THE BIRDS OF KENYA AND UGANDA.

PART III.

FAMILY.—PHASIANIDAE, contd.

GENUS. -- FRANCOLINUS.

FRANCOLINS OR "AFRICAN PARTRIDGES."

Game birds of the Genus Francolinus, (sensu lato) are well represented within the boundaries dealt with in this paper, but neverthe-less detailed knowledge of their systematic status or even of their habits is sadly wanting. Attention of members was drawn in a foot note to page 108 of Journal 23, to the great need for augmenting the Museum series of "game birds" from type localities and surrounding districts; this need is especially acute with regard to Francolins. Perusal of these pages will shew that without such specimens it is difficult to follow out the various geographical forms or races which have been described.

Francolinus (Peliperdix) lathami schubotzi, Reichw. Uganda Yellow legged Forest Francolin.

Ref. Reichw. J.f.O. 1912, p. 320. Type locality, Welle River, Belgian Congo.

Distribution: Forests of Uganda, from Lake Albert to Mabira,

DESCRIPTION:

General colour, chestnut above, black with white spots below. Crown olive grey, shading to grey on the forehead. Supercillium greyish in front and white behind; a black streak passes through the eye from the base of the nostrils to above the ear-coverts. Cheeks, side of head and ear-coverts white, tinged with pearly grey. Nape to upper part of mantle olive-brown, with white shaft streaks outlined with black. Lower mantle, scapulars, and coverts bright chestnut brown each feather more olive towards the centre, and with a distinct white shaft-streak accentuated by black edges. Lower back, rump and upper tail-coverts olive-brown with more brownish edges, finely vermiculated with lighter brown. Primaries and secondaries blackish-brown, the latter with pale brownish edges and vermiculations.

Rectrices olive brown with lighter brown vermiculations, the outer three pairs with pale tips. Chin and throat jet black. Side of neck,

chest and breast, black, each feather with a cordate white spot towards the end. Flanks brownish with distinct white shaft-streaks outlined in black. Belly whitish with indistinct greyish or buffy bars. Under tail-coverts black with white shaft-spots and streaks, and slight barring. Bill blackish, legs yellow cadmium. Wings 141-150 mm.

JUVENILE, MALE:

Somewhat like the adult but blackish brown on the crown, richer darker chestnut on the mantle and inner coverts with less definite white shafts, but more marbling and in addition with large black marks at the ends and on the inner webs, giving to the back a mottled appearance. The cheeks are brownish; the throat buffy white, and the breast brownish with white angular spots. The feathers of the flanks are vermiculated.

JUVENILE, FEMALE:

Resembles the adult but has the throat and underside whitish.

FEMALE, ADULT:

The female differs considerably from the male. Crown olive brown; a buff supercilium extends from the nostrils to the earcoverts and meets its fellow of the opposite side, thus encircling the crown. A black streak passes through the eye from the lores to the ear-coverts and nape and extends down the neck in a widening line. The cheeks, ear-coverts and centre of side of neck are dull chestnut. Lower neck and upper breast olive brown, each feather with a narrow white shaft streak. Mantle, smaller scapulars, rump and upper tail-coverts olive brown with buff shaft-streaks and close blackish vermiculations. The scapulars and inner secondaries are darker with buffy brown bars and vermiculation, the latter, along with the coverts are ornamented with large black blotches mostly on the inner webs. Primaries and secondaries blackish brown, the latter with pale buff vermiculations on the edge of the outer webs. Breast and flanks olive brown with large white cordate spots, these spots being elongated in the latter area. Abdomen and underside whitish with blackish bands. Bill black; Legs cadmium yellow.

HABITS:

Little is known regarding the habits of these birds. They are entirely forest dwellers and as such are seldom met with. There was no record of their occurence in Uganda prior to my collectors obtaining specimens in 1913. They are shy and timid and keep for the most part to the densest forests; their powers of flight are therefore restricted, but their agility as runners is proportionately increased. These birds are usually found in pairs or small coveys composed of

a family party. I have not heard them calling, but they utter a low whistling note when feeding.

Good native hunting dogs are indispensible when one is searching for these birds; they will follow up a scent and round up the birds, and if well trained they will make them bunch; it is then a matter of practise to come up with them. Hunting these Francolin requires patience and not a little skill. One enters' a thick patch of forest and crawling quietly along one sits down preferably against the trunk of a large tree; ears and eyes alert to the slightest sound and movement. Very frequently the only indication which one has of the birds' presence is, a faint rustling of leaves as they scratch amongst the fallen debris, or the low note previously referred to. Stalking birds in a Uganda forest is no joke; ants and other crawly creatures abound and that well-named pestilential fly Simulium damnosum plays havor with any area of one's skin they can get at; lumps and bumps and acute irritation of one's epidermis and also one's temper, must be borne with the patience of Job if the Francolins are to be seen, let alone obtained.

Breeding apparently takes place in May and June and also in January but the actual "season" is not defined. The nest is merely a depression in the ground at the base of a tree or under a dense bush; little or no lining is added. The eggs are red-brown to rusty brownish, rather pointed at one end.

Young in first feather were collected in September.

Francolinus (Peliperdix) nahahl, Dub. Uganda Red-legged Forest Francolin.

Ref. Dubois, Ann. Mus. Congo I. 1905, p. 17. Type locality, Ituri River, Congo.

Distribution: Forests of Uganda from Chagwe to Lake Albert and Edward.

DESCRIPTION:

General colour brownish above, black and white below.

Crown with elongate dark brownish black feathers, longest at the nape. Posterior part of supercilium black and white. Ear-coverts brownish. Cheeks, side of the neck and most of the throat with small pear-shaped black spots. Lower neck and chest black with sparse white spots on margins of the feathers. Breast and flanks dull black, each feather with broad white margins which gradually become broken into spots on the flanks. Abdomen and thighs dull

greyish black with ill-defined white bars. Under tail-coverts glossy black with a few buff spots and bars. Mantle, scapulars, rump and upper tail-coverts olive brown, with black vermiculations, large black sub-terminal spots with a buff shaft streak at the apex. Wing-coverts brown with black vermiculations and a buff spot towards the extremity of the outer web. Secondaries black with irregular transverse pale brown markings; primaries blackish brown with pale brown edgings to the outer web. Tail black with brown vermiculations.

Bare patch round the eye crimson, base of bill crimson, tip black-brown. Legs and feet crimson; no spurs. Wings 137-155 mm.

The sexes are almost alike, the female is slightly more brownish on the chest and is smaller.

The immature bird is heavily mottled on the dorsum and is brownish with white mottling on the underside.

HABITS:

Very little is known regarding the habits of this species. They are found only in the large forests and being extremely shy and very cryptic in colouration they are easily missed.

They associate with the Blue-spotted Forest Guinea-Fowl and when first seen thus, they were mistaken for young of that species; In the half light of the forest they are difficult to distinguish, especially so when one catches no more than a momentary glimpse of them. They feed largely on the small moluscs which one finds in decaying vegetation; on other insects, on green shoots and seeds of various plants and on bulbs. We have not taken their eggs nor are there any published records regarding them.

Francolinus (Ortygornis) coqui coqui, Smth. Coast Golden-headed Francolin.

Ref. Smith, Rep. Exped Centrl. Afr. 1836, p. 55. Type locality, Kurrichaine.

Distribution: The coastal belt of Kenya from the Tana to Vanga and inland to Samburu and the Taru Desert.

DESCRIPTION: MALE, ADULT.

General colour brownish grey above, barred below; head golden. Top of head chestnut, the posterior feathers with darker centres. Ear-coverts chestnut; lores, supercilia, cheeks, nape and side of neck bright golden buff. Chin and throat whitish buff, outlined at junction with upper chest with golden. Sides of chest and posterior neck-band

black and white. The whole of the underside from chest to vent, buff, heavily banded with black; many of the flank feathers tinged with chestnut. Under tail-coverts richer buff, black banded. Feathers of the mantle, scapulars and inner secondaries alternately banded with buff and black with a grey tinge especially on the outer web and tip and with a chestnut wash on the inner web. The shaft-streaks distinct, of a buff colour outlined in black. Primaries and secondaries greyish black, the latter with ochreous bands accentuated with black edging. Tail rufous buff banded irregularly with greyish-brown and blackish.

Bill horn-brown with blackish tip and yellow base to lower mandible. Legs and feet yellow orchre.

FEMALE, ADULT:

Very like the male but with more greyish on the back; paler golden on the head; with an interrupted line of black commencing at the lores, passing under the eye and ear-coverts and curving round to the side of the neck and meeting a corresponding line from the other side thus entirely enclosing the buffy white area of the throat. A second but ill-defined line breaks up the buff supercilium and extends a little more than half way down the neck. Upper mantle and chest, pale chestnut, strongly tinged with grey, each feather with a narrow buff shaft sometimes accentuated with a blackish streak half way along. In other respects the sexes agree.

IMMATURE:

Young males resemble the female but are much more banded and mottled above, rather more rufescent; and with the barring on the undersurface rather broken into irregular spots.

HABITS:

The "Coqui" Francolin or Swempi of the Dutch, is an inhabitant of the more open tracts of grass and country where low scrub and scattered thorn-bush is found. It is still plentiful in the districts around Mnngeya and in the Shimba hills and in the gress country round Samburu, but it is diminishing in numbers owing to the activities of native trappers.

They are sometimes found in the patches of native cultivation on the hillsides. Unless deliberately looked for they are seldom seen, but their distinctive call is one of the familiar sounds in the hillsides they inhabit. They call at dusk and in the early morning just at daybreak, two or more birds joining in a chorus of Qui-kit qui-kit, not particularly loud but of penetrating quality which carries a long way. Males do most of the calling, but I have heard females answering.

These birds are usually found in small coveys of four to six; are quick on the wing and give excellent sport. They can be flushed two or three times if carefully marked down, but they soon tire and will then gather run and go to cover. On one occasion after walking up a covey three times I marked the spot where they last dropped and coming up to the place searched the thickest bushes of grass in the vicinity and captured four birds alive!

They do well in captivity and make excellent ground birds for an aviary. The cocks are pugnacious and have to be kept apart.

Coquqi Francolin go to nest twice a year, but I have no exact records as to the duration of the seasons. Eggs have been observed in May and December and young in first feather in February, May, June and August. The nest is a slight hollow under a tuft of grass. Six to eight eggs have been recorded as the clutch, creamy-white in colour, rather round with a slight taper at one end.

Two races of the Coqui Francolin are recognisable and are

detailed below.

Francolinus (Ortygornis) coqui ruahdae, Subsp. nov. Ankole Golden-headed Francolin.
Ref. Praed, Ibis, 1922, p. 108.
Type locality, Ankole, Uganda.

Distribution: South-western Uganda.

DESCRIPTION:

Additional material to that recorded in Nov. Zool. Vol. XXIX., 1922, p. 30, shows the Ankole race to be constantly rufous above, and recognisable as a geographical form.

Male, Adult:

Very like coqui coqui, but more richly coloured above. Crown and nape chestnut with darker centres and greyish tips. Lores supercilia, shin and sides of neck golden. Ear-coverts brownish; throat white. Feathers of mantle with wide white bars and narrow black bands, with rich chestnut tinge to the inner webs.

Scapulars, back, coverts and secondaries as in the typical form but lacking the greyish tinge and being more rufescent; with wider and more distinctly marked shaft streaks. Flanks with more chestnut. Otherwise rest of plumage as in typical race.

FEMALE, ADULT:

Differs from the typical race as above.

HABITS:

As for typical form.

Francolinus (Ortygornis) coqui hubbardi, Og-Grant Hubbard's Golden-headed Francolin.
Rèf. Og-Grant, B.B.O.C., IV., 1893, p. 27.
Type locality, Nassa, Victoria Nyanza.

Distribution: From South Victoria Nyanza to Naivasha; and Magadi and east to Ravine and Baringo and recorded from Machakos and Fort Hall.

DESCRIPTION: MALE, ADULT.

Feathers of crown dark brown with pale tips. Nape and ear-coverts chestnut, the former blackish speckling. Lores, supercilia, cheeks and remainder of head and neck, golden buff. Lower neck and upper breast buffy white with pronounced black bands. Sides of chest greyish with buff and black bars. Rest of underside pale sandy-buff deepening in shade on the under tail-coverts and barred on the flanks; some examples are tinged with rufous in this area.

Feathers of mantle, scapulars, back and rump, wing and tail-coverts greyish-brown with buff shaft-streaks and cross-bars, the bars of the inner webs shaded with black. Tail feathers except for the central ones rich chestnut with black irregular bars and buffy tips. Central pair greyish-brown with buff wavy bars outlined with black.

Bill horn-brown; base and gape yellowish, lower mandible yellow. Legs and feet yellowish. Wings 137-140 n.m.

Young males resemble the female somewhat, but the head markings are not so distinct.

FEMALE, ADULT:

Resembles the male but is paler buff on the throat and awlays has a black line outlining this area; a second black line, more interrupted, commences above and in front of the eye, passes through the supercilium downwards along the side of the neck where it widens and breaks up. The breast is greyish, with buffy barring and white and very narrow shaft-streaks, each streak ending in a buff spot, and most outlined in black. Underside like the male but with more numerous angled bars and with greyish buff on the flanks.

HABITS:

This Francolin is found in small coveys of three to four brace frequenting the grass and open country. It is a particularly difficult bird to find as it lies close and is most difficult to flush. Even when come upon suddenly, they refuse to rise but will slink off as close to the ground as possible towards the nearest cover. Their call is deceptive for they at times alter the volume in such a way that the sound may first appear near at hand then quite in the distance. One hears them most frequently in the early morning and in the evening when the sun is well down toward the horizon. The call is an oftrepeated "Kwee-i-kit." These birds used to be quite plentiful in the Nakuru and Elmenteita districts but their numbers have been terribly reduced.

Throughout practically the whole of their range, these birds go to nest during May and July, and October to December, but, as with other Francolin, there is really no hard and fast breeding season, the nesting time is influenced to such an extent by the period of the rains.

Young in first feather and others half grown have been taken in July and October. The nest is a slight hollow under a small bush or a tuft of grass, sparsely lined with grass and bits of leaves. The eggs are a dirty white to buff in colour, measuring 30 x 35 mm. The clutch consists of six to eight eggs. There are no records as to the incubation period.

I have on occasion flushed Hubbard's Francolin from the edge of maize fields and from flax, but do not consider that they do a great deal of damage to either crop. Dissection of the crops shews that the quantity of seed taken is negligible. The food consists largely of insects, larvæ of various sorts, beetles, etc., grass seeds, bulbs, rootlets and molluscs.

Francolinus (Dendroperdix) sephaeha granti, Hartl. Grant's Redlegged Bush Francolin.

Ref. Hartl. P.Z.S. 1863, p. 665.

Type locality, Unyamwezi, Tanganyika Territory.

Distribution: Uganda, and Kenya except the country north of the Northern Guasso Nyiro, and the Coast Belt north of the Tana River.

With this race is temporarily united F. s. delutescens. Mearns, type locality, base Mt. Kenya. S. M. Coll. 1911, No. 20, p. 3.

The geographical forms of the "sephæna" group of Francolins present great difficulties. It would appear that this wide-spread species is in process of evolution into certain defined races, but these forms are not yet sufficiently advanced for purposes of clear definition of distribution.*

In the present state of our knowledge we must treat the birds inhabiting the area as indicated above as belonging to the race 'granti.'

DESCRIPTION: MALE, ADULT.

Top of head blackish brown, with paler edges and greyish tips. Margin of crown blackish especially at nape. Lores and supercilia creamy white; a black line passes through the eye from about the centre of the lores to the upper edge of the ear-coverts. Ear-coverts creamy with brown streaks. Cheeks, side of neck, lower throat, white with triangular chestnut spots. Throat and chin creamy white. Upper chest buff, with paler centres and triangular chestnut spots and olive vermiculations to each feather. Chest and flanks buff with paler shaft streaks and olive wash and pencillings especially on the flanks. Sides of abdomen and vent richer buff, inclining to rufescent on the under tail-coverts.

Feathers of mantle, scapulars, and wing-coverts chestnut inclining to greyish along the shafts, with a pronounced white or creamy shaft-streak accentuated by black outlines. Primaries and secondaries dark greyish brown with white shafts, the latter with paler edges. The innermost secondaries and longest scapulars with dark chestnut patches on the inner webs. Rump and upper tail-coverts greyish olive brown with indistinct vermiculations. Rectrices, except central pairs dark brown inclining to black at the ends. Central pairs olive brownish with paler edges and slight vermiculations. Bill brownish black, paler at gape and at base of lower mandible. Feet rosy red. Wings 140-148 mm.

FEMALE, ADULT:

Somewhat like the male but smaller; much more freckled below and strongly vermiculated above on a darker chestnut brown ground colour. Rump and upper tail-coverts and central rectices more strongly vermiculated. Wings 130-145 mm.

^{*}With the exception of Duck, I suppose that Francolin are more often shot than any other species of bird, yet the material preserved is far too small to be taken as conclusive evidence regarding many of the described races. I would appeal to sportsmen to preserve the skins of every Francolin they shoot and send them to the Museum with data as to where and when obtained.

JUVENILE:

The chick in down is pale sandy buff below, paler on the throat and abdomen; more yellowish on the back and with a chestnut brown central line outlined with blackish, and a lateral marginal line extending from the scapular region to the line of the pelvis. Centre of crown chestnut widely margined with buff.

In first feather, the crown is dark brown with buff supercilia; from chin to vent pale buff, with slight vermiculations on the chest and flanks. The back is ornamented with distinct wide buff shaft-streaks, brownish as on the inner webs and marked blackish vermiculations.

The chestnut spotting on the lower throat and breast is not indicated until the next feathered stage, at which sex colouration is indicated.

The habits of the various races will be dealt with as a whole.

Of the various races described the following are admissible:-

Francolinus (Dendroperdix) sephaeha jubaensis, Zedlitz. Juba Red-legged Scrub Francolin. Ref. Zedlitz, O.M., 1913, p. 59.

Type locality, Afgoi, South Somaliland

Distribution: Jubaland, especially south-east to just north of the Tana River.

DESCRIPTION:

This is a smaller and generally paler race than F. s. granti, with no striping on the underside.

Wings 130-140 mm. The scheme of colouration is otherwise similar.

Francolinus (Dendroperdix) sephaena subsp. Ref. Praed, Ibis, 1922, p. 112. 5f.

Distribution: Northern Guasso Nyiro, north-west to South Rudolf.

DESCRIPTION:

A rather pale form which is not very stable, influenced by two races which encroach on its boundaries. There is no striping on the breast.

Francolinus (Dendroperdix) sephaena subsp. Ref. Praed, Ibis, 1922. p. 112 5g.

Distribution: Northern Tanaland from the Lorian to Moyale, boundary of Southern Abyssinia, eat to Dolo, and northern part of Jubaland.

DESCRIPTION:

A large form with rather pale underside which is usually ornamented with narrow chestnut streaks on the breast and flanks, these marks being continuous with the spotting of the neck. In addition there is a greyness on the back not seen in the form granti. Wings, 140-160 av. 156.

Francolinus (Dendroperdix) sephaena rovuma, Gray. Chestnutspotted Bush Francolin.

Ref. Gray. List. Gall. Brit. Mus. 1867, 6. 52. Type locality, Rovuma River, T.T.

Distribution: Enters the southern boundary of Kenya at Vanga; has also been recorded from the Taru and Teita country.

DESCRIPTION: MALE, ADULT.

Somewhat like granti but with more chestnut mottling on the side of the neck; more blackish at apex; with distinct long chestnut spots at the ends of the feathers of the breast, belly and flanks. The back is very dark, with black patches and barring well defined. Rump and upper tail coverts, distinctly barred. Under tail-coverts barred.

FEMALE, ADULT:

Very like the male but much more mottled and barred above, from the mantle to the rectrices.

HABITS OF GROUP:

These Francolin are essentially birds of the thorn-bush country as can be ascertained by studying their distribution. They are not found in the high country or forest zones. The coveys are usually small even when composed of parents and young; on no occasion have I seen more than eight birds together. Though inhabiting the somewhat dry bush-country they much prefer the vicinity of water either temporary or permanent. Their distinctive call is one of the familiar sounds of dawning day. As the first rays of sun shew up against the horizon, these birds begin to stir, first here and then there the males will mount their favourite "calling stance" and throw out a challenge to the wide world. The call has a quality of defiance and recklessness in it, and is uttered with complete abandon. It is quite a ludicrous sight to watch a male shouting his challenge in reply to another perhaps a quarter of a mile away. With tail raised and crest erected he shouts first in one direction then another, all the while with body held erect and feathers of rump spread out. The evening call is indulged in but there is a lack of vigour about it. Their call

can be likened to the syllables Kar-i-reek-kik, repeated several times in succession. They also utter a low note like kee-rik, when they feed or are having a sand bath. These birds know when a rain storm is working up and become restless; the males call and run around excitedly. Jackson has recorded the fact that he has heard Grant's Francolin calling on a moonlight night.

During the heat of the day they lie up under the shade of a bush and rest; if disturbed thus they squat and refuse to rise unless pressed too closely. One has heard this bird referred to as being unsporting, as they seldom give one a chance of a shot, but for this very reason I consider them good sport. It is the quick and accurate shot who succeeds in getting his bird just in time, before it swings behind a bush or nose-dives into the base of the nearest cover. It is true that one cannot often walk these birds up without the aid of a good dog, but the mere fact that the chances the bird gives are few, adds, to my mind, a far greater opportunity for real skill as a snap-shooter, than any other francolin shooting I know of. Without a dog, these birds may be flushed once, perhaps twice, but not oftener.

There are certainly two principal nesting seasons which coincide roughly with the rains, but eggs or very young birds have been recorded throughout almost every month of the year; thus my records shew that eggs have been noted in March and July and in December and January, while young in first dress, in February to August and January. The nest is a slight depression with practically no lining and is usually situated under a small bush or in thick grass. Six to eight eggs are laid, cream coloured or white, with pores only slightly indicated, or they may be buff with brownish pores. The shell is very thick and extremely hard. In shape they are oval with slight tapering at one end. Average size 29 x 37 mm.

The chicks are able to fly as soon as the wing feathers come in, and this comes about very rapidly. The young run with their parents until they are quite full grown. Most of the food is found by scratching, and consists of seeds, roots, insects and snails, but they are also partial to green food such as grass shoots and young leaves.

These birds do well in captivity and breed readily if kept in suitable enclosures and fed properly. They require quite a lot of insect food, such as white-ants and grasshoppers.

Francolinus (Scieropila) streptophorus, Og-Grant. Nzoia Francolin. Ref. Og-Grant Ibis 1891, p. 126.
Type locality, Mangiki's Boma, S. Elgon.

Distribution: Elgon and Kavirondo, to Fort Ternan; Unyoro.

DESCRIPTION:

Crown umber-brown outlined laterally by a white supercilia; lores, cheeks and earcoverts, bright chestnut, with a white streak from below the eye through the base of the ear-coverts. Chin and throat white; sides of neck and nape buffy, with triangular chestnut spots at tips of each feather. A wide collar of white black-banded feathers encircles the lower neck and upper breast.

Lower chest, abdomen and flanks, buffy, slightly banded in the first area and somewhat vermiculated in the last; the flank feathers have in addition distinct buff shaft stripes and black areas on one or both webs. Mantle scapulars and wing-coverts umber-brown, most of the feathers with buffy shaft-streaks and dark patches of blackish, shading to chestnut, on either or both webs. Rump umber-brown with dark centres; upper tail-coverts more rufescent; rectrices, primaries and most secondaries dark brown.

Bill horn-brown; legs dull yellow. Wings 152-164.

FEMALE:

Very like the male, but is rather more banded on the mantle, rump and tail-coverts. The wing-coverts have buff spots in addition to the pale shaft streak.

I have no personal knowledge of the young of this species neither

is there any published description of them.

HABITS:

This Francolin inhabits the rough broken hillsides so common along the Maragoli Escarpment, and in north Kavirondo. Grass lands do not appeal to it, but where the ground is rough and vegetation is poor there one may come upon these birds in coveys of four to six. They are extremely shy and wary and skulk amongst the sparse cover to avoid detection. They are loath to take flight and lie so close that one almost comes atop of them before they get up with a whir and cackle. They never fly high, and invariably make for cover, so that it is difficult to get a shot in at a reasonable distance. If by chance they happen to be in more open country or grass, then one can get quite good shooting.

Like other Francolin this species has two periods at which it calls, early morning and at sun set. The note is a rather peculiar one somewhat like the low plaintive call of a Guinea-Fowl, not the loud rattling call but that indulged in when courting, like the syllables Ki-ki-kee,

ki-ki-ki.

The only nest that I have seen of this species was placed at the foot of a slightly overhanging rock; little or no attempt had been made to line the shallow depression which contained four eggs of a greyish-buff colour with pores slightly darker in shade.

Little has ever been recorded about this bird which is certainly not common. Claude Grant has recently taken the species in Tangan-yika Territory, but its exact distribution has by no means been clearly defined.

Francolinus (Scieroptila) africanus uluensis, Og-Grant. Ulu Greywinged Francolin.

Ref. Og-Grant, Ibis, 1892, p. 44. Type locality, Lulu, Ukambani.

Distribution: Through the thorn-bush and grass-country from Kilimanjaro, to Kisii, and east through Ukamba to N.E.

Kenia.

DESCRIPTION: MALE, ADULT.

Crown blackish edged with a pale brown. The supercilia, lores and cheeks are rufous; the superciliary stripes pass down the sides of the neck and meet behind at the hind neck, while the rufous of the cheeks extends downwards and encircles the buffy white of the throat. Both these lines are bordered on the lower or front edge by a broken line composed of a series of black tipped feathers. The rufous areas on the sides and on the hind neck, are separated by a white patch heavily speckled with black. The marginal feathers of the throat are black-tipped. Mantle, scapulars, wing-coverts, rump and tail-coverts grey with distinct buff shaft-streaks, widely spaced buff or rufous bars and blotches of black mostly on the inner web but sometimes on both. Lesser wing-coverts almost uniform greyish. The buff bars are lightly outlined in blackish. Primaries and secondaries grey-brown, shading to chestnut at the bases, the latter with buffy vermiculations. Central tail feathers greyish with irregular buff bars, remainder of rectrices blackish with less distinct barring. Feathers of chest and upper breast pale buff with faint irregular cross-bars, greyish mottled tips, and heavy chestnut areas on one or both webs. Sides of chest more greyish. Lower breast buff with irregular angulated dark brown to black bars, giving the area a somewhat spotted appearance. The flanks are more narrowly barred but are ornamented with large chestnut areas on the lower webs. Abdomen greyish with indistinct cross bars.

FEMALE:

This is very like the male but is rather more speckled about the head and more barred on the back.

Wings in males 155-176; females 150-165. Bill blackish-brown, lower mandible yellowish at base. Legs and feet yellow ochre with olive tinge.

There is a certain degree of variation in the plumage of these birds but the above descriptions are taken from fresh clean examples. Birds inhabiting areas with red soil are very brownish while those from the Kedong for example are greyish.

JUVENILE:

... The chick is unknown to me and there appears to be no description of it. The young in second feather is rather more barred below, more barred and marbled on the back and with a darker head. There is a little or no chestnut on the flanks.*

HABITS:

The Ulu Grey-Wing is still fairly plentiful in the less settled areas but requires careful nursing if it is to hold its own in the farming zones. Natural enemies are plentiful, such as Jackal, Mungooses, Wild Cats, etc., whilst amongst bird enemies the Secretary Vulture must be accounted the worst offender. In June of this year I watched a pair of Secretary Birds literally running down a small covey of "cheepers" nor more than a fortnight old. The youngsters tried in vain to use their sprouting wings to evade capture, but the way in which the Vultures followed up first one then another in this direction and then that was almost uncanny; they seemed to know exactly in which direction to follow up the chicks which had dispersed in all directions when first attacked by the birds. Five chicks were accounted for before I interposed and drove the Vultures off.

Grey-wings are usually found in the grass and scrub country and are rather partial to broken ground such as one finds on hillsides in the Machakos country or in the Kedong. They lie up during the heat of the day under bushes in dongas and near water-courses. When not breeding they go in small coveys of ten to a dozen or so but as the season comes on they split up into pairs. The parents remain with their parents for some time, thus towards the late season one may happen on a covey composed of parents and young of the year.

In the early mornings and late evenings one may find these birds in the vicinity of maize cribs or places where maize cobs have been shelled, picking up scattered grain. These birds undoubtedly do scratch up a small quantity of sown grain, but this damage is more than counterbalanced by the tremendous good they do in keeping down obnoxious insects. They feed quite a lot on young locusts and other insects, including white-ants, besides other mixed diets as seeds, bulbs, etc.

^{*} Young of all Francolin in all stages are urgently required for the Museum collections.

The Grey-wing in my experience is a foolish bird so far as the gunner is concerned. If a covey is put up and allowed to go to ground without being shot at, it is quite possible to mark the several birds down and then walk them up, and secure them one after the other; for the stupid birds do not run far, but prefer to squat still. When the birds first get up they do so with a shrill scream, afterwards remain quiet.

As regarding their nesting season, such observations as have been made go to shew that they nest twice a year at periods corresponding to the rains more or less, but odd broods have been observed at other periods. My own records shew eggs in February, May, and July, and again in November, and young in June, August, December and January. The eggs are olive-brown or buff with brown speckling or dark pores. Average size 38 x 29 mm. The nest is usually scratched out under a bush or clump of grass.

Francolinus (Scieroptiia) africana nr. ellienbeeki, Erl. Northern Grey-winged Francolin. Ref. Erlanger, J.f.O. 1905, p. 151.

Distribution: Northern Guasso, Nyiro, northwards to Marsabit and Matthews Range.

DESCRIPTION:

Somewhat like the previous race but less brownish above, more dark greyish, with a greater distribution of black on the back. Eight areas on the underside pure white with jet blck pattern to feathers so arranged that the white terminal areas are divided into two round spots. Chestnut on flanks and breast much deeper. Abdomen and under tail-coverts very distinctly barred black and white. Size as for uluensis. Habits as for previous race.

Francolinus (Scieroptila) shelleyi, Og-Grant. Shelley's Red-winged Francolin.

Ref. Og-Grant, Ibis, 1890, p. 348. Type locality, Umvuli River, Mashonaland.

Distribution: South-western Uganda. This species enters the South-western corner of Uganda and is here recorded on the authority of Mackworth-Praed, Ibis, 1922, p. 119.

DESCRIPTION:

Crown to nape dark brown, with darker centres. Supercilia golden rufous extending down the neck and meeting at the back.

Parallel to this but expanding at its lower end, a black and white speckled line extending from the back of the eye along the side of the neck. Cheeks, ear-coverts and side of neck golden rufous, separated from the white chin and throat by a black and white speckled line which entirely encloses this area. Chest and flanks rufous, each feather with a buff shaft-streak, slight vermiculations and greyish tips to those on side of chest. Breast and abdomen buff with blackish irregular bars; under tail-coverts greyish buff-barred. Mantle, scapulars, inner secondaries rump and upper tail-coverts umber-brown shaded with greyish brown, slightly vermiculated each feather with a pale shaft stripe outlined with darker brown or black; many of the feathers with dark blotches of rufous and black, mostly on the inner webs. Primaries rufous, mottled with dark brown

FEMALE:

Very like the male but duller and with less head ornamentation. Wings, 160-185 mm. Bill, blackish brown; base lower yellowish. Legs and feet ochre yellow.

HABITS:

These birds frequent the grass and bush-veld and go in coveys of six or so. They lie very close and are difficult to put up without a dog. Like other Francolin they indulge in a morning and evening call, the cock bird taking up his position on a stone or ant hear. They are great diggers and feed largely on rootlets and bulbs.

I have no records of their nesting season in Uganda.

Francolinus (Soleroptila) elgonensis, Og-Grant. Elgon Red wing Francolin.

Ref. Og-Grant, Ibis, 1891, p. 126. Type locality, North Mount Elgon. 11,000 ft.

Distribution: Mt. Elgon district to Aberdares and Mt. Kenya and Mau.

DESCRIPTION: MALE, ADULT.

Feathers of crown black, edged with rusty brown, and buff, shading to rufous on the nape; each feather with black tip. Lateral part of distal crown white with large black tips, extending back and downwards and then forwards to meet a similarly coloured line which extending from just above the gape passes back below the eye and ear-coverts and encircles the pale throat patch. These lines therefore enclose the yellowish buff patch on the side of the neck and of the throat. Lores, supercilia, and cheeks also yellowish-buff. Ear-coverts brownish. Lower neck orange buff shading to light chestnut, each

feather with a black spot at tip; breast, flanks and upper abdomen light chestnut, the feathers of the breast with paler shafts and grey tips; the flank feathers with paler upper webs which are cross-barred with blackish. Lower abdomen greyish-brown, barred with darker brown. Mantle, scapulars, rump, upper tail-coverts and rectrices greyish-brown on the outer webs shading to black on the inner webs, each feather with two or more cross-bars and with a distinct white shaft line; giving to the dorsum a checkered appearance. Primaries and secondaries light chestnut barred and mottled with blackish-brown, especially at the tips.

Bill horn blackish-brown; base of lower mandible ochre; Legs ochre yellow, feet more dusky. Wings 175-188 mm.

JUVENILE:

The young birds are unknown to me.

HABITS:

This Francolin is an inhabitant of the high grass veldt between 8,000 and 11,000 feet. It is a close squatter and may thus be overlooked, for it is not easily flushed. When it does get up it goes off with a whir which is quite startling in its suddenness.

It lives largely on the bulbous roots of certain grasses and also takes a fair amount of green food. Various seeds and insects also go to make up its daily diet. The coveys are small, usually four to six. I have no records of its breeding seasons nor do any appear to have been published.

Francolinus (Scieroptila) levalilanti kikuyuensis, Og-Grant. Uasin Gishu Red-winged Francolin.
Ref. Og-Grant B.B.O.C. Vi, 1897, p. 23.
Type locality, Eldoret.

Distribution: Uasin-Gishu Plateau, Nandi to Sotik, South Kavirondo and on the Mau.

With this race is united F. mulemæ, Og-Grant, which is a synonym.

DESCRIPTION: MALE ADULT.

Central part of crown and nape blackish with rusty edges to the feathers. This area is outlined especially on the posterior to the eye by a narrow line of black and white feathers. The sides of the forehead, lores, and the wide supercilia golden rufous extending down the side of the neck and meeting at the back, thus forming a wide collar. Chin and throat white to very pale buff, shading into golden

rufous like the sides of the neck but separated from it by a row of white black-tipped feathers which extend in gradually widening formation from the gape, through the lower portion of the ear-coverts, downwards to encircle the throat patch. These black and white feathers also extend round the back of the neck along the lower edge of the rufous of the hind neck. Ear-coverts whitish below and chestnut above. Chestband bright chestnut, with pale buff shaft-streaks and buffy margins. Breast and flanks and upper abdomen, rufous buff, irregularly spotted and somewhat barred with black or very dark brown.

Feathers on the side of the chest and on the flanks with large chestnut patches, the latter with irregular greyish-brown barring outlined with blackish. (Some specimens from Cherangani are very heavily spotted and barred on the breast).

Abdomen greyish with buff and dark cross bars. Under tail-coverts buff with greyish-brown and blackish vermiculations.

Mantle, scapulars, inner secondaries and rump, dark blackish-brown with buff-streak on either side of a white shaft and wavy narrow cross bars, these latter outlined with black. The darkest features are always the dorsum. Some of the mantle feathers have greyish tips when fresh. The buff bars and black areas on the lower back give the bird a checkered appearance. A certain amount of chestnut is present on the upper mantle. Upper tail-coverts and central rectrices blackish-brown with greyish-buff cross bars shaded with black. Remainder of tail feathers dark brown to black with indications of paler barring and vermiculations.

The lesser wing-coverts have a decided greyish tinge while the secondary coverts are rufous to pale chestnut. Primaries and most of the secondaries light chestnut with speckling and barring towards the ends. Bill horn-brown with yellow at base of lower mandible. Legs and toes ochre-yellow with olive tinge. Wings 165-179 mm.

FEMALE:

The sexes are almost alike except that the female is usually more spotted below.

JUVENILE:

The chick is buffy below, rather paler on the throat and belly; forehead, supercilia and sides of neck richer buff with a chestnut line running through the ear-coverts. Centre of crown bright chestnut; dorsum, rich buff with chestnut line down the centre laterally. Wings mottled with chestnut.

In first feather the head remains in down, but the sides of the chest, the scapulars and larger coverts and flanks are dark brownish

with white to buff shaft-streaks with cross bars and tips of the same colour, giving to these areas a striped and spotted appearance. Primaries, secondaries and tail brownish with fine blackish vermiculations and buff edges. In the next stage the head and breast become feathered but retain the general colour of the previous stage.

HABITS:

This Francolin is essentially a bird of the grass veldt but it undoubtedly is partial to hillsides. I have not seen it near flat, swampy land. The coveys are not large, perhaps six to eight birds. They are of a somewhat nervous disposition and when danger threatens they run and squat, so that it is not easy to put them up without a dog. When they pitch they make off in different directions so that one is never certain of putting them up just where they landed.

These birds act as heralds of the dawn; at the first streak of daylight they begin to move; the cock will mount an anthill or other prominence and begin calling. The call is very like the sylables Ki-el-di-werk. These birds used to be plentiful on the Londiani-Eldoret road, being particularly numerous near Lake Narasha. For quite a long time a pair frequented the District Commissioner's garden at Eldoret. They spent the day in a tangle of thornbush and came out with great regularity just on five o'clock when the male would mount a stone wall and challenge the neighbourhood. This pair nested for several seasons under a stunted bush not ten yards from the garden wall; the nest was a shallow depression fairly well lined with grass. Never more than eight eggs were laid, buff with brownish freckling and dark pores, measuring on an average 28×40 mm. My records shew eggs from May to July and September, and in January and February and young in first feather in September and February.

Francolinus (Chaetops) lohterorynchus emihi, Neum. Uganda Striped Francolin.

Ref. Neum, O.M. 1907, p. 198. Type locality, West of Lake Albert.

Distribution: The whole of Uganda and Lado Enclave.

With this race I unite F. ugandensis, Neum. as a synonym.

DESCRIPTION:

Crown dark umber-brown shading to black on the forehead. Loral spot black; ear-coverts brownish. Supercilia and streak from

nostrils to below the eye, white. An area just above the gape black merging into a black streaked white area extending from the cheeks to side of neck and round to the nape. Feathers of the neck and upper chest black with wide buff margins and elongate buff shaftstripes and spot at about the middle. In the areas of the breast and flanks the distribution of colour alters, the feathers being buff with irregular blackish-brown shaft-stripes containing a buff area in which there are one or two irregular blackish spots. Many of the flank feathers have in addition, broken lateral blackish lines, and in some examples of males and old females there is a wide chestnut area mostly on the lower webs but sometimes also on the upper. (This variety has been named 'Ugandensis' Neum.). Abdomen greyish with wide buff ends. Vent greyish with indistinct buff barring. Thighs buff, each feather with long blackish marks centrally. Mantle and scapulars and wing-coverts blackish brown with buff to whitish sub-marginal irregular lines; some central buffy marks; black vermiculations, and brownish shafts. Secondary coverts and innermost secondaries, blackish-brown more greyish on outer webs, irregularly barred with buff, and with blackish shading along the shaft graduated to a point at the tips of the featuers. Primaries and secondaries blackish-brown barred with buff and toothed with the same on the outer web.

Rump, upper tail-coverts and rectrices, brownish with greyish tips barred with greyish-buff, vermiculated with blackish and in the region of the rump dark shaft-streaks to the feathers.

The sexes are alike, but the female is smaller and lacks spurs. Old males develop two pairs of spurs.

Bill horn-brown, yellowish at base of lower mandible; Legs cadmium yellow. Wings 165-188 m.m.

There is a variety of this race which is very dark, especially on the head and chest; the latter region lacks entirely the pale areas to the centre of the feathers and the buff border is very narrow. The throat is pure white. It thus resembles somewhat F. gedgei.

JUVENILE:

The young chick is very like that of F. squamatus, but is paler throughout, especially on the crown and underside.

I have no records of the young in first feather, but in the next stage they are somewhat like the female, but more striped and barred above and more spotted on the coverts.

HABITS:

This handsome Francolin has a wide distribution in Uganda, but I have never found it common. They are mostly to be met with in pairs or small coveys in the scrub country or in the vicinity of cultivations.

They are most in evidence in the early morning at which time they call, and also in the afternoon when the sun is low. An ant heap is the favourite calling perch, but I have not infrequently observed them on low trees. They can run like Hares, and if suddenly flushed they take to trees and when dislodged make an easy target. The call is quite distinctive, somewhat like the syllables N'ti-ter-ri, n'ti-ter-ri.

They do a certain amount of damage to native potatoes which they dig up while still young, but as they take a large number of injurious insects, both larvæ and adults, one can forgive their depredations in this direction. They have, however, taken to digging up half-grown groundnuts—a much more serious offence, but as their numbers are small the damage is negligible.

These birds have been found nesting from March to July and in December, while young have been observed in July and January.

The nest is of the usual Francolin type and placed under a small bush or at the foot of a tree. The eggs, usually six to eight, are greyishbuff with little or no speckling.

Francolinus (Chaetopus) clappertoni grisesens, Mearns. Greyish Striped Francolin.

Ref. Mearns, S.M. Col. No. 20, 1911.

Type locality, Lokko, Zegga, Bar-el-jebel North Lake Albert.

Distribution: The sudd districts north of Lake Albert, Bar-el-jebel.

DESCRIPTION:

Smaller than F. gedgii, and more greyish above. As I have no specimens I quote the original description:—" Crown and ear-coverts prouts brown; feathers of upper side of neck and mantle black or brownish-black, bordered with white except at the tips, and with narrow white shaft-stripes posteriorly; general colour of remainder of upper parts greyish drab; feathers of back and rump with sagitate black markings and pale shaft-stripes; outer surface of wings spotted and irregularly cross-banded with greyish rusty-white; wing-quills dark brown, cross-banded with rusty white and without longitudinal markings; tail brownish-black narrowly cross-banded with greyish-white or rusy-white; sides of head and neck buffy white, narrowly striped with black; chin and throat plain buffy white; remainder of under parts pale buff with brownish-black markings, those of the chest V-shaped, with gutttae extremities on the lower breast and sides, becoming oval or elyptical and sparse on the abdomen, and irregularly hastate on the posterior flanks and upper thighs; under tail-coverts buffy-white, broadly banded with dark brown."

Wings 155mm,

HABITS:

Neither the habits nor the early stages have been recorded.

Francolinus (Chaetopus) clappertoni gedgii, Og-G. Gedge's Striped Francolin.

Ref. Og-Grant, Ibis, 1891, p. 124. Type locality, Plains N.E. Mount Elgon.

Distribution: Uganda from Mt. Elgon west to Toro.

DESCRIPTION:

Crown from forehead to nape, dark brown; lores and supercilia white, the latter spotted at the distal end; a white line below the eye, followed by a brownish line extending from the gape to the cheeks where it breaks up into spots on a whitish ground. Ear-coverts brownish, with small white flecks; throat pure white; sides of neck, chest and underparts buff with broad dark shaft-marks; flanks similar but with a considerable amount of chestnut on one or both webs. Mantle, scapulars, wing-coverts, and rump, dark brown with narrow buff margins, and a few buff spots on the secondary coverts.

Primaries and secondaries dark brown with paler edges to the outer webs and rusty brown irregular banding on the inner secondary feathers. Bill horn-brown, paler at the base of the lower mandible. Legs orange-yellow, feet darker, bare patch round eye dull yellow. Wings 180-199 mm. The female is like the male except for more spotting on the coverts, and in size is slightly smaller.

The young are unknown to me and have never been described.

HABITS:

The type of country inhabited by this bird is similar to that frequented by F. icterorhynchus emini, that is grass lands where there are small trees and bushes, but it also is found on the rocky hillsides with sparse vegetation. They feed along the patches of native cultivation and are most in evidence in the early morning and late afternoon. The nesting habits have not been recorded.

Sir Frederick Jackson found these birds plentiful in the Elgon distirict and in the Maanja Valley.

Francolinus (Chaetopus) hildebrandti hildebrandti, Cab. Hildebrandt's Francolin.

Ref. Cabanis, J.f.O. 1878, p. 206. Type locality, Teita dountry.

Distribution: North of shimoni to Teita and Kilimanjaro, north to Natron and east to Ukmbani and south of the northern Guasso Nyiro. (Typical race).

DESCRIPTION: MALE ADULT.

Crown to nape, greyish brown with darker centres and buffy grey tips; a blackish line passes through the eye from the lore to the upper edge of the ear-coverts. Ear-coverts brownish; supercilia, cheeks, neck and throat white with dark centres to the feathers, those of the neck more rounded and terminal; lower neck, chest, flanks white with an irregular black cross mark towards the base and a cordate black spot towards the end; the spot on the flanks are more elongate, less blackish and somewhat freckled. Abdomen buffy white, with some slight barring; under tail-coverts buffy white with brown banding outlined with blackish.

Margin of chest and hind neck black with white shaftspots and sub-marginal irregular white lines; terminal shaft spots chestnut. Rest of upper surface grey-brown with rusty tinge towards the centre of each feather, ornamented with fine black vermiculations and bars. Primaries and most secondaries grey-brown with fine vermiculations on outer webs and tips; inner secondaries upper tailcoverts and tail more brownish and more plainly vermiculated.

FEMALE, ADULT:

Somewhat like the male on the upper surface from crown to tail, but less definitely black and white on the neck and with more rufous along the shafts of the feathers especially on the mantle, scapulars and wing-coverts. The under surface however differs considerably; the pale areas of the throat and head are rufous-butf, while the cheeks are rusty-grey. The lower neck, chest, breast, flanks and abdomen are dull ochreous-orange, slightly paler at the tips and somewhat vermiculated with blackish, especially on the sides of the chest and on the flanks. The lateral chest feathers have greyish tips. Thigh feathers have pale buff spots and terminal bands.

JUVENILE:

The chick in down has the head and neck mostly yellowish-buff with a black line from the lores through the eye to above the ear-coverts; a wide central line on the crown, rich chestnut outlined in black. The dorsal surface has one central and a lateral chestnut line on a buffy ground. Wings buffy speckled with chestnut. Undersurface yellowish-buff with a greyish tinge on the breast.

In first feather the head is coloured as in the chick; breast and sides of body sandy-buff each feather with a white shaft-spot and triangular terminal white mark. Hind neck and mantle with feathers of the same pattern but buff spots are replaced by olive brown, the white shaft spots are reduced in size and tinged with rusty-brown and in addition there is a pronounced sub-terminal black area. Scapulars,

coverts and inner secondaries, brownish, slightly vermiculated and with a distinct angular black pattern on inner webs. Primaries and outer secondaries olive-brown with blackish freekling and bands and dentate buff markings on the outer margins. The fully mature plumage is not reached until the third year.

HABITS:

Hildebrandt's Francolin (including races), throughout the whole of its distribution, frequents the thick thornbush and grass country and is most numerous as the race 'altumi' in the Rift Valley from the Kedong to Elmenteita. It is partial to rough, rocky hillsides where vegetation is plentiful and affords sufficient cover. It is thus a bush-loving bird and as such it runs to cover at the slightest provocation and is then difficult to flush without the aid of a dog or beaters. If put up amongst trees it will frequently perch.

It is a very noisy bird and may call during any time of the day, especially just before the breeding season; but as with most Francolin it is heard most often at dawn and evening.

The coveys are small and seldom exceed half a dozen birds, even during the late breeding season, so one can presume that the death rate amongst the young must be large, for the nests that have been brought to my notice have contained either six or eight eggs. Ground vermin, and wet weather coupled with grass fires acount for more casualties than anything else.

Nests have been recorded in January to August while young, from the chick to birds in first feather, have been noted in February, August and November.

Francolinus (Chaetopus) hlidebrandti altumi, Fisch. Reichw. Naivasha rrancolin

Ref. Fischer and Reichenow, J.f.O. 1884, p. 179. Type locality, Naivasha.

Distribution: Rift Valley from north of Magadi through Loita to S. Kisii east to the foot of the Mau, Kamasia and Elgeyu.

DESCRIPTION, MALE:

Very like the typical race but less brownish above, more greyish, and with clearer black below.

FEMALE:

It is in the female sex that the difference between this race and the typical form is most marked. The chief points of difference are

the greyish tone to the whole of the upper-side; pale buff on the head and throat, the latter well-defined from the lower neck and chest; the chest and breast have a scaly appearance due to the feathers having darker centres and sub-terminal spots and pale greyish edges. Many examples have a blackish freckling over the chest.

JUVENILE:

First feather. Somewhat like young of typical form, but much darker above and below; the feathers of the mantle, scapulars and innermost secondaries with much larger black areas.

Francolinus (Chaetopus) hildebrandti helleri, Mearns. Lololokui Francolin.

Ref. Mearns, P.U.S.M. 1915, Mt. Lololokui, Northern Frontier.

Distribution: From the north bank of the N. Guasso Nyiro, to Mt.

Lololokui and Matthew's Range, Barsaloi, Ndoto and

Marsabit.

DESCRIPTION: MALE ADULT.

Differs from the typical race and the previous form in being darker above, and pure black and white below.

FEMALE:

Darker above, more olivaveous, and darker cinnamon below. Wings with no pale edgings to the feathers.

Francolinus squamatus.

We have now to deal with a species of wide distribution throughout Kenya and Uganda, which appears to alter in colour to quite a considerable degree in various localities, but as with the Sephæna, it is most difficult to assign a definite range to any particular form. The result The late Dr. Mearns boldly applied racial has been endless confusion. names to several varieties but no exact boundaries were defined for any one form; subsequent writers have therefore been at a disadvantage in discussing these races and Mearn's work has fallen into disrepute. In spite of long observation on the spot, I am not in a position to give a definite opinion of any of the supposed forms. It is however more than possible that when very long series are got together from the various type localities and their immediate surroundings, that we shall have to uphold some if not all of the races described. I therefore propose to detail these forms and to leave the question as to their validity open.

Francolinus (Chaetopus) squanatus maranensis, Mearns. Kenya Scaly Red-legged Francolin. Ref. Mearns, S.M. Col. 1910, No. 14, p. 1. Type locality, Kilimanjaro.

Distribution: Kilimanjaro (foothills) area, to Lake Magadi, and east to southern Ukambani.

DESCRIPTION: MALE ADULT.

Crown sepia; feathers of back and scapulars dark brown, edged, except at tip, with pale grey, with chestnut shaft streaks and coarse marginal black speckles; lower back, rump and upper tail-coverts vandyk-brown; rectrices vandyk-brown broadly banded with black; feathers of chest broccoli brown with broad apical shaft-stripes of prouts brown, without speckles; lower breast, upper abdomen and flanks broccoli-brown with darker brown centres to the feathers and narrow sub-marginal creamy-white stripes. Throat greyish-buff.

Bill bright coral red; Legs and feet orange-red. Bare patch above the ear ochre, to orange. Wings 175-196.

FEMALE:

Very similar to the male in colour but more mottled above, and smaller.

JUVENILE:

Chick in down: Upper surface bright chestnut, slightly mottled with blackish on the back. Head with two buff lines commencing at the base of the bill, passing back, one on either side of the chestnut coronal patch (which is outlined in blackish) through and above the eye and forming wide superciliary stripes, and reaching the nape of the neck where they join. Two interrupted buffy lateral lines outline the dorsum of the body. A short black line is present just posterior to the eye. The undersurface of the body is buffy tinged with brownish on the breast and flanks. Thighs sandy buff mottled with chestnut.

In the first and second feather the young is as follows:—Crown olive-brown with slightly darker tips and rusty shaft-streaks; supercilia, lores and throat buffy-white; cheeks greyish-brown streaks with white; ear-coverts brownish; neck band and chest greyish-brown with conspicuous triangular terminal spots and blackish sub-terminal areas; feathers of mantle, rump and scapulars rusty brown with greyish edges, fine blackish vermiculations, chestnut shafts and large blackish sagittate shaft spot to each feather; coverts more rusty brown with fine blackish shaft streaks, the inner tertiary coverts with white or

buff terminal shaft-spot, and a large black patch on the inner webs. Secondaries and primaries greyish brown internally and rusty brown on outer webs, vermiculated with blackish and irregularly cross-barred with rusty-buff; some of the innermost secondaries with blackish marks. Feathers of breast greyish shading to brownish and black at the tips of each feather, all edged with greyish-buff and with brown shafts; lower breast and flanks with much wide buffy margins to the feathers and less greyish; vent and under tail-coverts brownish broadly banded with buff and blackish-brown. Rectrices rusty brown, finely vermiculated with blackish and banded with buff outlined above with black.

The full adult plumage is gradually assumed and is not complete until the third year. (Observed in captive birds).

HABITS:

The Scaly or Red-legged Francolin is one of our commonest Game birds and is worthy of all the preservation we can give it, preservation not only from the man with the gun but more so from the native who traps the birds or takes the eggs to sell to Europeans and Indians.

The Red-leg and the common Spurfowl suffer more at the hands of the natives than any other game bird, with the exception of Jackson's Francolin; if it were not for the fact that there is always a market, the natives would not molest these birds to any appreciable extent.

The type of country frequented by this bird is the edge of the forest belt or thick bush bordering rivers and streams. I have not seen them actually in the interior of the forests but there is evidence to suggest that at times they do penetrate quite a distance. They leave the forest at dawn and frequent native shambas and other cultivations but as the day advances they retire until the evening when they again venture out into the open. In certain parts of the Kikuyu reserve round Nairobi where the forest has been cut out, a few of these birds eke out a precarious existence in the more dense scrub. The coveys are usually small and composed mostly of young non-breeding birds. The red-leg is a noisy bird, especially towards evening when it will perch on some prominent position and call loudly.

Where these birds have been little molested one can walk them up fairly easily, but in most localities they are timid and have to be hunted with good dogs. They are inclined to run rather than fly, but if flushed in the vicinity of trees they readily take to this cover.

I do not consider that the Red-leg does much damage, a few grains of corn or other grain may be taken, but the quantity is negligible. They devour large quantities of insects and larvæ and are especially fond of white-ants. My records shew that nests of this

Francolin have been located in nearly every month of the year but are most numerous between May and August and December and January.

The eggs are pinkish-buff to sandy colour, with distinct pits and pores. The clutch is usually small, about six to eight. The nest is of the usual type and scratched out under a bush or tuft of grass.

These few remarks apply to all the races of 'squamatus.'

Francolinus squamatus kapitensis, Mearns, Kapiti Scaly Francolin.

Ref. Mearns, S.M. Col. No. 14, p. 2, 1910.

Type Locality, Juja.

Distribution: Athi district, Kikuyu, Kiambu, Nairobi, Ngong, and North Ukambani.

DESCRIPTION:

"Crown brownish-olive mixed with grey; feather of black and scapulars greyish hair-brown mixed with black, broadly bordered with hair-brown, without chestnut shaft-streaks or conspicuous marginal black spots; general colour of lower back rump and upper tail-coverts olive-brown; outer webs of outer primaries plain dark brown, rectrices mars-brown coarsely vermiculated with black; feathers of chest hair-brown with narrow apical shaft-stripes of broccoli-brown, thickly flecked with black near the shafts; lower breast, upper abdomen and flanks hair-brown dotted with black near the feather-shafts and with broad creamy buff submarginal bands."

Francolinus squamatus keniensis, Mearns, Kenia Scaly Francolin. Ref. Mearns, Op. cit.
Type locality, Nyeri, Mt. Kenia.

Distribution: Mt. Kenia and the Aberdares.

DESCRIPTION:

"Crown bistre; feathers of back and scapulars bistre thickly vermiculated with black, and narrowly bordered with brownish-grey finely mixed with blackish; lower back, rump and upper tail-coverts bistre vermiculated with black; outer webs of outer primaries plain dark brown; rectrices brown, finely vermiculated with black; feathers of chest hair-brown with large apical spots of sepia; lower breast, upper abdomen and flanks sepia, the feathers broadly edged with buffy white pencilled with sepia."

Francolinus squamatus subsp. 2. Mau Scaly Francolin.
Ref. Praed, Ibis, 1922, p. 133.
Distribution: Elgeyu to Mau and upper Sotik Nandi South to Nioro.

DESCRIPTION:

A race with a very dark almost uniform brownish upper side—not much greyish to the edges of the feathers. Somewhat like the Uganda race, but more contrasted brown and buff-white below; size large. Wings 192-200

Francolinus squamatus dowashanus, Mad. Mara Scaly Francolin. Ref. Madaraz, A.M. Nat. Hung. XIII., 1915, p. 394. Type locality, Ngare, Dowash, River Mara.

Distribution: The thick bush along the streams of the Loita north to south Kisii and lower Sotik.

DESCRIPTION:

Intermediate betwen the Kenia and Mau race in colour of the upper side but quite distinct below, having the centre of the feather very dark brown, contrasting very much with the almost white lateral areas. Centre of abdomen almost devoid of brownish marks. Throat pure white.

Francolinus squamatus zappeyi, Mearns. Nyanza Scaly Francolin. Ref. Mearns, S.M. Col. Vol. 56, No. 20, p. 4, 1911. Type locality, East shore, Victoria Nyanza.

Distribution: Through Uganda to Kavirondo and along the south of Elgon.

DESCRIPTION:

"Most closely related to kapitensis, the palest and greyest of the recognised sub-species from which it may be readily distinguished by the very broad edging to the feathers of the under parts and the absence of coarse markings on the upper parts; the crown is greyer and less brownish-olive; the back and scapulars are much the same but with clearer grey margins to the feathers; the general colour of the lower back, rump, and upper tail-coverts is more olive-brown with the vermiculations obsolete, the outer webs of the outer primaries are plain dark brown; the rectrices are warm-brown with scarcely a trace of vermiculations; the feathers of the chest are greyish hair brown with apical shaft-stripes of broccoli brown, not flecked with black near the shafts; the feathers of the lower breast, upper abdomen and flanks are soiled greyish-white with shaft-stripes hair-brown; the under tail-coverts are hair-brown broadly bordered with buffy white.

There is some doubt as to whether this race is recognisable from

typical squamatus from the Angola-Congo border.

The original descriptions of Mearn's races are given in full so that those interested may be induced to preserve specimens from the type localities mentioned and so help in the elucidation of the races of this variable bird.

Francolinus jacksoni, Og-Grant. Jackson's Chestnut spotted Fran-

Ref. Og-Grant, Ibis, 1891, p. 123. Type locality, Mianzini, Kikuyu.

Distribution: Kikuyu Escarpment, Aberdares, Laikipia Mau and Mt. Kenya.

DESCRIPTION:

Crown dull rufous; lores and round the eye dull reddish, supercilia, sides of head, hind neck, whitish with rufous chestnut marks; throat white and narrow rufous streaks; feathers of upper part of mantle, sides of chest, breast and flanks, rich rufous chestnut with white margins finely speckled with blackish; particularly on the flanks; mantle and scapulars greyish with fine black vermiculations and brownish centres to most of the feathers; wing-coverts, rump, upper tail-coverts olive-brown with faint black speckling; tail rufeus-chestnut; primaries rufous-brown, outer secondaries darker but with rufous bars and brown speckling on the outer webs.

Bill coral-red; legs coral-red, slightly darker behind. Wings 210-230 mm. The sexes are very alike; the female is slightly smaller.

HABITS:

This handsome Francolin, the largest in Kenya and Uganda, is a bird of the high country, inhabiting the bamboo zones throughout its range. In such a dense retreat it is seldom seen but evidence of its existence is plentiful in the numerous 'runs' which extend from these thickets into the more open country surrounding. These runs are for all the world like rabbit trails and lead to the makers' undoing, for the wiley native has learnt that a snare set in a frequented run is sure of a victim, and in this manner dozens of birds meet their doom. Dawn and evening finds these birds in the tangle of grass and scrub along the bamboo margins and it is to the sites of old Masai manyattas, as noted by Jackson, that these birds resort, to feed. Such places besides being covered in secondary growth are full of giant nettles and most unpleasant spots to walk in. The coveys are not large, three to four brace composed of probably a brood, for more usually one comes on these birds in pairs. They are exceptionally good runners and take to cover readily, but if flushed they often fly up into the bamboos.

Their food consists of the bulbous roots of a grass, green shoots, brambles and berries, besides certain grass seeds. They also consume a large amount of insects, particularly larvæ and beetles.

The young remain with the parents until the following breeding season.

The "call" is described by R. E. Dent "as extraordinarily like the sound made when sharpening a scythe with a whet stone." It has a peculiar metallic rasping tone.

When disturbed, they have a habit of uttering a low "chuck" which is very deceptive and difficult to locate—as the birds keep running about in the tangle of nettles to avoid observation. According to Dent they come to water at about 5 p.m.

The eggs and chick are unknown to me.