on this and other farms from July to October 1963. Very shy.

**SACRED IBIS, *Threskiornis aethiopicus* (Latham).**

Occasional visitor to dam. Recorded January, March and April over 4 years. One to three birds at a time, staying only a day or so.

**HADADA, *Hagedashia hagedash* (Latham).**

Regular visitor, but resident and breeds locally. Nested on a dead tree overhanging a dam on a neighbouring farm, May 1962, the eggs being destroyed. Praed and Grant are

rather misleading in stating that birds seen over 7,000 ft. would be the Green Ibis, *Lampribus olivacea* (Dubus), as I have been unable to confirm the presence of this bird, while the Hadada is fairly common between here and Molo at 9,000 ft. However our Hadada do seem much darker than birds of this species seen at lower altitudes.

**AFRICAN SPOONBILL, *Platalea alba* Scopoli.**

One bird seen beside the dam on 20.x.65.

**LESSER FLAMINGO, *Phoeniconaias minor* (Geoffroy).**

Occasional weak birds fall from migrating flocks; this occurred especially in 1961 when many lakes were dry, and birds drifted about all over the Rift Valley, some being picked up dead in tiny pools on mountain streams. I have occasionally heard large flocks passing overhead at night, and from the sound I judged them to be travelling north or south. From the map it would seem that these birds do not necessarily follow the line of the Rift Valley Lakes when moving to another feeding ground, but may take a more direct overland route.

**AFRICAN POCHARD, *Aythya erythrophthalma* (Wied).**

Occasional visitor, especially in years 1954-1956, lately only seldom, perhaps one or two a year.

**SHOVELER, *Spatula clypeata* (Linnaeus).**

Occasional winter visitor between November and February; singly or in pairs.

**YELLOW-BILLED DUCK, *Anas undulata* Dubois.**

Commonest duck found on the dam, most months; generally a pair, but up to 26 seen. Not found to breed, but may do so when surrounding cover grows.

**BLACK DUCK, *Anas sparsa* Eyton.**

Probably resident, but difficult to find at times, as during the dry weather it retires into the forest. Newly hatched ducklings seen locally September 1963, and a family party of 8 including  $\frac{1}{2}$ -grown birds on 18.vi.61. Otherwise only seen singly or in pairs.

**WIGEON, *Anas penelope* Linnaeus.**

Two birds in a large mixed pack of duck on dam, October 1962.

**GARGANEY, *Anas querquedula* Linnaeus.**

Three records: a pair in November 1962, a pair in October 1963, and a single bird that stayed for two weeks in December 1964.

**CAPE WIGEON, *Anas capensis* Gmelin.**

One bird, 12.iii.65.

**HOTTENTOT TEAL, *Anas punctata* Burchell.**

Three single records, September and December 1960, and April 1961.

**RED-BILL, *Anas erythrorhyncha* Gmelin.**

Common visitor 1954-1956, now only rarely, about twice a year, in pairs or small parties. Usually seen with Yellow-bills.

**PINTAIL, *Anas acuta* Linnaeus.**

Two records, 18.xi.63 and 1.i.65, the second being for a male and female.

**FULVOUS TREE-DUCK, *Dendocygna bicolor* (Vieillot).**

Three records, all single birds; May, November and December.

**KNOB-BILLED GOOSE, *Sarkidiornis melanotos* (Pennant).**

Uncommon visitor.

**EGYPTIAN GOOSE, *Alopochen aegyptiacus* (Linnaeus).**

Irregular visitor, which bred once. About 6 months after the dam had filled for the first time, a pair hatched 5 goslings, mid-October 1954, all of them surviving and leaving December 13th. Seen occasionally in singles, pairs or parties up to 15, usually March/April and October/December.

**SPUR-WINGED GOOSE, *Plectropterus gambensis* (Linnaeus).**

Rare visitor, with one record for 8.ix.61, and two or three birds seen on local dams.

**SECRETARY BIRD, *Sagittarius serpentarius* (Miller).**

Resident in the district. Has bred on the farm once, when two young were reared from a nest on a low flat topped cedar tree in a river valley. Birds sitting on eggs have been seen in March and September. What appeared to be a display was observed when two birds circled about 150 ft., above the house, one of them making a loud, deep, creaking noise, quite unlike any other bird sound; this may be compared with Priest, p. 187. On another occasion I witnessed a Secretary Bird fly down a Snipe. The latter flew about a 100 yards at a time, dropping down into the tussock vlei grass, only to dart up as the Secretary Bird approached. Finally the Snipe left it too late, and the pursuer made a successful grab with its talons. When I arrived at the spot there was hardly a feather to be seen.

**RUPPELL'S GRIFFON, *Gyps rüppellii* (Brehm).**

Possibly the commonest vulture in the area, sometimes in mixed flocks, at other times by themselves in flocks of up to 50 birds. Roost in cedar trees, leaving in the morning about 10.00 a.m., to pick up a thermal, usually over a ploughed field. On a cold wet day, they often start off much earlier, flapping off in a long, leisurely line into the Masai reserve. The breeding status of the vultures has not been mentioned, as although they are seen all the year round, it is unlikely that any of them breed near here.

**WHITE-BACKED VULTURE, *Pseudogyps africanus* (Salvadori).**

Quite a common vulture which is seen most months, with up to 20 birds in a mixed flock of vultures. The white back is not easily seen, and the best identification is from the under-wing pattern.

**LAPPET-FACED VULTURE, *Torgos tracheliotus* (Forster).**

Generally only in pairs or singly in mixed flocks of vultures, but seen more regularly than other species.

**WHITE-HEADED VULTURE, *Trigonoceps occipitalis* (Burchell).**

Only two positive records, October and November 1962, in flight.

**EGYPTIAN VULTURE, *Neophron percnopterus* (Linnaeus).**

Three records; October/November 1962, and April 1963.

**HOODED VULTURE, *Necrosyrtes monachus* (Temminck).**

Fairly common, about 5 to 15 birds in a mixed vulture flock of 30 birds. The surrounding Masai country still provides a lot of carrion, due to the frequent deaths of the native cattle, the afterbirth from domestic stock, and the remains from hyena kills. About the only animal they seldom touch is a dead hyena itself; they can finish off an entire leopard carcass in an hour, although on occasions they will not touch that either.

**[PEREGRINE, *Falco peregrinus* Tunstall.]**

Typical peregrine type seen occasionally flying west, usually very fast, and obviating accurate identification. Most records have been for October, and November.

**HOBBY, *Falco subbuteo* Linnaeus.**

Winter passage migrant. Hobbies are seen fairly often but the speed at which they fly normally precludes naming of the species. Singly or in pairs. Mostly seen November, December and April, once September.

**AFRICAN HOBBY, *Falco cuvieri* Smith.**

Status uncertain, but rarely seen. I have watched it hunting the Black-winged Plover, by quartering the ground at great speed, causing the plovers to take off, but have yet to see it make a kill.

**EASTERN RED-FOOTED FALCON, *Falco amurensis* Radde.**

Uncommon passage migrant. Records in November, December and April.

**KESTREL, *Falco tinnunculus* Linnaeus.**

Winter passage migrant, but generally not distinguished from the Lesser Kestrel. From the certain identifications made, it would appear that the latter is much the commoner. One bird was observed on the 8.vi.63, hovering overhead, and might well have been the ABYSSINIAN KESTREL, *F.t. carlo* (Hart & Neum).

**LESSER KESTREL, *Falco naumanni* Fleischer.**

Winter passage migrant, usually in small flocks of 6 to 20 birds. As with many of the European migrants, they are generally seen moving in an easterly or south-easterly direction on both the spring and autumn passages. Records for both species of Kestrels occur from October to April only, and they are seen mostly in these two months, with a slight increase of numbers again in December.

**KITE, *Milvus migrans* (Boddaert).**

Generally present on farm in small numbers, except for July and August when there are no records. In January and February they are found in flocks of from 20 to 30 birds, which drift around and retire to roost in cedars on the edge of the forest in the evening. I have not yet found their nests, but they may well breed here. A number of these birds have been definitely identified as the migratory European race, *M.m. migrans* (Bodd.), with black bills.

**BLACK-SHOULDERED KITE, *Elanus caeruleus* (Desfontaines).**

Occasional visitor. This is one of the birds that appears to be extending its range westwards with the increase of cultivation. It used to be observed regularly about 15 miles to the east, and in March 1962 it was seen three miles away. Six months later it was seen on the next farm, and a year later it was on this farm. Since then it has been seen with increasing frequency, though normally staying only for a week or so.

**STEPPE/TAWNY EAGLE, *Aquila rapax* (Temminck).**

Praed and Grant, in the amendments contained in their 1956 edition, have combined the Steppe and Tawny Eagles into one species, the Steppe being a migrant and winter visitor, and the Tawny a resident. Whether this is a valid arrangement or not, the two races appear to be distinct in the field. The Steppe Eagle, renamed *Aquila rapax orientalis* Cab, arrives around the second week of October, and may be recognised by the pale upper-tail coverts, which in the young bird look almost white; there is also a distinctive under-wing pattern which is formed by pale tips to the under-wing-coverts, and appears as a V across the wings. Sometimes these migrant Eagles are seen in numbers up to a dozen, and it seems hard to believe all these would be juveniles, and yet *all* of them will show the under-wing and upper-tail patterns, and distinguish the bird from the resident Tawny Eagle. Other characteristics include, of course, its habit of flocking, and also a more pronounced tendency to settle on the ground; I have not yet been able to separate their call notes. They spend much time in company with White Storks, waiting to rob them of mole-rats which the latter sometimes catch. The Steppe Eagle departs early in April.

The Tawny Eagle is a fairly common resident, which may undergo some local movement. There are probably two pairs on the farm, and they must nest at the turn of the year, as I usually see very young birds in April. There are at least three other pairs in Mau Narok, which all breed about the same time.

**AFRICAN HAWK-EAGLE, *Hieraaetus spilogaster* (Bonaparte).**

Uncommon visitor, which seldom gives enough time for sure identification. One bird dispersed an enormous flock of Pink-breasted Doves, which were feeding on some newly planted wheat seed, and which I had failed to move by gunshot. The next morning I found the remains of many dead doves scattered over the field, which I presumed had been killed by this Eagle.

**AYRES' HAWK-EAGLE, *Hieraaetus dubius* (Smith).**

One definite record, 9.viii.65, and possibly other occasions when confirmation was difficult. The white over the eye was a prominent field character.

**MARTIAL EAGLE, *Polemaetus bellicosus* (Daudin).**

Visitor, which probably breeds locally. Two juveniles were shot locally in July 1961 and May 1962, while stealing poultry. Another young bird was seen in August 1963. From the appearance of the young, sometimes seen with their parents, I would guess that they breed at the beginning of the year. I have only twice heard this bird call, each time from

the same place, and nearly two years apart. Once the bird was flying, the other time it was in a tree, flying off silently when disturbed. The call was high and flutey "hoy-yok hoy-yok hoy-yok" and distinct enough for me to remember after the two year gap. They do not appear to take carrion, as I have seen a bird follow vultures to a corpse, and return without feeding. Another one I saw in March 1953, alighted on the back of a White Stork, which was feeding in company with about a hundred others, and killed and ate it, with three Tawny Eagles watching from a few feet away. The Stork seemed quite healthy.

**CROWNED HAWK-EAGLE, *Stephanoaetus coronatus* (Linnaeus).**

Resident, breeds. One pair have a nest in an 80 ft. tall dead cedar about 800 yards below the house, about 100 yards inside the forest and 50 yards from the stream bed. The nest is clearly visible from the farm road, and I have had it under close observation for nearly 4 years. The nest is about 6 feet across and the same in depth, and is placed in a fork about two-thirds up the tree, against the trunk.

During a very heavy storm in 1963 half of the nest collapsed, but fortunately the young bird was just able to fly. On 17.xi.63, when the juvenile was over a year old, all three birds reassembled at the nest tree, and each in turn climbed all over the collapsed nest. The young bird was especially excited, and spent a long time on it, calling continuously, while the parents perched quietly nearby. At the end of June 1964, both adults arrived to repair the nest, and commenced their 2-year breeding cycle once more. I have deduced this cycle as follows: farm workers tell me that the birds bred in 1956, and 1958, while I have observed them breeding in 1960, 1962 and 1964. The timetable is worth recording, if only to confirm work by L. H. Brown. The adults begin displaying and paying attention to the nest about the end of June, the female starts to sit in mid-August, and there is no sign of eggs hatching until mid-October, when the Eagle stands up, or makes a stiff flight to a nearby tree. Even then the chick is not visible until a month later at least, but it grows fast thereafter, with the female feeding it daily and tearing its food up until February. Early in this month the feeding becomes less frequent, and the young bird starts its hunger call, a rapid plaintive whistle that it will keep up all day if necessary. It also starts to climb around the nest tree about now, and by the end of the month it may have made its first flight, although it continues to be fed at the nest; sometimes the nestling takes another month before it decides to fly. The young bird continues to use its hunger call irregularly for another 8 to 12 months within half a mile of the nest, and finally disappears when it is about 18 months old. Some can be quick at finding their own food, for my headman, Mr. Kamonde, who is a reliable observer, saw an immature bird in May, still in its white plumage, take a half-grown Colobus Monkey off the limb of a dead tree with scarcely a pause in its flight. The female appears to do all the building herself, as well as adding green branches during the time she is on the nest, but the male can generally be seen sitting quietly by. They make a devoted pair, and once during a torrential downpour, (and the rain is cold at this altitude), I watched the female brooding with outspread wings over the chick, while the male perched on a branch about ten feet away; during this time the two birds maintained a continuous soft piping to each other. The display of these Eagles takes place mainly during the 18 months between the start of nesting to the departure of the juvenile. As the birds breed in alternate years, there is a gap of about six months when they are seldom heard. The display is well described by L. H. Brown (Eagles p. 186) and usually takes place over the forest, not far from the nesting site; on occasions the bird will rise to a very great height, and carry on calling far out over the grasslands. Either one or two birds may be seen in the display flight, but I suspect only the male does the calling, a far carrying "ke-wik ke-wik ke-wik"; the female's call is different, described by Chapin as "pee-ou" rapidly repeated. I have generally heard this call from the nest, and it appears to be a call for its mate; standing on the nest beside its chick the bird flattens itself right out and opens its bill wide to get maximum sound, varying the speed and pitch of the notes; the call lasts about two minutes, and then the bird listens and looks around before starting up again, and so on for half an hour. There are about six or seven pairs in the district, all with territories bordering on the forest, and 3-4 miles between each pair; altogether they must be fairly numerous over the Mau.

**LONG-CRESTED HAWK-EAGLE, *Lophoaetus occipitalis* (Daudin).**

Uncommon visitor. This eagle is usually seen over the forest if at all, whereas at Njoro it is a bird of the open farmland. Six records for 1962, none in 1963.

**BLACK-CHESTED HARRIER-EAGLE, *Circaetus pectoralis* Smith.**

Regular visitor, which possibly breeds locally. Immature seen on farm in June and July 1961.. Generally singly, once or twice in pairs. They spend a lot of time hovering, but I

have yet to see one make a kill. Always seems to be in the air, rarely perches on a fencepost and never seen in a tree.

**BATELEUR, *Terathopius ecaudatus* (Daudin).**

Status as for preceding species; it appears about alternate months, and the farm must be on the edge of a territory. On 27.ii.62 an immature bird was chased by an adult in a wonderful aerial exhibition. Their relationship to Tawny Eagles is curious, as I have seen a pair chase the latter away with much gusto, but another time I watched a Tawny Eagle devour a large Mole-snake, while a Bateleur sat on the ground a few feet away, for over an hour, not daring to approach. Perhaps their mastery is confined to the air.

**FISH EAGLE, *Cuncuma vocifer* (Daudin).**

One record, 20.ii.55, a bird perched in a small cedar tree above a tiny pool, in the late evening.

**STEPPE BUZZARD, *Buteo vulpinus* (Gloger).**

Winter visitor. This is not an easy bird to distinguish from the Mountain Buzzard at a distance, and it is not possible to say if these birds reside for the winter, or are on passage only. They even appear to consort with the Mountain Buzzards, which confuses the situation. However, I have recorded it for all months from September to April.

**MOUNTAIN BUZZARD. *Buteo oreophilus* Hartert.**

Resident. One or two pairs, but I have not found their nests. They are seldom seen any distance away from the forest and are generally found circling over the trees or perched quiet on a bough; when disturbed, they slip silently off and move to another tree a little further on. Their "mew" is very like that of a European Buzzard's *B. buteo* (Linnaeus). They have a fast "switchback" display flight, during which they mew loudly.

**AUGUR BUZZARD, *Buteo rufofuscus* (Forster).**

Common resident. About six pairs breed on the farm, mainly April/May and October/November. Highly beneficial, as one of their staple foods is the mole-rat, which causes immense damage to pasture and grain crops. About one in three is black-phased, and these seem to predominate in one particular family. They seem more active here than at lower altitudes, and are flying and hovering most of the day. They are very audacious in defence of their territory, and I have seen them chase off Tawny, Steppe, Crowned and Bateleur Eagles in a most aggressive manner. If a single bird starts the chase, it is only a matter of moments before the mate has arrived. Only once have I failed to see both birds, and that was when a female Crowned Hawk Eagle had been calling for half an hour, fed her young, and then joined in a simultaneous display with her mate. In the course of this flight, they came too close to the cedar tree where the Augur Buzzards were nesting. A small adult Buzzard came shooting out, which I took to be the male, and engaged with the female Eagle. The normally lethargic Buzzard put up a series of terrific power dives, and the Eagle had to turn over on her back each time, and I could see her claws lash out at her pursuer, ducking her head as he came shooting past. The Eagles then retired to a tree in the forest; I think the second Buzzard must have been sitting too tight to be able to leave her nest.

In spite of being so common, Augur Buzzards are, for a large bird, quite hard to recognise in the field, due to their innumerable colour phases; a young bird with no barring on wings or tail (which is much longer than an adult's,) dark brown above and below, took a long time to identify. They can often be seen flying back to their roosting tree after sunset, when they look very owl-like, and in the early morning they may be seen on their favourite look-out perch long before the sun is up.

**LITTLE SPARROW-HAWK, *Accipiter minullus* (Daudin)**

Occasionally seen.

**RUFOUS SPARROW-HAWK, *Accipiter rufiventris* Smith.**

This Sparrow-Hawk has been clearly identified on occasions, but this group is particularly hard to verify in the field, as usually all one sees is a flash of grey or brown, and the bird has disappeared into the thickest trees; the relative status of each species is hard to assess.

**GREAT SPARROW-HAWK, *Accipiter melamoleucus* Smith.**

Resident nearby. This bird is sometimes seen on the farm, but its real habitat is in the thick forest outside the farm boundary. An immature female was caught in the poultry-run on 10.iii.65. I have also seen a black-phased bird flying through the garden.

**SHIKRA, *Accipiter badius* (Gmelin).**

Occasional visitor, one bird staying near the house for two days in July 1962. For most of the time it remained in some young pine trees, making a purring "coooooo coooooo", perhaps akin to the sound made by the Ovampo Sparrow-Hawk, as described in Praed and Grant.

**AFRICAN GOSHAWK, *Accipiter tachiro* (Daudin).**

Occasionally seen, but may well be a resident. Generally one only catches a fleeting glimpse of it, but on 20.xi.62, I saw a single bird dive down to attack a Common Sandpiper which was running on the rocky edge of a stream. The wader evaded the attack by jumping into the little pool, whereupon the hawk squatted down on the rock alongside. I was able to observe the bird at close range with binoculars for some minutes, and had to disturb it eventually to see its appearance in flight.

**DARK CHANTING-GOSHAWK, *Melierax metabates* Heuglin.**

One record, January 1965, in the garden.

**MONTAGU'S HARRIER, *Circus pygargus* (Linnaeus).**

Regular winter passage migrant, but less common than the Pale Harrier. They are seen throughout the winter months, but not apparently staying on the farm. They arrive in early October, when they move fast and purposefully. Later they are generally seen leisurely quartering, and moving eastwards.

**PALE HARRIER, *Circus macrourus* (Gmelin).**

Common winter passage migrant, generally moving east at both seasons. Both these harriers are most often seen in pairs, the male bird 200 to 300 yards in front. If the predominant east wind is at all fierce, the birds will drop to the ground and rest for half an hour before drifting into the wind again. One female or immature that had apparently lost its mate, uttered a high "kitter kitter kitter" every minute or so; the only time I have heard these harriers make any sort of noise. The date of autumn arrival is the first week of October, once late September.

**MARSH HARRIER, *Circus aeruginosus* (Linnaeus).**

Regular passage migrant, and some years a winter visitor, when one or two birds will frequent the dam for weeks. The early birds are seen mid-October and then only a few until the return passage in March/April. The African race, *C.a. ranivorus* (Daud), has only been confirmed on one occasion, June 1963, and can only be an unusual visitor. The Marsh Harrier is seen in much smaller numbers than the preceding harriers, and seems a more sedentary bird. It will spend hours on a fence post, or sitting on the ground or in reeds beside the dam. The earliest arrival was an adult male on 25.ix.65.

**HARRIER-HAWK, *Polyboroides typus* Smith.**

Uncommon visitor, mainly March and December. It is seen more regularly a few miles to the east; where I suspect it to breed, as I have seen an immature on this farm in March. Generally observed near forest, where it is often seen clinging with outstretched wings to the trunk and foliage of cedar trees looking for prey.

**MONTANE REDWING FRANCOLIN, *Francolinus psilolaemus* Grey.**

This bird is called *F. shelleyi theresae* Meinertzhagen in Praed and Grant, and was identified for me by Mr. John Williams (following the revision by Hall 1963) from a specimen I sent him. In voice, habits and appearance it resembles closely the Redwing, *F. levaillanti*, (Valenciennes), and Shelley's Francolin, *F. shelleyi* O. Grant. Normally found in pairs or with young, which stay with parents until next breeding season. The young chicks are seen from June to August, and there is some indication that this species breeds again in September. About five young are reared.

**SCALY FRANCOLIN, *Francolinus squamatus* (Cassin).**

Two or three pairs resident on farm. Breeding season May and June.

**JACKSON'S FRANCOLIN, *Francolinus jacksoni* O. Grant.**

Resident, with about six pairs on farm. A pair seems to keep to the same small area for years, and although breeding successfully their numbers do not increase. They breed at any time of the year, and stay in family coveys for about 8 months, after which time they are seen in pairs. They frequent the forest edge, moving out into the grass leys and 'shambas' in the morning and evening. They are very partial to beds of nettles, which is perhaps why serval cats are, as well! I have seen up to seven chicks in a brood.

**QUAIL, *Coturnix coturnix* (Linnaeus).**

The European race has not yet been confirmed in hand, but probably occurs. The African race, *C. c. africana* Temminck & Schlegel, is a resident, and probably commoner than in the past due to increased cultivation. It is usually seen in pairs, and may breed regularly, but I have rarely seen young birds, usually September and October. Up to 50 pairs on the farm.

**HARLEQUIN QUAIL, *Coturnix delegorguei* Delegorgue.**

Irregular visitor, chiefly May, June and July. I have recorded this bird with chicks in June and July 1954. On two occasions in June there has been evidence of night migration, with birds hitting lighted windows in some numbers.

**[CRESTED GUINEA-FOWL, *Guttera edouardi* (Hartlaub).]**

I have not seen this bird on the farm, but include it as it has been taken nearby on Mr. Grainger's farm, and I have also seen it only a few miles away inside the forest. It is a most beautiful bird, with brilliant metallic blue plumage.

**BLACK CRAKE, *Limnocorax flavirostra* (Swainson).**

Only two brief glimpses so far on the dam, but it is now resident on larger and better-covered dams in the district. No records prior to 1964.

**AFRICAN MOORHEN, *Gallinula chloropus meridionalis* (Brehm).**

Two records of single birds on this farm, and it is an uncommon resident on local dams, breeding in November.

**RED-KNOBBED COOT, *Fulica cristata* Gmelin.**

Resident, breeds. One pair appear to have bred three times in less than 12 months, and reared a total of 10 chicks, nesting in September, February and July 1961/1962. As the young grew, they seemed to take on the function of tending the latest hatched, as immature birds were seen attending tiny chicks and feeding them, each bird to a separate chick; this is a habit normally employed by the adults. The numbers on the dam vary, and there are generally one or two pairs, which breed January and February, June and October. Bad-tempered, they do much to frighten away other water-fowl, and I have seen them chase Egyptian Geese.

**SOUTH AFRICAN CROWNED CRANE, *Balearica regulorum* (Bennett)**

Resident, breeds. Two pairs always reside on the farm, one by the dam, the other a mile away by a small weir. They nest regularly, but have difficulty in rearing young. The young stay with parents for 8-9 months, and the adults may then start to nest again immediately. Eggs have been laid in most months of the year. The immature birds appear to join a small flock a few miles away, on leaving their parents.

**JACKSON'S BUSTARD, *Neotis denhami jacksoni* Bann.**

Uncommon visitor to farm, but may be resident nearby in the Masai, where it is more open, and where I have seen it from time to time.

**JACANA, *Actophilornis africanus* (Gmelin).**

Two records only, April 1963 and June 1964, single birds that only stayed a day.

**RINGED PLOVER, *Charadrius hiaticula* Linnaeus.**

Uncommon winter passage migrant. One bird seen on 17.iv.66 was with a party of 6 Common Sandpipers.

**THREE-BANDED PLOVER, *Charadrius tricollaris* Vieillot.**

Passage migrant seen most years, generally November to January, and June to August, staying for a few days. Call is high and staccato, "peet peet", when alarmed, and a soft "pit-pit-pit" on alighting. At other times the single alarm call is run into a variation of a number of notes. Nearly always within a short distance of the dam, often in pairs.

**CASPIAN PLOVER, *Charadrius asiaticus* Pallas.**

Uncommon winter migrant, arriving August and September, and not seen much until return passage in April. Groups number 3 to 20, and are often in larger flocks of the Blackwinged Plover. Their alarm call note is a soft "tsik tsik". My dates of arrival are a lot earlier than given in Praed and Grant, and I have a good sight record for a pair on the 28th and 29th August 1962.

**CROWNED LAPWING, *Stephanibyx coronatus* (Boddaert).**

Rare visitor: two birds stayed a few days in April 1965.

**BLACK-WINGED PLOVER, *Stephanibyx melanopterus* (Cretzschmar).**

Partial resident, which undergoes considerable local migrations. Thus, the first single birds appear in late January, and numbers increase slowly to March/April, when breeding commences if conditions are right, otherwise not until May/June. By June, the early juveniles flock with the non-breeders, and by July there are flocks of 100 or more over the district. In August/September these have grown into vast flocks of over 1,000, perhaps even to 10,000, and then they all suddenly disappear, although they can be heard passing over at night or in thick mist during this period. They have been seen down on the Narok plains, about 40 miles south of the farm and 3,000 ft. lower, and this may be the ground to which they move.

The bulk of the breeding takes place in May/June, 2-4 eggs being laid in what can only be described as a scrape, although bits of straw and sheep droppings are added sometimes. The eggs are often laid on newly turned earth, the action of a tractor cultivating the soil causing a remarkable stimulation of egg-laying. As the tractor passes, the hen birds squat down in broody postures all around, and by the time the tractor returns the first egg has been laid, and the bird sits in a threatening attitude until the tractor is within inches of its bill. I have observed this sequence of actions on several occasions, but the occurrence must depend on many synchronising factors. It is hard to say what happened before the arrival of tractors, but perhaps the ploughed land has attracted a concentration of breeding birds. The liking for bare earth could perhaps be due to the increase of soil temperature from cultivations, or to the improved camouflage against the darker earth. As the birds fly in they make a vivid pattern of black and white, but the moment they close their wings they become nearly invisible, so perfectly do their colours blend with the soil; the eggs too are very hard to see on the bare ground even when the nest is marked.

**AVOCET, *Recurvirostra avosetta* Linnaeus.**

One record of a small party on dam in 1954, Mr. & Mrs. Grainger saw a single bird in a puddle on their farm road, about three miles from here, 27.iv.65.

**BLACK-WINGED STILT, *Himantopus himantopus* (Linnaeus).**

Occasional visitor, staying several days at a time, in two's and three's. Records from late September to March, suggesting birds are northern migrants.

**GREAT SNIPE, *Capella media* (Latham).**

Four records, for December, February and March; single birds only.

**AFRICAN SNIPE, *Capella nigripennis* (Bonaparte).**

Resident, although numbers fluctuate according to weather. In the dry season only one or two birds may be found in isolated damp spots, but after prolonged rain, there may be fifty pairs on the farm. I have found newly hatched chicks, but the only date for them is October 1964, and I have been unable to find a nest. If breeding coincides with display, it would appear that the Snipe breeds at any time of the year when conditions are suitable, although this would tend to occur mainly in July/August. Display consists of two types; one in which the bird stands on a low mound or a fence post, and utters a rapid, piping "pic-pic-pic-pic" for about a 5-second burst, and continues for a quarter of an hour or more. The other is the drumming which resembles that of the European species *C. gallinago*

(Linnaeus), but is not identical. The African species makes a circular flight, climbing rapidly to about 50 ft., then diving almost to the ground with a few quick wing beats, and making the drumming sound with its tail. The drumming bird has been seen to do this in circles round a standing piping bird, and I thought they might be male and female, but I have seen one bird make both sounds, so it might have been coincidental. The "scape" alarm call is also used as an antagonistic note during chase, repeated several times.

**CURLEW SANDPIPER, *Calidris testacea* (Pallas).**

Two records on dam; single birds on 7.xi.60 and 14.iii.61.

**LITTLE STINT, *Calidris minuta* (Leisler).**

Regular winter visitor and passage migrant, some birds staying on dam for several months, others passing straight on. Usually 3 to 10 birds. Early date 15th August, late date 19th April, when birds were in breeding dress.

**TEMMINCK'S STINT, *Calidris temminckii* (Leisler).**

One record, a single bird with 7 Caspian Plovers in a waterlogged wheatfield. 7.x.62.

**RUFF, *Philomachus pugnax* (Linnaeus).**

Irregular winter passage migrant. Most of the ones I have seen here have had orange legs. Latest date, 19th April.

**COMMON SANDPIPER, *Tringa hypoleucos* Linnaeus.**

Winter visitor and passage migrant. Those that stay appear to prefer the rocky streams, where they may be found for 2 or 3 months, while those passing through are generally seen on the dam. An early arrival was noted on 11th July, and another on 15th August. Although these might have been resident Kenya birds, they seemed from their exhausted state to be migrants. These birds are probably on their way much further south, as their stay is very brief. The winter visitors that come to stay arrive about October. Late date, 21st April, bird in fat condition and breeding plumage.

**GREEN SANDPIPER, *Tringa ocropus* Linnaeus.**

Winter visitor, in varying numbers, but usually 3 or 4 single or paired birds on farm. Prefers wet grassy streams, but also seen on dam. On 17.iii.63, a pair was seen resting on the dam spillway, in bright plumage, and the male called a continual "tweeeeee twi twi twi twi", until alarmed, when they flew off with their usual call. From Witherby's remarks this would appear to be their song. Earliest arrival 29th August; late date, 20th April.

**WOOD SANDPIPER, *Tringa glareola* Linnaeus.**

The commonest of the winter visitor Sandpipers, and seen in one's and two's, although sometimes passage migrants appear in small parties. Eight birds were seen in late December, passing through, and on 27.iv.62 at 2:30 p.m., I saw 20 resting birds on the dam weed, which had gone again in two hours. Latest date, 5.v.61.

**MARSH SANDPIPER, *Tringa stagnatilis* (Bechstein).**

Uncommon winter passage migrant, with three records, a pair and two singles, for October, November and December.

**GREENSHANK, *Tringa nebularia* (Gunnerus).**

Uncommon winter passage migrant, usually in pairs, once a party of six. Generally October to December; late date 16.iv.64.

**TEMMINCK'S COURSER, *Cursorius temminckii* Swainson.**

Occasional passage migrant, singly or in small numbers.

**GREY-HEADED GULL, *Larus cirrocephalus* Vieillot.**

Occasional visitor, staying for a few days on the dam, from one to four birds at a time.

**WHITE-WINGED BLACK TERN, *Chlidonias leucoptera* (Temminck).**

One bird on dam, 4.i.64. Another bird was seen by Mrs. Lutyens on her dam in November 1965.

**OLIVE PIGEON, *Columba arquatrix* Temminck & Knip.**

Local migrant, undergoing large movements of vast flocks; some years the pigeon is resident all 12 months, other years it occurs only sporadically. Breeding may take place either rarely, or on and off through the year, chiefly November/December. The display flight consists of a few slow wingbeats taking the bird about 20 ft. above the tree tops, and then a stiff-winged glide to another tree about 50 yards away, during which it utters a loud mewling sound; perhaps described as a nasal "twaa twaa". This is best heard on a damp misty evening, when the birds sound as loud as a flock of bleating goats. The song is a deep musical "boobooboobo".

**PINK-BREASTED DOVE, *Streptopelia lugens* (Rüppell).**

Very common resident, which may breed throughout the year. It congregates at certain times into large flocks of 100 to 200, sometimes many more, causing damage to newly planted wheat, when they pick up the grain. They roost in the forest, but flight off to feeding grounds in the early morning. They are always moving about, usually in small parties, probably due to their need for water.

**RED-EYED DOVE, *Streptopelia semitorquata* (Rüppell).**

Only three records.

**RING-NECKED DOVE, *Streptopelia capicola* (Sundevall).**

Unrecorded for 7 years, but now appears to have spread west from Rift Valley escarpment, and is resident in small numbers, mainly near tree plantations. Nesting April, 1962, juvenile, June 1961.

**LAUGHING DOVE, *Stigmatopelia senegalensis* (Linnaeus).**

One record, a very wild bird on edge of Masai grassland, 14.viii.62.

**NAMAQUA DOVE, *Oena capensis* (Linnaeus).**

One bird stayed for about a week in March, 1965, usually being seen on a dusty road; another was seen a few miles away by Mrs. T. Hamilton-Fletcher, also on a farm road. No other records.

**CUCKOO, *Cuculus canorus* Linnaeus.**

Both subspecies, the European (*C.c. canorus*) and African (*C.c. gularis* Stephens), are rare passage migrants through the farm. One bird seen in forest on 27.x.62, was the hepatic variation of the European race, having a bright chestnut plumage, barred blackish, with no white markings, and corresponding exactly with the description in Witherby. A bird of the African race was seen to eat a large and very hairy caterpillar, 11.xi.63.

**GREAT SPOTTED CUCKOO, *Clamator glandarius* (Linnaeus).**

One record, 21.xii.65.

**BLACK-AND-WHITE CUCKOO, *Clamator jacobinus* (Boddaert).**

Uncommon passage migrant, being seen once by me, in November 1964, and twice by Mrs. Lutyens, in July and September 1965.

**HARTLAUB'S TURACO, *Tauraco hartlaubi* (Fischer & Reichenow).**

Common resident in the forest, although some years it becomes scarce from July to October. I have not yet found a nest or other signs of breeding. I would expect them to breed at the turn of the year, as from May onwards they are seen in small flocks of up to 20 birds. Unlike many other forest birds, which follow the riverbeds away from the true forest, I have not yet seen this bird in the open at all, as suggested in Praed and Grant.

**RED-HEADED PARROT, *Poicephalus gulielmi* (Jardine).**

A resident of fluctuating numbers, which like the last species is sometimes absent during the middle months of the year. Again, I have found no signs of their breeding, and there is no description of their nest in Praed and Grant. Often they are to be seen in the early morning setting off for their feeding grounds, accompanied by loud whistles and screeches, in bands of a dozen or two, often with large numbers of Olive Pigeons.

**EUROPEAN ROLLER, *Coracias garrulus* Linnaeus.**

Rare winter passage migrant, as I have only three definite records for April 1964 and 1965 and November 1965. However they are more often seen singly, on farms to the east, and their route seems to lie nearer the floor of the Rift Valley.

**LILAC-BREASTED ROLLER, *Coracias caudata* Linnaeus.**

Two records only, for September 1961 and October 1962.

**RUFOUS-CROWNED ROLLER, *Coracias naevia* Daudin.**

One record, December 1962.

**[MALACHITE KINGFISHER, *Corythornis cristata* (Pallas).]**

A small Kingfisher with red underparts has been seen three times on this farm on the small streams by different people, and I myself have seen this bird on a small dam on another farm nearby. As I have seen this species at Narok, this is likely to be the one that occurs here.

**BEE-EATER, *Merops apiaster* Linnaeus.**

Regular passage migrant, mainly on the spring movement. Generally it passes south in late September to mid-October, and returns mid-March to end of April, late dates 8th May 1964, 9th May 1965. Parties of about 20 birds are most usual.

**WHITE-THROATED BEE-EATER, *Aerops albicollis* (Vieillot).**

One record for July 1964, a party of six birds seen resting and occasionally feeding by the dam. A large group of mixed African swifts, swallows and martins were around and the bee-eaters may have been in loose company with them. Their flight call is similar to that of *M. apiaster*, and they may be over-looked when passing overhead.

**CINNAMON-CHESTED BEE-EATER, *Melittophagus oreobates* Sharpe.**

Local migrant, which visits the farm for about six months during which it breeds. It arrives about October, breeds in December/January, and leaves in April. The call is a sharp, high-pitched, metallic "cleek", and is often the first hint of the birds' presence. The song is a little tinkle of about a dozen notes of a variation of this call-note, and is not often heard.

**CROWNED HORNBILL, *Tockus alboterminatus* (Büttikorfer).**

Local resident, not always present on farm, but display and song observed, so must breed nearby. They are especially fond of the berberis fruit, which takes them out over the grassland some distance from the forest. When they come to the garden their main quarry seem to be chameleons, which they are very adept at finding. Normally seen in parties of 4-6 birds along the forest edge or up the wooded valleys.

**GROUND HORNBILL, *Bucorvus leadbeateri* (Vigors).**

Resident, sometimes absent for short periods. A very young bird, seen with adults in October, had the bare skin around the head a dull straw colour, and the plumage itself was duller black than that of the adults. The feathers were very rough and quite lax, and the bird appeared to have left the nest recently, as it showed no fear of me at all. The female which had no casque, had the bare skin red, not blue as in Praed and Grant, and was very courageous in staying by the young bird, while the male ran on ahead, blowing out its wattles. Another female I observed had the bare skin round the face entirely blue; this bird was perched on a post near the borehole pump which was making a dull clanking noise, and in time to this mechanical noise, the Hornbill was making a low booming sound in reply. It kept this up even when I approached to within a few feet and its wings were out-stretched ready to fly. When it flew off it alighted on the edge of the forest, when it started booming again. As it boomed it blew its blue wattles right up, sucking them in again after each series of notes. This description compares with Praed and Grant's note that the female may make an answering call on a lower tone; possibly the bird mistook the deep clank of the well-head for the sound of a male hornbill?

**GREEN WOOD-HOOPOE, *Phoeniculus purpureus* (Miller).**

Passage migrant, single birds on 6.x.62 and 10.xi.63.

**WHITE-HEADED WOOD-HOOPOE, *Phoeniculus bollei* (Hartlaub).**

The common resident Wood-hoopoe of the cedar forest. In parties of about a dozen birds, their presence proclaimed by their loud chattering cries; these are on two notes, one harsh, the other a more whistling one; they also make a soft piping "chi chi, peepeepeepee". Young, with streaky crown, seen in February.

**BARN OWL, *Tyto alba* (Scopoli).**

One record, 22.i.64.

**AFRICAN MARSH-OWL, *Asio capensis* (Smith).**

One record for 1.iv.66.

**MACKINDER'S OWL, *Bubo capensis mackinderi* Sharpe.**

Resident, at least 4 pairs nesting within two miles of the house. They are partial to the lightly timbered valleys with a small stream running down, and they make their nests on the bare earth under some light bush or overhanging rock, above the water. Normally they roost in the cedar trees by day, not necessarily against the trunk; but where the trees are absent they become ground roosters, taking cover in heather or bunch grass. Mr. Stephenson, on the next farm, found a pair of these birds nesting on a grassy slope some 30 ft. above a 3 acre dam. Three eggs, measuring  $58 \times 45$ ,  $58 \times 46$  and  $59 \times 46$  mm, were laid before 26.ii.64, and hatched about 18.iii.64. This pair had another clutch, found on 29.xii.64, and these eggs measured  $59.5 \times 45$ ,  $58 \times 45$  and  $56 \times 45$  mm. The chicks were hatched with white down, and by a month old had acquired a greyish-brown, rather sooty plumage, with dark brown barring from nape to tail. The eye was a chrome yellow with bright blue pupil; feet and bill dark horn. At a later stage they show a conspicuously pale face marking, surrounding the gape. It was difficult to tell the sexes of the adults apart and to say if the male took part in incubation, but he was found quite near the nest in daytime. The three chicks were wantonly destroyed at two months old, as were some others Mr. Stephenson found in another nest, probably by Africans for superstitious reasons. Large nestlings have been found, in November (three times) and in January, small ones in December and March, young birds seen flying in January, April and May. Working back from these dates, egg-laying would appear to take place from August to February. The same nest is used many times, and then may be moved only a few yards. From casts and from litter in abandoned nests, it appears that food consists mainly of mole-rats; twice I have found crab shells. They have a deep hoot, usually with a long and short note: "hooooo...hu"; in addition they make a barking "wak wak", and this may be heard with the hooting, but it is also an alarm call, as I have seen a bird make it as it watched my dogs running below its tree-roost. An immature bird made a harsh, staccato squawk when mobbed by shrikes. The bird is well distributed, as nearly every valley has its pair, and local Masai tribesmen, who know it well, confirm this.

**VERREAUX'S EAGLE-OWL, *Bubo lacteus* (Temminck).**

Rare visitor, April 1964 and March/April 1965, when it grunted through the night outside the house.

**NIGHTJAR, *Caprimulgus europaeus* Linnaeus.**

Two records identified from male specimens picked up from the road, 29.iii.61 and 2.iv.65. Birds not identified in the hand but appearing to be this species are often seen in the winter months, and it may be that it is a common winter visitor.

**ABYSSINIAN NIGHTJAR, *Caprimulgus poliocephalus* Rüppell.**

Common resident, and partial migrant.

**SPECKLED MOUSEBIRD, *Colius striatus* Gmelin.**

Common resident along the forest edge; sometimes forms flocks of up to 100.

**NARINA'S TROGON, *Apaloderma narina* (Stephens).**

Observed twice in March 1961; not since.

**MOUSTACHED GREEN TINKER-BIRD, *Viridibucco leucomystax* (Sharpe).**

Generally common and vocal from October to April: then it becomes silent. I have seen it once or twice in July and August, but in spite of it being a difficult bird to see, I suspect that numbers move away from May to September. The song is very loud for such

a small bird, a very fast "pip-pip-pip-pip", accented on the last syllable. This is repeated with scarcely a pause over and over again. The note changes at times to become either higher or lower, but the phrase is always constant. I have only seen these birds feed on small berries.

**GOLDEN-RUMPED TINKER-BIRD, *Pogoniulus bilineatus* (Sundevall).**

Less common than the Green Tinker-Bird, with a shorter song-period, from October to December, once in February. The song is the well known "quok quok quok quok quok", at about a fifth of the speed of the last species, and nothing like so shrill. I have seen them in May and August, silent, so it may be that some birds remain the year round. They are also capable of making a loud hissing sound, just like a snake's, although I do not know for what reason.

**BLACK-THROATED HONEY-GUIDE, *Indicator indicator* (Sparman).**

This bird is only known from its distinctive song, which is heard from January to March, and from one brief sight record. The song has only been heard from one small area on the edge of the farm, and it would appear that at the most there is only one pair, which may be migratory.

**LESSER HONEY-GUIDE, *Indicator minor* Stephens.**

Resident, possibly only one or two pairs. Inconspicuous outside song period, which extends from July to November. The song of one bird is delivered from the same branch high up in an olive tree year after year, and consists of "wheoo, pleep pleep pleep", the "pleep" repeated 14 or 15 times at one second intervals, with a three minute pause; the cold dry weather which occurs at that time of the year does not seem to deter the bird from singing. I have seen this bird deliberately perch amid a swarm of wild bees, peering around intently as if to see where they were coming from. This Honey-Guide is usually found in the forest, but sometimes up the river valleys.

**FINE-BANDED WOODPECKER, *Campethera taeniolaema* Reichenow & Neumann.**

Resident, possibly the commonest of our three resident woodpeckers, although these species are often seen in company with one another. Young seen in August and December. Their call is a loud "che che che che", but they are rather silent birds. Twice I have watched two females feeding close together, which kept up a low buzzing note that sounded like "chwoor-ic wor-ic". This may be compared with J. H. Owen's description of a parent Great Spotted Woodpecker, *Dendrocopus major* Hartert, which he gives as a conversational "Too-ut". (Quoted from Witherby).

**CARDINAL WOODPECKER, *Dendropicos fuscescens* (Vieillot).**

Resident, and fairly common. Young seen in August and January. They have a number of calls, one of which is a deliberate "keekeekeek" and another a strident rattle.

**BEARDED WOODPECKER, *Thripias namaquus* (Lichtenstein).**

Probably resident. It is rather less common than the other two Woodpeckers, and may have been overlooked. No breeding records. A fair amount of drumming is heard on the farm, but I have not yet managed to identify the bird performing.

**GREY WOODPECKER, *Mesopicos goertae* (Müller).**

Rare passage migrant, the only records being for November 1963 and March 1965, the birds crossing some open fields near the house.

**RED-BREASTED WRYNECK, *Jynx ruficollis* Wagler.**

Fairly common resident, and there may be twenty pairs on the farm, occurring mainly on the forest edge and up the lightly timbered valleys, but sometimes wandering across more open country where they can examine a line of fence posts for food. Their common song is either a harsh "chwoi chwoi chwoi" or a softer, piping "twee twee twee", uttered from a bare bough, the bill nearly closed, and the head thrust forward with each note. Before breeding commences in May, three or more birds will be found in a tree indulging in a lot of display, with much posturing, jumping about and excited calls. The red under-tail coverts are brought into prominence by the displaying bird perching over the head of another. The birds call a continuous "tuk tuk" and I have heard a wheezy chirrupping song at the same time. Witherby described the "tuk tuk" call as an alarm, in the article on the European Wryneck, *Jynx torquilla*, Linnaeus, but with the present species I have noted the alarm call

as a much more metallic "chip chip chip", the "tuk tuk" being used for display. The birds may be heard throughout the year and at any time of the day, though least from December to March. The dark line down the centre of the back is a good field character, and in flight, which is slightly dipping, the bird looks chunky, and rather larger than most small brown birds.

**COMMON SWIFT, *Apus apus* (Linnaeus).**

As Praed and Grant remark, the identification of Swifts in the field is extremely difficult, especially if one has had little experience. They are most noticeable when heavy storm clouds are about, as these bring them lower. I include the present species because large numbers of swifts pass through in April together with House Martins, flying rapidly East and obviously migrating.

**[NYANZA SWIFT, *Apus niansae* (Reichenow.)]**

Ordinary brown swifts are present throughout the year in fairly large numbers, and I consider that they may be this species. I have found no sign of nesting.

**WHITE-RUMPED SWIFT, *Apus caffier* (Lichtenstein).**

Three or four birds amongst a party of African Sand Martins, on 20.ii.62, answered closely to this species' description. I noted deep-forked tail, glossy blue-black underparts and small size.

**HORUS SWIFT, *Apus horus* (Heugl).**

Regularly seen in small numbers from the end of April to early July.

**RED-CAPPED LARK, *Calandrella cinerea* (Gmelin).**

Resident with some local movement. Breeds in April and May, flocking into some hundreds from July to October, after which more breeding may take place. A hen flying from a nest on April 24th had two eggs, 22mm X 15mm, which were heavily blotched earth brown on a coffee-coloured background. The male has a fine song which includes snatches of songs of other grassland birds, and it is uttered from the ground, from a fence post or in display flight up to 300 ft. above ground. They are aggressive birds, and are often seen chasing Black-winged Plover; their song includes good imitations of this bird, as well as several others such as Stonechat and Streaky Seed Eater.

**AFRICAN PIED WAGTAIL, *Motacilla aguimp* Dumont.**

Rare visitor until 1963, when a pair bred in June, and there are now two or three pairs breeding round the buildings. This is one of the birds that has been colonising slowly westwards with the spread of cultivation and habitation.

**MOUNTAIN WAGTAIL, *Motacilla clara* Sharpe.**

Regular visitor, but not common; it may breed further down the valleys in the forest. They are generally in pairs and sing frequently, both on the dams and near the rivers. At Molo and Elburgon I have seen their nests on the spillways of dams at 8,000 ft. and 9,000 ft; the latter on the 20.vi.64 had two chicks just hatched and one egg, 21mm X 14 mm, had small pinky-brown splashes over a buff background. The nest was a deep cup made of bunch-grass leaves woven into the tussock about 12" above ground.

**WELLS' WAGTAIL, *Motacilla capensis wellsi* O. Grant.**

Only two records, September 1962 and December 1963. Both were for tame silent birds on the dam; these seemed rather exhausted, and I assumed them to be migrants.

**GREY WAGTAIL, *Motacilla cinerea* Tunstall.**

Uncommon winter passage migrant occurring singly. Early date September 25th. Occurs on fast flowing streams in or near the forest; one bird stayed for a week. I have seen this bird on the Aberdares at 10,000 ft., on a dam at Molo at 9,000 ft., and at Elmenteita at 6,000 ft., (in March) but nowhere does it appear common.

**YELLOW WAGTAIL GROUP, *Budytes* general notes.**

Three species, including a total of five races, occur as winter visitors; as they are not really identifiable on arrival, and their habits are very similar, it is proposed to treat them as a group before listing them individually. A few birds arrive early in September, and by the end of October small parties of up to 50 birds are scattered over the farm, mostly among

the flocks of sheep. When ploughing starts in earnest in March, they congregate in numbers round the tractors and are difficult to count, but run into many hundreds. They become very tame at this time, hardly moving out of the way of the implements; from the driver's seat, with binoculars, one can see every detail of their plumage, so that adult males of the various species can be recognised. *B. luteus* would appear to be the most common, followed by *B. flavus*, with *B. thunbergi* only occasional.

On the 21.x.62, I saw an interesting display by two birds out of a small flock of *Budytes*. I considered them to be immature *B. flavus*, both very pale ash-grey above, almost white below, except for the yellow under-tail coverts and brown pectoral band. The birds shuffled round each other in a dusty path among the sheep in a squatting fashion, with their mantle feathers raised on end, their tails right over their backs, and the yellow ventral feathers puffed out. Since the birds were immature, this observation, though of interest, may have no breeding significance; however, two further observations do indeed appear to indicate that occasional birds may breed locally, even though this has not yet, so far as I know, been recorded for Tropical Africa. The first observation was for a single *B. luteus* singing in November, and the second for a bird in juvenile, not immature, plumage in April. Witherby maintains that the moult from first winter plumage to adult takes place in January, so that this juvenile might well have been born in winter quarters.

#### BLUE-HEADED YELLOW WAGTAIL, *Budytes flavus* (Linnaeus).

Regular winter visitor, all birds appearing to correspond with the nominate race.

#### YELLOW WAGTAIL, *Budytes luteus* (Gmelin).

Very common winter visitor; an early date, probably for this species, was 8.ix.61, but the majority stay here between October and April. A bird I saw on 5.v.64 looked sick, and another I saw on 20.v.63 was very wild, and appeared a straggler. Jackson doubts the preference these birds have for following livestock, thinking it might be the type of ground they prefer, but there is no question that Yellow Wagtails like feeding in a flock of sheep, which doubtless disturb the insects for the birds to feed on. The Wagtails even perch on a sheep's back. Both races of *B. luteus* occur, as a few birds in March may be seen with the whole head a clear yellow, and these must be old males of *B. t. luteus*.

#### DARK-HEADED YELLOW WAGTAIL, *Budytes thunbergi* (Billberg).

Not a common winter visitor, and not usually identified until March or April. One bird I saw on 26.ii.63 was in brilliant spring plumage, and had the chin and throat pure white extending back to the neck, while another bird had a yellow chin. It would thus seem that both races, *B. t. thunbergi* and *B. t. cinereocapillus* occur. I have only seen this species on ploughland.

#### RICHARDS PIPIT, *Anthus novaeseelandiae* Gmelin.

Common resident, identified from specimens sent to Mr. J. G. Williams. Breeds January and June, probably other months as well. The bird is found on cultivated as well as indigenous grassland. Other species of pipits sometimes occur, but not yet identified in the field; a large pale bird I have seen occasionally may be the Sandy Plain-backed Pipit, *Anthus vaalensis* Shelley.

#### TREE PIPIT, *Anthus trivialis* (Linnaeus).

Winter visitor, but not in large numbers. Their arrival dates are regular, but later than most migrants, viz. 7.xi.60, 7.xii.61, 26.xi.62, 3.xii.63, and 29.x.64. They leave about the end of March. Very tame indeed, one pair spending two winters around the kitchen door, although generally they are to be found near the forest edge, flying up into low branches when alarmed. It sometimes takes short soaring flights and its "cheez cheez" call may then be heard.

#### RED-THROATED PIPIT, *Anthus cervinus* (Pallas).

Winter visitor, fairly common but rather wild; partial to damp and marshy places. Arrives October/November and leaves end of March. Found singly or in small flocks, with one or two birds usually showing reddish cheeks; but the surest guide to identification is their call note, a very high thin "teep" or "tseep", reminiscent of a Redwing, *Turdus musicus* Linnaeus.

**SHARPE'S LONG-CLAW, *Marconyx sharpei* Jackson.**

Common resident, which breeds April to August. Fairly tame and seldom flies far. The song, usually uttered in flight as it circles about 30 ft. up, and heard throughout the year, is a thin, plaintive "tip tee teu" or "tip tip teee" this is expanded a little during the breeding season. The bird is found only in pairs or with young, on the open grassland. A nest found under a small tussock on 18.i.66 contained two newly-hatched young, and one egg measuring 24 x 17 mm; the egg was splashed all over with light brown.

**ABYSSINIAN HILL-BABBLER, *Pseudoalcippe abyssinicus* (Rüppell).**

Fairly common resident throughout forest; sings all the year, but most strongly in April and May and again in November and December. Normally in pairs, sometimes seen in little flocks. The call note is a low chuckle "kwa kukukukluk", or else a soft "quup quup" similar to the Greenbul's. The song as remarked in Praed and Grant, is very fine though rather short; occasionally I have heard a longer burst. The pure flute-like quality of the tone is the outstanding feature; for this, the bird can have few rivals.

**DARK-CAPPED BULBUL, *Pycnonotus tricolor* (Hartlaub).**

Very common resident which congregates after breeding in June and July, often in company with numbers of Olive Thrushes.

**OLIVE-BREASTED MOUNTAIN-GREENBUL, *Arizelocichla tephrolaema* (Gray).**

Well distributed but not very common throughout the forest. It is a silent bird, so may well be overlooked a certain amount. The only sounds I have heard are a low "quup quup", a scolding "schurr" and a thrush-like cackling; and once I noted a low bulbul type of song which was unremarkable. These birds are often associated with Hill-Babblers and are found frequently feeding within feet of each other. I have no record of their breeding except for a family party including young birds in April 1964.

**SPOTTED FLYCATCHER, *Muscicapa striata* (Pallas).**

Only one record, for 15.iv.63, the bird unexpectedly using large clods of earth on the edge of a ploughed field as a perch from which to catch insects. It was a greyish bird, which might imply that it belongs to the Asiatic race, *M.s. neumanni* Poche.

**DUSKY FLYCATCHER, *Alseonax adustus* (Boie).**

Common resident throughout forest and along forest edge, as well as in the garden. It breeds from December to February and from May to August, and the fledglings are very conspicuous when they are being fed by their parents. They are usually in pairs or in family parties, but sometimes before breeding one may see a number of them chasing each other around among the treetops with a lot of excited twittering. The call note is a very high squeak "tit" or "tsit", and the song is an expanded variation of this, rather stuttering. They are tame little birds, and when they turn in the air back to their perch after catching an insect, their wings give an audible snap.

**WHITE-EYED SLATY FLYCATCHER, *Dioptrornis fischeri* Reichenow.**

Common resident in garden and forest edge. Breeds from May to July, once in March. Song heard only rarely, and seemed as high as a bat's squeak, unlikely to be heard except at very close quarters.

**MOUNTAIN YELLOW FLYCATCHER, *Chloropeta similis* Richmond.**

Common resident in forest. Fine songster through the year. The alarm note is a sharp "chak chak" similar to that of the Blackcap or Brown Woodland-Warbler. Generally in pairs. No breeding dates, but a display was seen 5.x.62, when a bird was seen singing, raising its crest, swinging its head from side to side, and moving the tail and body in opposite directions. The mouth was opened wide and displayed to the second bird, the colour being a vivid red.

**BLACK-THROATED WATTLE-EYE, *Platysteira peltata* Sundevall.**

One record, a female, on 30.ix.63, on the forest edge. The white on the chin appeared as only a spot.

**WHITE-TAILED CRESTED FLYCATCHER, *Trochocercus albonotatus* Sharpe.**

Resident through the forest, generally where it is damper, and almost always in small parties of 5-6. A very active bird that flicks its wings and fans its tail without ceasing, and

continually utters its call note, a sharp "ti-ek". The song is heard less often, mainly in June and July, and it is rather a disjointed and staccato effort, but with many fine notes; I have heard it mimic the Brown Woodland Warbler accurately.

**PARADISE FLYCATCHER**, *Tchitrea viridis* (Müller).

Uncommon visitor or migrant, from July to November. The black and white variety has been seen once, deep in the forest.

**OLIVE THRUSH**, *Turdus olivaceus* (Linnaeus).

Very common throughout farm except where there is no cover at all. In the garden it becomes very tame and rather a pest, due to its fondness for fruit. It breeds from March to June and again in November. The song is a wild strident call of three or four notes "chow chee cher, chow chee cher chee", which does not seem to tally with Praed and Grant's description of a "low, sweet song". The song period is short compared with that of other song birds. Flocks of up to 30 birds occur in July and August, sometimes with numbers of Bulbuls, when they fly high through the forest amongst the cedars, feeding silently in the topmost branches of the trees.

**ABYSSINIAN GRQUND-THRUSH**, *Goekichla piaggiae kilimensis* Neum.

Uncommon bird of the densest and dampest parts of the forest, where it may be resident. I found an adult with a juvenile in June 1961, the young bird making a very high pitched "seep" the whole time; it was tawny above, with black spots on a brown background underneath. I have recorded the song in April and August, and seen birds apparently taking food to the nest in April and May, so the breeding season seems to be during the middle of the year. The song is loud and thrush-like, and well-described by van Someren in Praed and Grant for the nominate race, but it is a shy singer and not often heard. The race was identified for me by Mr. J. G. Williams from a specimen.

**WHEATEAR**, *Oenanthe oenanthe* (Linnaeus).

Winter passage migrant, the first birds passing through late September or October. It is not common, and nearly always seen singly. Only an occasional bird is seen after October until the return migration in February, when the birds are seen in breeding dress. None have been seen after the middle of March.

**PIED WHEATEAR**, *Oenanthe leucomela* (Pallas).

Rare winter migrant, two records for early March, one in December, the March ones in company with *Oe. oenanthe*. In flight the tail appears entirely white, and at rest almost black.

**CAPPED WHEATEAR**, *Oenanthe pileata* (Gmelin).

Resident, and perhaps a partial migrant, breeding in April/May, exceptionally in January. Originally this wheatear was common throughout the district, but for some reason the increase in cultivation has caused a diminution of numbers; probably the rat holes they use for nesting have been ploughed out. Outside the farm boundary on the Masai grasslands the bird is still common. Its short song period is restricted to the start of the breeding season, but it has a very fine, sustained song at this time. The song consists of a series of loud pipes mingled with grating sounds, and a number of mimicked phrases interspersed. The mimicry includes calls of Quail, Blackwinged Plover, Glossy Starlings and Red-Capped Lark, but the ability varies with individuals.

**ANTEATER CHAT**, *Myrmecocichla aethiops* Cabanis.

Common resident in the open country in the vicinity of earth banks. Breeds April/May. During display, up to 15 may be seen together, grouped on a row of fenceposts, the males(?) keeping up a continuous piping, with outstretched wings and up-pointed bills. They display indiscriminately, with four or five birds sometimes on a single post.

**STONECHAT**, *Saxicola torquata* (Linnaeus).

Common resident from forest edge to open grassland. Breeds March to June, usually 3 to 4 eggs in a nest placed in the shelter of a tuft of grass or heather.

**ROBIN-CHAT**, *Cossypha caffra* (Linnaeus).

Common resident where there is any cover, breeding from April to August. A tame bird in the garden, and a fine songster. Although they usually lay three eggs, they seem only to be able to raise one or two young at a time.

**WHITE-STARRED BUSH-ROBIN, *Pogonocichla stellata* (Vieillot).**

Fairly common forest resident. The song is a series of soft piping notes followed by a bubbling warble, and sometimes a croaking rattle. Young have been seen being fed in March, July and September to November. A field character that is quoted in all reference books is the white spot at the base of the throat; I have observed more than 30 birds at very close range, some of them in display when their eyespots appear raised and enlarged, and I have been unable to discern any sign of the spot on the throat. This spot is also shown prominently in the illustrations in these works, including Chapin's, but Chapin states he never saw this spot after watching more than a dozen birds. Priest (Vol. III p. 196) made the same comment, but attributed the characteristics to immaturity. It certainly appears to be common to all races of the species.

**[GARDEN WARBLER, *Sylvia borin* (Boddaert).]**

I have three records for a typical *Sylvia*, two in April and one in November, which might be for this species. The birds appeared very pale ash brown above, and whitish below.

**BLACKCAP, *Sylvia atricapilla* (Linnaeus).**

Common winter visitor, arriving mid-November onwards. The subsong is heard in December, and by February they are singing loudly through the forest. Some years they collect into large flocks before leaving at the end of March, and the volume of noise they make in chorus is remarkable. In 1961 I reckoned there were a 1,000 birds congregated along a mile of forest edge. In December 1963, on a cloudy, windy night, a number of birds flew into the lighted window-panes of a neighbour's house. I have only seen them feeding on berries.

**SEDGE WARBLER, *Acrocephalus schoenobaenus* (Linnaeus).**

One record for 16.iv.66, when I saw a bird feeding off floating weed on a stream, and in the rushes growing nearby.

**CINNAMON BRACKEN-WARBLER, *Sathrocercus cinnamomeus* (Rüppell).**

Common resident through forest and forest edge. A skulking bird that keeps to the cover of low bush. The song is as described in Praed and Grant, and may be recognised by the initial aspirate note. The call is a loud "seerk". They also make a soft "prrrrip" when they have young, and this is usually the only indication of breeding.

**WILLOW WARBLER, *Phylloscopus trochilus* (Linnaeus).**

Winter migrant, mostly seen in April, the latest date being the 28th. One arrival record for 28.ix.60, and the remainder single birds through the winter. One bird flew into the window at 9.00 p.m., on 12.xii.63, which indicates that they move about at night in the non-breeding season like the Blackcap.

**CHIFF-CHAFF, *Phylloscopus collybita* (Vieillot).**

A single bird stayed in the garden close to the house from the beginning of February 1966 to the 19th of that month. The bird sang daily from low shrubs, from the tops of pine-trees and especially from a spindly *Acacia baileyana*. The song was always vigorous, and I sometimes heard the soft warble which may be given at the end. The call note "hweet" I also heard several times. The only bird I saw was very tame, and from a few feet away I could easily distinguish the blackish legs and buff eye-stripe. I heard a Chiff-Chaff's song at the end of January 1964 in the garden, but the bird did not stay long enough for confirmation.

I made a tape-recording of this bird's song, and Mr. M. E. W. North was kind enough to confirm the identification from this tape. Mr. North suggested this was probably the first time the Chiff-Chaff has been recorded singing in Kenya.

**WOOD-WARBLER, *Phylloscopus sibilatrix* (Bechstein).**

One record for 3.x.62. I distinguished this bird from the Willow-Warbler by its pale green upper-parts, yellow breast and white belly; altogether a larger and brighter bird.

**BROWN WOODLAND-WARBLER, *Seicercus umbrovirens* (Rüppell).**

Common resident in the forest. In habits and appearance very like a Leaf-Warbler; its song is also similar, but it has a wider and more varied range of notes that make it superior

to that of any phylloscopine warbler that I have heard. The call is a distinctive 3-note "weer tee wew", and the alarm is a sharp "tchuk".

**GREY APALIS, *Apalis cinerea* (Sharpe).**

Common resident of the forest and forest edge. It is a conspicuous bird by reason of its loud song and variety of calls heard throughout the year, and is invariably found in mixed bird parties. The notes are adequately described in Praed and Grant. Birds in juvenile plumage have been noted in family parties in February, April and October. Display includes a deal of fanning of the tail to show off the white outer feathers.

**CHESTNUT-THROATED APALIS, *Apalis porphyrolaema* Reichenow & Neumann.**

Common resident of the forest. Distribution as for the previous species, with which it is often in company. It also has a distinctive song which betrays its presence throughout the year, which I describe as "pip-preeeeeeee pip-preeeee". They are also remarkable for the variety of call notes they make, mostly being churrings and rattlings similar to those of the European tit family (Paridae) I have seen young in February and July; as with the Grey Apalis, they appear to remain in family parties for a month or so after nesting, and then disperse to join mixed bird groups. Once the song is known, one realises how common they are, about equal in numbers to the Grey Apalis. The young have pale yellow chin and throat, (where the chestnut in the adult would be,) dull white underparts, and pale flesh legs which become almost red in the adult.

**WING-SNAPPING CISTICOLA, *Cisticola ayresii mauensis* van Someren.**

Fairly common resident on the open land. I can include the sub-specific name, since this was identified by Mr. J. G. Williams from a bird which Mr. North collected on 23.xi.64 from a nest. This nest, which contained three eggs, is worth describing, as Lynes was unable to do so, and Praed and Grant appear to have taken Lynes' notes on *C.a. ayresii*. The nest was in a tuft of green grass, and made from thistledown, lined with a "down" of a small silvery weed. The eggs measured 17 x 12.5 mm and were blue with a circling of red-brown spots and scratches at the large end, and a few scratches towards the narrow end. The song, which is uttered between bouts of wing-snapping, consists of a thin piping of four notes: "der der dee du". Lynes mentions that there is no song during ascent, but I have definitely heard the bird sing as it rises into the air. This cisticola has adapted itself well to the advent of cultivation, and it may often be seen rising from a field of tall wheat or from short, dry stubble.

**HUNTER'S CISTICOLA, *Cisticola hunteri* Shelley.**

Very common resident of forest edge, garden and light bush. Breeding recorded for March, May and October, and may well breed the year round. Two nests were found by Mr. Daniell in his garden in 1962, placed in some small annual flowers and quite close together. One nest had been deserted with two eggs in it, and the other had five eggs, which were duly hatched. It would seem that one female had laid seven eggs. This Cisticola seems to be subject to some albinism, as I have now found three birds affected. One bird near the house had only the flight feathers and tail white; another bird a mile away was white with a few brown markings on its back and wings, which disappeared with successive moults, until it became completely white, and the third about 8 miles away, was pure white, but I saw it only once. The value of such albinos is, of course, that they are individually recognisable and can thus give an idea of their length of life and of their range of movement. Neither of the two birds I observed for a total of two years were ever seen more than 30 yards away from a central point, generally much nearer. One was seen for about 10 months, and the other for nearly two years, and in spite of being pure white, it seemed to be able to accomplish its duets, when it sang with and actually touched a normal brown bird.

**STOUT CISTICOLA, *Cisticola robusta aberdare* Lynes.**

A common resident, chiefly restricted to the wet grassland and open valleys. There is some overlapping with *C. hunteri*. I have added the sub-specific name after a specimen was identified at the National Museum. The song is a rattle followed by a few emphatic notes, "tritititit trit trit trit". The call is a nasal "chwer chwer chwer". The young are distinctive by being bright ochreous yellow below, shading to white on the belly. Breeds in February and May.

**BANDED PRINIA, *Prinia bairdii* (Cassin).**

An uncommon forest bird that is probably resident. It is partial to nettles and similar low vegetation in shady forest, and generally keeps well hidden. I have only once heard

anything like a song, an undistinguished warble, but they have a number of calls some of which may be used as a song, as I have heard them duetting: one bird made a loud "pwee pwee pwee", the other simultaneously making "keow keow", and when they ceased each time, both birds resumed their "chip chip" call, ("pink pink" in Chapin) which is their most usual call when feeding. This prinia is usually found in pairs, and family (?) parties of 5-6 have only been seen in May, November and December, which may indicate when they breed.

**SWALLOW, *Hirundo rustica* Linnaeus.**

Common winter passage migrant. They are always seen flying east and south, and at the height of migration, pass in groups of half a dozen every few minutes. I have rarely seen them perch or pause to feed, and they seem intent only on reaching the Rift Valley floor. They are seen throughout the winter months, but large numbers only occur in October, February and March. Late date 1.v.64.

**ANGOLA SWALLOW, *Hirundo angolensis* Baccage.**

Tropical migrant, which breeds in May/June. I had thought them to be passage migrants only. However, Mr. J. R. Stephenson showed me on 20.xi.65 a small colony of these birds on the next farm, where they were nesting under a rock overhung by a stream. There were about a dozen nests, in various stages of breeding; some had new laid eggs, average clutch about 3 eggs, some with small nestlings, some with large; other nests were empty; also there were nests that had survived from previous years. Seven eggs averaged  $20 \times 13$  mm, and were marked like those of *H. rustica*. From notes of other parts of the farm where I have seen them, they appear to like fairly open country, near water, and with a suitable cliff-face to build on.

**RED-RUMPED SWALLOW, *Hirundo daurica* Linnaeus.**

Resident and partial migrant, as sometimes it seems to disappear for a month or two. The main breeding takes place in April and May, but it is often upset if the rains are late, and it cannot get mud for building. They sometimes start building in November, but I have not found them rearing young at this time.

**MOSQUE SWALLOW, *Hirundo senegalensis* Linnaeus.**

Resident and partial migrant. A fair number on the farm in April and May, when they breed, but the majority disperse and leave from August until about December.

**AFRICAN SAND MARTIN, *Riparia paludicola* (Vieillot).**

A common resident, which undergoes considerable local movements, as the numbers vary from hundreds to only a few. Breeds April to July.

**BANDED MARTIN, *Riparia cincta* (Boddaert).**

Visitor, mainly from February to July, but never common. I have seen it carrying small bits of grass in its bill, but have not yet found it breeding on the farm; however, Mr. Stephenson found a small colony breeding on the 30th June on the next farm in a murrum bank near the river. There were 2-3 eggs per nest, but breeding may have been disturbed as the eggs were cold; two measured were  $22 \times 15$  mm  $23 \times 16$  mm. Birds are first seen about March, and these seem mainly migratory, the later ones staying to breed. By August, they have nearly all gone, and are seldom seen again before the following year.

**AFRICAN ROCK MARTIN, *Ptyonoprogne fuligula* (Lichtenstein).**

An occasional visitor, which is usually seen round the eaves of the house and farm buildings for a day or two, before it disappears again. This bird is resident elsewhere in the district, and it may colonise this farm eventually.

**HOUSE MARTIN, *Delichon urbica* (Linnaeus).**

Winter passage migrant, rather more apparent in the autumn than in the spring months, and especially when migrating. Often in company with swifts, and are never seen to perch. Late date 13th March.

**BLACK ROUGH-WING SWALLOW, *Psalidoprocne holomelaena* (Sundevall).**

Resident, normally found within a short distance from the river, and either near or in the forest. The call is a thin, pleasant "swweeeeee", something like a Sand-Martin's. I found them nesting in tunnels in hard rock by a river-bed deep in the forest in February. On the farm, they nest in murrum-banks, where I imagine they excavate the holes themselves.

**BLACK CUCKOO-SHRIKE, *Campephaga sulphurata* (Lichtenstein).**

Visitor of uncertain status. I have only seen them on half a dozen occasions, either singly or in pairs, and they seem likely to be overlooked due to their inconspicuous habits. I have not seen a male with yellow wing shoulder.

**GREY CUCKOO-SHRIKE, *Coracina caesia* (Lichtenstein).**

Resident, fairly common throughout forest. In the field the bird appears entirely grey the lores, throat, wings and tail being uniform. The eye seems to have a very pale ring round it. These birds appear rather stolid and silent, but on occasions they indulge in a lot of excited chases; these take place in May and June, and again in November and December, and I believe they may breed twice a year; the only breeding record I have is of an adult feeding a mottled juvenile on 30.xi.63. The call is a very high-pitched, batlike squeak, "tsip tsip", and the song is a number of notes run together as an elaboration of the call.

**LESSER GREY SHRIKE, *Lanius minor* Gmelin.**

Regular winter passage migrant, which occurs only in April, with one record for the 1st May. These are conspicuous birds with strong flight which I never fail to see yearly as they make their way north through the farm in ones and twos.

**FISCAL, *Lanius collaris* Linnaeus.**

Common resident over the whole farm, using fences and telegraph wires where no natural perches available. Breeds January to April.

**RED-BACKED SHRIKE, *Lanius collurio* Linnaeus.**

Regular winter passage migrant, generally seen in April, but twice in October, viz. 27.x.62, and 31.x.63. They tend to keep nearer to the forest edge, and are more likely to be missed than *L. minor*. The migratory dates of both these shrikes are remarkably consistent.

**TROPICAL BOUBOU, *Laniarius aethiopicus* (Gmelin).**

Fairly common along forest edge, in the garden and up river beds. Occasionally I have seen them gather into loose noisy flocks in order to feed in a particular forest tree.

**DOHERTY'S BUSH-SHRIKE, *Telophorus dohertyi* (Rothschild).**

Not uncommon resident in the forest where there is enough secondary growth. Rather skulking, and keeps to the inside of a bush, and its presence is usually given away by its call, a loud ringing "wip wip-wip". This call is heard all the year, especially during the rains, and in the breeding season it adds a few notes to this whistle. It has a scolding rattle "crrrrr", and a sharp alarm note "jeb". I found two pairs with young in July 1962, and another pair with a juvenile in August.

**WHITE BREASTED TIT, *Parus albiventris* Shelley.**

Common throughout forest and forest edge. Often a member of mixed bird parties. Young seen in April.

**[GOLDEN ORIOLE, *Oriolus oriolus* (Linnaeus).]**

Three records, October 1960, and November 1964 and 1965, but not confirmed, as the birds afforded only a brief glimpse. From these dates, it would seem more likely to be this species than the African Golden Oriole.

**BLACK-HEADED ORIOLE, *Oriolus larvatus* Lichtenstein.**

Not uncommon, but irregular visitor generally from June to December. Frequents open woodland and garden, particularly favouring rows of pine trees, in which it finds numbers of hairy black and white caterpillars. The bird has a melodious subsong which includes a lot of mimicking, rather like a Jay's, (*Garrulus glandarius*); in spite of this I have seen no sign of breeding.

**PIED CROW, *Corvus albus* Müller.**

One record for a pair of birds, one visibly larger than the other, which I saw around the district for a few days in August 1965. They were severely mobbed by Black-winged Plover when they ventured too close to a breeding colony, and later I saw them a few miles away trying their luck at an African shop.

**WHITE-NECKED RAVEN, *Corvultur albicollis* (Latham).**

Regular visitor to farm, generally throughout the year. Mostly seen in pairs, but in February 1962 I saw 4 birds, and in February 1963 I saw 5 together, and these may have been family parties. They have a curious affinity for Tawny Eagles, which I have observed here and on Mt. Kenya. The ravens do not seem to be aggressive, but will fly wing-tip to wing-tip with the Eagles, and then sit beside them for no apparent reason.

**WATTLED STARLING, *Creatophora cinerea* (Menschen).**

Irregular visitor, mostly between July and December, in small numbers from 1-6, and always in company with Oxpeckers or Glossy Starlings. They seldom stay more than a few days.

**VIOLET-BACKED STARLING, *Cinnyricinclus leucogaster* (Boddaert).**

Rare straggler, with two records only, from the garden. Records were for single females, one on 20.vii.61, and the other on 11.viii.64.

**SHARPE'S STARLING, *Pholia sharpii* (Jackson).**

A spasmodic visitor, which usually arrives about December and leaves April or May, although some years it does not come at all. There is some evidence that they may breed, as at times they are found in pairs, and there is a lot of song and display. The latter includes postures like a Wryneck's, with the neck outstretched stiffly, and the bright yellow iris, (always conspicuous), appearing even more prominent. The song consists of several squeaky but not unattractive notes, which remind me of a rusty tricycle being pedalled down a cobbled street! The call note is a staccato "peek" repeated several times, and often precedes the song. One bird seen in a party of 20 in April 1961, was clearly a juvenile, with a dusky grey back, a dingy white front with a few indistinct streaks, and no golden iris. As adult birds had been seen paired in November, this juvenile might well have been born on the farm. The birds are always found in the forest or on the edge of it, and so far I have only seen them eating small berries, but they also cling to the bark of a tree like a Nuthatch *Sitta europaea* Linnaeus, and this may be to search for insects. The flight is swift and powerful, and slightly undulating.

**BLUE-EARED GLOSSY STARLING, *Lamprocolius chalybaeus chalybaeus* (Hemprich & Ehrenberg).**

A common, at times abundant resident which breeds in the forest in April and May, and flocks from July onwards, with up to 200 in a flock, wandering over the whole farm. The wing measures up to 155 mm so this must be the nominate race.

**WALLER'S CHESTNUT-WING STARLING, *Onychognathus walleri* (Shelley).**

One record of several short-tailed redwing starlings in loose company with Sharpe's Starlings flying amongst the tops of some tall forest trees. The date was April 1961.

**SLENDER-BILLED CHESTNUT-WING STARLING, *Onychognathus tenuirostris* (Rüppell).**

Only a few isolated records of long-tailed redwing starlings have occurred, which is curious, as only a few miles to the east, at about the same altitude, they appear to be resident and fairly common. The records are all from December to May.

**RED-BILLED OXPECKER, *Buphagus erythrorhynchus* (Stanley).**

Common resident. All the conditions they require exist on the farm, with plenty of undipped cattle for feeding on, and tall timber for nesting in. They appear to breed in September and October.

**GREEN-WHITE-EYE, *Zosterops virens* Sundevall.**

Common resident of the forest and forest edge; nearly always found in small flocks in mixed bird parties.

**MALACHITE SUNBIRD, *Nectarinia famosa* (Linnaeus).**

Regular visitor from about September to April. The males are in breeding dress when they arrive, and there is a lot of song so I suspect them of breeding on the farm. During the months of absence I have seen them at Njoro, (2,000 ft. lower, and 30 miles away). The song is very similar to that of the Double-Collared Sunbird, and consists of a few sharp notes, followed by a high-pitched reel. The call is a thin "tsit tsit" by both male and female. This is the least common of the Sunbirds that occur on the farm.

**TACAZZE SUNBIRD, *Nectarinia tacazze* (Stanley).**

A common resident, especially in the garden and the forest edge. Aggressive birds that always seem to be chasing each other or other species of Sunbirds. They make a wide variety of call notes including a sharp "tac tac" and some more squeaky. The song is either rather like a Chiffchaff's viz. "chip chip chap chip chap" etc., or else a harsh reel. The males appear not to undergo any change of plumage in the non-breeding season; there are at least 6 of them in the garden under observation. They seem quite promiscuous and are not seen in pairs like the Malachite or Double-Collared Sunbirds. The female builds the nest which is suspended at the end of a thin branch and made of dry grass, leaves, bits of old string etc., and lined with feathers; the nests may be from 4 ft. to 30 ft. above ground. Spiders' webs are also used in construction, and the female is often seen hovering under the eaves of the house, extracting bits of cobweb. Breeding takes place in April and May, and October to December, and once in August. This sunbird seems more insectivorous than other species, and may be seen hawking for flying insects.

**GOLDEN-WINGED SUNBIRD, *Drepanorhynchus reichenowi* Fischer.**

A breeding visitor, usually absent from June to August or September. Their arrival coincides with the flowering of a wild tree *Crotalaria* to which they are addicted, although they are less particular after a few weeks, when they invade the garden and remain to breed. Here they are especially fond of a heavy flowering shrub, *Streptosolen jamesonii*. They breed twice, in April and October. Their song is a loud reel, "chissississississ", rather as for other sunbirds, and their usual call note, a deep "jer-wit jer-wit". Like other montane Sunbirds, they are primarily dwellers of the forest edge where there are plenty of flowering shrubs and wild plants, but they will venture into the open when food is available. One evening in November, Mr. M. E. W. North and I witnessed a large number coming in from the grasslands to roost amid the big timber.

**EASTERN DOUBLE-COLLARED SUNBIRD, *Cinnyris mediocris* Shelley.**

A common resident of the forest, forest edge and garden, although only seen in pairs or with young. They frequent the green undergrowth that arises after forest fires, and seem to find their food from very small flowers; occasionally they ascend into tall trees, but I have not seen them in bird parties, as suggested in Praed and Grant. They seem to confine themselves to a very limited area. I have only seen the female building the nest, usually in April and October, once in June, but the male is a more faithful mate than other male Sunbirds, singing from a nearby perch during the building operation or following close behind while she carries the material. The call note is a soft "jeb jeb", and the female's is the same but even softer and lower in pitch. The song is composed of two or three call notes followed by a silvery reel, uttered from a prominent perch; these birds are persistent singers, and may be heard most of the year in all sorts of weather, from dawn to dark. As with the Malachite Sunbird, the pectoral tufts are not always visible; on some birds they can be seen and on others they cannot: they do not seem able to display these tufts at will. I have seen birds in magnificent fresh plumage and full nuptial song, with not a sign of the tufts; other birds in worn-out plumage creeping about in some nettles, showed the whole tuft quite distinctly.

**GREY-HEADED SPARROW, *Passer griseus* (Vieillot).**

Rare straggler; two occurrences, the only recorded month being June. It is curious that it should be so uncommon, when I have seen both this bird and the Rufous Sparrow ten miles to the east, at 8,000 ft.

**BLACK-BILLED WEAVER, *Heterhyphantes melanogaster* (Shelley).**

A very shy and retiring forest bird of doubtful status. I have recorded it from June to December, singly or in pairs, once, (October), in a small party. Their presence is often only detected by the sound of dry leaves being scratched about under a bush; their song is most curious, and seldom heard, being a whistle followed by a buzzing reel and then a series of clicks, the whole being uttered extremely rapidly and possibly by two birds. The call is a sharp "preet preet", seldom heard. Probably the bird is resident a little further inside the forest, where the undergrowth is thicker. The party I saw in October appeared to include young birds with dusky plumage, and from this and the dates recorded for song, I would conclude that they breed in August or September.

**REICHENOW'S WEAVER, *Othypantes reichenowi* (Fischer).**

A common resident, especially around the garden and near cultivations. From the face markings of the male, it seems that the nominate race is the one that occurs here. I have seen three or four xanthochroic individuals on the farm, and with their bright golden backs

they look like miniature Orioles. This Weaver is found in parties of up to 30 birds, but the male and female of a pair usually keep close together. They breed during most of the year, especially in January, April and October.

**BROWN-CAPPED WEAVER, *Phormoplectes insignis* (Sharpe).**

An uncommon resident found along the forest edge, which appears to undergo some local movement. It is invariably found in pairs or with young. Their manner of feeding and the way they climb about the branches are reminiscent of the Nuthatch *Sitta europaea* Linnaeus. Their normal call is a soft conversational "tuk tuk tuk", but with young they make a loud "chwee chwee". The song is simple and mainly consists of a soft buzzing reel like that of the Black-Billed Weaver. Young birds have been seen in March, September and December, and as they do not appear to stay long in company with their parents, the breeding dates would be about a month earlier in each case.

**GROSBEAK WEAVER, *Amblyospiza albifrons* (Vigors).**

A rare straggler, one recorded only. Mr. Arthur Loveridge and I found this bird nesting on the Narok dam in May 1960, which is much lower, but only about 30 miles away. The single bird I saw on the farm was flying into a strong wind on 28.1.65, due east, and appeared to be migrating. It paused for a moment at the top of a pine tree and then flew on again.

**RED-BILLED QUELEA, *Quelea quelea* (Linnaeus).**

Fortunately the Queleas are rare stragglers to this wheat-growing district, where they might do immense damage. They are usually seen two or three at a time, and are in non-breeding plumage, which makes them hard to identify. This is the commoner of the two queleas so far confirmed.

**CARDINAL QUELEA, *Quelea cardinalis* (Hartlaub).**

Rare straggler.

**RED-NAPED WIDOW-BIRD, *Coliuspasser laticauda* (Lichtenstein).**

Visitor from October to December, generally only in small numbers. Although the males are in full breeding dress during this period, I have seen no signs of nesting. The song is like the noise of a miniature sewing-machine, and is uttered in flight.

**JACKSON'S WIDOW-BIRD, *Drepanoplectes jacksoni* Sharpe.**

A common resident in the grassy valleys, especially near dams. They undergo some local migrations in the dry season from January to March, when most of the males are in non-breeding dress. Nesting seems to take place from April to October, and birds become dispersed over a wide area, flocking into hundreds when breeding has finished.

**GREY-HEADED NEGRO-FINCH, *Nigrita canicapilla* (Strickland).**

I have only seen this bird three times so it must be rare. The birds were seen on the forest edge near the river. Another time I saw a small party a mile away, deep in the Masai forest, in August.

**RED-FACED CRIMSON-WING, *Cryptospiza reichenovii* (Hartlaub).**

Only three definite records, but there is some confusion between this and the next species, especially with females and juveniles. However, on 18.x.60, I saw with binoculars, a crimson-wing at close quarters, perched on a low tree, with a piece of dry grass in its bill. Jackson's description of *C. salvadorii*, states that the eyelids are red, but how clearly these would show in the field I am not sure; this bird and the other two recorded had the red lores as well. Other birds seen with an impression of red around the eye I have discounted, as they may well have been *C. salvadorii*; some birds even seem to have the iris red.

**ABYSSINIAN CRIMSON-WING, *Cryptospiza salvadorii* Reichenow.**

Fairly common resident. Very active little birds generally seen darting about in the forest making their soft "chip chip" call-note. Usually in small numbers, or pairs, but after August may be found in flocks of up to 50 when they feed on tall grasses on the edge of cultivations.

**QUAIL-FINCH, *Ortygospiza atricollis* (Vieillot).**

Uncommon visitor. Occurred from December 1962 to March 1963, and again November/December 1965, when it was seen on grassland and stubbles in pairs or parties up to six. They

were very shy, seldom allowing a close approach, and it took a long time to identify them; the cail-note, tiny size and pale margins to the tail feathers were distinctive features.

**YELLOW-BELLIED WAXBILL, *Coccygia melanotis* (Temminck).**

Resident and local migrant in small numbers. Most common in August, when small parties of up to 20 birds are seen, and when I have seen them carrying nesting material. Their call is a high, thin "seep seep seep see-ip".

**WAXBILL, *Estrilda astrild* (Linnaeus).**

Common resident on the grasslands near water. On one occasion I heard a single bird uttering a definite song, but I have no written description of it. In flocks of up to 50.

**YELLOW-CROWNED CANARY *Serinus flavivertex* (Blanford).**

A very common resident, found all over the farm. It occurs in small and large flocks, sometimes in many hundreds. It is a very persistent singer, singing from the tops of the tallest cedar trees even in high winds. The song consists of a few short notes followed by a continuous reel for many minutes, when the bird pauses briefly, and then starts again. Breeding takes place chiefly in October.

**STREAKY SEED-EATER, *Serinus striolatus* (Rüppell).**

Very common and ubiquitous resident. They are a nuisance in the garden, where they destroy flowers and seedlings, and in the stores where they make holes in the grain sacks, spilling large amounts of grain. They breed most of the year round; I have not found more than two eggs or young in a nest. They have a variety of call notes, the most usual being a quick "sirrurp", another being a harsher "shwee-ip". The song is hardly "reminiscent of a Bulbul" as suggested by Praed and Grant, but it is more typically finchlike.

**THICK-BILLED SEED-EATER, *Serinus burtoni* (Gray).**

A fairly common resident, found in the forest and in small trees along the forest edge; occasionally it is met with out in the open. In silhouette its stocky build and stout bill remind one of a Hawfinch *Coccothraustes coccothraustes* (Linnaeus). Lack of white on forehead or throat identify the race as *gurneti* (Gyldenstolpe). The call-note is a high, sibilant "syip syip", and as they usually feed with hardly a movement, their call is the first indication of their presence. The song is only heard in what is presumably the breeding season, i.e., July, and is a pleasant "sippi swee swee sippi swee". The birds are found in small parties of 6 to 7, but once I found 30 of them moving across more open country, indicating some local migration.

**AFRICAN CITRIL, *Carduelis citrinelloides* (Rüppell).**

Fairly common resident, but never in flocks of more than a dozen, and often in pairs. Mostly found along the forest edge, where it feeds especially on tall thistles. The call note is a single very high squeak, almost inaudible. The song is very characteristic: a three-note whistle, "pee per pee"; sometimes an extra note is tacked on the end. The only time I observed a variation was when I saw a male displaying to a female; perched high up in a tree, he sang a long trill like a Canary, throwing his head right back and fluttering his wings. The female in this instance paid no attention, but on another occasion, a female crouched on a twig, and with much wing-fluttering, begged for food, which the male pretended to give her. Breeding records, May and December.

**CINNAMON-BREASTED ROCK-BUNTING, *Fringillaria tahapisi* A. Smith.**

The only buntings I have seen here were two of these birds on a murrum bank on the 6.xi.65. Neither showed much black on head or chin, and they may have been immature.

*Summary of species identified on the farm*

|  |           |
|--|-----------|
| (i) <i>Breeding</i>  |           |
| Regular breeding residents, some moving off the farm in non-breeding season: | 84        |
| Migrants which breed on the farm, then leave: . . . . .                      | 15        |
| Total breeding species . . . . .   | <u>99</u> |

|   |  |            |
|---|--|------------|
| (ii) <i>Non-breeding visitors or migrants</i> |  |            |
| From within Africa, regular . . . . .         |  | 36         |
| From within Africa, irregular . . . . .       |  | 62         |
| Palaeartic winter migrants . . . . .          |  | 53         |
| Total non-breeding species . . . . .          |  | <u>151</u> |

**Acknowledgments**

I am most grateful to Mr. M. E. W. North for encouraging me to write this paper in the first place, for reading over the manuscript and commenting on it, and in general for assisting me with his invaluable experience; he has also generously allowed me to use his habitat photographs of the farm. Mr. J. G. Williams has very kindly identified the specimens I have sent him, and Mr. Leslie Brown gave me many helpful suggestions concerning the birds of prey. Many neighbours have helped by reporting various species seen on their farms, especially Mr. and Mrs. Grainger, Mr. and Mrs. Daniell, Mr. and Mrs. Hamilton-Fletcher, Mr. and Mrs. Lutyens, and Mr. J. R. Shephenson, who found the nests of the Mackinder's Owl, the Angola Swallow and the Banded Martin. Mrs. Elizabeth Nicoll kindly made a competent job of typing out a very untidy manuscript.

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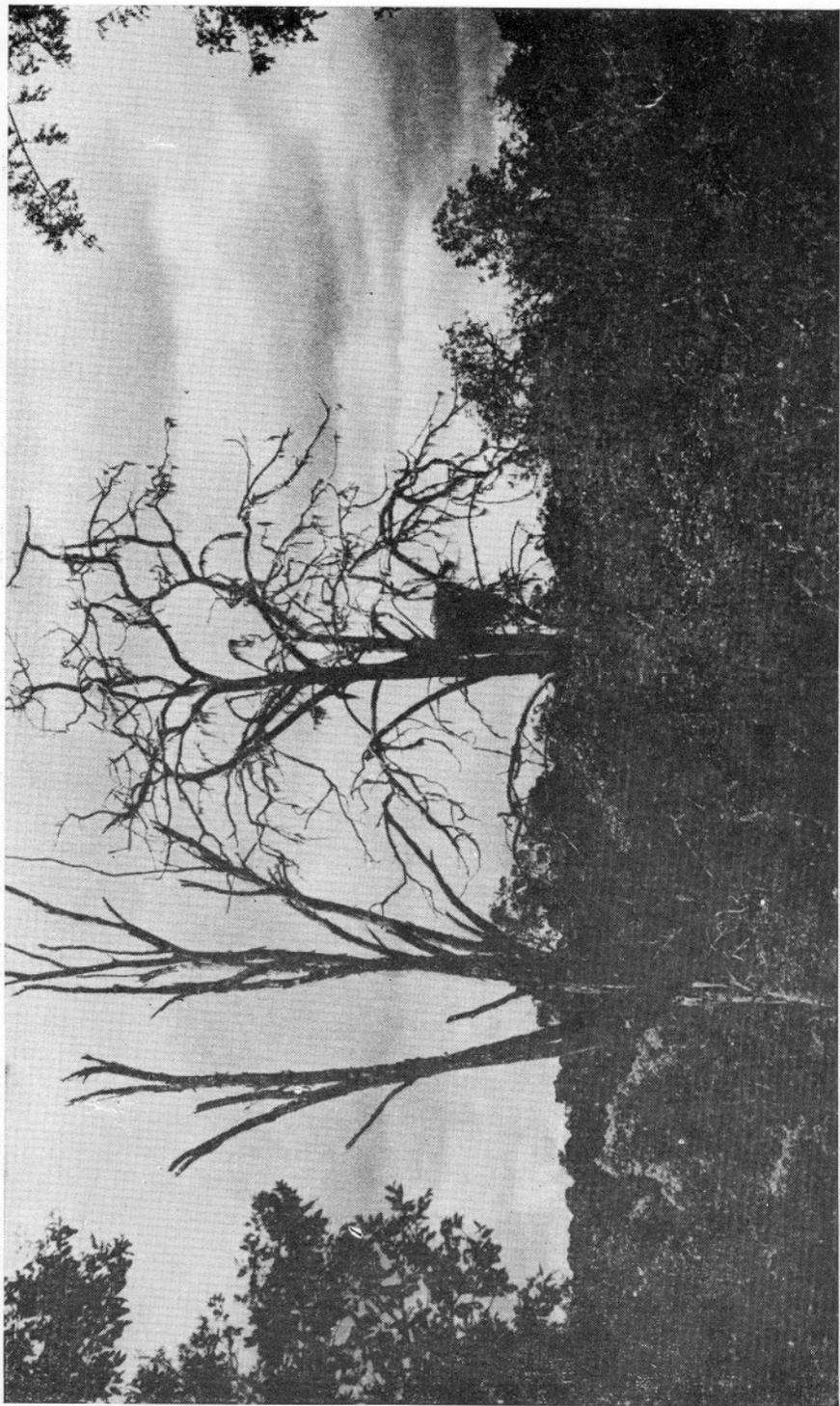


PLATE 1. Forest canopy, showing Crowned Hawk-Eagle's nest in dead cedar tree. (Photo by M. E. W. North).

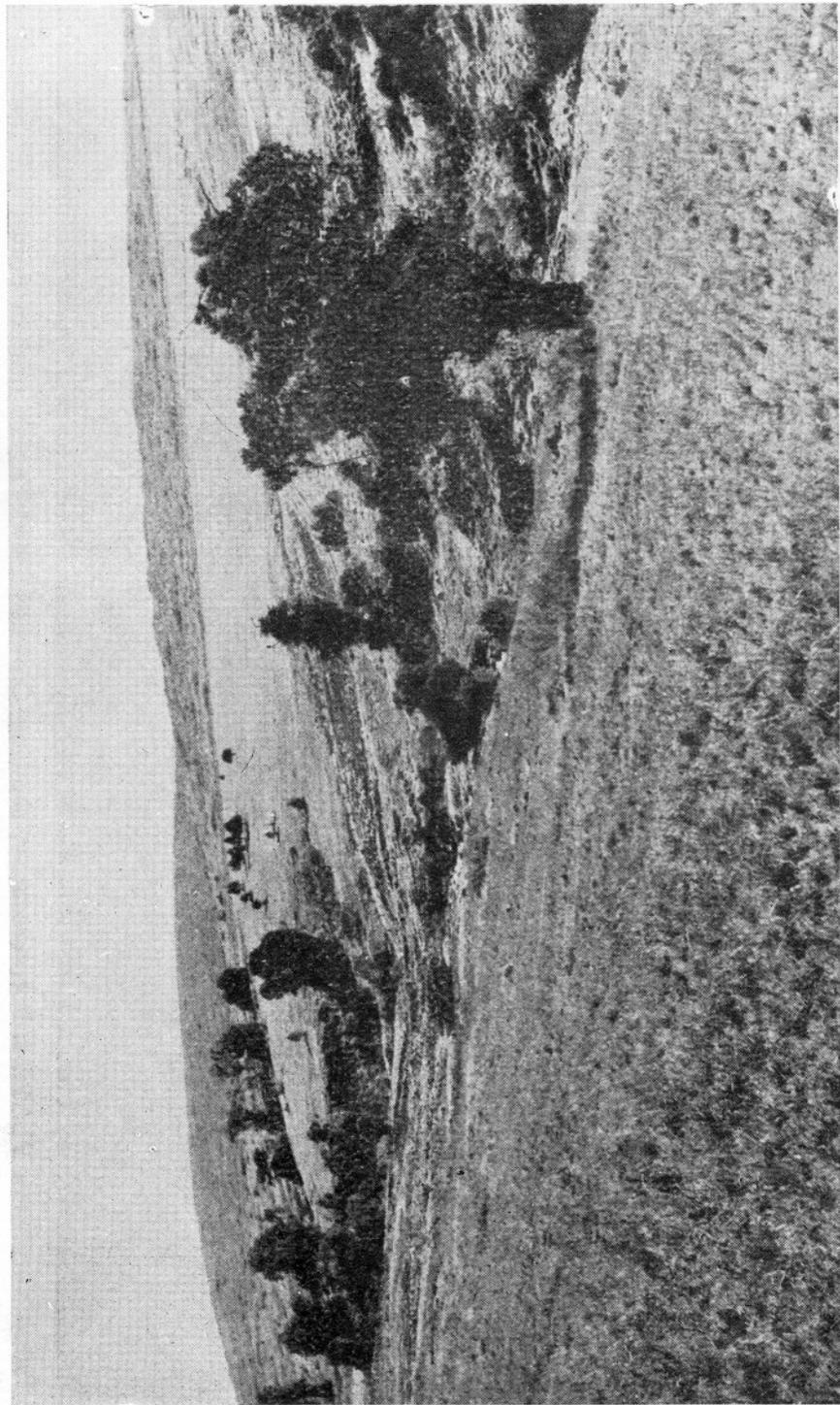


PLATE 2. View of cultivated land with two Masai hills in the background.  
(Photo by M. E. W. North).

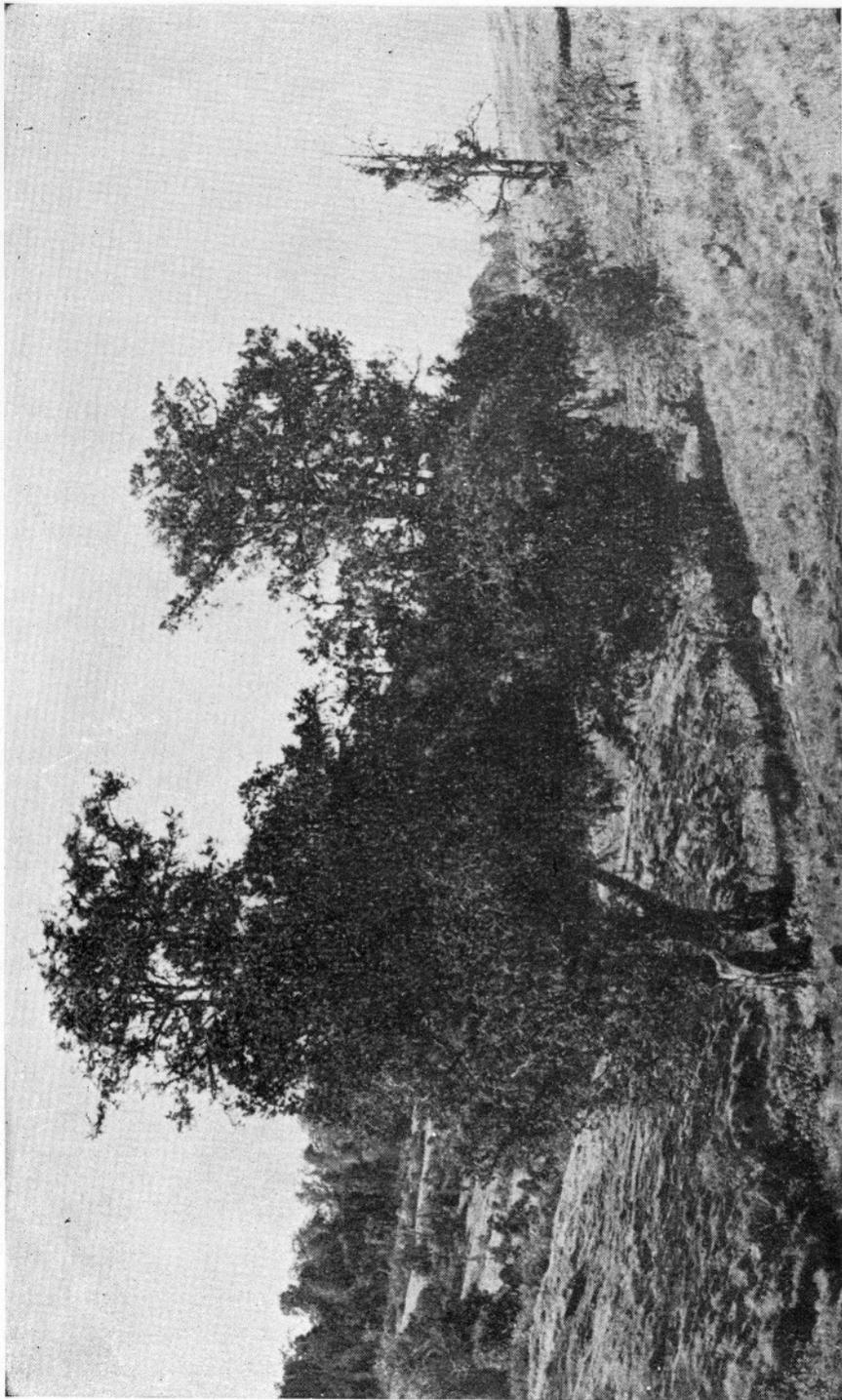


PLATE 3. Rocky valley, showing cedar tree where Mackinder's Owl roosts.  
(Photo by M. E. W. North).



PLATE 4. Young Mackinder's Owl just able to fly. The white part round the gape is particularly evident in poor light.