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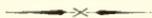
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BIRDS COLLECTED BY THE SWEDISH
MOUNT ELGON EXPEDITION 1920

BY DUE PERMISSION OF THE PHILOSOPHICAL FACULTY OF THE UNIVERSITY
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OF PHILOSOPHY.

BY

HUGO GRANVIK



LUND 1923
CARL BLOMS BOKTRYCKERI

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TO THE KNOWLEDGE
OF THE
EAST AFRICAN ORNITHOLOGY.

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Introduction.

The Swedish Mount Elgon Expedition, which left Sweden at the end of February 1920 under the leadership of Director S. A. Lovén, Stockholm, as the name itself implies, had as its chief field of activity in B. E. A. (Kenia Colony) the exploration of the giant old volcano, Mount Elgon, on the boundary between Uganda and Kenia Colony.

The leader of the expedition, who was keenly interested in entomology, had undertaken the collection of insects, and the writer — the only zoologist in the expedition — was responsible for the other zoological work. Still I was greatly assisted by Mr. Lovén in the collection of birds during the first period of the expedition, and Dr. G. Lindblom and Mrs. Ingeborg Lindblom have also procured a few items to the collections, but the great majority of specimens was collected and prepared by myself.

I wish to express here my gratitude to all those who have in various ways supported and assisted me and contributed so that this work now appears. In the first place I wish to address myself to my esteemed tutor Prof. Dr. H. Wallengren, to whom I am most deeply indebted, for it was on his recommendation that I was appointed to accompany the expedition. With extraordinary kindness and great interest he has always followed my studies and has constantly given me advice and guidance, which have always proved to be of the best. For all the benefits I have enjoyed at the Zoological Institution of Lund I beg to tender him my respectful and sincere thanks.

In the next place I wish to express my thanks to Director S. A. Lovén, Stockholm, for having chosen me as the zoological member of the expedition.

I also wish to tender my expression of grateful thanks to Professor Dr. Einar Lönnberg, Stockholm, under whose guidance I first commenced the study of African birds.

I am also gratefully indebted to Prof. O. Neumann and Geh. Regierungsrat Prof. Dr. Anton Reichenow, Berlin, two of the greatest experts in the African bird-life. During my studies at the Berlin Museum they supported and assisted me in the most devoted and amiable manner, and the instruction

and advice I have had the pleasure to receive from them, makes it not only an obligation on my part but also a pleasure to tender them my sincere thanks.

Further, my thanks are due to my friend Dr. Erwin Stresemann, chief of ornithological department of the Berlin Museum, for all his amiability and assistance during my stay in Berlin. I am also indebted to the erudite and expert scholar in African birds, Mr. H. Grote, Berlin, who has in many ways aided my work.¹⁾

But not least do I feel my indebtedness to Dr. V. G. L. van Someren, Nairobi, B. E. A., who has always assisted me with his exceptionally great experience and knowledge of African Avi-fauna, and who saved me so much trouble and hard work by naming on the spot a great number of birds procured by the expedition.

Last, but not least, I wish to express my feeling of gratitude, to all those who furnished me with personal equipment, such as was necessary in the Tropics. Without their generous support this journey would certainly have been impossible for me to undertake: Governor, Count R. Dela Gardie, Ph. D., Malmö, Consul Ivar P:son Henning, Helsingborg, Consul Hugo Persson, Landskrona, Consul Wilhelm Westrup, Lund, Director J. Tranchell, Landskrona, Assuraustjänstemannen Ivar Quiding, Malmö, Grossh. C. Westrell, Malmö, Stadsfiskal A. Aschan, Malmö, Disponent Wilhelm Rasmussen, Malmö, Avdelningschef August Pehrsson, Malmö, Grossh. Mats Peil, Malmö.

Lund, Zool. Inst., Februar 1922.

Hugo Granvik.

¹⁾ For generous assistance I also desire to express my great indebtedness to Dr. Ernst Hartert, Tring.

A. General Part.

Itinerary of the Expedition.

The following is a dated itinerary, showing the various localities at which birds were collected, all of which will be found in the map.

April	10—18,	1920	—	Nairobi, 5450 ft. and its environs.
„	21—23			Lake Naiwasha, 6.200 ft.
„	24			Kikuyu, 6.700 ft.
„	26—30			Mombasa,
May	2			Kapitiplains, 5,300 ft.
„	3			Kikuyu, 6.700 ft.
„	4			Molo 7.940 ft.
„	4—6			Londiani, 7410 ft.
„	6—11			Londiani—Eldoret (on Safari).
„	12			Eldoret
„	13—15			Eldoret—Soy (on Safari).
„	15—19			Soy—Elgon „
„	19—July	24		Mount Elgon.
Aug.	12—14			Lumbwa 6.220 ft.
„	18—20			Kisumu 3.756 ft.
„	21—24			Kendu (Victoria Nyanza).
„	25—26			Kisumu.
Sept.	19			Nairobi (Kiambu).
„	24			Mombasa.

System and Nomenclature.

From our expedition in Africa 1517 birds are brought home, which belong to 330 different kinds, 10 of which are described for the first time by me, and from what I have found after careful examinations, are good and distinct. Although I am convinced that in the collections from Mount Elgon there are several other new forms I have yet refrained from describing anew such as I have not been able to establish fully as differing because of the insufficiency of the series from other parts of Africa. In every such special case I have mentioned this under the birds in

question, and it is thus possible and indeed probable that investigations of the bird-kingdom on the eastern slopes of Mount Elgon will include under another name such birds as I, owing to want of material, have been obliged to place under forms at present known.

The main object of ornithology is by no means to describe new species and forms, though this task can be a grateful and pleasant one, but a department which is at least quite as important for the knowledge of the "form circles" and their distribution is that concerned in the critical examination of the numerous forms already described. In conjunction herewith one is liable to be lead at times into the difficult and complicated question of latitude of variation — if I may call it so — of the various forms, and one can then be in a position to establish how forms, which have been considered good, are only different variations of one and the same form. In order that something like a good result in matters of this kind be attained, it is, however a condition sine qua non that there is an extensive material for comparison at one's disposal — which has so often been emphasised —, and that one is quite familiar with the rich and ample literature of later years. On this basis it is possible to contribute in a greater or lesser degree to the solution of some of the problems of ornithology and modern systematisation: form circles and their extent, the affinity of the various groups of birds, etc. even if this should sometimes happen in a manner which demands the abandonment and rejection of previously approved forms or the description of new ones. This task on account of our uncertain knowledge of the conception of species and forms from a genetic point of view, is however very difficult and it therefore often seems as if the labour expended and the result attained, does not stand in reasonable proportion to each other.

It does not come within the scope of this work to analyse all the different opinions concerning forms, variations or races, therefore I will only give a few of the latest. JORDANS has (*Die Vogelfauna Mallorcas*, 1914, p. 34) expressed the opinion that the natural species is the total sum of all forms. The latter, sometimes called subspecies, or races, severally form geographical units and now as the forms, belonging to one and the same „form circle“ are among themselves more closely related to each other than to those belonging to an allied circle, the circle of forms make a natural genealogical circle. — STUART BAKER (*Bull. Brit. Orn. Club*, vol. XL, 1920 p. 80) has defined the conception of subspecies in the following manner: „A subspecies is a geographical race or variation, differing in some respect from the form first described as a species, yet linked with it by other intermediate forms found in intervening areas. It is essential however, that the variation before it is named shall be proved

to be stable within a certain definite area", and he considers "that a subspecies becomes a full species when Nature, in the course of evolution, has eliminated the intervening forms."

Hartert (Bull. Brit. Orn. Club, vol. XL, 1920, p. 87) objected to make supposed intergradation between two forms the criterion in the subspecies", and he thinks that "there are numerous instances, in which no intergradation could be traced, — in fact, we seldom found it to exist". As subspecies he considers forms which agreed in their main characters, while they differed in details (either of colour, markings or dimensions) and represented each other geographically — or that subspecific characters where "differences combined with geographical separation", agreement in structure and general features, of course, being established.

Bonhote considers "that a subspecies is a form of species that differs from the same species in another locality owing to its environment, e. g. its geographical position" (Bull. Brit. Orn. Club, vol. XL, 1920, p. 89). He also considers that when two closely allied forms were found breeding in the same locality they must be considered true species (that is, belonging to different "form circles".) The German ornithologist Gengler (Die Balkanvögel, 1920, p. 16) sums up his opinion in the following sentence: "There is no species and no subspecies. There are only "form circles", which are composed of separate, geographical forms. All these geographical forms are equivalent and none can be made superior or subordinate to the other", and in this way the talk of species and subspecies is done away with.

In modern Ornithology the various theories of "form-circles", so meritoriously worked out by Tschusi zu Schmidhoffen, Hartert, Kleinschmidt and many other eminent investigators, differ however on one or two points. As already pointed out, Hartert considers that "intermediates between two or several forms by no means always exist", and Stresemann (Journ. f. Orn., 1919, p. 296) also expresses the same opinion, pointing out that mountain ranges often form well-defined dividing-walls between two closely related forms. Further, connecting-links between islandforms and those on the adjacent mainland are almost always missing. But in those cases where such intermediate forms are really found one can be in a doubt as to how these forms are to be named. As Stresemann (op. cit.) has pointed out, it is possible to express by means of figures — almost as in chemical formulae — the degree of the position of an intermediate form in relation to the forms between which the connecting line in question is situated. Such a proceeding, however, seems to me to be arbitrary and too subjective on the whole to have any scientific value, and without careful genetic investigations the affinity between the forms cannot, I suppose, be found by means of a more or less superficial morphological

examination. Without any doubt it is necessary in such a case first to establish — if possible — once and for all by means of careful studies in heredity whether this or that form is constant. By this I do not mean, whether the form in question always occurs in the type-locality with these or those distinguishing features, but whether the qualities which characterise the form from all others persist under other external conditions.

Investigators have, as the reader is aware, also tried to establish by experiment what factors can influence the formation of forms and to what degree this influence takes place. But the results arrived at will generally be, for various reasons, more or less misleading. On this point I share Dahl's opinion (*Grundlagen einer ökologischen Tiergeographie*, Jena 1921, p. 3) when he says:

“Noch unsicherer wird es, wenn man mit Tieren in der Gefangenschaft experimentiert, um die Wirkung der einzelnen ökologischen Faktoren, die für das Vorkommen in der Natur maßgebend sein können, festzustellen, wenn man z. B., um festzustellen, welche Temperaturschwankungen eine Tierart verträgt, diese in der Gefangenschaft verschiedenen Temperaturen aussetzt. Schon die Gefangenschaft an sich ändert nämlich die Lebensbedingungen von Grund aus, so daß man immer im Unklaren bleiben wird, wie weit das sich ergebende Resultat auf die veränderte Temperatur zurückzuführen ist, wie weit das Experiment also für das Vorkommen in der Natur Gültigkeit besitzt.”

Bannerman (*Bull. Brit. Orn. Club*, vol. 35, 1915, p. 136) quotes a letter from Prof. Punnet, in which this great exponent of Mendelism writes: “This problem of local races and adaptation is one of the nuts left for us to crack — if we can —. The first thing to be settled is whether the variation is genetic or whether it is merely a direct response to a change in the environment and only endures as long as the change in the environment endures.”

Before this is experimentally established the majority of speculations and conjectures about the affinity and constancy of the forms can scarcely be looked upon as anything else but “beating the air”.

The question of heredity and variation is not solved by means of morphological comparisons, however accurate they may be. Thus I share Stresemann's opinion (p. 293) that as long as it is impossible to represent in figures the relation of the subtle forms to closely allied forms, it is better to employ the old signs: $>$ and $<$ and to use \gtrless instead of $=$ for a bird which evidently stands between two others.

As regards the systematical order I have followed Reichenow's system in “*Vögel Afrikas*”. Many writers have other

systems which, for various reasons, are considered to be better. But as we know very little at present about the genealogical relationship between the larger divisions of the bird kingdom and as it is not clear for the present which is the highest — from a phylogenetic point of view — (compare J o r d a n s: Die Vogelfauna Mallorcas) I have, for practical reasons, followed R e i c h e n o w's system. The references and synonymy have been cut down as much as possible. References to the original descriptions of the species have been given so often before that in many cases I have merely referred to R e i c h e n o w's "Vögel Africas".

It also interested me, as often as this was possible, to find out the names given by the natives to a number of the birds. In doing so I have not been content with information from only one quarter but have, as a rule, consulted the opinions of two or more other persons. My "personal boy", Juma bin Masudi, who could write and speak English in addition to several negro-dialects, was of great assistance in interpreting and spelling the native-names of the birds. O k o t h, the head of the Kavirondo tribe at Kendu, has himself written the kavirondo-names of the birds on a slip of paper, which I checked later on by consulting other members of the tribe.

The new birds described in this work are the following:

Streptopelia semitorquata elgonensis,
Streptopelia fulvopectoralis,
Centropus senegalensis incertus,
Ploceus insignis ornatus,
Othyphantes reichenowi nigrotemporalis,
Ureginthus bengalus loveni,
Cisticola tinniens subrufescens,
Apalis cinerea minor,
Apalis melanocephala nigrodorsalis,
Turdinus pyrrhopterus elgonensis.

Description of the route.

In the brief description given in the following pages of the districts in which we stayed for a shorter or longer time either to study or collect specimens, I consider it best, although the chronological order was not the same, to commence down at Mombasa in the tropical coast-land and then continue to the west or northwest, staying in geographical order at the places where we halted.

When we arrived in Africa, disembarking at Mombasa on the 30th March, the rains of the short rain-period had already begun to fall. According to C r a n w o r t h (Profit and Sport in British East Africa, 1919, p. 477) the average monthly rainfall

in Mombasa for a period of ten years is: March 2.96 ins., April 11.88 ins., May 17.08 ins., June 5.32 ins., etc. The same figures are given in "The Red Book", 1919, p. 132, for a period of six years. The total rainfall amounts to 58.71 ins. per annum.

We stayed at Mombasa four days and made some short excursions in the environs of the Gulf of Kilindini but were unable to make any collections as our outfit, with all the taxidermic paraphanelia, had not yet arrived, neither could such be procured in Mombasa. On the 25th April we returned, however, to the coast-land and now spent several days collecting birds, and a rather fine collection of 109 specimens was procured.

In the interior of the town itself, in the parks and in the trees growing around the Metropol Hotel *Xantophilus bojeri* was breeding everywhere. Indeed, this species was one of the very commonest. In the stony surroundings of the cultivated land we frequently saw *Upupa africana*, and *Corvus albus* (= *scapulatus*) appeared in single specimens or small flocks round the refuse heaps, in the market places or in the dwelling quarters of the Snaheli negroes. *Milvus migrans parasitus* also occurred in fair numbers, even within the town itself and was very numerous on the Kilindini Gulf, where they swarmed in large flocks round the steamers lying at anchor. It kept company with the gulls, and like them, deftly snatched up various edible things from the surface of the water. When I crossed the gulf in a rowing-boat they sometimes flew so near that I could strike them with the oar and they were not frightened off when I shot a few specimens, which fell into the water. The bird-life in the vicinity of Kilindini Gulf, where we stayed for the most part, was very rich. In the small groves found here, which consisted mainly of cocoanut palms with various smaller trees and bushes here and there *Hyphantornis nigriceps* bred in exceedingly large colonies, sometimes numbering several hundred nests in the same tree. Most of the birds we collected during our excursions in the coast-land were at this time of the year busy pairing and building their nests. Some had already assumed their new dresses, but the majority, however, were in a more or less advanced phase of moulting.

A very common bird in these districts was *Dicrurus adsimilis divaricatus*, as also was *Poicephalus fuscicapillus*, although rather difficult to get within range. In the same kinds of locality as that frequented by these birds, that is to say, among the palms and large trees, *Oriolus auratus* and *O. notatus*, *Rhinopomastus cyanomelas schalowi*, *Campethera caillauti caillauti*, *Irrisor erythrorhynchus marwitzi* and *Accipiter minullus tropicalis* etc. occurred, and from the tops of the Mango trees was heard the beautiful song of *Parus albiventris*. On the outskirts of the forests — towards the sea — where trees and bushes grew solitary and sparse *Lybius melanopterus*, *Lybius torquatus*

irroratus, *Pogoniulus pusillus affinis* occurred sparingly. Among the most interesting discoveries from these areas was *Tchitreia perspicillata plumbeiceps*, which was not previously known from East Africa, and the little, pale *Ureginthus bengalus loveni* that I have described from here.

Both here and in the shrub on the shores of Kilindini Gulf there were found various Nectariniidae, among which may be mentioned *Anthreptes collaris zambesiana*, *Chalcomitra senegalensis inaestimata*, *Chalcomitra amethystinus kirki*, *Cinnyris mariquensis macrorhynchus*, *Cyanomitra obscura neglecta* etc., and other birds which often showed themselves were: *Pyromelana nigriventris*, flying in large swarms from bush to bush and *Melittophagus pusillus cyanostictus*, which either singly or in pairs sat perched on the extreme tips of the slender branches.

In the brushwood and thickets in the interior of the forests there was also a rich bird-life. Almost everywhere *Centropus superciliosus superciliosus* was heard uttering its characteristic cry, *Xanthophilus bojeri* was always seen here in the dense confusion of the low bushes, where *Spermestes nigriceps nigriceps* and *Lagonosticta jamesoni taruensis* lived their secluded lives. *Bradornis pallidus subalaris* hopped about on the ground, and under the protection of the dense foliage of the branches *Halcyon albiventris erlangeri*, *Argya rubiginosa heuglini*, and *Pycnonotus tricolor micrus*, tried to escape discovery, while *Colius striatus mombassicus* climbed about in small flocks, screaming among the branches. In the tops of the trees *Chalcopelia chalcospilos chalcospilos* and *Streptopelia semitorquata semitorquata* cooed in some secluded nook among the leaves and twigs.

During our journeyings in these districts I was able to ascertain the presence of only one of our Scandinavian winter guests in Africa: *Lanius collurio collurio*.

While the train halted in the grass plains at Kapiti Plains Station at about 5.300 feet, on the journey up from Mombasa to Nairobi, three specimens of *Corvus capensis kordofanensis* were shot out of a large flock found close to the railway track.

At Nairobi — the capital of Kenia Colony — about 5.450 feet above sea-level, we stayed a few weeks and made collections in the Kiambu forests north of the town, at Ngong southwest of Nairobi and in other places situated in the vicinity, resulting in the acquisition of 215 specimens.

The climate here is a Highland climate, for the Lowland climate includes the whole country below an altitude of about 4.500 to 4.800 feet. Both of these differ locally according to altitude and topographical conditions. At Nairobi, which is just inside the Highlands, the nights are always cool and blankets are necessary at mid-summer. At higher elevations it may be very cold, but frost is slight and rare. Though situated so close

to the Equator, the Highlands are some distance south of the termal equator, hence there is a winter period, though slight. There are two rainy seasons, the short rains usually falling between October and November and the long rains between March and June. In a tropical country the effect of heat is so dependent on the presence or absence of moisture, and generally speaking, the fall decreases on the coast from South to North and increases with the elevation and towards the interior, the fall in certain parts of the Highlands amounting to 150 inches per annum. — The coolest months are from June to August (compare B r o w n , 1919, p. 522).

The average monthly rainfall for a period of six (ten) years in Nairobi (according to "The Red Book", 1919) is: March 4.32 ins., April 9.00 ins., May 5.10 ins., June 1.04 ins., and for October 2.88 ins., November 5.53 ins., December 3.02 ins. etc. The total rainfall per annum is 36.41 ins.

The bird-life here in Nairobi and the surrounding districts having been so closely and carefully studied and so worthily treated by L ö n n b e r g (Birds coll. Swed. Zool. Exp. to B. E. A., 1911) and v a n S o m e r e n (Ibis, 1916) and others, there is no reason for me in this connection to enter into a further description thereof. Among the interesting bird discoveries from these localities I will only mention a few. By a little brook outside Nairobi, *Chloropeta natalensis massaica* occurred in numerous variations, and on the fringes of the forests, *Melittophagus lafresnayei oreobates* was observed a few times on the sparsely wooded slopes at Kiambu. From these districts I have also described *Ploceus insignis ornatus*, *Apalis cinerea minor* and *Apalis melanocephala nigrodorsalis*, of northern migratory birds, *Muscicapa striata striata* and *Lanius collurio collurio* were shot here.

Owing to a mishap we were obliged to stay for a short time at Kikuyu, 15 miles west of Nairobi, 6,700 feet above sea-level, during which time we added to our collections in the small wooded groves situated in the neighbourhood of the rail-road. The surroundings here are cultivated in all directions. During our short stay here we procured *Elanus coeruleus coeruleus*, which frequented the tall trees in the areas under cultivation, *Streptopelia semitorquata semitorquata*, which was very common and busy building its nest. In the brushwood *Cossypha caffra islaema*, *Turdus deckeni elgonensis*, *Centropus s. superciliosus*, and many others had their habitations. *Serinus striolatus affinis*, *Nectarinia kilimensis* and *Saxicola torquata salax* were found in great numbers. Here too *Chrysococcyx klaasi* and *Cisticola prinoides* occurred, although rather sparingly. The commonest Weaver bird was *Hyphantornis nigriceps*. Among the gallinaeous birds shot was *Pternistes leucoscepus infuscatus*.

At Lake Naiwasha, at an altitude of 6.290 feet, we stayed some days in order to study the extremely rich bird-life of the lake. The flat, grassy land in this neighbourhood is taken up by many farms and until the commencement of the 20th century, the grass was kept down by immense herds of Grant's Gazelle, now very rarely seen here.

The average monthly rainfall for a period of six (ten) year at Naiwasha is: March 3.42 ins., April 6.85 ins., Mai 3.65 ins., June 4.98 ins. and for Oct 2.70 ins., Nov. 3.31 ins., Dec. 2.13 ins. The total rainfall per annum is 37.75 ins.

Lake Naiwasha, some 50 miles in circumference, reposes in a setting of mountains. The acacia-plains reach in some places right down to the shores of the lake, which on the eastern side are very flat and the water very shallow.

In the grass-country around the shores of the lake, where the acacias grew wide apart, quite a number of new birds were met with. One of the commonest among Accipitres was *Buteo augur*, which was found, as a rule, where there were small wooded groves. *Spreo superbus* was very common here too and *Oriolus larvatus rolleti* together with *Lamprocolius chalybaeus chalybaeus* and *Streptopelia capicola tropica* flew about everywhere in the acacias. Among the pigeons occurring here may be mentioned *Stigmatopelia senegalensis aequatorialis*. Rather common too were *Granatina ianthinogaster montana*, *Melittophagus bullockoides* and *Dicrurus adsimilis divaricatus*. A rare bird in these districts — judging from my observations — was *Serinus angolensis reichenowi* and even *Jynx ruficollis cocensi* occurred rather sparingly. One of the commonest birds here — as in other places — was *Macronyx croceus*.

The thickets and bushes, which here and there skirted the swampy shores were frequented by *Centropus superciliosus superciliosus*, *Serinus sulphuratus sharpei*, *Crateropus melanops clamosus*, *Tricholoema diademata massaica*, *Laniarius aethiopicus major*, *Fiscus collaris humeralis*, *Nectarinia kilimensis*, *Cinnyris venustus falkensteini* and many others. Only once did I meet *Cossypha heuglini*. Sometimes I met in these districts *Dioptrornis fischeri*, *Euplectes capensis xanthomelas*, *Pycnonotus tricolor fayi*, *Colius striatus ugandensis* and others, which are not strictly confined to any special locality — even if they appear in general to prefer now this, now that — but are found a little everywhere. In the end of the branches of the small acacias and bushes *Othyphantes reichenowi reichenowi* had their nests and *Hyphanturgus ocularius suahelicus* was observed now and then. Very common too was *Prinia mistacea immutabilis*.

On the open, grass-covered shores flocks of *Ibis aethiopica* walked about in the company of the extremely common *Bubulcus ibis*, and *Hoplopterus speciosus* flew in swarms everywhere. Among the stones and knolls on the water's edge ran *Erolia*

minuta minuta, *Tringa hypoleucos*, *Tringa glareola glareola*, *Tringa stagnatilis*, *Charadrius varius* and *Charadrius hiaticula hiaticula* while the long-legged, beautiful *Himantopus h. himantopus* walked here and there on the bare, muddy patches looking for food. Here also *Anthus rufulus raalteni* and *Calandrella cinerica saturatior* occurred in small flocks, while *Anthus nicholsoni longirostris* and *Motacilla vidua* were found less commonly.

As far as the eye could see, the surface of the water was covered with large, blue water-lilies and here and there impenetrable papyrus groves rose up on the lake. On the large surface of the leaves of the lilies *Actophilus africanus* graciously skipped about, among numerous Waders, that had also found their way out there to search for water-insects. Thousands of *Fulica cristata* swam about in the carpet of flowers and when a shot resounded across the lake they all rose with a noise and splashing of water, only to disappear among the screening reed-tufts and into the cover of the papyrus bush. The little *Limnecorax niger*, which almost unnoticed darted away among the leaves and flowers, was just building its nest in some reed-clump, and *Ardea purpurea*, *Bubulcus ibis* and other Herons wandered around in company with *Platalea alba* and *Balearica regulorum gibbericeps* on the small islands while *Chenalopex aegyptiacus* and various species of ducks slowly waddled about on the outskirts of the treacherous quagmire. Gulls and Terns circled in short and sudden turns above the lake, while high above them all Eagles and Vultures hovered on almost motionless wings.

In the papyrus groves there was a splendid bird-life, but owing to the short time we were able to stay at Lake Naiwasha I was not in a position to get more acquainted with the birds inhabiting the papyrus kingdom. Various kinds of Weaver birds hopped about on the rushes and *Corythornis cristata galerita* sat listless in the blazing sun, gazing into the water, while the rare *Calamocichla leptorhynchus parva* restlessly climbed up and down the stalks, or high above the reed-clumps tried to drown the croaking of the frogs and the grating cry of the coots with its agreeable song. Different kinds of Sunbirds were common here and *Lanius collaris humeralis* had, by mistake, gone astray out among the reeds.

In the grass-plain on the eastern side *Cisticola robusta ambigua* was very common, as also was *Cisticola subruficapilla aequatorialis*.

In the high grass we found, among other birds, *Otis melanogaster*, *Francolinus hildebrandti altumi*, *Francolinus uluensis* and other francoline species.

While the train stopped at Molo Railway Station, 7,940 feet, a specimen of *Nectarinia tacazze* and another of *Pycnonotus tricolor fayi* were shot.

Our next stop was at Londiani, 7,410 feet above sea-level. We stayed here a few days to make our final preparations for the safari to Mount Elgon, while I spent the time in making further collections of birds.

Londiani is an important agricultural centre, of which Cranworth (Profit and Sport in B. E. A. 1919, p. 269) says that "it is a prosperous little centre, nestling among the cedars, whence the main and much abused road branches off to the Uasin Guishu plateau. There is a township here, planned with an almost incredible want of skill in the centre of a swamp, while all around the ground rises into ideal sites". "The Red Book", 1919, p. 109 gives the average yearly rainfall to almost 45 inches.

A few kilometres outside the township there are rather extensive, dense woods, on the fringes of which and on the bush-clad slopes *Nectarinia kalimensis*, *Cyanomitra verticalis viridissplendens*, *Cossypha caffra iolaema* and *Saxicola torquata salax* were fairly common. *Estrilda astrild nyansae* and *Estrilda nomula* also occurred in fairly large numbers in the bushes, where *Colius striatus ugandensis* was met with in small flocks. *Dioptrornis fisheri* and *Euplectes capensis xanthomelas*, *Batis molitor puella* and *Lanius collaris humeralis* were also seen almost everywhere.

In the depths of the forests I saw *Cinnyris mediocris*, the very rare *Chlorophoneus abbotti* and small flocks of *Lophoceros melanoleucos suahelicus*, which slowly and listlessly moved among the branches of the trees. From the highest tops of the trees the varying cries of *Turacus hartlaubi medius* were heard and the skrill notes of *Oriolus percivali* echoed from different directions, while *Pycnonotus tricolor fayi* — one of the best songsters — was heard singing wherever we went. From the foliage of the slender twigs *Zosterops virens jacksoni* was often heard and *Turdus deckeni elgonensis* timidly flew about among the brushwood.

On the 6th May we left Londiani and started towards Mount Elgon. At first our way passed through grass country, and along the road *Calandrella cinerea saturatior*, *Motacilla vidua*, *Riparia cincta cincta*, *Euplectes capensis xanthomelas* and others occurred quite commonly. In large flocks *Drepanoplectes jacksoni* was seen passing across the expanse of grass and on one occasion I shot out of a large flock 18 specimens with a single shot. Many times did we see the pairing displays of the males. At various places along the road there were pools of water or swamps where *Gallinago nigripennis* was found in great numbers. Cranworth says, however (op. cit. p. 414): "Londiani used to have a very good reputation for snipe, but lately this has not been sustained." Here, in the immediate vicinity of this little township, it seemed to be still common however.

Londiani Mountain in the neighbourhood is 9,855 feet high at its highest point and when we had fought our way over the mountain ridge we met, for the first time, other birds who were natives of this region. On both sides of the road there were enormous forests, which were sometimes superseded by bamboo. Among the birds shot here may be mentioned: *Apalis porphyrolaema*, which in flocks of 4—6 in number searched for insects high up among the branches, *Buteo oreophilus*, *Buteo augur*, *Alseonax minimus murinus*, *Irrisor bollei jacksoni* and *Poicephalus gulielmi massaicus*.

About two days' march from Londiani, towards Eldoret, when we encamped on the edge of a forest, about 9,000 feet high, on a slope covered with trees and bushes we shot out of a large flock sitting perched in the trees two specimens of *Ciconia ciconia ciconia*, which had surely been detained here but were now on their return to palaeartic regions. *Vinago calva salvadorii* and *Turacus hartlaubi medius* were very common in the forests.

The last 25 miles of road before reaching Eldoret pass through alternating acacia-plains and grass-plains, on the average about 7,200 feet above sea-level. In the former, as elsewhere, we met *Macronyx croceus*, *Lamprocolius chalybaeus chalybaeus*, *Anthus leucophrys* very often, and in the bush-plains, which at certain places occupied small areas, *Jynx ruficollis cocensi* was not uncommon.

In the grass-plains near the Uasin Gishu plateau I now met *Urobrachya phoenicea phoenicea* for the first time, which was found here in flocks, but were, nevertheless most numerous in places where there was any water. This bird was, in contradistinction to the majority of others bird occurring here, shy and cautious and therefore very difficult to approach within range. In the reed vegetation growing on the banks of a little stream the bird I have described anew, *Cisticola tinniens subrufescens*, was found rather commonly. This little bird was extremely difficult to discover as it hopped about among the reed-straws and it was still more difficult to find the birds shot. Thus I only succeeded in procuring two specimens. Both here and at the neighbouring locality, Eldoret, the rare and exceedingly beautiful pipit *Macronyx ameliae wintoni* was found, but not commonly, and everywhere I saw *Myrmecocichla aethiops cryptoleuca*.

At Eldoret, about 75 miles' distance north-west of Londiani, we stayed two days. This place is the centre of the Uasin Gishu Plateau. This plateau is a fertile tract of grassy country a little to the North of the Equator. It has an area of some 90 miles long by 30 miles broad and an altitude of from 4,500 to 6,000 feet. The first South African settlers arrived in 1906 and now there are approximately 20,000 acres under cultivation. The

average rainfall is about forty inches. The altitude varies considerably. Eldoret itself is 6.842 feet, descending at the Nzoia River near the main bridge to 5.880 feet ("The Red Book", 1919).

Around the township — through which the insignificant River Socian flows — there are extensive grassplains, having a rich bird-life. *Penthetria laticauda suahelica*, *Estrilda astrild nyansae*, *Macronyx croceus* and *Cisticola robusta ambigua* were the commonest occurrences. In the bushes and vegetation bordering the banks of the above-mentioned river *Nectarinia kiliensis* and *Cossypha caffra iolaema* were common, and among those occurring more sparingly may be mentioned *Cisticola tinniens subrufescens*, *Nectarinia famosa cupreonitens*.

The road from Eldoret to Soy passes through scrub-plains, at about an average altitude of 6.200 feet and in these areas we shot, among others, *Lybius bidentatus acqutorialis*, *Streptopelia capicola tropica*, both of them quite common. Less common were *Lamprocolius splendidus*, *Cerchneis tinnunculus tinnunculus*, *Bradornis pallidus murinus*, and the bird newly described by v. Someren, *Serinus pseudobarbatus*.

By the numerous small rivers which we had to cross there were generally larger or smaller wooded-patches and in these I met *Musophaga violacea rossae*, *Lophoceros melanoleucos suahelicus* and others. A day's march before Soy there is a shallow little lake in the plains. Round the shores of this sheet of water there grows a dense and tall reed-vegetation, and in the immediate vicinity of the lake trees and bushes have united to form a kind of wood. One of the commonest birds in this little lake was *Fulica cristata*, and among ducks, *Thalassiornis leuconotus* and *Nyroca capensis* occurred in fairly large numbers. The dense reeds were frequented by *Ixobrychus minutus payesi* and innumerable other birds, while in the swampy, grass-clad areas nearest the shores I met *Ortygometra pusilla obscura*. In the bushes and thickets *Dryoscopus gambensis nyansae* and *Halcyon chelicuti chelicuti* hid themselves and *Ureginthus bengalus ugandae* was common here too, while *Poicephalus meyeri saturatus* was often seen in small flocks.

At Soy — about 35 miles from Eldoret, mid-way between that place and Mount Elgon — *Mirafraga africana tropicalis* was fairly common and *Corvultur albicollis* was found even in the town itself. Here and there in the vicinity of human dwellings *Motacilla vidua* also occurred and *Cinnyris venustus falkensteini* and *Chalcomitra senegalensis aequatorialis* appeared in the low bushes along the small streams and rivers.

During the last few days' march before reaching Elgon our route lay chiefly through bush-plains, where *Eurystomus afer rufobuccalis* and *Corvinella corvina affinis*, *Lamprocolius splendidus*, *L. purpureus amethystinus* and *L. chalybaeus chalybaeus* were common. In the small groves sometimes found around the

water-courses *Vinago calva salvadorii*, *Oriolus larvatus rolleti* were the birds most frequently seen. *Anthus rufulus raalteni*, and *Anthus leucophrys*, *Myrmecocichla aethiops cryptoleuca* and *Riparia cincta cincta* also occurred in large numbers.

A very interesting find was also made here in the neighbourhood of Elgon, for it was here I shot a specimen of *Irrisor erythrorhynchus niloticus*, whose real range lies considerably more north. The find should thus show that the bird-life of the Elgon regions includes also elements from other zoögeographical areas, and later on in the description of the Ornis of Elgon I shall show how, from other faunistic provinces, additions to the typical bird-kingdom are present. *Parus niger purpurascens*, *Parus albiventris*, *Crateropus melanops sharpei*, *Hirundo senegalensis* and numerous other birds belonging to the Elgon-fauna already began to appear two days' march from the mountain.

On the journey up to Elgon 214 birds were shot in all, representing those mentioned above, as well as a number of other species and forms.

A short description of the Ornithology of the Eastern Slopes of Mount Elgon and some Remarks on the Mountain and its Nature.

Mount Elgon is one of the largest extinct volcanoes in the world (according to Purvis, p. 266, the largest volcano in the world) and probably formed in the later tertiary period. It lies north of the eastern part of Lake Viktoria, intersected by 1° N. lat. The western part with the main crater lies in Uganda, while the eastern slopes belong to Kenya Colony. The boundary is drawn across the highest summit, 4,636 metres (14,140 feet) (Stigler writes in "Rassenphysiolog. Studien in Uganda", p. 221, that the highest point is 4,382 metres and states that the crater is 11 kilometres in diameter) and then follows the Swam River northwards. The diameter of the mountain is about 70 kilometres and the main crater about 12 kilometres across (Lindblom: Ymer, 1921, p. 140). The rainfall on Elgon varies very much. Johnston (The Uganda Protectorate, vol. I, p. 301) says that "rain is abundant, and although it is heavier in some months than in others there is scarcely a month of the year which is without rain. The heaviest rains generally occur in January, February, March and April, October and November. I should say that the average rainfall in this Forest Region was 60 inches". The western slopes of the mountain have the heaviest rainfall.

We pitched our camp at an altitude of about 6,800 feet, on the outskirts of the forests and from this point excursions

and expeditions were made in all directions. Below our camping-place the acacia-plain spread itself, broken here and there by the so-called orchard-plain, which in its turn was continued by the grass-plain.

In the acacia-country at the foot of Elgon there was a rich bird-life. *Neophron monachus* was very common and at times they congregated in small flocks around my tent, otherwise this bird was seen, as a rule, in the company of *Pseudogyps africanus africanus* and *Corvultur albicollis*, both of which were found in fairly large numbers almost everywhere. I found *P. a. africanus* breeding commonly in the trees fringing the small rivers flowing through the plains, but I also found its nest in the depths of the forests. Two specimens of *Gyps rüppelli erlangeri* were shot, although in these regions this bird was rarely found. *Milvus migrans aegyptius* and *Buteo augur* also occurred here. I also saw *Helotarsus ecaudatus* and *Serpentarius serpentarius* several times. Though *Lophoceros melanoleucos suahelicus* was mostly met with in the interior of the forests, it was nevertheless not an uncommon sight to see a little family of 3 or 4 hopping about on the branches of the acacias.

Among the Weaver Birds occurring in this area, *Euplectes capensis xanthomelas*, *Penthetria laticauda suahelica* and *Drepanoplectes jacksoni* were those most frequently seen. Neither were *Phormoplectes insignis insignis* and *Othyphantes reichenowi nigrotemporalis*, described anew by me from Elgon, rare. Only once did I see *Nigrita emiliae schistacea*, and rather sparingly too did *Quelea sanguinirostris aethiopica* occur.

Those found most commonly, however, were *Macronyx croceus*, *Dioptrornis fisheri*, *Prinia mistacea immutabilis*, *Bradornis pallidus murinus* and *Saxicola torquata salax*, the last-named mostly frequenting the small acacias. On the dry branches of old trees *Buphagus erythrorhynchus* could be seen now and then, and *Eurystomus afer rufobuccalis*, either singly in or small flocks, kept company with *Crateropus melanops sharpei*. Rather common too were *Corvinella corvina affinis*, *Lamprocolius chalybaeus chalybaeus* and *L. purpureus amethystinus*. In places where the trees grew thickly and brushwood occurred *Dryoscopus gambensis nyansae*, *Fiscus collaris humeralis*, *Melittophagus lafresnayi oreobates*, *Colius striatus ugandensis* and many others were found.

The Grass-plain.

Below the acacia-plain, orchard-plains and all other transitional forms between these floral areas of the eastern slopes the great, wide-spread savanna begins. In the transition from the plain to the typical savanna a few solitary trees of different kinds may be seen here and there. The climatic conditions of the various regions vary very much at different places, but accor-

ding to Gräbner (Lehrb. der Pflanzengeographie, p. 140) the plain-districts have less than 150 cm. rain per annum. The more the humidity decreases the lighter and shorter will be the vegetation and the formation passes into a semi-desert, such as Volken's describes from the foot of Kilimandjaro. But if on the other hand a mild climate with abundant or almost continuous rainfall prevails (which is just the case in the Elgon districts) then savannas are formed. The long rainperiod, which in these localities lasts from May to October, is thus conducive to the genesis of plains. Real dry-weather prevails only from December to February.

In the low bushes, interspersed here and there in this area, I met a number of birds that I had not seen elsewhere. Thus, *Trochocercus albonotatus albonotatus*, *Elminia longicauda teresita*, *Anomalospiza imberbis* and *Eremomela elegans elgonensis* occurred, the last-mentioned, according to my observations, less commonly. *Anomalospiza* was found, as a rule, in small flocks but I always saw the others in solitary specimens. A not uncommon bird here too was *Emberiza flaviventris flaviventris*, and at times I saw *Othyphantes reichenowi nigrot temporalis*, whose nest I found, both here and at other places, in the extreme tips of the slender branches. The most interesting find from this locality was the bird, *Centropus senegalensis incertus* which I have described for the first time. This bird was found breeding.

Further, *Myrmecocichla aethiops cryptoleuca* was met with very frequently; *Riparia cincta cincta* circled everywhere and *Quelea cardinalis* built its nest here and there in the giant reed-straws. In large flocks *Urobrachya phoenicea phoenicea* flew across the plains in the company of *Vidua serena*. In the tall grass and elsewhere *Cisticola chubbi*, *C. robusta ambigua*, *C. strangei holubii* were met not unfrequently and on some occasions even *C. brachyptera brachyptera* was seen. Of francolines only the rare *Francolinus kikuyuensis* was met with in this locality.

The dense forests.

The vegetation on the western flanks of Elgon is very rich, and quite West African in character, the birds also having West African affinities. The eastern aspect of Elgon differs from the other sides of the mountain in being much less rich in vegetation, and in having a less abundant rainfall. There is forest in stream valleys sometimes, but more often the water-courses plunge down rocky gullies through a country which is strewn with immense boulders and thinly covered with coarse grass and the usual stunted trees of the East African wilderness (Johnston: The Uganda Protectorate, vol. 1 pp. 58, 60, 61).

The dense forests on the eastern slopes of Elgon generally commence at an altitude of about 7.000 feet and follow up the slopes to about 10.000 or 11.000 feet above sea-level. In certain

places there is no sub-vegetation, and these parts strongly recall our palaeartic woods. Other parts again — and these comprise the largest area of the forests — have an almost impenetrable sub-vegetation of thicket and liana, through which it is almost impossible to force one's way. Here and there small mountain streams rush along, on the banks of which huge ferns and creepers form dense groves.

On the outskirts of the forests in the direction of the acacia-country *Parus albiventris*, *Serinus albifrons kilimensis*, *Batis molitor puella*, *Cinnyris reichenowi*, *Anthreptes collaris ugandae*, *Chalcomitra senegalensis aequatorialis*, *Cyanomitra verticalis viridisplendens* and others were found abundantly. All these frequented places where the trees stood solitary and separated by smaller or larger bushes, i. e. in the sunlit and more open parts of the forests. On the banks of the small streams, where they plunged down the naked sides of the mountain, *Motacilla longicauda* skipped about, and the bushes close to the water were frequented by *Ceryle maxima*, while small flocks of *Neisna quarantina nyansae* flew here and there.

The low trees in the open patches of the forest-glades were inhabited by *Parisoma lugens jacksoni*, *Campophaga quiscalina martini*, *Apalis pulchella*, *Barbatula simplex leucomystax*, *Barbatula bilineata*. The first nest I found of *Turacus hartlaubi medius* was situated in a thick bush on the fringe of the forest. Remarkably enough, I also found *Chrysococcyx klaasi* here a few times and it was in this locality that the extremely beautiful *Chlorophoneus dohertyi* was shot.

In the interior of the forests *Turacus hartlaubi medius* was one of the commonest birds, but only a few times did I see *Musophaga violacea rossae*. Another bird occurring quite as often was *Coracina caesia pura*. The most frequently occurring pigeon was *Turturoena delagorguei sharpei*, which was found almost everywhere. Next came *Streptopelia lugens funebris* and *Columba arquatrix*. In the regions through which our expedition passed *Vinago calva salvadorii* was less common.

In the tops of the *Podocarpus* trees swarms of *Poocephalus gulielmi massaicus* were seen, sharing the fruits of the trees with great numbers of *Amydrus wallery elgonensis*, *Pholia sharpei* and *Cinnyricinclus leucogaster verreauxi*. Up and down the rugged trunks of the aged forest-giants climbed *Gymnobucco bonapartei cinereiceps* and in like manner *Campothera taeniolaema* and *Dendropicos lafresnayi lepidus* were often seen. From the dense foliage the notes of *Oriolus percivali* were heard, which bird was found in large numbers, and *Apaloderma narina narina* tried to hide its bright colouring among the kingdoms of the flowers and the leaves, where also *Zosterops virens jacksoni* in small flocks scrambled with hissing cries on the outer tips of the branches. In flocks of 4—6 in number (sometimes more) *Irrisor bollei*

jacksoni flew laughing and boisterous from tree to tree and an opportunity was afforded me to get an insight into the home-life of this bird. This Wood-Hoopoe was, for that matter, one of the commonest birds, seen almost daily on our journeyings in the forests, whereas *Rhinopomastus cyanomelas schalowi* was less common. *Bycanistes subcylindricus* frequently was both heard and seen, but it was exceedingly difficult get near it, though I was fortunate enough to disclose some interesting (perhaps non-coincident) features in the life of this Hornbill. In the more unapproachable and remote places in the depths of the forest I found *Turdinus pyrrhopterus elgonensis*, described anew by me from Elgon, *Alcippe abyssinica abyssinica*, *Telophonus australis emini*, *Melocichla mentalis amaouroura* and several others. Where bushes and thickets formed an almost impenetrable confusion the finest songsters of the woods sang their various melodies: *Pycnonotus tricolor fayi*, *Phyllastrephus tephrolaemus kikuyuensis*, *Ph. cabanisi succosus*, *Andropadus gracilirostris chagwensis*, *Androp. latirostris eugenius*, and higher up among the dry branches *Alseonax murinus murinus*, *Muscicapa infulata* and *Terpsiphone perspicillata suahelica* were catching insects.

Out of sight or seen only with difficulty the Honey-guides flew from tree to tree, and from the forests of Elgon the following were brought home: *Indicator indicator*, the commonest of the representatives of this family, *Indicator variegatus variegatus* and the very rare West-African *Indicator conirostris conirostris*. In open patches in the forest, where the ground was covered with bushes, or in glades I found among others, *Apalis cinerea cinerea*, the rare *Hyphanturgus stephanophorus*, *Cryptolopha mackenziana*, *Laniarius lühderi*, *Cossypha heuglini*, *C. caffra iolaema* and once a single specimen of *Schoenicola apicalis*.

In and below the forest-belt on the eastern slopes of Mount Elgon, where the well-known caves are situated, long stretches of the ground is often bare and covered with large and small boulders. On and around these boulders *Thamnolaea albiscapitata subrufipennis* occurred sparingly. On the walls and roofs of the caves hung numerous nests with eggs of *Hirundo angolensis*, seemingly rather common in such localities, though not so common as *Hirundo senegalensis*, which occurred both here and elsewhere. In the neighbourhood of such caves *Lybius bidentatus aequatorialis*, *Cuculus solitarius* and *Coccytes cafer* were also shot.

Eastern slopes of Elgon up to about 12.000 feet.

It may be said of the eastern slopes of Elgon, that they are forest-clad up to about 12.000 feet above sea-level. The dense forests extend right up to about 10.000 and exhibit for the most part the same picture as on a lower level and one also finds

the majority of the previously mentioned forest-birds up here. Already at an height of about 8.400 feet one meets with small mountain meadows, in which, among other birds, *Anthus rufulus raalteni* is not rare. On this altitude I even found a rufous form of *Caprimulgus natalensis*, which for the present I place under *C. c. chadensis*. Here too *Amydrus morio rüppelli* occurred in large flocks. As far as the dense, continuous forests follow the slopes *Columba arquatrix*, *Turacus hartlaubi medius*, *Dioptrornis fischeri*, *Cinnyris reichenowi*, *Poeocephalus gulielmi masaiicus*, *Cossypha caffra iolaema*, *Coracina caesia pura*, *Turdus deckeni elgonensis*, *Indicator variegatus*, occur in great numbers, and *Irrisor bollei jacksoni* appeared in large flocks, numbering as many as 20 individuals.

From an altitude of 8.500 feet one encounters numerous mountain streams, which sometimes plunge down abrupt precipices, the waters of which are beaten into fine, white foam before they reach the bottom. The ground-vegetation now begin to assume another character, pulpy, thick-leaved species of *Semprevivum* and *Sedum* becoming more and more abundant. With reference to the frequent occurrence of water-courses I may cite Jackson's words (The Uganda protectorate, vol. 1, p. 60): "With the aid of these cascades Elgon might (in addition to its fertile soil, paucity of native inhabitants, and absolutely healthy climate) some day become the seat of a most powerful community of Europeans, who would be able here to generate electricity which could subserve half East Africa."

The higher one ascended, the thinner the forest became and the sub-vegetation denser and taller. At an elevation of 9.000 feet some *Serinus flavivertex flavivertex* were shot out of a large flock, while *Serinus striolatus ugandae* was here a very common bird, frequenting the bushes. A specimen of *Buteo augur* was also found on these wooded slopes and I saw this Augur Buzzard right up to 12.000 feet. Further, in this zone *Apalis porphyrolaema*, *Tarsiger orientalis elgonensis*, *Bradypterus cinnamomeus* and *Zosterops virens jacksoni* occurred, the last-named was even found in the low *Erica* bushes at an altitude of over 12.000 feet.

Before one reached the extreme outposts of the forest on the summit, that is to say about 9.500 feet, the mountain meadows commenced to get larger and more numerous and the gradually thinning forest was interspersed here and there with larger or smaller clumps of bamboo. These did not, however, form a continuous zone or region, though at times they appeared to do so, but consisted mostly of isolated patches of powerful and dense bamboo-trees, pressed in between the highest areas of the forest. The temperature up here at 10 o' clock on the night of 27th June was 49° F. — The bird-life of the bamboos was rather poor. In between the fallen canes, which with numerous entangling-

plants, covered the ground, *Cryptospiza ocularis* ran about and the only other birds met here were *Cryptolopha mackenziana*, *Camaroptera griseoviridis griseigula* and *Zosterops virens jacksoni* and swarms of *Irrisor bollei jacksoni*.

Where the forests and bamboo terminated there was a transition belt to the *Erica* zone and here bushes and small trees occurred promiscuously, mingled with solitary heather-bushes. This belt extended upwards to about an elevation of 10,500 feet and here were found representatives, partly of the pure alpine bird-life and partly of the regions below. The *Erica*-forest is the vegetation colony which ascends highest up the mountain and in general the twisted and weather-beaten bushes and trees attain a height of about 4—6 metres, although a few trees may be even as much as 15—20 metres. Such a heather-giant measured 2 m. 28 cm. in circumference at breast height.

Of the birds living in the *Erica*-forest may be mentioned: *Saxicola torquata sulax*, which was however rather rare at this altitude. On the other hand neither *Francolinus schütti schütti* nor *Cisticola prinioides prinioides* were uncommon. Only a few times did I see at 11,000 feet the rare *Chloropeta natalensis similis*, which frequented the dry, dead branches of the heather-bushes.

The boundary-line of trees on Elgon is marked by small, scraggy bushes of the *Erica*-forest, and before these are reached one comes across small patches of snow. But when the last *Erica*-plant is left behind one is then within the limits of the alpine region.

The Alpine Region and the Highest Plateau of Elgon.

The vegetation in this region closely resembles the Alpine flora of Kenya, Kilimandjaro and Ruwenzori. There are the weird lobelias and the giant groundsels. Snow falls on these highest points but does not lie long. (Johnston: The Uganda Prot., vol. 1 p. 61).

Large and small boulders and stones here lie strewn among the grass and plant vegetation or along the sides of the numerous deep gullies, in the bottom of which, as a rule, a little river or brook flows along. A few small, stunted bushes have also strayed here, and in a few places where the streams run smoothly along small clumps of shrubbery have been formed. Along the banks of these streams grow tall *Lobelias* and giant *Senecio Johnstoni*, which, remarkably enough however, attain their greatest size and most imposing dimensions on the highest plateau of the mountain.

The characteristic plants of this region are bushy species of white, red or yellow flowered *Antenaria*. Everywhere on the

ground there are swarms of small, dark-brown rodents, whose tunnels and holes open up between the tufts, and the heaps of excrement bear witness that these animals are extremely numerous.

The only birds I saw here were *Cisticola prinioides prinioides*, *Pinarochrou sordida rudolphi* and *Nectarinia tucayze*, all of which were common.

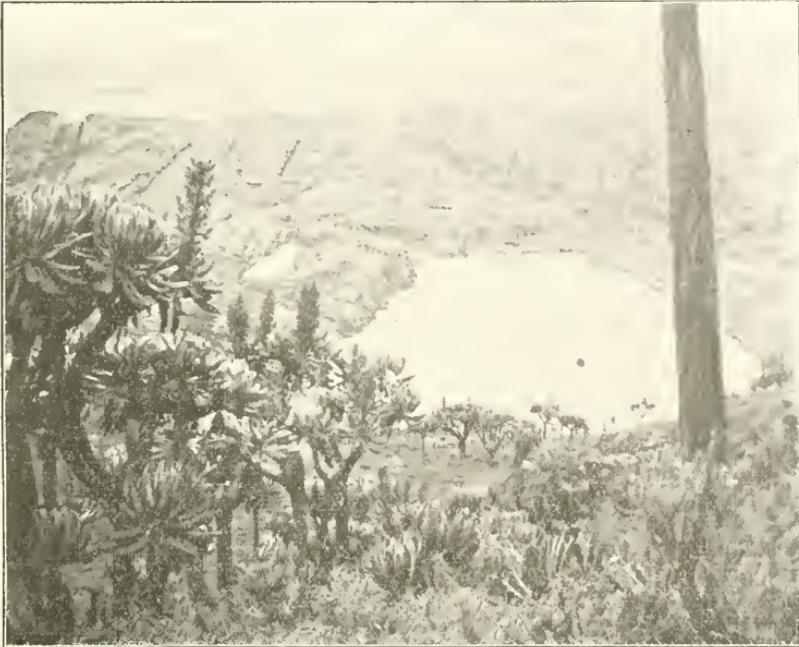


Fig. 1.

The crater-lake on the highest plateau of Mount Elgon.
(The plants in the foreground are *Senecio Johnstoni*.)

Some hundred feet below the highest point of Elgon there is in a lateral crater a plateau with a lake about a couple of hundred metres long and some 150 metres wide, and in addition to this lake there are a few other smaller bodies of water. The shore on the side of the lake facing the highest summit of the mountain rises abruptly and is covered right up to the ridge with tall and vigorous *Senecio Johnstoni* and other plants. Up here, at an altitude of about 13,800 feet, the three last-mentioned birds were also common, and here and there *Amydrus morio rüppelli* could also be seen flying about. Only one specimen of this bird was shot. High above the summit soared a couple of *Corvultur albicollis* and in the icy water of the lake swam a

pair of *Anas sparsa* and out of the sedge-vegetation that skirted the lake at certain points a *Gallinago nigripennis* rose into the air.

The ornithological collections from Elgon contain in all 628 specimens.

The Zoo-geographical Relations of Mount Elgon.

Opinions may perhaps differ with respect to the zoo-geographical position of Mount Elgon. As already pointed out the bird-kingdom on the eastern slopes towards Uganda is of a more West-African character but with respect to the eastern slopes which lie within Kenia Colony (British East Africa) one can scarcely make such an assertion. Reichenow has named the easternmost province of the West-African region the Central Africa Lake-district, which includes the countries round Albert Nyanza, Albert Edward Nyanza, Lake Kiwu and the northern parts of Victoria Nyanza and so on. Now Elgon being situated just north of Victoria Nyanza it is questionable whether it should be reckoned to the Central African Lake-district or not. On the map which Reichenow has appended in *Vogelf. Mittelafr. Seengeb.* and on which he has given the extent of this province, the boundary seems to run south and west of Elgon and the old volcano should thus fall within the East- and South-African steppe region (at least the eastern and north-eastern slopes). Thus the Elgon neighbourhood should form an intermediate link between the West-African forest region and the East-African steppe region. And in respect to the bird-life this seems to be the case.

During the months our expedition spent on Elgon we did not, it is true, procure so many birds of West-African affinity. Still, we shot *Cryptospiza ocularis*, *Turdinus pyrrhopterus elgonensis*, *Musosophaga violacea*, *Gymnobucco bonapartei cinericeps*, all of which are previously known from East Africa. On the other hand, *Indicator conirostris conirostris* and *Centropus senegalensis incertus* have not been found before so far eastwards as Elgon or anywhere else in the eastern steppe regions. The former is a pure forest-bird, the latter an inhabitant of the plains. The investigations made during the last few years into the ornithology of Central Africa have so often shown that quite a number of forest-birds, previously only known from West Africa, even occur in the forest round the high East African mountains (Elgon, Kenia, Kilimandjaro and others) with closely related or similar birds, but are not found in intervening regions. Lönnberg (K. Sv. Vet. Akad., Årsbok, 1918, p. 260) explains such problems of discontinuity by assuming that a more or less continuous forest once covered the whole of the area in which these animals now live and that the scattered forests left are only the remains of

that once huge wooded area. Later, however, considerable climatic changes took place, which most seriously effected the East- and South African subregion and the forest died out in certain tracts. There arose then the steppe-regions which continued to expand and the huge primeval forest was in this manner cut up as it were, into larger or smaller formless blocks of forest which continued to exist around the great mountains. Here in these forest-islands the animals which had previously had a more uniform distribution over the whole of Central Africa were now isolated and confined, almost in the same manner as the representatives of land-fauna on islands. And these forest animals — mammals and birds — are thus relicts in forests which are the remains of the once huge continuous, primeval forest, and this division of the forest has given rise to the formation of races analogous to that existing on islands in the ocean.

This interpretation of Lönnberg of the presence of West-African mammals and birds in East Africa is undoubtedly correct and throws light on many different problems of discontinuity in the Ethiopian fauna. The writer in question confirms his opinion with a number of indisputable proofs, which I have no occasion to repeat in this connection. Reichenow's opinion (Vög. Afr. 1 p. LXXXIX) that the mountains of Africa were sticking up like islands during a period when the African continent was covered by the sea may, as Lönnberg (op. cit.) points out, also be applied, but in a different manner.

But Elgon has not only relations with West Africa in respect to the composition of the avi-fauna, but also with South Africa, inasmuch as elements coming from the south have here their northern boundary. Thus, from the eastern slopes of Elgon, in the vicinity of Nai-Swamp, a specimen of *Lobivanellus senegallus lateralis* was brought home. Further, *Irrisor erythrorhynchus niloticus* was shot on Elgon, which shows that birds previously only known from North Africa also have their southern boundary in these regions.

It would be rather a lucky chance if our expedition, during the relatively short time we stayed on Elgon, had procured all the different birds, which really belong to other zoo-geographical sub-regions but, from some cause or other, are nevertheless stationary in the locality. There are surely many others, which future studies of the ornis of the mountain will establish. But already from the few discoveries made one might certainly assume that the bird-kingdom of Elgon includes elements of very different origin, and that the avifauna, here therefore exhibits a mixture of forms from many different zoo-geographical regions, and consequently the number of the so-called subtile forms will, of course, be unusually great.

That *Ardeola idae*, which is otherwise an inhabitant of Madagascar and South Africa, was shot in the vicinity of Elgon

must perhaps be considered as a mere chance. From any point of view the find is none the less of some interest.

At Victoria Nyanza.

Before reaching Victoria Nyanza we stayed for a few days at Lumbwa, a few miles west of Londiani, on the Uganda Railway. This place lies 6,220 feet above sea-level, but the surroundings are at some places 7,000 feet and over. Only a few birds were shot in this locality: *Lanius collaris humeralis*, *Campephaga nigra nigra*, *Laniarius sulphureipectus suahelicus* and *Telophonus senegalus erythropterus*, all of which we found in the valleys covered with acacias and brushwood.

Later on I stayed some time at Kisumu, formerly known as Port Florence, the terminus of the Uganda railway. This town lies at an elevation of about 3,760 feet at the eastern end of the Kavirondo Gulf, Victoria Nyanza, and has the most rainy periods in December, February, March, April with an average monthly rainfall for a period of six years of 6.79, 5.02, 6.27, 6.88 ins. respectively, and a total of 47.39 ins. I arrived here in the dry period, therefore a great number of the birds shot are in moult.

In the innermost parts of the Kavirondo Gulf there are extensive, almost impenetrable papyrus groves and inside these, where the shore commences, is a narrow belt filled with bushes and brushwood. *Actophilus africanus*, *Tringa hypoleucos*, *Bubulcus ibis*, were very common in the reeds and along the shores, and although it was in the end of the month of August a female specimen of the first-mentioned species had well developed eggs in the ovary. In the brushwood *Streptopelia decipiens permista*, *Chalcomitra senegalensis aequatorialis*, *Nectarinia erythrocerca*, *Ploceus melanocephalus dimidiatus*, *Alseonax infulatus*, *Serinus dorsostratus dorsostratus* and others occurred in great numbers. Such an abundance of Honey Birds as was found here I never saw anywhere else.

As my wanderings in the districts only lasted a few days it goes without saying that I am not in a position to give anything like a complete description of the bird-kingdom, but must be content to mention the birds shot during my excursions. The exceedingly beautiful *Laniarius erythrogaster erythrogaster* hopped about in the dense brushwood and *Columba guinea longipennis* was seen occasionally.

At certain points the steppe-country reaches down almost to the lake itself and Small flocks of *Oena capensis* were seen flying back and fore between the low bushes growing here. — *Sorella emini-bey*, *Amadina fasciata alexandri*, *Anomalospiza imberbis*, *Halcyon leucocephala leucocephala* and many others also occurred here, though less commonly. *Colius striatus ugandensis*

and *Spermestes cucullata* were seen almost everywhere, and in the branches of the acacias *Macronyx croceus* was seen and heard.

In large flocks *Neophron monachus* and *Corvus albus* kept company, both on the shores and in the acacia-country, I even saw them very often in the streets and open places of the town of Kisumu itself. Here and there *Motacilla vidua* tripped about fearlessly and *Passer griseus ugandae* appeared both in the scrub-country and on the shores of the lake.

Before leaving Victoria Nyanza I made a trip to Kendu on the Kavirondo Gulf and stayed there for four days in order to complete my bird-collections. On the whole, the natural and climatic conditions at this place are the same as those at Kisumu, and therefore there is no need of my touching upon them again.

Almost all the birds observed and shot at Kisumu were also found here. But several others were shot as well. One of the commonest species was *Ceryle rudis rudis*, which was found in large flocks on the shores of the gulf, where also *Corythornis cristata galerita* and *Halcyon leucocephala leucocephala* were met with. Very numerous were *Thresk. aethiopica*, *Larus cirrocephalus*, *Anhinga rufa rufa*, *Bubulcus ibis*, *Gelochelidon nilotica nilotica*, *Hydrochelidon leucoptera leucoptera* and others. *Limnocorax niger*, *Balearica regulorum gibbericeps* and *Hagedashia hagedash nilotica* were not uncommon here. The waders too were numerous represented by a great many species, among which may be mentioned *Hoplopterus spinosus* and *Glareola ocularis*, which did not however occur so abundantly as *Tringa glareola glareola*, *Erolia minuta minuta* and *Tringa ochropus ochropus*. The latter were seen everywhere on the muddy shores, where, in the company of *Oedicnemus oedicnemus vermiculatus* it tripped about in large flocks. *Alopochen aegyptiacus* was also very common. In the reeds, which in some places were very dense and tall, swarms of *Pyromelana nigrifrons* flew about and in the trees fringing the shores I found *Hypochera ultramarina purpurascens* and numerous pigeons, among which may be mentioned, *Streptopelia decipiens permista* and *Streptopelia fulvopectoralis*, the latter described by me from this locality.

In the dry grass-plains were found *Charadrius asiaticus asiaticus*, *Oenanthe pileata livingstonei*, *Scopus umbretta bannermani* and the bushes on the fringes were frequented by *Passer griseus ugandae*, *Ploceus melanocephalus dimidiatus*, *Urobrachya phoenicea phoenicea*, *Anomalospiza imberbis*. Likewise, *Anthus rufulus raalteni*, *Pyrrhulanda leucopareia* and many others were common in the grass-country. Among the Honeybirds *Chalcomitra senegalensis aequatorialis* and *Centropus superciliosus*, *Ureginthus bengalus ugandae*, *Dicrurus adsimilis divaricatus* and *Pycnonotus tricolor fayi* were often met with, and now and again *Ploceus abyssinicus femininus*.

B. Systematic Parts.

Struthionidae.

Struthio massaicus Neum. — Rchw. I. p. 10.

1 ♂ ad. 20. 9.; 1 ♀ ad. 20. 9., Thika.

These two specimens were shot by Director Lovén while on a shooting trip in the Thika districts. Being unable to make an examination on the spot I give Mr. Lovén's brief description: "The male: head, bill and legs milk-coloured with a bluish tint; metatarsus and toes milk-coloured, somewhat pinkish in front. The female: head and neck grey with a greenish hue, bill dark grey, dark-coloured, darkest at the edges; legs and toes light grey, scales brownish grey."

This Ostrich was common in the regions around Nairobi and further southwards and I frequently saw them running about the plains in large flocks. They were plentiful in the Game Reservations.

Lovén also brought home a number of the eggs of this species, which he found on the same day as these individuals were shot.

Laridae.

Larus cirrocephalus Vieill. — Rchw. I. p. 44.

Ongwaoo . . . ki-kavirondo. — Kanyango . . . ki-kamba.

1 ♂ ad. 21. 8., Kendu.

This species was very common at Kendu, on the Gulf of Kavirondo, and occurred in large flocks on the shore. This Gull was also found in considerable numbers at Lake Naiwasha. The specimen is in summer dress.

Wing 310 mm; tarsus 49 mm.

Irides not uniform pale yellow (Reichenow) but had nearest the pupil a rather wide pale-yellow ring surrounded by another of chocolate-brown colour; bill dark red; legs coral red.

Gelochelidon nilotica nilotica (Gm.). — Rchw. I. p. 51.

Ongwae . . . ki-kavirondo. — Kanyange . . . ki-kamba.
1 ♀ ad. 23. 8., Kendu.

This bird was found in large numbers on the Gulf of Kavirondo, both at Kisumu and Kendu. Three specimens shot were all in winter plumage. Often seen in the company of *L. cirroceph.*

The specimen is in winter dress with the crown and occiput white, faintly washed with grey. Lores white.

Wing 290 mm; tarsus 33 mm.

Irides dark brown; bill and legs black.

Hydrochelidon leucoptera leucoptera (Schinz). — Rchw. I. p. 71.

2 ♂♂ ad. 23. 8.; 1 ♀ ad. 23. 8.; Kendu.

Found at Kendu in large flocks in the company of other terns and gulls. As soon as one of them was brought down, the whole flock would as a rule stop; sometimes many of them would fly in sudden turns down to the surface of the water as if to bring assistance. All the birds shot were in winter dress.

Wing ♂♂ 199, 200 mm, ♀ 195 mm; tarsus 20 mm.

Irides dark brown; bill black; legs coral red.

Phalacrocoracidae.

Anhinga rufa rufa (Lacép.). — Rchw. I. 95.

Ousou . . . ki-kavirondo. — Godakodi . . . ki-kamba.
1 ♂ ad. 22. 8.; 3 ♀♀ ad. 22. 8.; 1 ♀ juv. 21. 8.

The Darters were very common in the regions of Kendu, where they could be seen in small flocks flying along the shores. Sometimes they searched the primitive fishing devices erected by the natives or Hindus, and it was a common sight to see a stolid and noisy darter on a pole out in the water. They are, as a rule, very shy and cautious and at the least sign of danger they stretch their long necks straight up into the air and turn their heads in different directions. They fly heavily and close to the surface of the water.

In the evenings they collect together, along with Herons, and settle in the trees growing in the water, when it is possible to get very near them without their flying away.

Of the 5 specimens shot, at least one ♂ is in full dress and this, as well as the three females, agree in coloration with the description given by Reichenow and others. All the four adult specimens, however, have the inner web of the last secondary supplied with a cross-fold. (like that on the outer-web of the tail feathers).

As regards the plumage of the young bird the descriptions of different writers must be taken so that the picture may be something like complete. The young bird shot by me differs now from this description, now from that, for, according to Heuglin (Ornithologie Nordost-Afrikas Bd. II p. 2476), both the dark and light stripe from the eye is missing. In my specimen, however, the white, glossy stripe running down the neck is found to the length of 10 cm. Further, the chin is not pure white but has a pale yellowish brown tint.¹⁾ According to Reichenow (Bd. I. p. 96) the under part of the body is brownish white. This specimen, however, has a greyish white, silky colour, and the lower part of the neck is light rust-coloured. The rectrices are blackish on the upper surface (without any transverse folds), on the lower surface dark-brown with dark greyish-brown tips. The respective measurements of these individuals are: wing 338 mm, culmen 80 mm, tarsus 40 mm, tail 260 mm.

On account of the whiteness of the under surface we might be able to suspect that this specimen is *A. r. novaehollandiae* (Gould.), the female of which has this colour, but Hartert (Vög. Pal. Fauna, p. 1401) asks the question as to whether ♀ ad. also has this character.

Even with reference to the colour of the iris, culmen and legs there is a great difference of opinion. Reichenow, for instance, states that the iris is red; Hartert that it is yellow, v. Erlanger says (J. f. O. 1905, p. 37) that in adult birds it is grey with a yellow, then a red ring around the pupil etc., etc. In the young bird the iris has innermost a narrow white ring, then a narrow one of greyish yellow and outermost one of coffee-colour. In the four older birds the iris consisted of a yellow ring innermost, surrounded by a broader one of brown.

With reference to the length of the culmen Reichenow states that it varies between 75 and 90 mm. The five Kendu-specimens have the following measurements:

1. ♂ 66 mm, 2. ♀ 76 mm, 3. ♀ 72,5 mm, 4. ♀ 73,5 mm
1. juv. ♀ 80 mm.

Of these, the shortest one, 66 cm, belongs to an old male bird in full dress and the longest, 80 mm, to a young bird. The colour of the bill varies also somewhat with age. Thus, the young bird has a light greyish green bill, while, the bill of old birds, on the other hand, is light brownish-green.

Hartert states that the colour of the legs is white. while Reichenow says that the legs are dull yellowish-brown. In a young bird just shot, they are, according to my observations,

¹⁾ The shoulder-feathers are short, brown-greyish or brown-blackish with lighter streaks along the shafts. The outerweb of the greater wing-coverts, which in old birds is darkbrown, is in this specimen greyish (sometimes with a faint tint of brown). No long lancetformed feathers.

light greyish green on the upper side, while the lower side is dark grey. Old birds have the upper side of the feet light brownish green and the lower side dark grey.

v. Erlanger writes (op. cit.) that adult male birds have the whole of the back black with a green wash, females on the other hand have the feathers of the upper part of the back tipped with brown. This observation is, as far as I can find, quite correct, but when the males get close to the moulting-season they are, as regards the colour of the back, exactly like the females. Neither is it so easy to distinguish them by the other character adduced by this writer, viz., that the females lack the black stripes along the upper part of the neck which the males have, because of the three female specimens I have from Kendu only one (probably a young individual) is without them. The other two have them almost as pronounced as the ♂ specimen.

In Cat. of Birds vol. XXVI p. 411 a character is given by means of which it is easy to distinguish between ♂ ad. and ♀ ad., i. e. that the former has "the black at the base of the fore-neck and chest not divided from the base of the hind-neck and upper back by a chestnut band, terminating at the shoulder" while the latter has "the black at the base of the fore-neck and chest divided on each side, etc."

I have myself determined the sex of my specimens and know that there is no uncertainty or doubt about this matter.

Two of my specimens are in the moulting stage, the others — except the young bird — are in full dress. But the reason why we find this condition in these birds is due to the fact that in *Steganopodes*, *Lariformes* the renewal of the big feathers and the small feathers do not coincide with one another, the latter taking place rather rapidly while the former may be going on the whole year round, so that, strictly speaking, all individuals are in moult. In such cases the characterisation of the plumage must be based on the condition of the small feathers. (Stresemann: Avifauna Macedonica p. XV.)

Anatidae.

Thalassiornis leuconotus Eyt. — Rchw. p. I. p. 106.

Nthambai . . . ki-kamba.

1 ♀ 27. 7. Soy.

10 miles north-west of Soy in the direction of Mount Elgon at an elevation of about 6500 ft. there is a little lake, bordered with a rich and vigorous reed vegetation and surrounded by acacias. On the shores of and in this lake there was an abundance of various kinds of birds.

Among the different species of ducks found here this species was often seen on the edge of the reed-belt, where, in little

flocks of about 8 or 10 individuals, it tried to escape discovery by getting in among the large root-stocks of the reeds projecting above the surface of the water.

Wing 170 mm; tarsus 35 mm.

Irides dark brown; bill dark brownish grey with yellow spots, legs dark grey.

Nyroca capensis [(Cuv.) Less.]. — Rchw. I. p. 108.

1 ♂ ad. 27. 7. Soy.

This species was common in the little lake mentioned above. Was often seen in large flocks flying across the water and, in contradistinction to the preceding species, which was an inhabitant of the dense reeds, it soared high.

Wing 220 m, tarsus 37 mm.

Irides bright red; bill bluish grey with dark nail; legs dark grey with a faint yellow tint.

Anas sparsa (A. Sm.) Eyt. — Rchw. I. p. 115.

1 ♀ ad. 29. 6. Mount Elgon, 13,800 ft.

The specimen brought home was shot by the icy-cold crater-lake on the highest point of Mount Elgon, about 13,800 feet above sea-level. It is rather remarkable that the vertical range of this water bird extends so high up into the higher zones of the alpine regions, and with reference to this species, which is really an inhabitant of the low-lying, stagnant pools, where there is plenty of algae and water-plants etc. (v. Someren has found the bird at Lakes Naiwasha and Nakuru) it is not known that it occurs and breeds in the snow-regions.

Both the male and female of this species were seen on the lake, but as soon as I approached the shores they flew away startled. Although they seemed to be very shy they returned, however, in a short while and I then succeed in shooting ♀.

At one end of the lake, where the sedge grew in knolls, I found a nest, which no doubt was or would possibly be the home of the pair.

It was composed of dry straw and down. Bowker, according to Reichenow once found a nest of this bird in a hole in a tree 2 meters above the water, but as such a site cannot be found up here, the pair was certainly compelled to accommodate themselves to the facilities of the locality.

A week before I visited the crater-lake Dr. G. Lindblom, ethnographer in our expedition, who then made an ascent to the summit of Elgon, had seen the two birds on the lake, and it is possible that they had been staying there for some time and had thus even selected and commenced to arrange the site for the future nest.

At the foot of Elgon — at an elevation of 6,800 ft — I saw this species later on in the pools and mountain rivers found there, but only two or three of them together.

The female, which was shot, had rather well developed eggs in the ovary and was about to commence laying.

Wing 250 mm, tarsus 41 mm.

Irides cinnamon brown; bill lead-coloured with the middle part and nail black, the tip and base yellowish red; legs greyish green (the under side of the toes yellow), web black.

Alopochen aegyptiacus (L.). — Rchw. I. p. 131.

Alopochen aegyptiacus. — Grant: Ibis, 1915, p. 73. — Sclater-Mackworth Pread: Ibis 1920, p. 788.

Atudo . . . ki-kavirondo. — Bata . . . ki-kamba.
2 ♀♀ ad. 23. 8. Kendu.

Both specimens were shot at Kendu on the Gulf of Kavirondo, where this goose is rather common. In flocks of from 10 to 15 in number they used to settle on the muddy shores of the gulf and, in company with *Thresk. aethiopica*, flocks of *Bubulcus* and other waders search for small animals in the mud.

The birds in this district are very shy and difficult to approach within range, as they are eagerly hunted by the neighbouring Kavirondo Negroes, who, from what Okoth, the chief, told me, consider them to be "*nyama mzuri sana*" (= very good meat).

Both specimens are in full dress. One has a large dark-brown breast-patch and almost white undertail coverts (some with a pale-yellow tint).

Wing 360, 370 mm, tarsus 70, 74 mm.

Irides yellowish brown; bill horn-grey with black nail; legs pale flesh-coloured.

Charadriidae.

Glareola ocularis Verr. — Rchw. I. p. 147.

Odogo . . . ki-kavirondo.
1 ♂ 21. 8., 1 ♀ 22. 8. Kendu.

Occurred in large flocks, from 50 to 100 in number, along the shores of the Gulf of Kavirondo, most often frequenting the small, often reed-covered, islands out in the water.

Their flight is rapid but unsteady. In the company of *Hydrochelidon l. leucoptera* they flew, now up now down, in daring sudden turns and when a shot was fired they did not alight but flew in wide circles around the visitor.

Both specimens are in full dress and the male has the fore-neck greyish-brown, the throat muddy yellowish brown. The upper part of the belly, and the flanks, are bright rust-coloured.

The female, on the other hand, has the throat and fore-neck grey-coloured without any brownish wash. Besides, she has a great number of white feathers in the lores, which in the male are uniform black. Neither of the specimens, however, has the middle of the throat whitish but agrees entirely in the coloration of the throat with the picture of this species given by Pucheran, which he names *Glareola geoffroyi* (Mag. de Zool., Paris, 1845, pl. 57).

When compared with the specimens in the Berlin Museum, collected by Fischer on the coast in Mambrui in British East-Africa it appeared that my specimen agreed fairly well with these, both as regards measurement and colour. The former had a wing-measurement of 190—200 mm for ♂♂ and 182—192 for ♀♀, and even the length of the tarsi was the same as that of the Kendu-birds.

v. Someren does not include the species in his "Check list of the birds of East-Africa and Uganda", 1917, although it has long ago been known from East-Africa, but Zedlitz (Journ. f. Orn., 1914, p. 622), gives the bird from the coast of south Somali.

Wing, ♂ 180 mm, ♀ 190 mm, tarsus, ♂ 30 mm, ♀ 26 mm.
Irides dark brown; bill black with red flanges; legs black.

Rhinoptilus chalcopterus obscurus Neum. —
Orn. Monatsber. 1911, p. 11.

1 ♂ ad. 17. 4. Kiambu.

In the neighbourhood of Nairobi, at Kiambu, this Courser occurred rather sparingly. It frequented the acacia-plains.

Neumann (op. cit.) distinguishes *Rh. ch. chalcopterus* from *Rh. ch. obscurus*, occurring south of the equator to the Cape, which has a brown olive-grey upper surface. The former is said to have a lighter and more yellowish upper surface and occurs only in Upper-Guinea (Senegal). My specimen is almost uniform brown above.

Wing 177 mm, tarsus 78 mm.

Irides dark-brown (the edge of the eye-lids red); bill black with red flanges; legs coral-red.

Charadrius asiaticus asiaticus Pall. — Rchw. I. p. 167.

Eupodoo asiatica (Pall.). — Grant: Ibis 1916, p. 57. — *Ochtodromus asiaticus* (Pall.). — Gurney: Ibis 1909, p. 531.

Ondhuedhuwa . . . ki-kavirondo.

1 ♂ and 1 ♀ 21. 8., Kendu.

These two specimens, which were found at Kendu, were both in winter dress. They were shot out of a flock of six which were running about the open plains where the grass was short and withered. Now and again they "squatted" on the ground and then they offered a puzzling resemblance to the surroundings. —

van Someren (Ibis, 1916, p. 198) has come across this Plover by Lakes Nakuru and Elmenteita in January and April and has found individuals both in full summer and full winterdress. It certainly seems a little remarkable that these migratory birds are found here already in the end of August, and in winter attire too.

The wing-measurements given by Reichenow vary between 142—148 mm, those by Hartert between 150—155 mm. In the specimens brought home from Kendu the measurements are:

♂ 152 mm, ♀ 145 mm, tarsus 34 and 39 mm.
Irides dark-brown; bill black; legs greyish green.

Charadrius varius Vieill. — Rchw. I. p. 171.

Charadrius pecuarius Tem. — v. Someren, Ibis, 1916, p. 198.

1 ♀ ad. 20. 4., Lake Naiwasha.

At Lake Naiwasha (about 8000 ft. above sea-level) this Ring-Dotteral was found in small flocks along the shingly shores. The specimen is in rather worn dress.

Wing 99 mm, tarsus 30 mm.

Irides dark brown; bill black; legs dark-grey (almost black).

Charadrius hiaticula hiaticula L. — Rchw. I. p. 174.

1 ♂ ad. 20. 4. Lake Naiwasha.

I had not expected to come across this Wader at Lake Naiwasha in the end of April, inasmuch as the race, as a rule, migrates to Europe already in March, arriving in Sweden about the end of that month.

Erlanger (J. f. O. 1905 p. 63) found a pair of these winter visitants on the 16. 5. 1901 at Wante (South Somaliland).

The specimen is in eclipse dress and the neck band not yet complete. Rather common at the above-mentioned lake.

Charadrius tricollaris Vieill. — Rchw. I. p. 176.

Afroxyechus tricollaris. — Grant: Ibis 1915, p. 57. — *Oxyechus tricollaris* Vieill. — Gurney: Ibis 1909, p. 531.

1 ♂ ad. and 1 ♀ ad. 11. 7. Mount Elgon 6500 ft.

Both individuals were shot on the north-east side of Mount Elgon, in the neighbourhood of Nai Swamp. They were found by a little brook running down the slopes of the mountain.

Wing ♂ 115 mm, ♀ 110 mm, tarsus 25 mm.

Irides yellow; bill flesh-coloured with black tip; legs yellowish grey.

Hoplopterus spinosus (L.). — Rchw. I. p. 186.

Orueeda . . . ki-kavirondo.

1 ♂ ad. 21. 8. Kendu.

This Egyptian Spur-winged Plover occurred fairly frequently in pairs almost everywhere in the Kendu district. The specimen

is in worn dress and has a wing-measurement of 205 mm, tarsus 70 mm.

Irides dark-red; bill and legs black.

Hoplopterus speciosus ([Lcht.] Wagl.). — Rchw. I. p. 188.

3 ♂♂ ad. 20.—22. 4.; 1 ♀ ad. 22. 4. Lake Naiwasha.

At Lake Naiwasha this bird was very common, large flocks of this species and other Waders being found along the stony and shallow shores of the lake.

The are very shy and cautious. The females, with well developed eggs in the ovary, differ from the males in the coloration of the dress in having the outer web and tips of the primaries and of the secondaries dark-brown. Besides, all the black feathers of the breast are tipped with brown.

Wing ♂♂ 198, 203, 207 mm, ♀ 205 mm, tarsus 72—75 mm.

Irides dark-red; bill and legs black.

Lobivanellus senegallus lateralis (A. Sm.). — Rchw. I. p. 194.

1 ♂ ad. 25. 5. Mount Elgon 6.500 ft.

By no means common in the Elgon country. Frequented the strip of land between the plain and the grass steppe. No water or marshes are found in the neighbourhood. Not very shy and often flew over the heads of the hunters, uttering a prolonged and shrill scream.

The specimen is in much abraded dress and has a slate-coloured band right across the belly, but no white chin (Reichenow op. cit.). In „Vög. Deutsch O.-Afr.“ p. 37 Reichenow, remarks, however, that it is only the female that has a white chin.

Wing 224 mm, tarsus 81 mm.

Irides bright yellow; bill yellow with black tips; legs pale lemon-yellow.

Oedicnemus oedicnemus vermiculatus Cab. — Rchw. I. p. 200.

Ogoga . . . ki-kavirondo.

1 ♀ ad. 22. 8. Kendu.

In Kavirondo Gulf, Lake Victoria Nyanza, this race was rather common. They were always seen on the small islands and among the reeds in the water.

Wing 205 mm, tarsus 80 mm.

Irides yellowish brown (the edges of the eye-lids yellow); bill black with greyish green base; legs greenish-grey.

Scolopacidae.

Himantopus himantopus himantopus (L.). — Rchw. I. p. 207.

1 ♂ ad. 20. 4. Lake Naiwasha.

Was not common at Lake Naiwasha. Specimen in full dress, although a few feathers on one side of the neck have blackish points.

Wing 238 mm, tarsus 127 mm.

Irides red; bill black; legs coral-red.

Tringa stagnatilis (Bchst.). — Rchw. I. p. 220.

Totanus (Iliornis) st. stagnatilis Bchst. — Selater and Mackword-Pread: Ibis 1920, p. 810.

1 ♂ ad. 20. 4. Lake Naiwasha.

Small flocks of this Snipe were found at Lake Naiwasha. They were often seen, like *Actophilus africanus*, walking about on the large water-lilies, looking for water insects. It was by no means an easy matter to detect them as they roamed about among the withered reed-stalks and plants.

The male is not in full dress.

Wing 140 mm, tarsus 50 mm.

Irides dark brown; bill and legs black.

Tringa hypoleucos (L.). — Rchw. I. p. 224.

1 ♂ ad. 10. 4. Nairobi. — 1 ♀ ad. 22. 4. Lake Naiwasha. — 1. ♂ juv. 19. 8. Kisumu.

Wherever there were streams, rivers or lakes this species was common. At Lake Naiwasha, where the bird occurred in great numbers, it was generally found in the company of *Tringa glareola* and other waders.

At Nairobi where a ♀ was shot, it was seen almost everywhere on the banks of the little stream flowing through the country. According to v. S o m e r e n the bird breeds in British East Africa (Ibis 1916, p. 201), and the same author in his work "Bird-life in Uganda" gives an excellent photograph from Uganda of a brooding *hypoleucos*.

The young bird, which was shot at the Gulf of Kavirondo (at Kisumu) has a very worn dress and is uniform greyish brown on the back; some of the feathers, however, have light edges. Further, the dark and light transverse bands on the upper surface of the body are lacking, and the sharply defined dark patches along the shafts, which, according to R e i c h e n o w, are found in the young of this bird, are also missing.

Wing 103—105 mm, tarsus 23 mm.

Irides dark-brown; bill black; legs greyish green.

Tringa ochropus ochropus L. — Rchw. I. p. 222.

1 ♀ ad. 22. 8. Kendu.

Occurring in small flocks, together with *Tringa glareola*, on the shores of the Gulf of Kavirondo.

Wing 141 mm, tarsus 36 mm.

Tringa glareola glareola L. — Rchw. I. p. 222.

Rhyacophilus gl. glareola L. — Selater and Mackworth-Pread: Ibis 1920, p. 810.

Salo . . . ki-kavirondo. — Ndoake . . . ki-kamba.

1 ♂ ad. 21. 8. Kendu. — 1 ♀ ad. 20. 4. Lake Naiwasha.

The female, which was shot by Lake Naiwasha, is changing into the summer plumage, the male from Kendu (on the Gulf of Kavirondo) is about to assume the winter dress.

In both localities this bird was common and flew in large flocks along the coasts. In other places they were observed at about the same time, i. e. the end of April and August, in single pairs, and they could be found in all phases and dresses. Still, it is not proved with certainty that the species breeds in East Africa, even if a number of facts seem to speak for it.

Wing ♂ 122 mm, ♀ 121 mm, tarsus 38 and 34 mm.

Irides dark-brown; bill black; legs greyish green.

Erolia minuta minuta (Leisl.). — Rchw. I. p. 233.

Pisobia minuta. — Grant: Ibis 1916, p. 59. — *Tringa minuta* Leisl.

Ndambei . . . ki-kamba.

2 ♂♂ ad. 21. and 23. 8. Kendu. — 2 ♀♀ ad. 20. and 22. 4. Lake Naiwasha.

This little Snipe was very common both at Lake Naiwasha and at Kendu. At the latter place I saw flocks of 20 to 30 birds, which frequented the muddy and slimy banks outside the shoreline proper.

The males still have the brown tint of the autumn dress while the females are changing from the winter plumage.

Wing ♂♂ 91, 96 mm, ♀♀ 92, 97 mm, tarsus 19—22 mm.

Irides dark-brown; bill and legs black.

Gallinago media (Lath.). — Rchw. I. p. 235.

1 ♂ ad. 3. 5. Kikuyun.

The species was found in a little grove near Kikuyu (in the neighbourhood of Nairobi) at an elevation of about 6,000 ft. Only one specimen was seen.

Wing 137 mm, culmen 63 mm, tarsus 37 mm.

Irides dark-brown; bill brown; legs greenish-grey.

Gallinago nigripennis Bpt. — Rchw. I. p. 236.

1 ♂ ad. 6. 5. Londiani. — 1 ♂ ad. 30. 6. Mount Elgon.

This bird is undoubtedly more common than the preceding species, at least in the regions I marched through and explored.

The first specimen was procured in a swamp, a few miles north of Londiani, at about 8.500 ft. above sea-level.

Wing 128 mm, culmen 71 mm, tarsus 35 mm.

At this place the species was rather common, and again at Eldoret I saw some more individuals.

The other specimen brought home was shot on the eastern slopes of Mount Elgon, about 13.000 ft. above sea-level. On different occasions later on I observed the bird at other elevations. Still, it seems beyond doubt that *G. nigripennis* is a pronounced highland bird, which even occurs in the alpine region where only a few icy-cold mountain streams can offer the bird the required possibilities of existence.

Wing 130 mm, culmen 64 mm, tarsus 30 mm.

The measurements given above would seem to suggest that the specimen in question belongs to *G. media*. The length of the culmen especially agrees more with that bird, but the individual is a young bird, which in other respects is quite in agreement with *G. nigripennis*, whence there is no doubt as to its identity.

Otididae.

Otis melanogaster Rüpp. — Rchw. I. p. 256.

1 ♂ ad. 7. 9. Mount Kenia. — 1 ♀ ad. 20. 4. Lake Naiwasha.

At Lake Naiwasha — at about 8.000 ft. high — this bustard was quite numerous.

It frequented the acacia-plains, which at some places reaches down to the shores of the lake, where it ran about in the tall grass and knew well how to lie concealed. It was seldom seen to fly and when this happened at any time it would soon settle again about 50 to 100 yards from the spot from where it took wing.

The female, which was shot at Lake Naiwasha, has the following measurements: wing 360 mm, tarsus 130 mm, culmen 40 mm, tail 160 mm.

According to Heuglin the length of the bare part of the tibia in this species is 55 mm but in the closely related *Otis hartlaubi*, it is 64 mm. In this ♀ specimen the bare part of the tibia is 67 mm. and in the male specimen, shot in the neighbourhood of Mount Kenia (Tana river) it is only 57 mm.

The male specimen exhibits the following measurements: wing 340 mm, tarsus 133 mm, culmen 41 mm, tail 164 mm.

Irides brownish-yellow; bill light yellowish brown (blackish above); legs brownish-yellow.

Gruidae.

Balearica regulorum gibbericeps Rehw. — Rehw. I. p. 266.

2 ♂♂ ad. 12. and 18. 7., 1 ♀ ad. 5. 7. Mount Elgon.

The Crowned Cranes were fairly common in the marshes below the eastern slopes of Mount Elgon and here, as at every other place where I came across them later on, they were not shy, but would permit one to get close to them before they rose with heavy, slow strokes of the wing. For the most part they were seen in pairs, but once (in the middle of September) I saw outside Nairobi a large flock, about 50 in number walking in the cultivated land, searching for insects. Kothle (Z. Erg. p. 329) relates that at Misama on Aug. 24th he saw several hundreds together.

They were common everywhere at Kendu (on the Kavirondo Gulf) and also at Lake Naiwasha.

The bill right from the tip to the base is provided with a protuberance or list, widening a little towards the base, the edges of which project more or less outwards.

Wing	culmen	tarsus	tail
600 mm.	64 mm.	210 mm.	275 mm. ♂
605 mm.	64 mm.	215 mm.	280 mm. ♂
565 mm.	53 mm.	210 mm.	270 mm. ♀

Irides white; legs and culmen black.

Jacaniidae.

Actophilus africanus (Gm.). — Rehw. I. p. 267.

1 ♂ ad. 21. 4. Lake Naiwasha. — 1 ♀ ad. 18. 8. Kisumu. — 1 ♀ juv. 21. 4. Lake Naiwasha. — 1 ♀ juv. 18. 8. Kisumu.

The two specimens that were shot in the month of April are from Lake Naiwasha, the other two from Kisumu, in the innermost corner of the Gulf of Kavirondo. In both these localities the bird was very common, frequenting the reed-belt, where the leaves of the *Nymphaea* covered the surface of the water.

The young birds are not reddish brown on the black like the adults, but have distinct greenish brown markings. Both have the foreneck golden-yellow but not so deep as the adult. The one from Naiwasha has the under parts of the body white, but the flanks are reddish-brown, the one from Kisumu is more reddish-brown with numerous white feathers here and there.

The frontal-patch is also considerably smaller. The length of the culmen from the edge of the frontal-patch, of young and old birds is as follows:

	juv.	ad.
♀	47 mm.	56 mm. ♀
♀	45 mm.	53 mm. ♂

It seems also as if the length of the wing and tarsus in the young bird should, as a rule, be greater than in adults. In young birds the superciliary stripe is not always white but sometimes yellowish brown or straw-coloured, nearly the same colour as that of the foreneck. This stripe then continues along the dark portion of the head and neck as a lateral border to the white patch of the throat.

The frontal patch, which becomes larger with age and in old individuals, extends far behind the eyes, later on replacing the superciliary stripe.

In the four individuals the respective measurements are as follows:

	wing	tarsus	wing	tarsus
♂ juv.	167 mm.	73 mm.	♂ ad.	153 mm.
♀ juv.	173 mm.	68 mm.	♀ ad.	160 mm.

The female specimen of the 8. 8. from Kisumu had a well-developed ovary with large eggs.

Irides dark-brown; bill greyish blue or greyish green (in the young bird with a lighter tip), frontal-plate lighter in the young bird than in the full-grown; legs dark lead-coloured (in the young bird light greyish green).

Rallidae.

Limnocorax niger (Gm.). — Rchw. I. p. 279.

Kudubiri . . . ki-kamba.

4 ♂♂ ad. 22. 4., Lake Naiwasha. — 1 ♂ ad. 22. 8., Kendu.

This bird was quite common at Lake Naiwasha. On the 22. 4. in a tussock among some tall rushes out in the water, I found a nest, which then contained two eggs of a light yellowish brown colour with small and large dark brownish spots.

Although the hen had already begun to lay her eggs both the male and female were continually occupied in carry new material to the nest. The noteworthy thing was, however, that above the depression itself there was an arch or roof, consisting of large and small dry rushes and stalks. Whether the birds themselves had arranged this superstructure or whether it was a temporary accumulation I am not in a position to say, as this was the only nest I saw of this species.

Wing 96, 102, 103, 106 mm, tarsus 39—41 mm.

Irides blood-red; bill greenish yellow; legs coral-red.

Porzana pusilla obscura (Neum.). — Rchw. I. p. 284.

1 ♂ 27. 7. Eldoret.

About 30 miles north of Eldoret about 6,500 feet above sea-level there is in the acacia-plains a shallow, rush covered little lake, surrounded for the most part by high banks. Only at one spot does the shore slope downwards and here the lake passes into a little swamp, where among other swamp and water-birds, this bird was shot.

The bird is shy and cautious and mostly keeps to the ground, where it darts in and out among the rushes. When one gets too near it, it rises and flies, about ten or twenty yards, only to drop to the ground as if hit by a shot.

Wing 85 mm.

Irides blood-red; bill greyish green with a somewhat darker tip; legs greyish green.

Fulica cristata Gm. — Rchw. I. p. 296.

Nguku-yansi . . . ki-kamba.

1 ♂ ad. 20. 4. Lake Naiwasha. — 1 ♂ ad. 27. 7. Eldoret.

This was the most common bird in Lake Naiwasba and was observed, now in pairs, now in large flocks, swimming about in the aquatic vegetation. Reichenow states (after Andersson) that the species in question lies concealed during the day-time, only coming out in the mornings in search of food. This was not the case here, but one could see them everywhere in the lake at any time of the day. If a shot was fired at them hundreds and sometimes many hundreds of them would rise with a scream at the same time to seek protection in the papyrus groves.

Also in the lake just mentioned where *Porz. pus. obsc.* was shot, this Crested Coot was the commonest of the birds.

Wing 213, 216 mm, tarsus 62, 67 mm.

Irides brownish red; bill yellowish with a grey tint; legs dark lead-coloured (just above the tarsus the tibia is yellowish green).

Pteroclidæ.

Pterocles gutturalis saturator Hart. — Rchw. I. p. 306.

1 ♀ ad. 15. 9. Kenia.

Was shot in the neighbourhood of Mount Kenia in its southern environs. Occurred in the acacia-country, where it was not rare.

Wing 215 mm; culmen 15 mm; tarsus 29 mm; tail 85 mm.

In this specimen the shafts of all the primaries are lighter, almost dirty white, towards the base, while all the primaries,

except the three longest, are provided with a light edge to the tips and for some distance up on the outer web.

Irides brown; bill bluish grey; legs dark brownish grey.

Ibididae.

Threskiornis aethiopica (Lath.). — Rehw. I. p. 321.

Threskiornis aethiopica. — Grant: Ibis 1915, p. 66.

Okok . . . ki-kavirondo.

1 ♂ ad. 22. 8.; 2 ♂♂ juv. 22. 8.; 1 ♀ juv. 22. 8.; Kendu.

The sacred Ibis was very common on the shores of Lake Naiwasha. In flocks of 10 to 20 in number I often saw them walking in the short, dry grass on the acacia plains (in the month of April) or, together with *Bubulcus*, following the cattle. They were very shy in these parts and I did not succeed in getting within range.

At the Gulf of Kavirondo in Victoria Nyanza, where they were also numerous, they frequented the plains and here I had an occasion to shoot 3 young birds and 1 adult.

During the hottest hours of the days they are mostly found on the shores or on the sand-banks in or near the water, but in the mornings and evenings they take to the grass-plains or cultivated fields to look for food.

The full-grown male has a wing-measurement amounting to 385 mm, tarsus 110 mm, culmen 170 mm and is in full dress. The outer-web and tips of a number of the large, outer wing-coverts and the feathers of the flanks are light ochre-yellow.

One of the ♂ juvenile birds, which has almost the complete adult dress, with secondaries and primaries of a steel-blue and green glossy colour, the latter beginning to get abraded and defused, still has the neck completely covered with small feathers. On the throat these are quite white and worn at the edges, so that often only the shaft and small fragments of the web are left. The head, sides of the head and cheeks are thickly covered with longer, unabraded black feathers, which become thinner towards the back parts of the neck. Both on the head and the neck there are numerous white feathers sprinkled among the black ones.

In the two somewhat younger birds the feathers of the crown and back of the neck are not black but dark-brown and on account of their age, larger and whole.

Irides dark-brown; bill and legs black.

Hagedashia hagedash nilotica Neum. — Ornis, vol. XIII, p. 193.

Nganga . . . ki-kavirondo.

1 ♂ ad. 22. 8.; 1 ♀ ad. 22. 8.; Kendu.

In the Gulf of Kavirondo this race was rather common, frequenting the trees fringing the shores.

The male individual is in full dress, the female is in rather worn dress and has just commenced moulting, the lower parts of the body being predominantly brown, while in the male they shade into grey, and a number of the feathers are bordered (at the points) with a yellowish-brown seam.

Neumann has (op. cit. pp. 190—196), separated four forms, which are mainly distinguished by the length of the culmen, for the characters "light grey", "darker grey", "still darker grey", etc. are not conclusive in such cases. Reichenow (Mitt. Zool. Mus. Berlin, 1910—11 p. 74) considers that these four forms are difficult to limit because they pass into each other and the length of the culmen varies with age and sex. For, the male specimen before me is dark grey, the female light greyish brown and yet they were shot on the same day. Apparently the grey colour varies in depth both with age and season.

	Wing	tarsus	culmen
♂	375 mm.	75 mm.	163 mm.
♀	355 mm.	68 mm.	153 mm.

Irides white (with a narrow dark-brown inner edge); bill black (upper mandible red at the base); lower half of the front side of the tarsi and the upper side of the toes red (otherwise blackish).

Platalea alba Scop. — Rchw. I. p. 331.

1 ♂ juv. 22. 4. Lake Naiwasha.

At Lake Naiwasha the Spoon-bill occurred in small flocks or in single specimens. It was mostly seen on the edge of the papyrus groves out in the water, where it would stand motionless for a long time, steadfastly staring into the water.

This specimen has the top of the head white (not streaked with black: Reichenow op. cit.). The tips of the four outer primaries and the whole of the outer web are brown, with black-brown shafts. The feathering of the throat is like plate 207 Hartert: Vög. d. Palaearkt. Fauna p. 1218. The naked patch around the eyes and on the forehead is yellowish red or pale rose-coloured.

Wing 380 mm; tarsus 144 mm; culmen 205 mm.

In the young bird the iris is greyish yellow in colour and the culmen glossy grey with a narrow rose-coloured band all round, the base being also rose-coloured; legs black.

Ciconiidae.

Ciconia ciconia ciconia (L.). — Rchw. I. p. 345.

1 ♂ and 1 ♀ 9. 5. between Londiani and Eldoret.

One evening when camping at a spot — about 42 miles north of Londiani in the direction of Eldoret — at an elevation

of about 8,000 feet we observed a large flock of storks, about 30 to 40 in number, which had alighted in some acacias to roost.

As a rule the storks have already migrated from Africa and arrived in Europe by this time and it is therefore noteworthy that as late as the 9th of May they had not left East-Africa. On the 16th April I saw a few in the neighbourhood of Nairobi and, at the end of the same month, at Naiwasha.

Kothe mentions (Zool. Erg. d. Exp. d. Herrn Hauptm. Fromm 1908/09 nach D. O. Afr. p. 314) that in the middle of March at Msamvia (between Tanganjika and Rukwa Lakes) he found all the trees thickly occupied by storks which had congregated to migrate back to their homes, and Kothe's statement that the plumage of the specimens shot was very abraded was confirmed by observations of my own.

Scopidae.

Scopus umbretta bannermani C. Grant. — Bull. Brit. Orn. Club, XXXV, 1914, p. 27.

Anam . . . ki-kavirondo. — Nguni . . . ki-kamba.

1 ♂ ad. 13. 4. Nairobi. — 1 ♂ ad. 17. 4. Kiambu. — 1 ♂ ad. 4. 6. Mount Elgon. — 1 ♂ ad. 22. 8. Kendu. — 1 ♀ ad. 25. 7. Mount Elgon.

The Greater Hammer-head is rather common, and I saw it at all the large and small waterways I passed. At Kendu it happened one day that a Hammer-head alighted in a brook only 2 yards from me and went on picking in the mud without being disturbed in the least by my presence. Now and again it stopped suddenly, turned its head to look at me, and then went on quite undisturbed.

Grant points out (op. cit.) that the true *S. u. umbretta* from Senegal is a small bird, with a wing measurement of 248—256 mm., but that specimens from other parts of Africa are larger and have a wing-measurement amounting to 300—330 mm. The latter he herefore styles *S. u. bannermani*.

Reichenow states (Journ. f. Orn. 1921, p. 265) that 11 specimens from Togo have a wing-measurement of 295—315 mm: and he considers that the type-form should be limited to the Gold Coast.

	Wing	culmen	tarsus
♂ Nairobi	315 mm.	82 mm.	75 mm.
♂ Kiambu	335 mm.	82 mm.	74 mm.
♂ Elgon	325 mm.	83 mm.	71 mm.
♀ Elgon	305 mm.	85 mm.	71 mm.
♂ Kendu	320 mm.	82 mm.	72 mm.

Irides dark-brown; bill and legs black.

Ardeidae.

Ixobrychus minutus payesi (Verr.). — Rchw. I. p. 367.

Ardetta payesi Reichenow: op. cit.
1 ♂ ad. 14. 5. Soy.

A male, in full dress, of this beautiful Heron was shot at the lake just mentioned, 10 miles northwest of Soy in the direction of Elgon. When I sent the natives into the reeds, which everywhere grew to a great height and were difficult to penetrate, it flew along the surface of the water some 10 metres and then dropped into the shallow water on the beach.

The dark-red-brown feathers of the neck are sprinkled with a few dark, blackish ones, but otherwise the dress approaches the description of that of the Sansibar-specimen given by Reichenow.

Reichenow doubts whether we are entitled to establish geographical sub-species of this species. If only colour diagnoses were the foundation of such a division it would perhaps be audacious in the present case, but as the various measurements and a number of the other characters vary there are probably more well-founded reasons than in some cases where a far-reaching division has been made on account of very small — mostly purely subjective — differences.

Wing	total length	tarsus	tail	culmen
147 mm.	325 mm.	45 mm.	56 mm.	46 mm.

In this individual the irides are dark, egg-yoke yellow (thus yellow-red); bill yellowish brown with a black tip and the legs saffron-coloured.

Ardeola idae Hartl. — Catal. of Birds in the Brit. Mus.
vol. XXVI. p. 206.

Kalyan-zuka . . . ki-kamba (for all small Herons).
1 ♂ ad. 24. 7. Mount Elgon.

Of this interesting species of Heron, whose real home is Madagascar, a ♂ specimen was shot below the eastern slopes of Mount Elgon, at about 7.000 feet above sea-level. It was found on an open plain near a little brook, where the natives had recently burnt all the vegetation, looking for food among the charred remains of grass and bushes. Only this one was seen.

No doubt it must be regarded as a mere accident that this species had strayed so far from its real native country and the fact of its having found its way as far up as the Elgon territory is not easy to explain.

In comparing this specimen with the specimens in the Berlin Museum it was seen that the specimens found there are more grey on the upper surface and not quite so rusty-brown on the neck.

Total length	wing	culmen	tarsus	tail
380 mm.	210 mm.	59 mm.	58 mm.	52 mm.

Irides citron-coloured; bill dark-brown and green at the base; legs dark greyish green.

Bubulcus ibis (L.). — Rchw. I. p. 381.

Ardeola ibis L. — Selater and Mackworth-Pread: Ibis 1920, p. 791.

Okogeratjar . . . ki-kavirondo. — Kanyange . . . ki-kamba.

1 ♂ ad. 25. 8. Kisumu. — 1 ♂ juv. 22. 8. Kendu. — 1 ♀ juv. 18. 8. Kisumu. — 1 ♀ ad. 23. 8. Kendu.

Everywhere on the shores of the Gulf of Kavirondo this Heron was very common. A ♀ juv., shot at Kisumu on the 18th August, has an entirely white dress, except a few elongated crest-feathers, which are pale rusty yellow.

Total length	wing	tarsus	culmen	tail
430 mm.	250 mm.	75 mm.	57 mm.	78 mm.

What distinguishes this individual from the other three, however, is the colour of the legs, for, in this case the tarsi and toes are black, but the lower part of the tibia is saffron-yellow.

The other three specimens were shot in Kendu on the Gulf of Kavirondo and all of them have the tarsi yellowish grey, the toes, however are of a darker grey, almost blackish colour. Two of them have the elongated brownish feathers of the occiput well developed.

In the mornings I saw these herons by the hundreds sitting in the tops of tall trees far from the water. Stomachs contained only locusts.

Irides citron-yellow; bill yellow; legs greyish-yellow (black).

Columbidae.

Vinago calva salvadorii Dubois. — Rchw. I. p. 396.

Juyu . . . ki-kikamba.

1 ♂ ad. 9. 5. Londiani. — 5 ♂♂ ad. 16. 5.—26. 7., 1 ♂ juv. ad. 30. 5. Mount Elgon. — 1 ♀ ad. 9. 5. Londiani. — 1 ♀ ad. 15. 5. Soy.

This dove was met with at various places: Eldoret, Soy and the eastern slopes of Mount Elgon at an elevation of 6,500 and 8,000 feet above sea-level. One specimen was shot in the arboreal vegetation bordering the banks of a little brook — in the vicinity of Elgon — flowing through the acacia steppe.

Two of the specimens, from the 15th and 26th May in the neighbourhood of Mount Elgon, had only a slight tint of the grey band on the back and the colour of the legs was a dirty red, whereas, on the other hand, in all the others it was a beautiful coral-red.

The bird was common on Elgon and occurred both in the forests and in the small vegetation colonies, which as a rule, follow the small or large waterways in the acacia steppe. They were frequently seen in large flocks.

Quite considerable differences occur in this dove. Some have the back and the whole of the upper surface of the body behind the grey neck-band (even the upper tailcoverts included) yellowish olive-green, others greyish green. In some the grey neck-band is pale and inconspicuous, but in the majority it is pronounced. In a few specimens the rectrices are bordered with green, but in the majority this border is lacking. Even the yellowish green colour of the under surface varies much in intensity.

Wing	tarsus
165—175 mm.	25—26 mm. ♂♂
170 mm.	24—25 mm. ♀♀

The irides have outermost a red, lilac, ring, within this another of clear blue. Culmen, bluish grey with coral-red cere. Legs coral-red.

Columba guinea longipennis Rchw. — Rchw. I. p. 402.

1 ♀ ad. 25. 8. Kisumu.

In the regions of Kisumu (on the Gulf of Kavirondo, Lake Nyanza) this dove was rarely met with. It frequented the scrub and bush vegetation near the shores of the lake.

This specimen might almost be taken as an intermediate between *C. g. guinea* and *C. g. longipennis*, the rump being whitish grey as in the former, but the lower surface of the body darker grey as in the latter.

Wing 230 mm; tarsus 28 mm.

Columba arquatrix arquatrix Tem. — Rchw. I. p. 403.

2 ♂♂ ad. 18. 4. Kiambu. — 2 ♂♂ ad. 27. 6. and 24. 7.;
3 ♀♀ ad. 3. 6. — 5. 7.; 1 ♀ juv. 6. 6.; Mount Elgon.

This dove was found quite commonly almost everywhere. In the dense forests around Nairobi large flocks were seen in the middle of April. On Mount Elgon I met with this species as far up as 9,000 feet above sea-level. It frequents the dark and moss-clad trees, where it will remain quite still until one gets right up to it.

Congreve says of this bird (Journ. East. Afr. and Ug. N. II. Soc., vol. III, No. 6, 1913 p. 47) that it is the commonest pigeon in the Mau forests and probably in the other forests of British East Africa.

The 6 Elgon specimens are rather different from each other in colour. Erlanger has (J. f. O. 1915, p. 115) already remarked

that the various tones of colour of the under surface is due to individual variations, which is probably true, for I have in the same month shot birds with a dark, brown-violet under surface, others with a light greyish red belly etc. Some have the crown and neck bright light-grey (the commonest state), others have these parts dark greyish-blue (almost the same colour as the young bird).

In the specimens from Elgon the wing-measurement for ♂♂ is 235—236 mm., for ♀♀ 213—227 mm. In those from the Nairobi regions the measurement for ♂♂ is 210—227 mm. In spite of this difference in size between ♂♂ I do not consider that I am entitled to separate the Elgon specimens from the Kikuyu.

L ö n n b e r g has already shown (Birds coll. Swed. Zool. Exp. B. E. A. 1911, p. 44—45) that *C. a. arquatricula*, — which according to Oberholser should be the one occurring in Central Africa — cannot be regarded as a form varying from *arquatrix*, and a number of my specimens both from the Nairobi regions and Elgon prove one thing, that the difference in size is not a constant occurrence, whence L ö n n b e r g's opinion is undoubtedly correct.

A young ♀ bird from Elgon, shot on the 6. 7., agrees rather closely with the description of such a bird given by Lönnberg (Arch. f. Zool. Band 9, No. 14, 1915, p. 3). Still the chin and the feathered part of the mandible of the specimen in question are quite rusty-brown and all the feathers of the throat are bordered with rusty-brown. The length of the wing is 127 mm.

Irides yellow-yellowish grey, bill and legs citron-yellow.

Stigmatopelia senegalensis aequatorialis Erl. — Journ. f. Ornithol. 1905, p. 118.

Akuru . . . ki-kavirondo.

1 ♀ ad. 22. 4. Lake Naiwasha. — 1 ♀ ad. 22. 8. Kisumu (Victoria Nyanza).

This pigeon was very common around the shores of Lake Naiwasha. The specimen from here has the following measurements: Wing 132 mm. Tarsus 19 mm.

Irides coffee-coloured.

Even at Kisumu the bird was one of the most common, and I frequently saw it on the outskirts of the town, where it ran about the roads looking for food.

Wing 137 mm. Tarsus 19 mm.

Irides dark-brown; culmen black; legs pale coral-red.

Streptopelia semitorquata erythrophrys Sw.?

2 ♂♂ ad. 11. 4. Ngong (near Nairobi) 7,000 feet. — 1 ♂ juv., 1 ♂ ad.,
1 ♀ ad. 22. 4. Kikuyu. — 2 ♂♂ ad. 26. 4. Mombasa.

In the coast-land at Mombasa this pigeon was one of the commonest and was frequently seen in the cocoanut groves and on the outskirts of the forests, fringing the open fields.

In one specimen the chin is distinctly white, whereas in the others it is a beautiful, pale wine-colour. Further, the occiput, fore-neck and breast are light wine-coloured, while, on the contrary, these parts in the Kikuyu and Ngong specimens are darker, distinctly shading into rusty-brown. They were all shot in April and were in about the same stage (except one juv.).

The specimens from the Nairobi district (Kikuyu, Ngong) are very different from one another. Of those from the latter place, one (in moult) has the back and sides of the head almost brownish red and the upper tail-coverts greyish-brown, the same colour as the back, while the other (also in moult) has the back and sides of the head wine coloured, and upper tail-coverts bluish grey.

In the Mombasa specimens the iris was bright reddish-yellow, but in those from Ngong and Kikuyu it was dark-brown with a red ring nearest the pupil. The bill almost black in all.

Wing	culmen	tarsus	
175, 175 mm.	19, 18 mm.	24, 27 mm.	Mombasa.
190, 186, 178 mm.	18, 18.5, 18 mm.	25—26 mm.	Ngong, Kikuyu.
178, 160 mm.	16 mm.		Elgon.

In the Mombasa specimens the lower rump and undertail-coverts are deep-blue, but in those from Kikuyu and Ngong they are considerably darker, while in the Elgon specimen they are almost of the same dark-grey colour as that of the under wing-coverts. The difference between the Mombasa and the Elgon specimens is so pronounced that even this character alone should be enough to establish a special Elgon sub-species.

The same thing is noticeable with respect to the wine-red colour of the neck, crop and breast, i. e. considerably darker in those shot inside the country; and in the Elgon-form the rusty-brown feathers are more numerous than the pale wine-coloured ones.

In the Elgon specimen, again, the crown is dark grey and not pale grey as in those from the coast or the Kikuyu country.

The lesser wing-coverts, which in the Elgon specimen are all predominantly brown, are greyish in the other specimens.

Reichenow states, p. 410, that the young bird has rust-coloured edges to the feathers of the head, throat etc. This is also in agreement with the juv. specimen I have, but all the primaries are rust-coloured in the points and also along the edge of the outer-web as well, whereas these parts are greyish-white in a full-grown individual.

Grote (Journ. f. Ornith., 1921, p. 423) names specimens from Ukerewe-Island *erythrophrys* Sw. According to Grant (Ibis 1915, p. 42) this bird is known from West Africa and Fernando Po, but probably Grote bases his opinion on statements made by Zedlitz (Journ. f. Orn., 1914, p. 644 and 1916, p. 113), who gives the range of *erythrophrys* as extending from S. Abyssinia, Central, East, West to South Africa. The true *Streptopelia* s.

semitorquata from Abyssinia would, according to a statement made by Prof. O. Neumann, as a rule, have a winglength of almost always over 190 mm. (maximum about 198 mm.), but the East-African bird is smaller and thus not the typical *semitorquata*. — It agrees rather well with the Senegambia-bird *erythrophrys*, and I therefore think, that Zedlitz and Grote are right, when calling their East-African specimens *erythrophrys*.

Therefore, on the strength of the above-mentioned facts concerning the differences between *Streptopelia semitorquata semitorquata* Rüpp. from the coast-land and the Kikuyu region and the Elgon form I think I am fully entitled to determine this form as a new one, which I name:

Streptopelia semitorquata elgonensis Granvik.

1 ♀ ad. 18. 7. Eastern slopes of Mount Elgon 7,000 feet.

Differs from *Streptopelia semitorquata semitorquata* Rüpp. in the following respects:

1. The crown is dark grey, shading backwards into a rust colour (with pale wine-coloured mixture).
2. The belly, lower rump and lower tail-coverts dark grey.
3. Neck, fore-neck and breast dark wine-coloured with rust-crown tinge.
4. Only a few of the wing-coverts have a pale, sometimes scarcely discernible, shade of grey.

wing: 190 mm. total-length: 310 mm. culmen: 18 mm.
tail: 138 mm. tarsus: 25 mm.

This pigeon lived on the edge of the forest where the expanse of the acacia steppe began. Another specimen of this bird was shot which corresponded perfectly in colour and design with the individual brought home.

Irides reddish yellow. Bill dark-brown (almost black). The colour of the legs dark-reddish blue.

When looking over the large collection of *S. semitorquata* at the Museum in Berlin, I found, it is true, a specimen from Bukoba 12. 12. 1920 which has character 2 above, but the neck is wine-coloured. Not a single individual, however, had a grey breast and grey belly. Every true *S. s. semitorquata*, in full dress has a dark wine-coloured belly.

Stigmatopelia lugens funebrea v. Someren. — Bull. Brit. Orn. Club 1919, vol. XL, p. 21.

Ndutula . . . ki-kamba. — Njwa . . . ki-suahili.

2 ♂♂ ad. 18. 7. and 24. 7. Mount Elgon, 7,000 feet.

Found in the interior of the dense forests together with *Turturoena delagorguei sharpei* and always frequented the foliage and the upper branches of the trees where its dark colour

harmonized with that of the branches. Often remained quite still until one got to within a few meters of it.

One of these two specimens was a full-grown male with swollen testes. The other was a younger individual, the tips of the grey feathers on its belly being pale rust-coloured. The grey colour of the crown and the sides of the head is also lighter in the latter than in the fully developed male. Otherwise it agrees in every respect with the one in full dress.

The following measurements are to be recorded:

wing,	culmen,	tarsus,	tail,
176 mm.	16 mm.	22 mm.	120 mm. ad.
176 mm.	18 mm.	23 mm.	112 mm. jun.

Irides reddish yellow; bill dark-grey (almost black), in the young bird bluish grey; legs dark-reddish lilac.

Streptopelia decipiens permista Rchw. — Rchw. III, p. 808.

22 ♂♂ ad. 18. 8.; 1 ♀ juv. 18. 8. Kisumu (Victoria Nyanza). —
1 ♂ ad. 22. 8. Kendu.

Around the shores of Victoria Nyanza this pigeon was common everywhere. In large flocks it frequented the low trees and bushes growing at the water's edge or out in the water.

Zedlitz (J. f. O. 1914, p. 644—654) discusses the family *Turtur* very minutely and distinguishes 7 forms belonging to the *decipiens* group. My specimens all belong to the above-named.

Reichenow states (op. cit. p. 808) that *permista* has the white parts of the lower part of the body widely distended. One of my specimens agrees with this, but another has a predominantly pale greyish brown tint on the lower part of the body.

The young bird strongly puts one in mind of the young of *S. capicola tropica*, but has all the feathers of the head and neck and those of the fore-neck and breast bordered with brownish grey. The flanks in the former are greyish blue, but in the latter they are yellowish white or of a pale wine-coloured shade. The outer-web of the extreme tail-coverts are, however, as in old birds, predominantly black, whereas, the young bird of *S. c. trop.*, on the other hand, has the outer-web generally white.

The measurement figures for the length of wing in my specimens do not exactly coincide with Erlanger's (♂♂ 160—165, ♀♀ 153—155 mm): they are for the 3 ♂♂ 155—157 mm. (the young bird, 145 mm).

Irides citron-yellow; bill black; legs pale blue lilac-dark coral-red.

Streptopelia capicola tropica Rehw. — Orn. Monatsber. 1902,
p. 139.

Ivui . . . ki-kamba.

3 ♂♂ ad. 20.—22. 4.; 1 ♂ juv. 20. 4.; 1 ♀ ad. 23. 4. Lake Naiwasha. —
1 ♂ ad. 10. 5.; 2 ♀♀ ad. 10. 5. Londiani. — 1 ♂ ad. 13. 5. Eldoret. — 1 ♂ ad.
25. 7.; 2 ♀♀ ad. 16. 5. Soy. — 3 ♂♂ ad. 6. 6. and 24. 7.; 2 ♀♀ ad. 10. 7.
and 24. 7. Mount Elgon.

This pigeon was very common at every place through which our expedition passed. As a rule they were met with, in pairs or in small flocks, in the brier-bush on the edge of the forests.

In the series of 17 skins brought home from different regions there are rather great variations in the colours of the dress, and it seems as if the Elgon-specimens are, as a rule, somewhat darker than those from regions farther south, e. g. from Lake Naiwasha.

The five specimens from the latter place show a rather clear greyish blue tint on the belly and all of them have a considerably lighter greyish blue-coloured head than those from Elgon and the neighbouring regions, and this greyish blue part extends rather far back on the neck, which is not the case in this race. Compare Zedlitz (J. f. O. 1914, p. 649).

The outer-web of the extreme rectrix in all full-grown birds is entirely white, whereas the young bird, on the other hand, has a narrow, blackish border along the shaft.

Wing in ♂♂ is 155—158 mm.

” ” ♀ ” 161 mm.

” ” ♂ juv. is 145 mm.

The three specimens from the Londiani regions are already somewhat darker than the preceding, and with these three the description given by Zedlitz (op. cit.) agrees very well. But all of them have a brownish tone on the belly, which is, however, the same phenomenon as that encountered in so many birds that live on laterite soil, where they thus become coloured by the red-brown clay.

Wing: ♂ 155 mm.

♀ 148 and 155 mm.

A specimen from Eldoret (about 65 miles northwest of Londiani) differs only in size, the wing-measurement of this specimen being 162 mm.

From Soy (in the vicinity of Elgon) I have two specimens having a wing-length of 147 and 148 mm respectively.

The remaining six specimens from the Elgon regions differ very much from one another in the shade of colour on the belly, that is to say, I have both light and dark ones. One specimen is, however, of special interest, inasmuch as all the feathers of the lower body are provided with — as it would seem — a

darker, transversal band. If one examines such a feather under magnifying power it will be seen that these bands have arisen because of the fact that the radii ramorum have partially disappeared curvedly across the feathers. Each feather, as a rule, has 3 such curved bands, which, when the feather is held up to the light, appear of course lighter, but when lying along the surface of the lower body give an impression of a darker band (as the coloured vexillum of the underlying feathers shines through).

Only two individuals out of the 12 latter have a narrow black band along the shaft of the extreme rectrices, all the others have these feathers entirely white and all have the black bar or patch in front of the eye, mentioned by Zedlitz (op. cit.).

The length of the wing in these 6 birds is as follow:

♂♂ 149—154 mm, ♀♀ 148—151 mm.

Irides in all dark brown; bill black; legs dirty coral-red-pale blue lilac.

Streptopelia fulvopectoralis Granvik.

Plate No. 2.

Akuru . . . ki-kavirondo.

1 ♀ ad. 22. 8. Kendu.

Of this new species I brought home only one specimen from Victoria Nyanza. When I went through the collection at the Berlin Museum, I did not find a single specimen closely resembling mine. Both Prof. A. Reichenow and Prof. O. Neumann acknowledged that I was right in maintaining that this specimen belonged to an unknown species which could not be referred to any of the "form circles" known at present.

The forehead is light grey-brown, the crown and occiput dark grey-brown. The sides of the neck light yellow-brown, cheeks grey, throat white. An indistinct black occipital band bordered at the top by a wide yellowish brown band, fringing the dark grey-brown occiput. Back, scapulars, wing-coverts upper-tail-coverts and the two median rectrices earthy-brown, the latter being dark greyish blue at the base. The primaries dark-brown, the coverts of the secondaries and primaries black. The throat, the fore-neck and breast yellowish brown, like the flanks. The belly and the undertail coverts white. Lower wing-coverts brown, with dark patches here and there. The rectrices, except the two median ones, earthy-brown with dark-grey base and grey wash, tipped with white.

Bill black, irides citron-yellow. Around the eyes there are naked parts with small, red wart-like formations. Feet pale red lilac.

Wing 144 mm, tarsus 22 mm (middle toe without claw 23 mm), total length 250 mm, culmen 18,5 mm, tail 40 mm.

The bird lived in the dense bush and copse vegetation bordering the shores of Victoria Nyanza in the Kavirondo country.

Turturoena delagorguei sharpei Salvad. — *Rehw.* I. p. 418.

5 ♂♂ 23. 5., 28. 5., 3. 6., 4. 7.; 9 ♀♀ 19. 5., 23. 5., 28. 5., 30. 5., 5. 6., 13. 6., 15. 6., 23. 7. Mount Elgon.

This *Turturoena* was very common in the forests on the eastern slopes of Elgon. During the day it remained for the most part inactive and was then seldom seen but in the mornings it was astir and one could hear its “cooing” everywhere in the dense foliage.

The bird is met with as high up as 8,000 feet above sea-level. As the various measurements of my specimens differ very much from those given by other authors I append the following table.

Wing,	tot,	length	tarsus,	culmen,	tail,			
179 mm.	280 mm.	23 mm.	16 mm.	120 mm.	♂	23. 5.	6,500 ft.	
177 mm.	275 mm.	24 mm.	16 mm.	116 mm.	♂	28. 5.	8,000 „	
182 mm.	278 mm.	23 mm.	18 mm.	115 mm.	♂	28. 5.	6,500 „	
177 mm.	280 mm.	22 mm.	17 mm.	120 mm.	♂	3. 6.	6,500 „	
177 mm.	275 mm.	23 mm.	16 mm.	118 mm.	♂	4. 7.	„ „	
160 mm.	265 mm.	22 mm.	16 mm.	112 mm.	♀	14. 5.	„ „	
170 mm.	255 mm.	21 mm.	18 mm.	108 mm.	♀	juv. 23. 5.	„ „	
173 mm.	265 mm.	22 mm.	15 mm.	120 mm.	♀	28. 5.	„ „	
168 mm.	278 mm.	22 mm.	15 mm.	116 mm.	♀	28. 5.	„ „	
171 mm.	275 mm.	22 mm.	15.5 mm.	118 mm.	♀	30. 5.	„ „	
173 mm.	276 mm.	22 mm.	16 mm.	115 mm.	♀	3. 6.	„ „	
173 mm.	270 mm.	21.5 mm.	15 mm.	115 mm.	♀	13. 6.	„ „	
166 mm.	270 mm.	22 mm.	15 mm.	112 mm.	♀	15. 6.	„ „	
162 mm.	265 mm.	22 mm.	15 mm.	114 mm.	♀	23. 7.	„ „	

v. Someren (Nov. Zool. XXV p. 264) gives 160—165 mm as the wing measurements for his specimens from West Elgon and 175 mm for those from Nairobi.

From the table it appears, however, that the average for

♂♂ is 177 mm
and ♀♀ about 170 mm

in birds from the eastern slopes of Elgon.

Further, it seems as if the culmen and tarsus of ♀♀ are in general smaller than those of ♂♂.

With reference to the colour of the back of ♂♂, in older individuals it is predominantly very dark slate-coloured without any dark reddish brown tint, whereas, in younger birds the latter colour on the other hand is very conspicuous and especially pronounced on the scapulars.

Even in other respects there are different characters in the coloration of old and young males. Thus for instance the grey

colour of the throat and lower part of the body is dark bluish grey in old birds, but light grey in young ones, and the light reddish grey of the fore-neck in young birds shades in older birds into an almost dark rust-coloured tint.

Reichenow states (op. cit.) that the light *T. delagorguei* has the fore-neck and occipit copper-red with a violet-red gloss, but *T. d. sharpei* a metallic green gloss. Three of my specimens should, according to this description, be true *T. d. sharpei* and two *T. delagorguei*, inasmuch as the latter are clearly violet and copper-coloured.

Rothschild says, with reference to *T. d. sharpei* (Nov. Zool. 1894, p. 41), that it has "head, hind-neck and sides of neck bright metallic green, with a violet gloss in some light".

I therefore consider that this character with various metallic glosses is not characteristic of any of these sub-species, but that the variations in this respect are due to the difference in age, as I find both the above shades of colour in individuals shot on the same day.

Irides of both males and females are reddish yellow (colour of the yoke of an egg) in young birds, but in old ones it assumes a red-lilac colour.

Legs in both sexes pale flesh-coloured.

The female is dark slate-coloured on the back. The crown and back of the head are cinnamon-brown, occasionally with a red lilac or green copper gloss, forehead greyish brown. In young females the fore-neck and the whole under-surface of the body are dirty yellowish brown with a pale grey mottling, and the undertail coverts which in old females are dark slate-coloured, are yellowish brown.

The Elgon specimens of this dove are quite different from those from Kilima-Ndjaru. When comparing my specimens from Elgon with the latter (in the Berlin Museum) I found that they had the chin reddish brown and that almost the whole of the lower part of the body was of the same colour.

The young bird (♀) has the tips of the wing-coverts, as well as the fore-neck and all the feathers of the lower part of the body, rust-coloured. The lower tail-coverts are, moreover, uniform rusty-brown. The fore-neck and occipit are dark slate-coloured without any shade of cinnamon-brown or other brownish tint whatever. Hind neck green glossy.

Tympanistra tympanistra Tem. — Rchw. I. p. 424.

1 ♂ 17. 4. Kiambu.

This pigeon was rather common in the small cocoanut groves in the vicinity of Mombasa.

It also occurred quite commonly in the environs of Nairobi.

Chalcopelia chalcospilos chalcospilos Wagl. — Rchw. III. p. 811.

1 ♂ ad. 27. 4.; 1 ♀ ad. 29. 4. Mombasa. — 1 ♀ ad. 19. 9. Kiambu.

Both in the country round Mombasa and round Nairobi this bird was seen quite commonly. As a rule this beautiful little pigeon was observed on the ground in the ploughed fields of the natives picking the seeds. In the day-time it remained well concealed among the foliage of the trees, but in the afternoons it came out into the open places in search of food.

The Mombasa specimens are of a brighter wine-colour than those from the Nairobi regions, the colour of the under surface of the latter being a shade of pale rust-brown or ochre-yellow.

	Wing,	tarsus,	
♂ 103,	♀ 103 mm.	18, 19 mm.	Mombasa.
	102 mm.	18 mm.	Kiambu.

Irides dark-brown, dark lilac (almost black); legs dark roseate.

Oena capensis L. — Rchw. I. p. 429.

2 ♂♂ 19. 8. and 25. 8.; 1 ♀ 19. 8. Kisumu.

Frequently occurred in the regions of Kisumu on the Gulf of Kavirondo, Victoria Nyanza, where it was mostly observed in pairs, but also in small flocks of from 4 to 5 in number.

The male and female were shot at the same time, both of which are in full dress, and in the lower part of the female's oviduct there was an almost fully developed egg.

The other male specimen is in advanced phase of moult and the curious thing is that the new rectrices have already grown to $\frac{2}{3}$ of their future length while the old rectrices are still left. One might almost say that the bird has two tails, which are, moreover, separated from each other by a interstice, so that one can easily discern the old one and the new one. This appears also in the bird just shot.

These two specimens prove that while some individuals of a certain species are entering upon the breeding stage, and have already changed dress, others are in moult. This of course does not signify that the latter are from the breeding-time, for the circumstances may very well be the same as in *Centropus senegalensis incertus*, where the brooding male was in a rather advanced phase of moulting.

	Wing,	tarsus,
99,98 mm.		14 mm. ♂♂
100 mm.		15 mm. ♀

Irides dark-brown; bill in ♂ dark lilac-coloured (almost purple) and yellow tip, in ♀ black; legs dark purple.

Phasianidae.

Numida coronata ansorgei Hart. — Under the African Sun, 1899, p. 331.

Numida ansorgei, op. cit.

1 ♂ ad. 25. 8. Kenia district.

A single specimen of this form was shot in the vicinity of Kenia. It exhibits such great differences from other *Numida*-races described so far that I am inclined to consider it as a new form. But as the greatest agreements are found with *N. ansorgei* I have however, in spite of the differences present, hesitatingly referred it to that race. The question is first: where does *N. ansorgei* belong to? Reichenow (Vög. Afr. I, p. 437) has made it synonymous with *N. reichenowi*, but in the same work, p. 400, he thinks it possible that it is a synonym of *N. intermedia*. If mine is a true *ansorgei* (as Prof. O. Neumann thinks) then the latter should surely most closely belong to the *coronata*-group, at least judging from the size and shape of the casque. If, on the other hand, *ansorgei* is identical with any of the previously known *Numida*, a revision of the genus is certainly necessary. A number of German ornithologists (Grote, Neumann) incline towards the opinion that all races and forms described, or previously considered as species, are only forms belonging to a single "form-circle".

My bird resemble *reichenowi* very closely, but differs from it in the wattle at the gape not being red, but blue at the base. Further, the casque is not so high and extended as in *reichenowi* (in my specimen only 34 cm, counting from the spot on the forehead where the casque begins). Further, my specimen is more finely and densely spotted below, (*reichenowi* having larger and fewer spots,) and the lower neck of my bird is furnished with broad undulating bands, which are narrow in *reichenowi*.

Although my specimen exhibits great resemblances to *reichenowi* there is no doubt that it cannot be referred to that race, owing to the above-mentioned reasons. But with respect to the form of the casque it agrees with Reichenow's plate of *coronata* (op. cit. p. 436) and therefore I have placed it under this group for the present.

My specimen has certain resemblances to *ansorgei* both with respect to measurements and other characters. Thus, it has the broad, not narrow and hair-like feathers, on the back of the neck, and this bunch of broad-pointed black-feathers seems to point upwards, etc., etc.

Hartert (op. cit.) gives the following measurements for the type-specimen: wing 282 mm, tarsus 75 mm, middle toe without claw 35 mm., casque in a straight line from the bottom 34 mm, bill 24 mm.

The specimen before me has:

wing 305 mm., tarsus 85 mm, middle toe without claw 56 mm,
casque 34 mm, bill 25.5 mm.

Irides brown; bill reddish grey with greyish yellow tip;
legs dark-brown.

Pternistes leucoscepus infuscatus Cab. — Rchw. I, p. 455.

1 ♂ 24. 4. Kikuyu.

This specimen, which is in moult, was shot in the tall grass
on the edge of a little grove.

Wing	tarsus	culmen	tail
212 mm.	64 mm.	30 mm.	85 mm.

Irides dark-brown; culmen black; legs dark-brown.

Francolinus squamatus maranensis Mearns. — Rchw. I, p. 468.

Francolinus schuetzi Cab. — Lönnberg: Ark. f. Zool., Bd. 9, No. 14, 1915.

Francolinus schuetzi schuetzi Cab. — Grant: Ibis 1915, p. 18.

Francolinus squamatus maranensis Mearns. — M.-Pread: Ibis 1922, p. 133.

1 ♂ ad. 16. 5. Soy, 8,00 feet. — 1 ♀ ad. 25. 5. (6,500 feet); 1 ♂ ad. 1. 7.
(11,500 feet); 1 ♂ ad. 26. 6. (6,500 feet), Mount Elgon.

This Francolin is divided by Mearns into five different
races, and there is no doubt that the 4 specimens before me
belong to the above race.

Lönnberg (Arkiv. för Zool., Band 9, No. 14, 1915) has
made a very critical examination of the forms *maranensis*,
kapitensis and *keniensis* advanced by Mearns, and has come
to the conclusion that we can hardly approve of a single one
of them and Claude Grant has (Ibis 1915, p. 18) come to
the decision that of this "form-circle" we have at present only
two races (This opinion is also shared by Sclater and Mack-
worth-Pread: Ibis 1920, p. 847).

In the same paper the last-mentioned authors say, that they are
by no means certain that *F. schuetzi* is any thing but a race of
F. squamatus Cassin of Gaboon and that thus this group is a
well-defined one ranging throughout tropical Africa.

Mackworth-Pread has later (Ibis 1922, pp. 129—132)
dealt with the group *squamatus* and separated 8 races, three of
which are to be found in Kenia Colony: *F. s. dowashanus* Mad.
F. s. subsp. 2, *F. s. maranensis* Mearns. The distribution of
dowashanus is Kenia Colony—Tanganyika Territory boundary,
south of the Loita Plains, and of *subsp. 2* Mau, Ravine, Laikipia
etc. and of *maranensis* Kilimanjaro, Kikuyu, Fort Hall, Aberdare
Mts. Kenia, Solai etc. — Thus, according to M.-Pread the, four
specimens before me should probably belong to *subsp. 2*, of
which the author says: "apparently confined to high ground".
But this subspecies has a wing-measurement of 192—198 mm

(♂) and is then considerably larger than the Soy or Elgon birds, and therefore I cannot place them under that race. —

There remains then *maranensis*, occurring, for instance at Solai and on the Aberdare mountains, close up to the range for *subsp. 2*, and in spite of small differences (mentioned below) I name my birds *maranensis*. —

If *dowashanus* is a good race, occurring south of Loita plains, then Grant's birds from the Amala River certainly belong to this subspecies.

The female specimen from Mount Elgon exhibits, however, a number of colour-characters not present in the three males. The whole of the lower surface has a predominant brownish yellow tint and the lower tail-coverts are not, as in the others, light on the edges but are furnished with 2 dirty-yellow patches situated close to each another.

Another specimen is in the moulting stage and the feathers of the body are in parts much abraded. In the fresh dress the feathers of the back, the wings and the tail are furnished with close, wavy lines, but when the dress gets worn-out or when the bird is in moult these feathers are of a uniform dark brown. The dark middle part of the feathers disappears also.

One of the males has two spurs on the right foot but only one on the left, another bird has two on each foot.

This Francolin is common in the Elgon region, occurring now in small flocks, now in single individuals, from an altitude of 6,500 feet above sea-level up to 13,500 feet. It almost always lives in the vicinity of water, and at the rivers and streams near Elgon I observed as many as 10 or 12 individuals together.

Percival limits the range of this Francolin to "the edge of Kikuyu forest, edge of Mau forest" (Journ. East Afr. and Ug. N. H. Soc., vol. IV, No. 8, 1914 p. 151).

Wing,	culmen,	tarsus,	tail,		
176 mm.	27 mm.	51 mm.	72 mm.	♂	16. 5.
168 mm.	24 mm.	44 mm.	71 mm.	♀	23. 5.
180 mm.	25 mm.	52 mm.	81 mm.	♂	1. 7.
183 mm.	24 mm.	51 mm.	82 mm.	♂	30. 6.

Irides dark-brown; bill and legs reddish yellow.

Francolinus hildebrandti altumi Fisch. and Rchw. —
Rchw. I. p. 477.

1 ♂ ad. 20. 4.; 1 ♀ juv. 20. 4.; Lake Naiwasha.

The female specimen is not in full dress. Breast and lower part of body pale rusty red. Most of the feathers of the belly have dark, blackish patches at the shafts. Further, the chin is more greyish white than in old individuals. The male specimen has the feathers of the belly entirely rusty-brown.

The range of *Francolinus hildebrandti* is fixed by Percival (Journ. East Afr. and Ug. N. H. Soc. vol. IV, No. 6, 1914, p. 151) to the Rift Valley, northern Enso-Nyrio.

Wing	tarsus	culmen	tail	
185 mm.	47 mm.	26 mm.	102 mm.	♂.
166 mm.	47 mm.	23 mm.	104 mm.	♀.

Irides dark brown; bill dark-grey, upper mandible yellow-red; legs yellow-red.

Francolinus ujuensis Grant. — Rchw. I. p. 487.

1 ♂ 23. 4. Lake Naiwasha.

This single specimen was shot on the acacia plains at Lake Naiwasha.

The species occurs, according to Percival (Journ. East Afr. and Ug. N. H. Soc., vol. IV, No. 8, 1914, p. 151) on "the Athi plains, Loita and Lemek valley, north of Kenia".

Wing	tarsus	culmen	tail
165 mm.	41 mm.	30 mm.	76 mm.

Irides dark-brown; upper mandible yellow at the base; legs dirty yellow.

Francolinus kikuyuensis Grant. — Rchw. I. p. 491.

1 ♂ 25. 5. Mount Elgon.

A specimen of this rare Francolin was shot on the edge of the plain, where only a few solitary acacias and small bushes grew. It frequented, together with some *Francolinus schuetti*, the tall grass bordering a little river.

Percival (Journ. East Afr. and Ug. N. H. Soc. vol. IV No. 8 1914 p. 151) assigns the occurrence of this species to Uasingishu plateau, Sotik.

The specimen is in worn dress and in the beginning of the moult.

Wing	tarsus	culmen	tail
170 mm.	51 mm.	30 mm.	65 mm.

Irides brownish red; bill dark-grey, upper mandible yellow at the base; legs yellowish brown.

Coturnix delagorguei Delag. — Rchw. I. p. 507.

1 ♂ 17. 5. Mount Elgon.

This species was seen on several occasions near the rivers and streams flowing through the plain, about a day's march from the Eastern slopes of Elgon. The male shot is in full dress and the testes were large and swollen.

Wing,	tarsus,
96 mm.	24 mm.

Irides brown; bill dark-brown (blackish); legs yellow-brown.

Vulturidae.

Lophogyps occipitalis Burch. — Rchw. I. p. 514.

1 ♂ ad. 14. 7. Mount Elgon.

This vulture occurs very rarely at Elgon. The front part of the neck, down to the fore-neck is furnished with 5 rows of small, yellowish brown, warty formations.

Wing, tarsus,
630 mm. 120 mm.

Irides brown; bill orange with greyish blue cere; legs dirty pink.

Gyps rüppelli erlangeri Salvad. — Rchw. I. p. 518.

1 ♀ ad. 12. 7.; 1 ♀ juv. 12. 7. Mount Elgon 6,500 feet above sea-level.

tot. length	wing	tarsus	culmen from the cere	height of culmen	tail	
1010 mm.	680 mm.	110 mm.	50 mm.	35 mm.	285 mm.	♀ ad.
1005 mm.	665 mm.	100 mm.	53 mm.	35 mm.	277 mm.	♀ juv.

Irides yellow; bill yellowish (in the young one with a lilac tint) legs greyish yellow.

On the acacia plains below the eastern slopes of Elgon this vulture was very rare. It was frequently seen in small groves bordering the rivers and when flying or resting on a branch it is hard to distinguish from *Pseudogyps*.

Professor O. Neumann thinks that the bird from Kenia Colony must be named *Gyps rüppelli erlangeri* Salvad., figured as *G. fulvus rüppelli* by Erlanger (Journ. f. Orn., 1904, Taf. II), and I think he is right, because *G. rüppelli rüppelli* Bp. is distributed from Senegal to Chartum and White Nile only.

In true *rüppelli* the dark parts of the feathers of the under surface are practically black and in strong contrast to the lighter tips.

Pseudogyps africanus africanus Salvad. — Rchw. I. p. 519.

2 ♀♀ 16. 6.; 1 ♂ 17. 6. (6,500 feet); 1 ♀ 17. 6. (6,500 feet);
1 ♂ 15. 7. (7000 feet); Mount Elgon.

The measurements between the wing-tips amount to 1980—2240 m.

Tot. length,	wing,	tarsus,	culm. from cere,	height of culm,	tail,	
800 mm.	625 mm.	86 mm.	47 mm.	32 mm.	250 mm.	♀
830 mm.	620 mm.	101 mm.	47 mm.	30 mm.	250 mm.	♀
900 mm.	635 mm.	98 mm.	48 mm.	31 mm.	250 mm.	♂
910 mm.	640 mm.	96 mm.	46 mm.	31 mm.	260 mm.	♀
950 mm.	635 mm.	100 mm.	49 mm.	34 mm.	255 mm.	♂

In the series of 5 skins which I have from Elgon there are 3 different dresses.

1. The whole under surface of the body light ochre-yellow or light yellowish-brown and all feathers lack the white streak along the shaft, which is otherwise a character of this vulture. The greater secondary coverts light brownish yellow. The fore-neck brown. Tail dark-brown.
2. The whole under surface of the body brown, the feathers with a distinct white streak along the shaft. Wing coverts brown. Tail dark-brown.
3. The whole under surface of the body dark-brown, feathers with a prominent streak along the shaft. The fore-neck dark-brown. Tail black.

Erlanger has divided this species (Journ. f. Orn. 1904, p. 150) into 3 forms, differing in the colour of the dress. Without the least hesitation I might well refer my specimens to the forms described by him. But already in 1915 Grant (Ibis p. 237) remarks "I should not be surprised if a larger series will show *P. a. schillingsi* and *P. a. fülleborni* to be synonyms of *P. a. africanus* . . ."

My three birds are, however, all shot by the nests and thus stationary in one and the same small area. It therefore seems to me very improbable that three constant forms should breed within a few miles distance from one another (for the different nests were found at a distance of 2 or 3 miles from each other) It would be quite different if they had been shot from a large flock, for it is quite possible that a certain local-form living in a certain area can make excursions to other neighbourhoods.

In the present case the latter suggestion is scarcely possible, inasmuch as they were all resident on the eastern slopes of Elgon. I therefore share Grant's opinion, that the forms described by Erlanger are probably synonyms of *P. a. africanus* and that the variations in the designs of the dress thus occurring and described by him are not characters at all but only variations owing to difference in age.

It is a well-known fact that young birds, as a rule, build less carefully than the old ones, and the light, pale female, which I refer to the above-mentioned group 1, had — in comparison with other vulture nests — a small and badly built nest. Even for this reason we might assume that the female brooding in this nest was a rather young individual, and indeed the dress indicates it.

Reichenow says that in young birds the dress is darker, the down-covering of the throat grey, and the fore-neck black-brown.

The first nest of this bird I found was situated in the top of a gigantic *Podocarpus*, about 120 feet high, in the depth of

the forest. For several days I studied this nest and the birds and found that both sexes incubated and that the female frequently brought food to the male, which was, in this instance, the more diligent in sitting. One of the pair — the one which used to bring food — had the primaries of the right wing broken, from which it was thus always easy to ascertain which of the pair did most of the sitting. When I then shot the latter, it turned out to be the male.

In the same tree in which this pair had their nest, there was another nest (about a meter below) of the same size and appearance, but this was unoccupied. Whether the same pair in past years had used this or whether they had driven away the pair, that had built it, is not certain. However, as the larger birds of prey, as a rule, year after year utilize the same nest, it is probable that they had driven away the pair, that had once occupied this nest, but had later on built a new one for themselves.

On the 16th July I made an excursion into the acacia steppe below the slopes of Elgon. On both sides of a little river, running past a native village, there was very dense forest, and in a tall tree in the immediate vicinity of the Chief's hut a pair of *P. a. africanus* had built their nest. Before sending a native up to the nest I frightened the sitting bird away and it was proved that here too it was the male that incubated.

In the nest there was a young bird which was, at most, not more than 2—3 days old.

About 5 minutes' walk from this nest the natives pointed out a large tree, in the top branches of which there were two more vulture nests. Remarkably enough both nests were occupied. I climbed up to one of them myself in order to get a closer view of it.

The exterior arrangement consisted of large and small dry twigs which were securely and well plaited together. The external size of the nest was 1.55 meter and the height 60 cm. The nest, as well as the whole top of the tree, was whitewashed by the calciferous excrement of the birds, which had even got in between the materials of the nest, joining them into a firm and in some places into a compact mass. The whole of the upper part of the tree and especially the nest itself emitted a foul smell.

The interior arrangement of the almost flat nest was composed of small twigs, antelope hair and feathers, and in the centre there was a little hollow, in which the solitary egg lay. Around the edges of the nest there were also lying the putrefying remains of some carcass.

The egg measured and weighed:

88,4 mm × 66,4 mm. . . . 1830 cg.

One of the natives now climbed up to the other nest, which was situated at about 110 feet from the ground. This nest was not built like the former, that is to say, on the outer ends of the branches but lay considerably nearer the trunk of the tree.

The powerful branches, on which the nest was built, were entirely stripped of their leaves and some of them stuck out in the same plane as the nest (extending far beyond it) others straight up into the air. While the native was climbing the tree some twenty vultures wheeled high above us, but just as he reached the nest one of them pitched on one of the branches supporting the nest and with outspread wings and open mouth rushed to attack the intruder and I therefore shot it. Even this time it was the male that was sacrificed.

The nest contained one egg, measuring 87×63.2 mm. which was in such an advanced stage of incubation that it could not be blown out and therefore the almost fully developed embryo was preserved and fixed for histological investigations. The eggs vary very much in pattern. The ground is white and the shell is provided all over the surface with large or small greyish yellow blotches, which sometimes shade without any well defined borders into the whitish tone of the ground. Here and there are also large conspicuous blotches of a blood-coloured tone. One of the eggs, very beautifully marked, had, at the pointed end, rusty brown and lilac-coloured streaks and small blotches. In form they are ovate and the shell is highly granulous and with large pores.

In the nestling the iris is grey (with a pale brown tint), bill and legs black.

Heuglin says of this vulture that it seldom perches in tall, dry tree-tops but on the lower, stronger and more shaded branches. As the bird is one of the commonest on Elgon I have daily had opportunities to study it and my observations prove that when the bird is seen resting in a tree it always sits in the highest tops of the trees.

It is, as a rule, shy and cautious and not so easy to get with in range except at the nest, where it is very daring and courageous.

Neophron monachus (Tem.). — Rchw. I. p. 522.

1 ♀ 26. 5.; 1 ♀ 6. 6. (6,500 feet); 1 ♂ 17. 6. (7,500 feet); 1 ♂ 14. 7. (7,500 feet); Mount Elgon. — 2 ♂♂ 18. 8. Kisumu.

A very common bird in the brier-bushes and on the acacia steppe. It was frequently met with even on the edges of the forest, where it stayed in company with *Corvultur*. At times it appeared in great swarms of from 40 to 50 in number and it sometimes happened that a few of them were attracted to our camp, alighting in the trees behind my tent, when it was possible to steal right up to them without their flying away.

In the collection of skins lying before me there are 3 different dresses.

1. Young bird with the whole of the head (forehead, crown and occipit) and neck covered with woolly dark-brown down. Throat and sides of the head sparsely beset with black hairs. The fore-neck as well as the inside of the thigh dark-brown.
2. Young bird with the whole of the head (forehead, crown and occipit) covered with dark-brown, woolly down. The neck covered with light-brown down. Throat and sides of the head thickly overgrown with black hairs and down. The fore-neck light brownish grey. Inside of thigh covered with brown-grey down. Wing-coverts dark-brown, all with light tips.
3. Older birds with naked head. The neck covered with light brownish grey, woolly down. The fore-neck distinctly white (not pale brown or brownish white). The insides of the thighs set with dark brown and white down.

Wing,	culmen,	tarsus,		
490 mm.	58 mm.	82 mm.	♂	Kisumu
530 mm.	59 mm.	84 mm.	♂	"
525 mm.	62.5 mm.	83 mm.	♂	Mount Elgon
540 mm.	57 mm.	80 mm.	♂	" "
530 mm.	59.5 mm.	85 mm.	♀	" "
535 mm.	57 mm.	84 mm.	♀	" "

Irides brown; bill yellowish grey-brownish grey; legs light bluish green.

Sagittarius serpentarius (Miller). — Rchw. I. p. 258.

The secretary-bird is very rare in the Elgon regions. I only saw it twice in the plain below the eastern slopes of Elgon and on one of the occasions the bird was shot but it fell into the tall grass, and in spite of a careful search I did not succeed in finding it.

Astur tachiro nyansae Neum. — Orn. Monatsber. 1902, p. 138.

1 ♂ 18. 4. Kiambu.

This hawk, which was found in the interior of the dense forests, was shot in the neighborhood of Nairobi.

Wing,	tarsus,	tail,
207 mm.	65 mm.	180 mm.

Irides yellowish red; legs citron yellow. The cere yellowish green. The specimen is an old male in full dress with the flanks bright rusty-red, the chin almost yellowish-white.

Accipiter minullus tropicalis Rchw. — Rchw. I. p. 562.

1 ♂ juv. 27. 4. Mombasa.

In a grove of cocoa-trees by the Gulf of Kilindini this bird occurred sparingly. Iris citron-yellow. The cere yellow, legs yellow.

When comparing the specimens of this bird in the Berlin Museum I found that they (young birds) have large, wide spots on the breast and along the sides of the body, and are more yellish brown on the under-surface.

The present specimen has extended, stilliform spots and is purely white on the breast.

The Berlin specimens are, moreover, larger. This specimen has
a wing length of 134 mm. and
tarsus " " 41 mm.

I agree with Zedlitz (J. f. O. 1914, p. 667) that *tropicalis* is a coast bird and that the one Lönnberg brought home from the interior of the country — from Nairobi — is *intermedius* Erl.

Lophoaetus occipitalis (Daud.). — Rchw. I. p. 582.

1 ♂ juv. 10. 9. Mount Kenia.

This specimen was shot in the acacia steppe below Mount Kenia.

Irides yellowish red; wing 400 mm.; tarsus 96 mm.; total length 560 mm.

Buteo augur Rüpp. — Rchw. I. p. 592.

1 ♂ ad. 23. 4. Lake Naiwasha. — 1 ♂ juv. 8. 5. 2 days march from Londiani towards Eldoret.

The first time I saw this beautiful buzzard was in the forests around Kiambu, in the neighbourhood of Nairobi, where, on the edge of a forest, a pair had their large nest, built of strong branches. For several days I saw one of the birds sitting in the nest while the other, as a rule, kept in the vicinity — it was in the middle of April — and I therefore supposed that by this time they had laid the clutch. I therefore shot one of the pair and sent a native up to examine the nest. It did not, however, contain any eggs.

At Lake Naiwasha the species occurred quite commonly, and I also observed it here and there on the journey to Elgon. At Eldoret and Soy, for instance, I sometimes saw 3 or 4 together and I procured a young bird a few days' march from Londiani, in the direction of Eldoret.

According to Congreve (Journ. East Afr. and Ug. N. H. Soc., vol. III No. 6, 1813, p. 45) "one of the common sights of B. E. A."

This single ad. has the following measurement figures:

wing,	tarsus,	culmen from cere,	tail,
435 mm.	86 mm.	25 mm.	235 mm.

Irides are dirty-white, culmen the same colour as in adultus, i. e. black with a bluish base and yellow cere, legs yellow. The dress is very nearly in agreement with that described by Reichenow. However, nearly all the wing coverts are furnished with rusty-brown tips. Reichenow says that the wing-feathers of the young bird are the same colour and design as those of the old bird, but in this specimen the secondaries are dark-brown with wide, blackish transverse bands, whereas the old bird has them pale lead-grey (almost greyish white) with narrow black transverse bands.

On the eastern slopes of Elgon the bird was common and I frequently saw it sitting in the top of some withered tree for several hours quite motionless. It frequents both the interior and outskirts of the forest and the acacia steppe and I saw it even on the highest summit of Elgon (14,000 feet).

Buteo oreophilus Hart. and Neum. — Orn. Monatsber. 1914, p. 31.

1 ♀ ad. 8. 5. 2 days march from Londiani towards Eldoret.

One evening when we encamped on the edge of the forest — on our way towards Eldoret — at an altitude of 9,000 feet above sea level I saw in the gloom on the middle branches of a large tree a small buzzard. It remained still until I approached to about 10 meters, when I shot it. It then proved to be an old female of *B. oreophilus*.

tot. length,	wing,	tarsus,	bill from cere,	tail,
450 mm.	370 mm.	69 mm.	24 mm.	190 mm.

The unfeathered portion of the tarsus 35 cm. long. Iris light brown; bill greyish blue with yellow cere; feet yellow.

The second primary is in this specimen 14 cm. long and considerably shorter than the 6th primary, which measures 25 mm.

Helotarsus ecaudatus (Daud.). — Rchw. I. p. 598.

Kibungu . . . ki-kamba. — Mweu . . . ki-suahili.

1 ♂ juv. 26. 7. Mount Elgon.

Below the slopes of Mount Elgon this species was not rare. I often saw it out on the plain perched high up on an acacia growing in such a position as to give the bird a clear view in all directions. As a rule very vigilant, it always took flight with heavy, slow strokes of the wings, before one got within range. On one occasion I observed two young birds wheeling in wide circles round a small native village, and when one of them swooped down on the remains of some dead animal — close to a negro hut — I succeeded in shooting it.

It was in an entirely dark-brown dress.

Wing,	tarsus,	bill,	tail,
520 mm.	80 mm.	25 mm.	125 mm.

Milvus migrans aegyptius (Gm.). — Rehw. I. p. 609.

Milvus migrans aegyptius . . . Nicoll: Ibis 1909, p. 629, 1912 p. 434. —
 Selater and M. Praed: Ibis 1919, p. 690. — *Milvus aegyptius* . . . Seth-
 Smith: Ibis 1913, p. 506.

1 ♀ 31. 5. Mount Elgon 6.800 feet above sea-level.

A single individual stayed for several days around our camp on Elgon and sometimes came right up to the tent to snatch away some animal remains lying there.

It is very likely that this specimen, which had strayed as far as Elgon, is in all probability a casual visitor from the country to the north, around the Nile and other waters. Comparing the measurement figures of this bird with those of the Mombasa specimens (following bird) we find that, with the exception of the tarsus, they are all higher. Further, it is light rusty-brown all over the belly, while *M. migrans parasitus*, on the other hand, is generally very dark-brown-almost dark grey-brown.

Even the colour tone of the head and back is light brown, whereas that of the sub-species is dark grey-brown.

Hartert says also (Bull. Brit. Orn. Club, 1913, p. 89—90) that "the true *M. aegyptius* ranged southwards, sometimes perhaps in winter only, to South Arabia and Somaliland. A bird from Mount Kenia appeared to be intermediate, like some of those from Somaliland."

Tot. length,	wing,	bill from cere,	tarsus,	tail,
575 mm.	452 mm.	26 mm.	53 mm.	280 mm.

Irides cinnamon-brown, bill and cere yellow, legs citron-yellow.

With regard to the coloration of the bill, Nicoll has shown that it varies considerably with age and season and he considers "that perfectly conditioned birds have the yellow bill and young birds assume the yellow bill at their first moult."

Milvus migrans parasitus Daud.

Falco parasitus Daud. — Traité vol. II 1880, p. 150. — *Milvus aegyptius parasiticus* Daud. — Grote: J. f. O. 1919, p. 299. — *Milvus migrans parasitus* (Daud.). — Hartert: Nov. Zool., XXII, 1915, p. 251. — Selater and M. Pread: Ibis 1919, p. 690.

2 ♂♂ ad. 26. 4., 29. 4.; 1 ♀ ad. 29. 4.; Mombasa.

Very common in Mombasa both down at the coast and in the negro villages and market-places of the town itself. 10 or 12 of them daily hovered about the vessels lying in the Gulf of

Kilindini and, like the gulls, snapped up everything edible thrown into the water from the ships.

All observations of this kite prove that it is extremely daring and audacious, for when I rowed over the gulf to study and procure collections in the palm-groves on the shore opposite Mombasa it occasionally happened that the birds approached to within a few meters of the boat even.

Tot. lenght,	wing,	height of bill,	length of bill from cere,	tarsus,	tail,	
530 mm.	410 mm.	17 mm.	25 mm.	57 mm.	250 mm.	♂
540 mm.	420 mm.	17 mm.	24 mm.	53 mm.	255 mm.	♂
550 mm.	440 mm.	17 mm.	25.5 mm.	57 mm.	270 mm.	♀

I have gone through the large series of this species found among the collections in the Berlin Museum and append below some of the wing-measurements exhibited by these individuals.

Mombasa	♂ ad.	430 mm.
Magogoni	♂ ad.	438 mm.
Mahenge	♂ ad.	410 mm.
Langenburg	♀ ad.	430 mm.
Gonda		410 mm.
Kisikri	♂ ad.	440 mm.
Misa	♀ ad.	420 mm.

It appeared that the measurements are always lower for South African and Central African specimens, but the dark or the light brown dress is not characteristic for these, for there are nearly as many light individuals as dark ones, shot at about the same time of the year.

Grant (Ibis 1915, p. 248) and Bannerman (Ibis 1915, p. 231) have separated this sub-species from the true *M. aegyptius* Gm. because they had found that specimens from Southern Africa are darker and smaller. All my specimens from Mombasa undoubtedly belong to this *M. aeg. parasitus*, partly on account of the darker colour of the dress, partly on account of the low value of the various measurements. Besides, as they were shot in Mombasa it might be more correct to assume that, unless they were born or had lived all their life in these regions, they had come along the coast from the south. Of course, it is not impossible that they should have come from the north, but the distance they would then have to cover is considerably longer than the former and as the native birds of Africa are not good fliers, their powers of flight not being highly developed by means of migrations and exercise in flying long distances, but are more or less stationary or in any case confined to certain districts, it seems to me much more probable that they should have come from the south.

All of them had brown irides, yellow bill and yellow cere, legs citron-yellow, thus differing from the preceding true *M. aegyptius* both in colour and measurement.

Elanus coeruleus coeruleus (Desf.). — Rchw. I, p. 615.

1 ♂ juv. 10. 4. Nairobi. — 1 ♂ ad. 24. 4. Kikuyu.

Was always met with in small groves where, for the most part, it frequented the tops of the tall trees. If frightened it flew only about 10 meters to an adjacent tree where it would settle down again.

Wing	tarsus
257 mm.	33 mm. ♂ ad.
268 mm.	34 mm. ♂ juv.

Irides in juv. yellowish red, in ad. light red; bill black with yellow cere; legs citron-yellow.

Cerchneis tinnunculus tinnunculus (L.). — Rchw. I. p. 641.

1 ♀ ad. 13. 5. Eldoret.

From Eldoret in the direction of Elgon the road at first passes through the acacia steppe. Close to the road a little falcon sat perched on a telegraph wire, which on closer inspection turned out to be the above-mentioned.

In the collections of the Zoological Institution at the University of Lund there are two specimens from the slopes of the Himalaya and in comparing my specimen with these I found that it was exactly like them.

The colour of the whole of the back is considerably paler than in typical *T. t. tinnunculus*. The head is brown with fine, black shaft lines. The dark, blackish patches of the back form transverse folds. The tail is brown with 10 transverse-bands.

Tot. length	wing	tarsus	height of bill	length of bill from cere	tail
325 mm.	252 mm.	42 mm.	10 mm.	14 mm.	170 mm.

Irides brown; bill dark-blue, darker at the point; legs yellow.

At first I thought was that this specimen, owing to the pale colours of the plumage, was *C. t. saturatus*, and Hartert in his work „Die Vögel der pal. Fauna“, p. 1086, says with reference to this falcon that „Genaue Verbreitung noch festzustellen“. Bannerman (Ibis 1910 p. 322) has reported this bird from North Somaliland on the 18th July—25th August. — My specimen from the 13th May is just in the moulting stage.

Nevertheless, I am now convinced, after comparing it with the specimens at the Berlin Museum, that it is only a very pale specimen of *C. t. tinnunculus*.

Psittacidae.

Poicephalus gularis massaicus (Fsch. & Rehw.). — Rehw. II. p. 10.

Ngwei . . . ki-kamba.

1 ♂ ad. 9. 5. Eldoret 8.000 feet. — 3 ♂♂ ad. 12. 6., 13. 6., 22. 7.;
Mount Elgon. — 1 ♀ ad. 9. 5. Eldoret. — 3 ♀♀ ad. 3. 6.,
11. 6., 22. 7.; 1 ♀ juv. 24. 7. Mount Elgon.

I secured the first specimen of this parrot 3 days' march from Londiani, in the direction of Eldoret, when we camped on the edge of the forest at an altitude of about 8.000 feet above sea-level.

On the eastern slopes of Mount Elgon this parrot was very common, and the only member of the family seen there. Every morning shortly after sunrise they came singly or in small flocks from the acacia plains and flew whistling and screaming into the forest on the slopes of the mountain, and regularly every evening they were heard noisily returning to the plains again. Judging from my observations they do not spend the nights in the forests, although at times this would appear to be so, for it happened a few times that just before night-fall I saw one or two pairs resting for a while in some tall tree on the edge of the forest. But they soon took to flight again and continued on their way down to the acacias on the plains.

During the day they were seldom seen or heard, but in the early morning — while the dew still remained — they were always on the move and the forests resounded with their harsh, whistling cries. Then they sat pair and pair or 3 to 4 of them together in the highest tops of the giant *Podocarpus* trees eating of its fruits. They were not afraid nor did they try to hide themselves, and if the first shot missed they were not frightened away but calmly remained sitting, and on one occasion when I aimed at a pair tenderly sitting close to each other in the top of a tall tree, it troubled them very little, although the twigs all around fell, but they continued undisturbed their "tête-à-tête" until another shot put an end to it for ever.

I have come across this parrot as far up as 9.500 feet, that is, as high up as the *Podocarpus* trees follow the slopes of the mountain, for the chief food of these birds consists of the fruit of this Conifer. All the 9 specimens contained in the collection had nothing but the fruit of this tree in their stomachs.

With regard to the measurements of the wing, tarsus etc. and the coloration of the dress there are some small differences. In these specimens the length of the wing varies

for ♂♂ ad.	207—210 mm.
„ ♀♀ ad.	192—210 mm.
„ ♀ juv.	195 mm.
total length	280—310 mm.
length of tarsus	19—21.5 mm.
length of bill from cere	28—31 mm.

The extent of the red on the forehead varies very much in different individuals. As a rule it does not extend farther back than to a line with the front edge of the eye. Still, this red patch in some of them is considerably larger and sometimes stretches a good bit behind the farther edge of the eye. Whether this is connected with the age of the birds or not I am not in a position to decide.

The young bird lacks this red patch on the forehead, wings and the tibia (Reichenow) but has the crown and neck purely green, without any mixture of either brown or cobolt-blue, found in the old birds. Further, the lower wing coverts are not uniform green as in old birds but are furnished with a prominent gold-yellow border. Then again the feathers of the tail both on the upper and lower surface are brownish red at the tips, inside these, greenish brown and then the same colour as in the old birds.

I have not found any differences in size between male and female, but I have males which in the various measurements are larger than the females and vice-versa.

Irides in adults; nearest the pupil a narrow yellow ring, which in its turn is encircled by another of red; in juv. dirty yellow; bill yellowish with dark ridge and point, upper mandible dark-grey, (sometimes black); legs greyish yellow or citron-yellow with under-surface of the toes black, in juv. grey.

Poicephalus meyeri saturatus Sharpe. — Bull. Brit. Orn. Cl.
vol. XI, 1901, p. 67.

3 ♂♂ ad. 24. 7., 26. 7., 27. 7.; 3 ♀♀ ad. 17. 5., 24. 7., 26. 7.
Mount Elgon 7.000 feet.

To this sub-species of *P. meyeri* Grant (Ibis 1915, p. 260) and Someren (Nov. Zool. 1918, p. 267) refer *P. m. virescens* Rchw. and *P. m. nyansae* Neum. But Someren says in op. cit. p. 266 "So much variation occurs in these birds that it is almost impossible to correctly place any one specimen unless the locality is given."

I agree with Someren that these birds vary very considerably and that it is therefore difficult to fix the sub-species, especially if the characters, which should be characteristic for the sub-species in question, are not constant but are probably only individual variations, as in the present case. But I cannot agree that the form always is fixed if the locality is given. Such a procedure may lead to incorrect definitions and conclusions. It should rather be so, that if the characters of the respective forms are constant and good, and each one thus a good geographical sub-species, one might without much difficulty be able to fix them and also, on that account, almost establish from what zoo-geographical province they probably come. Just the fact that

the locality — in many cases — should be conclusive for the determination of races and sub-species, should prove that many of the forms put up are not constant but are purely subject forms.

From the eastern slopes of Mount Elgon, about 6.500—7.000 feet above sea-level, there are six individuals in the collection. I place them all — in spite of small differences, as appears from the following table — under the above — mentioned.

Wing,	tarsus,	length of bill from cere		
142 mm.	18 mm.	19 mm.	♂	ad. 17. 5.
154 mm.	16 mm.	22 mm.	♂	ad. 24. 7.
154 mm.	17 mm.	21 mm.	♂	ad. 26. 7.
145 mm.	15 mm.	19 mm.	♂	ad. 26. 7.
156 mm.	17 mm.	21 mm.	♂	ad. 27. 7.
148 mm.	15.5 mm.	18.5 mm.	♀	ad. 24. 7.

Three of them have a yellow band on the crown, the fourth, on the other hand, has only some of the feathers of the crown yellow at the tips. A female specimen has a number of the feathers of the back and the wing-coverts at the tips distinctly green, but the others are dark, without any green tinge.

If I compare my figures for the length of wing,

♂♂ 154—156 mm.

♀♀ 142—148 mm.,

with Grant's (op. cit. p. 258), which for ♂ are 149—154 mm and for ♀ 150 mm, they agree very well, and when I compared them with the specimens in the Berlin Museum it was seen that they agreed with the latter in every respect.

Among the 6 birds there are two which at first sight could hardly be placed under *P. m. saturatus* for they most closely agree with the sub-species *Poicephalus meyeri naevei*, described by Grant, the feathers of the upper rump and breast in these birds being distinctly blue, but in other respects they entirely resemble the preceding sub-species.

Irides red, legs dark-grey (almost black) bill dark-grey.

But after comparing these two specimens with the large series, found at the Berlin Museum, Prof. O. Neumann, who very kindly examined them closely, and myself came to the conclusion that they must undoubtedly be placed under *P. m. saturatus*. If one tries to place these two with the help of the descriptions of the numerous subspecies the task would be very difficult indeed, but knowing that they were shot in the same locality and at the same time as the others the matter becomes somewhat easier. Thus, it is also evident that the characters "blue or green rump" are not sufficient to warrant the establishing of new sub-species continually.

No doubt it is the same thing with this parrot as with a number of species of *Melittophagus*, that is, these characters vary partly with age, and partly also with the different dresses.

Poicephalus fuscicapillus (Verr. & Des Murs). — Rchw. II. p. 16.

2 ♂♂ ad. 27. 4., 29. 4.; 2 ♀♀ ad. 26. 4., 27. 4. Mombasa.

In the coast al districts round Mombasa this species was common and inhabited the cocoa-plantations both in the town and its surroundings. Sometimes seen in single specimens, sometimes in pairs, but never in small flocks like the preceding.

Both females are in moult, the two males have already assumed the new dress.

	wing,		bill,
♂♂ 151, 155 mm,	♀♀ 150, 150 mm.	♂♂ 22, 23 mm,	♀♀ 22, 22 mm.
		tarsus,	

♂♂ 17 mm, ♀♀ 16, 18 mm.

Irides pale yellow (almost white); bill dark greyish brown, upper mandible yellowish brown; legs dark-grey-black.

Musophagidae.

Musophaga violacea rossae Gould. — Rchw. II. p. 29.

Korongo . . . ki-kamba, ki-suahili, etc.

1 ♂ 14. 5. Soy 7500 feet. — 1 ♀ 19. 5.; 1 ♀ 24. 7. Mount Elgon 6800 feet.

Already at Soy, 35 miles south-east of Elgon, the first specimen of this very beautiful bird was shot. It was found in the topmost-branches of the large trees in the dense forest-vegetation growing on both sides of a little river.

This bird may frequently be seen running along the branches at a great speed, at the same time assisting its movements by flapping its wings rapidly, and then the brilliantly purple-coloured wings glitter from a distance, by means of which it is not difficult to discover, in spite of the secluded and well hidden abode. Sometimes — though less frequently — I have seen it fly, but then only for short distances from one tree to another. Sometimes it stops quite suddenly in the cover of some branch and will then remain quite still for several minutes.

Someren has met the bird on the western slopes of Elgon and says (Nov. Zool. 1918, p. 267) that it is rather common there. On East Elgon it is, however, a rare creature and was only observed twice, both times in the depths of the forest.

Someren states, further, that in one of the specimens, which was moulting, the old feathers were purplish blue, but the new ones dark-blue. In one of my specimens, which is also evidently in moult, a number of the feathers of the back — probably the new ones — are quite black at the tips.

In the stomachs of the individuals shot I only found the hard-stones of different stone-fruits.

	wing,		bill,		tarsus,
♂ 225 mm,	♀♀ 220, 222 mm.	40—42 mm.	43—44 mm.		

Irides dark-brown; bill yellow, the base, as well as the frontal part of the upper mandible, red; legs black.

Turacus hartlaubi medius Mearns. — Smiths. Misc. Coll.
vol. 65, No. 13, 1915, p. 3.

1 ♂ ad. 11. 4. Ngong. — 1 ♂ ad. 14. 4. Kiambu. — 1 ♂ ad. 9. 5. Londiani. —
6 ♂♂ ad. 19. 5. — 21. 7. Mount Elgon. — 1 ♀ ad. 11. 4. Ngong. —
1 ♀ ad. 9. 5. Londiani — 4 ♀♀ ad. 20. 5. — 21. 7. Mount Elgon

In the large series of skins, which I procured of this "turaco" there are specimens from the forests of Ngong and Kiambu, the forests in the neighbourhood of Nairobi, the regions below Elgon and, a great many, from Elgon and I agree with Someren (Nov. Zool. 1918, p. 267) that there is no difference at all between them.

On the eastern slopes of Elgon this was one of the most abundant birds in the forests and was usually met with in the dense brushwood and maze of under-growth, where it knows well how to conceal itself. But I often saw it running about in the branches of the tall trees.

In males shot in May—July, I have, as a rule, found the testes swollen and developed and grey in colour.

On the 10th of July I found a nest of this turaco for the first time. It was built in a very thick shrub, in an opening in the forest, about 2½ meters from the ground. It was not close to the trunk but out on the edges of the outermost slender, spiny branches, where the foliage was densest and where it was also hidden by a great wealth of climbers. The nest could only be seen by looking up between the branches from below, for then one could espy in the gloom a very imperfect nest, which reminded one very strongly of the nest built by *Columba palumbus*. It was quite flat and consisted exclusively of dry twigs, which lay scattered around without any order and were so few in number that the two eggs could be seen between the materials of the nest.

In the literature on the subject it is generally stated that the *Musophagidae* lay three eggs (Reichenow II. p. 26) and I therefore waited some days to see if there would be another egg before taking the clutch. But the clutch was not increased. Then I took down the nest and eggs in order to study them more closely.

The nest measured 36 × 28 cm. and was only a few cm. high (at the highest point, 3 cm.) and so carelessly built that a puff of wind would undoubtedly at first have blown the eggs off. When I found this nest the female was sitting on the already slightly incubated two eggs, but whether the nest contained 3 eggs and one had been lost, is difficult to say. Later one I found another nest of this bird containing two nestlings.

The eggs had the following measurements and weight:

1. 38.2 × 30.9 mm. 1.07 gr.
2. 40.7 × 31 mm. 1.21 gr.

In form they are slightly ventricous and blunted at both ends, thus closely corresponding to the ovate type. The shell is hard and thick and not as, for instance, in dove-eggs, — which they resemble very much — dimply and granulous but smooth and dull without any gloss. In colour they are white.

In the stomachs of some individuals I found only fruits and bits of plants, in others the remains of grasshoppers and various insects.

This turaco occurs as high up as 11,000 feet and is thus found beyond the forest. I have even observed it on various occasions in the bamboo-woods.

	Wing,	
160, 160, 166, 167, 168, 170, 170, 171, 176 mm.		♂♂.
160, 163, 166, 168, 170, 175 mm.		♀♀.
	Tarsus,	
38—41 mm.		♂♂.
38—41 mm.		♀♀.

Irides dark-brown; bill brownish red, green at the base; legs dark-grey-black.

Cuculidae.

Centropus monachus monachus ≤ *occidentalis*.

1 ♂ ad. 18. 4. Kiambu.

In the forests at Kiambu (near Nairobi) I saw this Cuckoo a few times. It kept, as a rule, to the edge of the forest, where the dense brushwood grows.

The specimen I procured is light-brown or ochraceous on the whole of the under-surface, which colour, however, can easily be washed away with a damp piece of cotton. Thus it is only a staining caused by the reddish-brown laterite of the ground, which has caused this colour.

This specimen differs from others in the Berlin Museum collection, with which I have compared it. The back of this individual is not uniformly chestnut-brown but almost of the same colour as *Centropus (monachus) fischeri* Rchw., that is, blackish brown. And yet it is undoubtedly near *C. m. monachus*¹⁾.

¹⁾ Perhaps my bird is an unnamed new form of *C. monachus*, but according to Grant (Ibis, 1915, p. 421) the true *C. m. monachus* occurs southwards to Kikuyu. — But it resembles the Central Abyssinia form (described by Neumann: Bull. Brit. Orn. Club, vol. XXI, p. 77)

But I have observed in *C. s. superciliosus*, *C. s. senegalensis*, *Anomalospiza imberbis* ♀ and other birds, in which brown enters into the colour of the plumage, that this brown colour at the period of moulting or during moult — owing to the wear and long use of the dress — is considerably darker than in the fresh dress, exactly as in the case of the green plumage of a number of species of *Melittophagus*, which changes into a more or less cobalt-blue.

This individual is in the beginning of the moult, and that is why the colour of the back is different from that of specimens in fresh plumage.

Wing 205 mm. Tarsus 49 mm.

Irides blood-red, bill and legs black.

I venture to point out here that if this subject of colour-changing of the dress was paid more attention to by a number of systematisers, and birds of certain families from one district only were compared with others from other districts in the same stage of plumage, many birds now described as doubtful would probably not have been advanced as new species or sub-species.

Centropus senegalensis incertus Granvik.

1 ♂ 6. 4. Mount Elgon.

Immediately below the eastern slopes of Elgon, in the acacia-country, I saw two specimens of this Cuckoo and as I wandered about in the tall grass I was fortunate enough to find the pair's nest.

I hid in the vicinity and then noticed that one of the birds flew into the nest and sat on the eggs. After a while I flushed this bird and shot it. It then turned out to be the male.

Total length in flesh	wing	tarsus	bill	tail
370 mm.	165 mm.	42 mm.	30 mm.	200 mm.

Colour of irides, red; bill black; legs dark-grey; Grant (Ibis 1915, p. 423) says "middle claw white", but in this specimen all the claws are black.

At the Berlin Museum I examined 35 spec. of *Centropus senegalensis senegalensis* from different parts of Africa, shot at different periods of the year. All of them have a green wash on the head and a still deeper one on the rectrices. In this respect the Elgon form differs from all of them, because it is entirely devoid of this wash both on the head and tail, but is dull and soot-coloured instead. Hence it cannot be classed among this sub-species, even if the respective measurements agree.

It reminds one somewhat of *C. senegalensis tschadensis* of Reichenow (Journ. f. Orn. 1915, p. 124) but the latter has

occidentalis in the coloration, and as it seems to me, that the latter is a good form (Grant, op. cit., makes it synonymous with *monachus*) my bird might be termed as above.

the typical wash on the head, which mine lacks. I have compared mine with the type-specimen in Berlin.

In the colours of the dress it agrees entirely with *Centropus s. aegyptius* Gm. inasmuch as "the mantle and inner secondaries are olive-brown and the flight feathers chestnut".

Grant says, however, (op. cit. p. 123) that this form is much larger than *C. s. senegalensis*, which my measurements though do not prove. A specimen found in the Berlin Museum from Fuah (Egypt) has a wing-length of 165 mm., tail 225 mm. Another (♀ juv.) has a wing-length of 155 mm., tail 205 mm. Both are, however, considerably darker than the Elgon specimen.

Grant says, further, that the distribution of *C. s. senegalensis* ranges from Senegal to the mouth of the Congo River, eastwards across the Niger, upper Nile, upper Congo and Uganda to Somaliland, but that *C. s. aegyptius* occurs only in Egypt. The discovery of the bird on Elgon thus establishes that the distribution of the bird towards the east ranges into British East Africa. According to Chubb., *senegalensis* was found by him in South Rhodesia (Ibis 1909, p. 141, 153) but already in 1874 the bird was known from Bamangvato, Bechuanaland.

My specimen is in moult and the feathers are much worn (which is in itself noteworthy as the bird has already begun to brood) and it is therefore probable that when the new feathers had grown to their full length, the measurement of the wing would have been greater.

Reichenow, who has also examined my specimen, is of the same opinion as myself that it cannot be referred to any of the forms of *senegalensis* at present known, and therefore owing to the most striking differences — although only one specimen was procured — I have given this bird a new name. It is possible that further specimens from these districts will show that this new form is a synonym of some of those already described and that mine is thus only an aberrant. For the present at any rate, I shall name it *C. senegalensis incertus*.

The nest was built in a dry, little acacia shrub, growing almost concealed in the grass, more than a man's height, and was situated 30 cm. above the ground in the fork of the two largest thorny branches of the shrub. It was 45 cm. high by 26 cm. wide and oblong in shape, provided with a roof and side entrance. The nest-materials were composed only of long blades of grass, both fresh and dry, which were plaited together into an extremely loose and weak structure, the walls of which were so thin that one could see through them. The bottom of the nest itself was, however, stronger and about 5—6 cm. thick and lined with the fresh, thick leaves of a bush common on the steppe.

There were four newly laid eggs in the nest.

1. 30.5 × 26 mm. 775 mg.
2. 32.5 × 26.4 mm. 780 mg.
3. 31.7 × 26.8 mm. 775 mg.
4. 30 × 24 mm. 675 mg.

The eggs are bright white in colour. Two of them, however, have large and small brownish red spots here and there, but these spots are caused by the brown laterite clay which the sitting bird has had on its feathers. No doubt these brown-spotted eggs are the ones first laid, as those laid later are quite white. When I blew out the eggs I found — at least quite plainly in one of them — that they were in different stages of incubation, for in the more heavily spotted egg the embryo was much more developed than in the others. It is therefore probable that incubation begins as soon as the first egg is laid.

The shell is dull and smooth without any marked pores and furnished with a layer of lime, which can be scraped off. In this layer there are ripples and scratches.

This bird is very shy and vigilant and knows very well how to hide itself on the ground in the tall grass. I seldom saw it perch on any of the rare bushes, and it happened a few times while I was studying the nest at a distance that the bird quite suddenly was sitting in the nest without my having noticed when or how it got there. When it was flushed it usually disappeared in the grass and would then rise some hundred yards from the spot where it disappeared.

The stomach was full of hairy, large, green larvae and grasshoppers.

Centropus superciliosus superciliosus Hempr. & Ehr. —
Rchw. II. p. 65.

Tutu . . . ki-kavirondo. — Butabutelia . . . ki-kamba. —
Tutuma . . . ki-suahili.

1 ♂ ad. 13. 4. Nairobi. — 2 ♂♂ ad. 14. 4., 18. 4. Kiambu: — 1 ♂ ad. 6. 6. Mount Elgon. — 1 ♂ ad. 22. 8. Kendu. — 1 ♀ ad. 21. 4. Lake Naiwasha. — 1 ♀ ad. 24. 4. Kikuyu. — 1 ♀ ad. 26. 4. Mombasa. — 1 ♀ juv. 10. 4. Nairobi. — 1 ♂ juv. 23. 8. Kendu.

When we look at this series of 10 skins from different parts of East Africa — right from Mombasa up to Victoria Nyanza — we at once notice the great differences they present.

The specimens from the coast and from the Nairobi regions agree entirely with each other in the markings, although the respective measurements for the tarsns and wing vary somewhat. On the other hand the two from Kendu (Victoria Nyanza) are different from all the others in that the head, nape and interscapular region are considerably darker in the latter. These parts are almost blackish brown. This is true of the young bird as

well as of the old. Whether this character is sufficient to name a special local form of the *C. superciliosus* living at Victoria Nyanza I am not able to decide at present.

Grant has (Bull. Brit. Orn. Club, vol. XXXV, 1914, p. 54) described a new form of *C. superciliosus*, named *C. s. loandae*, and judging from the description the Kendu specimen should, I suppose, belong to this race. Not having seen any specimens belonging to this form however I dare not express any positive opinion on the matter.

According to Grant the distribution of this form is from Angola to the north of Congo River, eastwards to eastern Belgian Congo and north-eastern Rhodesia. But the same writer also points out that intermediate specimens of this race and *C. s. superciliosus* are found in German East Africa, British East Africa and in Uganda and therefore the Kendu birds may be such intermediates.

The newly described *C. s. intermedius* by v. Someren (Bull. Brit. Orn. Club, vol. XLI, 1921, p. 125) which „differs from the typical South-Arabian bird in being darker above and smaller. Wings 140—155 mm“ can scarcely be considered as a good form, but is, I dare say, only a subtle form between *superciliosus* and *loandae* (vide Grant). Among the Kikuyu specimens some are fairly light above and others darker and the variations in the measurements of the length of the wing can be seen in the table below.

v. Someren does not give the distribution of *intermedius* (terra typica: Mombasa) but if the author considers this new form only as a new coastal bird, it is possible that the description agrees with respect to the wing-measurement. My specimen from Mombasa belongs to the light forms, but in spite of the fact that the wing-measurement falls within the 140—155 mm given by v. Someren I cannot support his new form, which is probably nothing but a casual individual variation. In *C. c. superciliosus* the wing is 140—150 mm.

The two most interesting individuals were shot in the environs of Nairobi. They are a beautiful brownish-red all over the under-surface of the body; the head and interscapular region being of the same colour. But this beautiful colour disappears at once if a damp piece of cotton-wool is drawn across the feathers, and is thus only a superficial wash caused by the discoloration of the ground.

In the young bird the rectrices are more glossy green than in old birds and tapering at the tips (in the old they are rounded) and are furnished with 3—4 narrow, white transverse bands. The young bird from Kendu (Victoria Nyanza) is also unlike the one from the Nairobi regions in that the feathers of the back and sides of the neck, in addition to the rusty-brown streak nearest the shaft, have a triangular yellowish-brown spot

on the tips and a larger one of the same colour higher up. The upper mandible is dark-grey, the lower mandible for the most part yellowish brown. Irides yellowish-brown.

Wing,	tarsus,	
145, 152 mm.	36, 38 mm.	♂♂ Nairobi, Kiambu.
152 mm.	39 mm.	♂ Kendu.
152 mm.	42 mm.	♀ Mombasa.
162, 162 mm.	41, 39 mm.	♀♀ Kikuyu, Naiwasha.
162, 158 mm.	37, 40 mm.	♂♀ juv. Nairobi, Kendu.

Irides blood-red; bill black; legs greyish green.

Clamator cafer (A. Lcht.). — Rehw. II. p. 76.

1 ♂ ad. 18. 7. Mount Elgon 6.500 feet.

This specimen was shot on the out-skirts of the forest on the eastern slopes of Mount Elgon. This was the only time that this bird was seen here and it is probable that it is rare in these regions.

The specimen is not yet in full dress, for the rectrices lack the white tips. Among the glossy green feathers of the back there are still some brownish ones from the young bird's plumage.

Wing 165 mm. tarsus 32 mm.
Irides dark-brown; bill black; legs lead-grey.

Clamator jacobinus pica (Hempr. & Ehr.). — Rehw. II. p. 78.

Clamator jacobinus jacobinus Bodd.-Zedlitz: Journ. f. Orn. 1915, p. 6. —
Coccytes jacobinus Bodd.-Reichenow: op. cit. — *Clamator jacobinus pica* (Hempr.-Ehr.): Hartert: Nov. Zool. XXII, 1915, p. 253.

1 ♂ juv. 10. 5. Eldoret 9.000 feet.

The first specimen of this cuckoo was procured in Mombasa, where the bird was not rare. It appeared singly or in pairs in the cocoa plantations situated near the town.

A day's march from Eldoret (on the way towards Elgon) a male, in the transition from the immature to the adult plumage, was shot in the acacia-country, close by a little water-way.

The forehead and crown are dark-brown, the long feathers of the head blackish brown. The innermost secondaries black with a green gloss. Most of the secondaries with greyish white tips. Some of the rectrices a beautiful glossy green. In other respects it is like the one Reichenow (p. 79) describes.

wing, culmen, tarsus, tail,
145 mm. 25 mm. 30 mm. 175 mm.

Irides dark-brown; bill black; legs dark-greyish green.

Hartert has (Nov. Zool. XXII, 1915, p. 253—254) dealt with the different forms of this species, especially those occurring in tropical Africa under the name of *C. j. pica*.

Cuculus solitarius (Steph.). — Rchw. II. p. 87.

2 ♂♂ ad. 2. 6., 3. 6.; 1 ♂ juv. 10. 7. Mount Elgon 7.000 feet.

Was sparingly met with here and there on the eastern slopes of Mount Elgon, always in the interior of the dense forests.

One of the specimens (ad.) has the throat grey and the reddish brown patch on the fore-neck is rather narrow only 19 cm. wide. All the undertail coverts have black transverse bands.

Wing 170 mm, bill 24 mm, tarsus 20 mm.

The other adult specimen has all the feathers of the throat tipped with brownish red, and the reddish brown patch on the fore-neck in this bird is 27 cm. wide, and more distinctly marked. Only some of the undertail coverts are furnished with black transverse bands.

Wing 170 mm, bill 23 mm, tarsus 19 mm.

In both birds the irides are dark-brown, bill dark-grey (almost black), base of upper mandible greyish yellow, legs citron-yellow.

Stomach full of the same large, hairy larvae found in

Bycanistes subcylindricus.

The young bird agrees with the description Reichenow (op. cit. p. 89) has given of a young *C. gabonensis* but is without the white transverse band on the back of the head.

Irises brown; bill black; legs citron-yellow.

Chrysococcyx klaasi (Steph.). — Rchw. II. p. 98.

Kalyan-zuki . . . ki-kamba.

♂ juv. 24. 4. Kikuyu. — ♀ ad. 3. 6.; ♀ juv. 24. 7. Mount Elgon 7.000 feet.

In a little clump of trees near Kikuyu this species was common. It generally frequented the dark under-growth, where, in spite of its beautiful, bright colours, it was difficult to discover.

In the acacia-country below the eastern slopes of Mount Elgon it was also met with very frequently, but always singly.

Wing, tarsus,

♂ juv., ♀ ad. and juv. 75 mm. 15 mm.

Irises brown or brownish yellow; bill black; legs dark-greyish green or bluish green.

Indicatoridae.

Indicator indicator (Gm.). — Rchw. II. p. 104.

2 ♂♂ juv. 17. 5., 28. 5. Mount Elgon 6.500 feet. — 2 ♂♂ ad. 28. 5., 6. 6. Mount Elgon 7.000—8.000 feet. — 1 ♀ ad. 17. 6. Mount Elgon 7.000 feet.

On the eastern slopes of Mount Elgon, as well as in the forest by the rivulets in the vicinity of the mountain, this species

was rather common. Generally it dwelt in the highest tree-tops in the depths of the forests, where it was often difficult to discover.

Both the two young birds (♂♂) have dark olive-green backs and yellow under-surface. One of them is only pale yellow on the throat, while the other is a bright and beautiful yellow.

Irides brown; bill blackish; legs dark-grey.

Wing,	tarsus,	culmen,
109, 110 mm.	17.5, 16 mm.	14, 14 mm.

In the two mature males the back is dark-greyish brown, the throat black and the rest of the under-surface of the body, grey. Both of them have a yellow spot on the shoulder. The bill is greyish brown-dark grey with a lighter tips, irides brown. In the male from the 28. 5. the testes were swollen and large.

Wing,	tarsus,	culmen,
109, 115 mm.	16, 17 mm.	14, 17 mm.

The female has the sides of the back light greyish brown, grey chin and the whole under-surface grey.

Wing,	tarsus,	culmen,
114 mm.	16 mm.	13 mm.

Irides yellow; bill dark greyish brown; legs dark-grey. In the stomachs of these birds I found gravel, pebbles and the remains of insects.

When I asked the Kamba negroes whether these so-called Honey Guides used to mark the spots where there was honey, they replied that, on the contrary, they guided them to where there was no honey at all.

Indicator variegatus variegatus Less. — Rchw. II. p. 108.

1 ♂ ad. 2. 7.; 1 ♀ ad. 30. 5. Mount Elgon 7.000 feet.

Only twice did I see this bird on Elgon and it appeared in the same localities as *I. indicator*.

Wing,	total length in flesh,	tarsus,	culmen,	
109 mm.	182 mm.	17 mm.	13 mm.	♂.
105 mm.	170 mm.	16 mm.	11.5 mm.	♀.

Zedlitz has (Journ. f. Orn. 1915, p. 8—10) made a close study of this "form-circle" and all its forms and with reference to the form cited here, he characterises ♂ in the following manner: "typical *variegatus* ♂ differs from ♀ by a more diffused and darker spotting on the under-surface". The male specimen before me also has dark spots along the flanks, which the female has not.

Irides brownish grey — greyish green; bill dark greyish brown and upper mandible lighter at the base; legs greyish green.

In other respects the different sexes are distinguished from one another, the female — as appears from the measurements —

being smaller than the male. (Compare Zedlitz: Journ. f. Orn. 1915, p. 9.)

Indicator minor conirostris Cass. — Rehw. II. p. III.

Indicator conirostris conirostris Bass. — Bates: Ibis 1911, p. 503. — Grant: Ibis 1915, p. 434. — Bannerman: Ibis 1921 p. 84.

1 ♀ ad. 25. 5. Mount Elgon 7.000 feet.

Of this interesting Honey Guide I have only one specimen, which was shot in the forest.

Wing, total legth in flesh, tarsus, culmen, tail,
90 mm. 155 mm. 15 mm. 12 mm 57 mm.

The whole under — surface is a very dark-grey, the under-tail-coverts and tibia-feathers with a yellowish green wash on the edges.

Bill entirely black, irides brown, legs dark lead-grey.

I have compared my specimen with all the *Indicator* specimens in the Berlin Museum, and Prof. Neumann has also examined it, coming to the same conclusion as myself, that my bird is undoubtedly *I. m. conirostris*. It agrees in every respect with the 3 specimens of this bird found in Berlin.

Erlanger (J. f. O. 1905, p. 464) and Zedlitz (J. f. O. 1915, p. 11—14) have established that of the little Honey Guides we have two "form-circles": *minor* and *exilis*, and that those found in East and North East Africa (of both groups) are a uniform olive-green on the under-parts while the West African have blackish brown longitudinal streaks on an olive green ground. Bannerman (Ibis 1921, p. 84) gives the wing-length for ♂♂ 88—92 mm. for ♀♀ 79, 85, 85 mm.

My specimen belongs to the last-mentioned group and is thus a representative for the West African birds, found in East Africa. According to Reichenow (op. cit.) the bird is met with in the Gold-coast and its distribution is fixed, by Zedlitz (op. cit.) to lower Guinea, by Grant (Ibis 1915, p. 434) to Gaboon north of Ogowe River and Cameroon, by Erlanger (op. cit.) to West Africa piercing eastwards to Albert and Albert Edward Lakes. As v. Someren (Journ. E. Afr. Ug. N. H. Soc., 1921 No. 16 p. 32) says that he is not satisfied with the identification of his specimens of *I. minor teitensis* from Moroto, W. Lake Rudolph, and gives 93 mm. as the wing-length of one specimen, which judging from the brief description and the measurement of the wing, is probably not a *teitensis* at all. I am inclined to believe that even his birds are possibly specimens of *conirostris*.

In proportion as different discoveries determine that species hitherto considered to be solely westafrican also occur in East Africa the problems of their distribution must to some extent

be changed, and every student who has dealt with the *Indicator* family, as a rule, arrives at the same conclusion that our present knowledge of these birds is still rather confused.

It seems to me to be rather doubtful whether we can maintain *I. m. riggenbachi* Z e d l i t z as a good sub-species and when compared with *I. m. conirostris* the difference between the two appears extremely slight (and only the sexual difference) and its geographical presence does not by any means speak for its further existence.

Further discoveries must, however, bring light on this point.

Capitonidae.

Lybius bidentatus aequatorialis (Shell). — Rchw. II. p. 119.

3 ♂♂ ad. 14. 5.; 1 ♀ juv. 14. 5. Soy 7,500 feet. —
1 ♀ juv. 26. 5. Mount Elgon 7000 feet.

Some miles north-east of Soy on the way to Elgon we halted in the acacia-country by a shallow little lake, and in the low trees growing on its shores this bird was a common occurrence. Only once was this Barbet observed on the eastern slopes of Mount Elgon.

The five specimens exhibit the following measurements:

wing,	tarsus,	culmen,	
106 mm.	25 mm.	29 mm.	♂ ad.
105 mm.	26 mm.	28.5 mm.	♂ ad.
107 mm.	26 mm.	28 mm.	♂ ad.
103 mm.	25.5 mm.	23 mm.	♀ juv.
104 mm.	25 mm.	25.5 mm.	♀ juv.

In the three mature ♂♂ the upper surface has a dark-blue metallic lustre, the bill is whitish yellow, irides are dark-brown. The plates on the front and back of the tarsus are dark horn-brown, while the middle part, i. e. the sides, is yellowish white.

The young birds have the upper surface black with a more or less blue wash and one of them has the crown furnished with numerous red feathers like a full-dressed adult.

The white spot always found in the middle of the back is greenish in one of the specimens, the feathers forming this spot having a light-green border both on the edges and the tips.

The bill of the young birds is whitish-yellow with a reddish grey wash. Irides and legs of the same colour as in the old bird.

Lybius melanopterus melanopterus Ptrs. — Rchw. II. p. 121.

2 ♂♂ 29. 4. Mombasa.

In the coast-land at Mombasa, where solitary palms and small bushes formed a thin and open wood, this bird was met with in fair numbers.

Both individuals are in moult and have not yet assumed the full dress and one of them has the brown colour of the breast extending far down on the belly, so that this brown patch forms 36 cm. wide band on the lower surface while that of the other is 23 cm. wide. One of them has two teeth on either side of the bill, while the other has two on the left side, and one not very distinct, on the right.

Wing 89,90 mm.; tarsus 22 mm.

Irides brownish red, bill greyish green, legs dark lead-grey.

Lybius leucocephalus usukumae Neum. — Bull. Brit. Orn. Club, XXI, p. 46.

Chongirio . . . ki-kavirondo.

3 ♂♂ ad. 21. 8., 22. 8.; 2 ♀♀ ad. 21. 8.; Kendu.

This Barbet was not uncommon in Kendu on the Gulf of Kavirondo, Victoria Nyanza. But on an open field close to the native village there stood a tall expansive, dense tree in which 4 or 5 of these birds regularly took their meal of fruits in the mornings. The birds were slow and not very shy, and when one of them was shot the other birds did not fly away but continued their meal undisturbed. Their cry is a shrill screech which can be heard at a long distance.

Wing,	tarsus,	culmen,	tail,
92—98 mm.	25—26 mm.	27—29 mm.	60—63 mm.

Two of the specimens have two teeth on the left side of the bill, but only one on the right side. The other three have two teeth on either side, the front one being the more powerful.

The females are somewhat lighter on the back than the males, but in other respects there is no differences between the sexes.

Irides dark brown; bill and legs black.

Lybius senex (Rchw.). — Rchw. II. p. 123.

1 ♂ ad. 14. 4.; 1 ♂ juv. 19. 9. Kiambu.

Both of these birds were shot in the Kiambu forests in the vicinity of Nairobi. I have never seen this species in the interior of the forests but always on the outskirts, where they are bounded by the open field. On one occasion when I observed the bird, it frequented the small, scraggy trees growing on the banks of a little brook running past a large garden. But on another occasion it was flying about in a field of maize.

Wing,	tarsus,	culmen,	tail,	
96 mm.	26 mm.	27 mm.	57 mm.	♂ ad.
95 mm.	24 mm.	27 mm.	52 mm.	♂ juv.

The young bird has only one tooth on either side of the bill, but the adult has — like *L. leuc. usuk.* — two. Further,

the young one is not blackish brown on the lower back, like the adult, but predominantly white with a few brownish feathers here and there.

Undoubtedly the plate given by L ö n n b e r g in his work (Birds coll. by the Swed. Zool. Exp., to B. E. A., 1911) is a picture of a young bird changing to the full dress, because in my example the white band on the shoulder extends right across and blends, without any noticeable termination, into the lower white part of the back. As the bird gets older this band gradually disappears, and in the full grown — in full dress — there is no trace of this band at all.

Irides brown; bill and legs black.

Lybius torquatus irroratus (Cab.). — Rchw. II. p. 26.

2 ♂♂ ad. 27. 4., 29. 4. Mombasa.

Occurred in the thinly wooded coastal regions at Mombasa. In the evenings it sat perched on the outermost tips of the branches of the small trees, making the wood resound with its shrill cries.

Perhaps the greyish green colour of the legs is a juvenile character. Both individuals had not yet completely assumed the uniform red colour, on the crown and throat of the full-grown bird; it being less completely marked, and in one of the specimens this red patch extends down into the middle of the black setting of the fore-neck.

Wing,	tarsus,	culmen,	tail,
83 mm.	22 mm.	24 mm.	55 mm.
77 mm.	22 mm.	23 mm.	49 mm.

Irides brownish red, bill black, legs dark greyish green (not black as R e i c h e n o w II. p. 127 states).

Tricholaema diademata massaica (Rchw.). — Rchw. II. p. 136.

1 ♂ ad. 22. 4.; 1 ♀ ad. 22. 4. Lake Naiwasha.

In the dense, almost impenetrable, brush-wood, which here and there borders the shores of Lake Naiwasha a pair of these birds was found together. From branch to branch they kept together and in the rich verdure found here it was difficult to follow them. They were lively and swift, and continually in motion.

Both specimens are in full dress and both sexes are exactly alike.

Wing,	tarsus,	culmen,	tail,
85 mm.	20 mm.	20 mm.	48 mm. ♂
81 mm.	18 mm.	20 mm.	52 mm. ♀

Irides dark-brown; bill black; legs greyish black.

Gymnobucco bonapartei cinereiceps Sharpe. — Ibis 1891, p. 122.

4 ♂♂ ad. 21. 5., 26. 5., 6. 6., 23. 7.; 3 ♀♀ ad. 21. 5., 11. 6., 23. 7.;
1 ♂ juv. 22. 5.; 1 ♀ juv. 23. 5. Mount Elgon.

In certain places on the eastern slopes of Mount Elgon this bird was met with in fair numbers. It generally frequented the heart of the forests and was almost always seen high up in the branches of the dry trees. It runs up the trunks of the trees with great alacrity and skill — like the woodpecker — continually turning and "jerking" its head and pecking into the decayed tree-trunks and branches, thereby producing a sound similar to the drummings of the woodpecker.

It flies swiftly and well and descends in long curves between the short, few strokes of the wings. They are met with always singly or in pairs and at times are only seen with difficulty, owing to their darkbrown coloration unless, the loud blows of their bills against the trees proclaim and betray their whereabouts.

In the stomachs of the 9 individuals examined I found remains of insects and stone-fruits. — I have seen the bird up to an altitude of 8.500 feet.

Wing,	tarsus,	culmen,	tail,	
103 mm.	24.2 mm.	19 mm.	56 mm.	♂ ad.
96 mm.	23 mm.	19 mm.	55 mm.	♂ ad.
101 mm.	24 mm.	20 mm.	60 mm.	♂ ad.
101 mm.	24.5 mm.	20 mm.	58 mm.	♂ ad.
99 mm.	23 mm.	20 mm.	60 mm.	♀ ad.
98 mm.	24 mm.	20 mm.	58 mm.	♀ ad.
97 mm.	24 mm.	19 mm.	57 mm.	♀ ad.
100 mm.	23 mm.	19.5 mm.	60 mm.	♂ juv.
100 mm.	24 mm.	20 mm.	58 mm.	♀ juv.

Irides yellowish white, bill dark lead-grey, legs dark greyish brown. In one or two there are a few brown streaks on the upper mandible, and the lower mandible is considerably lighter at the base than at the tip.

The old bird has the nasal tufts yellowish brown and the forehead yellow-speckled, but the tuft of the young bird is dark-brown and black at the tips. Besides, it has not the straw-coloured feathers on the forehead. The back is uniform dark-brown and not as in the adult, where the feathers of the back and part of the shoulders have a white streak along the shaft. The underparts are dark earth-brown and the light edges are not very conspicuous.

The tail is usually brownish black. Still, there are in my series two specimens having a dark olive-green gloss and rusty brown tips. These two have, besides, both the outer-web of the wing-feathers and all the feathers of the underparts olive-green at the tips.

This is the newly assumed plumage. When it has been in use for a time and begins to abrade the olive-green colour on the wings, the tail and the under surface fades, the feathers of the underparts being tipped with brownish white. When the dress has been in longer use the light tips, as a rule, get worn off and the underparts become more uniformly dark-brown.

Barbatula simplex leucomystax Sharpe. — Rchw. II. p. 146.

Viridibucco simplex leucomystax. — Oberholser: Proc. U. S. Nat. Mus. vol. XXVIII, 1905, p. 865. — Grant: Ibis, 1915 p. 447.

3 ♀♀ ad. 23. 5., 27. 7. Mount Elgon, 7,000 ft.

This little Barbet was quite common on the eastern slopes of Elgon, where I saw it in small flocks of 4 or 5 in number in the open spots, overgrown with bushes and low trees. It was seen in the company of *B. bilineata* and therefore my skinner believed and assured me with certainty that it was only "mtoto", the young, of that bird.

Wing 52, 54, 54 mm. Tarsus 15 mm.

Irides darkbrown (almost black); bill blackish; legs dark lead-grey.

Barbatula bilineata bilineata (Sund.). — Rchw. II. p. 147.

2 ♂♂ ad. 23. 5. Mount Elgon, 6,800 ft.

The two individuals, which I procured from Elgon, should, it seems to me, be placed under this subspecies. They were both in full dress and the one shot on the 23. 5. also had large and swollen testes.

In respect to the colours of the plumage they are good *B. bilineata*, the chin being white and the fore-neck light-grey. The yellowish green edges on the wing-coverts and wing feathers run more into green.

When compared with type-specimens from Kaffraria (in the Berlin Museum) a very slight difference can be discerned between the East African specimens and the South African, the former being more sulphur-yellow, the latter more golden yellow on the outer web of the wings.

My birds put one in mind of *B. kandti* Rchw. (Orn. Monatsber., 1903, p. 23) but as this species is probably not a good one but only a synonym of *B. jacksoni* (which even Reichenow himself is inclined to think J. f. O., 1918, p. 70) in fixing these *Barbatula* races I have followed Neumann's revision (J. f. O., 1907, p. 345—346) and later on compared the races with the specimens in the Berlin Museum.

The conclusions I then came to are different from Neumann's (op. cit.).

B. b. bilineata has the chin and throat white, *B. b. jacksoni* Sharpe, on the contrary, greyish white. The edges of the wing-coverts and wing-feathers are not always a darker sulphur yellow in *B. b. bilineata* than in *B. b. jacksoni* but frequently vice versa. My specimens of the former have considerably paler sulphur-yellow edges than the latter. The richer or paler sulphur-yellow colour on the edges of the wing-coverts and wing feathers varies with the seasons and does not seem to me to be a decisive character of any systematic value.

Reichenow (Orn. Monatsber., 1915, p. 91) has further described another form from Tanganika, which is said to be very similar to *kandti* but has the rump lighter citron-yellow: *urungensis*.

The various measurements of my specimens, however somewhat higher than those given by Reichenow for *Barbatula b. bilineata*.

Wing,	tarsus,	culmen,	tail,	
55 mm.	16 mm.	14 mm.	28 mm.	♂ 23. 5
58 mm.	16 mm.	14 mm.	30 mm.	♂ 5. 6.

Irides dark brown; bill black; legs dark lead-grey.

Barbatula bilineata jacksoni Sharpe. — Rchw. II. p. 148.

1 ♀ ad. 10. 4. Nairobi.

Only a single specimen was procured of this bird, which is closely related to the preceding. It is grey on the throat and the grey colour of the fore-neck is darker than in *B. b. bilineata*. Further, the yellowish green edges of the wing-coverts and wing-feathers in this subspecies run more into yellow and the flanks have a darker brownish grey.

Wing,	tarsus,	culmen,	tail,
54 mm.	16 mm.	14 mm.	32 mm.

The measurements, on the whole, agree with those of the preceding, and therefore they cannot thus be a conclusive factor in fixing these two birds.

Pogoniulus pusillus affinis Rchw. — Rchw. II. p. 152.

Barbatula pusilla affinis Rchw.: — Zedlitz: Journ. f. Orn., 1915, p. 15. — *Barbatula affinis* Rchw.

2 ♂♂ ad. 29. 4. Mombasa.

This race was met with on my excursions in the Mombasa coastal regions. It was found on the open tracks of country where only a few solitary trees and bushes stood at longer or shorter distance from each other. It sat still for a long time on some tree-top, from where might be heard the few shrill notes of its song.

Wing,	culmen,	tarsus,	tail,
50, 53 mm.	12—13 mm.	14 mm.	28—30 mm.
Irides dark-brown; bill and legs black.			

Picidae.

Jynx ruficollis cocensi C. Grant. — Bull. Brit. Orn. Club.
vol. XXXV, 1915, p. 102.

1 ♂ ad., 23. 4. Lake Naiwasha, 7500 ft. — 1 ♂ ad. 9. 5.; 1 ♀ ad. 9. 5.
40 miles from Loudiani towards Eldoret 9000 ft. — 1 ♂ ad. 25. 7.; 1 ♂ juv.
16. 5; Mount Elgon, 7000 ft.

The first specimen of this Wryneck was procured at Lake Naiwasha, and there, as in all subsequent spots where it was shot, it was found on the outskirts of the acacia-plains, especially such spots as are interspersed with other bushes and trees. For the most part, it was seen in dry, old trees and always singly or in pairs. In no locality through which I passed was it common.

Wing,	tarsus,	tail,	culmen,	
98 mm.	22 mm.	80 mm.	20 mm.	♂ ad. Naiwasha
95 mm.	22 mm.	76 mm.	19 mm.	♀ ad. Loudiani 9. 5.
99 mm.	21 mm.	80 mm.	20 mm.	♂ ad. „ 9. 5.
98 mm.	22 mm.	74 mm.	19 mm.	♂ ad. Elgon 25. 7.
67 mm.	20 mm.	38 mm.	15 mm.	♂ juv. „ 16. 5.

Of the four mature specimens — all in full plumage — 3 agree with the current description and Grant's supplement (Ibis: 1915, p. 102). One individual, however, differs rather much as regards the colour of the under tail-coverts, for, in general, this is light rusty yellowish brown, but in this individual the tail-coverts are dark-brown, nearly of the same colour as the throat.

Irides are usually brownish red. Yet, in two specimens I have found a yellow ring outermost with an inner one of brown. Bill dark greyish brown. Legs yellowish brown — greyish green.

The young bird is darker on the side of the back, and some of the feathers, which become greyish brown later on, are furnished with greyish white transverse bands. The rusty-brown colour of the neck is also paler. The sides of the throat, which in the old bird are black and white banded, are banded with brown and black. The under surface is white with black longitudinal streaks.

Irides dark-brown; bill dark-grey with a white spot on the tip of upper mandible; legs greyish yellow.

Campothera taeniolema (Rchw. & Neum.). — Rchw. p. 172.

1 ♀ ad. 11. 4. Ngong. — 1 ♀ ad. 21. 5.; 1 ♂ ad. 2. 4.; 1 ♂ ad. 13. 6.;
Mount Elgon 7000 ft.

This species was not rare on the eastern slopes of Mount Elgon.

Wing,	tarsus,	culmen,	tail,	
110 mm.	20 mm.	21 mm.	70 mm.	♂ ad. Elgon 2. 6.
105 mm.	18.5 mm.	21 mm.	64 mm.	♀ ad. „ 21. 5.
109 mm.	19 mm.	21 mm.	68 mm.	♂ ad. „ 13. 6.
105 mm.	19 mm.	21 mm.	67 mm.	♀ ad. Ngong 11. 4.

All the specimens are in full dress and those from Elgon agree with the description found on p. 172 Reichenow.

If *C. t. hausburgi* Sharpe is a good species (which seems very doubtful to me) and not an immature form I could almost place my specimen from Ngong under it, as the banding on the flanks and underparts are distinctly narrower and paler than in those from Elgon, but the measurements given for that subspecies do not agree with mine. The wing is said to be 110 mm. (my specimen is 105 mm.), bill 21 (my spec. the same), tarsus 15 mm. (mine 14 mm.).

In all four the irides were red, bill dark brownish-black legs greyish green.

Campothera cailliautii cailliautii (Malh.). — Rchw. II. p. 172.

Dendromus malherbi (Cass.) J. Ac. Philad. 1863, p. 459. — *Chrysopicos malherbei* Cass. — Proc. Acad. Philad. vol. XV, 1863, p. 198. — *Chrysopicos caillauti* Malh. — Rev. et Mag. Zool. 1849, p. 540. — *Campothera cailliautii cailliautii* (Malh.). Ibis 1915, p. 454.

2 ♂♂ ad. 27. 4.; 5 ♀♀ ad. 26. 4., 27. 4., 29. 4.; Mombasa.

Very common in the palm groves in the Mombasa coastal regions. There is no difference between the five ♀ specimens except that in two of them the round, dark spots on the under surface of the body are in general much larger than in the other 3. In the latter the largest measure about 2—2.5 mm., while in the former they attain 4 mm. and upwards.

The yellowish white back-patches vary also in size in different individuals.

For the males the measurements are the following:

wing	96—98 mm.
tarsus	17—18 mm.
culmen	18 mm.
tail	60—68 mm.

while those for the females are:

wing	92, 93, 95, 95 mm.
tarsus	17 mm.
culmen	18 mm.
tail	68—70 mm.

Irides in all brownish red; bill dark blackish brown; legs greyish green.

Dendropicos fuscescens massaicus Neum. — Journal f. Ornithol., 1900, p. 206.

Dendropicos guinensis masaicus Neum. — Journ. f. Orn., 1900, p. 206.
1 ♀ ad. 26. 4. Mombasa.

This little woodpecker was met with in the same locality as *Campothera c. cailliauti*. The specimen is in transitory dress. The back is predominantly black and white with a pale yellowish wash. The underparts are dirty-white with a pale yellowish greenish tint longitudinally streaked with black. The forehead and crown brown, the nape black; sides of head white.

Total length in flesh,	wing,	tarsus,	culmen,	tail,
148 mm.	84 mm.	14 mm.	16 mm.	48 mm.

Dendropicos lafresnayi lepidus Cab. — Rchw. II. p. 195.

Dendropicos lafresnayi Malh. — Rev. Zool. 1849, p. 533. — *Ipoctonus lepidus* Cab. & Heine. — Mus. Hein. vol. IV, 1863, p. 118.

1 ♂ ad. 8. 5. Londiani 7.500 feet. — 1 ♂ juv. 3. 6. Elgon 7.000 feet. —
1 ♀ ad. 10. 5. Eldoret 7.500 feet.

Reichenow, in his op. cit p. 105 says: "*Ipoctonus lepidus*" Cab. Heine mit des Vaterlandsangabe Abessinien ist gleichbedeutend mit *D. lafresnaye*, wie ich mich durch Untersuchung des Typus überzeugt habe". — Grant (Ibis 1915, p. 464) and Someren (Nov. Zool. XXV, 1918, p. 271) have therefore called it *D. lafresnayi lepidus*, in order to distinguish this sub-species from allied forms.

I procured a male and a female of the race two days, march north of Londiani (on the route to Eldoret).

As regards colour the male is as described by Grant (Ibis 1915, p. 464) but the female is dark-brown on the forehead (the male, on the other hand, light brown) and the underparts are darker than in the male.

wing,	tarsus,	culmen,	tail,	
85 mm.	16 mm.	18.5 mm.	43 mm.	♂.
85 mm.	16.5 mm.	17 mm.	44 mm.	♀.

On the eastern slopes of Mt. Elgon I noticed this Woodpecker only on a single occasion, It was a young male. The interscapular region in this bird is distinctly black and banded with white. The olive-green colour of the wing-coverts, wing-feathers and the back in this specimen is very dark. Besides, the forehead is dark-brown, nearly the same colour as in the female.

wing,	tarsus,	culmen,	tail,
87 mm.	16 mm.	18 mm.	47 mm.

Irides in ♂ red, in ♀ and young birds reddish brown; bill dark greyish blue; legs greyish green.

Coliidae.

· *Colius striatus* Shell. — Rchw. II. p. 205.

Inywii . . . ki-kamba.

3 ♂♂ 27. 4.; 3 ♀♀ 27. 4. Mombasa. — 6 ♂♂ 14.—17. 4.; 2 ♀♀ 18. 4. Kiambu 5.700 ft. — 2 ♂♂ 23. 4.; 1 ♀ 23. 4. Lake Naiwasha 7.000 ft. — 1 ♂ 5. 5.; 2 ♀♀ 5. 5. Londiani 7.500 ft. — 2 ♂♂ 9. 5. Eldoret 8.000 ft. — 1 ♀ 18. 5. Soy 8.000 ft. — 5 ♂♂ 21. 5.—24. 7.; 4 ♀♀ 21. 5.—24. 7.; 1 ♂ juv. 7. 6. Elgon 7.000 ft. — 1 ♂ 18. 8. Kisumu.

Of this bird, very common everywhere, I have in all 34 skins, from the coast right up to Victoria Nyanza and Mount Elgon.

Were I to divide these after the localities and give the sub-special names which van Someren (Bull. Brit. Orn. Cl. Dec. 1919, p. 26—27) has given them, I should have 6 *C. s. mombassicus*, 14 *C. s. kikuyuensis* and 14 *C. s. ugandensis*.

However by carefully comparing my own specimens with those found in Berlin Museum and in the Natural History Museum at Stockholm, I have not been able to find the slightest difference between *C. s. kikuyuensis* and *C. s. ugandensis*. As a difference between these two Someren mentions, among other things, that the latter resembles the former but has "crown and mantle lighter above" and the "wings and tail greyish olive" while in *C. s. kikuyuensis* they are "deep greyish olive". The other characters, which should account for the existence of these two sub-species, seem to me to be very weak and by no means characteristic for birds from the localities given.

As regards the character given for *C. s. ugandensis* i. e. "lighter above" than *C. s. kikuyuensis*, this does not agree at all with my Elgon and Victoria Nyanza specimens, for all of them are considerably darker than *C. s. kikuyuensis*.

On the other hand there is a more distinct difference between *C. s. mombassicus* and all those from Kikuyuland and farther east and north, and I can therefore only establish two forms: one coastal form and one from the interior parts of the country. The former I name *C. s. mombassicus* v. Som. while *C. s. ugandensis* may stand for the latter. It might as well perhaps have retained the third name, but as I consider this only an intermediate form between the two given above I exclude it altogether.

Colius striatus mombassicus van Som. — Bull. Brit. Orn. Club. No. CCXLV Dec. 1919, p. 26.

The six specimens I procured in the regions of Mombasa are the same in colour as v. Someren has described them.

Irides in all dark-brown. Legs coral-red. In the males the length of the wing varies between 91 and 98 mm., in the females 90 and 94 mm. The tarsus is 20—24 mm.

Colius striatus ugandensis van Som. — Bull. Brit. Orn. Club. No. CCXLV, 1919, p. 26.

In the same manner as one of the three *Colius striatus* forms by van Someren is excluded because, in my opinion, it is not a good form I unite the two descriptions he has given there and let these stand for the above mentioned.

In these individuals the irides are sometimes brown, sometimes yellow and all those I procured in the end of June and the beginning of July had yellow irides.

	Wing,	tarsus,	culmen,	
♂♂	♀♀			
95—98 mm.	96—98 mm.	21—25 mm.	13—15 mm.	Kiambu
99—100 „	102 „	23—24 „	13—15 „	Naiwasha
98—105 „	98—102 „	23—24 „	14—15 „	Londiani
98—104 „	97—99 „	22—24 „	14—15 „	Elgon

On Elgon this bird goes as high up as 7.500 ft.

Trogonidae.

Apaloderma narina narina (Steph.). — Rchw. II. p. 212.

2 ♂♂ ad. 17. 4., 28. 4.; 1 ♂ juv. 17. 4.; 1 ♀ juv. 14. 4.; 1 ♀ ad. 17. 4. Kiambu. — 1 ♀ ad. 3. 6. Elgon.

At Kiambu, near Nairobi, this bird was rather common in the dense forests. Only one of the three males shot there is in full dress. The other two still have some of the red feathers of the belly tipped with grey.

The three males from Kiambu are all in different dresses and show a very beautiful transition to the full dress. In the youngest the lesser wing-coverts are blackish with a pale green gloss, bordered with a bronze-green seam, the median wing-coverts are of the same colour but have in the posterior half small, indistinct brown dots, the greater wing-coverts are dark without any green seam but have numerous small, fine brownish grey or brown spots. In the next stage the lesser wing-coverts are as in the preceding but on the median the green edge has disappeared, the spots being larger and arranged in indistinct undulating lines, the spots on the greater wing-coverts whitish, larger and also in undulating lines. In the adult bird the spots on the median and greater wing-coverts are white, forming distinct undulating lines, the lesser wing-coverts as in the preceding.

In one of the young birds (♂) some of the undertail-coverts are white, the others red.

Irides brownish red, — dark brown, bill yellowish green, and the base yellow; legs yellowish brown — dirty lilac-coloured.

wing,	tarsus,	culmen,
128, 134, 136 mm.	16—17 mm.	19 mm.

The females are rather like each other except in the red tint of the underparts, which varies from pale roseate (in the young bird) to rose-red. Two of the specimens have a predominant green gloss on the rectrices but in the third the tail-feathers are steel-blue.

wing,	tarsus,	culmen,
130, 133, juv. 126 mm.	16—16.5 mm.	18—19 mm.

Irides dark-brown; bill as in male (young bird a darker greenish); legs pale roseate-lilac-coloured.

Coraciidae.

Eurystomus afer rufobuccalis Rchw. — Rchw. II. p. 231.

2 ♂♂ ad. 16.—17. 5. Soy. — 1 ♂ ad. 6. 6. Mount Elgon. — 1 ♀ ad. 15. 5.;
1 ♀ juv. 16. 5. Soy.

On the way up towards Elgon — a day's march from Soy — I came upon a little flock of this Roller out on the acacia-plains. In the late hours of the day they flew screaming from tree to tree — about 10 in number — and always perched on the highest, dry branches of the acacias, where they could only be seen with difficulty. They were not afraid, but would let one get very near them before taking flight.

Excluding the young bird, whose plumage considerably differs from that of the old birds, the other three from the Soy district exhibit rather great differences in regard to the colours of the rectrices and upper tail-coverts. And yet they are shot out of one and the same flock, whence it must be considered very likely that, in spite of the differences, they belong to the same form.

One of them has the two middle rectrices a uniform brown and the two median tail-coverts brown, which latter character is, as a matter of fact, found in all.

Another has a distinct light blue tinge in the form of a narrow band along both sides of the shafts of the middle rectrices.

A third has a broad dark-blue tinge at the base and along the shaft of the middle rectrices, and in the Elgon specimen this blue field stands out more prominently.

Whether any one of these is to be referred to *E. afer aethiopicus* is difficult to decide. The different measurements, however, do not agree with those given by Reichenow (Vögel Afrikas II. p. 231) but rather with those of Neumann (Journ. f. Orn. 1905, p. 185) for the above mentioned form, where, e. g. the wing-length amounts to 179—190 mm.

wing,	tarsus,	culmen,	
190 mm.	20 mm.	28 mm.	♂ Soy.
185 mm.	20 mm.	29 mm.	♂ Soy.
185 mm.	19 mm.	29 mm.	♀ Soy.
185 mm.	19 mm.	30 mm.	♂ Elgon.
175 mm.	20 mm.	28 mm.	♂ juv. Soy.

The cobalt-blue band close to the tips of the outer rectrices is indistinct in two of the specimens but in another two it is broader and attains its greatest breadth in the middle (missing in the two black ones).

Irides coffee-brown; bill yellow; legs greenish-grey—dirty green.

The young bird is brownish-black on the upper surface, and all the feathers of the lower surface are tipped with light blue. Of the other rectrices, some are brown, others blue, such as Zedlitz (Journ. f. Orn. 1915, p. 23) gives for *E. afer suahe-licus* Neum. The primaries are only dark cobalt-blue, almost black, the edges of the outer-web and the cobalt-blue band close to the black tips of the rectrices is very indistinct.

Bucerotidae.

Bycanistes subcylindricus (Scl.). — Rchw. II. p. 241.

1 ♂ ad. 8. 7.; 1 ♀ ad. 8. 7.; 3 ♀♀ juv. 21.—23. 7. Mount Elgon.

This interesting hornbill was found in fairly large numbers on the eastern slopes of Elgon, from an altitude of 6 800 ft. up to 8,500 ft. During the day small flocks of from 4 to 6 in number were continually seen flying across the tree-tops of the forests with heavy, rumbling strokes of the wings, incessantly uttering their shrill, dull, hollow cry, "go-ork, goork". Very seldom was I able to get within range, for they are among the most vigilant and cautious birds of the forest, which, as soon as they have a presentiment of anything suspicious, at once get to a place of safety. Whenever they were seen at rest they sat out of range on the top-most branches of the tallest giants of the forest.

But early one morning I stood concealed at the foot of a forest tree waiting for monkeys, when all of a sudden three of these large hornbills perched in my vicinity. Within a short while others came and perched on the branches of the trees close by and after a few minutes another flock arrived. At last some twenty had gathered and now began such a clamour and noise as can scarcely be described. Above me were two, screaming their hoarse cries, and from all directions the forest resounded with their different voices. The whole thing gave one the impression of a "gossip" meeting, where each one endeavoured to drown his neighbours voice.

What such a morning meeting really means is difficult to decide. Later on, I had the pleasure of being present at these

meetings twice and they were always conducted in the same manner. Always the birds sat perched, well hidden on one of the middle branches close to the trunk of the tree or in the shelter of the dense foliage. And when they let their cries resound through the forest, they stretched out their heads so that the neck formed an obtuse-angle to the longitudinal axis of the body. They would, thus keep up their morning concerts for hours, after which they dispersed in various directions above the immense forest.

Cabanis mentions (Journ. f. Orn. 1880, p. 351) that the negroes had informed him that the male walls up the nest, leaving only a little opening, and that the female must stay in this prison until the young are a few days old. But the author does not mention whether the nest is built in a hollow tree-trunk or in any other sort of cavity. Reichenow (Vögel Afrikas II. p. 233) says, on the other hand, that the hornbills choose a hollow tree for their nesting-place and this is probably the case with the majority of the *Bucerotidae*. — van Someren (Ibis 1916, p. 223) says "We have seen their nesting-holes on several occasions, but have not taken the eggs". But the writer does not state where and how these "nesting-holes" were situated. Probably they were in trees, for otherwise the author would have called attention to the irregularity, if such had been present.

During my stay on Elgon I asked the natives to look for a nest of *Bycanistes subcylindricus* and I was convinced before hand that it should be sought for among the trees of the forest, and therefore I commanded them to look in the forests. One day one of the natives informed me that he had found such a nest, not in the forest but among stones. Little thinking that it was a hornbill's nest I nevertheless followed the native up towards the heights of Elgon. Below Endeless — at about 8,000 ft. — on the eastern slopes, where large boulders and stones had been blown up and lay scattered everywhere, he pointed between two large blocks, saying that the nest was there.

I had promised the negro 5 rupees if the nest contained eggs and to convince himself on this matter, he had, on finding the nest pulled down the greatest part of the wall which cut off the space between the blocks from the outside. Still, the lower part was left and proved to be very strong, in some places even as much as 2 cm. in thickness.

In the nest, when the negro had examined it the day before, there was only one young bird, which according to his statements should still be in the neighbourhood. I shot in this spot a rather well developed young bird, but whether it was the one that had inhabited the nest is doubtful. On the floor of the nesting-hole lay many blackish-white feathers, which undoubtedly belonged to the female that had once inhabited his dwelling.

To try to establish, on the basis of the discovery of one nest, what is the rule or the exception is certainly difficult. Whether the nesting-place of this species was in the present case only a deviation from the usual method or not, is difficult to judge. The natives, I know, assert that this bird always builds its nest among the stones — at least on Elgon — but whether this is true or not later discoveries must decide.

Cabanis mentions further (op. cit.) that the contents of the stomach consisted of berries which looked like beans. In the five individuals I brought home (and in two more which were destroyed) I have found large, hairy insects, grit and stones but only in one of them small, hard fruits.

wing,	total length,	tarsus,	tail,	culmen,	casque,	
360 mm.	740 mm.	52 mm.	290 mm.	168 mm.	105 mm.	♂ ad.
375 mm.	790 mm.	58 mm.	305 mm.	190 mm.	135 mm.	♀ ad.

Irides brown; bill blackish; the front one-third of the casque black, the rest yellowish. Legs black.

The young birds, in a rather young stage are very unlike the old; one, having the following measurements:

wing,	total length,	tarsus,	tail,	culmen,	
315 mm.	640 mm.	48 mm.	260 mm.	100 mm.	♀ juv.

has not yet grown a distinct casque, but the culmen was swollen only in the upper edge at the base and was yellowish white in colour. The colour of the rest of the bill was dark plumbeous. The feathers of the head, which even in fullgrown young (and the old) are edged with grey at the tips, are in this case entirely rusty-brown with a black streak, widening towards the tips along the shaft. The feathers of the throat are grey, some with a pale brown wash. In other respects it resembles the full-grown birds, but the lower surface has not yet acquired such a pronounced dark metallic green gloss.

Irides are greyish brown. Legs black. But neither in this young bird nor in the other two are the two middle rectrices tipped with white but are in all three of them entirely black with a metallic gloss.

The two other birds have the following measurements:

wing,	total length,	tarsus,	tail,	culmen,	casque,	
325 mm.	685 mm.	48 mm.	290 mm.	140 mm.	28 mm.	♀ juv.
320 mm.	690 mm.	48 mm.	280 mm.	142 mm.	30 mm.	♀ juv.

In the colorations of the plumage they are exactly similar to the full-grown, but their bill has quite another appearance, in that the posterior end of the casque, which besides being now black, has begun to develop. The upper ridge of the culmen is in these two wavy and rough and the bill is furnished with dimpled depressions and ridges.

Sclater's plate (Proc. Zool. Soc. London 1871, p. 490) of the head of this species shows the bill, with the elevated

casque, of a nearly full-grown bird. It marks a transition stage between my picture (a somewhat younger individual) and the full-grown.

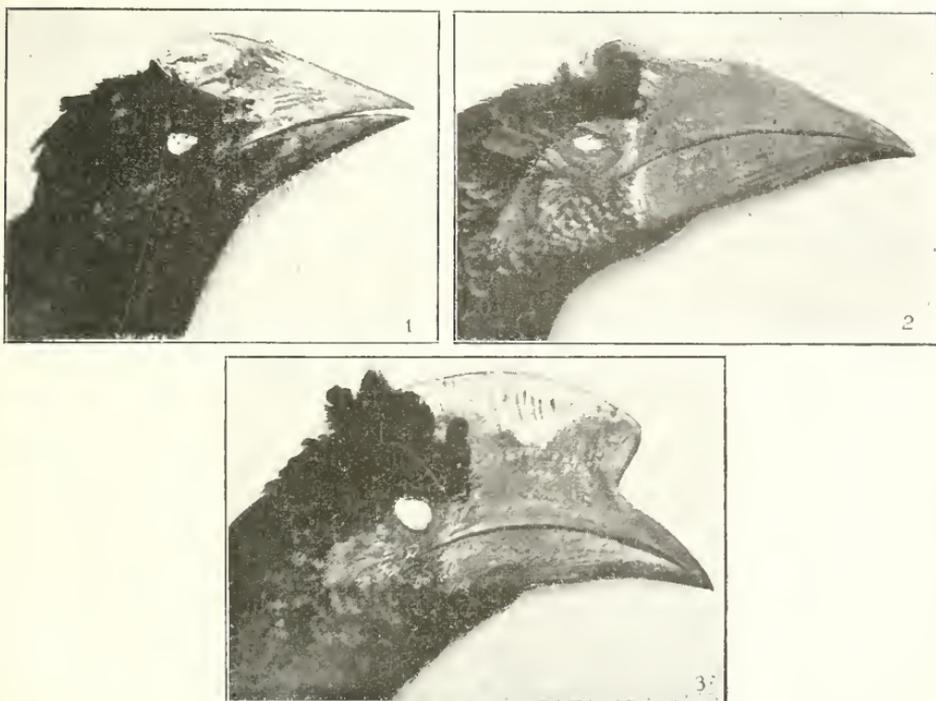


Fig. 2.

The development of the casque of *Bycanistes subcylindricus* Scf.

Foto: H. Granvik.

1. A rather young bird with slight developed casque.
2. A young bird with the posterior part of the casque developed.
3. An adult male with well developed casque.

The region forming the casque is sharply set off from the rest of the culmen by means of a distinct border.

Irides brown; bill and legs as in the full-grown.

Lophoceros melanoleucos suahelicus Neum. —

Journ. f. Ornithol., 1905, p. 187.

2 ♂♂ 5. 5.; 1 ♀ 5. 5. Londiani. — 6 ♀♀ 16. 5. — 7. 6.;
3 ♂♂ 23.5. — 7. 6. Elgon.

Very common at Londiani, where I first procured a specimen of this race. I always saw them in small flocks and they were found quite as often in the forests as on the acacia-steppe. They jump restlessly from bough to bough and do not leave the

tree on which they have perched until one gets very close to them. Then they fly about 10 meters with heavy and slow movements and perch in the foliage of the nearest tree where they at once begin to call to each other. Their note consists of four or five consecutive, short cries.

On Elgon I mostly saw them in the vicinity of the waterways flowing through the forests.

Reichenow (Wissensch. Erg. d. Deutsch. Zentr. Afr. Exp. 1907—1908, p. 228) has in 1912 expressed the opinion that *Lophoceros melanoleucos suahelicus* Neum. is not a good sub-species but considers that the South African *L. mel.* is identical with that occurring in East Africa. van Someren, however, includes it as a geographical sub-species in his work of 1915 (Ibis, 1915, p. 243) and if this latter view proves to be correct, then all my 12 specimens belong to *L. mel. suahelicus* Neum. The same observation that Reichenow (op. cit.) made with reference to the brown or black colour of the upper surface, according to the various stages of the moult, I have also made in the 12 birds in my collection. But in separating the East African form from the South African Neumann gives the following distinguishing character: the former has considerably broader streaks on the sides of the head; the latter has a few fine white streaks on the side of the head.

In the collections at the Berlin Museum, where I compared specimens from South and East Africa, I was able to verify these differences and therefore, like Zedlitz (J. f. O. 1915, p. 24), separate the two forms mentioned and let my specimens from East Africa keep Neumann's name.

As Heuglin (Ornithol. Nordost Afr. Bd. I. p. 721) has already pointed out, this bird varies considerably in respect to size and colour. Thus, some have the secondaries edged with dark brown, others with lightbrown-greyish and again others with white.

The following table shows the variations in the different measurements:

Wing,	tot. l. in f.,	tarsus,	culmen,	tail,		
256 mm.	510 mm.	33 mm.	81 mm.	260 mm.	♂	23. 5. Elgon.
257 mm.	520 mm.	36 mm.	84 mm.	260 mm.	♂	3. 6. "
255 mm.	520 mm.	34 mm.	100 mm.	245 mm.	♂	7. 6. "
245 mm.	470 mm.	35 mm.	80 mm.	250 mm.	♂	5. 5. Londiani.
260 mm.	520 mm.	35 mm.	92 mm.	260 mm.	♂	5. 5. "
250 mm.	480 mm.	36 mm.	88 mm.	225 mm.	♀	5. 5. "
251 mm.	510 mm.	32 mm.	91 mm.	250 mm.	♀	16. 5. Elgon.
238 mm.	480 mm.	34 mm.	82 mm.	240 mm.	♀	19. 5. "
242 mm.	470 mm.	34 mm.	80 mm.	250 mm.	♀	19. 5. "
247 mm.	500 mm.	34 mm.	85 mm.	240 mm.	♀	23. 5. "
252 mm.	510 mm.	34 mm.	77 mm.	255 mm.	♀	23. 5. "
245 mm.	480 mm.	35 mm.	81 mm.	240 mm.	♀	7. 7. "

Reichenow (Vögel Afr. II. p. 250) gives, for instance the wing as 225—250. The average length of wing for these 12 amounts to 250 mm. One, however, reaches 260 mm. and five to over 250 mm. The length of the bill varies between 77 and 100 mm. In two there is no indication of any excrescence on the culmen, in others only a little border and so on.

Irides light yellow. Bill reddish yellow (Jackson, Ibis. 1906, p. 516. says that the bill is crimson). Legs dark-grey — black.

In the stomachs of all of them I found large, dark, hairy larvae and, in two only, a few small stone-fruits.

Alcedinidae.

Halcyon chelicuti chelicuti (Stanl.). — Rchw. II. p. 271.

Kililio . . . ki-kamba.

1 ♂ ad. 14. 5. Soy, 7,500 ft. — 1 ♂ ad. 27. 8. Soy, 7,500 ft. —
1 ♂ juv. 26. 4.; 1 ♀ juv. 29. 4. Mombasa.

In the forests and palm-groves around Mombasa this bird was plentiful.

The young birds from Mombasa are slightly different from the full-grown from Soy, the breast of one of them being without streaks, but having the dark tips of the feathers more sharply defined than in the old. On this account it looks as if the breast was furnished with undulating transverse folds. In the other the dark streaks along the flanks are present, but the transverse streak of the breast feathers appear quite plainly. The blue colour on the secondaries is indistinct and mixed with greyish brown, but is clearer and brighter in the old birds. Besides, in the young birds the upper mandible is red only at the base, the remainder being blackish.

If we compare, without having regard to the different times at which the abovespecimens were shot, the Mombasa specimen with those from Soy, we shall find that the blue on the rump and the upper tail-coverts in the former is very light, shading almost into green, while in the later, especially in the specimen from May, it is a more intensive blue and without any green wash. The dress of the Mombasa specimen however, is abraded and has thus been in use for a long time and is somewhat faded, therefore this difference in colour is quite natural and is of no systematic value whatever. When I passed Soy in July, on my return from Elgon, I was fortunate enough to get another specimen from the same place as that in which the first one was shot, and this individual was then, with reference to the blue part mentioned, similar to the Mombasa specimen. (Compare *Poicephalus meyeri saturatus*.)

The wing measurements of the Soy specimens are 81, 82 mm. the Mombasa specimens 76, 77 mm.

Halcyon albiventris erlangeri Neum. — Bull. Brit. Orn. Club, vol. XXI, 1908, p. 71.

1 ♂ 26. 4.; 2 ♀♀ 26. 4. Mombasa.

Occasionally seen in company with the preceding bird, at times alone or in pairs on the outskirts of woods, where it frequented the under-growth and bushes.

Of this King-fisher three forms are recognised:

1. *Halcyon albiventris albiventris* Scop.

Wing 105—110 mm.

Range: South Africa.

2. *Halcyon albiventris orientalis* Ptrs.

Wing 97—105 mm.

Range: East Africa, from Witu to Mozambique.

3. *Halcyon albiventris erlangeri* Neum. — Bull. Brit. Orn. Club, vol. XXI, 1908, p. 71.

Wing 92—97 mm.

Range: Southern Somaliland.

According to Reichenow (op. cit.) *H. a. orientalis* is found in Mombasa, from where my three specimens were procured. v. Someren (Journ. E. A. and Ug. N. H. Soc., vol. VI, 1918, p. 255) also calls his specimens from Mombasa *Halcyon orientalis*. Provided the three forms mentioned are good and constant ones, and, judging from the wing measurements, which distinguish them, my specimens should be *H. a. erlangeri* Neum., which Zedlitz (J. f. O., 1915, p. 28) says is only known from South Somaliland.

That *H. a. orientalis* is found in East Africa is certain (compare Lönnberg: Birds coll. B. E. A., 194, p. 74; but, no figures are given for wing-length) and in that case this race and *H. a. erlangeri* should occur side by side. They are certainly, however, not found nesting together, if so then these two forms may possibly be synonyms.

These three specimens are all in moult, and only in one of them is the upper back black; in the other two it is dark-brown.

Irides dark-brown. Bill coral red with dark tip; legs dirty red.

Wing: ♂ 98 mm., culmen 45 mm., tarsus 17 mm.

Wing: ♀♀ 95—96 mm., culmen 43—44 mm., tarsus 15—16 mm.

Halcyon leucocephala leucocephala P. L. S. Müll. —
Rchw. II. p. 276.

Halcyon semicoeruleus (Forsk.). — Reichenow: Vög. Afr. II. p. 276. — Lönnberg: Birds Coll. B. E. A., 1911, p. 74. — Zedlitz: J. f. O., 1915, p. 28. —

v. Someren: J. E. Afr. Ug. N. H. Soc., vol. IV, 1914, p. 95. — *Halcyon semicoeruleus semicoeruleus* Forsk. — Zedlitz: Journ. f. Orn., 1915, p. 28.

Kierindi . . . ki-kavirondo.

1 ♂ ad. 18. 8. Kisumu. — 1 ♂ ad. 23. 8. Kendu.

Neumann calls this sub-species *H. semicoeruleus centralis* (Journ. f. Ornithol., 1905, p. 189) and gives as the characteristic: "Das Blau ist ein reines Türkisblau". The other three sub-species, which the same writer confirms, are distinguished from the above by the different tint of the blue.

Grant (Ibis, 1915, p. 265) however considers Neumann's *H. s. centralis* as a synonym of *H. l. leucocephala* and even lets *H. rufiventer* Sw. be identical with it.

v. Someren has (Journ. East Africa and Uganda Nat. Hist. Soc. vol. IV, 1914, p. 95) given a picture of this bird, which agrees perfectly with one of my specimens from Victoria Nyanza. But he briefly calls it *Halcyon semicoeruleus*.

Wing 102 mm., tarsus 14 mm., bill 44 mm.

The other specimen is in moult and has a dark-grey crown and the nape streaked with brown.

Wing 104 mm., culmen 43 mm., tarsus 15 mm.

Irides brown; bill and legs coral-red.

Corythornis cristata galerita St. Müll. — Rehw. II. p. 289.

Corythornis cyanostigma (Rüpp.). — Reichenow: Vög. Afr. p. 289. — v. Someren: Ibis, 1915, p. 246. — Butler: Ibis, 1909, p. 86. — Chubb: Ibis, 1909, p. 150. — Gurney: Ibis, 1909, p. 512. — Neave: Ibis, 1910, p. 109. — Grant: P. Z. S., 1910, p. 439. — *Corythornis cristata* L. — Grant: Ibis, 1916, p. 263. — *Corythornis cristata cyanostigma*. — Zedlitz: J. f. O., 1910, p. 767. — J. f. O., 1915, p. 29. — Grote: J. f. O., 1921, p. 419. — Hartert: Nov. Zool., XXII, 1915, p. 257. — *Corythornis cristata galerita* St. Müll. — Neumann: Orn. Monatsber., 1915, p. 157.

Kililio . . . ki-kamba. — Otidanga . . . ki-kavirondo.

2 ♂♂ 20. 4.; 1 ♀ 20. 4.; 2 ♂♂ 23. 4. Lake Naiwasha. — 2 ♂♂ 21. 8. Kendu (Victoria Nyanza).

Neumann (Orn. Monatsber., 1915, p. 155—157) has in a very thorough and excellent manner analysed the questions of nomenclature for this bird and its "form-circle", and he distinguishes four geographical forms.

Corythornis cristata cristata L. — Range: Madagascar a. Comoren.

Corythornis cristata galerita St. Müll. — Range: Tropical Africa.

Corythornis cristata nais Kaup. — Range: Prince-Islands.

Corythornis cristata thomensis Savad. — Range: St. Thomé.

Grant (Ibis, 1916, p. 263—264) also deals with the same questions but arrives at a somewhat different conclusion from Neumann's.

This beautiful, little Kingfisher was very common in the reeds and around the shores of Lake Naiwasha. Also at Kendu the bird was common. There is no note-worthy difference be-

tween the birds from these districts. The only thing that can possibly be adduced is that the two from the last-mentioned locality have the base of the culmen darker than the rest.

Neumann says (op. cit.) that this form is distinguished from *C. c. thomensis* in that it lacks the small, black spots at the base of the upper mandible found in the latter. In some of my specimens, however, these spots are present, and thus it seems as if this character is not sufficient to separate these forms. Not having been in a position to examine any specimen of *C. c. thomensis* I cannot, however, express any definite opinion on the matter.

Wing ♂♂ 53, 56, 56, 60, 60 mm., tarsus 7—9 mm.

Wing ♀ 59 mm., tarsus 8 mm.

Irides dark-brown; bill and legs coral-red.

Ceryle rudis rudis (L.). — Rchw. II. p. 295.

Opingo . . . ki-kavirondo. — Kalamindo . . . ki-kavirondo.

4 ♂♂ ad. 21. 8.; 1 ♂ juv. 21. 8.; 2 ♀♀ juv. 21. 8. Kendu.

In Kendu on the Gulf of Kavirondo, Victoria Nyanza, this Kingfisher was the most common met with on the shores. It could be seen everywhere in flocks or singly flying along the water-edge or sitting, in company with doves, on the branches of the trees growing in the water.

Erlanger (Journ. f. Orn., 1905, p. 445) has expressed the opinion that the males have two black breast-bands, the female only one. Reichenow (Vögel Afrikas II. p. 296) however, doubts the correctness of this.

I have carefully sexed all my specimens and have found that three mature ♂♂ have two breast-bands, whereas the fourth has only one, therefore I agree with Reichenow's statement. All the young birds (2 ♀♀, 1 ♂) have only one, more or less greyish black, breast-band.

The four male adults have the following measurements:

wing,	total length,	tarsus,	culmen,	
137, 140, 140, 140 mm.	265—280 mm.	10—11 mm.	60—62 mm.	♂♂
134, 138 mm.	250—260 mm.	10, 12 mm.	49, 50 mm.	♀♀

The young birds have all the feathers of the lower part of the fore-neck edged with grey (sometimes only a little grey spot on the tips of the feathers), and the lower mandible is yellowish towards the tip of the bill. The bill varies between 48—50 mm. in length.

Not one of the four full-grown males has the under-surface of the body purely white, but here and there are black longitudinal streaks, chiefly along the flanks.

Irides dark-brown; bill and legs black.

Ceryle maxima (Pall.). — Rchw. II. p. 298.

Megaceryle maxima maxima. — Miller: Bull. Amer. Mus. N. H., vol. XXXI, 1912, p. 296—297.

1 ♂ juv. 3. 7. Mount Elgon, 7000 ft.

By one of Elgon's mountain streams, banked on both sides by dense forests, a pair of these birds was found. This was the only time I saw the bird on the eastern slopes.

The specimen shot is a young bird, which, in colour, approaches the one described by Reichenow (op. cit. p. 299—300). Still, the underparts are not in this case entirely white but are provided all over with large, black spots. Along the flanks and for some distance towards the middle of the belly there are numerous rusty-brown spots. The fore-neck is mainly black, that is, the feathers are black but are edged and tipped with brown.

I often saw the birds plunge into the cold water of the stream to procure something, but could not ascertain what it was. Later on, however, when I got an opportunity to examine the contents of the stomach, I found that they consisted entirely of the remains of the crabs, so plentiful in these streams.

Irides dark-brown; bill and legs black.

Miller (Bull. Am. Mus. N. H., vol. XXXI, 1912, p. 297) has separated *sharpei* from *maxima*, which, however, Reichenow (op. cit.) and other authors make synonyms. He says that in the former the ♂ "has the belly heavily marked with slate color but it is never rufous". He states further that "*sharpei* is a well marked race, which occurs in West and Equatorial Africa". He mentions that he has not seen any specimens, but affirms that "*sharpei* differs from the true *maxima* in its darker coloration, the white spots of the upperparts much restricted and wholly absent from the interscapulum; the abdomen, crissum, under wing-coverts (and axillares doubtless) of the male heavily barred with slate-grey."

Meropidae.

Melittophagus lafresnayeii oreobates Sharpe. — Rchw. II. p. 303.

Nthungululu . . . ki-kamba. — Talingi . . . ki-suaheli.

1 ♀ ad. 18. 4. Kiambu. — 3 ♂♂ ad. 26. 5., 3. 6.; 2 ♀♀ ad. 3. 6., 24. 7.;
2 ♂♂ juv. 26. 5., 15. 6.; 1 ♀ juv. 26. 5. Mount Elgon 7000 ft.

From Kiambu (in the neighbourhood of Nairobi). I have only one specimen, but according to Someren (Ibis, 1916, p. 247) this bird is very common in these districts.

This specimen differs in no respect from those procured on Elgon, where the race is very common, inhabiting the outskirts of the forests of the eastern slopes, especially spots

where acacia-trees grow scattered among the other trees. I frequently saw them in rather large numbers in the tops of *Podocarpus* trees where they sat eating the yellow fruit. They fly badly and only for short distances at a time.

Among the six specimens in full-dress I can separate two types, which may possibly be due to different ages but are probably due to the plumage being new or having been long in use and more faded in consequence thereof.

I. The green type. Agrees very closely with the description Reichenow (op. cit. p. 303) has given. The third and fourth, secondaries, however, have a narrow, blue edge above the extremity. The innermost secondaries with more or less sharply defined blue tips. The median rectrices green.

II. The blue type. A great number of the green feathers of the head and back with clear blue tips. All the secondaries with a distinct, broad blue edge, extending to and including the black tip. The inner secondaries blue also on the outer-web and a wide, blue border along the whole of the edge of the outer-web. The middle rectrices blue and all the others with a blue edge.

The three young birds have a scarcely noticeable "supercilium" (sometimes none at all). No bluish black shield below the somewhat paler yellow-coloured throat, but the fore-neck and breast olive-green instead, the same colour as the upper surface of the body. The belly pale rusty-brown and under tail-coverts pale green. The middle tail feathers with clear bluish green wash. The outer-web of the secondaries green without a blue edge. Irides blood-red; bill black; legs greenish grey — greyish red.

Wing,	tarsus,	culmen,
97, 98, 98 mm.	10 mm.	32—33 mm.

The measurements of the full-grown are:

Wing,	
♂♂ 98, 100, 101 mm.	♀♀ 97, 99, 99 mm.
tarsus,	bill,
10—11 mm.	34—36 mm.

Melittophagus pusillus cyanostictus Cab. — Rchw. II. p. 308.

3 ♂♂ ad. 27. 4.; 1 ♀ juv. 27. 4. Mombasa.

Very common in the environs of Mombasa. The three males are in moult and the plumage much worn. What strikes the eye at once, however, when these three are compared with the unabraded dress of the young bird is, that they have a predominant greyish blue wash on the upper parts and the middle feathers of the tail are greyish blue, whereas the young bird is green; the middle rectrices being also green.

There is in this race the same difference in the feathering as in *M. lafresnayeï oreobates* where one might speak of a green and a blue type. In the latter, however, the plumage was not abraded and it was thus not clear that this change of colour was due to the moult.

In this case there seems to be no doubt that this greyish blue tint is a colour appearing at about the time of — or somewhat earlier than — the moult. The superciliary stripe is rather wide and distinct — even in the young bird.

Wing,	tarsus,	culmen,
76, 77, 77 mm.	8—9 mm.	29—30 mm.

Irides blood-red; bill black; legs darkgrey-black.

Melittophagus bullockoides (A. Smith). — Rchw. II. p. 311.

2 ♂♂ ad. 22. 4. Lake Naiwasha.

Even these two specimens are in moult and the dresses are abraded. At Lake Naiwasha this bird was seen now and again, but it was very shy. It frequented the groves, which at certain points reach right down to the water.

Wing 115, 116 mm.	tarsus 11, 12 mm.
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Irides dark-brown; bill black; legs dark-brown.

Merops superciliosus superciliosus L. — Rchw. II. p. 325.

Chooro . . . ki-kavirondo.

2 ♂♂ ad. 21. 8., 23. 8.; 1 ♀ ad. 23. 8.; 1 ♀ ad. 25. 8. Kendu (Victoria Nyanza).

This race was one of the commonest occurring round Kisumu and Kendu on Victoria Nyanza. I have seen it in the open field, where only an occasional bush grew, in the groves and right down by the water. At times it appeared in the midst of the negro villages, often 4 or 5 of them together.

In the stomachs of the individuals shot I found only the remains of locusts.

They are all in full dress.

Wing,	tarsus,	culmen,	
132, 139 mm.	11—12 mm.	46—49 mm.	♂♂.
126, 131 mm.	11 mm.	48 mm.	♀.

Irides bloodred; bill and legs black.

Upupidae.

Upupa africana Bechst. — Rchw. II. p. 336.

1 ♂ 10. 9. Mount Kenia.

One specimen was procured from the neighbourhood of Mount Kenia.

The fourth secondary of the wings is of the same appearance as Grant (Ibis 1915, p. 279) has pictured it in *U. senegalensis* (fig. on the right hand), that is, a little more than the upper half white, the lower half with one upper narrow and one lower wide, black band, and the tip black.

Reichenow gives the length of the bill as 48—54 mm. This individual's bill is abnormally long, reaching to 69 mm. — Tarsus 18 mm, wing 132 mm.

Irides brown; bill dark greyish brown; legs dark-grey.

I have seen the bird many times in the gardens and in the fields both in and around at Mombasa.

Irrisor erythrorhynchus marwitzi Rehw. — Orn. Monatsber. 1900, p. 171.

Ngeka . . . ki-kamba.

1 ♂ ad. 26. 4. Mombasa. — 1 ♂ ad. 18. 5.; 1 ♂ juv. 15. 5. Mount Elgon.

Although these three individuals exhibit small differences, which are characters now of one, now of an other form of *I. erythrorhynchus* (Lath.), all of them, however, show unmistakable indications that they should be placed under *I. e. marwitzi*.

In no place was the race met with commonly. It frequented the brushwood or the outskirts of the forests, where low trees grew. It is rather shy and is more difficult to get within range than the allied races.

All three have a deep purple gloss on the central tail-feathers, and even the last secondaries have this gloss. In the two mature specimens the white spots on the wings and tail are considerably different in size, but this is probably connected with the fact that one of them is in moult. The other has but lately assumed the full dress. In *I. e. erythrorhynchus*, which is in fact a South African race, these spots are small, in all the other forms they are large (no writer has fixed the limit as to what should be considered small and what large spots). In one respect my three specimens approach the above-named, that is, in having the inside of the wings washed with green.

Wing,	tarsus,	culmen,	tail,	
140 mm.	25 mm.	53 mm.	210 mm.	♂ Mombasa.
146 mm.	28 mm.	57 mm.	230 mm.	♂ Elgon.
148 mm.	24 mm.	47 mm.	225 mm.	♂ juv. Elgon.

As regards colour the young bird is as Reichenow (op. cit.) has described it.

In one of the Elgon specimens the measurements for the tarsus and bill are unusually high, but it agrees perfectly in other respects with the Mombasa specimen.

Irrisor erythrorhynchus niloticus Neum. — Orn. Monatsber.
1903, p. 181.

Irrisor niloticus Neum. — v. Someren: Journ. East Afr. & Ug., N. H. Soc.,
No. 16, 1921, p. 30.

1 ♂ ad. 27. 7. Mount Elgon.

This individual was shot below the eastern slopes of Mount Elgon. In one respect this specimen puts one in mind of *I. e. marwitzi*, i. e., in the predominant green wash on the inside of the wings. But the purely steel-blue tail-feathers make me place it under *I. e. niloticus*. If this is a good subspecies and not an age-form my individual — in spite of its resemblance to *I. e. marwitzi* in the colour of the underside of the wings, — belongs to this sub-species.

Neumann states (op. cit.) that the race has its range from East Soudan, near White Nile, to the valleys of the Blue Nile. Grant adds (Ibis 1915, p. 285) that it extends southwards to Lakes Stephanie and Rudolph. v. Someren also mentions the bird from Kobua River, W. Lake Rudolph (Journ. E. Afr. & Ug., N. H. S., 1921, No. 16, p. 30). The southern boundary of the race is thus moved somewhat farther south to the eastern slopes of Mount Elgon. *I. e. marwitzi* occurs here more commonly and thus there are prospects of finding intermediate forms between the two in these districts.

Neumann states (Journ. f. Ornithol. 1905, p. 194) that he has come across *I. e. niloticus* in Schoa, which proves that this form extends northwards, reaching the region of *I. e. neglectus* Neum. [Grant (op. cit.) considers the latter, however, to be only a synonym of *I. e. niloticus*].

Irrisor bollei jacksoni Sharpe. — Rchw. II. p. 343.

1 ♂ ad. 8. 5. Londiani. — 8 ♂♂ ad. 21. 5.—2. 7. Mount Elgon. —

1 ♀ ad. 8. 5. Londiani. — 6 ♀♀ 21. 5.—2. 7. Mount Elgon.

The first time I saw this race was in a little grove — two days' march from Londiani in the direction of Eldoret — at an altitude of about 9.000 ft. A few specimens were shot here.

In the forests on the eastern slopes of Elgon, up to 9.000 ft., this race was very common. Going into the forest at any time of the day one could be certain of seeing large or small flocks everywhere noisily flying about. As a rule 4 or 5 appeared together, but frequently I saw crowds of them, amounting to more than 20 in number.

I once shot a female from a large flock in the bamboo forest at an altitude of 10.000 ft. As soon as the female had fallen to the ground all the others began to shriek and to make a noise, flying in a agitated manner about the spot where the female had fallen. Suddenly one of them settled beside the

dead bird — probably the male -- and tried to move her with his bill, and shortly 5 or 6 of them ran, or rather hopped, around the fallen female, screaming noisily and now and again poking her with their beaks.

On the 22nd July I found a nest in an old decayed tree, about 5 meters from the ground. It was built like the nest of a wood-pecker, and the entrance was very small. The old birds flew "laughing" around the tree, thus betraying the abode.

In the hole sat an almost full-grown young bird, which was fed by the parents. These were, as always, not at all shy, but sat calmly watching me and were not disturbed in their care of the young one by my presence. As soon as one of the parents came with food or from a distance announced its arrival by means of its particularly noisy cry, the young bird (— for they had only one) flew into the hollow of the tree and placed himself in the opening of the nest, croaking and shrieking and suffered itself to be fed, but when this was done and the old ones had left him, he flew out of the nest and perched on an adjacent bough. When he then heard one of the parent birds approaching he swiftly slunk into the nest and accepted the food — so to say in the very door-way. This was repeated continually and in all probability the meaning of these tactics was to give the old birds the idea that he was helpless and not yet able to look after himself.

When I climbed up to the nest in order to have a look at it I smelt that disagreeable moschus-stench which always characterises these birds. One frequently sees statements that the hoopoes and their nest smell very badly because of the uncleanness of the birds. But this is not quite correct, for the stench is not caused by the excrements, but arises from the fetid secretion of the rump-gland. I have examined about 20 individuals of this bird and from most of them dissected this *Glandula uropygii*, which in these birds is also enormously large and of a peculiar construction, and found that the viscid dark-brown secretion from the gland gives this strongly negative sensation of smell.

Why just these wood-hoopoes have such a powerful rump-gland, which secretes this fetid secretion, is not easy to decide. In most cases the secretion, with which the birds smear their feathers, should be of importance to protect them against wet and loss of heat, but might not, this unpleasant smell that the birds emit also protect them to a certain extent from attack by enemies?

In the large series of skins which I have of this race there are great individual variations. Lönnberg (Birds coll. by the Swed. Zool. Exp. to B. E. A., 1911, p. 76—77) has already pointed out that he has found the same and he classifies all his varieties as "individual aberrations of *I. jacksoni*".

The variations Lönnberg mentions are to be found in my collection and a few more as well. With reference to the extent of the white patch on the head, there are great differences. Thus, one individual has only the front part of the frontal region white (13 cm.), another has the white extending 36 cm. backwards measured from the base of the bill, a third only 20 cm. etc., etc. A young specimen has in the middle of the white section, a large bronze-greenish glossy spot.

In young individuals the bronze-green patches on the back and under surface are washed with blue, which tint, however, disappears more and more in old birds and is replaced by a more uniform green, sometimes yellowish-green, glossy colour.

The most remarkable bird in the collection is one which entirely lacks the white on the chin and neck, only having a few, 5-6, white feathers at the base of the bill on the upper surface.

If we compare the measurements given by the various writers who have dealt with this race, we shall find surprising differences.

Lönnberg (op. cit.) gives 125-145 mm. for wing, 200-214 mm for tail, and 34-45 mm. for bill.

Reichenow (op. cit., p. 243) has 125-130 mm., 180-210 mm., 35-45 mm. respectively.

v. Someren (Nov. Zool., 1918, p. 273) ♂ 123-133 mm., ♀ 122-130 mm. (Kikuyu specimens 140-144 mm.)

From the table below will be seen the great variation in the various measurements and that my figures agree best with those of Lönnberg:

Wing,	bill,	tarsus,	tail,		
139 mm.	42 mm.	23 mm.	215 mm.	♂ 8.5.	Londiani.
133 mm.	41 mm.	20 mm.	212 mm.	♂ 21.5.	Elgon.
136 mm.	50 mm.	22 mm.	180 mm.	♂ 25.5.	"
142 mm.	57 mm.	22 mm.	215 mm.	♂ 28.5.	"
126 mm.	41 mm.	21 mm.	195 mm.	♂ 28.5.	"
139 mm.	50 mm.	22 mm.	230 mm.	♂ 11.6.	"
135 mm.	42 mm.	20 mm.	198 mm.	♂ 2.7.	"
134 mm.	50 mm.	21 mm.	185 mm.	♂ 2.7.	"
136 mm.	51 mm.	22 mm.	205 mm.	♂ 2.7.	"
129 mm.	36 mm.	20 mm.	200 mm.	♀ 8.5.	Londiani.
135 mm.	49 mm.	22 mm.	220 mm.	♀ 21.5.	Elgon (in moult).
130 mm.	41 mm.	21 mm.	155 mm.	♀ 22.5.	" "
126 mm.	38 mm.	21 mm.	200 mm.	♀ 22.5.	" "
129 mm.	37 mm.	19 mm.	200 mm.	♀ 26.5.	" (not moulting).
130 mm.	38 mm.	22 mm.	190 mm.	♀ 11.6.	" (in moult).
130 mm.	50 mm.	21 mm.	155 mm.	♀ 2.7.	" " "

What is conspicuous, however, in the above table is the great difference in the figures for the length of the bill; 36—57 mm. Not less than 6 birds have 50 mm and upwards.

Only six specimens are in full dress; all the others are in moult. In one individual it appears that the new tail-feathers are dark-blue without any purple gloss; in another they have only such a gloss at the base, and in those in full plumage they are almost to the whole of their length purple-glossy (at least the central tail-feathers).

The young bird's bill is not such a beautiful coral-red as that of the old birds, but has a more or less deep tint of grey. It is, however, not black as in *Rhinopomastus erythrorhynchus*.

v. Someren says (op. cit.) that "they have the feathers of the rump broadly tipped with coppery bronze". But all the specimens in my series have these feathers blue without a coppery bronze. I cannot agree with v. Someren's opinion that the white on the throat is purer, for all mine have a plain brownish yellow wash over the white. In all the specimens the irides were dark-brown (Grant, brown; Reichenow orange), bill coral-red, legs coral-red with black claws.

Whether the Elgon-bird, however, forms a special race which differs to size from the true *I. b. jacksoni*, should be difficult to decide at present. It seems to me to be so and later investigations may perhaps bring light on the matter.

Rhinopomastus cyanomelas schalowi Neum. — Journ. f. Ornithol., 1900, p. 221.

1 ♂ ad. 29. 4. Mombasa. — 1 ♂ ad. 9. 5. Londiani, 8,500 ft. — 3 ♂♂ ad. 26. 5 — 23. 6. Mount Elgon 7,000 ft. — 1 ♀ ad. 22. 4. Lake Naiwasha. — 2 ♀♀ ad. 27. 4. Mombasa. — 1 ♀ ad. 23. 6. Mount Elgon 7,000 ft. — 1 ♀ juv. 29. 4. Mombasa.

In the palm-groves and woods around Mombasa this race was very common and was quite as often seen singly or in pairs as in small flocks of 4—6 in number.

All the specimens from Mombasa are in the moulting stage and the feathers very much abraded and this might be the cause why the respective measurements, which are otherwise rather large, are fairly small in all my specimens.

Wing,	bill,	tarsus,	tail,		
107 mm.	51 mm.	22 mm.	158 mm.	♂	ad. Mombasa.
101 mm.	36 mm.	21 mm.	155 mm.	♀	ad. "
97 mm.	37 mm.	20 mm.	138 mm.	♀	ad. "
99 mm.	34 mm.	20 mm.	145 mm.	♀	juv. "
103 mm.	35 mm.	20 mm.	140 mm.	♀	ad. Naiwasha.
115 mm.	45 mm.	21 mm.	158 mm.	♂	ad. Londiani.
118 mm.	49 mm.	21 mm.	176 mm.	♂	ad. Elgon.
120 mm.	45 mm.	20 mm.	185 mm.	♂	ad. "
113 mm.	39 mm.	21 mm.	162 mm.	♀	ad. "
108 mm.	32 mm.	17 mm.	161 mm.	♀	ad. "



♂ ad. Mount Elgon 17. 6.



♂ ad. Mombasa 29. 4. (the outermost pair in this specimen was pure black).—The picture shows the outermost pair but one.



♀ ad. Mombasa 26. 4.



♀ ad. Mount Elgon 23. 6.

Fig. 3.

The variation in the extent of the white spots on the outermost tailfeathers of *Rhinopomastus cyanomelas schalowi* Neum.

Foto: H. Granvik.

In the young stage all of them have a more or less plain purple-violet gloss — exactly as in the adult birds —, but this disappears at the moulting time and the dress has then a more greenish gloss. One of the females has the crown and hind neck a beautiful steel-blue gloss, the others are blackish brown.

In the specimens from Mombasa there are great differences with regard to the white parts of the tail-feathers.

One ♀ has, for instance, five of the tailfeathers broadly tipped with white, which on the inner-web extends much higher up than on the outer-web. (Fig. 1.)

Another lacks this white entirely.

A third has only a little white spot on the outer-web of the two central rectrices. (Fig. 2.)

Two ♂♂ have a white patch close to the tip (Fig. 3.)

The head and neck of the young birds are yellowish brown as a rule, and the white on the tail-feathers is small or missing altogether.

Irides dark-brown; bill and legs black.

On Elgon this race was not nearly so common as *I. b. jaksoni*, and it was found as a rule only on the outskirts of the forests or where there were thickets and brushwood.

Caprimulgidae.

Caprimulgus natalensis chadensis Alexander. — Bull. Br. Orn. Club. vol. XXI, 1908, p. 90.

1 ♂ 6. 6. Mount Elgon, 7.000 ft.

This race was common in the acacia-country, below the slopes of Elgon, especially where the ground was covered with large and small boulders.

The specimen is in full plumage.

Grant has (Ibis, 1915, p. 303—305) separated 5 forms of *natalensis* and of these three cannot, in the present case, be any question of any other than *chadensis*.

In the original description it is stated that this form "is of a pale sandy-brown colour", but my specimen is more rufous both on the upper and the lower parts and may perhaps in colour approach *fulviventris* from Angola.

Mr. J. Chapin, New York, has shown me a specimen shot by him in the vicinity of Lake Chad, which agreed in colour with Alexander's description.

Wing 150 mm; tarsus 20 mm.; tail 107 mm.

Irides dark-brown; bill brownish red with dark tips, legs pale flesh-red colour.

Macrodipteryx vexillarius fülleborni (Rchw.). — Rchw. II. p. 372.

1 ♂ ad. 8. 7., 1 ♂ juv. 11. 7.; Mount Elgon.

The two specimens of this race were shot by Dr. G. Lindblom in the Kitosh country on South Elgon.

The young bird is exactly like the old one in plumage, but the elongated rectrices have not yet attained the length of those of the old bird but extend only 5 cm. beyond the tip of the tail.

Wing 220 mm., ad. 195 mm. juv; tarsus 25, 22 mm.

Irides dark-brown; bill dark greyish brown; legs of full-grown, brownish grey, of young bird, brownish yellow.

Hirundinidae.

Riparia paludicola ducis Rchw. — Orn. Monatsber., 1908, p. 81.

1 ♂ ad. 18. 4. Kiambu.

A large flock of these birds were seen flying about a sandbank on the edge of the forest. Here and there the commenced excavations for their future dwellings were seen. It is possible that the holes in the sandbank, leading into the narrow passages are not dug by these swallows, for I never saw them engaged in the work of digging although they flew backwards and forwards in front of them and at times sat resting in the mouths of the passages.

Wing 98 mm, tarsus 10 mm.

Irides dark-brown; bill dark-brown (brownish black); legs black.

In the Royal Natural History Museum in Stockholm there are specimens of *R. p. minor* from Kilimandjaro which are lighter and paler than *ducis*, but according to Sclater & Mearns (Ibis 1918, p. 715) *minor* occurs in Abyssinia and the upper Blue Nile. The question is then, whether the individuals established by Sjöstedt are really *minor* and that the distribution of that race thus enters the region for *ducis* (which is hardly probable) or are only paler specimens of *ducis*.

Riparia cincta cincta (Bodd.). — Rchw. II. p. 394.

2 ♂♂ ad. 5. 5., 7. 5. Londiani, 7,500 ft. — 1 ♂ ad. 14. 5;
2 ♂♂ juv. 26. 7. Soy 8,500 ft.

In Londiani this swallow was abundant and was breeding in a railway bank in the forests. At Soy, where the race was also common, I saw them in the evenings flying in flocks around some small pools of water in the grass-plains. In July the young

birds were full-grown and the specimens I procured were all birds of the year.

I have seen the race in all sorts of localities, but always in small or large flocks. It seems, however, to be a highland bird, and in the acacia-country below the slopes of Elgon it occurred practically speaking everywhere.

The wing-measurement in the adult birds is 120—135 mm., tarsus 12—15 mm.; in the young 122—126 mm., tarsus 12—13 mm. — Irides dark-brown; bill and legs black.

Hirundo griseopyga griseopyga Sund. — Rchw. II. p. 403.

1 ♂ ad. 17. 4; 1 ♀ ad. 17. 4. Kiambu.

Common in the districts around Nairobi. Occurred on the outskirts of the forests where it frequented the swampy regions hunting in company with *Riparia paludicola ducis*.

In the female the white line above the lore is scarcely noticeable, and although very indistinct even in the male it is nevertheless discernible.

♂ wing 96 mm.,	tarsus 12 mm.,
♀ „ 95 mm.,	„ 12 mm.

Irides dark-brown; bill black; legs dirty yellowish brown.

Hirundo angolensis Boc. — Rchw. II. p. 409.

H. arctincinata Sharpe. — Ibis: 1891, p. 119. — v. Someren: Ibis 1916, p. 373.

Hirundo angolensis arctincincta Sharpe. — Berger: Journ. f. Orn., 1911, p. 515.

1 ♂ ad. 6. 6.; 1 ♂ juv. 6. 6. Mount Elgon, 7,000 ft.

This swallow was breeding very commonly in the giant caves on the eastern slopes of Elgon. Frequently the nests were only $\frac{1}{2}$ —1 metre from the ground and usually in the outer parts of the caves. Sometimes they were found high up on the steep walls and rather far in the interior of the dark parts, where the bats lived in countless numbers.

The nests were comparatively small and lined with feathers and hair. The eggs — generally three in number — were in shape and colour like those of *H. rustica*, but somewhat smaller in size. Owing to a mishap the eggs I procured were crushed and the nests destroyed, and I am therefore unable to give any further particulars.

As Reichenow points out (op. cit.) Sharpe separates Uganda specimens, which he calls *H. arctincincta* (terra typica: Elgon) from true *H. angolensis* Boc. The former should have the centre of the underparts of the body white, the latter, greyish brown.

One of these two specimens has the centre of the lower surface whitish, the other distinctly greyish-brown, and yet they were shot on the same day and on the same spot. It is therefore probable that this dissimilarity is due to the difference in age, which appears from the fact that the whitish one is a young bird. I think that Reichenow is justified in doubting the genuineness of these two races, and I therefore give Bocage's name for the Elgon form.

Wing 120, 121 mm., tarsus 11 mm.

Irides dark-brown; bill black; legs dark-grey.

Hirundo puella unitatis Scl. & Mackw.-Pr. — Ibis 1918, p. 718.

1 ♂ ad. 17. 4.; 1 ♀ ad. 17. 4. Kiambu.

This race was common in the Nairobi regions and in Mombasa. Both specimens are in full plumage and have the chin of the same reddish brown colour as the head. The steel-blue lustre on the wings and tail-feathers is very pronounced.

Reichenow (Journ. f. Orn., 1921, p. 265) expresses the opinion that the three forms of *puella* cannot be maintained, as, in his opinion, the characters which distinguish them are not constant.

I have compared the specimens in Stockholm, which Lönnberg brought home from Nairobi, and found that the striping varies very considerably, and in 3 of the specimens it is finer, in others coarser. It is the same thing in these two specimens of mine.

Wing ♂ 110 mm., ♀ 105 mm., tarsus 13 mm.

Irides dark-brown; bill black; legs dark-brown.

Hirundo senegalensis senegalensis L. — Rchw. II. p. 415.

Nthungululu . . . ki-kamba.

2 ♂♂ ad. 8. 5., 10. 5. Londiani, 8,500 ft. — 5 ♂♂ ad. 26. 5., 24. 7;
5 ♀♀ ad. 16. 5., 24. 7. Mount Elgon 7,000 ft.

I met this race for the first time when we camped at an altitude of 8,500 feet a few days' march north-west of Londiani on the road to Eldoret. It was very abundant everywhere in the upland regions and always appeared in flocks on the edges of the forest or on the acacia-plains. In the evenings large flocks could be seen perched on the dead branches in the tops of the trees.

On one occasion I saw a bird coming out of a little hole in a dead tree-trunk and perched on a branch near by. I shot the bird and it then turned out to be a female of *H. senegalensis*. Whether the bird had its nest in this hollow tree or not was impossible for me to find out, as it was not possible to climb up the tree.

On the eastern slopes of Mount Elgon this was the commonest of the swallows.

In the series of 12 specimens brought home, all of which are in full dress, there are no noteworthy differences in the colour of the plumage. Two specimens exhibit a lighter tint in the reddish-brown colour of the underparts, two lack the steel-glossy tips to the tail-coverts, but in other respects they are alike.

Wing,	tarsus,	
136—154 mm.	17—19 mm.	♂♂.
140—150 mm.	17—18 mm.	♀♀.

The respective figures for the ♂♂ are: One 136 mm., two 140 mm., one 146 mm., two 147 mm., one 154 mm., The average is thus 143.4 mm. For the ♀♀; one 140 mm., one 141 mm., one 144 mm., one 145 mm., one 150 mm., average 144 mm.

Irides dark-brown; bill black; legs dark greyish-brown.

Hirundo emini Rchw. II. p. 420.

1 ♀ ad. 10. 5. Eldoret, 7,000 ft.

Only a single specimen of this species was procured, which was shot in the neighbourhood of Eldoret in the same kind of locality as the preceding, with which it was in company.

Wing 125 mm., tarsus 15 mm.

Irides dark-brown; bill black; legs black. The specimen is in full dress.

Muscicapidae.

Bradornis murinus suahelicus v. Somer. — Bull. Brit. Orn. Club, vol. XLI, 1921, p. 104.

4 ♂♂ ad. 24. 7.—27. 7.; 3 ♀♀ ad. 15. 5.—3. 6.; 2 ♂♂ juv. 18. 5.—27. 7. Mount Elgon, 7,000 ft.

This race is fairly common in the scrub and on the steppe where it changes into forest, that is to say, in localities where bushes and low trees grow. It conceals itself very well in the lowest branches and is a shy creature. Frequently I saw it hopping about on the ground picking insects, probably termites or ants, for these were found abundantly wherever I saw the bird.

As Reichenow points out (Vög. Afr. II. p. 436) there is an astounding variation in the size of this race.

The measurements of 4 ♂♂ have the following appearance:

Wing,	total length,	tarsus,
102 mm.	165 mm.	21.5 mm.
90 mm.	160 mm.	20 mm.
96 mm.	165 mm.	22 mm.
99 mm.	165 mm.	22 mm.

of 3 ♀♀:		
Wing,	total length,	tarsus,
95 mm.	160 mm.	20 mm.
98 mm.	168 mm.	21 mm.
93 mm.	160 mm.	20.5 mm.

All are in full dress and are shot in the same regions and exhibit no differences in the colours of the plumage worth speaking of. Yet the measurements of the length and breadth of the culmen vary very much. The visible portion of the bill varies between 12 and 13 mm., the breadth at the base between 6.8 mm and 8 mm.

Two young birds, one shot on the 18th May, the other on the 27th July, are, with respect to colour, as Reichnow has described them (op. cit. p. 435). Both have a wing-measurement of 98 mm., tarsus 21 mm.

In specimens from the upland regions the measurements for the length of wing range from 90 to 102 mm in adults. In those from the coastal districts the figure is considerably lower and I therefore consider that I am fully justified in separating them, all the more as there are also other differences present.

Bradornis pallidus subalaris Sharpe. — Rchw. II. p. 436.

1 ♂ ad. 29. 4.; 1 ♀ ad. 27. 4.; 1 ♀ ad. 20. 9. Mombasa.

Individuals belonging to the tropical coastal regions are in general considerably smaller than the preceding race and, in addition, they have not the clearly marked grey colour on the fore-neck and underparts, but have a pale brownish tint over the more purely white ground. The white colour of the throat is therefore not so pronounced as in the former but shades evenly and almost imperceptibly into the colour of the fore-neck and belly. Further, those from the coast are not dark-grey on the back, but have a much lighter brownish grey upper surface.

The respective measurements are:

for 2 ♀♀		
wing,	total length,	tarsus,
80 mm.	160 mm.	20 mm.
82 mm.	150 mm.	21 mm.

for 1 ♂		
85 mm.	155 mm.	21 mm.

Ogilvie Grant (Ibis, 1913, p. 637) gives the wing-length as 80—86 mm. .

I have compared my specimens with those in the Berlin Museum and as none of the coastal specimens even attain the minimum for those from the interior of the country I have come to the conclusion that it would be more correct to separate them.

Rothschild (Bull. Brit. Orn. Club, vol. XXIII, 1913, p. 55—66) has separated the larger Abessynian form under the name of *B. p. sharpei*.

Dioptrornis fischeri Rehw. — Rehw. II. p. 440.

6 ♂♂ ad. 17. 4., 18. 4. and 19. 9. Kiambu. — 2 ♂♂ ad. 20. 4., 23. 4. Lake Naiwasha. — 1 ♂ ad. 6. 5. Londiani. — 4 ♂♂ ad. 18. 5., 24 7. Mount Elgon, 6,500—11,000 ft. — 2 ♂♂ ad. 3. 6., 6. 7. Mount Elgon 7,000 ft. — 4 ♀♀ ad. 10. 4., 11. 4. Ngong (Nairobi), 6,000 ft. — 2 ♀♀ ad. 6. 6., 27. 6. Mount Elgon, 7,000 and 11,000 ft.

This Fly-catcher was one of the commonest of the small birds met with in the localities through which our expedition passed. The species was found in nearly all places where there are bushes or trees and its vertical distribution on Elgon goes up to 11,000 ft.

This species exhibits no individual variations in the colours of the plumage, and all the specimens procured (except one) are exactly alike, both those from the vicinity of Nairobi and those from the summits of Elgon. A young male — from 11,000 ft., Elgon — differs from all the others in having 4 of the tail-feathers tipped with white, but this is probably only a reminiscence of the juvenile feathering, for in young birds the rectrices, as well as the secondaries and the greater wing-coverts, are tipped with white (Reichenow op. cit. p. 440).

The lengths of the wing and the tarsus vary very considerably in individuals from the same localities.

	Wing,	tarsus,
♂♂	87—95 mm.	21—25 mm.
♀♀	82—94 mm.	22—23 mm.

In old birds the iris is dark-brown; bill bluish-grey with a dark tip; legs are dark lead-coloured. In juveniles the irides are of the same colour, but the bill is a uniform lead-grey, upper mandible horn-brown; legs lead-coloured.

Melaenornis lugubris ugandae v. Somer. — Bull. Brit. Orn. Club, vol. XLI, 1921, p. 104.

1 ♂ ad. 24. 7. Mount Elgon, 6,800 ft.

One specimen of this race was shot on the outskirts of the forest.

Wing, 103 mm., tarsus, 25 mm., bill, 15 mm., tail, 102 mm. Irides dark-brown, bill and legs black.

The Elgon specimen is — as appears from the above figures — rather large but whether this size is constant or not I am not in a position to decide, as I procured only one specimen from these regions. [For further remarks see the addition at the end of this paper].

Muscicapa striata striata (Pall.). — Rchw. II. p. 449.

Muscicapa grisola L. — *Muscicapa ficedula* (L.). — *Muscicapa striata* (Pall.)
1 ♂ ad. 17. 4. Kiambu.

I saw this race very often in the forests and almost everywhere in the environs of Nairobi. They were generally seen in large or small flocks, which were probably on their return to Europe.

Alseonax infulatus (Hartl.). — Rchw. II. p. 457.

Njanjoodhi . . . ki-kavirondo. — Mutawe . . . ki-kamba.
2 ♂♂ ad. 18. 8., 19. 8. Kismu. — 1 ♂ ad. 21. 8. Kendu. — 1 ♂ juv. 19. 6.
Mount Elgon, 6,500 ft.

This species was common in the thick bush and arboreal vegetation round the Kavirondo Gulf, Victoria Nyanza. It was found right down on the shores and appeared, as a rule, in pairs.

All the specimens are in rather abraded plumage. The young bird resembles very much the young of *Bradornis pallidus murinus*, but is considerably smaller. The wing-coverts, however, are not so beautifully rust-coloured as the latter but are paler, but in other respects they agree rather well with each other.

wing, 64.5—67 mm. tarsus, 15 mm.

Irides dark-brown; bill and legs black.

Alseonax minimus murinus Fschr. & Rchw. — Rchw. II. p. 458.

8 ♂♂ ad. 18. 5., 4. 7.; 4 ♀♀ ad. 18. 5., 26. 5.; Mount Elgon, 7,000 ft. —
1 ♀ ad. 8. 5. Londiani, 5,500 ft. — 1 ♀ juv. 26. 5. Mount Elgon.

On the eastern slopes of Elgon this little Fly-catcher was one of the commonest birds. It usually frequented the depths of the forests and was nearly always seen in the highest tops of the trees, flying about with swift and lively movements.

Judging from the series of 14 birds which we brought home from Elgon, it seems as if the females, as a rule, are greyer on the breast and belly than the males, which are all more brownish yellow. The young bird has a brownish black head and all the feathers are tipped with yellowish white, the back and wing-coverts are dark-brown with close brownish white, spots, the individual feathers are grey with yellowish-brown extremities and black-edges all round, the upper tail-coverts dark rusty-brown with dark transverse bands, the lower parts yellowish brown with dark longitudinal streaks.

The measurements are:

	wing,	tarsus,
♂♂	60—64 mm (one 60, one 61, one 62, three 63, two 64).	14 mm.
♀♀	60—65 mm (one 60, one 62, one 63, two 65).	14 mm.

I found a little nest of this bird, built out on the ends of the slender branches of a *Podocarpus*. It was built of dry grass-blades, fibres and the penicils of *Composite* plants and contained 2 eggs, almost incubated, which strongly called to mind the eggs of *Muscicapa striata striata*.

Grote (Orn. Monatsber., 1920, p. 112—115) has dealt with the various forms of *Alseonax murinus* in an excellent manner, separating 12 different forms belonging to this species. He emphasises here that every geographical zone, every mountain-range has its own race, but that the different distinguishing features which characterize the separate forms are at times difficult to render in words and it is only when having a large supply of material for comparison that the differences can be distinctly seen.

I have compared my specimens with those in the Berlin Museum and cannot find any difference between mine and others from Kilimandjaro, therefore for the present I have named them *minimus murinus*. It is possible that further studies may establish a new Elgon form.

The whole group — previously named *murinus* — must now according to Grote (Ornithol. Monatsber., 1920, p. 115) be called *minimus*.

Cryptolopha mackenziana Sharpe. — Rchw. II. p. 463.

2 ♂♂ ad. 27. 6. and 2. 7. Mount Elgon, 10—11.000 ft. — 2 ♀♀ ad. 27. 6. and 5. 7. Mount Elgon, 11.000 and 7.000 ft.

The first specimen of this rare bird was shot in the highest regions of the bamboo-forests on the slopes of Elgon, at an altitude of about 11.000 feet. As it crept about in the fallen and withered straw, which covered the ground almost everywhere, it was indeed very difficult to discover. The coloration of the plumage blends exceedingly well with the moss-covered, brownish-yellow straw, and the bird has — like many other species inhabiting this region — an exceedingly good „protective mimicry”.

This race was among the few that followed the slopes of the mountain right up to the highest summits, and I saw it even among the old and withered trees of the *Erica* forest. Only once did I observe the bird down at the foot of Elgon (this bird was also shot) but otherwise it was found in the sub-alpine regions.

Only one of the 4 specimens has the throat greyish white, in the other 3 it is more yellowish-brown on a pale greyish white ground.

Reichenow states (op. cit. p. 464) that the length of the wing of this bird is 55 mm. In my specimens the wings have a measurement of 59 and 64 mm for the ♂♂ and 55 and

57 mm for the ♀♀. It is therefore possible that the Elgon bird represents a larger form, which should thus have a separate name.

Irides dark-brown outermost, light brown innermost; upper mandible dark-brown, lower mandible brownish yellow; legs dark lead-coloured (Reichenow — dark horn brown).

Chloropeta natalensis massaica (Fsch. & Rchw.). — Rchw. II. p. 465.

4 ♂♂ ad. 10., 13., 17 and 18. 4; 1 ♀ ad. 18. 9; Nairobi.

This small series of 5 skins lying before me were procured from one and the same spot in the neighbourhood of Nairobi. They were all shot within a little area of about 20 to 25 metres in length, and yet they exhibit such great differences that one might very well make at least 3 sub-species. Even those shot in the month of April, with one or two days' interval, are much unlike each other, but still greater will be the difference if one compares them with the September specimen.

One of the April specimens is distinguished by having the whole back a uniform rusty-brown, and the upper tail-coverts of the same yellow colour as the under surface of the body. Another has the back a dark olive-brown, the tail-coverts as in the preceding. A third has the back dark olive-brown, the tail-coverts yellow, but the wing-coverts dark cinnamon-brown, in contradistinction to the other specimens which have the last-mentioned feathers blackish brown with olive-yellow edges.

The September specimen has the whole of the sides of the back dark olive-green (without any brown wash), and the upper tail-coverts of the same colour as the back. This specimen has, in fact, a much darker head than all the others (almost black) and coincides most closely with *Chloropeta natalensis umbriniceps* Neum. (Ornithol. Monatsber., 1902, p. 10). My specimens all have the head brownish black (not sooty-black as *storeyi*) therefore I consider them mostly as intermediates between *massaica* and *storeyi*.

Bannerman has pointed out (Ibis 1910, p. 700) that the type-specimen of *storeyi* was procured on the Nairobi River, that is, in the very district where mine and other specimens of *massaica* were shot.

The specimens brought home by Lönnberg (Birds Coll. Sw. Zool. Exp. B. E. Afr., 1911, p. 83), which are at the Royal Museum, Stockholm, are as dark on the head as mine. Lönnberg (op. cit.) names them *massaica*. Grant's opinion (Bull. Brit. Orn. Club, 1906, p. 32), which is also shared by Reichenow (Vogelf. d. Mittelafr. Seengeb. p. 302), that the latter form is merely *Chl. massaica*, seems to me therefore to be quite correct. I have examined the type-specimen and found that

one of my specimens (a young bird) agrees with Neumann's form with reference to the colour of the head.

I have come across this race only in a single locality, a swampy, reed-covered bog, where the birds flew about in the tall, powerful reeds. When I returned from Elgon to Nairobi in September I went there again and then shot in the same spot the last-mentioned individual.

Reichenow gives (Vög. Afr. II p. 464) as a diagnosis of this family: "die mit anscheinend vollständigem Schwanz haben nur 8 Federn". This, however, is not correct, for in the three where probably all the tail-feathers are left, there are 10. In 2, where some tail-feathers are shot away, there are only 6 and 8. Even Neumann's form has 10., and so has a specimen procured by Fromm from Iringa (1908).

	Wing,	tarsus,
♂♂	63, 63, 64, 65 mm.	22 mm.
♀	63 mm.	22 mm.

Irides dark-brown; upper mandible dark-brown; lower mandible, yellowish; legs dark-brown — dark-grey.

Chloropeta similis Richm. — Auk XIV, 1897, p. 163.

1 ♂ ad. 27. 6., Mount Elgon, 11,000 ft.

This is one of the birds of the sub-alpine regions, which is found at an altitude of 10,000—11,000 feet. At this elevation on the eastern slopes of Elgon lives a little negro-tribe, who had burnt down the forests at certain places. In such places only the charred and half-burnt trunks of trees remained and here I met with this rare bird a few times. Two specimens were shot, but one was so badly shattered, however, that only one remains in the collection. At one occasion another specimen was shot in the northernmost outposts of the bamboo-forest but it was impossible to find it in the thicket and brushwood.

The head and upper-parts are of the same olive-green colour, the innermost upper tail coverts yellow. The lower surface yellow. This race has, remarkably enough, 12 tail-feathers (the preceding 10) of about the same colour as the upper surface of the body. They are yellow on the edges.

Irides dark brown; upper mandible dark-brown, lower mandible yellow-grey; legs dark lead-coloured.

Wing 60 mm., tarsus 23 mm.

I have compared my specimen with a specimen from Meru, shot by Sjöstedt (Wissensch. Erg. Schw. Zool. Exp. Kili-mandjaro-Meru 1905—1906, Stockholm 1910, p. 108), found at the Royal Natural History Museum, Stockholm, but can find no difference between them.

Batis molitor puella Rchw. — Rchw. II. p. 483.

1 ♂ ad. 25. 4. Mount Elgon, 7,000 ft. — 1 ♀ ad. 17. 4. Nairobi. — 1 ♀ ad. 4. 5. Londiani. — 3 ♀♀ ad. 21. 5., 26. 5., 23. 8. Mount Elgon.

This race is found on the slopes of Elgon both in the interior and on the fringes of the forests.

All 5 ♀ specimens are exactly alike. It may be mentioned that the extent of the white on the outer tail-feathers varies a little. In the male specimen the breast-band is about 16 mm. wide.

All the specimens are in full dress and feathers not abraded.

	Wing,	tarsus,
♀♀	56.5, 61, 61, 62, 62 mm.	17—18 mm.
♂ ad.	62 mm.	18 mm.

Irides have innermost a narrow, yellow ring encircled by a broader one of yellow (after a few hours the colour of the iris becomes greenish yellow, sometimes citron-yellow); bill black; legs black.

Batis minor nyansae Neum. — Journ. f. Orn., 1907, p. 354.

1 ♂ ad. 26. 6. Mount Elgon. — 1 ♀ ad. 14. 4. Soy.

The ♀ specimen from Soy has a narrow (about 7–8 mm. wide) dark-brown band on the fore-neck. The throat pure white. The outer feathers of the tail are tipped with white.

Wing, 60 mm., tarsus, 18 mm.

Irides citron-yellow; bill and legs black.

The male specimen has the black breast-band about 10 mm. but in other respects is like the preceding form.

Wing, 60 mm., tarsus, 17 mm.

Elminia longicauda teresita Ant. — Rchw. II. p. 496.

Elminia longicauda (Sw.).

2 ♂♂ ad. 6. 6., 24. 7. Mount Elgon 6,500 ft.

In the acacia-country and bush below the slopes of Elgon this race was found rather sparingly. Both specimens are in full dress but have not yet acquired the beautiful blue feathering which they have at pairing time. Individual feathers here and there on the head and back are deep-blue and show off brightly against the greyish blue surface.

Reichenow (op. cit.) makes *Elminia teresita* Ant. a synonym of *Elminia longicauda* (Sw.) and v. Someren (Ibis 1916, p. 383) seems to do the same thing. Ogilvie-Grant (Bull. Brit. Orn. Cb. 1913, p. 135) has shown that the former, ranging from the north of Victoria-Nyanza and Albert Nyanza to Camaroon and Angola "is separable from *E. longicauda* (Sw.) which is found from Nigeria to the Gold-Coast and Sierra Leone". Sclater & Mackworth-Præd (Ibis 1918, p. 712) have,

on examining the material in the British Museum, separated 4 races of *E. longicauda*, and established that the range of this race also extends to Mount Elgon.

Wing,	tarsus,
63—65 mm.,	16—16.5 mm.

Irides dark-brown; bill and legs black.

Trochocercus albonotatus albonotatus Sharpe. — Rchw. II. p. 499.

1 ♂ ad. 17. 6.; 1 ♀ ad. 5. 7. Mount Elgon, 7,000 ft.

Only twice did I see this bird on the eastern slopes of Elgon and both times in small glades in the interior of the forests. Although the two specimens brought home originate from the "terra-typica", the original description does not agree with them. For, according to that the lower breast, abdomen and under tail-coverts are white.

In these two, it is true, the lower breast is whitish (but strongly shot), but the abdomen and under tail-coverts are grey. Some of the under tail-coverts are white at the tips.

In the female the chin is not black as in the male, but dark-grey.

Wing,	tarsus,
♂ 67 mm.	17 mm.
♀ 65 mm.	17 mm.

According to Reichenow (op. cit.) the measurements for the wing are 59—65 mm., for the tarsus 16 mm.

Irides dark-brown; bill black, the base, or the posterior two-thirds of the lower mandible is yellowish; legs black.

Terpsiphone perspicillata suahelica (Rchw.). — Rchw. II. p. 504.

Ndwa-misyi . . . ki-kamba.

3 ♂♂ ad. 17. 4., 18. 4.; 3 ♀♀ ad. 11. 4., 17. 4.; 1 ♀ ad 19. 9. Kiambu. —
1 ♀ ad. 24. 7. Mount Elgon.

I place all these 8 specimens under the above race, in spite of a few very small differences, which might perhaps make the designation somewhat doubtful. The majority of these specimens are from the Kiambu forests (in the vicinity of Nairobi) and Lönnberg (Birds Coll. by the Swed. Zool. Exp. to B. E. Afr. 1911, p. 85—87) has named specimens from these regions *T. viridis*, which name v. Someren (Ibis, 1916, p. 384) has also given Nairobi specimens.

Lönnberg (op. cit.) has described in a very thorough manner the different variations in the plumage of the specimens collected by him, and the birds I procured can be referred now to one now to the other type described by him.

In all the ♂ specimens there can be discerned a pale bluesteely gloss on the upperpart of the breast. All the ♀ specimens have

also (with the exception of the Elgon specimen) such a very pale gloss on the fore-neck. Only one of the females from the Nairobi regions has a narrow white edge on some of the wing-coverts; in all the others these feathers are black with red edges.

The length of the wing and the tarsus of the different specimens are:

	Wing,	tarsus,	
♂♂	79, 84, 84 mm.	15—16 mm.	Nairobi.
♀♀	73, 74, 76, 79 mm.	16—16.5 mm.	„
♀	81 mm.	16 mm.	Elgon.

Irides dark-brown; the blue rings around the eyes are sometimes as much as 3 mm. wide (in most cases, however, 1.5—2 mm.); bill and legs dark lead-grey.

Terpsiphone perspicillata plumbeiceps (Rchw.). — Rchw. II. p. 509.

Tchitrea plumbeiceps (Rchw.). Kothe: Mitt. Zool. Mus. Berlin, 1910—11, p. 363. — Sclater: Ibis 1911, p. 426.

1 ♂, 26. 4. Mombasa.

The male specimen of this race differs so greatly from the preceding, that it cannot be placed under that race in spite of the great individual differences existing between them. — v. Someren (Journ. of the E. Afr. & Ug. Nat. Hist. Soc., vol. 6, 1918, p. 256) refers his Mombasa specimens to *T. p. suahelica*, but as the distinctive features which characterise that race are not found in my specimen I cannot refer it there. On comparing my bird with the specimens in the Berlin Museum I came to the conclusion that my specimen must be placed under *plumbeiceps*, with which it agrees perfectly.

The gloss on the head is considerably paler than that of the preceding race and is entirely lacking on the neck and breast. The breast is dark-grey, the belly whitish (with a pale light-grey wash along the flanks), under tail-coverts entirely white (without any brown or brownish red wash whatever). Lower wing-coverts white, some with brownish red tips. Under tail-coverts white. All the wing-coverts are brownish red, and the bird has not the slightest trace of white, either on the wings or tail. The central elongated rectrices extend 115 mm. beyond the 90 mm. long tail.

Wing, 75 mm. tarsus, 15 mm.

Irides, bill and legs as in the preceding. Ring round eye 3 mm wide.

It is rather noteworthy that a South-West African bird, which is not hitherto known farther north than to Tanganyika and the Niassa region, is found in Mombasa. There can hardly in the present case be any question of a casual aberration.

Parisoma lugens jacksoni Sharpe. — Rchw. III. p. 522.

3 ♂♂ ad. 20. 5., 26. 5., 2. 6.; 1 ♀ ad. 2. 6. Mount Elgon.

Here and there on the eastern slopes of Elgon — up to about 7,000 feet — this form occurred very commonly and was frequently seen in the company of *Parus albiventris*.

Wing,	tarsus,
60, 64, 65 mm.	20 mm. ♂♂
63 mm.	20 mm. ♀

Irides dark-brown; bill black; legs dark lead-grey — greyish brown. (According to Reichenow, the legs of *P. l. lugens* are black.)

(Reichenow (op. cit. and "Vogelf. d. Mittelafr. Seengeb.", 1912, p. 355) considers that the genus *Parisoma* belongs to *Paridae*, whereas O. G. - Grant (Ibis 1913, p. 627) and Sclater & M. - Præd (Ibis, 1918, p. 705—706) place it among *Muscicapidae*.)

Campephagidae.

Coracina caesia pura (Sharpe). — Rchw. II. p. 515.

1 ♂ ad. 17. 4. Kiambu. — 5 ♂♂ ad. 21. 5., 31. 5., Mount Elgon, 7,000 ft. —
1 ♀ ad. 17. 4.; 1 ♀ ad. 19. 9. Kiambu. — 5 ♀♀ ad. 23. 5., 1. 7.; 3 ♀ juv.
31. 5., 15. 6. Mount Elgon, 7,000 ft.

This race was very abundant in the forests on the eastern slopes of Elgon. The bird keeps well concealed among the foliage high up in the trees, and having perched on any branch in the shelter of the dense leaves, it remains there, motionless and quiet for a long time. When it thinks it has been seen it moves slowly along the branch, — only a few inches — or flies to some other branch near by. It is a slow and poor flyer. The bird is seldom met with in the depths of the forest, but generally on the outskirts or in the sunlit glades. Once I observed a pair where the acacia-forest adjoins the steppe.

The females are much lighter than the males. One ♂ specimen from Elgon has an almost entirely black chin. The young birds — whose dress is similar to that of the females — are distinguished by the lower tail-coverts, there being always black transverse bands, about 3—4 mm. wide, on the tips, or just above the tips of these feathers. When a little above the tips of the feathers, these black transverse bands are bounded by white bands on both sides, sometimes the tips of the feathers are black and above this there is a white patch. In one specimen a number of the feathers of the under surface have white, narrow transverse bands; all the young birds have, in addition, the edges of the primaries and of the secondaries white, and the tips are, for the most part, white-edged as well.

	Wing,	tarsus,
♂ ad.	113 mm.	22.5 mm. Kiambu.
♂♂ ad.	118, 120, 122, 122, 123 mm.	20—23 mm. Elgon.
♀♀ ad.	117, 120 mm.	22 mm. Kiambu.
♀♀ ad.	115, 117, 118, 124 mm.	21—23 mm. Elgon.
♀♀ juv.	118, 119, 120 mm.	21—22 mm. „

Irides dark-brown; bill black; legs dark lead-grey (almost black).

Campephaga nigra nigra Vieill. — Rchw. II, p. 518.

1 ♂ juv. 12. 8. Lumbwa. — 1 ♀ ad. 19. 9. Kiambu.

In the interior of the dense forests in the regions of Nairobi this bird was quite common. The female's feathering agrees perfectly with Reichenow's description (op. cit.), but that of the male is different, inasmuch as the specimen is changing to the adult dress. Thus, the upper surface is blackish with a blue metallic gloss without any transverse bands, but on the lower surface there are found here and there among the black feathers, the whitish feathers, with black transverse bands, of the juvenile dress.

The wing-coverts and secondaries are edged with yellow.

Wing,	tarsus,
97 mm.	19.5 mm. ♂
95 mm.	19 mm. ♀

Irides dark-brown; bill in ♂ black, in ♀ dark greyish brown with yellow base; legs ♂ black, ♀ dark greyish brown.

Campephaga quiscalina martini Jacks. —

Bull. Brit. Orn. Club. vol. XXXI, 1912, p. 18.

Campephaga martini Jacks. — Lönnberg: Arkiv f. Zool., Band 11, No. 5, 1917, p. 3.

2 ♂♂ ad. 30. 5., 6. 6.; 1 ♀ ad. 30. 5. Mount Elgon.

This Cuckoo—Shrike was fairly common on the outskirts of the forests on the eastern slopes of Mount Elgon. It always appeared in pairs and usually frequented the branches of the acacias.

The male specimens are very similar to *quiscalina*, although they have not such a pronounced purple gloss as that race, but the female differs from the female of that race in the characters given by Jackson (op. cit.). — v. Someren (Ibis 1916, p. 385—386) has given a splendid table of *martini* and closely related forms and I agree entirely with him. Neumann's careful analysis of the *Campephaga* family (Journ. f. Orn., 1916, pp. 146—154), which was published a few months before v. Someren's, shows that both investigators have reached nearly the same results as to the systematisation of *martini*, although the latter writer also touches upon the plumage of the males. In my specimen, however, the throat is not white, but grey.

Wing,	tarsus,	
95—100 mm.	19, 20 mm.	♂♂
99 mm.	20 mm.	♀

Irides brown; bill and legs black.

Reichenow (Orn. Monatsber., 1915, p. 91) has described a newform of *quiscalina* from Mahenge in German East-Africa, which he styles *münzneri*, the males of which are a darker and duller, deep black-blue on the lower surface, having an oily-green wash on the upper surface.

Laniidae.

Sigmodus retzii graculinus (Cab.). — Rehw. II. p. 536.

1 ♂ ad. 18. 4.; 1 ♀ ad. 18. 4.; 1 ♀ juv. 18. 4.; Kiambu.

Common in the Nairobi districts. Wing ♂ 130 mm., ♀ ad. 129 mm., ♀ juv. 120 mm. The measurements agree with those of Zedlitz (J. f. O., 1915, p. 52), 125—130 mm. and also with those given by Mackworth-Praed (Ibis 1917, p. 380); 124 and 130 mm. for ♀ and 120 mm. for ♀ juv.

Irides reddish yellow; around the eye a ring of blood-red verrucose formations, which attain their greatest length supraorbitally; legs coral-red.

Telephonus australis emini (Rehw.). — Rehw. II, p. 547.

Harpolestes Zedlitz (J. f. O. 1915, p. 54). — *Teloponous*¹⁾ Neumann (J. f. O. 1907, p. 366). — *Telephonus* Zedlitz (J. f. O. 1910, p. 796). — *Tschagra* v. Someren (Check. List, 1917, p. 38). — *Tamnophilus* Vieill.

2 ♂♂ ad. 21. 5. and 3. 7.; 1 ♀ ad. 3. 6.; 1 ♀ juv. 25. 5. Mount Elgon.

On the eastern slopes of Mount Elgon this race was met with everywhere. I have come across it both in the scrub and in the depths of the forests, where it always frequented the undergrowth of brushwood and bushes.

The three adult specimens are exactly alike, but the young bird differs from them in having the underparts lighter and the feathers of the sides garnished with pale, light transverse bands.

	Wing,	tarsus,
• ♂♂ ad.	78, 79 mm.	26 mm.
♀ ad.	78 mm.	27 mm.
♀ juv.	73 mm.	27 mm.

¹⁾ Hartert writes (Vög. pal. Fauna 1907, p. 452) "the name *Pomatorhynchus*" Boie 1826 has been adopted for this family, but incorrectly. Boie — Isis 1826, p. 973 — quotes "*Pomatorhynchus*" Horsfield, and owing to lack of knowledge about Levaillant's *Tschagra*, he refers to this family belonging to the Timeliidae. Horsfield wrote "*Pomatorhinus*", a spelling that Boie improved to *Pomatorhynchus*." *Teloponous* was improved mostly to *Telephonus*.

As the young bird is on the whole similar to the adults, one might possibly — owing to the length of wing — refer it to *P. a. minor* (Rchw.) but as it was found in the same locality as that in which *P. a. emini* was shot, it is scarcely conceivable that these two forms could be found in the same place.

Irides dark-brown; bill black; lead-grey.

Telephonus senegalus orientalis (Cab.). — v. d. Decken's Reise III
p. 27 (1869).

1 ♂ ad. 26. 4. Mombasa.

If we examine the literature on the forms belonging to this group, we shall find that at least 14 are described (Compare Zedlitz, J. f. O. 1915, p. 54—54 and Neumann, J. f. O. 1907, pp. 366—379). But not more than one form is given for East Africa, viz. the above-mentioned. Reichenow (J. f. O. 1915, p. 82) expresses the opinion that this form cannot be considered as a good one, any more than *P. s. armenus* Oberh. However, as the other 13 forms are North, West and South African respectively, and as the East African specimen of this group cannot possibly be referred to any of them, one should be compelled — if Reichenow is right — to name at least another new form. On comparing all the specimens belonging to this race found in the Berlin Museum I have come to the same opinion as Zedlitz (op. cit.), that *P. s. orientalis* must constitute the name for the coastal form in British East Africa.

v. Someren (Journ. E. Afr. & Ug. N. H. S., 1918, p. 256), however, styles the specimen he procured in Mombasa (the "terra typica" for *P. s. orientalis*) *P. senegalus*. This is, however, only known from N.W. Africa, Senegal, etc., and therefore his individual should in all probability be called *P. s. orientalis*. Whether it is correct, as the same author does (Nov. Zool. XXV., 1918, p. 276), to name the Elgon specimen *P. s. orientalis*, is in my opinion, open to question. — Neumann (op. cit.) has stated that the greater or lesser humidity of the locality seems to play a certain part in the origin of different varieties or forms of this family and in certain districts with about the same natural conditions, temperature and moisture these varieties have become sub-species.

Between the South and East African forms of *P. senegalus* there is a very great variation, then it is out of the question that the coastal form from Mombasa can be identical with the true *P. s. senegalus* and that the Elgon form again should be the same as the coastal form is not very probable.

I have myself one specimen from Mombasa and two from Lumbwa near (Kisumu on Victoria Nyanza). The former is undoubtedly a good *orientalis*, but the latter, — which were thus shot far in the interior of the country — differ so much

from both the coastal form and the other forms, that it seems to me that I am justified in giving them a new name. Hence, we should in this way perhaps get two new forms to this group.

The specimen from Mombasa is in moult and is already assuming the new dress, which agrees perfectly with Neumann's description (op. cit. p. 377). Head, black.

Wing 81 mm., tarsus 26 mm.

Telephonus senegalus erythropterus Shaw. —

1 ♂ ad. 14. 8.; 1 ♀ 14. 8.; Lumbwa.

The two specimens of *P. senegalus* group, shot in Lumbwa, also fall within the sub-division, the representatives of which have the two central tail-feathers furnished with well-defined transverse bands. They agree most closely with *P. s. erythropterus* (Shaw), but the nape and upper part of the head are not entirely black, but very nearly blackish brown, that is to say, some of the feathers are only black on the tips, otherwise they are dark-brown. This may, of course, be because both specimens are in fresh new dresses, the feathers not yet being full-grown nor having the definitive colours.

But these two specimens before me also puts one in mind of *P. s. armenus* (Oberh.), and could be placed under that race. However, Reichenow (J. f. O. 1918, p. 82), Neumann (op. cit.) and (Zedlitz J. f. O. 1915, p. 55) consider that this subspecies is doubtful, and Neumann's objection to the genuineness of the race is quite justified and makes me exclude this form from the group. It would also be strange if *P. s. orientalis*, which in spite of everything must, however, be looked upon as good, should inhabit the same regions as the one just mentioned.

For the present I consider it hardly justifiable in increasing the crowd of *T. senegalus* forms, but rather let the name *erythropterus* stand for my specimens.

Wing ♂ 88 mm., ♀ 86 mm., tarsus ♂♀ 29 mm.

Ogilvie-Grant writes (Ruw. Exp., Rep., 1910, p. 338): „The birds procured by the Ruwenzori Expedition appear to be indistinguishable from specimens from the Transvaal etc. (*T. s. erythropterus* apud Neumann) and from Cameron and Gabon (*T. s. camerunensis*). Like them they have the posterior half of the eyebrow-stripe rufous-buff, whereas in the true *T. senegalus* it is white“. Hence, he calls his Ruwezori specimens *T. erythropterus* Shaw, which name even Bannerman (Ibis 1910, p. 688) gives specimens from Takaungu (in the neighbourhood of Mombasa on the coast). The same author says that “the bird is common all along the coast, but at Nairobi rare.“

Chlorophoneus abbotti (Richm.). — Rchw. II. p. 560.

Maloconotus manningi Sh.

1 ♂ ad. 5. 5. Londiani.

This rare Shrike, which was first brought home by Dr. W. L. Abbott from Kilimandjaro, is not often found in British East Africa and therefore ornithological literature has not much to say of it. — v. Someren does not even include it in his "Prov. Check. List of the Birds of East Africa and Uganda".

This race occurred on the outskirts of the forests and frequented the dense foliage of the higher branches, where, in spite of its brilliant colours, it was nevertheless difficult to detect. The bird's note is a skrill whistle, consisting of 4—5 consecutive short tones.

The specimen agrees almost entirely with the description given by Richmond (Auk. 1897, p. 161) except that the colour of the underparts and of all the under tail-coverts is uniform yellow.

Wing 68 mm., culmen 17 mm., tarsus 26 mm. (according to Reichenow bill 15 mm., tarsus 25 mm.).

Irides red; bill black; legs lead-grey.

The beautiful series of this bird found in the Royal Natural History Museum, Stockholm (collected by Sjöstedt: Wissenschaft Erg. Schw. Zool. Exp. Kilimandjaro, Meru 1905—1906, Stockholm 1910, p. 114) exhibits, as Sjöstedt (op. cit.) has pointed out, great variations. Even with reference to the more or less slaty-grey colour of the upper surface there are considerable differences, some being predominantly green, others grey.

Two specimen from Kilimandjaro in the Berlin Museum (coll. by Sjöstedt) have the under surface and flanks predominantly green. Further, the back is green, only the shoulder patch being slaty-grey. My specimen has nearly the whole of the back grey, only the upper tail-coverts are green.

Chlorophoneus sulfureopectus suahelicus Neum. —

Journ. f. Ornithol. 1899, p. 305.

1 ♀ ad. 12. 8. Lumbwa.

This race is found in thick brushwood close to water (Neum. J. f. O. 1915, p. 222). — I only came across it at Lumbwa.

Wing 90 mm., tarsus 24 mm.

Irides red; bill black; legs lead-grey.

Chlorophoneus dohertyi (W. Rothschild). — Rchw. II. p. 567.

1 ♂ ad. 21. 5.; 1 ♀ ad. 21. 5.; Mount Elgon, 6,500 ft.

In the dense brushwood and thickets on the slopes of Elgon this race occurred sparingly. Both specimen were shot together

by Mr. S. Lovén, and I have carefully sexed them. The male had swollen testes and the ovary of the female was well developed.

I cannot agree with Hartert's description of the differences between the male and the female. (Nov. Zool. vol. IX, 1902 pp. 623—624). The male specimen is in every respect in conformity with Hartert's account, but the female differs considerably.

The red patch on the forehead, counting from base of bill, is only 8 cm. long (in the male 11 cm.). The black patch on the sides of the neck and breast, bounding the red of the chin and neck, does not, as in the male, extend around the eye, but only under the edge, so that the upper eye-border is here olive-green, but black in the male. But the most important difference in the sexes, however, is the different colours of the tail.

The tail of the female is rather like that of the young bird, the two central rectrices being dark olive-green, the others dark-brown on the inner-web and on the whole of the outer-web dark olive-green. When the tail is closed it therefore appears to be dark olive green. In the male the tail is a uniform black.

It seems remarkable that of Doherty's 19 specimens not a single one should be a female. Yet it seems to be the case, in spite of the reasons which Hartert (op. cit. p. 624) adduces for the probability of there being ♀ specimens among them. It is true that ♀♀ are smaller than the males, but the variations among the latter is also great.

It is not impossible — though very improbable — that the female described by me is to be considered as an "aberrant". But one more female was shot, (so badly damaged, however, that it could not be skinned) by Mr. Lovén, and I have noted the same differences for this specimen. And in this case the question of "aberration", drops out, but one might then be inclined to assume, (if Hartert's description is correct) that the Elgon form is different from the Escarpment form. This, however, is less probable.

Wing,	culmen,	tarsus,	tail,	
84 mm.,	19 mm.,	30 mm.,	80 mm.,	♂ ad.
78 mm.,	19 mm.,	30 mm.,	85 mm.,	♀ ad.

Hartert has (Nov. Zool. vol. IX, 1902, p. 623) described this race carefully but the figure of the ♂ ad. does not agree entirely with the text, for the narrow black line around the eye, which is rather well-defined in the bird, does not appear on plate IX.

If there are really females among Doherty's specimens, which are thus like the males, and the female of the Elgon bird is unlike the male, then the Elgon bird must be considered

as a new one. We may possibly have here a similar case to that which Bonhote (Bull. Brit. Orn. Club., vol. XL, 1920 p. 90) mentions concerning the Mourning Chat. In that race the male of the eastern (Egyptian) form — *Oenanthe lugens* — is like the female, while in the western form — *Oe. lugens halophila* — the sexes are very distinct. But Escarpment (from where Hartert's birds were described) is not very far from Elgon (about 150 miles) and if this sexual dimorphism is present between birds of the different localities, and if, like Bonhote, we look upon this dimorphism as an essential character of birds from different regions, which are nevertheless closely allied, we might perhaps have a certain right in looking upon the Elgon bird and the Escarpment bird as different races, just as Bonhote considers the above-mentioned *Oenanthe* to be different species and not subspecies.

Irides dark-brown; bill black; legs lead grey.

Laniarius aethiopicus ambiguus Madarász. — Rchw. III. p. 834.

2 ♂♂ ad. 14. and 18. 4. Kiambu. — 1 ♀ ad. 10. 4. Nairobi. — 2 ♀♀ ad. 14. and 18. 5. Kiambu. 1 ♀ ad. 11. 4. Ngong.

Opinions are very divided with reference to this race. Lönnberg (Birds coll. by Sw. Zool. Exp. B. E. A., 1911, p. 91 and Arkiv. för Zool. Band 9, No 14, 1915) and Zedlitz (J. f. O. 1915, pp. 59—60) consider it only as a colour variety of *L. aeth. aethiopicus* while Reichenow (op. cit.), Sclater and Mackworth-Praed (Ibis 1918, p. 634) and others look upon it as a good sub-species. According to the latter investigators *L. ae. aethiopicus* should be represented in Abyssinia, north to Kassala and Eritrea, south to Shoa and Somaliland; Zedlitz (J. f. O. 1916, p. 115), on the other hand, fixes the distribution to N. O. and Brit. East Africa but that of *L. ae. ambiguus* to East Africa between the coast-belt and the Rift-valley. Here *L. ae. major* commences and is met with in the remainder of East Africa, Uganda and West Africa south to Cameroon.

It seems to me as if Sclater & Mackworth-Praed are right in their description of the distribution of the *aethiopicus* forms. I also agree with them that *L. ae. ambiguus* is smaller than *L. ae. major*. The wing-measurement, however, "about 90 mm.", seems to me to be on the whole somewhat too small, as also that of "about 100 mm." for *L. ae. major*. The authors do not give any measurements for *L. ae. aethiopicus*.

It is possible — and perhaps probable — that *ambiguus* is only a colour variety of *aethiopicus* and in that case Zedlitz's and Lönnberg's opinion of the distribution of this race will be the correct one. Mackworth-Praed (Ibis, 1917, p. 378) names the bird procured at Thika, *L. aethiopicus*, thus accepting

Zedlitz's point of view that year, but later on he gives up this opinion.

All the 6 individuals shot in the neighbourhood of Nairobi are however typical *ambiguus*, inasmuch as all of them have the white spot on the wing confined to the primary coverts, and not extending to the outer-web of the greater coverts.

	Wing,	tarsus,
♀♀	93, 94, 95, 96 mm.	30—34 mm.
♂♂	92, 95 mm.	34 mm.

Irides dark-brown; bill black; legs greyish green (leadgrey).

Laniarius aethiopicus major (Hartl.). — Rchw. II. p. 580.

2 ♂♂ ad. 22. 4., Lake Naiwasha. — 1 ♂ ad. 4. 5., Londiani.

The three specimens of this race cannot be placed under the preceding or to *L. ae. aethiopicus* (or if these two are synonyms to this form), inasmuch as they have two of the inner secondaries with white edges to the outer-web. The pale salmon-coloured wash on the under surface — as Reichenow points out — is as a rule more pronounced in this form than in the preceding.

	Wing,	tarsus,
	102, 104, 104 mm.	33—33.5 mm.

Laniarius lühderi (Rchw.). — Rchw. II. p. 584.

1 ♂ ad. 20. 7., Mount Elgon, 7,000 ft.

v. Someren (Nov. Zool. 1918, p. 277) calls this race common on Elgon. In the regions through which our expedition passed on the eastern slopes I only saw it once. It was found in the brushwood along a small mountain stream.

It agrees entirely with Reichenow's description, but it should be added that the feathers of the tibia are not white — like those of the underparts and lower tail-coverts — but are pale yellowish-brown. Perhaps v. Someren (op. cit.) is correct in saying that the Elgon form is different from the Cameroon, but I have compared this specimen with some 20 birds in the Berlin Museum (from Cameroon, Tanganjika, Kiwu) but cannot find any difference between West Africans and East Africans.

Wing, 88 mm. tarsus, 30 mm.

Irides dark reddish-brown; bill black; legs lead-grey.

Laniarius erythrogaster erythrogaster Cretzschm. — Rchw. II. p. 586.

1 ♂ ad. 25. 8.; 1 ♀ ad. 18. 8. Kisumu.

This bird lives its secluded life in the exceedingly dense brushwood along the shores of Victoria Nyanza. Zedlitz has given an exhaustive account thereof in J. f. O. 1910, p. 799.

Wing, ♂ 98, ♀ 101 mm. tarsus, ♂♀ 32 mm.
Irides yellowish white; bill black; legs dark-grey.

Dryoscopus affinis (G. R. Gray). — Rchw. II. p. 590.

1 ♂ ad. 29. 4.; 2 ♀♀ ad. 27. and 29. 4.; Mombasa.

This race was abundant in the woods in the Mombasa districts. Two specimens (♂ and ♀) are in the moulting stage. The third (♀) has already assumed its new dress. At the time for change of dress the feathers of the back are not white as in the fresh full plumage, but grey, and the flanks are also faintly shot with grey. (The variety of *D. senegalensis* which Reichenow "unter Vorbehalt" has described as *camerunensis* is therefore nothing but a transitional form, which the author also considers possible.)

	Wing,	tarsus,
♂ 81, ♀♀ 75, 81 mm.	♂♀ 23 mm.	

Irides yellowish red-coral red; bill black; legs lead-grey-greish green not black as Neumann (J. f. O. 1900, p. 271) states.

Ogilvie-Grant (Zool. Ruw. Exp. 1910, p. 343) gives this race from Upper Congo and considers it doubtful whether *D. senegalensis* (Hartl.) is "really distinct from *D. affinis* (Gray)".

Dryoscopus cubla hamatus Hartl. — Rchw. II. p. 594.

D. c. suahelicus Neum.

1 ♂ ad. 17. 4. Kiambu.

Common in the Nairobi regions (vide Lönnberg 1911, p. 91). — v. Someren has (Ibis, 1916, p. 394) given an interesting and valuable account of this bird's nest, eggs etc.

Wing,	tarsus,	culmen,
81 mm.	23 mm.	18 mm.

Dryoscopus gambensis nyanzae Neum. — Rchw. II. p. 596.

Dryoscopus malzacii nyansae Neum. — Journ. f. Orn., 1899, p. 412. — v. Someren — Journ. E. Afr. & Ug. N. H. Soc., 1921, No. 16, p. 21.

1 ♂ ad. 14. 5, Soy 8.000 ft. — 2 ♂♂ ad. 15. and 21. 5.; 2 ♀♀ ad. 21. 5. and 5. 7. Mount Elgon, 7.000 ft.

Occurs on the eastern slopes of Elgon up to 7.000 ft. and mostly frequents the outskirts of the forests bordering on the accacia-country. Does not belong to the more common races.

Like other *Dryoscopus* species it has a very varying and melodious song. At times this puts one in mind of the song of the Hacklenecked Cuckoo (*Centropus superciliosus*), at other times it consists of only one loud and one low note. It will continue

warbling for at least 5 minutes without ceasing, then it takes a little pause, only to begin again. When it sings — if one may call it so — it generally sits well concealed in the top of some low tree or deep in the gloom of the thick branches.

	Wing,	tarsus,	culmen,
♂♂ ad.	92, 95, 96 mm.	24—25 mm.	21—22 mm.
♀♀ ad.	90—92 mm.	23.5—24 mm.	21—21 mm.

Irides red-reddish-yellow; bill in ♂ black, in ♀ the upper mandible is dark-grey, the lower mandible greyish blue (sometimes with light tip); legs greyish green.

Lanius collaris humeralis Stanl. — Rchw. II. p. 609.

Odiro . . . ki-kavirondo. — Kidu . . . ki-kamba. — Goma-komi . . . ki-kamba.

1 ♂ ad. 13. 4. Nairobi. — 2 ♂♂ ad. 5. a. 8. 5. Londiani. — 4 ♂♂ ad. 2.—23. 6. Mount Elgon. — 1 ♂ ad. 21. 8. Kendu (Victoria Nyanza). — 3 ♀♀ ad. 10.—18. 4. Nairobi. — 1 ♀ ad. 7. 5. Londiani. — 2 ♀♀ ad. 26. 5. Mount Elgon. — 1 ♂ juv. 23. 4. Lake Naivasha. — 1 ♂ juv. 9. 5. Londiani. — 2 ♂♂ juv. 26. 5., 12. 8.; 2 ♀♀ juv. 6. 7. a. 24. 7. Mount Elgon.

In the vicinity of Nairobi this race was not only the commonest Laniid but also one of the most abundant small birds. One saw it, in short, everywhere: on the telephone wires along the roads, in the open fields where a few solitary, small bushes grew, in gardens and parks, on the outskirts of the forests, etc. etc. It is not at all shy and one can approach within a few yards of it before it takes flight.

At Lake Naivasha, on the 22nd of April, I found a nest of this bird in a bush near the shore, about 2 metres above the ground. v. Erlanger (J. f. O. 1905, p. 700) describes the nest as "thick-walled and massive and consisting of all sorts of things", and about the same description is given by v. Someren (Ibis 1916, p. 395). In that case the nest I found cannot be a typical one, for it consisted only of a rather small cup about 11 cm in diameter made of root-fibres and twigs and the walls and bottom were so thin that the three eggs could be seen through them. The eggs were of the same size, colour and markings as those of *Lanius senator* (v. Erlanger).

Reichenow (Vög. Afr. III p. 834) has separated the eastern race, which he calls *L. humeralis uropygialis*, from the north-east African *L. collaris humeralis*. The former is said to have the upper tail-coverts pure white, by means of which a white transverse band is formed. The latter have the upper tail coverts a brighter grey.

In the series of 14 adult individuals, which were brought home, this character varies in birds from the same locality. Some have grey, others almost entirely white, while others again have a distinct white transverse band. I do not therefore find any reason to maintain *uropygialis* as a good subspecies, in

spite of the fact that Lönnberg (Birds Coll. by the Swed. Exp. in B. E. A., 1911, p. 92) and Mackworth-Praed (Ibis, 1917 p. 380) name their Nairobi specimens *L. h. uropygialis* Rchw., but in conformity with v. Someren (Ibis, 1916, p. 394 and Nov. Zool., 1918, p. 278), Sharpe (Ibis, 1891, p. 597) I call them all by the name given above.

The young birds (7 specimens in the collection) have not, as Reichenow (op. cit. p. 608) writes, black tail-feathers and wing-feathers but in the individuals before me (in various phases of feathering) these feathers are dark-brown (cp. Schiebel, J. f. O. 1906, plate G); in that plate, however, the brown edges to the wings and wing-coverts and the brownish red on the back are too light. Further, the white patches on the shoulder of some of the specimens are not so prominent as in the plate.

The blood-reddish brown spot, shown on the edge of the wing of a ♀ ad. of this race in Pl. H, fig. 3 cannot be found in a single specimen.

	Wing,	tarsus,
♂♂ ad.	89, 90, 92, 93, 93, 94, 95, 99 mm.	24—25 mm.
♀♀ ad.	89, 91, 92, 92, 92, 96 mm.	24—25 mm.
♂♂ ♀♀ juv.	87, 89, 90, 92, 92, 92, 94 mm.	23—25 mm.

Irides dark-brown; bill black; legs black.

Lanius collurio collurio L. — Rchw. II. p. 622.

Enneocotonus collurio (L.). — Selater & M. Praed: Ibis 1918, p. 630.

1 ♂ ad. 17. 4. Kiambu.

On the last day of April a ♂ and ♀ of this race were shot in Mombasa. In the middle of April this race was abundant everywhere in the Nairobi districts, several birds being frequently seen together.

The specimen is in full summer plumage. Wing 96 mm., tarsus 23.5 mm.

Corvinella corvina affinis Heugl. — Rchw. II. p. 630.

Ikelekele . . . ki-kamba.

7 ♂♂ ad. 18. 5. — 26. 7.; 5 ♀♀ ad. 16. 5. — 24. 7.; 2 ♂♂ juv. 16. 5. and 22. 6.; 1 ♀ juv. 17. 5. Mount Elgon, 7,000 ft.

Two days' march from Elgon we found this race in flocks of 10—15 in number in the scrub. Old and young birds flew about among the low and scattered trees and bushes catching insects. Below the eastern slopes of Elgon it was common, occurring in the acacia-country. Occasionally I saw solitary individuals on the outskirts of the forests up to an altitude of 7 000 feet.

Male and female are rather similar to each other. Yet it seems to me that the males are, as a rule, somewhat darker

than the females, and have closer longitudinal streaks on the underparts.

Heuglin (Orn. Nordostafri. I. p. 489) cites, with reference to the colour of the lower tail-coverts, "subcaudalibus albidis" and Reichenow (op. cit.) also says that they are white, and the same writer, in fact. (Mitt. Zool. Mus. Berlin 1910-11, p. 223) considers that *affinis* cannot be separated from the western *corvina*. However, in these specimens the colour varies from pure white or greyish to brownish white, i. e. the same colour as the breast.

Wing,	tarsus,	
118, 120, 121, 122, 124, 125 mm.	30-32 mm.	♂♂ ad.
122, 122, 123, 124, 124, 125 mm.	30-32 mm.	♀♀ ad.
♂♂ 97, 115, ♀ 107 mm.	30-31 mm.	juv.

Irides greyish brown; bill yellowish; legs greyish green-dark lead grey.

Corvidae.

Corvus albus P. L. S. Müller. — Rchw. II. p. 634.

Corvus scapulatus Chubb: Ibis 1909, p. 172.

5 ♂♂ ad. 18. and 25. 8.; 2 ♀♀ ad. 18. and 25. 8. Kisumu.

Very common around Kisumu, where at that time of the year it appeared in flocks, sometimes amounting to 20 birds and upwards. I often saw it in the company of *Neophron monachus* and sometimes they sat in fraternal harmony in the tree-tops. I saw this species several times running about on the shores of Victoria Nyanza, where it fed on the dead fish thrown up by the waves.

Both ♀ specimens are moulting and 2 of the males as well. The former have a wing-measurement of

350, 355 mm. and tarsus 58 mm.

These two are young birds which have almost completely assumed the plumage of the adult. Here and there on the neck and head the first brownish feathers are seen among the blue-glossy, new feathers.

The two males in moult have a wing measurement of

340, 357 mm. and tarsus 60, 64 mm.

The three remaining males measure in the wing 368, 385, 385 mm., tarsus 62, 63, 63 mm.

These figures are considerably higher than, for instance, Reichenow's (op. cit.) 310-370 mm., Zedlitz's (J. f. O. 1911, p. 2) 322, 342, 355, 352, 365, 380 mm., Kleinschmidt's (J. f. O. 1906, p. 91) 315-377 mm.

Even the length of the tarsus in the present case is greater. (Reichenow gives the tarsus to 55-60 mm.).

Irides dark-brown; bill and legs black.

Corvus capensis kordofanensis Laubm. — V. O. G. B. XIV, 1919, p. 103.

2 ♂♂ ad. 2. 5.; 1 ♀ ad. 2. 5. Kapitiplains. — 1 ♀ ad. 10. 7. Mount Elgon, 7,000 ft.

As a rule this bird is named *Heterocorax c. minor* (vide v. Someren (Ibis 1916, p. 397) Sclater & Mackworth-Praed (Ibis 1918, p. 424) and others).

When the train, on the journey from Mombasa to Nairobi, stopped at Kapitiplains Station a flock of these birds was observed out on the steppe. Three individuals were shot. Another specimen was also shot later on at Elgon.

On examining these four specimens closely I made the same observation as Neumann (J. f. O. 1905, p. 230—231), Kleinschmidt (J. f. O. 1906, p. 78—82), Zedlitz (J. f. O. 1911, p. 4) viz, that *minor* is by no means the smaller bird within this group.

Sclater & Mackworth-Praed (Ibis 1918, p. 424—425) however, seem to have entirely overlooked the researches of these three investigators, as they do not mention a word about them but “include all birds from south of the Zambesi with a wing-measurement of less than 330 mm. under the name *H. c. capensis*. Birds from the north of the Zambesi to the Nile valley (except those from Abyssinia) must be called *H. c. minor*, with a wing-measurement of less than 330 mm. The Abyssinian bird will probably require a new name.”

In general, however, specimens from East Africa have a greater wing-measurement than 330 mm. and since the above-mentioned writers have put this figure as the limit for *C. c. minor* then — if this were correct — the great majority of them should belong to another form. Probably some mis-print has occurred, for the three German ornithologists, cited above, have shown that the East African form usually has a longer wing than *capensis*.

My four specimens have the following measurements:

wing,	tarsus,	culmen,	
325 mm.	67 mm.	56 mm.	♀ Elgon.
340 mm.	66 mm.	59 mm.	♂ Kapitiplain.
335 mm.	66 mm.	57 mm.	♂ „
322 mm.	65 mm.	54 mm.	♀ „

My observations thus confirm those of the above-named German investigators. Besides, all my specimens are in the moulting stage, hence it is not impossible that in individuals with a full-grown dress the measurements are still greater.

Two of the specimens have the fore-neck and head blue-glossy. The back and wings also have a beautiful blue gloss.

This race may best be distinguished from *C. c. capensis* by the size of the bill, it being, as a rule, smaller in the former

than in the latter (Compare my measurements). Gurney (Ibis 1909, p. 486) calls his specimens from Naiwasha, *Heterocorax capensis*, but in all probability that is also a case of *minor*.

Corvultur albicollis (Lath.). — Rehw. II. p. 640.

1 ♂ ad. 15. 5. Soy. — 3 ♂♂ ad. 28. 5., 17. 6., 3. 7.; 4 ♀♀ ad. 26. 5.—8. 7.;
Mount Elgon, 7,000 ft.

This species was for the first time observed at Soy and on the eastern slopes of Elgon it was not rare. Only once did I see it at a higher altitude than 7,000 feet. When I visited the highest summits of Elgon, over 14,000 ft., I saw two of them, on the steep ledges of the mountain, but as soon as they caught sight of our little troop they flew anxiously — croaking now and then — high over our heads. Whether they were nesting up there or not I was not in a position to find out.

Down at our main camp they were almost daily visitors and always kept company with the vultures. They were not timid, but sometimes perched on trees only 5—10 yards from my tent. Gurney (Ibis, 1909, p. 486) also mentions the same thing. On one occasion, when I shot one out of a pair, the surviving bird flew round the tree where the body of the dead raven remained hanging, and although I fired many shots at other birds it did not seem to mind it but returned again and again.

All the specimens are in moult and exhibit no great differences in the colours of the dress, the white band on the breast only being more or less pronounced.

	Wing,	tarsus,	culmen,	height of the bill
♂	435 mm.	80 mm.	65 mm.	35 mm.
♂	440 mm.	79 mm.	69 mm.	36 mm.
♀	460 mm.	77 mm.	66 mm.	35 mm.
♂	430 mm.	78 mm.	66 mm.	34 mm.
♀	405 mm.	75 mm.	62 mm.	33 mm.
♀	414 mm.	72 mm.	61 mm.	32 mm.
♀	428 mm.	74 mm.	64 mm.	33 mm.
♀	423 mm.	74 mm.	66 mm.	32 mm.

Irides dark-brown; bill black with white tip; legs black.

Dicruridae.

Dicrurus adsimilis subsp.

Ochool . . . ki-kavirondo. — Kindali . . . ki-kamba.

1 ♂ ad. 22. 4. Lake Naiwasha. — 3 ♂♂ ad. 26. 4.; 1 ♂ ad. 20. 9. Mombasa. —
1 ♂ juv. 23. 8. Kendu. — 3 ♀♀ ad. 26. 4.; 1 ♀ ad. 20. 9. Mombasa.

The Drongo is very common everywhere in the Mombasa country and was found in the groves, gardens and parks. At Lake Naiwasha it is also rather common, likewise on the shores

of Victoria Nyanza. The specimen from Lake Naiwasha is in fresh plumage with a pale blue gloss both on the upper and lower-parts. On the other hand all those from Mombasa, shot 4 days later, are in moult and have very worn and faded dresses with a very faint or no gloss.

The two specimens from Mombasa (September) are in full dress with a beautiful blue gloss. B a n n e r m a n (Ibis 1920, p. 443) mentions, as a character for the race, that "the upper parts are glossed with blue", and R e i c h e n o w (Vög. Afr. II. p. 647) also says that the "lower parts are duller with less gloss". But both the individuals before me have as a beautiful gloss on the lower parts as on the upper.

The young bird has pale brown or brownish white edgings to the feathers (R e i c h e n o w op. cit.), (v. S o m e r e n, Ibis 1916, p. 398). The feathers of the head, back, under surface and wing coverts are white-edged, Further, the wing-feathers are considerably lighter than in the adults, and the inner-web is greyish white.

[For further remarks on the "Additions".]

Wing,	tarsus,	
116, 122, 122, 122, 123 mm.	19—20 mm.	♂♂ ad.
115, 117, 118, 119 mm.	19—20 mm.	♀♀ ad.
122 mm.	20 mm.	juv.

Irides red-reddish brown; bill and legs black.

Oriolidae.

Oriolus auratus Vieill. — Rchw. II. p. 655.

1 ♂ ad. 29. 4.; 1 ♀ ad. 27. 4. Mombasa.

Of this Oriole I have two specimens from Mombasa. They were shot in a clump of trees in the neighbourhood of the town.

I must place these specimens under the above-mentioned inasmuch as the outer tail-feathers have an entirely black outer-web. R e i c h e n o w (op. cit.) states as the main character of *O. auratus*, that the outer tail-feathers are black at the base, but N e u m a n n (J. f. O. 1905, p. 232) says of a ♂ specimen from Omo, that it had only a trace of black on the inner-web of the outer tail-feathers and could just as well be an *O. notatus* Ptrs. In that case the character of *O. auratus* is slightly minimised. The former should, as a rule, have pure yellow outer tail-feathers, and according to N e u m a n n every specimen not having this character might just as well be either the one or the other.

Reichenow himself seems to be in doubt in establishing these two Orioles, for in "Vogelf. d. Mittelafr. Seengeb." p. 316 he says, of a specimen from Tanganjika, exactly the same as Neumann, but adds, that on account of the locality it is placed under *auratus*.

The distribution of *O. auratus* stretches from Senegambia to Niger and North-east Africa, and Ogilvie-Grant (Ibis 1905, p. 201 and 203) mentions it from Melma and Burumba in Southern Uganda. Butler (Ibis 1909, p. 79) has met it in Soudan, at Raffile and Kojali.

Supposing that the two species under consideration are good ones, my specimens, at any rate, are not typical *O. notatus*, in spite of the fact that the habitat makes it seem likely. Should, on the other hand, *notatus* and *auratus* vary in the colour of the outer tail-feathers, as other *Oriolus* from other territories vary in the colour of the central tail-feathers — it is superfluous to separate them. It is of course not impossible that these individuals are only variations of *O. notatus* (a male of which was shot in the same spot). Should this be the case it proves that the character on which this species is based is not good.

The ♂ specimen in question is in the moulting stage and the tail-feathers, except the extreme and central ones, are black for $\frac{4}{5}$ of their length. The measurements are as follows:

Wing,	tarsus,	tail,
133 mm.	22 mm.	75 mm.

The female specimen also has the web of the outer rectrices (except at the tips) black and in the middle the black colour passes onto the inner-web. The other tail-feathers, except the central ones, are not only yellow at the tips of the inner-web but have the whole tip of the feather yellow. This yellow patch is rather wide on the outer tail-feathers, but becomes narrower on the inner ones.

Wing,	tarsus,	tarsus,
131 mm.	22 mm.	80 mm.

Irides blood-red; bill brownish-red; legs blueish grey.

Oriolus notatus Ptrs. — Rchw. II. p. 656.

1 ♂ ad. 29. 4. Mombasa.

Reichenow gives the distribution of this bird to East Africa from Wita to the Zambezi country and South-west Africa. Neave (Ibis 1910, p. 259) says that the race is "not common" at Kaluli (Lualaba, Congo), Grote (J. f. O. 1913, p. 131) mentions it from Rovuma (German East Africa) and Mouritz

(Ibis 1915, p. 547) considers it to be a "rare bird" at Matopo (southern Rhodesia).

It is not rare in the environs of Mombasa, and at Kilindini I observed it in the jungle and even in the cocoa plantations.

The specimen is moulting, like the preceding birds, and has the two outer rectrices entirely yellow.

Wing,	tarsus,	culmen,	tail,
131 mm.	22 mm.	29 mm.	80 mm.

Irides, bill and legs as in the preceding.

Oriolus larvatus rolleti Salvad. — Rchw. II. p. 659.

1 ♂ ad. 18. 4. Kiambu. — ♂♂ ad. 22. 4. Lake Naiwasha. — 1 ♀ ad. 16. 5. environs of Mount Elgon, 7,000 ft. — 1 ♀ juv. 22. 4. Lake Naiwasha.

Reichenow (op. cit.) gives the distribution of this race to East and South-west Africa and that of *O. e. larvatus* to South-east Africa. — Neumann (J. f. O. 1905, p. 235) on the other hand, considers that the former occurs from South Africa, through Mozambique and Nyassa-land, in the interior of German East Africa to Victoria Nyanza, but Zedlitz (J. f. O. 1906, p. 3) comes to the conclusion that the range of the race is South Africa to the Niassa districts.

The same author also gives the range of *O. l. rolleti* from the White Nile to the south Shoan Lake district. This race, according to Zedlitz's investigations, should have a wing-measurement of 125—129 mm., but the former 135—145 (maximum 140—145 mm.).

Zedlitz begins his analysis of the *Oriolus* family by saying that the systematisation of the *Oriolus* races is rich in difficult problems, the solution of which is by no means made easier by the hybridising which appears to characterise these birds. And no doubt he is right. But I cannot acknowledge him to be correct in what he writes about *O. l. rolleti*. For Lönnberg in his excellent analysis of *rolleti* and *percivali* has already established (Birds coll. by Swed. Zool. Exp. B. E. A. 1911, p. 95) that the former is found in the Nairobi districts. Later v. Someren (Ibis 1916, p. 399) also found it here, whence its southern boundary must be moved further southwards.

Reichenow has later on (Vogelf. d. Mittelaf. Seengeb. 1912, p. 317) come to the conclusion that an established area of distribution for *O. l. larvatus* and *O. l. rolleti* cannot be given, but he considers that *rolleti* seems to occur in the central African lake districts north and west of Victoria Nyanza.

Jackson (Ibis 1910, p. 678) mentions the bird from Takaungu (north of Mombasa) and Mackworth-Praed (Ibis 1917, p. 366) has met it at the Tsavo River (near Kilina

Ndjaro) and in the Ithanga Hills (south of Nairobi). The latter writer mentions that he shot two, perched on the same bush, in a locality where *Oriolus* was not common, and it then turned out that the ♂ was *O. l. rolleti* but the ♀ *O. l. larvatus*. He therefore considers it best not to separate them at present but calls them — in conformity with Shelley — *O. larvatus* simply.

Perhaps Mackworth-Praed gets nearest the truth, for Reichenow (op. cit.) has shown that there is no precise difference in size (length of wing) between the South-African and Central African specimens, and were I to judge my specimens by Zedlitz's measurements, the full-grown specimens should undoubtedly be placed under *Oriolus l. larvatus* (see above).

Wing,	tarsus,	culmen,	
135 mm.	23 mm.	26.5 mm.	♂ ad. Kiambu.
142 mm.	22 mm.	24.5 mm.	♂ ad. Lake Naiwasha.
136 mm.	23 mm.	22 mm.	♂ ad. Elgon.
132 mm.	21 mm.	25 mm.	♂ juv. Lake Naiwasha.
132 mm.	22 mm.	23 mm.	♂ ad. „ „

With reference to the length of bill in both races Reichenow states (Vög. Afr. II. p. 658—659) that *O. l. larvatus* has a 26—29 mm. long bill, but *O. l. rolleti* 23—26 mm. In that case it seems to agree with my specimens.

Lönnberg writes (op. cit. p. 95) that of his specimens the one with the longest bill (25 mm.) was without a doubt the oldest. Of my series the bird with the longest bill but one — 25 mm. — is a young bird, as is clearly shown by the plumage and the colour of the bill. This individual thus proves that Lönnberg's opinion, that the size of the bill varies, is correct.

In all the individuals lying before me the central tail-feathers are olive-green, while a feather on both sides is somewhat darker olive-green than the central ones and has a black band about 10 cm. in width above the yellow tip. The other tail-feathers have a black basal patch and yellow tips (the yellow patch larger towards the outer tail-feathers).

Lönnberg mentions (op. cit.) that he shot both *O. l. rolleti* and *O. l. percivali* on the same spot in the Nairobi country. And in the vicinity of Elgon (below the eastern slopes) where I shot four specimens of the latter, I also shot a specimen of the former. I have also from Elgon an individual, which to all appearances is an intermediate form between these two, whose tail-feathers have the same colour as the one reproduced in Lönnberg's work (Pl. 3, 3 b).

If both these two forms, *rolleti* and *percivali*, are good ones (and the latter thus not a higher developed phase of the former — vide Lönnberg —) and as they occur together it

appears to me as if Zedlitz's opinion (J. f. O. 1916, p. 2) that *percivali* is not a form of *larvatus* should be correct. In any case I agree with him in this, that as long as it cannot be proved that along with the "form-circle" of *monachus* and *larvatus* there is yet a third, it is wisest to name *percivali* a binary.

Oriolus percivali Grant. — Bull. Brit. Orn. Club, XIV,
1903, p. 18.

1 ♂ ad. 5. 5. Londiani. — 3 ♂♂ ad. 21., 31. 5. and 23. 7.; 3 ♂♂ juv. 22. 5.
Mount Elgon, 7,000 ft.

This species occurred rather abundantly in the depths of the dense forests on the eastern slopes of Mount Elgon up to 7,000 ft. — I have made the same observation as Lönnberg, that the bird always replies if one repeats its simple song. This usually consists of only a few notes (2 or 3), commencing with one or two short notes and then followed by a long one, the latter a few tones higher. If one varies the bird's song to $\cup - \cup$ or anything else, it will reply by repeating this strain. Sometimes I heard the bird far away in the forest, but as soon as I began to imitate its cry it came nearer, and if I kept on for a little while I would suddenly hear its cry high above me in the dense foliage. Now, whether it is from curiosity or from the desire to take up the fight with a competitor, at close quarters I am unable to say, but the specimens I shot were always lured to me in this way.

Judging from my specimens it seems to me as if *percivali* has the yellow underparts of the body mingled with a pale admixture of green. In any case it appears as if the yellow was darker than in *rolleti*. The colour of the upper tail-coverts varies from olive-green to yellowish green. A male, shot on the 31st May, had swollen testes.

The measurements for the 4 ad. ♂♂ are:

Wing,	tarsus,	culmen,	
132 mm.	23 mm.	24 mm.	Londiani.
139 mm.	24 mm.	25.5 mm.	Elgon.
132 mm.	23 mm.	25 mm.	"
133 mm.	23 mm.	24 mm.	"

These measurements agree very well with those given by Lönnberg for his specimen, but not so well with Reichenow's (Vög. Afr. III. p. 836) 140 mm. (after the original description).

The young birds have the feathers of the throat black with olive-green edgings. The breast is not, as in *rolleti*, furnished with black streaks, but is entirely yellowish green. Bill black or basal half, reddish brown, anterior half black.

One of the young birds — shot on the same day and in the same spot as the other two — has the three central tail-

feathers dark olive-green with a dark blackish brown tip about 20 cm. in width. Whether this individual is to be considered as a hybrid between *rolleti* and *percivali* or a causal variation is difficult to decide with any degree of certainty. It was found, however, as already mentioned in the company of the two other young birds, which are undoubtedly *percivali* with black central tail-feathers.

Wing,	tarsus,	culmen,	
132 mm.	24 mm.	25 mm.	roll and perc.?
130 mm.	24 mm.	25 mm.	
129 mm.	23 mm.	25 mm.	

Sturnidae.

Buphagus erythrorhynchus (Stanl.). — Rchw. II. p. 667.

1 ♂ ad. 10. 4. Nairobi. — 1 ♂ ad. 18. 4. Kiambu. — 2 ♂♂ ad. 20. and 22. 4. Mount Elgon. — 1 ♂ ad. 25. 8. Kisumu. — 1 ♂ ad. 20. 9. Mombasa. — 1 ♀ ad. 10. 4. Nairobi. — 4 ♀♀ ad. 17. and 26. 4. Mount Elgon.

This Oxpecker was found abundantly at all places through which our expedition passed. With reference to the differences in the colours of the plumage of this species Zedlitz (J. f. O. 1911, p. 598) and Neumann (J. f. O. 1905 p. 237) have already given a detailed study thereof, — I am not, however, quite in agreement with Zedlitz when he says that the deep-brown colour on the throat and fore-neck is always a distinguishing feature of the juvenile dress, for one of the ♂ specimens (from Elgon) which has the darkest colour on these parts, is a full-grown individual, shot by the nest.

Another male from Elgon has a grey throat and grey head-like the young bird but has the fore-neck almost of the same yellowish brown colour as the under surface. Bill coral-red.

Most of my specimens are light yellowish brown on the underparts but some, shot in the same locality and at about the same time, are dark greyish brown. And in the series of 11 skins brought home no two specimens are alike. Zedlitz is certainly right in stating that the dark-brown on the fore-neck in the abraded dress pales considerably, but even in the fresh new dress the colour of the fore-neck, as well as that of other parts of the body, varies.

Wing,	tarsus,	
111—120 mm.	19—21 mm.	♂♂.
113—120 mm.	20—21 mm.	♀♀.

Irides dark-brown, reddish yellow, or with a yellow ring innermost surrounded by another of red; bill coral-red; legs dark greyish brown.

Spreo superbus (Rüpp.). — Rchw. II. p. 674.

3 ♂♂ ad. 20. and 22. 4. Lake Naiwasha.

In the acacia-country round about the shores of Lake Naiwasha this magnificent Glossy Starling was rather common. I always saw them in pairs and usually they ran along the ground executing some amusing movements and jumps with drooping wings and out-stretched head. The whole thing put one in mind of some sort of nuptial display.

Wing,	tarsus,
114—120 mm.	33 mm.

Irides yellowish white; bill and legs black.

Cinnyricinclus leucogaster verreauxi (Finsch & Hartl.). —
Rchw. II. p. 680.

1 ♂ ad. 8. 7. Mount Elgon, 7,000 ft. — 1 ♂ ad. (transitional dress) 3. 6.;
2 ♂♂ juv. 21. 5. and 7. 6. Mount Elgon, 7,000 ft.

This race was found on the eastern slopes of Elgon very sparingly. It frequented the tops of the *Podocarpus* tree, where it fed on the fruits.

One of the males ad. is in full nuptial dress, the other is changing into the full dress, a number of the feathers of the back having a beautiful blue and lilac gloss, the majority, however, being brownish black with yellowish brown edges, as in younger specimens. Some of the secondaries and wing-coverts, the upper tail-coverts and central tail-feathers beautifully glossy. The throat white with dark longitudinal streaks. The fore-neck also furnished with dark-brown streaks and here and there blue-glossy feathers. The underparts, for the rest, white.

The two juvenile birds have a dress that agrees with the description given by Reichenow (op. cit.). The smaller of them has only a narrow white edge to the outer-web of the outer tail-feathers. The larger has the outer web like the adult.

Wing,	tarsus,	
105 mm.	21 mm.	♂ ad.
101 mm.	22 mm.	♂ (ad.?).
103 mm.	22 mm.	♂ juv.
100 mm.	21 mm.	♂ juv.

Irides citron-yellow in the adults, dark-brown in the young; bill dark-grey (blackish); legs dark-grey (in the young lead-grey).

Pholia sharpei (Jacks.). — Rchw. II. p. 682.

7 ♂♂ ad. 20.—26.5. Mount Elgon, 7,000—7,500 ft.]

Fairly common in the depths of the dense forests on the eastern slopes of Elgon and, like the preceding, it was an inhabitant of the high tree-tops. v. Someren

(Nov. Zool. 1918, p. 279) says it is also common on the western slopes of Elgon in the bamboo-forest and mentions further that he found it in flocks of 6—10 in number. I always met it singly and never saw it in the bamboo-forest.

Neumann (J. f. O. 1905 p. 238) writes that all his specimens have a wing-measurement of 96—98 mm. and the culmen 11—13 mm. (Reichenow op. cit. gives the wing as 104—106 mm, bill 14—15 mm, tarsus 23 mm.)

My 7 specimens have a wing-length of 95, 100, 102, 102, 103, 103, 104 and bill of 11.5—13 mm. Not a single one of them attains Reichenow's measurement for the tarsus, 5 having 22 mm and 3, 21 mm.

All the individuals have also the suggestion of the black breast-band mentioned by Neumann (op. cit.), and one — evidently a young bird — has small indistinct dark streaks on the belly.

Irides bright yellow; bill black; legs dark greyish brown (sometimes almost black).

Lamprocolius chalybaeus chalybaeus (Hempr. & Ehr.). —
Rchw. II. p. 687.

Ikwiu . . . ki-kamba. — Talingi . . . ki-suaheli.

1 ♂ ad. 10. 4. Nairobi. — 4 ♂♂ ad. 20. 4., 23. 4. Lake Nawaisha. — 2 ♂♂ ad. 10. 5., 13. 5. Eldoret. — 1 ♂ ad. 26. 5. Mount Elgon. — 1 ♂ ad. 26. 7. Soy. — 1 ♀ ad. 11. 4. 4. Ngong. — 1 ♀ ad. 18. 4. Kiambu. — 1 ♀ ad. 23. 4. Lake Naiwasha. — 2 ♀♀ ad. 13. 5., 16. 5. Eldoret.

1 ♂ 1 ♀ juv. 9. 5., 3 days, march from Londiani towards Eldoret.

Lönnerberg (Birds coll. Sw. Zool. Exp. to B. E. A. 1911, p. 97) calls his specimen from Nairobi and its environs *L. chalybaeus*. Mackworth-Praed (Ibis 1917, p. 377) also gives the same name to his birds from these regions, and Reichenow (Vogelf. d. Mittelafr. Seengeb. 1912, p. 319) also styles those from Ruzizi and Burumba, *L. chalybaeus*.

Neumann (J. f. O. 1900, p. 280) has described a new race which he calls *L. massaicus*, which name should stand for the East African form. Already in 1902—1903 (Vög. Afr. II. p. 687) Reichenow, however, makes this a synonym of *L. chalybaeus* and in the above-mentioned work by the same author, he proves further that the characters on which Neumann has described his race are not satisfactory and that *massaicus* is only a variation of *chalybaeus*.

From my own investigations, while comparing the collections in the Berlin Museum and from studies of my own series, I have come to the conclusion that Reichenow is right and that the East African specimens should therefore be named as Lönnerberg and Mackworth-Praed has named them.

Zedlitz (J. f. O. 1911, p. 599) has, however, separated *L. ch. massaicus* from German East Africa (Neumann, however, gives Guasso Massai by Mau in B. E. A. as the type locality) and *L. ch. sycobius* from south German East Africa, South & South-west Africa. — v. Someren (Ibis 1916, p. 401) also calls his specimens from Nairobi *L. ch. massaicus*.

If we study closely the localities from which Reichenow (Vög. Afr. II. p. 688—689) gives *L. chalybaeus* (= *L. massaicus*) and *L. ch. sycobius* (Ptrs.) Hartl., we shall find that both occur at Naiwasha. Reichenow says, however, that both, as regards size and coloration, merge into each other, so that they cannot always be positively distinguished from one another and he may thus have wrongly fixed his birds.

In the series of 16 specimens which our expedition collected there are great variations in colour and size, even between individuals from the same district. A common feature of them all is: the shoulder patch is clearly marked. Further, most of them have dark transverse bands on the central tail-feathers (less distinct in the more advanced dress or in the moulting phase).

Wing,	tarsus,			
140 mm.	33 mm.	♂	(transition to nuptial dress)	Nairobi.
138 mm.	32 mm.	♂	" " " "	Naiswasha.
137 mm.	34 mm.	♂	(almost full)	" "
137 mm.	33 mm.	♂	" " "	" "
147 mm.	32 mm.	♂	(full nuptial)	" "
148 mm.	35 mm.	♂	" "	Eldoret.
145 mm.	33 mm.	♂	" "	" "
148 mm.	34 mm.	♂	" "	Elgon
144 mm.	35 mm.	♂	(somewhat worn)	" "

The measurements for ♂♂ given by Lönnberg (op. cit.) are 147—155 mm. while Mackworth-Præd gives 140 mm. for 1 ♂.

For the ♀ specimens the measurements are as follows:

Wing,	tarsus,			
131 mm.	32 mm.	♀	(almost full nuptial plumage)	Ngong.
133 mm.	32 mm.	♀	" " " "	Kiambu.
127 mm.	31 mm.	♀	" " " "	Naiwasha.
135 mm.	33 mm.	♀	" " " "	Eldoret.
134 mm.	31 mm.	♀	(full nuptial plumage)	" "

The young birds have a wing-measurement of 124 mm. for ♂ and 127 mm. for ♀; tarsus 32, 33 mm. resp.

The male specimens from Elgon had swollen testes at the end of May (Lönnberg: "end of March").

Irides yellow or yellowish red (in juv. brown); bill and legs black.

Lamprocolius purpureus amethystinus (Heugl.). —
Rchw. II. p. 692.

1 ♂ ad. 8. 6.; 1 ♂ ad. 26. 7.; 2 ♂♂ juv. 16. and 17. 5.; Mount Elgon.

This race was not so common in the Elgon region as the preceding. It frequented the thorn-bushes in the company of the preceding race.

Wing,	tarsus,	
146 mm.	33 mm.	♂ ad. (in full nuptial dress).
146 mm.	35 mm.	♂ ad. (in transition to nuptial dress).
135 mm.	31 mm.	♂ juv.
134 mm.	30 mm.	♂ juv.

Both young birds are very easy to distinguish from *chalybaeus*, the young of which have a pale green gloss on the underparts. These have here and there among the brownish black feathers others purple-glossy, of the same colour as the adults. One of them has the whole fore-neck pale purple lilac glossy as well. The crown is either blue glossy (in a more developed phase) or of the same colour as the under surface.

Irides reddish-yellow — citation yellow (in juveniles, whitish-yellow or greyish white; juveniles of *L. chalybaeus* have brown irides); bill and legs black.

Lamprocolius splendidus (Vicill.). — Rchw. II. p. 692.

1 ♂ ad. 14. 5.; 2 ♀♀ ad. 14. and 16. 5. Soy.

In the small wooded areas along the streams and other water-ways in the neighbourhood of Soy, this exceedingly beautiful Glossy Starling was met with.

v. S o m e r e n (Ibis 1916, p. 402 and Nov. Zool. XXV, 1918, p. 279) calls this race *L. splendidus glaucovirens* Ell., although O.-G r a n t (Ruw. Exp. Reporto 16, Aves 1910, p. 264) had already shown that they were nothing but old males of *L. splendidus* (vide also R e i c h e n o w: Vogelf. d. Mittelaf. Seengeb. 1912, p. 319).

In young birds, still in full dress, the under tail-coverts have a predominant green gloss, in adults on the other hand, they have also a pale blue or purplish gloss.

Wing,	tarsus,	
158 mm.	34 mm.	♂ ad.
145 mm.	33 mm.	♀ ad.
140 mm.	29 mm.	♀ ad.

Irides white, sometimes with a grey or yellow tint; bill and legs pale black.

Pyrrhocheira walleri elgonensis Sharpe. — Rchw. II. p. 698.

1 ♀ ad. 21. 7. Mount Elgon, 7,000 ft.

Only once did I see this race on the eastern slopes of Elgon. A large flock — probably numbering about 30 or 40 — perched in the tops of the *Podocarpus* trees eating, with a great clammer, of the fruits.

v. Someren (Ibis 1918, p. 879) states that this bird, and the following, occurred in the bamboo forest, but I never met either of them there.

My specimen is just beginning to moult and has a wing measurement of 121 mm., tarsus 22 mm.

Irides have a dark-brown ring innermost encircled by a narrow one of blood-red; bill and legs black.

Amydrus morio rüppelli Verr. — Rchw. II. p. 699.

4 ♂♂ ad. 28. 5. and 3. 6.; 1 ♀ ad. 3. 6.; 1 ♂ juv. 28. 5.;
1 ♀ juv. 29. 6. (13,500 feet); Mount Elgon, 8,000 ft.

In several places on the slopes of Elgon I met with this race and it always appeared in large flocks which frequented both the short and the tall trees in the interior of the forests. They were not frightened away by shots but calmly remained sitting, calling to each other with a skrill cry, which reminds one of the "laughing" of the magpie. In the stomachs of those shot at 8,000 feet I only found fruits, but the one shot up by the crater-lake of Elgon (at an altitude of about 13,500 ft.) had its stomach full of insects and spiders.

When I visited the crater-lake of Elgon I was astonished to find this race very common so high up in these cold and inhospitable regions.

They flew about among the gigantic *Senecio johnstoni* which clad the slopes right up to the very summit (see picture) but they were very shy and in spite of eager efforts I did not succeed in procuring more than one young bird, which was however, badly damaged by the shot.

I saw the old birds repeatedly feeding the young one, which sat shrieking in a *Senecio*, whence it can thus be considered certain that the young one had been born in these alpine regions. Whether the birds breed on the ledges of the mountain, in holes in the rock (Reichenow op. cit.) or elsewhere I was unable to ascertain. It is of great interest anyhow to be able to prove that the vertical distribution of the race at least extends to over 13,500 feet.

Two of the specimens in my series are in moult, the others are in full plumage. In the young bird the primary coverts are, for the most part, black and have near the tips a reddish brown band, narrow on the outer-web, wide on the inner web.

Wing,	tarsus,	bill,	
158 mm.	34 mm.	29 mm.	♂ ad.
157 mm.	32 mm.	29 mm.	♂ ad. (moulting).
154 mm.	32 mm.	29 mm.	♂ ad.
149 mm.	33 mm.	28 mm.	♂ ad. (moulting).
144 mm.	33 mm.	30 mm.	♀ ad.
140 mm.	33 mm.	26 mm.	♂ juv.
131 mm.	30 mm.	—	♂ juv.

Irides reddish; bill and legs black.

Ploceidae.

Ploceus insignis insignis Sharpe.

Heterophantes insignis Sharpe. — Bannerman: Ibis 1915, p. 516.

3 ♂♂ ad. 23. 5., 28. 5., 6. 6.; 1 ♀ ad. 31. 5. Mount Elgon, 7,500 ft.

This race was rather common below the slopes of Mount Elgon and I have come across it both in the acacia-country and in the interior of the forests.

The males are in full dress but the female has not yet assumed her full plumage, for a number of the feathers of the throat are black with yellow tips and the wing-coverts have all a narrow, brownish white edge (exactly as in the young bird).

Wing,	tarsus,	
87 mm.	21.5 mm.	♂.
86 mm.	21 mm.	♂.
84 mm.	22 mm.	♂.
80 mm.	21 mm.	♀.

Bill black; legs brownish-grey or brownish-yellow.

Bannerman states (Ibis 1915, p. 516–517) that there is no difference between Mount Elgon birds and Cameron birds.

Ploceus insignis ornatus Granvik.

Pl. 3.

2 ♂♂ ad. 18. 4.; 1 ♂ juv. 18. 4.; 1 ♀ juv. 18. 4. Kiambu.

That form of *insignis* occurring in the Nairobi country differs very considerably from the typical Elgon form. — v. Someren (Ibis, 1918, p. 280) says that “birds from Nairobi do not differ, though there is some slight variation in wing measurements”, but my three ♂ specimens from the Nairobi country all have a brownish red, radiate band below the back throat, while the Elgon specimens, on the other hand are uniform yellow. As a rule they have not, as the latter, the flanks greenish yellow or greenish but yellow.

The young bird (♂) is very interesting with reference to the plumage, inasmuch as the feathers of the head are black with reddish brown or yellow tips (chiefly the former). The nape is also garnished with black feathers, the tips of which are yellow, of the same colour as the back, and the upper tail-coverts are greenish yellow (in the adults yellow). Some of the feathers of the throat are yellow, others black with yellow tips and just below the throat it has the same reddish brown band as the old birds.

The under-parts are yellow with a pale green wash along the sides, the lower tail-coverts greyish yellow. The wing-coverts have also narrow, greyish yellow edgings. The bill is blackish brown.

The female young bird is much unlike the full-grown. The head is entirely black and a number of the feathers of the back are yellow, the posterior ones with yellow or brownish-yellow tips. The ear-coverts black with olive-green tips. The upper and lower tail-coverts as in the male young bird. The throat and the whole of the lower surface yellow. The bill horn, greyish brown (lower mandible lighter than upper).

It is noteworthy that one of the old birds has a large, greyish white spot on the posterior half of the upper mandible.

Wing,	tarsus,	
86 mm.	21 mm.	♂ ad.
83 mm.	22 mm.	♂ ad.
82 mm.	22 mm.	♂ juv.
77 mm.	20 mm.	♀ juv.

Irides, bill and legs as in the preceding.

Othyphantes reichenowi reichenowi F Schr. — Rchw. III. p. 38.

Ploceus reichenowi (F Schr.).

1 ♂ ad. 20. 4. Lake Naiwasha. — 2 ♂♂ ad. 9. a. 10. 5. Londiani districts. —
1 ♀ ad. 10. 4. Nairobi. — 2 ♀♀ ad. 18. 4. Kiambu. — 3 ♀♀ ad. 20. 4. Lake
Naiwasha. — 1 ♀ ad. 10. 5. Londiani districts.

This race was very common in all the above-mentioned localities.

The males sometimes vary in the colour of the dress, and one of them has not only the upper tail-coverts and rump region olive-green but also the lower back. Another has the whole back black, and so on.

Likewise, there are differences among the females. The three from Lake Naiwasha, for instance, are all unlike. One has the back entirely black, another (in moult) has the upper part of the back mostly dark-brown, and a third, which is the youngest of the three, has the feathers of the back dark-brown with dark olive-green tips. This last bird has also a pale green wash on the extreme tips of a number of the feathers of the nape.

Wing,	tarsus,	
82—85 mm.	23—24 mm.	♂♂
76—83 mm.	21—24 mm.	♀♀

Irides yellow white — citron-yellow; bill black; legs pale brownish red — brownish yellow.

Reichenow (op. cit.) gives the wing-measurements for this bird to 75—80 mm. The minimum for ♂♂ from Naiwasha and Londiani is however — as appears from the table — 82 mm. Thus, whether specimens from the interior of British East Africa are in general larger than others, as for instance, those from Kilimandjaro (according to Sjöstedt: *Wissensch. Erg. Schw. Zool. Exp. Kilimandjaro, Meru 1905—1906, Stockholm 1910, p. 121 — 78—80 mm.*), I cannot decide with any certainty.

Othyphantes reichenowi nigrotemporalis Granvik.

Pl. 3.

3 ♂♂ ad. 21. 5., 6. 6., 4. 7.; 2 ♀♀ ad. 30. 5., 6. 6.; 2 ♀♀ juv. 26. 5., 11. 6.;
Mount Elgon.

This race differs from *O. r. reichenowi* Fschr. in the male being entirely devoid of the yellow band around the ear and the black patch of the nape merging into the black ear-coverts. In other respects it is like the preceding. The female is exactly like the female of *O. r. reichenowi*.

This new form of *O. reichenowi* is, from what I can see, a good and reliable one. I have examined and compared the abundant collections of *reichenowi* in the Berlin Museum with mine but I have not found a single specimen which approximates the one described by me. Neither is my bird a juvenile stage of *O. r. reichenowi* inasmuch as male and female were shot by the nest and they were in full dress.

The young birds are similar to the young of *O. r. reichenowi*. Sjöstedt mentions, however, (*Wissensch. Erg. Schw. Zool. Exp. Kilimandjaro — Meru 1905—1906, Stockholm 1910, p. 121*) that he had observed that the yellow band around the temporal region was missing both in old birds and young. I have gone through the bird collections which Sjöstedt brought home, found in Stockholm, but have not found a single male without this band. Sjöstedt does not mention (op. cit.) whether the lack of this yellow band applies to ♂♂ or ♀♀, but as regards ♀♀ it has already been established by Fischer that they have the sides of the head entirely black. Sjöstedt's statement should, from what I have seen, undoubtedly apply to ♀♀.

Below the eastern slopes of Elgon, at about 6,500 ft. above sea-level, this Weaver Bird is common and is biologically in agreement with *O. r. reichenowi*. On the 6th June I found a nest containing 2 newly hatched nestlings and one egg. v. Someren (Ibis, 1916, p. 404) says that many nests are

found on the same tree but, as a rule, only one is occupied, and it proved to be so in this instance, for, out on the tips of the slender branches of a low bush, about 2 meters from the ground there hung two nests, only one of which was occupied.

The nest was semi-globular in shape with the entrance from below. The measurement from the outer edge of the entrance-hole to the farther side of the nest was 20 cm. The entrance of the nest itself was 5 cm. across and the walls of the nest were thick and firm, built of dry grass-stems, but were lined with different kinds of grass fibres. The nest hung in the fork of two branches, and long, tough grass-stems, twined into the walls, were twisted round these branches, letting the nest hang freely, so that even if the wind set the branches swinging, the nest kept the same position.

The egg, found in the nest, measured 22.5×16 mm. and weighed 0.51 gr. The shell is dull glossy white, with large or small brown and brownish red spots over the whole surface. The larger spots, which are in the majority, measure up to 4 or 5 mm. long and 2–3 mm. wide gathered in a feeble attempt to form a calotte at the thick-end. The ground spots are bluish grey and greyish violet. The egg resembles an egg of *Sitta europaea* but also strongly recalls the eggs of *Hyphantornis jamesonii* (S w y n n e r t o n, Ibis 1916, Pl. XIX, 12.)

Wing,	tarsus,	culmen,	
83 mm.	24 mm.	20 mm.	♂ ad.
81 mm.	24 mm.	20 mm.	♂ ad.
81 mm.	25 mm.	20 mm.	♂ ad.
78 mm.	24 mm.	20 mm.	♀ ad.
78 mm.	23.5 mm.	20 mm.	♀ ad.
81 mm.	23 mm.	18 mm.	♂ juv.
79 mm.	23 mm.	19 mm.	♂ juv.

Irides yellowish white; bill black; legs brownish yellow.

Clarke has described a bird from Mombasa (Bull. Brit. Orn. Club, vol. XXXI, 1913, p. 32), *Heterophantes golandi*, the male of which is like the female of *H. reichenowi*. But as I have not seen any specimen of the bird in question I cannot express any opinion as to its position with reference to *reichenowi* or other forms.

Hyphanturgus stephanophorus (Sharpe). — Rchw. III. p. 43.

Heterophantes stephanophorus Sharpe: Ibis 1891, p. 171. — *Ploceus stephanophorus* Reichenow: (op. cit.). — *Hyphanturgus stephanophorus* v. Someren: Nov. Zool. 1918, p. 280.

1 ♀ ad. 17. 6. Mount Elgon.

I saw this interesting Weaver, whose nearest ally, *H. melano-gaster*, is found in West Africa, a few times on the eastern slopes of Elgon. v. S o m e r e n (Nov. Zool. XXV, 1918, p. 280) says

that it is "fairly common" on west Elgon. In the regions of east Elgon that I visited, it can hardly be said to be common, but rather the contrary.

On the 8th June I found a nest of this bird. It was built in the depths of the forests, among the lianas, on the outermost branches of a little bush and contained two eggs of nearly the same colour as those of the preceding race. I did not shoot any of the parents nor did I take the eggs, hoping that a few days later the clutch would be increased to 3 eggs. Returning to the place two days later I found the nest empty and the birds gone. They had possibly been disturbed when I examined the nest the first time and thus abandoned it, but I hardly believe that they had carried the eggs themselves.

Grant asserts (Zool. Res. of Ruw. Exp. 1910, p. 273) that the female of this race differs from the female of *melanogaster*, the latter having the whole crown yellow while in the former the yellow extends to the posterior edge of the eye. In this specimen the yellow patch in question stretches a little way (2 mm.) behind the eye. The throat is entirely yellow.

Wing 74 mm.; tarsus 21 mm.

Irides red; bill black; legs dark lead-grey.

Hyphanturgus ocularius suahelius Neum. — Journ. f. Ornithol.,
1905, p. 339—340.

1 ♂ ad. 20. 4. Lake Naiwasha.

At Lake Naiwasha this race occurred in the brushwood and thorn-bushes around the shores.

Wing 77 mm.; tarsus 22 mm.

Irides yellowish; culmen black; legs lead-grey.

Hyphantornis abyssinicus femininus Og.-Grant. — Bull. Brit.
Orn. Club, vol. XXI, 1907, p. 15.

1 ♂ juv. 23. 8. Kendu.

Only one specimen was shot, at Kendu.

The forehead and crown have black feathers tipped with yellow; the nape is olive-green. The feathers of the back are brownish black, tipped with olive-green (sometimes also with olive-green edgings). The sides of the head and front part of throat are covered with black and yellow feathers; the under surface yellow (growing paler posteriorly), lower tail-coverts yellow.

Wing 88 mm. tarsus 26 mm.

Irides red; bill dark grey; legs brownish grey.

Hyphantornis nigriceps (Lay.). — Rchw. III. p. 62.

1 ♂ ad. 14. 4. Kiambu. — 2 ♂♂ ad. 29. 4. Mombasa. — 1 ♀ ad. 24. 4. Kikuyu. — 2 ♀♀ ad. 26. and 29. 4. Mombasa. — 13 ♀♀ ad. 14. 4., 19. 9. Kiambu.

Everywhere in the cocoa groves at Mombasa (Kilindi Bay) this Weaver was the commonest bird found. At Kiambu (in the neighbourhood of Nairobi) I frequently saw them in large flocks, and once 12 birds were shot out of a single flock. All were females. They vary in the colour of the dress as well as that of the bill, and most of them (10 in all) have the posterior half of the lower surface whitish, others have all the underparts pale yellow. In the former there are some with greyish white, others with whitish-yellow lower tail-coverts; the latter have yellow ones.

As a rule the lower mandible is lighter than the upper, but two have the lower mandible dark and of the same colour as the upper.

	Wing,	tarsus,
♂♂.	80—85 mm.	23 mm.
♀♀.	77—86 mm.	21—23 mm.

Irides brownish red, reddish yellow or red; bill in ♂♂ black, in ♀♀ dark greyish brown (lower mandible as a rule lighter); legs pale flesh-red or brownish yellow.

Sitagra jacksoni Shell. — Rchw. III. p. 68.

1 ♀ 22. 8. Kendu.

On the shores of Kavirondo-Bay at Kendu this race was common. However, believing it to be the same race as that I had procured several specimens of at Kisum (*S. dimidiatus*) I shot only one individual.

O g.-G r a n t (Zool. Res. Ruw. Exp. 1910, p. 276) has given an excellent table to distinguish ♀♀ of the two closely allied *S. jacksoni* and *dimidiatus* from one other and mentions as a character for the former that “the culmen is nearly always straight”, in the latter “culmen is curved”.

In this specimen the colour of the bill too is unlike all ♀♀ of *dimidiatus*, for the lower mandible is entirely light greyish-brown and the upper mandible somewhat darker. In ♀♀ of *dimidiatus* the upper mandible is black, just like the edges of the lower mandible.

Wing 73 mm.; tarsus 23 mm.

Irides dark-brown; legs brownish grey.

Sitagra melanocephala dimidiata Antin. & Salvad. —
Rchw. III. p. 69.

Ploceus dimidiatus. — Reichenow: op. cit. — Jägerskiöld: Res. Swed. Exped.
Egypt & White Nile, 1903, p. 2.

Osago . . . ki-kavirondo.

3 ♂♂ ad. 18. 8. Kismu. — 1 ♂ ad. 21. 8. Kendu. — 5 ♀♀ ad. 18. 8.;
1 ♀ ad. 19. 8. Kismu.

This bird was very abundant all along the shores of the Kavirondo gulf, especially in places where brushwood was found. As a rule large swarms were seen frequenting the water's edge, where their nests hung everywhere on the branches of the bushes.

v. Someren (Ibis 1916, p. 410—411) has exhaustively dealt with this race, and so has Og.-Grant (Zool. Res. Ruw. Exp. 1910, p. 275—276) and the descriptions of both these writers complete one another quite favourably.

All the males are moulting and agree almost completely, with each other in the colours of the plumage. Still, one of the specimens is somewhat lighter in the brown colour of the breast, but this is surely owing to the dress being worn and faded.

With reference to the chief character of the males of this race: the extent of the black patch on the head etc. opinions seem to be divided. v. Someren says (op. cit.) "the colour of the mantle is separated from the black of the nape by a very narrow yellow band", but in another series "there is a wide yellow band separating the black of the head from the golden olive of the mantle", but Og.-Grant (op. cit.) states that "the black of the head does not extend beyond the occiput and is divided from the olive-yellow mantle by a bright yellow collar". In skinned birds the width of this yellow band may obviously vary, depending on how the bird is preserved.

If we compare the two pictures of this bird (Reichenow: Zool. Jahrb. Bd. I, Taf. 5 and Antinori & Salvadori: Ann. Mus. Natur. Genova, vol. IV, 1873, Tav. III), the different opinions as to the extent of the black of the head is evident.

Reichenow mentions (op. cit.) that the bill of *dimidiata* is larger than that of *jacksoni* (the former 16—17 mm., the latter, 14—16), and with reference to the shape of the bill in these two forms I may refer the reader to the preceding race.

v. Someren does not consider it impossible that we have to do with two "distinct subspecies" of *dimidiata*. Nor is it likely that two forms of the same "form-circle" should occur in the same locality. The dissimilarities which he gives are exemplified in my collection, for, among my four male specimens from Kisumu I have three belonging to his series No. 1 and one to No. 2. It seems to me more probable that this is nothing but a case of individual differences.

In younger males in the transition to the full dress the yellow band on the nape is scarcely indicated, but shades almost imperceptibly into the olive-yellow colour of the back.

Whether the size of the bill is, or can be, conclusive in placing the two races, I cannot decide with certainty, as the material I have had for examination has been too small. Still, it seems to me to be unlikely.

With reference to the colour of the females there are also small differences. Thus, two have predominantly pale brownish markings on the mantle, while the other two incline more to grey. And one specimen (rather young) has the head a more uniform olive-green and the dark streaks to the feathers are not so conspicuous as in the others.

There are also differences in the brownish wash of the belly.

When comparing my male specimens with the collection of Weaver birds in the Berlin Museum I found that they agreed perfectly with the specimens found there of *fischeri* Rchw. (type-specimen also in Berlin) from Wadelai and other districts, and also with two specimens in Stockholm from Rutschuru, East Congo (vide Lönnberg: Arkiv. för Zool., Band 10, No. 24, Stockholm 1917, p. 27). Thus, when v. Someren (Ibis 1916) calls specimens procured from Uganda and East Africa *dimidiatus*, it seems remarkable that a North Abyssinian bird (type from Kassala) should go so far south as Victoria Nyanza. Ogilvie-Grant has, it is true (Zool. Res. Ruw. Exp., 1910, p. 275), written that the latter bird occurs "from Wadelai in the north to South Ruwenzori in the South and eastwards to Entebbe", but he seems to have overlooked the fact that *dimidiatus* up to that time was known from North Abyssinia and, according to Jägerskiöld (Res. Swed. Zool. Exp. to Egypt & White Nile 1901, Upsala 1903, p. 2) from Kaka in Shelluk on the White Nile. Whether Grant's specimens are *dimidiatus* and not *fischeri* is therefore doubtful. However, Slater & M. - Praed (Ibis 1918, p. 438) have remarked that *dimidiatus* "has never been found between the type locality and the Lake District" and that "it seems probable, therefore, that there was some mistake about the type locality and the bird is not a Sudanese form at all". The range of *dimidiatus* thus coincides with that of *fischeri*.

v. Someren, who has seen my specimens, shot on the same spot as his, has also fixed them as *dimidiatus*. And judging from the description in "the Ibis" they agree perfectly. But according to Reichenow (Vög. Afr. III. p. 69) *dimidiatus* has the breast and belly chestnut, upperparts golden yellow (see also plate III Ann. del Mus. Civ. Stor. Nat. Genova, 1873), which neither v. Someren's specimens nor mine have. They should thus undoubtedly be named *fischeri*.

The question then is: Is *dimidiatus* a synonym of *fischeri* or is it not? I have not seen the type of *dimidiatus* and therefore cannot express any opinion about it at present, but if the *dimidiatus* type does not originate from Kassala, and Grant has already in 1910 established that the northern limit of the bird is Wadelai, there is much in favour of its being, in spite of the dissimilarities, a synonym of *fischeri*. But the latter form was first described in 1887 and the former in 1873, therefore I have retained the older name.

Seth-Smith (Ibis 1913, p. 493) calls his specimens from Mpumu (in the vicinity of Kampala on Victoria Nyanza) *Hyphantornis dimidiatus fischeri* thus making *fischeri* a race of *dimidiatus*. Further investigations must decide whether his opinions or mine is the correct one.

Wing,	tarsus,	culmen,	
75 mm.	23 mm.	18 mm.	♂.
77 mm.	23 mm.	17 mm.	♂.
75 mm.	23 mm.	17 mm.	♂.
75 mm.	23 mm.	18 mm.	♂.
65 mm.	22 mm.	15 mm.	♀.
74 mm.	23 mm.	17 mm.	♀.
68 mm.	23 mm.	16 mm.	♀.
65 mm.	22 mm.	16 mm.	♀.
67 mm.	22 mm.	16 mm.	♀.
65 mm.	21 mm.	14.5 mm.	♀ juv.

Irides dark-brown; legs brownish grey.

I have examined Jägerskiöld's specimen, shot on 23. 2. 1901, from the White Nile (fixed by Reichenow once as *dimidiatus*) and found a rather strong likeness to a number of my female specimens. This specimen is by mistake marked "young male", for it is a female bird.

It differs, however, from my ♀ specimens — all of which have a more or less marked olive-green wash on the tail-feathers and on the outer-web of the primaries and secondaries — in having the tail-feathers more greyish brown and only the outer-web light olive-green, the olive-green edges of the primaries and secondaries being considerably paler. One of my specimens, having a rather worn dress, agrees very well with the White Nile discovery. It has the following measurements:

Wing,	bill,	tarsus,
72 mm.	16 mm.	22.5 mm.

Even the fore-neck of this specimen is greyish brown, but in all my specimens it is brownish yellow. Whether the paler dress of this Nile bird is a result of its having been shot in the month of February, the plumage being thus more used and abraded or (which is most probable) whether the northern form is different from mine is a question I dare not decide from this single ♀ specimen.

Xanthophilus xanthops Hartl. — Rchw. III. p. 88.

3 ♂♂ ad. 14. a. 18. 4.; 1 ♀ ad. 18. 4. Kiambu.

As my four specimens of this Weever-bird were shot in the Nairobi country they should be placed under *X. x. camburni* Sharpe, inasmuch as the "terra typica" for this form is just Nairobi. — v. Someren (Ibis, 1916, p. 412) mentions this bird from Majanji in Uganda.

But O g. - Grant has shown (Zool. Res. Ruw. Exp., 1910, p. 278) that the form described by Sharpe is only a juvenile stage of *X. xantops*, which is certainly correct. It should differ from the latter in having a wing-measurement of only 84 mm. and bill 18 mm., while the former has a measurement of 80—93 mm. and 19—21 mm. resp.

These specimens measure:

	wing,	tarsus,	bill,
♂ ad.	95 mm.	26 mm.	20 mm.
♂ ad.	93 mm.	26 mm.	21 mm.
♂ ad.	92 mm.	26 mm.	21 mm.
♀ ad.	83 mm.	26 mm.	19 mm.

Irides dirty white-yellowish grey; bill pale flesh-coloured.

Xanthophilus bojeri ([Hartl. & Finsch] Cab.). — Rchw. III. p. 92.

6 ♂♂ ad. 26., 27. a. 29. 4.; 1 ♀ 29. 4. Mombasa.

Very common in the Coastland. In the town of Mombasa itself, in the gardens and parks, and in the environs one saw it almost everywhere and Bannermann (Ibis, 1910, p. 683) mentions that they were nesting by the hundreds in the gardens of the Mombasa Club.

Wing,	tarsus,	
72—79 mm.	22—23 mm.	♂♂
65 mm.	20 mm.	♀

Irides dark-brown-reddish yellow; bill pale flesh-coloured.

Quelea sanguinirostris aethiopica (Sund.). — Rchw. III. p. 109.

1 ♂ 20. 6. Mount Elgon.

Occurred sparingly in the bush-plain below the eastern slopes of Elgon. This individual was found in the company of *Anomalospiza imberbis*.

The under surface is whitish. Interspersed all over with pale rose-coloured feathers. Upper tail-coverts greyish brown; some of the feathers rose-coloured.

Wing 65 mm.; tarsus 19 mm.

Irides dark-brown; bill purple-red; legs yellowish red.

Quelea cardinalis (Hartl.). — Rchw. III. p. 112.

2 ♂♂ ad. 6. 5. Londiani. — 1 ♂ ad. 17. 5. Soy. — 3 ♂♂ ad. 18. 6., 6. 6.;
1 ♀ ad. 18. 5. Mount Elgon.

This little Weaver was common on the grass plains, and below the slopes of Elgon it occurred in large numbers.

On the 6th June I found about 20 nests of this race within a very small area, but only three of them contained eggs. All the nests were built about 30—70 cm. from the ground between two strong grass-blades, and it was very interesting to see how such a nest came into existence. The birds first stretched a few blades of grass from stalk to stalk, the ends being twisted several times around the latter, thus enclosing a space of about 5 cm., almost quadrangular in shape. Then a number of new grass blades were interwoven with the former so that a firm and safe connection was effected with the boundary lines. Other blades were then woven into the four corners, which were gradually rounded off, and the original square opening became circular, when the business of building the nest itself began. Very diligently the birds interlaced the long blades of grass into the upper edge of the firm structure, fastening them to the lower one. Then one of the birds crept inside the loose and delicate bag-shaped shell, arranged the accumulated material, fastened shorter blades together and gave the future nest the form it was to have. It was surprising to see how fast the work proceeded and in what a short time they succeeded in getting everything arranged. The work of building was carried on without ceasing so that in a day the artistic, little dwelling was quite ready. It had then the form of a pouch about 8—10 cm. high with firm, rather thin walls and with an entrance of about 4 cm. diameter.

The same spot, where this race occurred commonly, was also frequented by *Vidua serena* and *Urobrachya ph. phoenica* in great numbers.

The four male specimens are exactly like each other and agree with Reichenow's description (op. cit.). The other two, on the contrary, have the dark-brown feathers of the nape edged with red. The extent of the red patch of the head also varies a little.

The female agrees also with Reichenow's description, but has the superciliary stripe distinctly yellow. (Reichenow: "bräunlichweifs, oft orangerötlich verwaschen").

	Wing,	tarsus,
♂♂	58—60 mm.	17—18 mm.
♀	58 mm.	16 mm.

Irides brown-brownish red; bill in in ♂ dark-brown — blackish, in ♀ brownish grey (lower mandible lighter); legs pale flesh-coloured — yellowish brown.

Pyromelana nigrifrons Böhm. — Rchw. III. p. 122.

Mire . . . ki-kavirondo.

3 ♂♂ ad. 21. 8.; 1 ♂ juv. 21. 8.; 1 ♀ ad. 21. 8.; 2 ♀♀ juv. 21. 8. Kendu.

In the thick rushes around the Gulf of Kavirondo, at Kendu, this species was very numerous. As a rule they were seen in considerable flocks among the *Cyperaceae* where they flew about the reeds with great activity.

At that time of the year all the old birds were in a very advanced phase of moult.

A ♂ young bird in transition-dress is very interesting. The feathers of the head are black with wide, brown edges; the back and the upper tail-coverts black, edged with rust-brown (here and there a roseate feather); chin and throat as in the young bird but with a few solitary brick-red feathers interspersed; the feathers of the belly black with white tips. The lower tail-coverts pale orange-colour.

The female (adult) is dark-brown on the upper-parts, the feathers being edged with yellowish-brown. Throat white, fore-neck pale brownish with indistinct, dark streaks. Lower surface and under tail-coverts white. Lower wing-coverts light yellowish-brown.

The young birds (♀) resemble the adult female, but have the throat and fore-neck a darker brownish grey with distinct streaks. The middle of the lower surface white, sides the same colour as the fore-neck. Lower tail-coverts white. Lower wing-coverts light brownish white.

	Wing,	tarsus,
♂ ad.	67 mm.	20 mm.
♂ ad.	66 mm.	20 mm.
♀ ad.	68 mm.	20 mm.
♂ juv.	67 mm.	20 mm.
♀ ad.	65 mm.	20 mm.
♀ juv.	67 mm.	19 mm.
♀ juv.	61 mm.	18 mm.

Irides dark-brown; bill in ♂♂ brownish black (lower part of lower mandible lighter), in ♀♀ and juveniles brownish grey. Legs brownish yellow-brownish grey.

Pyromelana nigroventris (Cass.). — Rchw. III. p. 125.

2 ♂♂ ad. 26. 4.; 1 ♂ juv. 26. 4.; 1 ♀ ad. 26. 4. Mombasa.

A rather common bird in the coast-land. In the Mombasa regions it was found on bush-covered slopes on the edge of the forests and always appeared in small flocks from 8 to 10 in number.

Not one of the three male-specimens is in full dress, but they represent the different phases of transition to that dress.

The one which most closely approaches the breeding dress has still a few solitary black feathers on the forehead. The underpart black in other respects like adults. The one coming next has numerous red feathers among the predominant black-brown ones on the nape and back. The sides of the head dark-brown, the nape scarlet red. The under surface black with large light yellowish brown feathers here and there, congregated to form almost to a band across the breast.

The third is more like a young bird, but has near the nape a hidden ring of scarlet-red feathers. One or two of the upper tail coverts with a red wash. Lower tail coverts pale yellowish brown. In other respects like the young bird.

The female resembles ♀ of *Pyromelana nigrifrons*, but is darker on the upper part. The yellowish brown patch on the fore-neck and breast somewhat paler and without the dark streaks. (Reichenow, op. cit., states that the female of this race has the fore-neck more darkly streaked than *P. franciscana*).

	Wing,	tarsus,
♂ 1	61 mm.	17 mm.
♂ 2	57 mm.	17 mm.
♂ 3	58 mm.	17 mm.
♀	53 mm.	15 mm.

Irides dark-brown; bill dark greyish brown (Reichenow: black.); legs pale flesh-coloured.

Euplectes capensis xanthomelas Rüpp. — Rehw. III. p. 128.

Pyromelana xanthomelaena Rüpp.

Ngalia . . . ki-kamba.

1 ♂ ad. 10. 4. Nairobi. — 1 ♂ ad. 14. 4. Ngong. — 1 ♂ ad. 18. 4. Kiambu. — 1 ♂ ad. 6. 5. Londiani. — 1 ♂ ad. 15. 5. Soy. — 5 ♂ ad. 20. 5.—19. 6. Mount Elgon. — 2 ♀♀ juv. 18. 4. Kiambu. — 2 ♀♀ ad. 20. a. 22. 4. Lake Naiwasha. — 1 ♀ juv. 24. 8. Mount Elgon.

At every place through which our expedition passed this race was one of the commonest of the small birds. It was mostly met with in the bush-country, but on Elgon I came across it almost everywhere in the depths of the forests, out on the grass steppe and in the acacia-country. When we marched along the roads on the way to Elgon, we continually saw this Weaver bird sitting in the top of some little bush by the way-side.

In the series of 10 males found in the collections not a single one has black thighs, which Reichenow gives (op. cit.) as the main character for this form. Some of the specimens have these parts entirely yellowish brown — like the females — others have chiefly brown feathers with here and there a few black ones, and then again some have mainly black thighs with

brown feathers, or black with brown tips, interspersed. All of them have a larger or smaller number of feathers with wide, white or pale brown tips on the middle of the breast.

L ö n n b e r g writes (Birds coll. Sw. Zool. Exp. B. E. Afr., 1911, p. 103) that a male from Kutu 25. 1. had swollen testes and the same was the case with another male shot two months later. This proves that the birds breed at different times of the year. My observations corroborate this statement, for a male from Kiambu 18. 4. had swollen testes and so had others from Elgon on 28. 5.

The young birds (♀♀) resemble the old females very much. Yet they are considerably lighter. In the adults, for instance, the fore-neck is dark yellowish brown, but in the young birds it is pale greyish brown. The lesser wing-coverts, which in the former are distinctly olive-yellow, are in the latter pale olive-yellow, and so on.

Wing,	tarsus,	culmen,	
73, 75, 75, 75, 76 mm.	25—24 mm.	15 mm.	♂♂ ad.
76, 77, 78, 78, 78 mm.			
74, 74 mm.	23 mm.	15 mm.	♀♀ ad.
66, 67, 67 mm.	21—22 mm.	14—15 mm.	♀♀ juv.

The measurements are all below those given for the South African *E. c. capensis* (L.), which, according to Reichenow (op. cit.), reach to: wing 80—85 mm., tarsus 24—25 mm., culmen 17—19 mm. Thus *E. c. xanthomelas* differs from *E. c. capensis* chiefly in being smaller, and not, — as has been suggested — in having the thighs black.

Irides dark-brown; bill in ♂ greyish-blue with dark spots and streaks (lower mandible, as a rule, somewhat lighter, also with dark streaks); in ♀ greyish-brown. Legs in ♂ dark-brown (usually) — blackish, in ♀ yellowish brown.

Urobrachya phoenicea phoenicea (Heugl.). — Rchw. III. p. 130.

5 ♂♂ ad. 10.—12. 5. Eldoret. — 1 ♂ ad. 20. 5. Mount Elgon. — 1 ♂ ad. 22. 8. Kendu. — 1 ♂ ad. 10. 5. Eldoret. — 2 ♂♂ ad. 6. a. 20. 6. Mount Elgon.

At Eldoret and in its environs this race was common, appearing as a rule in small flocks of 5 or 8 in number. They frequented the tall grass on both sides of a little stream, in the company of *Penthetria laticauda*, but in contradistinction to the latter they were very timid.

On and below the eastern slopes of Mount Elgon I met the race a few times, but I do not think it can be said that it is common here. Here it also inhabited the swampy grass regions and was sometimes seen in the company of *Vidua serena*. At this place I never saw the females together with the males.

In the month of July, when the young were full-fledged, they visited — then in much larger flocks — the maize fields of the natives.

All the specimens (except the one from Kendu) are in full dress.

Wing,	tarsus,	
82—88 mm.	24—25 mm.	♂♂
68, 69, 76 mm.	20, 21, 24 mm.	♀♀

Irides dark-brown; bill of ♂♂ greyish blue (darker at the base) of ♀♀ greyish brown; legs of ♂♂ black, of ♀♀ greyish brown.

Penthetria laticauda suahelica v. Someren. — Bull. Brit. Orn. Club, vol. XLI, 1921, p. 121.

5 ♂♂ ad. 10. a. 13. 4. Nairobi. — 1 ♂ ad. 11. 4. Ngong. — 2 ♂♂ ad. 12. 5. Eldoret. — 5 ♂♂ ad. 20. 5.—6. 6. Mount Elgon. — 3 ♀♀ ad. 10. 4. Nairobi. — 3 ♀♀ ad. 11. 4. Ngong. — 4 ♀♀ ad. 17.—18. 4. Kiambu. — 5 ♀♀ ad. 6. 6.—24. 7. Mount Elgon.

This race was one of the commonest in the grass country below the eastern slopes of Elgon.

In the series of 13 males brought home there are rather great differences, which are, however, not of the kind to justify a separation of forms, even if, at first sight, this may seem to be the right thing to do.

All the specimens from Nairobi and its environs have a number of the feathers of the red patch on the head and neck tipped with black, and although all have their backs broadly striped with brown and have thus not yet assumed the full dress, two of them had swollen testes (see Lönnberg: Birds coll. B. E. Afr. 1911, p. 103). The red band on the fore-neck varies also in shade, so that some have scarlet-red, others orange-red, etc. etc. The lower tail-feathers greyish white or brownish white in the tips.

The specimens from the Elgon regions all have the band on the fore-neck considerably broader and of a darker red. Whether this character is sufficient to name a new form or not is difficult to decide. Yet, it seems to me that this may simply be regarded as a more developed phase towards the full nuptial plumage, which also appears from the fact that the wide, brown edges to the feathers of the back and to the under tail-coverts in the Nairobi specimens (April) have almost entirely disappeared in the Elgon birds (end of May — beginning of June). In the series there is also found every desirable grade of transition from the brown (if I may so call it) to the entirely black full dress.

What at once catches the eye in these specimens is that those with the most developed plumage, and evidently the oldest,

have by no means the longest tail. Judging from my material, one might sooner assert that the opposite is true, for all the Elgon specimens, as compared with those from Nairobi, have shorter tails (compare the table below).

In proportion as the dress approaches and finally reaches the complete plumage, the light tips of the tail-feathers gradually disappear until the feathers finally become entirely black.

Wing,	tarsus,	tail,			
80 mm.	23 mm.	175 mm.	♂	Nairobi	10. 4.
79 mm.	23 mm.	160 mm.	♂	" "	" "
80 mm.	23 mm.	165 mm.	♂	" "	(swollen testes).
77 mm.	23 mm.	165 mm.	♂	" "	" "
75 mm.	23 mm.	180 mm.	♂	" "	13. 4.
79 mm.	23 mm.	160 mm.	♂	Ngong	11. 4.
80 mm.	23 mm.	190 mm.	♂	Eldoret	12. 4.
81 mm.	23 mm.	160 mm.	♂	" "	" "
76 mm.	23 mm.	180 mm.	♂	Mt. Elgon	20. 5.
77 mm.	23 mm.	135 mm.	♂	" "	" "
77 mm.	23 mm.	125 mm.	♂	" "	31. 5. (swollen testes).
79 mm.	23 mm.	150 mm.	♂	" "	2. 6.
81 mm.	23 mm.	160 mm.	♂	" "	6. 6.

One of the Elgon specimens differs also from all the others in that the red patch of the head extends on to the forehead, reaching almost to the base of the bill.

There are also great differences between the females. Both in the Nairobi country and on Elgon I have found birds with a dark-yellowish brown fore-neck, others with light or almost greyish-brown.

Wing,	tarsus,		
66—72 mm.	20—22 mm.	♀♀	Nairobi, Kiambu.
65—67 mm.	19—22 mm.	♀♀	Elgon.

Irides dark-brown; bill in ♂ black, in ♀ brownish yellow or greyish brown; legs in ♂ blackish brown-black, in ♀ dark brownish grey.

Drepanoplectes jacksoni Sharpe. — Rchw. III. p. 143.

4 ♂♂ ad. 11. 4. Ngong. — 1 ♂ ad. 20. 4. Lake Naiwasha. — 12 ♂♂ ad. 6. 5. Londiani. — 1 ♂ ad. 12. 5. Eldoret. — 3 ♂♂ ad. 11. 4. Ngong. — 9 ♂♂ ad. 6. 5. Eldoret.

Very abundant at all places visited by our expedition. Yet I never saw it on Elgon or below its slopes. Eldoret was the most northern place where the bird was observed.

As the pairing time seems to fall in the end of April and in the beginning of May, I saw time after time during these periods large flocks of both males and females passing over the grassy plains, and at Eldoret I shot 18 birds, 9 males and

9 females, out of a single flock that was flying past. Gurney (Ibis 1909 p. 489) mentions that he has seen flocks of 40—50 females, accompanied by only 7—8 males, and the same writer gives a good description of the displays of the males.

In the beautiful series of 18 males from various localities there are no noteworthy differences. One or two have on the belly a few brownish feathers in the otherwise black plumage, but these are only reminiscences of the juvenile dress.

Wing,	tarsus,	tail,	
89—92 mm.	29 mm.	165—240 mm.	♂♂ Ngong, Naiwasha.
87—93 mm.	29—39 mm.	155—220 mm.	♂♂ Londiani, Eldoret.

The females also resemble each other very closely. The dark streaks on the fore-neck and along the flanks are more strongly pronounced and closer in some than in others.

Wing,	tarsus,	
82—85 mm.	82—29 mm.	♀♀ Ngong.
81—89 mm.	29—30 mm.	♀♀ Eldoret.

Irides dark-brown; bill of ♂ bluish grey, upper mandible with blackish base, tip and edge of lower mandible light, in ♀ greyish brown — yellowish-brown; legs of ♂ black, in ♀ greyish brown.

Amadina fasciata alexandri Neum. — Bull. Br. Ornithol. Club, vol. XXIII, 1908, p. 43—44.

1 ♂ ad. 19. 8. Kisumu.

This race was found in the under-growth and brushwood bordering the shores of the Gulf of Kavirondo, in the company of other Weaver-Birds.

Wing 67 mm. tarsus 13 mm.

Irides light brown; bill greyish blue; legs dirty-yellow.

Spermestes cucullata cucullata Sw. — Rchw. III. p. 149.

1 ♂ ad. 10. 4. Nairobi. — 3 ♂♂ ad. 14. 4. Kiambu. — 1 ♂ ad. 19. 8. Kisumu.

Occurred in large flocks, about 20—30 in number, on the outskirts of the forests, where *Solanum* and other entangling plants formed dense thickets.

Of the three from Kiambu, 14. 4., which were shot out of one flock, two have distinct green-glossy spots on the flanks, while the third all but lacks these spots. On the parts where they should be found one can, however, discern darker patches, which would probably assume this green-glossy colour later on. I therefore place this individual — in spite of this slight difference — under the above race.

Wing, tarsus,
47, 48, 48 (Kisumu), 50, 51 mm. 11—13 mm.

Irides dark-brown; bill black or only upper mandible black and lower mandible bluish grey; legs greyish brown-dark lead-grey.

Spermestes nigriceps nigriceps Cass. — Rchw. III. p. 153.

3 ♂ ad. 26.—29. 4. Mombasa.

In contradistinction to the preceding race, which frequented the open places, I found this one always in the interior of the palmgroves or the forests at Mombasa. In this coast-land it was very common.

One had swollen testes, which indicates that the breeding time was at hand.

Wing 46, 47, 49 mm. tarsus 13 mm.

Irides dark-brown; bill bluish grey; legs dark-grey.

Nigrita emiliae schistacea Sharpe. — Rchw. III. p. 169.

1 ♂ ad. 17. 6. Mount Elgon, 7,000 ft.

Neumann has (Orn. Monatsber. 1898, p. 62—63) given a table of the black-fronted *Nigrita* races, and mentions, as a character for the above race, that it has the back of the head and rump much lighter than the middle part of the back. This does not, however, agree with this specimen, which is undoubtedly *N. e. schistacea*.

v. Someren (Ibis 1916, p. 621) describes the young bird and says, among other things, that "the rump is light grey", from which the character cited by Neumann should thus refer only to young birds.

The specimen before me is in full dress and has a few spots on the coverts but the rump is of nearly the same colour as the back (a few feathers, however, are lighter on the tips). The whole under surface black, and in other respects as Reichenow describes the race.

The lower wing-coverts are light greyish blue or greyish white; not white as Reichenow (op. cit.) states.

Wing, 68 m., tarsus, 18 mm.

Irides yellow; bill black; legs dark-brown.

Cryptospiza ocularis Sharpe. — Rchw. III. p. 174.

1 ♂ ad. 2. 7. 1 ♀ ad. 28. 5. Mount Elgon.

On Elgon this is a bamboo-forest bird, occurring in the most inaccessible places. It is an earth-bound creature which jumps

restlessly and briskly about among the fallen bamboo-straws, in the numerous hiding places of which it knows how to conceal itself. Once or twice I saw it fly about 10 yards or so, but then suddenly it vanished into the confusion of the plants in the dark lanes of the bamboo-kingdom. The protective colours of the plumage makes it also extremely difficult to discover. It occurs on Elgon at an altitude of 8000 to 9500 feet.

This bird has by Reichenow (op. cit.) been made a synonym of *C. reichenowi* (Hartl.), but Ogilvie-Grant (Bull. Brit. Orn. Club. 1907, p. 42) has shown that it is "a perfectly distinct species", which was described by Sharpe (Bull. Brit. Orn. Club, 1902, p. 8) from Ruwenzori. Bannermann (Ibis, 1915, p. 657) says that "the males of *C. reichenowi* and *C. ocularis* are indistinguishable". At a later date Ogilvie-Grant brought home a large serie of *ocularis* from Ruwenzori and the same writer states (Zool. Res. Ruw. Exp., 1910, p. 296) that there "it frequents the rough country below the forest-line, especially old sites of cultivation and crops of millet", Lönnberg (Birds. coll. Sw. Zool. Exp. B. E. A., 1911, p. 106) has found *Cryptospiza* in the dark forests and v. Someren (Nov. Zool., 1918, p. 281) has also met with it in the same kind of locality.

After comparing my specimens with those in the Berlin Museum I have come to the opinion that Ogilvie-Grant is quite right. Further, my specimens are exactly like others found in Berlin bearing the name of *C. ocularis* and originating from Ruwenzori and Uganda, but they also agree rather well with Lönnberg's *salvadori* specimens.

These two specimens are alike and have the head and interscapular region dark greyish olive-green. (*C. reichenowi* is much lighter) and in this they approach *C. salvadori*. Even this race is very closely related to the latter in that the male is without the red on the sides of the head. Reichenow, it is true, writes (Vogelf. Mittelafr. Seengeb., p. 333) that he has found that ♂♂ of *C. salvadori* also has red on the sides of the head, but Lönnberg (op. cit.) shot two males by the Escarpement in B. E. A., both of which were without this red patch. The male specimen has, besides, swollen testes, so that there is not the least doubt as to the correctness of the sexing.

C. ocularis differs rather sharply from *C. salvadori*, that is, in the latter the head and interscapular region are distinctly brownish green, while in the former these parts are as described above.

The chin is lighter than the other parts of the lower surface and is predominantly grey (with a pale yellowish green wash). Lower parts olive grey.

Without material for comparison the species and races of the *Cryptospiza* genus are very difficult to keep apart and I

believe that the individuals shot by v. Someren on the Uganda side of Elgon should no doubt be placed under *C. ocularis*, already known from Uganda and Ruwenzori, in spite of the fact that this writer styles them *C. salvadori* and when Dr. v. Someren saw my Elgon specimens in Nairobi he considered that they also belong to that race.

A noteworthy feature in *C. ocularis* is that the male has narrow red rings of skin-folds round the eyes. Whether these are found also in other races of this family I do not know, at least I have not found any statement in the literature on the subject and it is impossible to establish on stuffed or skinned birds.

Wing, ♂ 58 mm., ♀ 57 mm.; tarsus, 18 mm.

Irides dark-brown; bill black; legs dark brownish grey-brownish-green.

Estrilda astrild massaica Neum. — Journ. f. Ornithol., 1907. p. 596.

4 ♂♂ ad. 14.—17. 4.; 1 ♀ ad. 17. 4. Kiambu.

Very common in the Nairobi district (see also v. Someren: Ibis 1916, p. 421).

Neumann, who has described this form, says that it exactly resembles *E. a. minor* Cab. from Somaliland, Teita, Mombasa and Sanzibar, but is considerably larger, having a wing measurement of 39—43 mm., the latter 46—49 mm. But Reichenow (Vög. Afr. III. p. 181) gives the length of wing as 43—47 mm. and if the latter figures are correct, then Lönnberg (Birds coll. Sw. Zool. Exp. B. E. A. 1911, p. 106), Gurney (Ibis 1909, p. 491) and Sclater and Mackworth-Praed (Ibis 1918, p. 443) are right when they style the East African specimens *E. a. minor*. But this, according to Reichenow (op. cit.) is said to have pure white cheeks, and not a single one of my 6 individuals from Nairobi has these parts of this colour but are pale greyish brown or greyish red. Thus, even if the wing-measurements for the two races in question coincide or are very nearly equal, the two forms differ distinctly in the colour of the cheeks (which Neumann, however, has not emphasised). I am of the same opinion as v. Someren (op. cit.) that the form found in the interior differs from the coastal form and that Neumann's name should be retained for this form, though Sclater & Mackworth-Praed (op. cit.) make it a synonym of *E. a. minor*.

The last-mentioned authors mention, as a character for *E. a. minor*, that it has "white throat", and as not one of the 6 individuals before me has this feature but all have the throat of the same colour as the cheeks, I cannot call mine by this name. Both v. Someren and Prof. Neumann have seen some of my specimens which they unhesitatingly fixed as *E. a. massaica*.

Wing,	tarsus,	
46, 47, 48, 48 mm.	13—14 mm.	♂♂
47 mm.	14 mm.	♀

Irides dark-brown; bill coral-red, legs dark brownish grey-black.

Estrilda astrild nyanzae Neum. — Journ. f. Ornithol., 1907, p. 596—597.

2 ♂♂ ad. 4. 5. Londiani. — 3 ♂♂ ad. 10.—12. 5.; 2 ♀♀ ad. 12. 5. Eldoret. — 1 ♀ ad. 5. 5. Londiani.

At Eldoret and in the vicinity of this community this form of *Estrilda astrild* was very common. It was found in the vast fields covered with grass nearly the height of a man, where *Urobrachya phoenicea*, *Coliuspassei laticauda*, *Drepanoptes jacksoni* and *Nectarinia kilimensis* occurred in great abundance. On a slope I found the peculiar nest of one of these birds.

It was built on the ground, on the top of a big stone, around which tall grass-tufts grew thickly, the grass-blades growing around hiding the large pear-shaped, nest from view. The nest measured 21 cm. in length and was at the broadest place 16 cm., in the narrowest, i. e. the mouth of the entrance tube, it measured 3.5 cm. On the roof of the nest, the entrance tube of which was slightly pointing downwards, was fitted a superstructure (one might say a new nest), which was 6.5 cm. high. The roof of this superstructure sloped backwards and its walls were thin and loose. The floor was carpeted with a few feathers and snake-skins.

The nest itself, which was firm and well joined together, consisted of grass-straws and dry panicles of different kinds of grass; the whole thing looking something like this.

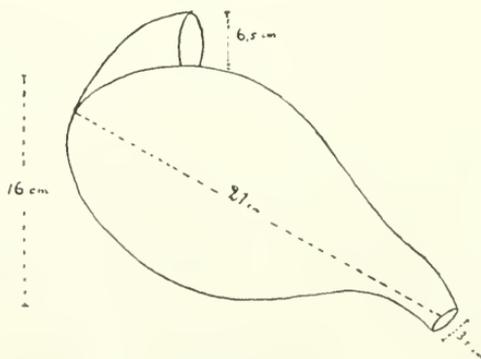


Fig. 4.

Sketch of the nest of *Estrilda astrild nyanzae*.

What that alcove or superstructure is really intended for is difficult to decide with certainty. Can it be a resting place

for the non-sitting bird or is it only to give the visitor the idea that it is the nest itself? In the latter case attention would be directed to this superstructure and the nest itself, with young or eggs, would be, perhaps, more protected from the unpleasant visits of man or beast.

Almost unnoticed the birds slipped in and out and whenever one of the parents approached the nest it suddenly dived into the grass about 5 meters from the nest and in a few moments was sitting on the eggs.

The nest contained 5 white eggs of the following measurements:

- | | |
|------------------|------------------|
| 1. 13 × 10.5 mm. | 4. 13 × 5.10 mm. |
| 2. 13 × 5.10 mm. | 5. 13 × 10 mm. |
| 3. 14 × 10 mm. | |

In form the eggs were oval without any pronounced thick or thin end. The shells of two of the eggs were extremely glossy but those of the other three dull and lustreless. Small, fine pores were spread all over the surface of the shell.

All these 6 specimens have white throats and lack the blood-red longitudinal stripe on the belly but have a more or less pronounced red tinge on the lower parts. Cheeks whitish. I have compared them with the specimens in the Berlin Museum and have come to the conclusion that they must undoubtedly be placed under the above. Besides, Prof. O. Neumann has been kind enough to examine them closely and he also considered them to belong to this form, so there can be no doubt about the matter at all. It is true, Neumann gives the wing-measurement to 46—47 mm. but, as appears from the table below, the measurements for my specimens are greater and approach those for the South Abyssinian form *E. a. peasei* Shelley, for which Neumann gives 50—53 mm., but Sclater & Mackworth-Praed give an average of 50 mm. and for *E. a. nyanzae* an average of 48 mm.

Wing,	tarsus,	
47, 47, 49, 50, 50 mm.	13—14 mm.	♂♂
48, 48, 49 mm	14 mm.	♀♀

Neumann gives the distribution of this race to the West coast of Victoria Nyanza and probably also the north and east coast of the same lake. But Sclater & Mackworth-Praed fixes it to Uganda and Belgian Congo.

Irides, bill and legs as in preceding race.

Estrilda nonnula (Hartl.). — Rchw. III. p. 188.

2 ♂♂ ad. 4. and 7. 5.; 1 ♀ ad. 4. 5. Londiani.

I saw this bird only at Londianj (there in large flocks) and in single individuals at Eldoret.

One of the male specimens has light undulating lines on the lower surface. The female is more greyish on the lower part than the males (O g. - G r a n t).

Wing ♂♂ 48, 50 mm., ♀ 48 mm. Tarsus 15 mm.

Irides dark-brown; bill black with a red streak on each side. Legs black.

Reichenow gives the distribution of this bird from Kamerun and Congo to Victoria-Nyanza. v. Someren (Ibis 1916, p. 423) has found it in various places in Uganda. Sclater & Mackworth-Præd (Ibis 1918, p. 415) have met it in the Bahr el Chazal district at Jambio, Bannerman (Ibis 1915, p. 514) says that "it ranges right across Africa".

Londiani is surely one of the few places in British East Africa where the race it met with.

Lagonosticta senegala kikuyuensis v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1919, p. 55.

L. senegalla kikuyuensis v. Someren.

1 ♀ ad. 11. 4. Ngong.

A little flock of this race was found inhabiting some gardens at Ngong, in the neighbourhood of Nairobi.

The whole of the upper parts greyish brown with a very pale red wash; the sides of the head with a somewhat deeper reddish tinge; at the base of the upper mandible carmine spots. Throat, fore-neck and breast light greyish brown with a faint red tint; breast with whitish spots; belly lighter brownish yellow; flanks greyish brown. On comparing this bird with specimens of closely allied forms I found that it mostly approaches *ruberrima* [which also v. Someren (op. cit.) points out].

Wing 47 mm. tarsus 12 mm.

Irides dark-brown, bill reddish, upper mandible with black ridge, lower mandible somewhat lighter. Legs dirty yellow.

Dr. V. G. L. van Someren, Nairobi, has been kind enough to examine and fix this specimen.

Lagonosticta rubricata hildebrandti Neum. — Orn. Monatsber. 1907, p. 167.

1 ♂ ad. 18. 4. Kiambu.

This specimen agrees completely, as regards dress, with the type-specimen from British East Africa found in the collections of the Berlin Museum.

Wing 48 mm. tarsus 15 mm.

Irides dark-brown; bill bluish black, legs brownish black.

Lagonosticta jamesoni taruensis v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1919, p. 54.

1 ♂ ad. 27. 4. Mombasa.

In the Mombasa country I saw this form a few times.

The specimen is in full dress and agrees with v. Someren's description except that the centre of the abdomen is not black, but brownish yellow with an uneven, pale red tint. Under tail-coverts are black with brown tips. No white spots on the sides of breast.

Wing 44 mm. tarsus 12 mm.

Irides dark-brown; bill bluish grey; legs black.

Neisna quartinia nyansae Neum. — Journ. f. Ornithol. 1905, p. 350.

8 ♂♂ ad. 21. 5.—15. 6.; 1 ♀ ad. 12. 6.; 1 ♂ juv. 24. 6. Mount Elgon.

On the eastern slopes of Elgon this race was very common up to 8500 ft. As a rule it was found in the bush vegetation along the small mountain streams flowing here and there. It was seen quite as often in single pairs as in small flocks of 6—10 individuals. I even saw it very often in the *Solanum* and *Convolvulus* thickets on the sunlit slopes.

Among these 9 specimens in full dress there are rather great variations in the extent of the yellow patch of the belly. In some this patch stretches on to the breast, in others it does not extend so far up.

Reichenow (Vogelf. Mittelafr. Seengeb., 1910, p. 336) throws out the suggestion that *N. q. nyansae* and *N. q. kiliensis* Sharpe are perhaps only different sexes or old dresses of one and the same form, but Grote (Journ. f. Orn. 1921, p. 129) emphasizes the difference between them and points out that the latter has a darker grey head, the back and under surface being also darker (see Ogilvie-Grant: Zool. Res. Ruw. Exp., 1910, p. 303). Grote gives the wing-length of *kiliensis* from Usambara as 41—45 mm. (in the majority of cases 43 mm.) and Neumann (op. cit.) gives 42—43 mm. for *nyansae*, but points out at the same time that his race is smaller than the former. The difference in size between these two forms (wing, total length etc.) is obviously negligible, at least judging from these figures, but they may best be distinguished by the colours. After comparing my specimens with those at the Berlin Museum, I came to the same result as Grote and therefore consider both these forms good.

My specimens from Elgon are without any doubt *nyansae* but, as appears from the following table, the measurements for

the length of wing are considerably greater than those given by Neumann and if the measurements alone were conclusive, the Elgon form could hardly be placed among the now known forms of *quartinia*, but one might then be entitled to make a new form.

Wing,	tarsus,	culmen,	
46 mm.	13 mm.	7 mm.	♂ ad.
45 mm.	13 mm.	7 mm.	♂ ad.
44 mm.	13 mm.	8 mm.	♂ ad.
46 mm.	13.5 mm.	7 mm.	♂ ad.
47 mm.	14 mm.	7.5 mm.	♂ ad.
46 mm.	14 mm.	7 mm.	♂ ad.
45 mm.	14 mm.	7 mm.	♂ ad.
47 mm.	13 mm.	7.5 mm.	♂ ad.
47 mm.	14 mm.	7 mm.	♂ ad.
42 mm.	13 mm.	7 mm.	♂ ad.

Besides, I consider there is no occasion to do so my investigations only determining the variation latitude of the *nyansae* form and show that this is quite different from what the author imagined.

Irides red (in the young bird brown); upper mandible black, lower mandible coral-red (in the young bird both upper and lower mandible black). Compare: Ogilvie-Grant, (op. cit.) Legs dark-grey-black.

Uraeginthus bengalus brunneigularis Mearns. — Smithson. Misc. Coll. vol. 56, No. 20, 1911, p. 6.

Nziilili . . . ki-kamba. — Asiro . . . ki-kavirondo. — Ndwedue . . . ki-suaheli.
1 ♂ ad. 11. 4. Ngong. — 1 ♀ ad. 17. 4. Kiambu.

There are 14 forms of *Uraeginthus bengalus* L. described. Zedlitz: J. f. O., 1911, p. 604—607; Grote: Orn. Monatsber. 1911, p. 162; Mearns: op. cit. These two specimens from the Nairobi district must be referred to *U. b. brunneigularis*, which Reichenow, however (Journ. f. Orn. 1918, p. 89), considers to be synonymous with *U. b. ugandae* Zedlitz. My opinion however, is that both these forms are good and distinct.

As Mearns (op. cit.) says, the female has the sides of the head and cheeks brown, though at the base of the lower jaw there is a narrow, blue stripe. The blue patch of the under-part is limited to the fore-neck, breast and flanks (Compare v. Somenen: Ibis, 1916, p. 425).

The male has almost the whole of the lower surface clear blue; lower tail-coverts brown.

Wing ♂ 54, ♀ 54 mm.; tarsus 14 mm.; bill 9 mm.

Irides reddish brown; bill, red — rosy-red with black edges and black tip; legs pale yellowish red.

According to Neumann (J. f. O., 1905, p. 350—351) *U. b. schoanus* described by him should be the largest of all the forms belonging to this species, the wing-measurements amounting to 53—55 mm. But this *brunneigularis* has about the same measurement.

Uraeginthus bengalus ugandae Zedlitz. — Journ. f. Ornithol., 1911, p. 606.

2 ♂♂ ad. 7. 8. Soy. — 2 ♀♀ ad. 23. 8. Kendu.

Differs from the preceding in the blue of the underparts shading more into green, and by means of the smaller measurements. Further, the centre of the under surface is entirely brownish (in the former blue), even in the male.

One of the ♂ specimens has a wing-measurement of 55 mm. and thus approaches the northern form *schoanus* Neum. but it was shot together with the others, which have a wing-length of 52 mm. In other respects they are exactly similar to each other and therefore I do not hesitate, in spite of the difference in wing-length, in placing them under *ugandae*.

The female specimens from Kendu, Lake Victoria Nyanza, are very similar to *brunneigularis* Mearns, and as v. Someren (Ibis, 1916, p. 425) gives the latter from Kisumu on Victoria Nyanza, I might be tempted to refer my specimens to that race also. But both of them have the sides of the head blue, which extends even over the eyes and thus they cannot belong to that form. It therefore seems to me to be doubtful whether this form and the one just mentioned should occur within almost the same locality. Besides, the length of the wing falls below the measurements given for *brunneigularis*.

Certainly one cannot attach too much systematical importance to the measurements of the wing, especially when it is a matter of a variation of only 1 or 2 mm., for in this case, as in so many others (Compare, e. g. *Neisna quartinia nyansae*), these sometimes vary considerably in individuals from the same locality and shot on the same day.

Wing,	tarsus,	culmen,	
52, 55 mm.	14, 15 mm.	9,5 10 mm.	♂♂.
51, 52 mm.	14, 14 mm.	10 mm.	♀♀.

Irides red-brownish red; bill red-lilac with black edges and black tip; legs brownish grey.

Uraeginthus bengalus loveni Granvik.

1 ♂ ad. 27. 4.; 2 ♀♀ ad. 27 and 29. 4. Mombasa.

The Crimson-eared Grass Finches from Mombasa cannot be placed under any of the 14 forms hitherto described of this

“form-circle”. — v. Someren describes the coastal form in the following manner (Journ. E. A. and Ug. Nat. Hist. Soc. vol. VI, No. 12, 1911, p. 258): “These birds are much bluer than birds from up-country and have the crimson earspot much more limited in size. The female have the cheeks and throat washed with blue, thus differing from *U. b. brunneigularis*.”

I agree with this description almost entirely, except that my ♂ specimen has not the red earspot larger than the other allied forms. But there is also this difference; in specimens from the coast-land (both ♂ and ♀) the upperparts are greyish, while, on the other hand, in those in the interior of the country the upperparts shade more into reddish-brown. Even the grey of the under surface is considerably lighter. Further, they seem to belong to the smallest in this “form-circle”. The females are very similar to *brunneigularis*, but are considerably paler both in the blue and greyish brown tint.

Wing in all three 40 mm., tarsus 13—14 mm., culmen 9 mm.

When compared with the Berlin Museum specimens they show a great similarity to *schoanus* Neum., but as the distribution of that form is the Soudan and the Lower White Nile, they can scarcely be placed under that name

I have named this bird in honour of the leader of our expedition, Capt. S. A. Lovén, Stockholm.

Uraeginthus ianthinogaster montana v. Someren. — Bull. Brit. Orn. Club vol. XL, 1919, p. 53.

Uraeginthus ianthinogaster Rchw. Vög. Afr. III. p. 211. — *Granatina i. ianthinogastra* Rchw. Mackworth-Praed: Ibis, 1917, p. 369. — *Granatina ianthinogaster montana* v. Someren. Bull. Brit. Orn. Club vol. XL, 1919, p. 53.

3 ♂♂ ad. 20. 4.—23. 4.; 2 ♀♀ ad. 20. 4.

In the regions of Naivasha this bird was rather common, and appeared in small flocks in the bush-country. All 5 specimens originate from the “terra typica”.

The males agree, in the main, with the author’s description, although one of them has the blue of the lower surface extending a good bit up the throat. All three have the chin, close to the base of the lower mandible, provided with blue feathers. In one of them the proximal two-thirds of all the tail-feathers are edged with blue, in the other two all except the central ones.

The females have a wide, pale lilac ring around the eyes and are in general somewhat smaller than the males.

Wing,	tarsus,	
61 mm.	17 mm.	♂.
62 mm.	18 mm.	♂.

Wing,	tarsus,	
59 mm.	17 mm.	♂.
58 mm.	17 mm.	♀.
59 mm.	17 mm.	♀.

Irides red (in ♂♂ a narrow ring of small red verruciform growths along the borders of the eye-lids); bill coral-red; legs black.

Probably owing to some printing-error v. Someren called this race *G. ianthogaster* m. It should surely be *ianthinogaster*.

Hypochera ultramarina purpurascens Rchw. —
Journ. f. Ornithol. 1883, p. 221.

Ochimbo . . . ki-kavirondo. — Gilili . . . ki-kamba.

2 ♂♂ ad. 23. 8. Kendu.

In the thorn-bush around the native community at Kendu this race occurred very sparingly. As a rule I saw it perched in the top of some little bush, either singly or in pairs.

Sclater and Mackworth-Præd (Ibis 1918, p. 448—450) have given a good exposition of the different representatives of this genus. — Both specimens are deep blue-glossy and have the inner secondaries with wide blue glossy edges. The above-mentioned authors consider this form as an intermediate between *H. v. ultramarina* and *H. f. funerea*.

After comparing it with the Berlin Museum specimens it seems to me as if this form is more allied to *H. chalybeata amauropteryx* Sharpe, but I dare not express any definite opinion, as at present I lack sufficient material for comparison.

Wing 68, 69 mm. tarsus 15 mm.

Irides dark coffee-brown; bill whitish with faint roseate blush; legs pale flesh-coloured.

Vidua serena L. — Rchw. III. p. 217.

2 ♂♂ ad. 10. 4. Nairobi, 5,500 ft. — 2 ♂♂ ad. 17. 5. and 6. 6. Mount Elgon, 7,000 ft.

In the Nairobi country, where this species was very common, I saw the male-bird's pairing displays. As they have already been observed and described by so many investigators I need not deal with them here, except to mention, that when the male saw that he was observed he would fly a little distance off and drop to the ground, where he executed and continued the dance in about the same manner as *Drepanoptectes jacksoni*, that is to say, he would rise about a metre into the air then fall to the ground. Without stopping he kept up in this way for a long

while. — On Elgon this bird almost always appeared in the company of *Urobrachya phoenicea phoenicea* and *Quelea cardinalis*. One of the Nairobi specimens has not yet assumed the full dress, but a few isolated feathers on the back are tipped with brown. The other is in full plumage. This is also the case with the Elgon specimens.

Noteworthy for the two latter is that they have entirely black legs, whereas the former have brownish grey. Whether this is constant and would possibly be a character distinguishing a possible mountain form from a highland one, I do not know. Reichenow (op. cit.) says of this species that the legs are brown or reddish brown, but Ogilvie-Grant (Zool. Res. Ruw. Exp., 1910, p. 304) mentions that specimens from Ruwenzori (3400—4000 ft.) have black legs.

Wing, tarsus,
71, 72 (Nairobi) 71, 73 mm. (Elgon). 16—17 mm.
Irides dark-brown; bill coral-red; legs (see above).

Anomalospiza imberbis Cab. — Rchw. III. p. 276.

4 ♂♂ ad. 20. 6.; 1 ♀ ad. 20. 6. Mount Elgon, 6.000—6.500 ft. — 2 ♀♀ ad. 19. 8. Kisumu. — 1 ♀ ad. 23. 8. Kondeu.

This Bishop Finch was rather common in the acacia-country and scrub below the eastern slopes of Elgon, usually appearing in large flocks. (compare v. Someren, Nov. Zool., XXV, 1918, p. 283).

Reichenow refers this genus to *Fringillidae*, but Ogilvie-Grant (Ibis, 1913, p. 573) and Zedlitz have placed it among the *Ploceidae*. — Chapin (Bull. Am. Mus. N. H., vol. XXXVII, 1917, p. 260) in his analysis of the Weaver-Birds has also come to the conclusion that the genus in question should belong to the latter family.

v. Someren (op. cit.), however, refers *Anomalospiza* to *Fringillidae*, but Sclater & Mackworth-Præd (Ibis 1918, p. 460), in consequence of Ogilvie-Grant's and Shelley's investigations, placed the genus among the *Ploceidae*.

Individuals of this genus can be very difficult to fix conclusively inasmuch as very great differences are found in specimens from the same locality and shot at the same time.

At present 3 allied species are separated:

1. *Anomalospiza imberbis* Cab.
Hab. East Africa from upper Kir to Transvaal.
2. *Anomalospiza macmillani* Bannerman.
Bull. Brit. Orn. Club, vol XXIX, 1911, p. 37—38.
Hab. Jimma, S. W. Abyssinia.
3. *Anomalospiza butleri* Scl. & M.-Præd.
Ibis, 1918, p. 460—461.
Hab. Kajo Kaji, Lado Enclave.

It seems certain to me that the male-specimens and one of the female-specimens from Elgon are rather typical *imberbis*. Three ♂♂ are almost exactly similar to each other and have the upper parts a beautiful yellow with a faint olive-green wash, giving to the upper surface a yellower colour. The whole of the lower surface is bright yellow, and two of them have dark streaks along the flanks. The fourth, on the other hand, having a more worn dress, has the upper surface dark olive-green and the wing-coverts and upper tail-coverts have outside the green edges a narrow, greyish white border.

The female specimen from Elgon differs from the three ♀♀ from Victoria Nyanza. The plumage is more worn and the brown edges to the feathers of the upper surface are for the most part already worn away, giving the whole upper-part a dark brownish black colour. The sides of the head and fore-neck, the breast and the flanks are furnished with fine, dark streaks. The superciliary stripe is brownish yellow. The lower parts pale brownish white.

As regards the females from Victoria-Nyanza, one is in fresh, full dress and differs so greatly from all the others that I should be inclined to believe that it belonged to another species. All the feathers on the upper surface are blackish brown with wide, rusty brown edgings, the superciliary stripe is also rusty brown, likewise the sides of the head. Throat faintly brownish white; fore-neck pale rusty brown, belly whitish, the flanks pale rusty brown. No dark streaks on the underparts or sides of the head. v. Someren's description (op. cit.) of the immature bird in first plumage, agrees fairly well with the dress of this individual.

Another specimen (in worn dress) is similar to the above, but all the rusty-brown patches are paler. Besides, it has a faint indication of dark spots on the left side.

The third specimen from here is in moult and in the colour of the dress approaches the Elgon specimen. Still, the upper surface is more greyish. The whole of the lower surface almost white. The superciliary stripe whitish.

Whether the rusty-brown specimens are to be considered as some special form or not I cannot at present decide, inasmuch as too little material for comparison has been at my disposal.

Wing,	tarsus,		
71 mm.	19 mm.	♂	Elgon
70 mm.	19 mm.	♂	"
68 mm.	19 mm.	♂	"
67 mm.	19 mm.	♂	"
69 mm.	18 mm.	♀	"
68 mm.	19 mm.	♀	Kisumu (reddish brown)
65 mm.	19 mm.	♀	"
66 mm.	18 mm.	♀	Kendu (greyish white)

Irides dark-brown; bill in ♂ black (basal part of lower mandible sometimes lighter); in ♀ upper mandible brownish-grey — dark-grey; lower mandible yellowish brown (sometimes with dark tip); legs dark grey.

Fringillidae.

Passer griseus ugandae Rchw. — Rchw. III. p. 230.

Passer diffusus Smith. — Og.-Grant: Zool. Res. Ruw. Exp., 1910, p. 304.

Rabang . . . ki-kavirondo.

3 ♂♂ ad. 18.—22. 8. Kendu.

Very common in the Kendu country. All three specimens are in moult. Zedlitz (Journ. f. Orn., 1911, p. 36) has fixed the range of *P. g. suahelicus* Rchw. to German East Africa, Victoria Lake to Sambesi and of *P. g. ugandae* Rchw. to the Central Provinces. Sclater & Mackworth-Praed (Ibis 1918, p. 472) say, on the contrary, that the former occurs in German East Africa and Nyasaland, north along the coast to Lamu in British East Africa, where it occurs side by side with *P. gongonensis* Oust. The range of the latter they fix to Uganda. One should then mostly expect on the eastern shores of Lake Victoria to find the former, but all these specimens have the back deep reddish brown and are thus undoubtedly *ugandae*.

Wing 85, 87, 87 mm., tarsus 19—20.

Irides brownish red; bill black; legs brownish grey.

Passer rufocinctus Fschr. & Rchw. — Rchw. III. p. 241.

1 ♂ ad. 19. 9. Kiambu.

By a little stream in the neighbourhood of Nairobi a little flock of 5 individuals was met with.

Agrees with Reichenow's description except that the lower wing-coverts are not white but grey, with a faint wash of ochre-yellow.

Wing 77 mm. tarsus 20 mm.

Irides whitish yellow; bill black; legs dark greyish brown.

Passer (Sorella) emini-bey Hartl. — Rchw. III. p. 248.

Sorella emini-bey. Hartl.: Journ. f. Orn. 1880, p. 211. — *Sorella emini* Hartl. Neumann: Journ. f. Orn., 1900, p. 287. — Gurney: Ibis, 1909, p. 493. — *Auripasser emini* (Hartl.) — Lönnberg: Kongl. Sv. Vet. Akad. Handl., Bd. 47, No. 5, p. 109. — Reichenow: Vög. Afr. III, p. 248. — *Passer (Sorella) emini-bey* Hartl. Sclater & M.-Praed: Ibis, 1918, p. 470.

1 ♂ ad. 19. 8.; 1 ♀ ad. 19. 8. Kisumu.

Out among the papyrus reeds, which in certain places border the shores of Victoria Nyanza, there grew here and there small thickets of shrub and trees, where at this time of the year there was a rich bird-life. Among the numerous species of small birds shot here, even this bird was found, although it did not occur very commonly.

The male is in full dress (somewhat worn) and agree with Reichenow's description.

The female specimen is also in full dress and the upper tail coverts are greyish brown (vide Reichenow).

Wing,	tarsus,	
61 mm.	16 mm.	♂
59 mm.	15 mm.	♀

Irides in ♂ dark-yellow, in ♀ brown; bill in ♂ black, in ♀ dark-grey (lower mandible somewhat lighter); legs in ♂ brownish grey, in ♀ grey.

Serinus angolensis reichenowi Salvad. — Rchw. III. p. 254.

Poliospiza reichenowi Salvad. Reichenow: op. cit. — v. Someren: Ibis, 1916, p. 428. — *Serinus angolensis reichenowi* Salvad. Zedlitz: Orn. Monatsber., 1912, p. 75; Journ. f. Orn., 1916, p. 46.

2 ♂♂ ad. 23. 4. Lake Naiwasha.

Zedlitz has in the above-named work dealt with the systematisation of the races of *Serinus angolensis* in a worthy manner, and in the Journ. f. Ornith., 1916, pp. 45—46, he has separated 7 allied forms.

With reference to *S. a. reichenowi* he says (Orn. Monatsber. 1912, p. 75) that specimens from British East Africa have a strong bill exactly like typical specimens from Abessynia.

At Lake Naiwasha this race was very common and occurred in the outskirts of the woods, which grew right down to the water. Both specimens are in rather worn dresses and in one the light tips of the rectrices are therefore almost worn away. In the other the tips are not pure white but greyish white, but in other respects they agree with Zedlitz's diagnosis.

Wing 67, 69 mm., tarsus 13, 14 mm.

Irides dark-brown; bill greyish-brown; legs brownish yellow.

Serinus striolatus affinis Richm. — The Auk, 1897, p. 156—157.

Crithagra striolata affinis Richm. Richm.: The Auk., 1897, p. 156. — *Poliospiza striolata affinis* Richm. v. Someren: Ibis, 1916, p. 428. Nov. Zool. XXV, 1918, p. 282. — *Serinus striolatus affinis* Richm. Hartert: Bull. Brit. Club, vol. XIX, 1907, p. 84. — *Poliospiza striolata* Rüpp. Grote: Journ. f. Orn., 1921, p. 129.

1 ♂ ad. 11. 4. Ngong. — 1 ♂ ad. 24. 4. Kikuyu. — 2 ♂♂ ad. 19. 9. Kiambu. — 1 ♀ ad. 11. 4. Ngong. — 1 ♀ ad. 24. 4. Kiambu. — 1 ♀ ad. 5. 5. Londiani

At the above-mentioned places this race was very common in the scrub-country.

Hartert (Bull. Brit. Orn. Club., vol. XIX, 1907, p. 84) has described a form from Ruwenzori, *S. s. graueri*, and says of *S. s. affinis* Richm., that it is "with difficulty, if at all distinguishable from *S. s. striolatus* (Rüpp.)" I have not been in a position to examine any specimen of *S. s. striolatus* and am therefore unable to express any opinion thereof.

Reichenow (Vög. Afr. III. p. 257) however, makes *S. s. affinis* Richm. a synonym of *S. s. striolatus* (Rüpp), and Neumann (Journ. f. Orn., 1905 p. 353) says that specimens from Kilima-Ndjaru agree well with others from Njam-njam, whence he considers *S. s. affinis* Richm. to be identical with *S. s. striolatus*. Jackson (Ibis, 1910, p. 560) calls his specimens from Ruwenzori *Poliospiza striolata*, at the same time making it a synonym of Richmond's form, exactly as Reichenow has done. Grant (Zool. Res. Ruw. Exp. 1910, p. 305), however, names specimens from Ruwenzori *S. graueri* Hart. and probably Jackson's specimens belong to this form. v. Someren (Ibis, 1916, p. 428) styles the Nairobi specimens *S. s. affinis* and no doubt they are to be considered as good ones.

Thus, of this bird the following forms have been separated:

1. *Serinus striolatus striolatus* (Rüpp.).
Hab. Abyssina.
2. *Serinus striolatus affinis* Richm.
Hab. British & German East Africa.
3. *Serinus striolatus graueri* Hartert.
Hab. Ruwenzori.
4. *Serinus striolatus pachyrhynchus* Reichenow.
Orn. Monatsber., 1905, p. 146.
Hab. South Somali (Damaso in Garre Liwin).
5. *Serinus striolatus ugandae* v. Someren.
Bull. Brit. Orn. Club, vol. XLI, 1921, p. 114.
Hab. Mt Elgon, up to the heath zone, and South Ankola.

All my 7 specimens are light brownish white on the under surface. Two specimens are all but greyish white. The black streaks on the chest fairly broad. The throat and fore-neck in some garnished with numerous citron-yellow feathers (in one individual such feathers are found all over the underparts).

The upper surface, as a rule, shading into dark-brown (sometimes with a greyish wash). Male and female alike.

Wing,	tarsus,	
66, 68, 71, 71 mm.	20, 22 mm.	♂♂
71, 71, 71 mm.	21 mm.	♀♀

Irides dark-brown; bill brownish grey (lower mandible lighter); legs dark brownish yellow — dark greyish brown.

Serinus striolatus ugandae v. Someren. — Bull. Brit. Orn. Club, vol. XLI, 1921, p. 114.

5 ♂♂ ad. 27. 6.—1. 8.; 3 ♀♀ ad. 26. 6.—27. 6. Mount Elgon, 9000—13,500 ft.

On the eastern slopes of Mount Elgon this bird was common from 9000 ft. up to the highest regions. I have seen it practically everywhere from 9000 ft. on the outskirts of the forests, on the shrub clad slopes, in the bamboo-forests, in the *Erica* wood and even in the tall *Senecios*, which grew around the water-lake at an altitude of 13,500 feet. It thus seems to be a pronounced alpine bird, which goes considerably above the limits of the trees.

Generally it appeared singly, but sometimes it occurred in flocks of about 10—12 individuals.

It is very easy to distinguish from *S. s. affinis* by means of the considerably darker under surface, which is distinctly brown [yet according to v. Someren (op. cit.) not so dark as in *S. s. graueri*]. Besides, the blackish streaks on the chest are narrower than in the latter. The yellow feathers on the chin and fore-neck, found in all my specimens of *S. s. affinis*, are, as a rule missing in this form, or are only slightly indicated, and have not, at any rate, the bright, yellow colour as in that race, but are pale yellowish green.

v. Someren calls his specimens from West-Elgon (Nov. Zool, XXV, 1918, p. 282) *S. s. affinis*. But undoubtedly they are *S. s. ugandae*, although the author had not yet a clear opinion with reference to the difference between these two forms.

Wing,	tarsus,	
66, 68, 69, 70, 72 mm.	21—22 mm.	♂♂.
65, 68, 68 mm.	21—22 mm.	♀♀.

Irides, bill and legs as in the preceding.

Serinus striolatus affinis Richm. \sum *ugandae* v. Someren.

2 ♂♂ ad. 7. 5.; 1 ♀ ad. 7. 5. N. W. of Londiani, 8,700 ft.

These three specimens were shot about two days' march north-east of Londiani (on the road to Eldoret). They are intermediate (so-called subtile) forms between the two last-mentioned.

According to Richmond (The Auk 1897, p. 157) *S. s. affinis* is found from 5,000—7,000 ft., and according to my own observations *S. s. ugandae* is an alpine form, whence the specimens found at 8,700 ft. in an area which lies between the limits of these two altitudes, are intermediate between the preceding forms.

One of the specimens reminds one of *S. s. ugandae*, the streaks on the chest being narrow and having the colour of the under surface almost as brown as in that form (darker than in *S. s. affinis*). It reminds one of the latter, in having the same small, yellow feathers on the chin and fore-neck.

The other two have broad streaks on the chest and thus approach *S. s. affinis*, but the underpart is nearly as brown as that of *S. s. ugandae*, and they also lack the yellow feathers on the chin and fore-neck.

Wing,	tarsus,
72, 72, 72 mm.	21 mm.

Serinus albifrons albifrons Sharpe. — *Rehw.* III, p. 257.

Poliospiza albifrons (Sharpe). — Lönnberg: *Kongl. Sv. Vet. Handl.* Bd. 47, No. 5, 1911, p. 110. — v. Someren: *Nov. Zool.* XXV, 1918, p. 282.

1 ♂ ad. 17. 4. Kiambu.

This single specimen, procured from the Kikuyu country, is a typical *albifrons*, white on the forehead. Lönnberg (*Birds coll. Sw. Zool. Exp. B. E. A.* 1911, p. 110) mentions that the birds he brought home from the Escarpement had a wing-length of: ♂ 83 mm., ♀ 82 mm., and he adds that the difference in wing-measurement between this race and *S. a. kilimensis* Richm. is not great. This statement is fully confirmed by comparing the table of measurements given below.

Wing,	tarsus,	culmen,
85 mm.	20 mm.	16 mm.

Irides brownish red; upper mandible dark-brown, lower mandible yellowish white; legs brownish green.

Serinus albifrons kilimensis Richm. — *The Auk* 1897, p. 155.

Chritagna kilimensis Richm. — *The Auk* 1897, p. 155. — *Serinus kilimensis* (Richm.). — Grant: *Proc. Zool. Soc. London* 1910, p. 306. — *Poliospiza kilimensis* (Richm.). — Reichenow: *Vogelf. Mittelafr.* Seengeb. 1912, p. 337.

7 ♂♂ ad. 20. 5.—26. 6.; 3 ♀♀ ad. 21. 5.—6. 7.; 1 ♂ juv. 6. 6.
Mount Elgon, 6,500 ft.

On the eastern slopes of Elgon this race was very common and I met it most commonly in the glades and on the outskirts of the forests, or in the trees growing in the neighbourhood of the mountain streams, especially where they ran down the more or less bare slopes.

Reichenow (*Vogelf. Mittelafr.* Seengeb. 1912, p. 337) considers that this form coincides with *albifrons* and he says: "that a distinct form (*albifrons*), having a white forehead band, should occur in Kikuyu seems to me very improbable and I am

more inclined to take the forehead-band as an individual character." — Yet, Lönnberg had already in 1911 plainly pointed out the difference between the Kikuyu form and the Kilimanjaro form; and Grant (Zool. Res. Ruw. Exp. 1910, p. 306—307) has also emphasised the distinctive features of these two forms.

Of the 10 full-grown individuals brought home from Elgon, 7 of them have entirely brownish black foreheads, while 3 have, just above the nostrils, a few, very small greyish white feathers. Still, no indications whatever of forehead band. Therefore it should be quite certain that Kilima-Ndjaro, Elgon, Mau-Escarpment, Nandi-Eldoma Ravine and Ruwenzori specimens are to be looked upon as belonging to a different form from that occurring in the Kikuyu country.

The difference in the length of wing is surely not of much value, as the following table shows.

Wing,	tarsus,	culmen,	
90 mm.	21 mm.	17 mm.	♂.
86 mm.	21 mm.	18 mm.	♂.
88 mm.	22 mm.	17 mm.	♂.
88 mm.	21 mm.	17 mm.	♂.
87 mm.	20 mm.	16 mm.	♂.
91 mm.	20 mm.	17 mm.	♂.
97 mm.	21 mm.	17 mm.	♂.
86 mm.	20 mm.	18 mm.	♀.
86 mm.	21 mm.	17 mm.	♀.
85 mm.	21 mm.	17 mm.	♀.

However, there is another difference between *albifrons* and *kilimensis*, which I found in all the specimens I have examined. In the former the bill is considerably narrower at the base than in the latter.

The incomplete plumage of the young bird differs greatly from the adult and reminds one much of *albifrons*, inasmuch as the forehead is entirely white. The adult specimens that one sometimes finds with small, insignificant, whitish feathers at the base of the bill, are such as have not yet assumed the distinctive character of the full dress.

Irides, bill and legs as in the preceding.

In the Berlin Museum collections there are 6 individuals from Tanganjika, all of which lack the white forehead band. It appeared also as if most of them had a smaller bill than my specimens. Reichenow styles them: *tanganjicae*.

Serinus flavivertex flavivertex (Blanf.). — Rchw. III. p. 264.

1 ♂ ad. 26. 6.; 1 ♂ juv. 26. 6.; 2 ♀♀ ad. 26. 6.; 1 ♀ juv. 26. 6.
Mount Elgon, 9,000 ft.

Occurred on the eastern slopes of Elgon in large flocks, consisting of hundreds of individuals.

The specimens from here differ from others I have seen in not having the forehead, sides of head, lower surface and upper tail-coverts yellow (mostly green). Besides, the wings and tail are blackish brown, darker than in the type specimen. Whether the characters are constant for the Elgon specimens or those occurring in East Africa, and they thus belong to a separate form, I cannot at present decide, although it seems very probable, as all my specimens are alike.

Wing, ♂♂: ad. 79 mm., juv. 77 mm.

♀♀: ad. 77 mm., juv. 75, 76 mm.

Tarsus 14—15 mm.

Irides dark-brown; bill and legs dark-grey.

Prof. O. Neumann has recently (Orn. Monatsber., 1922, p. 13) described a new allied form: *sassii*, from Tschingogo forests, which has a yellow tail. In Stockholm there is one ♀ specimen brought home from Kilimandjaro by Sjöstedt, which agrees very well with mine in being predominantly green, while specimens from Abyssinia and the northern regions, on the other hand, are more yellowish.

Serinus sulphuratus sharpei Neum. — Rchw. III. p. 266.

Serinus shelleyi Neum. — Orn. Monatsber., 1903, p. 184.

1 ♂ ad. 22. 4. Lake Naiwasha.

This race was rather rare in the acacia-country round the shore of Lake Naiwasha.

v. Someren (Ibis, 1916, p. 429 and Nov. Zool. XXV, 1918, p. 272) calls his specimen from both British Africa and Uganda: *Serinus shelleyi* Neum. and in the former work he makes it a synonym of *S. sharpei*. — Reichenow (op. cit.), however, considers *S. shelleyi* to be a synonym of adult ♂♂ of *S. s. sharpei*. Grant (Zool. Res. Ruw. Exp., 1910, p. 308) says that "*S. s. shelleyi* must be regarded as synonymous with *S. sharpei*, or else a very slightly smaller race."

In the original description Neumann says that this form is closely allied to *S. sulphuratus* from South Africa, but smaller: total length 160 mm. Reichenow (op. cit.), however, gives 150—160 mm. as the total length for *S. sulphuratus*, and in that case the difference in size should be nothing at all. But for *S. sharpei* Reichenow gives 140—150 mm., which does not agree, it is true, with the measurement figure of the original description, but by this alteration Neumann's statement of the difference in size will be correct.

The specimen is in full dress and has a total length of 150 mm., wing 80 mm., tarsus 18 mm.

Irides dark-brown; bill light greyish brown; legs dark-brown.

Serinus dorsostratus dorsostratus Rchw. — Rchw. III. p. 268.

2 ♂♂ ad. 18. 9. Kisumu.

Zedlitz has (Journ. f. Orn., 1916, p. 47) established three forms belonging to the *dorsostratus* group:

1. *S. d. dorsostratus* Rchw. — German East Africa and Brit. E. Africa.
2. *S. d. harterti* Zedlitz. — South Somaliland.
3. *S. d. maculicollis* Sharpe. — North Somali, Galla.

The two specimens from Kisumu on Victoria Nyanza are typical *S. d. dorsostratus*. This form was very common at this place, and was met with in small flocks in the scrub-country down on the shores as well as further in the country. Both of them have very worn dresses and the lower surface, together with the under tail-coverts, are in one of them uniform yellow, but in the other the centre of the belly and under tail-coverts are yellowish white.

Zedlitz (op. cit.) gives the length of the wing for this form as: ♂♂ 75—79 mm., ♀♀ 72—77 mm., but states that one ♂ specimen collected by Neumann in N. W. Abyssinia has only 72 mm.

These two have a wing-measurement of 71—73 mm., tarsus 16 mm.

Irides dark-brown; bill and legs dark-grey.

Serinus mozambicus barbatus (Heugl.) — Rchw. III. p. 271.

Serinus icterus barbatus (Heugl.). Neumann: Journ. f. Orn., 1905, p. 354. — Reichenow: Vogelf. Mittelafr. Seengeb. 1912, p. 338. — v. Someren: Ibis 1916, p. 429. — Zedlitz: J. f. Orn., 1911, p. 41.

1 ♂ ad. 14. 5. Soy.

This specimen was shot by a little brook flowing through the acacia-country, in the vicinity of Soy.

The underparts are bright yellow with a green wash along the flanks; under tail-coverts yellow. The upper surface greenish with a pale grey wash.

Sclater & Mackworth-Praed (Ibis, 1918, p. 464—467) have separated 6 forms belonging to this group, at the same time giving a detailed and exact description of the characters and distribution of each one of them. Neumann (Journ. f. Orn., 1905, p. 354) gives the wing-measurements for this form as 63—66 mm., but this individual has a wing-length amounting to 70 mm.; tarsus 15 mm. In spite of this difference in the length of wing I place it without hesitation under the above-named form, and it agrees perfectly with specimens in the Berlin Museum collections in other respects.

Irides dark-brown; bill greyish brown; legs dark-brown.

Serinus pseudobarbatus v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1919 p. 56.

Mbalia . . . ki-kamba.

1 ♂ ad. 27. 7. Soy. — 1 ♀ ad. 3. 7. Mount Elgon, 6500 ft.

Of this new bird two specimens were procured, both of which were shot in the acacia-country. Dr. van Someren, who has seen both specimens, declared that they belonged to the species recently described by him.

I agree with v. Someren (Bull. Brit. Orn. Club, vol. XL, 1919, p. 54) that this race is very similar to *S. mozambicus barbatus* and one might be much inclined to consider it only as a paler form, very closely allied to it, and in any case belonging to the *mozambicus* group. However, as I have not had any material for comparison at my disposal I cannot go more closely into the matter, but let my specimens retain the above name for the present. With reference to the colours of the plumage, they agree with the author's description. The male, however, has a 2 cm. wide band of white feathers at the base of the lower mandible. The female has the throat white. The female is also distinctly grey on the upper surface, whereas the male is greenish grey. But they are not — according to the description — larger than *S. mozambicus barbatus*, but, on the contrary, smaller, nor have they "the bill much larger". Some measurement figures of the latter would be of use and an explanation of what is meant by "much larger".

The following table will illustrate the relation between these two specimens and the *S. mozambicus barbatus*.

Tot. l. in. f.,	wing,	culmen,	tarsus,	
110 mm.	66 mm.	11 mm.	15 mm.	<i>S. pseudob.</i> ♂
105 mm.	67 mm.	9—5 mm.	14 mm.	♀
115 mm.	70 mm.	10 mm.	15 mm.	<i>S. m. barb.</i> ♂

In both male and female of *pseudobarbatus* the malar-stripe is also not so pronounced nor so large as in *S. m. barbatus*; in the former about 5—6 mm. long, in the latter 9. mm.

Irides, bill and legs as in the preceding.

Spinus citrinelloides kikuyuensis Neum. —

Journ. f. Ornith., 1905, p. 356.

1 ♂ ad. 17. 4; 1 ♀ ad. 17. 4. Kimbu.

Both specimens of this bird are in full dress and agree with Neumann's careful and detailed description (op. cit.).

Wing ♂ 67 mm., ♀ 65 mm.; tarsus 14 mm.

Irides dark-brown; bill brownish grey; legs dark-brown.

Emberiza flaviventris flaviventris Steph. — Rchw. III. p. 274.

2 ♂♂ ad. 3. 6., 8. 6. Mount Elgon 6500 ft.

Occurred sparingly on the eastern slopes of Mount Elgon. Frequents the scrub and acacia-clad regions where it most frequently associates with the Serin Finches, but is much shyer.

Both specimens are in full plumage and one has the feathers of the back uniform reddish brown, the other very dark reddish brown with lighter edges. Reichenow states (op. cit.) that the outermost tail-feathers are white on the outer web. In these two Elgon specimens the outer-web is one-third white in the central, one-third black in the other two-thirds but the distal two-thirds of the innerweb is white.

Wing, 81 85 mm. tarsus 18 mm.

Irides dark-brown; upper mandible dark-drey, lower mandible brownish red with black tip; legs yellowish brown (sometimes with a grey tint).

Motacillidae.

Motacilla vidua Sund. — Rchw. III. p. 296.

Nzozoo . . . ki-kamba. — Wageni . . . ki-suaheli.

1 ♂ ad. 23. 4. Lake Naiwasha. — 1 ♂ ad. 26. 7. Soy. — 1 ♂ juv. 6. 5. Londiani. — 1 ♂ ad. 18. 8. Kisumu. — 2 ♀♀ ad. 15. 5., 26. 7. Soy.

At no place through which our expedition passed has this race been common. I did not observe the bird on the eastern slopes of Elgon, but the most northern place I met with it was Soy.

Reichenow (op. cit.) writes that the two outer rectrices are white with black inner-web. In all my specimens the outer rectrices are entirely white, the second black on the inner part of the inner-web.

The young bird from Londiani is, as Reichenow points out, greyish brown on the upper part, but the one from Kismu is dark-grey (also the head).

Wing,	tarsus,	
97 mm.	26 mm.	♂ Naiwasha.
97 mm.	26 mm.	♂ Soy.
90 mm.	25 mm.	♂ Kismu.
89 mm.	24 mm.	♂ juv. Londiani.
90, 91 mm.	24 mm.	♀♀ Soy.

The females appear in general to be somewhat smaller than the males, but otherwise there is no difference between the sexes.

Irides dark-brown; bill and legs black.

Motacilla longicauda Rüpp. — Rchw. III. p. 301.

Motacilla clara Sharpe: Ibis 1908, p. 341.

2 ♂♂ ad. 13. 6.; 2 ♀♀ ad. 13. 6., 4. 7. Mount Elgon 6500 ft.

Sparingly met with by the mountain streams on the eastern slopes of Elgon; and according to Neumann (Journ. f. Orn. 1906, p. 230) it lives at an altitude of 1.800—2.600 feet.

On the 6. 6. I found a nest of one of these birds in a little hut by a little stream. It was built on a thick beam about 2 m. above the ground and consisted entirely of dry grass blades, lined with a few feathers, and resembled very much a nest of *Motacilla alba alba*. When first seen it contained one egg of the same size, form and colour as the last-mentioned bird. When I returned to the place two days later the nest was gone.

Wing,	tarsus,	
78, 80 mm.	21, 22 mm.	♂♂.
77, 78 mm.	21 mm.	♀♀.

Irides dark-brown; bill black, legs dark brownish grey — leaden grey.

Motacilla flava campestris Pall. — Rchw. III. p. 306.

1 ♀ ad. 19. 9. Kiambu.

A flock of this race was found in the vicinity of Nairobi. Undoubtedly migratory birds, that had already arrived in their winter quarters.

This specimen is only slightly yellow on the head (more greenish). Back greyish olive-green.

Wing 80 mm.; tarsus 23 mm.

Irides dark-brown; bill brownish black, lower mandible greyish blue at the base; legs black.

Anthus rufulus raalteni Lay. — Rchw. III. p. 313.

Anthus rufulus cinnamomeus Rüpp. — Lönningberg: Kongl. Sv. Vet. Akad. Handl., Bd. 47, No. 5, 1911, p. 112. — v. Someren: Ibis 1916, p. 342. — Reichenow: op. cit.; Vogelf. d. Mittelafr. Seengeb., 1912, p. 340. — *Anthus rufulus* Vieill. Gurney: Ibis 1909, p. 296.

Mbora . . . ki-kavirondo. — Mokica . . . ki-kamba.

2 ♂♂ ad. 11. 4. Ngong. — 3 ♂♂ ad. 23. 4. Lake Naiwasha. — 3 ♂♂ ad. 28. 5., 22. 6., 27. 6. Mount Elgon 6500—11.000 ft. — 1 ♂ ad. 7. 8. Eldoret. — 2 ♂♂ ad. 21. 8., 23. 8. Kendu. — 3 ♀♀ ad. 20. 4., 23. 4. Lake Naiwasha. — 1 ♀ ad. 26. 5. Mount Elgon. — 1 ♀ ad. 26. 7. Soy. — 2 ♀♀ ad. 21. 8., 28. 8. Kendu. — 1 ♂ juv. 16. 7. Mount Elgon.

This Pipit was one of the commonest small birds at every place we visited. It occurred as a rule at an altitude of 6.000—8.000 feet, but on our journey to the summit of Elgon, Director

S. Lovén shot a specimen at 11,000 feet. On the slopes it was common up to 8,000 ft.

The various forms of the *Anthus rufulus* group and their distribution was first studied carefully by Neumann (Journ. f. Orn. 1906, p. 231—232). He came to the conclusion that there are 5 forms, of which, the one occurring in South and East Africa is *A. r. cinnamomeus* Rüpp. This form is characterised by the upper surface having a reddish tint, which is especially marked on the back and rump. Besides, the outer-web of the primaries is broadly edged with reddish brown. Zedlitz (Journ. f. Orn. 1911, p. 47 and J. f. O. 1916, p. 52—53) shares Neumann's views entirely; but Lönnberg (Birds coll. Sw. Zool. Exp. B. E. A. 1911, p. 112) and v. Someren (Ibis 1916, p. 232) seem to be of another opinion, inasmuch as both of them name their east African specimens *A. r. cinnamomeus*, however, without either describing the specimens [procured or stating the reasons for their point of view.

In the series of 19 individuals brought home from various localities and shot at different times there are certainly rather great variations, but having compared them with the rich collections in the Berlin Museum I have arrived at the same result as Neumann and Zedlitz.

The measurements for the length of wing for Ruppell's type specimens of *A. r. cinnamomeus* are, according to Neumann, 94 mm. for ♂ and 84 mm. for ♀, and Neumann's own ♂ specimens from Adis Abeba and Gadat (Schoa) are 90 and 93 mm. This author therefore probably arrives, at the correct result when he says that South and East African specimens are, as a rule, smaller in these measurements than North East African.

The respective measurements of the specimens in this series are as follows:

Wing,	tarsus,	
81, 83, 86, 87, 88 mm.	26—27 mm.	♂♂ Ngong, Naiwasha.
86, 86, 90, 92 mm.	26—27 mm.	♂♂ Elgon, Eldoret.
85, 86 mm.	26—27 mm.	♂♂ Kendu.
84, 85, 90 mm.	26—27 mm.	♀♀ Naiwasha.
86, 82 mm.	27 mm.	♀♀ Elgon, Soy.
84, 90 mm.	26—27 mm.	♀♀ Kendu.

From the above table it appears that the wing-measurement is, as a rule, below 90 mm. (three, it is true, have 90 mm. and one 92 mm.) and thus smaller than the North-east African, and therefore even for that reason I agree with Neumann's opinion that the East African is a different form from the North African.

As regards the difference in colour, Neumann also seems to be right, for not a single one of the 19 has a reddish tint

on the upperparts. All the specimens from Ngong and Lake Naiwasha have a more or less worn and faded dress. The upper surface is greyish brownish (in those not having the brownish edges of the feathers abraded it shades more into brownish yellow); in all of them the throat is white, and the underparts faintly brownish white, sometimes greyish white. The under tail-coverts faintly whitish brown or whitish.

The specimens from the Elgon regions are considerably unlike those just described from the Kikuyu country. The upperparts of these birds are more brownish, almost shading into a pale rusty-brown colour — yet without any reddish wash — and they thus resemble more the North-east African *cinnamomeus* in colour. The throat is whitish yellowish, and the lower surface is also light cinnamon-brown; under tail-coverts in all specimens brownish yellow or pale cinnamon-brown.

Whether this rather great difference between more southern and northern East Africans is to be ascribed to individual variations owing to a less worn and faded dress or whether it is to be considered as characteristic for a more northern form may be considered as doubtful. I consider that only the first-mentioned can be taken into consideration. For specimens, shot in the end of August at Kendu, Victoria Nyanza, which again have the plumage worn and faded, resemble those from April, shot in the Kikuyu country.

The young bird agrees with the description given by Reichenow (op. cit.).

Irides dark-brown. Upper mandible dark-brown, lower mandible brownish yellow with dark tip; legs brownish yellow.

Anthus sordidus longirostris Neum. — Orn. Monatsber.
1905, p. 77.

Anthus nicholsoni longirostris Neum.: Journ. f. Orn. 1906, p. 232. — *Anthus nicholsoni* Sharpe. Reichenow: Vög. Afr. III, p. 316.

2 ♂♂ ad. 22. 4., 23. 4. Lake Naiwasha.

At Lake Naiwasha this race occurred less common.

According to Sclater & Mackworth-Praed (Ibis 1918, p. 615) Hartert (Nov. Zool. XXIV, p. 457) has shown that the old name *nicholsoni* must be replaced with *sordidus*. Reichenow (Vög. Afr. III, p. 839) considers this form of Neumann synonymous with *A. s. sordidus*, occurring in South Africa, and strictly speaking, the differences between that form and *A. s. longirostris* are very slight.

One of the specimens is in moult, the other has assumed the new dress. Both agree very well with Neumann's description and have the following measurements:

Wing,	culmen,	tarsus,
100 mm.	17 mm.	27 mm.
100 mm.	18 mm.	26 mm.

Irides, bill and legs as in the preceding.

Anthus leucophrys leucophrys Vieill. — Rchw. III. p. 316.

Motongoto . . . ki-kamba.

3 ♂♂ ad. 9. 5., 7. 8. Eldoret. — 2 ♂♂ ad. 26. 7. Soy. — 1 ♀ ad. 24. 7.
Mount Elgon. — 1 ♀ 26. 7. Soy. — 2 ♀♀ 7. 8. Eldoret.

This race was common in the districts of Eldoret and Soy, where it occurred in the company of *Anthus rufulus raalteni* and I saw it, as a rule, in pairs but occasionally 3 or 4 together on the high ways. Only on one occasion did I see it on the slopes of Elgon.

It is no easy task to determine where these 9 specimens should be correctly placed. Neumann (Journ. f. Orn. 1906, p. 234—237) has separated not less than 9 allied forms, of which 5 are for the first time described by him and Zedlitz (Journ. f. Orn. 1911, p. 48) cites them after Neumann. Sclater & Mackworth-Praed (Ibis 1918, p. 614) say: "we have come to the conclusion that the list of races given by Zedlitz (J. f. O. 1911, p. 48) is correct", although Reichenow (Journ. f. Orn. 1918, p. 91) considers *Anthus leucophrys angolensis* a synonym of *A. l. leucophrys* Vieill. and (according to Grant: Ibis 1913, p. 587) *Anthus omoensis* synonymous with *A. l. sordidus* Rüpp.

We have thus, according to Reichenow, to include 7 races. But as Sclater & Mackworth-Praed (op. cit.) have specimens of *A. l. vaalensis* from the Cape and Natal (from the same area as *A. l. leucophrys*) they consider that this race should be separated as a special one. In this way there remain only the following six:

1. *Anthus leucophrys leucophrys* Vieill.
South Africa: the Cape, Natal, Angola, eastwards to Nyanza district and the Massai countries of Kilima-Ndjaru Colony (Neum.), Kenia Colony (Granvik).
2. *Anthus l. zenkeri* Neum.
Hab. Cameroon.
3. *Anthus l. bohndorffi* Neum.
Hab. Upper Cónago.
4. *Anthus l. sordidus* Rüpp.
Hab. North-east Africa: Erythraea, Schoa.
5. *Anthus l. saphiori* Neum.
Hab. Harar Mountains.
6. *Anthus l. gouldi* Fras.
Hab. Gambia to the Niger (Neumann). — Soudan (Sclater & Mackworth-Praed).

My specimens should belong to one of the three last-mentioned forms. All of them (except the Elgon specimen) were shot within a little, limited area and should therefore no doubt belong to the same form. The table below, however, shows the great variations in the measurements:

Wing,	culmen,	tarsus,			
91 mm.	14 mm.	28 mm.	♂	9. 5.	Eldoret (light, worn dress).
101 mm.	14 mm.	29 mm.	♂	9. 5.	Eldoret (in moult).
99 mm.	15 mm.	30 mm.	♂	26. 7.	Soy (in moult).
103 mm.	15 mm.	30 mm.	♂	26. 7.	Soy (in fresh plumage).
90 mm.	14 mm.	26 mm.	♂	7. 8.	Eldoret (in moult).
90 mm.	14 mm.	26 mm.	♀	24. 7.	Elgon (in moult).
93 mm.	15 mm.	29 mm.	♀	26. 7.	Soy (in moult).
90 mm.	15 mm.	28 mm.	♀	7. 8.	Eldoret (in moult) light occipital band.
89 mm.	14 mm.	28 mm.	♀	7. 8.	Eldoret (in moult).

All of them have light-brown chin and throat, under parts are light brownish yellow. Upperparts are olive-brown and some of them have the light occipital band characterised by Neumann for *angolensis*, others are devoid of it. One specimen has the light parts on the outer tail-feathers greyish white (*leucophrys*, Neumann) others have these patches light brown (*angolensis*, Neumann).

Judging from the measurements of the wing some of them might be referred to *gouldi*, which has 91—96 mm., others to *leucophrys* with 96—102 mm. But those agreeing with *gouldi* as regards length of wing, have a longer bill.

I agree with Neumann that *angolensis* and *leucophrys* are undoubtedly synonyms, and as Neumann has given the range of the former to the Massai countries of German East Africa, I believe that the form occurring in Kenia Colony is the same.

The characteristics of *Anthus l. leucophrys* will thus be: Upper parts olive-brown, sometimes a little lighter on the nape. Chin faint brownish-white, the black spots on the fore-neck not so pronounced. The underparts light brown, more deeply coloured along the flanks. The lighter parts of the outer tail-feathers greyish-white — light-brown.

Wing 89—102 mm.; culmen 13—15 mm.

Irides, bill and legs in the preceding.

Macronyx croceus (Vieill.). — Rchw. III. p. 321.

Mothongoto . . . ki-kamba.

1 ♂ ad. 10. 4. Nairobi. — 1 ♂ ad. 11. 4. Ngong. — 1 ♂ ad. 22. 4. Lake Naiwasha. — 1 ♂ ad. 12. 5. Eldoret. — 2 ♂♂ ad. 14. 5., 16. 5. Soy. — 6 ♂♂ ad. 18. 5.—27. 7. Mount Elgon. — 1 ♂ ad. 19. 8. Kisumu. — 1 ♀ ad. 10. 4. Nairobi. — 2 ♀♀ ad. 10. 5., 12. 5. Eldoret. — 2 ♀♀ ad. 23. 5., 22. 6. Mount Elgon. — 3 ♂♂ juv. 23. 5., 16. 7., 25. 7.; 1 ♀ juv. 3. 9. Mount Elgon.

At all the above-mentioned places this beautiful Yellow-breasted Pipit was very common, and, like v. *Someren* (Ibis, 1916, p. 433), I have found it in the scrub, acacia and open grass country. On Elgon it was not seen above 7,000 ft. On the 23rd June I found a nest, containing 3 rather highly incubated eggs, on the eastern slopes of Mount Elgon. The nest was built on a rocky slope where a few isolated acacias grew among the grass vegetation. It lay half concealed under a projecting tussock but the eggs were visible at a distance. It measured transversely 16 cm. and was about 6 cm. high. The inner frame was about 10 cm. in diameter.

The outer cup consisted only of dry grass-blades, which had been plaited together into a rather flimsy and loose structure. The inner nest consisted exclusively of fine root-fibres. (Compare *Jackson*: Ibis, 1905, p. 102).

The eggs had the following measurements

1. 24 × 18 cm.
2. 24 × 18 cm.
3. 23 × 18 cm.

In colour they are dirty-white (one of them has a yellowish grey ground colour) with yellowish brown, grey and violet spots spread closely over the white surface. The shell faintly glossy. The form is oval and the most conspicuous spots are the greyish ones and the yellowish brown. The violet or greyish violet are chiefly gathered at the thick end.

On the same day I found another nest of this bird, which contained two more than half-grown young, which ran out of the nest as soon as I came near it.

There is no noteworthy difference in the dresses. The two outer tail-feathers have a narrow, yellow edge along the outer web, in other respects they are as *Reichenow* (op. cit.) has described them.

Wing,	tarsus,	
92, 93, 97 mm.	35—36 mm.	♂♂ Nairobi, Ngong, Nai-washa.
93, 97, 97, 98, 98, 98, 102, 100, 104, 98 mm.	35—38 mm.	♂♂ Eldoret, Soy, Elgon Kisumu.
91 mm.	34 mm.	♀ Nairobi.
94, 97, 99, 99 mm.	35—38 mm.	♀♀ Eldoret, Elgon.

It seems as if the Elgon specimens have in general a larger measurement than those from the Kikuyu country.

The young birds are in different stages of development and finely exhibit the change to the full plumage. All the feathers of the upper surface are widely edged with rusty-brown, the superciliary stripe rusty-brown, the chin and throat brownish yellow.

The under tail-coverts of these 4 specimens are not as Reichenow (op. cit.) writes: pale yellowish brown, but brownish black with wide rusty-brown edges.

Irides dark-brown; upper mandible brownish grey, lower mandible greyish blue (as a rule with dark tip); legs brownish yellow.

Macronyx ameliae wintoni Sharpe. — Rchw. III. p. 325.

3 ♂♂ ad. 11. 5.; 1 ♂ ad. 6. 8.; 1 ♂ juv. 6. 8. Eldoret.

This rare Pipit occurred in the open grass country south of Eldoret where a little brook flowed by, forming rather large, swampy areas. On the route up to Elgon 3 specimens were shot and on the return journey two more in about the same spot.

According to Nicholson (Manch. Mem., vol. LIII, 1909, No. 24) the race was known only from three places: "in the Rift Valley in the vicinity of Lake Naiwasha, the eastern side of the Guashangishu plateau and in the Nyanza Valley in the vicinity of Kitotos" (from Ibis, 1905, p. 103, by Jackson). But Neumann (Journ. f. Orn., 1900, p. 290) mentions that he shot it in different places in late German East Africa.

Neave (Ibis, 1910, p. 240) has found this form in N. E. Rhodesia by the Kabmgwisi River, and south of it on Chisinga Plateau and east of Bangweolo Lake by Lake Young, where it was not uncommon.

v. Someren (Ibis, 1916, p. 433) has seen it at Nakuru. In his "Prov. Check-list of the Birds of B. E. A. and Uganda", 1917, p. 8, the same writer includes both *ameliae* and *wintoni* from East Africa, although, according to Nicholson (op. cit.) the most northern habitats for the former lie just south of the Zambesi.

The measurement of the wing given by Reichenow (op. cit.) does not fully agree with all the 5 specimens lying before me, and it thus seems to me as if this form was a very weak and uncertain one, which also Shelley (B. Africa, vol. 3, 1902, p. 12) has expressed.

Wing,	culmen,	tarsus,	
87, 88, 90, 92 mm.	14 mm.	28—29 mm.	♂♂ ad.
87 mm.	24 mm.	29 mm.	♂ ad.

For *wintoni* the length of wing should be 85—88 mm., culmen 14 mm. but for *ameliae* 95 mm. (according to Shelley 87 mm. in birds from Natal) and 16 mm. (according to Reichenow). Sjöstedt (Wissensch. Erg. Schw. Zool. Exp. Kilimandjaro-Meru, 1905—1906, Stockholm 1910, p. 136) gives 92 mm. as the wing-measurement of ♂ and 84 mm. of ♀ for specimens from the Kilimandjaro plains.

Whether the shorter bill can be considered as a constant character for *wintoni*, I have not been in a position to decide as material was lacking. But as all my 5 specimens have the wing-measurement given for *wintoni*, I have retained the race.

Irides dark-brown; upper mandible dark greyish brown, lower mandible brownish yellow; legs brownish yellow.

Alaudidae.

Mirafra africana tropicalis Hart. — Rchw. III. p. 344.

1 ♂ ad. 14. 5. Soy. — 1 ♂ ad. 10. 8. Eldoret.

I procured these two specimens, which agree with Hartert's description (Bull. Brit. Orn. Club, vol. XIX, 1907, p. 93), from the Uashin-Gishu plateau, north-east of Victoria Nyanza. They differ also from the following form in the lower surface being more reddish brown, this being more sand-coloured in the latter.

Wing 99, 99 mm.; tarsus 31 mm.

Irides dark-brown; bill and legs yellowish brown.

Mirafra africana athi Hartert. — Rchw. III. p. 345.

1 ♂ ad. 13. 4. Nairobi. — 1 ♂ ad. 17. 4. Kiambu.

As Lönnberg has already remarked (in Birds coll. Sw. Zool. Exp., B. E. A. 1911, p. 113) this Lark is common in the Nairobi districts. Both specimen are in rather worn dresses.

Wing 99, 100 mm.; tarsus 32, 33 mm.

Irides, bill and legs as in the preceding.

Pyrrhulauda leucopareia (Fsch. & Rchw.). — Rchw. III. p. 369.

Njawanga . . . ki-kavirondo. — Kaloe . . . ki-kamba.

2 ♂♂ ad. 23. 8.; 1 ♂ juv. 23. 8.; 1 ♀ ad. 22. 8. Kendu.

Occurred rather commonly on the open grass-plains and in the parched and barren areas, where only a few solitary small bushes grew among the short grass. Appeared for the most in small flocks of 5—6 in number or in pairs and often seen together with *Saxicola livingstoni*. When they pitched on the ground in the parched or burnt grass they were very difficult to detect.

Two of the specimens are moulting, the others have recently assumed the new dress.

One of the males has the ear-coverts whitish with a faint yellowish brown wash, another has them pale rusty-brown. In the young bird they are greyish brown and not sharply distinguished from the predominant greyish brown sides of the head.

The female is, as Reichenow (op. cit.) writes, more reddish brown on the upper surface and has the black patches of the underparts surrounded by a dark reddish brown border.

The young bird has (in addition to the above-mentioned character) the throat and fore-neck black, but lacks the black patches around the ear-coverts.

Wing,	tarsus,	
75, 78 mm.	18, 19 mm.	♂♂ ad.
75 mm.	18 mm.	♂ juv.
73 mm.	17 mm.	♀ ad.

Irides cinnamon-brown; bill greyish white; legs grey with a faint yellowish red wash.

Calandrella cinerea saturation Rchw. — Rchw. III, p. 378.

Tephrocorys cinera. Neum.: Journ. f. Orn., 1906, pp. 238—239. — Neave: Ibis, 1910, p. 240.

2 ♂♂ ad. 23. 4. Lake Naiwasha. — 2 ♂♂ ad. 6. 5. Londiani. —
2 ♂♂ ad. 11. 5., 10. 8. Eldoret. — 1 ♀ ad. 23. 4. Lake Naiwasha. —
2 ♀♀ juv. 6. 5. Londiani.

On the shores of Lake Naiwasha and at Londiani this bird was rather numerous, but on the grass-plains in the neighbourhood of Eldoret it was less common. It always appeared in small flocks.

Neumann (Journ. f. Orn., 1906, p. 239) has described a new form of this group from the Hanasch district and thus at present we have to include the following forms (of which, however, Neumann rightly considers No. 2 doubtful).

1. *Calandrella cinerea cinerea* (Gm.).
Hab. South Africa to Benguella and Maschona.
2. *Calandrella cinerea saturation* Rchw.
Hab. East Africa, Angola.
3. *Calandrella cinerea ruficeps* Rüpp.
Hab. North-east Africa.
4. *Calandrella cinera erlangeri* Neum.
Hab. Hanssh territory.

As regards *saturation* it seems to me as if Neumann's doubt as to the genuineness of this form is well-founded. For among the 7 adults lying before me there are two which have the outer web of the outermost rectrices white, the others have a more or less greyish white or greyish brown outer-web. Besides, all of them have a broader or narrower white edge to the

2nd rectrix. In the young birds all the tail-feathers are edged with light greyish brown.

All the specimens (except ♂ 10. 8. Eldoret) have abraded dresses or are in various phase of moulting.

Irides dark-brown; bill blackish or base of lower mandible brownish yellow (in young birds the bill is brownish grey). Legs yellowish brown-dark-brown.

Neave in Ibis, 1910, p. 240, mentions the race from upper Lualaba in Congo, but calls it simply *Tephrocorys cinerea* (Gm.).

Pycnonotidae.

Phyllastrephus tephrolaemus kikuyuensis (Sharpe). —
Rchw. III. p. 393.

Azelocichla kikuyuensis (Sharpe). Someren: Check-list birds B. E. A. 1917, p. 47. — *Xenocichla kikuyuensis* Sharpe. Og. Grant: Zool. Res. Ruw. Exp., 1910, p. 382.

3 ♂♂ ad. 20. 5., 23. 5., 31. 5. Mount Elgon, 6,500—7,500 ft.

On the eastern slopes of Mount Elgon this bird was rather common and I generally met it in the undergrowth in the interior of the dense forests, from the gloom of which could be heard its varying and beautiful song, which at times reminded one not so little of that of the song-thrush.

Reichenow has (Orn. Monatsber., 1908, p. 47) described a new species of *Phyllastrephus* which he has named *Ph. schubotzi* and which should be closely allied to *kikuyuensis*. In his "Vogelf. d. Mittelafr. Seengeb.", 1912, p. 342 Reichenow calls it also *Ph. kikuyuensis schubotzi*, but later on (Journ. f. Orn., 1918, p. 94) he says that it is synonymous with *kikuyuensis*.

All the three specimens in question are in full plumage and have the following measurements:

wing 89, 89, 90 mm. tarsus 23, 24, 24 mm.

Irides dark-brown; bill blackish; legs greyish green-brownish green.

Phyllastrephus flavicollis pallidigula (Sharpe). —
Rchw. III. p. 395.

Xenocichla flavicollis pallidigula Sharpe. Neumann: J. f. O. 1900, p. 292. —
Phyllastrephus flavigula pallidigula (Sharpe). Reichenow: Vög. Afr. III. p. 595. — *Atimastilas flavicollis pallidigula* (Sharpe). v. Someren: Check-list birds B. E. A. 1917 p. 48.

Sosori . . . ki-suaheli.

1 ♂ ad. 26. 7. between Soy and Elgon, 7,000 ft.

A few specimens of this bird were found inhabiting a swampy area in the acacia-country, where palms, bushes and

trees formed a thick vegetation at a distance of about two days march from Elgon in the direction of Soy.

The feathers of the head are dark olive-green with a dark stripe along the shafts and grey tips. Otherwise the upper part is dark olive-green. The under surface as in *flavicollis*.

Wing, 104 mm. tarsus, 25 mm.

Irides dark-brown; bill blackish; legs dark leaden grey.

Phyllastrephus cabanisi succosus Rchw. — Rchw. III. p. 401.

1 ♂ ad. 4. 7.; 1 ♀ ad. 21. 5. Mount Elgon, 6,800 ft.

I saw this bird a few times in the depths of the dense forests on the eastern slopes of Elgon. I do not think it can be said to be common, at least in the districts in which our expedition camped.

The male specimen is a typical *succosus* with the head dark, olive-green of the same colour as the back and, in other respects, agreeing very well, partly with Reichenow's description, partly with other specimens in the Berlin Museum collections. The female specimen, on the contrary, is considerably darker (with a faint brown wash) and approaches, most appreciably *Ph. placidus* (Shell.) with reference to the colour of the upper part. The under surface has, however, a more distinct and brighter yellowish tint in the former, whereas in the latter, as a rule, it seems to me to be more dirty-yellow or greyish yellow, almost greyish white. Both specimens have distinct yellowish throats. They are in moult.

Wing ♂ 88 mm. ♀ 80 mm.; tarsus 22, 23 mm.

Irides dark brown; bill dark brownish grey (lower mandible lighter); legs greyish green.

Phyllastrephus placidus (Shell.). — Rchw. III. p. 401.

1 ♂ ad. 18. 4. Kiambu.

I saw this bird in the Nairobi district a few times. It is confusingly like the preceding race but the throat is whitish and, as already mentioned, it differs also in the colour of the underparts.

Wing 82 mm.: tarsus 23 mm.

Irides, bill and legs as in the preceding.

Andropadus gracilirostris percivali Neum. — Rchw. III. p. 411.

Stelgidillas gracilirostris percivali (Neum.). v. Someren: Prov. Checklist birds E. E. A., 1917, p. 48. — Neum.: Orn. Monatsber., 1903, p. 185.

1 ♂ juv. 18. 4. Kiambu.

L ö n n b e r g (Birds coll. Sw. Zool. Exp., B. E. A. 1911, p. 115) calls this bird *A. gracilirostris* Strickl. and following

Reichenow (Vogelf. Mittelafr. Seengeb., p. 344), who gives the distribution of the race "from Senegambia to Congo and eastwards to Kikuyu", he makes Neumann's form *percivali* (Orn. Monatsber., 1903, p. 185) synonymous with it. Reichenow (op. cit.) has already in 1904—1905 expressed the same opinion with reference to the occurrence of *gracilirostris*, although he then also mentions *percivali*.

However, v. Someren (Ibis 1916, p. 438) has dealt in a very credible manner with the different forms of *gracilirostris* and after a careful examination of all the specimens in Tring at the British Museum he has established four allied forms, whose distribution he also gives, and therefore I shall not here repeat these results.

As regards two of these forms: *percivali* and *chagwensis*, which I have myself had an opportunity of studying, I share v. Someren's views entirely.

The present specimen agree perfectly with v. Someren's description and over and above that I have nothing to add.

Wing 82 mm.; tarsus 22 mm.

Irides dark-brown; bill and legs black.

Andropadus gracilirostris chagwensis v. Someren. —
Bull. Brit. Orn. Club, vol. XXXV, 1915, p. 127.

Chlorocichla gracilirostris chagwensis v. Someren: op. cit.

2 ♂ ad. 20. 5., 25. 5.; 1 ♀ ad. 7. 7.; Mount Elgon, 7,000 ft.

This form is common in the dense forests on the eastern slopes of Elgon and I have met it at an altitude of 6500—7000 ft. v. Someren (Ibis 1916, p. 439) says "that this Uganda-form frequents the tops of the tall-trees", but I have often seen it in the brushwood and undergrowth in the same localities as *Phyllastrephus tephrolaemus kikuyuensis*.

According to v. Someren (op. cit.) this bird occurs from Uganda, east to Elgon, south to Tanganyika, west to the Congo border, but this and *percivali* meet in the Elgon district.

This Bulbul is also an excellent singer, and its warbling song can be heard even after nightfall. v. Someren mentions too that on four different occasions he has heard *Pycnonotus layardi* sing after darkness had set in (Journ. East Afr. and Ug. N. H. Soc. vol. IV, No. 8, 1914, p. 153).

v. Someren gives 83—87 mm. as the wing-measurements for ♂♂ and 78—83 mm. for ♀♀. My specimens measure: ♂♂ 84, 87 mm. ♀ 82 mm., tarsus 21—22 mm.

Irides reddish-brown — dark-brown; bill and legs black.

Andropadus latirostris eugenius Rehw. — Rehw. III. p. 415.

Andropadus eugenius. v. Someren: Ibis 1916, p. 437. — *Andropadus latirostris* Strickl. Og.-Grant: Zool. Res. Ruw. Exp., 1911, p. 386; Ibis 1908, p. 304. — *Stelgidocichla latirostris saturata* Mearns. Smithson. Misc. Coll., vol. 61, No. 25, 1914.

1 ♂ ad. 11. 4. Ngong. — 2 ♂♂ ad. 24. 6., 7. 7.; 2 ♀♀ ad. 20. 5., 21. 5.;
Mount Elgon.

Common in the Nairobi districts (L ö n n b e r g : 1911, p. 115) and in the forests on the eastern slopes of Elgon. On Elgon this bird occurs up to an altitude of 7000 ft.

Ogilvie-Grant (Ibis 1908, p. 304) has, it is true, emphasised that there is no difference between *eugenius* from British East Africa and *latirostris* from Fernando Po., and therefore he cannot support Reichenow's form. But Reichenow rightly maintains (Vogelf. Mittelafr. Seengeb. 1911, p. 345) that *eugenius* is not synonymous with *latirostris*, but points out that the former, among other things, differs from the latter by means of the much darker under surface. v. Someren also considers *eugenius* as a good form (op. cit. and Nov. Zool. XXV, 1918, p. 285) and after comparing East African and West African forms I have come to the same opinion.

On the other hand I cannot find that *saturata* described by Mearns (op. cit.) differs in the least from *eugenius*. Not one of the characters cited by Mearns is, according to my opinion, only characteristic for his form, but is also found in *eugenius*, whence it is undoubtedly a synonym of the latter. Reichenow points out (Journ. f. Orn. 1918, p. 95) also that it would be remarkable if two forms of *latirostris* occurred simultaneously on the mountains of B. E. A., and adds: "as the writer (Mearns), as appears from other instances, has the inclination to describe as many species as possible without paying regard to the variations of the species owing to age, season or sex, an examination of the forms is especially necessary".

Between the Elgon specimens and that from the Kikuyu country there is no difference whatever. The lower surface in all of them is dark olive-green with a grey wash, in some a little yellowish in the centre.

Wing ♂♂ 87, 88 mm. (Elgon); 88 mm. (Ngong).

♀♀ 86, 90 mm.

tarsus 22—22.5 mm.

Irides dark-brown; bill black with yellowish brown tip (and sometimes yellowish brown edges); legs yellowish brown.

Pycnonotus tricolor micrus Oberholser. — Proc. U. S. A.
Nat. Hist., vol. 28, 1905, p. 891.

Pycnonotus layardi micrus Oberh. op. cit.; Mearns: Smith's Misc. Coll.
vol. 56, No. 20, p. 9. — *Pycnonotus barbatus micrus* Oberh. Zedlitz:

J. f. O. 1916, p. 391. — Hartert: Nov. Zool., vol. 13, 1906, p. 391. — Sjöstedt: Wiss. Erg. Zool. Exp. Kilimandjaro-Mern 1905—1906, Stockholm 1910, p. 141.

1 ♂ ad. 26. 4.; 1 ♀ ad. 26. 4.; Mombasa.

In the Mombasa districts this form was common and was found in the palm groves on Kilindini Gulf as well as in the scrub areas everywhere in the coastal-belt.

Opinions concerning the species and forms of the genus *Pycnonotus* are very divided among ornithologists and it is difficult to obtain any positive information from the numerous works.

L ö n n b e r g (Birds coll. Sw. Zool. Exp. B. E. A., 1911, p. 116) considers this *micrus* to be synonymous with the South African *layardi*, because he has found that the largest East African specimens attain the measurement of the smaller South African. This view is shared by R e i c h e n o w (Journ. f. Orn. 1918, p. 95), although he has expressed himself wrongly, for he certainly means that the limit between the smaller South African forms and the larger East African is difficult to draw, instead of between "the larger South African and the smaller East African".

For my part I agree with Z e d l i t z (Journ. f. Orn. 1916, p. 69) that it is surely not *layardi* which inhabits East Africa. But I cannot acknowledge him to be right in saying that *micrus* inhabits the whole of British East Africa, for he then overlooks *fayi*, which is the highland form. Hartert (Nov. Zool., vol. 13, 1906, p. 391) also considers that *micrus* inhabits British East Africa and Kilimandjaro and that it differs from *layardi* in being darker on the upper surface and smaller. As regards L ö n n b e r g's investigations (op. cit.), he has certainly not, among the 6 individuals, of which he gives careful measurements, a single *micrus* which, of course, inhabits the coast-land of German and British East Africa westwards to Kilimanjaro (Sclater and M a c k w o r t h - P r a e d: Ibis 1918, p. 697) but *P. tricolor fayi* Mearns, which inhabits the highlands of western British E. Africa to Elgon (Scl. Mackw. - Pr.: op. cit.).

This latter: *fayi*, R e i c h e n o w considers, however, to be synonymous with *micrus*, but this again, from what has been said above, is a synonym of *layardi*, and in this manner, according to R e i c h e n o w and L ö n n b e r g, the form occurring from the coastland up to Elgon should be *layardi*, i. e. the same as in South Africa.

v. Someren (Ibis, 1916, p. 440) also styles his specimens from Nairobi and Kiambu *micrus*, which should be incorrect too. On the other hand he is right when he calls the Mombasa specimens so (Journ. E. Afr. Ug. Nat. Hist. Soc., vol. VI, No. 12, 1918, p. 259). The specimen which M a c k w o r t h - P r a e d (Ibis, 1917, p. 383) shot at Thika is thus to be referred to *fayi*

and not *layardi* (wing 93 mm.) and those from the Tsavo River (78, 84 mm.) probably to *micrus* not *dodsoni*.

Slater & Mackworth-Praed (op. cit.) have in a successful manner — it seems to me — given an exposition of the different forms and their distribution. From these investigations it appears that *micrus* has, on the average, the wing below 90 mm., whereas *fayi* has a wing-measurment of 90—100 mm., average 97 mm. Mearns gives (op. cit.) the wing for ♂♂ of *micrus* as 88.7 mm., for ♀♀ 84 mm and for ♂♂ of *fayi* 94.3 mm., for ♀♀ 88.2 mm.

I agree with Lönnberg (Arkiv f. Zool., Bd. 9, No. 14, p. 21) that at times it is extremely difficult to maintain the subspecies, as specimens from the same place vary both in colour and in size. Still there is a rather good and constant difference in size between the coastland *micrus* and the highland *fayi*.

This can be clearly seen in the series of 21 specimens from different parts of the highlands of British East Africa by comparing them with the 2 specimens from the coastland. It would have certainly been better, however, if a large series had been procured from the coastlands, for then my figures would have given better support to Slater and Mackworth-Praed's views.

In my two from Mombasa the measurements are as follows:

Wing,	culmen,	tarsus,	
88 mm.	17 mm.	22 mm.	♂ ad.
81 mm.	16 mm.	21 mm.	♀ ad.

Irides dark-brown; bill and legs black.

Along with this *micrus* there is another *Pycnonotus* occurring in the coastland of British East Africa, namely, *P. dodsoni* Sharpe, the range of which (according to Scl. M. - P.) goes from S. Somaliland and desert country of British East Africa to the Kilimanjaro region.

Pycnonotus tricolor fayi Mearns. — Smithson. Misc. Coll.,
vol. 56, no. 20, p. 7.

Ayulera . . . ki-kavirondo. — Iloloi . . . ki-kamba.

1 ♂ ad. 11. 4. Ngong. — 2 ♂♂ ad. 13. 4., 19. 9. Nairobi. — 1 ♂ ad. 17. 4. Kiambu. — 1 ♂ ad. 20. 4. Lake Naiwasha. — 1 ♂ ad. 4. 5. Molo. — 2 ♂♂ ad. 5. 5., 8. 5. Londiani. — 1 ♂ ad. 10. 5. Eldoret. — 1 ♂ ad. 16. 5. Soy. — 4 ♂♂ ad. 21. 5., 25. 5., 6. 6., 12. 7. Mount Elgon. — 1 ♂ ad. 23. 8. Kendu. — 1 ♀ ad. 11. 4. Ngong. — 1 ♀ ad. 17. 4. Kiambu. — 2 ♀♀ ad. 20. 4., 22. 4. Lake Naiwasha. — 1 ♀ ad. 12. 7.; 1 ♂ juv. 17. 6. Mount Elgon.

This form of *Pycnonotus tricolor* was one of the very commonest birds at the above-mentioned places. On Elgon I came across it up to about an altitude of 8000 feet.

The specimens from Nairobi and its environs, Naiwasha Molo and Londiani are exactly like each other, with dark, brownish black heads but are dark-brown (without any black). v. Sommeren (Nov. Zool., XXV, 1918, p. 286) calls his specimens from West Elgon: *P. barbatus minor* Heugl. but my specimens from the eastern slopes of Elgon do not agree at all with the description Reichenow (Vög. Afr. III, p. 422) gives nor with the measurements given by Mearns (Smithson. Misc. Coll. vol. 56, No. 20, p. 9). According to the latter the measurements of the wing are 91.7 mm. for ♂♂ and 88.3 mm. for ♀♀. The extremely little variation in the colour of the feathers of the head is probably only a difference due to the time of the year, inasmuch as the plumage of the Elgon birds is much abraded and they were mostly shot 1—3 months later than those from the Kikuyu country and southwards, the majority of which were, in fact, in moult or had already assumed the new dress. The lower wing-coverts of *minor* are also said — according to Reichenow — to be greyish brown, but in these specimens they are of the same colour as in those from the south, i. e. greyish white.

But if the *minor* occurring on the White Nile and in the country east of Victoria Nyanza, *fayi* inhabits the western side of Elgon, it is not impossible that the one appearing on the eastern slopes of Elgon is an intermediate between these two.

The following table shows the variations in the different measurements:

Wing,	culmen,	tarsus,		
100 mm.	17 mm.	22 mm.	♂	11. 4. Ngong.
96 mm.	16 mm.	24 mm.	♂	13. 4. Nairobi.
92 mm.	15.5 mm.	21 mm.	♂	17. 4. Kimbu.
94 mm.	16 mm.	22 mm.	♂	19. 9. Nairobi.
94 mm.	16 mm.	22 mm.	♂	20. 4. Naiwasha.
99 mm.	17 mm.	24 mm.	♂	4. 4. Molo.
100 mm.	16 mm.	22 mm.	♂	5. 6. Londiani
97 mm.	16 mm.	22 mm.	♂	8. 5. „
97 mm.	15 mm.	23 mm.	♂	10. 5. Eldoret.
94 mm.	16 mm.	23 mm.	♂	16. 5. Soy.
95 mm.	16 mm.	23 mm.	♂	21. 5. Elgon.
98 mm.	16 mm.	23 mm.	♂	23. 5. „
98 mm.	16 mm.	22 mm.	♂	6. 6. „
95 mm.	16.5 mm.	23 mm.	♂	12. 7. „
94 mm.	16 mm.	22 mm.	♂	juv. 17. 6. Elgon.
93 mm.	16 mm.	23 mm.	♂	ad. 23. 8. Kendu.
94 mm.	15.5 mm.	23 mm.	♀	11. 4. Ngong.
88 mm.	15.5 mm.	21 mm.	♀	17. 4. Kiambu.
93 mm.	16 mm.	23 mm.	♀	22. 4. Naiwasha.
99 mm.	16.5 mm.	23 mm.	♀	20. 4. „
92 mm.	15 mm.	21 mm.	♀	12 7. Elgon.

Even if in a number of cases the measurements for the specimens from East Africa approach those for South African birds it is by no means certain that they are therefore to be considered as the same form. It seems however very probable, but I am not at present fully convinced on the matter and therefore retain — although with hesitation — this *fayi* for the highland form.

Zosteropidae.

Zosterops virens jacksoni Neum. — Rchw. III. p. 430.

3 ♂♂ 7. 5. Londiani environs, 8,000 ft. — 9 ♂♂ ad. 19. 5.—7. 7.;
5 ♀♀ ad. 24. 5.—28. 6. Mount Elgon.

The first specimens of this bird was procured a day's march to the north-east of Londiani. It was not uncommon here. On the eastern slopes of Elgon it was very common, and I procured specimens both from the bamboo forests higher up, and even from the highest points in the alpine regions too. In other words, the race occurred from 6,500 feet to over 12,000 feet. It was especially numerous in the bamboo-forest, where it usually appeared in fairly large flocks about 20 to 30 in number. They have a weak piping call, which reminds one of the Tits, and like these they are lively and active creatures. As a rule they frequent the highest tops of the trees, where they are very difficult to detect among the foliage, as their green plumage corresponds exceedingly well to the environs.

There is no difference between those from the alpine region and those from the lower heights, but in both these groups there are individuals in which the yellow band of the forehead is lighter or darker. In one ♂-specimen, shot on the 28. 5., the testes were much swollen.

Wing,	tarsus,	
62 mm.	17—18 mm.	♂♂ Londiani.
59—63 mm.	17—19.5 mm.	♂♂ Elgon.
56—62 mm.	17—19 mm.	♀♀ Elgon.

Irides brownish red; bill black; legs leaden grey.

L ö n n b e r g (Arkiv för Zool, Band 11, No. 5, 1917) has described a new form from Londiani, to which he gives the name of *Zosterops bayeri*, which differs from *jacksoni*, in having, among other things, a larger culmen (11.7 mm.) and a larger wing-measurement, 65 mm. instead of 58—62 mm. as in the latter. In the collection of 17 spec. before me there are 3 from Londiani, all of which have a bill-length of 11 mm., which is the same as the measurements of the Elgon specimens.

The character of *bayeri* cited by Lönnberg; "that the frontal band is less broad, but more sharply defined behind than in *Z. jacksoni*", agrees with only one of my Londiani specimens. But on examining the 14 Elgon specimens more closely, I found a rather considerable variation among them both as regards the breadth of the frontal band and its extent backwards. In some it is very narrow and shades almost imperceptibly into the dull yellow-green, in others it is wider and sharply defined, and in others again it is as in the Londiani specimens. I therefore do not believe that the character given by Lönnberg is characteristic for any special Londiani form, but is probably to be regarded only as an individual variation of *jacksoni*.

Whether *Z. v. garguensis* recently described by Mearns (Smithson. Misc. Coll., vol. 61, No. 20, 1913) from the north of the Northern Guaso Nyiro River in British East Africa, with its "equally narrow white eye-ring and darker, more grayish coloration", is only a synonym of *jacksoni*, I cannot decide.

Zosterops virens kikuyuensis Sharpe. — Rchw. III. p. 431.

2 ♂♂ ad. 18. 4. Kiambu.

In the forests of the Nairobi districts this bird was common.

Lönnberg (Birds coll. Sw. Zool. Exp. B. E. A., 1911, p. 117), like Shelley, seems to be inclined to consider *kikuyuensis* synonymous with *jacksoni*, but in my opinion both of them are good and distinct forms, for, among the 17 specimens of *jacksoni* from Elgon, there is not one which has its head, right behind the eyes, yellow like *kikuyuensis*.

On the other hand, the second character, broader eye-ring, given by Neumann (op. cit.) for *kikuyuensis* is by no means a feature of this form, for most of the *jacksoni* specimens have just as broad an eye-ring as the former, sometimes even broader.

Neumann gives the range of the two forms so that *jacksoni* occurs on the mountains west of Massai Salt-grave, i. e. on Mau, Nandi and Elgon, while *kikuyuensis* appears east of this grave, that is to say, on Kenia and in the Kikuyu country. Lönnberg (op. cit.) extends the occurrence of this form right to Ruwenzori in the west, since Ogilvie-Grant (Zool. Res. Ruw. Exp., 1910, p. 333), on the authority of Shelley, makes *Z. scotti* Neum. synonymous with *jacksoni*. Reichenow considers *scotti*, however, as a distinct form and separates it from *jacksoni* (Vogelf. Mittelafr. Seengeb., 1912, p. 346, 347).

Wing 58, 58 mm. tarsus 18 mm.

Irides, bill and legs as in the preceding.

Nectariniidae.

Anthreptes collaris zambesiana Shell. — Rchw. III. p. 443.

Anthreptes collaris elachior Mearns. Smithson. Misc. Coll. vol. 56, No. 14, p. 5. — *Anthothreptes collaris zambesiana*. Mackw.-Praed: Ibis 1917 p. 373. — Grote: J. f. O. 1919, p. 302. — *Anthothreptes zambesiana*. Gurney: Ibis 1909, p. 498.

3 ♂♂ ad. 29. 4.; 1 ♀ ad. 26. 4., Mombasa.

Very common in the coast-land. Frequented the bushes of the mangrove vegetation on the Gulf of Kilindini.

Mearns has (op. cit.) described the form *elachior* from Changamwe (near Mombasa), and is distinguished by being "smaller and paler than *A. c. zambesiana*; upper metallic parts less coppery golden green; middle under parts canary instead of lemon yellow; outer webs of secondaries yellowish olive-green instead of bronzy yellowish green; sides paler and grayer". Wing 46.7 mm. ♀ 45 mm.

The form *garguensis* Mearns is described in Proc. U. S. Nat. Hist. Mus., vol. 48, 1915, p. 389, as "closely related to *A. c. zambesiana* and *A. c. hypodila* but from the former it differs in being slightly larger, darker green above, and more olivaceous yellow below; from *hypodila* in being much larger, of a slightly paler shade of green above, and lemon yellow instead of lemon chrome below." Wing 55 mm.

Finally v. Someren (Bull. Brit. Orn. Club, vol. XLI, 1921, p. 113) has described two more new forms: *ugandae* and *teitensis*. The ♂ of the former has the under-side deep yellow, sides olivaceous but pectoral tufts rich yellow, lighter and brighter than breast, ♀ with olive tinge on throat and flanks.

Wings: ♂ 54—58 mm., ♀ 50—54 mm.

The other form, *teitensis* is characterised in the under-side being much lighter than in *ugandae*, slightly richer than in *elachior*, bright yellow, flanks only slightly duller, pectoral tufts very bright lemon yellow. Brighter yellow than *zambesiana*.

Wings: ♂ 52—57 mm.

The ranges of these closely related forms should be as follows:

1. *A. collaris collaris* (Vieill.).
Hab. Eastern South Africa.
2. *A. collaris hypodilus* Jard.
Hab. From Fernando Po to Cameroon, Gaboon and eastwards to the upper waters of Congo (Ogilvie-Grant: Ibis 1918, p. 286).
3. *A. collaris zambesiana* (Shelley).
Hab. Lorenzo Marques, Mozambique, East Africa, Uganda, Wadelai, the Niger, Ashanti and Sierra Leone.
4. *A. collaris elachior* Mearns.
Hab. The coast of British East Africa, Zanzibar — South Somali (Zedlitz: J. f. O., 1916, p. 72).

5. *A. collaris garguensis* Mearns.

Hab. Upper Athi River, Mount Kenia region and Mount Gargues, in British East Africa.

6. *A. collaris ugandae* v. Someren.

Hab. Uganda to Kivu and east to Mount Elgon, south to Highlands of British East Africa.

7. *A. collaris teitensis* v. Someren.

Hab. South Ukambani to Teita and East Kilimanjaro.

Reichenow makes *hypodilus* a synonym of *zambesiana* (Vög. Afr. III, p. 444; Vogelf. Mittelafr. Seengeb., 1912, p. 348) and considers (J. f. O., 1918, p. 96) *elachior* a "Spielart" and impossible to distinguish from *collaris*. But Zedlitz (J. f. O., 1916, p. 72) includes *elachior* but makes it synonymous with the bird occurring in South Somali. Sjöstedt (Wiss. Erg. Schw. Zool. Exp. Kilimanjaro-Meru 1905—1906, Stockholm 1910, p. 142) gives his specimens from Kilimanjaro the name of *hypodilus*. Lönnberg (Birds coll. Sw. Zool. Exp., 1911, p. 117) and v. Someren (Ibis 1916, p. 441) call the Nairobi specimens *hypodilus*, while Mackworth-Praed (Ibis 1917, p. 373) names his birds from Thika (near Nairobi), as well as those from the Tsava River, *zambesiana*. The last-mentioned writer, in fact, refers to Ogilvie-Grant's investigations (Ibis 1908, p. 286). Mearns (Smithson. Misc. Coll., vol. 56, No. 14, p. 5) also calls specimens from the Kenia district *zambesiana*, but 5 years later (Proc. U. S. Nat. Mus., vol. 48, 1915, p. 391), after having further described a new form, he names the Kenia district bird: *garguensis*.

Undoubtedly the Mombasa specimens are *zambesiana*, as the measurements below will show, but not having seen any specimens of *elachior* I cannot express any opinion about this form. Judging from the description it seems to me as if Reichenow was right in not considering it a good form, and it would surely be rather remarkable too if in the coast-land two different forms should occur together.

The specimens before me have the following measurements:

Wing: ♂♂ 49, 50, 51 mm.; ♀ 45 mm. Tarsus: 14—15 mm.

Irides dark-brown; bill and legs black.

M.-Praed (op. cit.) gives 55, 53 mm. as the wing-measurements of 2 ♂♂ (Tsavo River) and 55 mm. as that of a ♀ (Thika).

Anthreptes collaris ugandae v. Someren. — Bull. Brit. Orn.

Club, vol. XLI, 1921, p. 113.

3 ♂♂ ad. 18. 5., 5. 6., 25. 6.; 1 ♀ ad. 7. 7.; Mount Elgon, 6,500 feet.

This form of *A. collaris* is a good and distinct one, differing from the others in the characters given under the preceding

form. It occurs in great numbers on the eastern slopes of Elgon, extending up to an altitude of 7.000 feet.

Wing: ♂♂ 55.5, 56, 57 mm.; ♀ 55 mm. Tarsus 16—17 mm.

Irides, bill and legs as in the preceding.

Cyanomitra verticalis viridisplendens (Rchw.) —

Rchw. III. p. 454.

Chalcomitra verticalis viridisplendens (Rchw.). — Vög. Afr. III, p. 454; Vogelf. Mittelafr. Seengeb., 1912, p. 349.

1 ♂ ad. 4. 5. Londiani, 7.500 ft. — 5 ♂♂ ad. 19. 5.— 4. 7. Mount Elgon, 6.500 ft. — 1 ♀ ad. 14. 5. Soy. — 1 ♀ ad. 7. 7. Mount Elgon, 6.500 ft.

v. Someren says of this Sunbird (Nov. Zool. XXV, 1918, p. 286) that it "was a fairly common species" on the western slopes of Elgon. It occurred also quite commonly on the eastern slopes up to about 7.000 feet. Sclater & Mackworth-Praed (Ibis 1918, p. 622) consider that this form "is found on the slopes below 6.000 feet (on Ruwenzori) and above 5.500 feet *C. v. alinae* occurs". Olgilvie-Grant (Zool. Res. Ruw. Exp., 1910, p. 323) says that on Ruwenzori *viridisplendens* "is not seen above 7.000 feet. Yet, at Londiani a specimen was shot at an altitude of 7.500 feet.

Among the Elgon specimens there are 2 with a predominant blue metallic gloss on the chin and fore-neck, whereas the others have a greenish. The thighs are, as a rule, olive-green (in some dark-grey).

Wing,	culmen,	tarsus,	
67, 68, 69, 70, 70, 72.5 mm.	24—25 mm.	19—20 mm.	♂♂.
67, 68 mm.	24, 25 mm.	18 mm.	♀♀.

Irides dark-brown; bill and legs black.

Cyanomitra obscura neglecta Neum. — Journ. f. Orn., 1900, p. 297.

Cynnyris obscurus neglectus Neum. Zedlitz: Journ. f. Orn., 1916, p. 76. — Grote: Journ. f. Orn., 1921, p. 133.

2 ♂♂ ad. 26. 4., 29. 4., Mombasa.

In the small groves along the coast at Mombasa this bird was seen fairly commonly, but I also saw it in the shrubbery on the Gulf of Kilindini, together with *Ch. kirki*.

The various forms of *obscura* have been dealt with by Neumann (op. cit.), Zedlitz (op. cit.), v. Someren (Ibis 1916, p. 443), Reichenow (Vogelf. Mittelafr. Seengeb., 1912, p. 348) and Sclater & Mackworth-Praed (Ibis, 1918, p. 621). Zedlitz has established that *ragazzii* from Schoa is, in all probability, a mountain-form, while *neglecta* from Somaliland is a steppe-form.

I must agree with Zedlitz that Mearns' *changamwensis* from Changamwe (near Mombasa) (Smithson. Misc. Coll., vol. 56, No. 14, 1910, p. 4) cannot be considered as a good form, still less a new species (as Mearns supposed). My three specimens, which were shot close to the "terra typica", should in that case be named *changamwensis*, whose chief character is, that it is smaller than *ragazii*, which in other respects it resembles. Mearns gives for his bird: wing 53 mm.; culmen 20; tarsus 14.2 mm. But from the table below it appears that my Mombasa specimens do not agree in the different figures with those given but fall practically within the limits of the only form, of those mentioned above, that can be thought of: *neglecta*, though the culmen of the specimens in question is slightly shorter.

Wing,	culmen,	tarsus,
59, 59.5, 60 mm.	21—22 mm.	15 mm.

Irides, bill and legs as in the preceding.

Chalcomitra amethystina kirki Shell. — Rchw. III. p. 460.

Cinnyris amethystinus kirki Shell. Grote: Journ. f. Orn. 1921, p. 134.

3 ♂♂ ad. 27. 4., 29. 4.; 2 ♂♂ juv. 29. 4. Mombasa.

Occurred very commonly in the bushes which here and there fringed the shores of the Gulf of Kilindini.

Neumann (Journ. f. Orn., 1900, p. 296) gives the East African specimens of this bird the style of *Ch. k. kalkkreuthi* Cab., as they are said to have a more blue glossy frontal plate. Reichenow (op. cit.), however, rightly considers that form to be synonymous with *kirki*, as specimens are frequently found at the same place with a blue, as well as with a bluish green, head.

Of the three ♂♂ ad. from Mombasa one has a green head and the uppermost, lesser wing coverts steely-blue glossy, while the other two have bluish-green heads and wingcoverts more coppery glossy.

The young bird in an early phase is greyish brown on the upperparts, but with a few solitary feathers of the head green-glossy. The centre of the throat violet-red gloss. The fore-neck black; feathers of lower parts dark-brown with yellow edges and tips. Wing-coverts greyish brown. Tail-feathers dark greyish brown tipped with white.

In changing into the full dress the young bird has the upper parts brownish black (a number of feathers with greyish brown tips), crown green glossy, fore-neck black, feathers of under-parts brownish black with greyish brown tips.

Wing,	tarsus	
63, 64, 65 mm.	15—16 mm.	♂♂ ad.
60, 62 mm.	15 mm.	♂♂ juv.

Irides, bill and legs as in the preceding.

Chalcomitra senegalensis aequatorialis Rchw. — Rchw. III. p. 464.

Chalcomitra azik aequatorialis Rchw. Neum.: Journ. f. Orn., 1900, p. 296. — van Someren: Ibis, 1916, p. 442. — *Cinnyris senegalensis aequatorialis* Rchw. Neum.: Journ. f. Orn., 1906, p. 254.

Tjibisivi . . . ki-kamba.

1 ♂ ad. 15. 5. Soy. — 1 ♂ ad. 18. 8. Kisumu. — 1 ♂ juv. 19. 5. Mount Elgon. — 1 ♂ juv. 23. 8. Kendu. — 1 ♀ ad. 14. 5. Soy. — 1 ♀ ad. 18. 6. Kendu.

This race was not common at any of the above places except Kisumu, where it occurred in great numbers. At Soy I saw it in the company of *Nectarinia kilimensis* along the banks of a little stream flowing through the grass-country, and on Elgon it also frequented the grass-country below the eastern slopes. I even saw it a few times at an altitude of 7,000 feet on a bush-clad slope of the mountain itself.

The young male birds are much unlike each other. The upper parts of both are greyish brown and one of them has the green glossy patch of the throat limited towards the sides by a black patch, which in turn is widely edged with white, (in the other the white is missing). The brownish black feathers of the lower surface are in one of them furnished with narrow, white tips (in the centre of the underparts the tips are yellowish white) in the other the white of the lower surface is greyish yellow, as the feathers have broad yellow tips, between which the dark patches of the underlying feathers are visible.

Wing,	tarsus,	
75, 75 mm.	18 mm.	♂♂ ad.
73, 77 mm.	18 mm.	♂♂ juv.
67, 69 mm.	17 mm.	♀♀ ad.

Irides, bill and legs as in the preceding.

Chalcomitra senegalensis inaestimata Hart. — Rchw. III. p. 465.

4 ♂♂ ad. 26. 4.—29. 4; 1 ♀ ad. 26. 4. Mombasa.

This Sunbird was common in the small woods in the coast-land at Mombasa.

Reichenow (op. cit.) considers this form synonymous with the South-African *gutturialis*, but Neumann (Journ. f. Orn., 1900, p. 296) points out that Hartert (Under the African Sun, p. 351) has correctly separated the smaller East African bird from the larger East African and after examining the collections in the Berlin Museum (with reference to this question) I agree with Neumann.

In the Journ. f. Orn., 1906, p. 252—256 Neumann has in a most deserving manner dealt with the "form-circle" *senegalensis* and includes no less than 12 related forms. But if we examine this list a little more closely we shall find that of these forms 4 occur in the Kilimanjaro regions:

1. *aequatorialis* Rchw.
East Africa between Victoria Nyanza and Kilimanjaro.
2. *lamperti* Rchw.
Southern foot and regions east of Kilimanjaro.
3. *borgerti* Rchw. & Neum.
East Usambara (south of Kilimanjaro).
4. *inaestimatus* Hart.
East Africa from North-Mozambique to Mombasa.

As *borgerti* (Orn. Monatsber., 1905, p. 182) occurs in East Usambara, south of Kilimanjaro, though the distribution of this form is not fixed, it is quite possible that the northern boundary goes into the Kilimanjaro regions. Neumann has in any case specimens of *inaestimata* from Korogwe in Usambara, which is the home of *borgerti*.

According to Reichenow (Orn. Monatsber., 1905, p. 282) *borgerti* is distinguished from *gutturalis* (= *inaestimata* Reichenow) in not having the throat green but bronze yellow-red glossy; forehead not pure green glossy but with a green bronze hue; transverse bands on the red shield of the fore-neck not deep blue but greenish blue.

Three of the 4 ♂♂ shot in Mombasa are typical *inaestimata* but the fourth agrees perfectly with the description of *borgerti*. However, the latter was shot on the same day and on the same spot as a typical *inaestimata*, whence I hesitate — in spite of the small differences in the gloss of the various patches — to style it *inaestimata*. This bird is besides in fresh, new dress, while the others are in different phases of moulting, and therefore this dissimilarity is due to the different dresses and I am convinced that *borgerti* is only an individual variation of *inaestimata* and not a distinct form.

The female specimen resembles those of *aequatorialis* but is considerably lighter above and more greyish white below.

Wing,	tarsus,	
71, 71, 73, 74 mm.	16—18 mm.	♂♂
65 mm.	16 mm.	♀

Irides, bill and legs as in the preceding.

Cinnyris venustus falkensteini Fschr. & Rchw. — Rchw. III. p. 474.

- 2 ♂♂ ad. 11. 4. Ngong. — 1 ♂ ad. 17. 4.; 1 ♂ juv. 14. 4. Kiambu. —
 2 ♂♂ juv. 14. 5., 15. 5. Soy. — 1 ♀ ad. 11. 4. Ngong. — 1 ♀ ad.
 17. 4. Kiambu. — 1 ♀ ad. 23. 4. Lake Naiwasha.

In the Kikuyu-country this bird was very common and at Soy it also occurred in fairly large numbers, though I have no ad. specimen from the latter place.

The three ♂♂ juv. show a beautiful series of changes from the immature to the full dress. In a very young stage they

resemble the ♀ very much, but, as a rule, have more or less bronze-green feathers on the upper parts.

The females vary very much in the colour of the underparts (vide Reichenow, op. cit.), from greyish yellow to bright yellow.

Wing,	tarsus,	
53, 53, 54 mm.	15—16 mm.	♂♂ ad.
50, 52, 54 mm.	15 mm.	♂♂ juv.
50, 51, 52 mm.	15 mm.	♀♀ ad.

Irides dark brown; bill and legs black.

Cinnyris mariquensis suahelicus Rchw. — Rchw. III, p. 479.

Njanjoodhi . . . ki-kavirondo. — Ndabela . . . ki-kamba.

1 ♂ ad. 23. 8. Kendu.

Only one specimen was procured, at Victoria Nyanza, of this otherwise fairly common bird (vide v. Someren, Ibis, 1916, p. 445).

Wing,	culmen,	tarsus,
68 mm.	20 mm.	17 mm.

Irides, bill and legs as in the preceding.

Cinnyris mariquensis microrhynchus Shell. — Rchw. III, p. 481.

2 ♂♂ ad. 27. 4., 29. 4. Mombasa.

A fairly common bird in the coastland, frequenting the bush-country.

Zedlitz (Journ. f. Orn., 1916, p. 78) has expressed the opinion that *microrhynchus* is a coastal-bird, but *suahelicus* belongs to the interior regions of East Africa, which opinion is undoubtedly quite correct. I have never observed the former in the interior of the country, and v. Someren mentions it only from the coastal districts (Journ. E. Afr. Ug. N. H. Soc., vol. VI, No. 12, 1918), while M.-Pread (Ibis, 1917, p. 374) has found it some distance from the coast at the Tsavo River.

Of my two specimens one is moulting, the other has assumed the new, full dress. This latter specimen also reaches a rather high figure for the length of the wing, but is all the same a good *microrhynchus*, which is evident, among other things, from the length of the culmen.

Wing,	culmen,	tarsus,
55, 58 mm.	15, 15 mm.	14, 14 mm.

Irides, bill and legs as in the preceding.

Cinnyris mediocris Shell. — Rchw. III, p. 490.

1 ♂ ad. 6. 5. Londiani. — 2 ♂♂ ad. 8. 5. 2 days march north of Londiani.

This species was always found in the depths of the dense forests, where it frequented the tops of high trees.

Wing,	culmen,	tarsus,
55, 56, 58 mm.	18 mm.	17—17.5 mm.

Irides dark-brown, bill and legs black.

Mearns (Smithson. Misc. Coll., vol. 56, No. 14, 1910, p. 4) has described an allied form, *C. m. keniensis*, from Mount Kenia in British East Africa. This is distinguished by being, among other things, larger than *C. m. mediocris*. The former, according to Mearns, should have the wing 52.3 mm., the latter 56 mm. for ♂♂.

In 1915 Mearns described yet another form, *C. m. garguensis*, from the north of Guasso Nyiro River, in British East Africa (Proc. U. S. Nat. Mus., vol. 48, p. 387). The male of this form is said to have the under parts paler than *keniensis* or *mediocris*, and to be smaller than *keniensis*; about the size of *mediocris* from Mount Kilimandjaro. Female much greyer than the above forms.

Whether the two forms described by Mearns are constant and good, I have not been in a position to decide. Yet it does not seem to me to be very probable — at least, as regards *keniensis* — especially when taking the variation in the wing-measurement of the proximal form *C. reichenowi* into consideration.

Cinnyris reichenowi Sharpe. — Rchw. III, p. 490.

7 ♂♂ ad. 23. 5.—7. 7.; 1 ♀ ad. 7. 7. Mount Elgon.

On the eastern slopes of Elgon this species was rather common and was mostly found in the open places overgrown with bushes and creepers, as a rule, about 6.500—7.500 feet high, but some times even in the forests. Once a specimen was shot at an altitude of 11.000 feet in an area where the bamboo grew among the rather low trees.

In the above-mentioned work by Reichenow the following measurements are given for this species: wing 51—53 mm., culmen 15—16 mm., tarsus 16—17 mm., but for *preussi* Rchw., the measurements are: 55—58 mm., 17—19 mm., 16—17 mm. respectively.

Were I to fix the specimens before me on the strength of these figures, they would agree — as appears from the table below — in the length of the wing with *preussi*, but in other respects with *reichenowi*. Og.-Grant has, however, come to the result (Zool. Res. Ruw. Exp., 1910, p. 331) that between these two forms there is “no difference in the length of the wing-measurement”, and he is therefore inclined to make *preussi* synonymous with *reichenowi*, and as, according to Reichenow (op. cit.) the difference between these two lies in the former being larger than the latter — but this difference is not present — they should without any doubt be synonyms.

v. Someren (Nev. Zool., XXV, 1918, p. 287) calls allied forms from West-Elgon *reichenowi*, and therefore, on the authority of Og.-Grant, I call my specimens from East-Elgon by the same name.

The 7 ♂-specimens brought home can be divided into two groups:

1. with dark, uniform olive-brown under parts (5 indiv.)
2. with lighter olive-green underparts which are paler towards the sides (2 indiv.).

The latter are, however, younger specimens, which have not yet attained the full nuptial plumage, and the red patch of the breast is also much narrower and somewhat paler. Among the specimens with fully grown nuptial dress there are two with the under tail coverts tipped with red (or dark orange-coloured), the others have them of the same uniform colour as the undertail-coverts

Wing,	culmen,	tarsus,	
54 mm.	15 mm.	16.5 mm.	♂.
54 mm.	15 mm.	16 mm.	♂.
56 mm.	16 mm.	17 mm.	♂.
56 mm.	15 mm.	17 mm.	♂.
58 mm.	16 mm.	16 mm.	♂.
54 mm.	15 mm.	16 mm.	♀.
54 mm.	15.5 mm.	16 mm.	♀.
48 mm.	15 mm.	16 mm.	♀.

The female specimen agrees fully with the description Reichenow (op. cit.) has given of a ♀ of *preussi*.

Irides, bill and legs as in the preceding.

Mearns has also described a form belonging to this circle: *C. r. kikuyuensis* (Proc. U. S. Nat. Mus., vol. 48, 1915, p. 388), which should be "smaller than *C. r. reichenowi* and more greyish, less ochraceous, on the upper parts posterior to the red pectoral collar". He gives the wing as 52 mm., culmen 13 mm., tarsus 15 mm.

Nectarinia erythrocerca (Heugl.) Hartl. — *Rehw.* III, p. 495.

Nectarinia erythrocerca (Heugl.). *Sclater & M.-Præd: Ibis*, 1918, p. 617.

7 ♂♂ ad. 18. 8.—19. 8; 2 ♀♀ ad. 19. 8.; 1 ♀ juv. 19. 8. Kisumu.

This Sunbird was the commonest species in the scrub round Kisumu (vide v. Someren: *Ibis*, 1916, p. 447) and occurred in great abundance right down at the shores of Lake Victoria Nyanza, where it nested in the low bushes. I frequently found the nests right in the middle of those of the Weaving birds on the tip of some branch. From a nest, at which I shot both male and female, I took the more than half-grown young bird (19. 8), which is dark olive-green above and bright yellow below. The throat is greyish black.

As Ogilvie-Grant has already pointed out (Zool. Ruw. Exp., 1910, p. 316) the males vary very much in the colour of the under tail-coverts. Thus, five of the specimens from Kisumu have these feathers broadly edged with purple, while in the other two they are pure black. Reichenow says (op. cit.) that males from Victoria Nyanza have a dominant bluish gloss, which agrees with the present specimens. Otherwise there is no difference in the colours of these 7 ♂ specimens.

The female specimens agree with the description given by Reichenow (op. cit.) [after Shelley].

Wing,	culmen,	tarsus,	
60, 61, 63, 63, 63, 63 mm.	17—18 mm.	16—17 mm.	♂♂.
57, 57 mm.	16 mm.	16 mm.	♀♀.

Irides, bill and legs as in the preceding.

Nectarinia famosa cupreonitens Shell.

1 ♂ juv. 11. 5. Eldoret.

A few specimens of this race were seen on the boundary between the acacia-country and the grass-plains.

The specimen before me is changing to the nuptial dress and has the head greyish brown (a few feathers here and there with green or coppery-red tips). The upper surface green glossy with a coppery-red glimmer. The outer web of the outer secondaries dark-blue, the inner with green-glossy edges. The tail-feathers dark blue-violet with green edgings. Throat and fore-neck green-glossy, breast and belly with a blue lustre. Some of the feathers of the lower surface black tipped with yellowish grey.

Wing 74 mm.; culmen 31 mm.; tarsus 16 mm.

Irides, bill and legs as in the preceding.

Nectarinia kilimensis Shell. — Rchw. III. p. 502.

1 ♂ ad. 18. 4. Kiambu. — 1 ♂ ad. 22. 4. Laka Naiwasha. — 1 ♂ ad. 24. 4. Kikuyu. — 6 ♂♂ ad. 4. 5., 7. 5. Londiani. — 2 ♂♂ ad. 12. 5. Eldoret. — 2 ♂♂ ad. 14. 5., 15. 5. Soy. — 1 ♀ ad. 10. 4. Nairobi. — 2 ♀♀ ad. 22. 4. Lake Naiwasha. — 1 ♀ ad. 15. 5. Soy.

In the above-mentioned localities this species was very common, but I never saw it on the eastern slopes of Elgon, although v. Someren mentions it as common on West-Elgon (Nov. Zool., XXV, 1918, p. 287).

In the series of 13 ♂♂ before me there are no great variations. Still, I have made the same observation as Neumann (Journ. f. Orn., 1900, p. 300) that certain individuals have a stronger coppery-red gloss than others, especially on the lower parts of the back and on the upper tail-coverts. In a somewhat

younger ♂ specimen the under tail-coverts are dark greyish-yellow with broad yellow edges. In old males the tail-feathers are often dark steel-blue glossy with narrow purple-blue edges.

The females do not vary in the colours of the dress. The tail-feathers are brownish black (sometimes with a faint steel-blue lustre) and tipped with white. The outer tail-feathers white in the lower half of the outer-web.

	Wing,	culmen,	tarsus,	
73, 73, 74, 74, 74, 75, 75, 75,				
76, 76.5, 77, 77, 78 mm.	26—30 mm.	18—20 mm.	♂♂.	
65, 67, 67, 70 mm.	25—26 mm.	18 mm.	♀♀.	

Reichenow (op. cit.) gives: wing 70—75 mm., culmen 25—28 mm. Although a large number of the present specimens have a higher figure for the wing and culmen measurements than those above there is no reason to separate them as a distinct form.

Nectarinia tacazze (Stanl.). — Rchw. III. p. 503.

1 ♂♂ ad. 4. 5. Molo. — 4 ♂♂ ad. 27. 6.—30. 6.; 1 ♂ juv. 29. 6.;
2 ♀♀ ad. 20. 6., 1. 7.; Mount Elgon.

The first specimen of this species was shot on the station grounds at Molo (on the north side of Mau), where the bird was found in some low bushes along the rail-road. Later on, 7 specimens of this Sunbird was procured on the highest regions of Elgon.

Neumann (Journ. f. Orn., 1900, p. 257) considers that *tacazze* occurs on the outskirts of the forests, and Zedlitz gives expression to the same opinion (Journ. f. Orn., 1911, p. 63). As far as the bird living on Elgon is concerned, it is no forest-bird at all but occurs — or is at least seen — only in the areas lying at an altitude of over 11000 feet, thus, where the forest has already ceased. The vertical southern boundary of the race is thus the slopes of the sub-alpine regions, covered with *Ericacés* and other bushes and bush-like trees. At times the bushes grow together into small communities in these areas, but for the most part they are spread apart and the expanse of the mountain meads gives character to these regions. Here at an altitude of 11000 feet the bird in question is by no means common, but the higher one ascends, where the bushes and small trees become more and more sparse and at last cease altogether, it occurs more commonly and up on the shores of the crater-lake at about 13500 feet, where *Senecio Johnstoni* is found in tall, tree-like forms, as high as 6—7 metres, which simply form small forests, the bird is the commonest of those living in this alpine region. *Nectarinia tacazze* is the bird which goes highest on Elgon and as it frequents the *Senecio*-trees,

which even grow on the summit plateau itself, one might dare to assert that the northern boundary of the bird is 14000 feet.

v. So m e r e n calls his Elgon-specimens, belonging to this bird, from the western slopes simply *Nectarinia tacazze* (Nov. Zool., XXV, 1918, p. 287) and thus, in the same manner as R e i c h e n o w (Vög. Afr. III, p. 503) and S h e l l e y (Birds Africa, vol. II, p. 26—27) makes the Abyssinian form synonymous with the East African *jacksoni*. My investigations of this matter have also compelled me to come to the same decision.

To establish different forms on the basis of the more or less greenish gloss is meaningless, for such differences frequently occur in specimens from the same locality (vide R e i c h e n o w, op. cit.). N e u m a n n points out (Journ. f. Orn., 1900, p. 258) that *jacksoni* from Mau, Kikuyu and Kenia has a beautiful, pure green colour on the head, while *tacazze* from Abyssinia and Schoa has a plain steel-green colour, shading into violet-red. Yet, he adds that these differences are easier to see than to describe. My ♂ specimen from Mau and those from Elgon, ought then, if that character was the decisive feature, to be true *tacazze*, for a rather plain violet-red colour is prominent on the heads of all of them.

If, on the other hand, the little difference in the wing-length were the decisive character (in full-grown ♂ specimens) I should still hesitate to refer them to *jacksoni*, for which N e u m a n n gives a wing-measurement of 81—83 mm., whereas my specimens have 78—81 mm. (see table below). However, as both *tacazze* and *jacksoni* may have a wing-measurement of 81 mm, such specimens would be impossible to distinguish from one another for, as already mentioned, the gloss varies very considerably and this character is thus of no systematic value.

Three of the male specimens are in full summer dress but differ from all descriptions in having the under tail-coverts broadly edged with violet-red. Whether this should be characteristic for a special Elgon-form or not, I cannot with certainty decide at present. Yet, it seems to me most probable that it is not so, but that the violet-red under tail-coverts are to be considered as characteristic of the full-grown male in nuptial dress. O g i l v i e - G r a n t has found that the under tail-coverts of *Nectarinia erythrocerca* vary in colour and attaches no systematic importance to this difference, and it should therefore be the same in the present case. In this view I am supported by the fact that those specimens which lack this violet-red colour, thus having entirely black under tail-coverts, are such as have not completely assumed the breeding dress, and are thus younger, which is evident from the fact that a few black feathers of the lower parts are dark greenish grey on the tips and the feathers on the lower part of

the tibia are of the same colour, whereas, in the full-grown bird, these parts are entirely black.

The young bird has the feathers of the lower surface of the same colour as the female, i. e. greyish yellow, and most of the secondaries (except the inner ones) with edges of the same colour. The tail-feathers almost as in the female, though more steel-blue glossy, the outer ones with white edges. Otherwise very like the full-grown male, although some of the feathers of the back have not yet got the coppery-red tips.

The female specimen agrees with Reichenow's description (op. cit.).

Wing,	culmen,	tarsus,	
81 mm.	27 mm.	17 mm.	♂ ad.
81 mm.	29 mm.	20 mm.	♂ ad.
82 mm.	27 mm.	19 mm.	♂ ad.
80 mm.	28 mm.	19 mm.	♂ ad. (not full dress.)
78 mm.	28 mm.	19 mm.	♂ ad. (" " ")
78 mm.	30 mm.	20 mm.	♂ juv.
67 mm.	27 mm.	18 mm.	♀ ad.
72 mm.	27 mm.	20 mm.	♀ ad.

Comparing Reichenow's figures for the length of the culmen and the tarsus (the former 30—32 mm., the latter 18—19 mm.) with those in the above table, we find they do not agree, for only the young bird attains Reichenow's minimum for the length of culmen. The others go below it. Whether the East African form therefore may possibly have a shorter bill than the Abyssinian and is thereby perhaps distinguished from it, further comparisons should be able to show.

Paridae.

Parus niger purpurascens v. Someren — Bull. Brit. Orn. Club, vol. XLI, 1921, p. 112.

1 ♂ ad. 15. 5. Soy, 6.500 ft.

I came across this newly described form 4 days' march from Elgon in the direction of Soy, where it frequented the brush-wood along a little stream.

When Neumann (Journ. f. Orn., 1906, p. 260) separated 5 forms belonging to this species, he wrote: "At Victoria Nyanza there is yet another form, which is exactly like the Abyssinian *leucomelas*. The differences between Nyanza and Abyssinian specimens will certainly be determined later on."

v. Someren has found this form at several places around Victoria Nyanza and mentions it also from Elgon. It differs

from *leucomelas* and *lacuum* in having no white fringes to the outer rectrices. Wing: ♂ 83—85 mm., ♀ 78—82 mm.

The specimen from Soy has a wing-measurement of 85 mm., tarsus 19 mm. Irides dark-brown; bill and legs black.

Parus albiventris Shell. — Rchw. III. p. 514.

2 ♂♂ ad. 18. 4. Kiambu. — 2 ♂♂ ad. 18. 5., 31. 5. Mount Elgon. —
2 ♀♀ ad. 17. 4., 18. 4. Kiambu. — 1 ♀ ad. 23. 5. Mount Elgon.

In the environs of Mombasa this Tit occurred rather commonly, and two specimens were shot, but unfortunately they were lost.

On the eastern slopes of Elgon the race was also common, being always found on the edges of the forests at an altitude of about 6500—7000 feet.

The specimens before me vary only with respect to the white fringes on the outer tail-feathers. Thus, some have a very broad fringe, and at times the whole of the outer web is white; others only a narrow, white edge.

Wing,	tarsus,	
72, 83, 84, 87 mm.	19—20 mm.	♂♂.
77, 77, 80 mm.	19 mm.	♀♀.

Irides dark-brown; bill black; legs dark lead-grey — greyish green.

Sylvildae.

Melocichla mentalis amaouroura Pelz. — Rchw. III. p. 539.

2 ♂♂ ad. 26. 5., 25. 7.; 2 ♀♀ ad. 26. 5., 25. 7.; Mount Elgon.

This bird was found below the eastern slopes of Mount Elgon in the dense brushwood and bushes, fringing the rivers and streams. As a rule it was found in pairs and I never saw it in flocks of 4—10 in number as Neumann mentions (Journ. f. Orn., 1916, p. 264). The bird is very timid and difficult to get within range, as it keeps well concealed in the almost impenetrable brushwood. When it is alarmed it utters an agitated, short cry: oooooo, oooooo.

Neumann separates (op. cit.) three allied forms: *mentalis*, *orientalis* and *amaouroura* and makes Reichenow's *atricauda* synonymous with the last, which is no doubt correct. v. Someren (Ibis 1916, p. 450) shares this opinion, but later on (Nov. Zool., XXV, 1918, p. 287) he styles specimens from West Elgon *atricauda*. Slater and Mackworth-Praed (Ibis 1918, p. 645) include Neumann's three forms but do not express any opinion of *atricauda*. Reichenow gives the

name of *atricauda* to specimens from the districts around the Great Lakes (Vogelf. Mittelafr. Seengeb., 1912, p. 312). According to Neumann, however, *amauroura* should occur in the districts around the Great Lakes and on the Upper Nile to Omo, but Slater and M.-Præd establish the range to: Uganda, western British East Africa, the White Nile, Bahr el Ghazal and S. Abyssinia. At any rate this area of distribution practically coincides with that for *atricauda*, whence it might be taken for granted that the writers mentioned also consider this form a synonym of *amauroura*.

The specimens from Elgon are undoubtedly *amauroura* as all have the upper parts greyish brown (mainly greyish), but approaches — like Neumann's specimens — *orientalis* to some extent, as two of them have the rump and the crissum brownish red. The rectrices are all brownish black.

Neumann (op. cit.) considers that north of Victoria Nyanza *mentalis* and *amauroura* merges into each other. It may, however, be more easy to suppose transition forms between *orientalis* and *amauroura*, as the range of *mentalis* is West Africa from the Gold Coast to N. Angola. But Slater and M.-Præd agree with Neumann's view and they add that they have nevertheless not found any from these regions resembling *orientalis*.

Among my four specimens two (♀♀) recall *orientalis* in the light, pale colour of the under parts, which is almost whitish in the centre, and also in the pale colour of the under tail-coverts and one of them also has the reddish brown feathers of the forehead very dark, almost greyish brown. But the under wing-coverts are light rusty-brown in all of them.

The other two (♂♂) are more uniformly yellowish brown on the lower surface. Although they are shot at different times they still show a distinct agreement in the colours of the dress — the males as well as the females — whence it seems probable that this is a difference between the sexes and that the females are therefore lighter than the males.

Wing,	tarsus,	
75, 75 mm.	28, 30 mm.	♂♂.
75, 76 mm.	29, 30 mm.	♀♀.

Irides citron-yellow — pale-yellow. (Lönnerberg (Birds coll. Sw. Zool. Exped. B. E. A., 1911, p. 120) says that the iris of *orientalis* is light brown); upper mandible dark greyish-brown, lower mandible greyish blue; legs dark leaden grey.

Cisticola prinioides prinioides Neum. — Rchw. III. p. 543.

1 ♂ ad. 24. 4. Kikuyu. — 1 ♂ ad. 7. 5. Londiani. — 6 ♂♂ ad. 28. 6.—30. 6.
3 ♀♀ ad. 28. 6.—30. 6; 3 ♂♂ juv. 27. 6.—29. 6. Mount Elgon.

Forms belonging to this form-circle are chiefly known from the high mountains of East Africa, although v. Someren (Ibis, 1916, p. 253) found a bird, which he styles simply *C. prinioides*, nesting at Nakuru. The first specimen of this race was procured in close vicinity to Kikuyu railway station in a little grove, surrounded on all sides by cultivated land. Later on, a bird was shot a day's march north of Londiani, at an altitude of about 8.500 feet, in the brushwood growing along the sides of a road.

On the eastern slopes of Elgon it was common and began to appear at about 11.000 feet, i. e. in the *Erica* forest. Here it occurred either singly or more usually in small flocks of 4—6 in number, and frequented the withered, dense scrubby thickets of the heather, where it was difficult to discover. In the small bushes of the mountain fields higher up — at about 12.000 feet — it was also common and was often seen in the company of *Pinarochroa sordida rudolphi*. The latter was never seen above 13.000 feet above sea-level, but *Cisticola prinioides* which was one of the few small birds on the still higher regions and one specimen was shot at 13.500 feet by the crater-lake and another at the mouth of the crater itself. It thus seems — in spite of the accidental finds at Kikuyu and Londiani — as if this bird is an alpine being, whose chief vertical range runs to an altitude of about the 11.000—13.500 feet (at least on Elgon).

v. Someren (Nat. Nov., 1918, p. 287) calls specimens from West Elgon *C. hunteri* and states that he has found it within the Bamboo zone, where I at any rate, never saw it.

At present the following forms, belonging to this form circle, have been described.

1. *Cisticola prinioides prinioides* Neum.
(Journ. f. Orn., 1900, p. 304)
Total length 160 mm., wing 55 mm.
Hab. Mau.
2. *Cisticola prinioides neumanni* Hart.
(Bull. Brit. Orn. Club., vol. XII, 1901, p. 13)
Hab. Mount Kenia.
3. *Cisticola prinioides kilimensis* Mearns.
(Smithson. Misc. Coll., vol. 56, No. 25, 1911)
Total length 147 mm., wing 58 mm., tarsus 24 mm.
Hab. Mount Kilimanjaro.
4. *Cisticola prinioides wambugensis* Mearns.
(Smithson. Misc. Coll., vol. 60, No. 20, 1913)
Total length 135 mm., wing ♂ 60, ♀ 55 mm., tarsus 25.5, 24 mm.
Hab. South of Mount Kenia.

With respect to *kilimensis* Reichenow says (Journ. f. Orn., 1918, p. 104) that it cannot be distinguished from *prinioides*

nioides, having come to that conclusion after comparing Kilimanjaro specimens with true *prinioides*. From the description it does not seem to differ in any noteworthy degree from Hartert's *neumanni*. I have compared my specimens with others from Kilimanjaro, collected by Sjöstedt, in the Stockholm National Museum, and it seems as if the latter were in general darker than Elgon specimens. A specimen found in Stockholm from Kenia (thus *wambugensis*, according to Mearns) exhibits no difference from the Elgon birds.

That *wambugensis* should be considered a good form seems doubtful to me. I have, it is true, not had any specimen for comparison, but have in the series from Elgon young birds which agree perfectly with Mearns's description (op. cit.), whence I think it quite probable that this form is only a juvenile phase of *prinioides*.

Finally, as far as *neumanni* is concerned, I entertain great doubts in accepting it as a good, geographical form, inasmuch as among the 14 Elgon specimens even this type is represented.

When studying the forms belonging to this species I have found that the young in general have a more reddish brown head than the adults, and that the upper parts are also predominantly brownish, sometimes uniformly coloured, the tail brownish, and the feathers oftenest with rusty-brown edgings. Under parts whitish, mingled with grey on the sides. The throat almost pure white. The young birds have also the bill dark-brown with the posterior half of the lower mandible yellowish.

Among the 10 full-grown specimens there are rather great differences, and they can be referred now to one, now to another of the previously mentioned forms. Thus, some have the whole of the lower surface greyish, others have a whitish area along the middle of the abdomen. A certain number of them have the head rusty-brown, others dark greyish brown and in some the crown is more spotted, with dark centres to the feathers, than in others etc. The majority have the whole of the upper parts brownish black, but in a few they are lighter, brownish grey, approaching the young bird's. The tail-feathers are in all of them more or less brownish grey.

As 12 of the 14 specimens were shot at the same time and within a limited area and there being so great differences which can be referred to the distinctive features distinguishing the various forms described, this goes to prove that a number of these forms can hardly be considered as good ones but only as individual variations in a bird which exhibits locally great variation in the colour and design of the dress, and I am convinced that future investigations of *C. prinioides* will corroborate this opinion.

Neumann says (Journ. f. Orn., 1900, p. 304) that only two birds have any likeness to *prinioides*, namely, two specimens

from South Africa under the name of *subruficapilla* found in the Berlin Museum. But *hunteri* is undoubtedly closely related to *prinioides* and resembles it very much and also occurs, according to Reichenow, together with it.

I have compared my specimens with the type specimens and others in the Berlin Museum and found that the Kikuyu specimen agrees perfectly with the type, but that those from Elgon are in general somewhat darker.

The Elgon specimens have as a rule a larger wing-measurement than Neumann's type, but in the Berlin Museum there are *prinioides* specimens from Meru (collected by Sjöstedt) with a wing-measurement of 60 mm. and others have above 60 mm.

Perhaps the Elgon bird is a distinct form which is larger than the others, for it could hardly be distinguished from the others by any other character. But as the figures in the present case vary so considerably I do not yet consider that I am justified in establishing a new form.

	Wing,	tarsus,	
	60 mm.	23 mm.	♂ Kikuyu.
	63 mm.	25 mm.	♂ Londiani.
62, 62, 62, 62, 64, 65 mm.		24—25 mm.	♂♂ ad. Mount Elgon.
60, 61, 63 mm.		24—25 mm.	♂♂ juv. „ „
60, 63, 64 mm.		24 mm.	♀♀ ad. „ „

Irides dark brown; bill black; legs pale flesh-coloured (in the young bird, brownish-grey-brownish-yellow.

Cisticola subruficapilla aequatorialis Mearns. — Smithson. Misc. Coll., vol. 56, No. 25, 1911, p. 2.

1 ♂ ad. 22. 4.; 1 ♀ ad. 20. 4. Lake Naiwasha.

In the grass-country around Lake Naiwasha this race was found in company with others of the same family.

The male agrees perfectly with Mearns's description of the type specimen from Lake Naiwasha, but the female has not the brownish-black centre on the feathers of the mantle, but is more uniformly dark-brown, nor are the feathers of the head striped with blackish brown.

Reichenow throws out the suggestion (Journ. f. Orn., 1918, p. 104) that *aequatorialis* coincides with his *semifasciata*, of which I have examined the type specimen and 6 others in the Berlin Museum collections, and although there are rather great similarities between these two forms I am yet of opinion that they should be kept apart, for as Mearns pointed out this form is considerably larger and besides has not, as *semifasciata*, only a black spot on the inner web of the tail-feathers, close to the tip but has a clear band across both webs.

Wing,	tarsus,	
69 mm.	26 mm.	♂
58 mm.	24 mm.	♀

Mearns gives the measurement for *aequatorialis* as: ♂♂ 66.1 mm., tarsus 24.5 mm., ♀♀ 57 mm., 23.6 mm. The measurements for the specimens before me are greater, it is true, but nevertheless I still place them under this form, on account of the other similarities.

v. Someren names a related form: *fischeri* (Ibis, 1916, p. 451) and in his "Prov. Check-list of the Birds of B. E. A. and Uganda", 1917, p. 57, refers this name to Reichenow: Journ. f. Orn., 1911. However, there is neither in that year nor any other year any form of *subruficapilla* described by Reichenow under this name, but certainly a *Cisticola chiniana fischeri* in Journ. f. Orn., 1891, p. 162.

Cisticola strangei holubii Pelz. — Rchw. III, p. 545.

4 ♂♂ ad. 8. 6., 19. 6., 24. 7., 25. 7. Mount Elgon.

This bird occurred less commonly on the eastern slopes of Elgon up to about 7000 feet.

Zedlitz (Journ. f. Orn., 1916, p. 82), following. Neumann (Journ. f. Orn., 1906, p. 266—267), distinguishes three forms belonging to this circle, *strangei*, *argentea* and *holubii*, of which the one occurring in East Africa is the above-named. When Zedlitz treats of the systematisation of the *strangei* forms he does not express any opinion, remarkably enough, of Mearns' analysis thereof (Smithson. Misc. Coll., vol. 56, No. 25, 1911, p. 4—5). Mearns mentions *strangei*, *pachyrhyncha* and a new form, *kapitensis*, and he gives a comparative description of the three of them. He also speaks of *argentea* and considers this "apparently as a subspecies of *C. strangei*".

According to Mearns and Zedlitz we should thus have to include the following forms:

1. *Cisticola strangei strangei* (Fras.)
Wing 69 mm., tarsus 29 mm. (acc. to Mearns).
Hab. West Africa from Senegambia to Angola.
2. *Cisticola strangei holubii* Pelz.
Wing 67—72 mm., tarsus 27—28 mm. (acc. to Granvik).
Hab. Brit. East Africa, German East Africa to S. O. Africa.
3. *Cisticola strangei argentea* Rchw.
Wing 70—75 mm., tarsus 28—30 mm. (acc. to Rchw.: Orn. Monatsber. 1905, p. 25).
Hab. S. Somaliland.
4. *Cisticola strangei pachyrhyncha* (Heugl.).
Wing 69 mm., tarsus 29 mm.
Hab. Bongo (Bahr el Gazal).

5. *Cisticola strangei kapitensis* Mearns.

Wing 67.6—68 mm., tarsus 28.5—29 mm.

Hab. Kapiti Plains (British East Africa).

Whether *kapitensis* is a good form or is a synonym of *holubii* — which is very probable — I have not been in a position to decide. v. Someren (Ibis, 1916, p. 451) says that “a freshly-moulted specimen in fine, clean, dark dress is an August bird. Birds in the light brown plumage have been found breeding”. Thus it seems as if dark and light specimens occur within the same area and that this difference is of no systematic value but is only due to the different seasons, whence it is probable that careful studies of the *strangei*-forms described will reduce their number.

The whole of the upper parts are predominantly grey, although the head has a slight tint of brown. The rusty-brown colour on the tibia varies quite considerably in these four from pale to dark rusty-brown.

Wing,	tarsus,
67, 68, 70, 72 mm.	27—28 mm.

Irides brownish-red; bill blackish (lower mandible with light tip), legs flesh colour.

Sclater and Mackworth-Praed (Ibis, 1918, p. 647) makes the West African *strangei* a form under *natalensis*, which is probably the most correct, but having had too little material at my disposal I cannot give an opinion of the relative affinity of the various *strangei* forms or of their relation to *natalensis*.

Cisticola tinniens subrufescens Granvik.

1 ♂ ad. 10. 5.; 1 ♀ ad. 11. 5. Eldoret.

This bird, so rarely met with in East Africa, was found on the rush-clad banks of a little stream flowing through the grass-plains.

Reichenow gives the range of this bird to South Africa, extending northwards to Angola and the Transvaal (but according to Jackson: Ibis, 1901, p. 56, also found in East Africa). Jackson says that “in Nandi it is plentiful in the marshy hollows”, and the same writer has also procured this bird from Mau.

This Warbler resembles *C. erythrogenys* very much but differs from that in having the forehead uniform rufous and the black stripes commencing just in front of the eye. (Ogilvie-Grant and Reid: Ibis, 1901, p. 653).

The male is somewhat darker reddish-brown than the female and has scanty black stripes on the neck and the black feathers of upper parts edged with brownish grey. Further, the tibiae

are dark rusty-brown. The female lacks the black stripes on the head, which is thus here uniform rufous; the feathers of the back are edged with light greyish brown. The tibiae pale rusty-brown. In other respects they are in agreement with *Reichenow's* description.

Wing,	tarsus,
58 mm.	22 mm.
59 mm.	21 mm.

Irides dark-brown; bill black (lower mandible with greyish-blue spot); legs faintly flesh-coloured.

The East African form of *tinniens* differs from the South African in the head being reddish brown (in the South African rusty-brown) and in the long length of its wing. In South African specimens this is 50—55 mm.

Cisticola robusta ambigua Sharpe. — Bull. Brit. Orn. Club, vol. XI, 1900, p. 28.

2 ♂♂ ad. 10. 4. Nairobi. — 1 ♂ ad. 11. 4. Ngong. — 1 ♂ ad. 17. 4. Kiambu. — 3 ♂♂ ad. 12. 5., 10. 8. Eldoret. — 5 ♂♂ ad. 16. 5., 17. 5., 26. 7. Soy. — 3 ♂♂ ad. 6. 6., 19. 6., 24. 7. Mount Elgon. — 1 ♀ ad. 10. 4. Nairobi. — 2 ♀♀ ad. 11. 4. Ngong. — 2 ♀♀ ad. 16. 7., 25. 7.; 3 ♂♂ juv. 24. 7. 25. 7. Mount Elgon. — 1 ♂ juv. 11. 8. Eldoret.

This bird was one of the commonest everywhere on the grass-plains.

Neumann (*Journ. f. Orn.*, 1906, p. p. 264—266) has dealt with the forms of *robusta* in detail and separated 5 seemingly good races. I have before me a series of 20 specimens which must all — in spite of small differences — be placed under *ambigua*. According to Neumann (*op. cit.*) this form is characterised by being a darker red on the head, right from the crown. The dark streaking of the frontal plate very dull, in many it is not present at all. Pure white or almost white tail tips. Wing: ♂ 66—71 mm., ♀ 56—60 mm.

With specimens from Nairobi, Ngong and Kiambu (thus from the Kikuyu country) Neumann's description agrees entirely. Yet in some the head patch is more red-brownish, in others brownish yellow. All of them have the dark streaks faintly marked.

The other specimens from Eldoret, Soy and Elgon are of another type and agree with the description v. Someren has given of birds from Uganda (*Ibis*, 1916, p. 453). Whether these are aberrants of *ambigua* or not is doubtful. v. Someren, however, has at any rate not expressed any opinion but styles them only *C. ?* Among these 13 specimens there is only one (♀) which approaches the true *ambigua* from the Kikuyu-country. It therefore seems most probable to me that the difference present is only a difference accompanying the seasons. They cannot be

considered as *nuchalis* (from the West-side of Victoria Nyanza) for, according to v. Someren (op. cit.) this has "a dark brown head with a few dark markings", which does not agree with any of the ones before me. Reichenow (Vög. Afr. III, p. 555), who is the author of the bird, gives the wing to 55 mm., Neumann gives 54 mm., but v. Someren 63—66 mm. for ♂, 54—60 mm. for ♀. A number of these specimens recall, as regard the colour of the head, the north-east African *robusta*, but do not attain the measurement of that form. With respect to the colour of the lower surface these 13 specimens exactly resemble those from the Kikuyu country.

The young birds from the Elgon district differs distinctly from the full-grown in the tail-feathers being dark greyish brown, and all of them have a distinct whitish tint on the under parts (in these characters they recall *natalensis* to a certain extent). The head has not yet acquired the brownish red colour of the adult but is of the same colour as the back and provided with dark, wide streaks.

The following table exhibits the measurements of the various specimens:

	Wing,	tarsus,		
	66, 67 mm.	27 mm.	♂♂	Nairobi.
	69 mm.	27 mm.	♂	Ngong.
	69 mm.	27 mm.	♂	Kiambu.
	66, 68, 67 mm.	26, 27 mm.	♂♂	Eldoret.
64, 64,	67, 67, 69 mm.	26—28 mm.	♂♂	Soy.
	66, 66, 67 mm.	28 mm.	♂♂	Elgon.
	58 mm.	25 mm.	♀	Nairobi.
	58, 58 mm.	24, 25 mm.	♀♀	Ngong.
	56.5, 58 mm.	25 mm.	♀♀	Elgon.

Irides brownish red; bill black (lower mandible with greyish blue, at times, yellowish spot in the centre or greyish blue base); legs pale flesh-coloured.

Cisticola terrestris hindei Sharpe. — Rchw. III, p. 559.

Cisticola brunnescens Heugl.

1 ♀ ad. 11. 4. Ngong.

This little Grass-Warbler was only seen on this one occasion in the grass-plains, in the vicinity of Nairobi. v. Someren (Ibis, 1916, p. 452) says, however, of this race that it is "fairly common, but difficult to procure".

Breeding-time seems to fall in the month of April, for this female specimen had well developed eggs in the ovary. In contradistinction to the following this form is considerably lighter

and paler, especially the lower surface, which is pure white, the throat likewise. The fore-neck and flanks are pale yellowish brown. The rump is yellowish brown.

Wing 47 mm.; tarsus 20 mm.

Irides dark-brown; bill yellowish brown, upper mandible darker; legs pale flesh-coloured.

Cisticola terrestris ugandae Rchw. — Orn. Monatsber., 1908, p. 13.

2 ♂♂ ad. 11. 8. Eldoret.

Fairly common in the grass-country in the Elgon regions and at Eldoret, and differs quite distinctly from the preceding by having the head, as a rule, more rusty-brown, the rump rusty brown and the under parts of the body almost uniformly pale yellowish brown. On the other hand I am not able to find any noteworthy difference in the colour of the tail-feathers, although Reichenow (op. cit.) intimates that such a difference exists. In the characters given they differ, however considerably from the preceding and therefore I have given them Reichenow's name. In some respects — measurements, colour of upper parts — they even agree fairly well with Heuglin's *eximia* (Ibis, 1869, p. 106) and one might just as well consider them to be intermediate between that race and *ugandae*.

Wing 46, 47 mm. Tarsus 20 mm.

Irides, bill and legs as in the preceding.

Cisticola chubbi Sharpe. — Rchw. III, p. 561.

4 ♂♂ ad. 20. 5., 3. 6., 22. 6.; 2 ♀♀ ad. 2. 6., 3. 6. Mount Elgon.

This species occurred up to about 7,500 feet on the eastern slopes of Elgon and was common in the open grass-country.

All the Elgon specimens are greyish brown above (not brown, as Reichenow states), otherwise they agree with the description (op. cit.). According to Reichenow this species differs, among other things, from *nigriloris* in the tarsus being shorter: in the latter 26—27 mm., in the former 24—25 mm. As appears from the table below the length of the tarsus of these ♂♂ individuals is, without exception, 27 mm., whence the difference between the species mentioned does not seem to exist.

Wing,	tarsus,	
64, 65, 66, 66 mm.	27 mm.	♂♂.
59, 60 mm.	25 mm.	♀♀.

The only difference between the sexes is that the female is somewhat smaller than the male.

Irides, bill and legs as in the preceding.

Cisticola brachyptera brachyptera Sharpe. — *Rchw.* III, p. 567.

Cisticola hypoxantha Hartl. Neumann: *Journ. f. Orn.*, 1906, p. 276. — *Cisticola rufa* (Fras.). *Rchw.*: op. cit. — Zedlitz: *Journ. f. Orn.* 1916, p. 84. — v. Someren: *Nov. Zool.*, XXV, 1918, p. 288. — *Cisticola rufa hypoxantha*. v. Someren: *Ibis*, 1916, p. 452. — *Cisticola brachyptera* Sharpe. Sclater and Mackworth-Praed: *Ibis*, 1918, p. 655.

1 ♂ ad. 16. 5. Soy. — 3 ♂♂ ad. 6. 6., 8. 6. Mount Elgon.

In the grass-country below the slopes of Elgon this little Warbler was found not uncommonly.

The four specimens are almost exactly alike and have the faint, dark streaks to the feathers of the back. Only in respect to the colour of the head do they vary a little, two of them being a little lighter than the others, the latter having a dark-brown head patch. In other respects they are in accordance with Reichenow's description of *C. rufa*.

The measurements agrees better with Neumann's (op. cit.) than with Reichenow's.

Wing,	tarsus,
50, 51, 52, 52.5 mm.	20 mm.

Irides brownish red; bill dark greyish brown (lower mandible lighter); legs pale flesh-coloured.

Sclater and M.-Praed (*Ibis*, 1918, p. 655) are of opinion that "*hypoxantha* from the Nile Province of the Uganda Protectorate is identical with the form of *C. brachyptera*, occurring in the Sudan", and that "*C. rufa* is a West African bird found from the Welle river to the Cameroon and perhaps Angola". I have therefore given the Elgon specimens the above name.

v. Someren gives 42 mm. as the wing-measurement of a specimen from Moroto, Turkanaland (*Journ. E. Afr. Mg. N. H. Soc.*, 1921, No. 16, p. 26).

Cisticola brachyptera reichenowi Mearns. —
Smithson. Misc. Coll., vol. 56, No. 25, 1911, p. 6.

Cisticola hypoxantha reichenowi. Mearns: op. cit.

2 ♂♂ ad. 26. 4. Mombasa.

This form of *hypoxantha* is described from Changamwe (near Mombasa) and distinctly differs from the preceding in being considerably paler, predominantly greyish, on the back, on account of which the more or less dark-brown colour of the head contrasts with the rest of the upper surface. In the preceding form the colour of the head and back was the same.

Mearns also mentions that it is „less distinctly streaked above“, but in this I cannot agree, inasmuch as these two are almost more distinctly streaked above, which I dare say is due to the fact that both specimens are in moult and the old feathers thus paler and more abraded on the edges, whereby the centre of the feathers appear darker.

Wing, tarsus,
47, 50 mm. 19, 20 mm.
Irides, bill and legs as in the preceding.

Cisticola erythrops erythrops (Hartl.). — *Rehw.* III, 568.

1 ♂ ad. 18. 4. Kiambu.

Sclater and Mackworth-Praed (*Ibis*, 1918 p. 656—657) have separated three forms belonging to this species and established the range of *e. erythrops* to West Africa: Cameroon to the Gold Coast, and eastwards to Ruwenzori and to the Lake district. But the boundary towards the east should be moved to the regions of Kenia, as v. Someren (*Ibis*, 1916, p. 456) has found the bird in the Nairobi district, [where the present specimen was also shot.

This individual agrees splendidly with Sclater and M.-Praed's description and has the wing 60 mm., tarsus 24 mm. Irides, bill and legs as in the preceding.

Calamocichla leptorhyncha parva (Fschr. & *Rehw.*). —
Rehw. III. p. 575.

Calamocichla parva (Fschr. & *Rehw.*). Neumann: *Nov. Zool.*, vol. XV, 1908 p. 247.

3 ♂♂ ad. 22. 4., 22. 4.; 1 ♀ 23. 4. Lake Naiwasha.

Amongst the thick reeds in Lake Naiwasha this songster was tolerably common. As a rule it frequented the outskirts of the reed-belt, where it was extremely difficult to detect, but I often heard its song from some little clump of reeds out in the water, which mostly recalled the song of the the song-thrush. When I came too close to it it flew a little distance along the surface of the water to the shelter of the nearest reed-bed. Here it at once began singing, nimbly hopping from stalk to stalk or climbing up and down the reeds. But it always kept to the lower end of the reeds, where it was well hidden and it was only incidentally that I caught a glimpse of it.

The plumage of the old birds agrees with Neumann's description (*Nov. Zool.*, vol. XV, 1908, p. 247) but my younger specimens are, as a rule, somewhat darker above than the old birds.

According to Reichenow (op. cit.) the tibiae are "düsterbraun". In these specimens this character varies from light-brown to dark rusty-brown.

Wing,	tail,	tarsus,	hind-claw,	
70 mm.	72 mm.	25 mm.	11 mm.	♂
74 mm.	78 mm.	28 mm.	10 mm.	♂
70 mm.	74 mm.	25 mm.	10.5 mm.	♂
70 mm.	66 mm.	25 mm.	11 mm.	♀

Irides cinnamon-brown; bill greyish brown (lower mandible lighter), legs greyish green.

Schoenicola apicalis (Cab.). — Rehw. III. p. 577.

1 ♂ ad. 6. 6. Mount Elgon.

Found sparingly in the reeds and rushes along the mountain streams, at an altitude of about 6500 feet, below the eastern slopes of Elgon.

Wing 62 mm., tarsus 20 mm.

Irides brown, upper mandible greyish brown; lower mandible greyish blue, dark at the base; legs light brownish grey.

Bradypterus cinnamomeus cinnamomeus (Rüpp.). —

Rehw. III p. 581.

1 ♂ ad. 13. 6. Mount Elgon. — 1 ♀ ad. 4. 5. Londiani. —

1 ♀ ad. 2. 7.; 1 ♂ juv. 7. 7. Mount Elgon.

This race was observed for the first time in the vicinity of Londiani Railway Station. It frequented the withered, small bushes on the outskirts of the forest at an altitude of about 8,000 feet.

At Elgon I saw the bird a few times and always on the fringe of the bamboo-zone at an altitude of 9,500—10,000 feet. Here among the old, brownish yellow bamboo-straw it was very difficult to detect. v. Someren says, that he has only seen it in the reed beds of swamps and rivers (Nov. Zool. XXV, 1918, p. 288), but on the eastern slopes of Elgon I only saw it in the higher regions in the above-mentioned localities.

Neumann has dwelt with *B. cinnamomeus* and *B. c. salvadorii* Neum. in detail (Orn. Monatsber., 1903, p. 90—91) and says that the *Schoen. cinnamomeus* is larger than the East African *salvadorii* but the differences in other respects between them are not great. The former measures: ♂ wing 67 mm., tail 77 mm.; ♀ 65 mm., 69 mm. The latter: ♂ 63 mm., 70 mm.; ♀ 60 mm., 65 mm.

v. Someren has (in agreement with Hartert) given his Elgon specimens the style of *salvadorii*, although they have a wing-measurement of 65—68 mm., and the tail is much darker

and he adds that "these birds are quite distinct from *B. cinna-
momeus* from Kikuyu and Mau".

But Neumann's specimens originate from the Gurui Mountains in German East Africa and the author says that between these birds and those from Mau there is a considerable difference, whence they might possibly be a distinct intermediate form. Now, as Elgon specimens in their turn, according to v. Someren, are quite distinct from the latter there should thus be two good forms besides *salvadorii*.

I have made the same observations as v. Someren, i. e. that the Elgon specimens have a much darker tail (dark-brown) than that from Londiani (not far from the Mau mountains) for in the latter specimen the tail is rusty-brown. Neumann (op. cit.) states that all the specimens examined by him were different from each other, and under these circumstances it seems to me to be audacious to advance these probable individual differences as characters for the different forms.

I assume, however, that the author's description of his own form is correct, and although the measurements for the wing of female specimens agree more with *salvadorii*, and that of male-specimens with the one form just as well as the other, the measurements of the length of the tail approach those of *cinna-
momeus*, and so I have called my specimens with that name.

The young bird's plumage differs greatly from that of the adults. The head is dark greyish brown and the whole of the upper surface dark-brown without the rusty-red wash found in the adult. The throat and sides of the head are olive-grey with dark streaks and the lower surface, otherwise olive-yellow, olive-brown along the flanks.

Upper mandible dark brownish grey, lower mandible brownish yellow.

Wing,	tarsus,	tail,	
65 mm.	24 mm.	76 mm.	♂ Elgon.
61 mm.	23 mm.	68 mm.	♀ „
63 mm.	23 mm.	71 mm.	♀ Londiani.

Irides dark-brown; bill dark grey-brown; legs pale yellowish grey.

Prinia mystacea immutabilis v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1920, p. 93.

Prinia mystacea Rüpp. Reichenow: Vög. Afr. III, p. 590. — Neumann Journ. f. Orn., 1906, p. 276. — Zedlitz: Journ. f. Orn., 1916, p. 87. — v. Someren: Ibis, 1916, p. 457; Nov. Zool., XXV, 1918, p. 288. — Grote: Journ. f. Orn., 1921, p. 408 u. 457.

Mbusu . . . Ndetee . . . ki kamba.

1 ♂ ad. 11. 4. Ngong. — 3 ♂♂ ad. 18. 4. Kiambu. — 1 ♂ ad. 22. 4. Lake Naiwasha. — 8 ♂♂ ad. 20. 5.—10. 7. Mount Elgon. — 1 ♂ ad. 11. 8. Eldoret. — 3 ♀♀ ad. 16. 7., 24. 7, Mount Elgon. — 3 ♀♀ ad. 11. 8. Eldoret.

One of the most common birds occurring on the fringes of the forests, in the bush areas and acacia-country, where the ground was richly covered with tall, powerful plants and creepers. They generally frequented the branches of the bushes but I often saw them in the tops of the trees, where they jumped from branch to branch and their behaviour was much as Lönnerberg has described it (Birds coll. Sw. Zool. Exp. to B. E. A., 1911, p. 123). On Elgon the bird was common right up to about 8.000 feet.

I came across this bird's nest on two occasions. The first time was on the 21st of June at the foot of Elgon, about 6.500 feet above sea-level. The nest was found among the grass and flowers of the undergrowth of an acacia-forest, and unless the bird itself had risen and thus revealed the nesting-place, I should certainly not have discovered it. It was built in a plant, about $\frac{1}{2}$ a metre in height, belonging to the family *Verticillatae*, about 40 cm. above the ground. The nest itself was suspended within three large green leaves, two of which — those at the sides — were sewn onto the nest by means of fine threads of grass. The third leaf ran out a little above the top of the nest, one end being bent downwards while the other end was sewn to the farther edge of the nest. It is evident from the above that this latter leaf does not assist in holding up the nest, for in that case it would doubtlessly get severed at the attached end by any violent movement of the nest, as for instance when the birds flew to or from the nest. As the nest is bottle-shaped, thus having the opening at the top, this leaf protects the entrance-hole and the nest itself from rain and wet, which instead of getting into the nest runs along the downward-bent leaf and falls to the ground.

This nest was 80 mm. deep and 65 mm. wide at the bottom. At the top it was about 40 mm. wide and the opening itself was 38 mm. across. The materials of the nest were composed of only narrow thin fibres and dry grass-blades, loosely and flimsily plaited together into a disorderly mass.

The nest contained one newly hatched young bird and an addled egg. The latter measured 15.5×12.2 mm. and weighed 87 mg. The colour is faint bluish green with large, brown spots spread all over the shell. The superficial spots are dark-brown and of a smaller size. The different spots are most strongly marked at the thick end and here are also diffused brown-lilac spots mingled with small black points. Both male and female incubate, but on most of the occasions when I beat up the incubating bird it was the male that left the nest.

The second nest was found on the 24th July, below the slopes of Elgon. It was built something like the former and in the same sort of locality and contained 3 newly hatched young.

If we read through the literature of the last decade about *Prinia mystacea* we shall find that the opinions concerning the

different forms belonging to this species differ very much, but agree in this respect, that it is extremely difficult to determine the various forms.

Neumann asks the question as to whether there are probably two similar species occurring together: *mystacea* and *murina*, as Heuglin presumes is the case in Nord-east Africa (Journ. f. Orn., 1906, p. 277). Zedlitz does not consider it probable that one darker, larger form and another lighter, smaller form occur together, but combines these two into one common form. He summarizes his investigation under three heads: 1. ♂♂ and ♀♀ do not differ essentially in measurements; 2. dark and light specimens are found of both sexes; 3. the breast-patch, as a rule, is not found in ♀, not always in ♂. These results are — as far as I can find — quite correct and in the series of 20 specimens I have before me there is every possible, both great and little, individual variation represented.

Sclater and M.-Præd (Ibis, 1918, p. 676—677) were however the first to deal exhaustively with the different forms of *mystacea* and they have separated four.

According to these writers the form occurring in East Africa and Uganda is named *P. mystacea tenella* Cab., which is larger than — otherwise very similar to — *melanorhyncha* from West Africa. The wing-measurement for *tenella* is 48—55 mm.

v. Someren has, however, described a new form: *immutabilis*, which differs from *tenella* (which is a coastal bird) in being “considerably larger and much darker. Further, it lacks the wide white supercilium found in *tenella*. Wings 53—57 mm. It ranges from Ukamba in East Africa to Uganda (not including the S. Ankola River district)”.

If the wing-measurement of *tenella* amounts to 55 mm. and the maximum for *immutabilis* is 57 mm. then the difference is by no means “considerable”, and specimens of both forms reaching 55 mm. or less must then be distinguished by means of the other distinctive features. With reference to the lack of the wide supercilium in *immutabilis*, and even if he had not done so, we should of course, judging from the locality from which they originate, refer these individuals to the above-mentioned form. Only 2 ♂ specimens attain the maximum for the wing of *tenella*, all the others fall short, as appears from the following table:

Wing,	tarsus,	
50 mm.	20 mm.	♂ Ngong.
51, 51, 52.5 mm	21—22 mm.	♂♂ Kiambu.
54 mm.	21.5 mm.	♂ Naiwasha.
51, 53, 54, 54, 54, 54, 55, 55 mm.	21—22 mm.	♂♂ Elgon.
53 mm.	20 mm.	♂ Eldoret.
50, 51, 53 mm.	20—21 mm.	♀♀ Elgon.
49, 49, 50 mm.	20 mm.	♀♀ Eldoret.

v. Someren says further of this form that "the wing-feathers are more edged with brownish". This seems also to agree on the whole, although one or two have the wing-feathers edged with greyish.

Reichenow points out (Vög. Afr. III, p. 591) that the females of *Prinia mystacca* are distinguished by the yellowish tint on the upper parts of the body and in being smaller than the males. This agrees perfectly with the 6 females before me, the lower surface of which shades more into yellowish brown than pure yellow, all of them have a clear yellowish wash on the lower surface as well. The females differ, further, from the males in the colour of the bill, for the latter have the bill entirely black (in the juvenile dark greyish brown) while the females on the other hand have the upper mandible horn-brown, the lower mandible brownish yellow with a dark tip.

Irides light-brown — brownish yellow; bill see above; legs pale flesh-coloured — faint brownish yellow.

Apalis cinerea cinerea (Sharpe). — Rchw. III. p. 604.

1 ♂ ad. 4. 7. Mount Elgon.

Only observed a few times in the depths of the forests on the eastern slopes of Elgon.

The specimen is in a dress that agrees very well with Sharpe's description (Ibis, 1891, p. 120). Reichenow (op. cit.) gives the wing-measurement as 53—55 mm., but in the original description of specimens from Elgon the length of wing is given as 2.25 inches, i. e. 57.14 mm. The present specimen, which thus originates from the "terra typica", has the following measurements:

Wing 58 mm.; tarsus 21 mm.

Irides reddish brown; bill black; legs brownish yellow.]

Apalis cinerea minor Granvik.

1 ♂ ad. 18. 4.; 1 ♀ ad. 18. 4. Kiambu.

In the Nairobi districts this bird was not rare. This form of *cinerea* differs from the typical one in being considerably smaller and recalls *sclateri* (Alex.) very forcibly, the lower surface being a deeper yellow. Even the chin and throat are more strongly yellow. Besides, the head is darker brown and the front part of the back darker grey than in the typical Elgon form.

Wing,	tarsus,	
52 mm.	19 mm.	♂
49 mm.	18 mm.	♀

Irides, bill and legs as in the preceding.

This form very closely resembles the specimens of *A. brunnei-ceps* Rchw. in the Berlin Museum, but the latter are larger: Wing 54 mm., tarsus 200 mm., and not so yellow below as the Kiambu specimens.

Apalis melanocephala nigrodorsalis Granvik.

1 ♂ ad. 19. 9. Kiambu.

This new form of *melanocephala* was shot in the vicinity of Nairobi, in the same forest-area in which *A. cinerea minor* was shot in the month of April. I only saw it on one occasion and then 3 individuals were together. They frequented the highest branches of the trees where they were difficult to detect. One more specimen was shot, exactly like this one in colour, but it was so badly damaged that it could not be kept.

This form differs from *melanocephala* in being black on the whole of the upper parts, of the same colour as the head. It is also considerably larger.

Prof. O. Neumann, who has seen my specimen, is of the same opinion as I am, that it is a good representative of a good, new form and has kindly placed at my disposal the following comparative list from his yet unpublished work:

Specimens from South Somaliland measure:

1. ♂	Tot. length 115 mm.; wing 49 mm; tarsus 17 mm.; tail 60 mm.
2. ♀	june " 47.5 mm; tail 59 mm.
3. ♀	" " 47 mm.; " 59 mm.
4. ♀	" " 48 mm.; " 62 mm.
5. ♀	" " 47 mm.; " 62 mm.
1. ♀	" " 43 mm.; " 47 mm.
2. ♀	" " 45 mm.; " 47 mm.
3. ♀	" " 44 mm.; " 50 mm.

If we compare the above measurements with those below for my form, the difference will be distinctly seen.

Tot. length,	wing,	tarsus,	tail	
143 mm.	52 mm.	18 mm.	72 mm.	♂.

Irides reddish brown; bill black; legs brownish grey.

Apalis porphyrolaema Rchw. & Neum. — Rchw. III. p. 605.

3 ♂♂ ad. 7. 5. Londiani. — 2 ♂♂ ad. 1. 7., 23. 7.; 1 ♀ ad. 11. 6.
Mount Elgon.

About 12 miles north of Londiani, about 8,500 feet above sea-level we passed through a region where the bamboo grew in small, sparse groves among different kinds of trees, which here formed dense and extensive forests. In small flocks of

5—6 in number this lively, little bird was seen frequenting the top-most branches of the trees.

On the eastern slopes of Elgon this species was not rare, occurring also here for the most part in small flocks at an altitude of 8.000 ft. to 11.000 ft.

Wing,	tarsus,	
50, 51.5, 52 mm.	18 mm.	♂♂ Londiani.
53.5, 54 mm.	19 mm.	♂♂ Elgon.
54 mm.	19 mm.	♀ „

Irides nearest the pupil with a yellow ring, surrounded by another of brown, or were entirely yellowish-brown; bill black; legs pale flesh-coloured — faint brownish yellow.

Apalis pulchella (Cretzschm.). — Rchw. III. p. 610.

1 ♂ ad. 23. 5. Mount Elgon.

This little forest Warbler occurred on the fringes of the forest at the foot of Elgon, about 6.500 ft. above sea-level. It frequented the tops of some small acacias in the company of *Anthreptes collaris ugandae*.

Wing 46 mm. Tarsus 15 mm.

Irides brownish red; bill yellowish brown; legs faint flesh-coloured.

Cameroptera griseoviridis griseigula Sharpe. — Journ. f. Orn., 1911, p. 340—341 and 343.

Cameroptera griseigularis. v. Someren: Ibis, 1916, p. 461. — *Cameroptera griseoviridis griseigula*. M.-Praed: Ibis, 1917, p. 381.

1 ♂ ad. 18. 4. Kiambu. — 1 ♂ ad. 7. 7. Mount Elgon. — 1 ♀ ad. 14. 4. Kiambu. — 2 ♀♀ ad. 28. 5., 7. 6.; 1 ♂ juv. 23. 7. Mount Elgon.

In the forest under-growth on the eastern slopes of Elgon this form was fairly common and was found up to about 7000 feet above sea-level.

Zedlitz has dealt in an excellent manner with the genus *Cameroptera* (Journ. f. Orn., 1911, p. 328—345) and has proved that the East African form of this large “form-circle” of *griseoviridis* is *griseigula*. The northern range of this form should go by Victoria Nyanza. But the Elgon specimens agree perfectly with those from the Kikuyu-country, which in turn coincide with Zedlitz’s description of *griseigula*, whence the northern range extends to Elgon.

v. Someren gives his specimens from West-Elgon only the style of *griseoviridis* (Nov. Zool., XXV, 1918, p. 289) but, on the other hand, he names those from the Kikuyu-country

griseigularis, which is probably a slip of the pen, for the name should be *griseigula*.

A ♂ specimen from the 7. 7. had large, swollen testes:

Wing,	tarsus,	
58, 59 mm.	23, 22 mm.	♂♂ ad.
54, 56, 56 mm.	21—22 mm.	♀♀ ad.
56 mm.	22 mm.	♂ juv.

Irides light-brown — brownish red; bill dark-greyish brown — blackish; legs faint brownish yellow-pale flesh-coloured.

Eremomela elegans elgonensis v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1920, p. 92.

2 ♂♂ ad. 18. 5., 6. 6. Mount Elgon.

In the acacia-country and in the wooded districts below the eastern slopes of Elgon this bird occurred very commonly.

Wing,	tarsus,
57, 58 mm.	17 mm.

Irides light-brown — brownish red; bill black; legs brownish yellow.

Phylloscopus trochilus trochilus (L.). — Rchw. III. p. 644.

1 ♀ ad. 18. 4. Kiambu.

I saw the European Willow Warbler in the forests around Nairobi on several occasions.

Wing 60 mm.; tarsus 19 mm.

Irides dark-brown; upper mandible greyish brown, lower mandible yellowish brown; legs yellowish brown.

Turdinae.

Crateropus plebeius hypostictus Cab. & Rchw. —

Rchw. III. p. 660.

Crateropus jardinei hypostictus. Neumann: Journ. f. Orn., 1914, p. 549. —
Crateropus kirki Sharpe. Ogilvie-Grant: Trans. Zool. Soc. London, 1910, part 4, vol. XIX, p. 377.

1 ♂ ad. 24. 7. Mount Elgon.

Occurred rather sparingly on the slopes below Elgon, where it frequented the bush.

Neumann in his revision of this genus (Journ. f. Orn., 1904, p. 548—555) has separated 7 forms belonging to *plebeius* but later on (Orn. Monatsber., 1906, p. 7) he described a new form: *kikuyuensis* from East Africa, and yet another from Senegal:

permistus (Orn. Monatsber., 1906, p. 146). Moreover, Reichenow has described one from Adamaua, *gularis* (Orn. Monatsber., 1910, p. 7) and another from Amadi (by Uelle in the Congo), *hypobrunneus* (Journ. f. Orn., 1915, p. 129). But Neumann includes two more new forms in the circle, *platycircus* Sws. and *togoensis*, thus we have to reckon with at least 13 allied forms.

Opinions concerning these forms are so widely different, that there can be no question of discussing all of them here. Reichenow (Journ. f. Orn., 1918, p. 106), for instance, considers *kikuyuensis* synonymous with *hypostictus* and according to Og. - Grant (Zool. Res. Ruw. Exp., 1910, p. 377) *kirki* coincides with the latter. But Reichenow points out that *hypostictus*, which in Vög. Afr. III, p. 660 he makes a synonym of *emini*, is an East African bird, occurring also in Angola, while *kirki* is found in Nyanza and the Sambesi regions (Vogelf. Mittelafr. Seengeb., 1912, p. 366). Neumann again considers that *kikuyuensis* is a mountain form, restricted to the Kikuyu country, while not far from there, west of the Massai graves, occurs *cinereus* and at Lake Naiwasha to the north-east *emini*. Thus, three different forms within a rather small area of British East Africa.

It is not easy to form a definite opinion as to the different forms and their distribution and this "form-circle" therefore seems to stand in need of a further careful, reducing revision.

I have, however, compared my specimen with those in the Berlin Museum and found that it agrees entirely with those bearing the name of *hypostictus* there, therefore I give it this name for the present.

Neumann's character for this form is, that the tail is distinctly furnished with transverse bands (Journ. f. Ornith., 1904, p. 549), but the specimens of *kirki* found in Berlin have these transverse bands as well. In my specimen these bands are certainly not distinct, but are nevertheless visible. The lower surface is pale-brown with a rusty-brown wash.

Wing 105 mm.; culmen 21 mm.; tarsus 34 mm.

Irides yellowish white; bill black, legs dark-grey (almost black).

Crateropus melanops sharpei Rchw. — Rchw. III. p. 661.

1 ♂ ad. 16. 5. Soy. — 3 ♂♂ ad. 18. 5., 7. 6., 20. 6.; 2 ♀♀ ad. 6. 6., 19. 6.
Mount Elgon. — 1 ♀ juv. 14. 5. Soy. — 2 ♀♀ juv. 6. 6. Mount Elgon.

In the acacia-country and scrub below the eastern slopes of Mount Elgon this race was very common. It always appeared in small flocks of 4-5 in number — probably in families, as out of such a flock I once shot four, three of which were young birds and the fourth an adult. — and at times they associated with *Eurystomus afer rufobuccalis*.

They are not very shy (Böhm, according to Reichenow, considers them to be very shy) and in their behaviour they recall our own *Turdus pilaris* in many respects.

The plumage of the adult birds agree very well with Reichenow's description. Still, one ♂ specimen has a brownish patch on the fore-neck, another has such a one on the right side of the body. The lower surface is in general a uniform greyish brown. In one ♀ specimen there is, however, a suggestion of dark shaft-spots on the feathers, which is otherwise a characteristic of the following form.

The young birds are all predominantly brownish above, thus recalling *melanops*, and the feathers have not the light fringes found in the adults, which give them a highly aberrant appearance. The throat is more whitish (in the adults grey). Breast and belly are mainly grey; flanks, crissum and tibia brownish yellow (in the adults grey — faint greyish brown).

Wing,	culmen,	tarsus,	
104, 110, 114, 117 mm.	19.6—21 mm.	34—35 mm.	♂♂ ad.
108, 114 mm.	20—21 mm.	35 mm.	♀♀ ad.
107, 109, 109 mm.	18—19 mm.	34—36 mm.	♀♀ juv.

Irides whitish yellow (in one ♂ ad. pure white); bill black; legs dark greyish brown — black (in the juveniles dark greyish-green).

Crateropus melanops clamosus v. Someren. — Bull. Brit. Orn. Club, vol. XL, 1920, p. 95.

1 ♀ ad. 22. 4. Lake Naiwasha.

This recently described form from Naiwasha differs rather distinctly from *sharpei* in the characters mentioned by v. Someren, viz. "darker grey on the upper and lower surface, and the feathers of the breast and abdomen have dark centres". The throat is whitish grey with dark shaft-spots to the tips of the feathers.

v. Someren gives the wing to 115—130 mm., and although the specimen before me does not reach the minimum, but agrees in other respects with the above description and also originates from the "terra typica", there is no doubt that it should be referred to this form. The specimen is in moult.

Wing 110 mm.; culmen 21 mm.; tarsus 34 mm.

Irides, bill and legs as in the preceding.

Argya rubiginosa heuglini Sharpe. — Rchw. III. p. 673.

1 ♂ ad. 27. 4. Mombasa.

This bird was found on the fringe of a palm grove in the vicinity of Mombasa, where bushes and thickets grew densely.

The specimen is in moult and agrees fully with Reichenow's description.

Wing 80 mm.; tarsus 28 mm.

Irides critron-yellow; bill brownish yellow; legs pale greyish yellow.

v. Someren mentions the bird from Meuessi (Turkana-land) and gives the wing-measurement as 85—87 mm. (one specimen 93 mm.). (Journ. E. A. Ug. N. H. S., 1921, No. 16, p. 24.)

Turdus deckeni elgonensis (Sharpe). — Rehw. III. p. 687.

1 ♂ ad. 24. 4. Kikuyu. — 2 ♂♂ ad. 7. 5.; 2 ♀♀ ad. 7. 5., 8. 5.;
Londiani. — 1 ♀ ad. 1. 7. Mount Elgon.

The first specimen of this bird was shot in a grove or park situated close to Kikuyu Railway Station. In the districts of Londiani this Thrush was common and occurred both in the interior of the forests and on the bushy fringes thereof. On the eastern slopes of Elgon I saw the race several times and always in the middle of the forests among the entangling thickets, where it was difficult to get within range. It occurred on Elgon as far up as 11,000 feet, where one specimen was shot, in the company of *Tarsiger elgonensis*.

Lönnberg says of this bird (Birds coll. Sw. Zool. Exp. B. E. A., 1911, p. 126) "that its distribution resembles that of *Turacus harillaubi*", which should be true. He has also found a great difference, with reference to the colour of the lower parts, between specimens from Kenia and the Escarpment, and those originating from Kilimanjaro, the former being "more vividly coloured with a rich rusty red".

I have myself made the same observation, the Kikuyu-specimen being paler and also having the throat and fore-neck with a reddish brown wash (all the feathers being fringed with reddish brown). Likewise, the whole of the upper surface has a dark brownish red hue. In all probability this bird is only an occasional variation, although the difference from the others is so great and conspicuous that I was tempted to believe that the birds of the Kikuyu-country — provided it could be confirmed that they resemble this specimen — represented a distinct form.

Wing,	tarsus,	
112 mm.	33 mm.	♂ Kikuyu.
114, 118 mm.	33 mm.	♂♂ Londiani.
108, 114 mm.	32 mm.	♀♀ " "
109 mm.	32 mm.	♀ Elgon.

Irides dark-brown; bill and legs yellowish red.

Saxicolinae.

Thamnolaea albiscapulata subrufipennis Rehw. —
Rehw. III. p. 702.

Thamnolaea subrufipennis Rehw. v. Someren: Ibis, 1916, p. 465. —
Thamnolaea albiscapulata subrufipennis. Selater & M.-P'raed: Ibis,
1918, p. 683.

1 ♀ ad. 3. 6. Mount Elgon.

I saw this bird only on one single occasion. In the scrub below the eastern slopes of Elgon, outside one of the large caves found here and there, great numbers of *Hyrax* were found among the piled-up rocks and stones. While I lay waiting to get a shot at these animals there suddenly flew out of a crevice between two large rocks a female *Thamnolaea subrufipennis* and began to run and hop about the stones in an agitated manner. With tail erect and drooping wings it ran back and fore but soon disappeared into the same crevice, from which on later occasions some *Hyrax* appeared. The bird had its nest in an inaccessible position under the large rocks and could reach the nest by different ways, in which I heard the nestling twittering.

The female was in moult and this is the second case I have met with out here of a nesting bird changing its dress (vide *Centropus senegalensis incertus*). The specimen differs somewhat from Reichenow's description (op. cit.) in the feathers of the throat and neck being greyish black with rust-brown tips, becoming lighter towards the chin.

Wing 105 mm.; tarsus 28 mm.

Irides dark-brown; bill and legs black.

Myrmecocichla aethiops cryptoleuca Sharpe. —
Rehw. III. p. 706.

Nanda kikumbu . . . ki-suaheli. — Yanga . . . ki-kamba.

2 ♂♂ ad. 14. 4. Kiambu. — 2 ♂♂ ad. 10. 5. Eldoret. — 2 ♂♂ ad. 6. 6.,
11. 7. Mount Elgon. — 1 ♀ ad. 14. 4. Kiambu. — 1 ♀ ad. 10. 5. Eldoret. —
1 ♀ ad. 26. 7.; 1 ♂ juv. 6. 6.; Mount Elgon. — 1 ♂ juv. 9. 8. Eldoret.

This bird, common everywhere, was met with both in the open grass-country and in the acacia areas and it was very abundant in the bush country below the eastern slopes of Elgon.

In the series of 11 skins brought home there are scarcely two which are alike. Thus, those from the Kikuyu-country (Kiambu) are dark blackish brown above and below, and I cannot discern any difference in the tint. These, then, seem to be true *cryptoleuca*. Those from Eldoret are considerably lighter and

have hardly any black in the dark-brown plumage, while those from Elgon have the head blackish brown, the rest of the body dark-brown.

The young birds from Elgon are entirely black (not blackish brown) and only the upper wing-coverts are edged with brown. The feathers of the throat lack the pale brown tips, found in the old birds.

In the original description of this form (Ibis, 1891, p. 445) the tarsus is given as 1.3 ins (= 33 mm.); Reichenow (op. cit.) on the other hand, gives 34–36 mm. Of all the specimens before me only 3 of them have 36 mm., one has 36 mm., all the others have 37 mm.

Wing,	tarsus,	
115, 115 mm.	36, 37 mm.	♂♂ ad. Kiambu.
112, 118 mm.	36, 37 mm.	♂♂ ad. Eldoret.
117, 118 mm.	37, 37 mm.	♂♂ ad. Elgon.
109 mm.	35 mm.	♀ ad. Kiambu.
110 mm.	36 mm.	♀ ad. Eldoret.
112 mm.	37 mm.	♀ ad. Elgon.
111, 113 mm.	37, 37 mm.	♂♂ juv. Elgon, Eldoret.

Irides dark-brown; bill and legs black.

When I compared my specimens with true *aethiops* in the Berlin Museum, it appeared that my *cryptoleuca* were, as a rule, considerably darker and thus any difference in this respect between these two races cannot be made the cause for a separation of the West African from the East African. Prof. O. Neumann, who has examined a great number of both races, kindly placed his notes at my disposal and from his investigations it appears that “the black and white of the wings is more sharply defined in the Senegal bird (*aethiops*) than in the eastern bird (*cryptoleuca*). The bill is always longer and slender in the eastern bird, shorter and stouter in the Senegal bird”, which agrees perfectly with all my specimens.

Pinarochroa sordida rudolphi Mad. — Orn. Monatsber.,
1912, p. 175.

6 ♂♂ ad. 28. 6.—30. 6.; 3 ♀♀ ad. 28. 6.—30. 6.; 2 ♂♂ juv. 28. 6.—29. 6.;
4 ♀♀ juv. 28.6.—30. 6.; Mount Elgon.

This form, described from Elgon, is a pure bird of the mountains which first begins to appear north of the *Erica*-forest. Here large, desolate grass areas extend upwards, where solitary *Compositae*-plants in the form of shrub and several other plants constitute the principal vegetation. Here and there small streams flow along and on their banks the vegetation is richer. Everywhere there lay larger or smaller accumulations of rocks and stones and it is mainly in the vicinity of these that this bird is

met with very commonly. The vertical southern range, on the eastern slopes of Elgon, seems to be about 12,000 feet above sea-level and the bird occurs right up to 14,000 feet level, i. e. up to the summit of Elgon.

At the time — the end of June — when I visited these regions this Stone Chat was almost always seen in small flocks of 4—5 in number and when alarmed they alighted just as often on the branches of the small bushes as on the stones or rocks. They were not very shy, and I could get very near them before they took wing.

Neumann separates six forms belonging to this species (Journ. f. Orn., 1906, pp. 290—293) but also combines the Elgon form under *ernesti*, to which Madarász, however, has given the name of *rudolphi* (Orn. Monatsber., 1912, p. 175). Thus, we have at least 7 forms to reckon with.

Madarász characterises this form, by showing that it is smaller than the Kilimanjaro-form *hypospodida* (to which form Reichenow: Vög. Afr. III, p. 714, before Madarász described it, refers Elgon specimens). Sjöstedt gives the wing-measurement for *hypospodida* from Kilimanjaro as 70—80 mm. (Wiss. Erg. Schw. Zool. Exp. Kilimanjaro-Meru 1905—1906, Stockholm 1910, p. 158). As appears from the table below the difference in size is null or very slight. On the other hand, the other distinguishing features are good, i. e. lower surface with strong brown wash; the black-brown band on the outer tail-feathers narrower. According to Madarász the wing is 71—74 mm., the tarsus 28—30 mm. Neumann has measured three Elgon-specimens and gives 75—79 mm. as the wing-length.

In the series of 15 specimens before me it appears that the adult specimens have a very dark-brown upper surface, while that of the young birds is blackish brown. The three outer tail-feathers are white with narrow blackish brown tips. The fourth rectrix is, as a rule, white on the upper four-fifths of the outer web, otherwise blackish brown. Sometimes the white extends a little on to the inner web.

Further, in the young birds the feathers of the lower surface are tipped with dark-brown, so that the lower parts look as if they were furnished with uneven undulations. Moreover, the wing-coverts and primaries are furnished with broad rust-brown edges and tips.

Wing,	tarsus,	
69, 72, 75, 75, 75, 78 mm.	29—31 mm.	♂♂ ad.
72, 73, 73 mm.	29—31 mm.	♀♀ ad.
70, 70, 72, 73, 74, 75 mm.	29—31 mm.	juv.

Irides dark-brown; bill dark-brown — black (in the young bird the lower mandible is yellowish brown); legs black.

Oenanthe pileata livingstonei Tristr. —
 Rehw. III. p. 718.

Campicola livingstonei Tristr. Stone: Proc. Acad. Nat. Sc. Philad., 1905, p. 171. — Og.-Grant: Ibis 1912, p. 390.

1 ♂ ad. 22. 8.; 1 ♀ ad. 22. 8. Kendu.

At Kendu this bird was rather common and frequented the withered grass-plains in the vicinity of a native village, in the same locality as that in which *Pyrrhulauda leucopareia* occurred.

Zedlitz (Journ. f. Orn., 1916, p. 105) mentions under *pileata* a ♂-specimen from Kismaju (north-east British East Africa) with a wing-measurement of 96 mm., and quotes Neumann's opinion (Journ. f. Orn., 1900, p. 313) that the true South Africa *pileata* is represented in Central and southern German East Africa by the smaller and darker *livingstonei* Tristr., and in north-eastern German East Africa by *albinotata* Neum., which is distinguished by the white tips to the tail-feathers. — Zedlitz does not, however, consider this character to be any systematic distinction but only an attribute of the entirely fresh plumage. It is remarkable that Ogilvie-Grant calls his specimens from Bechuanaland (Okwa, Lehutitu) *livingstonei* and says of them that they are distinguished from typical *pileata* by "their smaller size and shorter bill". Further, the same writer points out that Livingstone's Wheatear is "found throughout the Kalahary wherever open country, such as it loves, was met with".

If it is proved that South Africans, as a rule, have such a high figure for the wing-measurements as Neumann states: 93—95 mm., and East African specimens keep about the figure attained by mine, there should surely be good reason for separating them. But as Zedlitz' specimen from the coasts exhibits a wing-measurement of 96 mm., it should undoubtedly be a good *pileata*, as the author himself thinks, and the South African form thus be the coastal form in British East Africa, while those from the interior parts of the country should belong to *livingstonei*. Mackworth-Praed gives the wing for a specimen from the Tsavo-River at 88 mm. and styles it *pileata* (Ibis, 1917, p. 382). Bannerman also mentions *pileata* for the first time from Mombasa, but does not give any figures (Ibis, 1910, p. 695). Stone names his specimens from Naiwasha, *livingstonei* (Proc. Acad. Nat. Sc. Philad., 1905, p. 771) and states that "they are much greyer on the back than the South African bird, *C. pileata*, and he also separates *albinotata* from *livingstonei*."

The present specimens have the following measurements:

Wing,	tarsus,	
89 mm.	30 mm.	♂.
84 mm.	29 mm.	♀.

Both specimens are dark-brown on the upper surface — head brownish black — and in ♂ the nape shades somewhat into grey. In other respects they agree with Reichenow's description.

Irides dark-brown; bill and legs black.

Saxicola torquata salax Verr. — Journ. f. Orn., 1910, p. 176.

Saxicola salax Verr. v. Someren: Nov. Zool. XXV, 1918, p. 290. — *Pratincola salax* Verr. Og.-Grant: Zool. Res. Ruw. Exp., 1910, p. 375. — *Pratincola salax axillaris*. v. Someren: Ibis, 1916, p. 466. — *Pratincola axillaris*. Gurney: Ibis, 1909, p. 504. — *Pratincola torquata axillaris* Shell. Hartert: Journ. f. Orn. 1910, p. 176. — *Pratincola torquata salax* Verr. Grote: Journ. f. Orn., 1921, p. 137. Lönnberg: Arkiv för Zool., Band II, No. 5, 1917.

2 ♂♂ ad. 11. 4. Ngong. — 4 ♂♂ ad. 20. 4., 22. 4. Lake Naiwasha. — 2 ♂♂ ad. 24. 4. Kikuyu. — 1 ♂ ad. 5. 5. Londiani. — 1 ♂ ad. 10. 5. Eldoret. — 6 ♂♂ ad. 19. 5.—20. 6. Mount Elgon. — 1 ♀ ad. 24. 4. Kikuyu. — 4 ♀♀ ad. 5. 5., 8. 5. Londiani. — 4 ♀♀ ad. 19. 5.—20. 6.; 4 ♀♀ juv. 20. 5.—24. 6. Mount Elgon.

At all places where our expedition stayed this Stone-chat was one of the commonest birds, being found in the glades and on the fringes of the forests.

In the neighbourhood of Londiani on the 8th May I found a nest of this bird in a forest glade, overgrown with short grass. It lay on the edge of a tuft, hidden in the grass. It measured 110 mm. in diameter and was 80 mm. high. The inner framework measured 60 cm. The nesting material was composed, for the most part, of brown, dry straw and hair. The nest was sparingly lined with tufts of hair: Even thin roots of plants formed part of the outer bowl.

The eggs were newly-laid and were three in number:

1. 20.2 × 13.5 mm. 90 mg.
2. 20 × 13.2 mm. 90 mg.
3. 18.6 × 13.3 mm. 89 mg.

In colour and size they resemble much the eggs of *Pratincola rubetra*. The ground colour of the shell is dirty-green with small, fine reddish-brown spots over the whole of the surface, forming a kind of calotte at the thick end of one of the eggs.

Hartert has (Journ. f. Orn. 1910, p. 176—177) dealt with the genus *Pratincola* in detail, and among other things separated *salax* (West Africa) and *axillaris* (East Africa). In my large series of 29 specimens all have the inner-web of the wing dark-brown — light-brown. Not a single one has a white inner-web like *salax* (according to Hartert). Reichenow (Vogelf. Mittelaf. Seengeb., 1912, p. 369), however, mentions that in East African specimens he has also found a white inner-web, and therefore cannot ascribe to this difference no more than to the other differences given by Hartert any systematic value.

On this account he styles both the East African and West African specimens *salax*. This opinion is also shared by Lönnberg (Arkiv för Zool., Band 11, No. 3, 1917).

With regard to the extent of the reddish-brown patch on the fore-neck Reichenow finds no difference between East and West Africans although Hartert says that in *salax* it is 2–3 cm. wide, but in *axillaris* only 1–1³/₄ cm. In this I agree with Reichenow.

Ogilvie-Grant (Zool. Res. Ruw. Exp., 1910, pp. 375–376) has already pointed out how this reddish brown band “varies greatly in extent in different individuals, quite irrespective of season”, and the different instances he gives, along with a few others, are represented in the present series of 16 ♂♂ (see Plate). Lönnberg also mentions the same thing (op. cit.). The most interesting are those which O.-Grant correctly names “quite young males in first plumage”. In these the reddish brown band is in some cases as wide as 15 cm. and besides, the lower surface is more or less brown-spotted. Further, in one of them the black feathers of the throat are tipped with brown, as well as the feathers of the upper surface — from the forehead to the upper wing-coverts.

Even ♀♀ vary somewhat. In general the fore-neck is a deeper reddish-brown than the rest of the lower surface, but in some the whole of lower parts are of the same dark colour as the fore-neck.

That *salax* and *axillaris* are really two good forms, seems to me doubtful. I have examined and measured 12 ♂♂ and 9 ♀♀ from the collection at the Berlin Museum procured from different parts of East Africa, and among these there are individuals with a white inner-web to the wings, others with brown, and as the reddish-brown patch of the fore-neck is not of any systematic value, I have, in the same manner as Reichenow, Grote, Lönnberg, Ogilvie-Grant and others, called my specimens *salax*.

Wing,	Tarsus,	
70, 74, 69, 70, 70, 71, 68, 68 mm.	22–23 mm.	♂♂ ad. Ngong, Nai-washa, Kikuyu.
70, 71 mm.	22–23 mm.	♂♂ ad. Londiani.
67, 68, 70, 70, 70, 72 mm.	22–23 mm.	♂♂ ad. EL on.
67 mm.	22 mm.	♀ ad. Kikuyu.
69, 70, 71, 75 mm.	23 mm.	♀♀ ad. Londiani.
66, 67, 67, 70 mm.	21–23 mm.	♀♀ ad. Elgon.
66, 67, 70, 70 mm.	22–24 mm.	♀♀ juv. „

Those measured in the Berlin Museum vary between: ♂♂ 67–73; ♀♀ 66–71 mm. (The type from Gaboon, ♂ 63 mm.) Of these before me only one ♂ attains 74 mm. and one ♀ 72 mm., the others fall within the figures of the Berlin specimens.

Irides dark-brown; bill in ♂ black, in ♀ dark greyish brown; legs black.

Timaliinae.

Turdinus pyrrhopterus elgonensis Granvik.

1 ♂ ad. 7. 7.; 1 ♀ ad. 7. 7. Mount Elgon.

A rather rare bird on the eastern slopes of Elgon. It frequented the dense and impenetrable under-growth in the interior of the forests at an altitude of 7,000 feet.

The following forms of *pyrrhopterus* have been described:

1. *Turdinus pyrrhopterus pyrrhopterus* (Rchw. & Neum.).
Wing 67—70 mm.; tail 53 mm.; culmen 15 mm.; tarsus 24 mm.

Hab. Mau, Nandi.

2. *Turdinus pyrrhopterus kiwuensis* Neum.
Bull. Brit. Orn. Club, vol. XXI, 1908, p. 55.

3. *Turdinus pyrrhopterus tanganjicae* Rchw.
Journ. f. Orn., 1917, p. 391.

Hab. The forests west of Tanganjika.

The specimens before me differ from *pyrrhopterus* in not being reddish brown above, neither are the upper wing-coverts of that colour, but are olive-brown, thus resembling *tanganjicae*.

The throat is whitish grey (in *pyrrhopterus*, brownish). The lower surface is wholly grey in the Elgon specimen, the lower parts of the flanks with an olive-brown wash (in *p. pyrrhopterus* the upper parts are distinctly olive-brown). The under tail-coverts are greyish brown; in *pyrrhopterus* reddish brown. The head is olive-brown with a greyish tint.

They differ from *p. pyrrhopterus* also in being considerably larger.

Wing,	culmen,	tarsus,	
78 mm.	15 mm.	25 mm.	♂.
73 mm.	14 mm.	25 mm.	♂.

Irides brown; bill dark bluish grey; legs bluish grey.

It is possible that Reichenow's description of *pyrrhopterus* (Vog. Afr. III, p. 738) refers to a young specimen and that mine are only in a more advanced plumage. But the differences between his type (in Berlin) and mine, with reference to the dress and, not the least, as regards the size, are so considerable, that I have given the Elgon bird a new name.

If *p. tanganjicae* is a good form, then mine approaches that form, but the head is not predominantly grey as in the former, nor do the measurements coincide. The type ♂ of *tanganjicae* measures 72 mm. in the wing, and four other specimens

in Berlin have the following measurements: ♂, 69 mm.; ♀♀, 66, 67, 69 mm.

Alcippe abyssinica abyssinica Rüpp. — Rchw. III. p. 741.

1 ♂ ad. 10. 7. Mount Elgon.

This bird inhabits the same kind of locality as the preceding and is therefore very difficult to detect. Certainly there are many excellent songsters among the *Pycnonotidae* but, in my opinion, none can match this one, which is the finest master-singer I have heard among African birds. Like some of those mentioned previously he sings even after nightfall.

Wing 69 mm.; tarsus 23 mm.

Irides dark red; bill dark greyish brown; legs bluish grey.

Grote mentions the finding of this bird in Usambara and gives the measurement for the length of wing as 66—67 mm. He is unable to find any difference between these specimens and others from Kikuyu and Kilimanjaro (J. f. O., 1921, p. 137).

Erithacinae.

Cossypha caffra iolaema Rchw. — Rchw. III. p. 754.

1 ♂ ad. 24. 4. Kikuyu. — 3 ♂♂ ad. 4. 6., 6. 6. Londiani. — 1 ♂ ad. 12. 6. Eldoret. — 1 ♂ ad. 14. 6. Soy. — 1 ♂ ad. 19. 6. Mount Elgon. — 1 ♀ ad. 17. 4. Kiambu. — 1 ♀ 4. 5. Londiani. — 2 ♀♀ ad. 7. 6., 27. 6. Mount Elgon.

A by no means rare bird in the highland districts, occurring everywhere on the bush-clad slopes and in the less dense forests. It was found on Elgon up to an altitude of 8500 feet. Schuster has described this bird's song very carefully and also gives some information about the occurrence of the bird.

In the present series there are no great differences. Younger birds are more olive-brown above than older, which are predominantly slate-grey.

Wing,	tarsus	
81, 85, 87, 87, 88, 88, 90 mm.	29—30 mm.	♂♂
80, 81, 83, 85 mm.	30—31 mm.	♀♀

Irides dark brown; bill black; legs dark brownish grey — lead-grey.

Cossypha heuglini heuglini Hartl. — Rchw. III. p. 758.

Itoloko . . . kikamba.

1 ♂ ad. 23. 4. Lake Naiwasha. — 1 ♂ ad. 24. 7. Mount Elgon.

On Elgon this bird was found in about the same kind of locality as the preceding, although it does not seem to be common.

Wing,	tarsus
96, 100 mm.	32, 33 mm.

Irides, bill and legs as in the preceding.

Cossypha heuglini subrufescens Boc. — Rchw. III. p. 760.

1 ♂ ad. 19. 9. Kiambu.

The specimen before me is in many respects like *C. heuglini subrufescens*, but in some respects it recalls *donaldsoni*. Thus, the upper surface is dark slaty grey without the slightest trace of olive-brown (approaching the latter form). Further, the central tail-feathers are black and the outer-web of the outer tail-feathers blackish, much the same as in *subrufescens*, but in contradistinction to the latter the next three consecutive tail-feathers are also furnished with black edges on the outer-web, the fifth is entirely black with rusty-brown streaks along the shaft. I have compared my specimen with the *subrufescens* specimens in the Berlin Museum but have not found any which resemble mine in the uniform grey tint of the back. It is possible that mine is only an aberrant bird of *subrufescens*, which, according to Reichenow (op. cit.) were shot in the Nairobi district, and therefore I have not given it a new name.

Wing;	culmen,	tarsus,	tail
93 mm.	15 mm.	32 mm.	85 mm.

Irides, bill and legs as in the preceding.

Tarsiger orientalis elgonensis Og.-Grant. — Bull. Brit. Orn. Club, vol. XXVII. 1911, p. 57.

1 ♂ ad. 1. 7. Mount Elgon.

Only once did I meet with this rare bird on Elgon. It frequented the dense thicket of the undergrowth at an altitude of over 10000 feet.

v. Someren (Nov. Zool., vol. XXV, 1918, p. 290) says of this form that it differs from other closely related forms „by the absence of an yellow on the tail-feather“. But this is not correct, for the original description says that „the outer tail-feathers are black except at the extreme base, which is yellow“, and my specimen agrees with that description. On the other hand I agree that the white spot above and in front of the eye extends almost from the nostril to the posterior angle of the eye.

Wing,	tarsus
85 mm.	27 mm.

Irides brown, bill black; legs greyish green.

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" " kilimensis	223
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Oena capensis	57
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Thalassiornis leuconotus	31
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Tricholaema diademata massaica	88
Tringa glareola glareola	38
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Trochocercus albonotatus albonotatus	128
Turacus hartlaubi medius	76
Turdinus pyrrhopterus elgonensis	256
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Turturoena delagorguei sharpei	55
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Explanation of Plates.

Pl. 1.

Streptopelia fulvopectoralis Granvik.

Pl. 2 and 3.

The variation in *Saxicola torquata salax* Verr.

Pl. 4.

♂ ad. and ♀ ad. of *Othyphantes reichenowi nigrotemporalis* Granvik.

Pl. 5.

Ploceus insignis ornatus Granvik, ♂ ad. Kiambu 18. 4. 1920 and *Apalis cinerea nigrodorsalis* Granvik, ♂ ad. Kiambu 19. 9. 1920.

Pl. 6.

fig. 1. Lake Naiwasha. — The surface of the water is covered by water-lilies. — April 1920; foto: H. Granvik.

fig. 2. From Lake Naiwasha. — Here and there grow the papyros in dense forests among the water-lilies. — Foto: H. Granvik.

Pl. 7.

fig. 3. In the Bamboos. — Mount Elgon, June 1920. — Foto: H. Granvik.

fig. 4. Just above the *Erica*-zone in the fringes of the subalpine region on about 12.000 feet. (Small bushes of *Erica* and abundant vegetation of „eternells“ (*Antennaria*)). Mount Elgon, June 1920. Foto: H. Granvik.

Pl. 8.

fig. 5. The highest plateau of Mount Elgon. (On the slopes a rich vegetation of *Senecio Johnstoni*). Foto H. Granvik.

fig. 6. The subalpine region of Mount Elgon. Foto: H. Granvik.

Pl. 9.

fig. 7. Nest in a small Acacia of *Centropus senegalensis incertus* Granvik. — Mount Elgon, June 1920. — Foto: H. Granvik.

fig. 8. The same nest (with eggs) „in situ“. — Foto: H. Granvik.

Pl. 10.

fig. 9. Nest „in situ“ of *Prinia mystacea immutabilis* v. Somer. Mount Elgon, July 1920. — Foto: H. Granvik.

fig. 10. Nesting place of *Turacus hartlaubi medius* Mearns. — Mount Elgon (eastern slopes), June 1920. — Foto: H. Granvik.

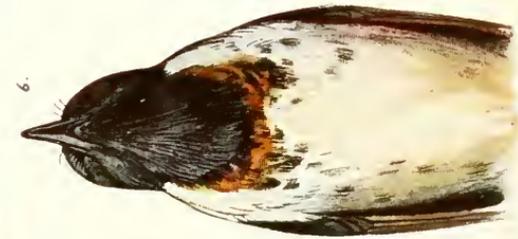
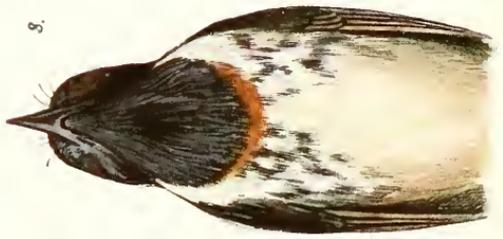
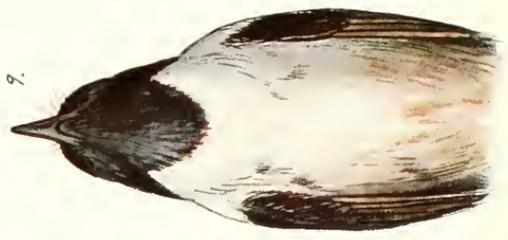


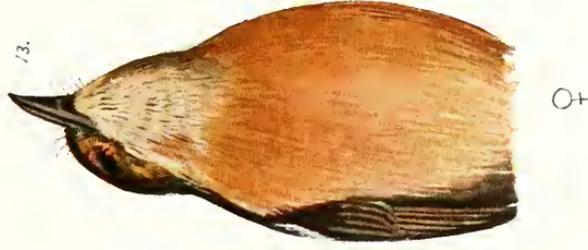
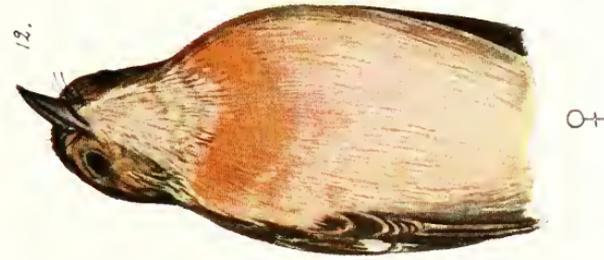
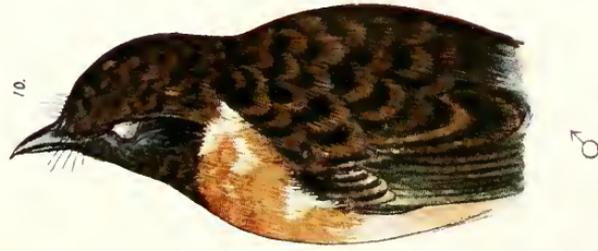
Streptopelia fulvopectoralis Granvik
Kendu (Victoria Nyanza), Aug. 1920
♂ ad.

Explanation of Plate 2.

The variation in *Saxicola torquata salax* Verr.

1. ♂ juv. Mount Elgon 16. 7.
 2. ♂ (near ad.) Mount Elgon 23. 6.
 3. ♂₁ ad. Kikuyu 24. 4.
 4. ♂ ad. Mount Elgon 19. 6.
 5. ♂ ad. Londiani 10. 5.
 6. ♂ ad. Lake Naiwasha 22. 4.
 7. ♂ ad. Mount Elgon 28. 5.
 8. ♂ ad. Ngong 11. 4.
 9. ♂ ad. Lake Naiwasha 20. 4.
-





The variation in *Saxicola torquata salax* Verr.

10. ♂ Mt. Elgon 16/7 (= No 1)

12. ♀ ad. Kikuyu 24/4

11. ♂ Mt. Elgon 23/6 (= No 2)

13. ♀ ad. Mt. Elgon 5/6

ESCHMÖDER, 1921.



Othyphantes reichenowi nigrotemporalis Granvik
Mount Elgon, june 1920
♂ ad, and ♀ ad.



Above: ♂ ad. *Ploceus insignis ornatus* Granvik
Below: ♂ ad. *Apalis cinerea nigrodorsalis* Granvik



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

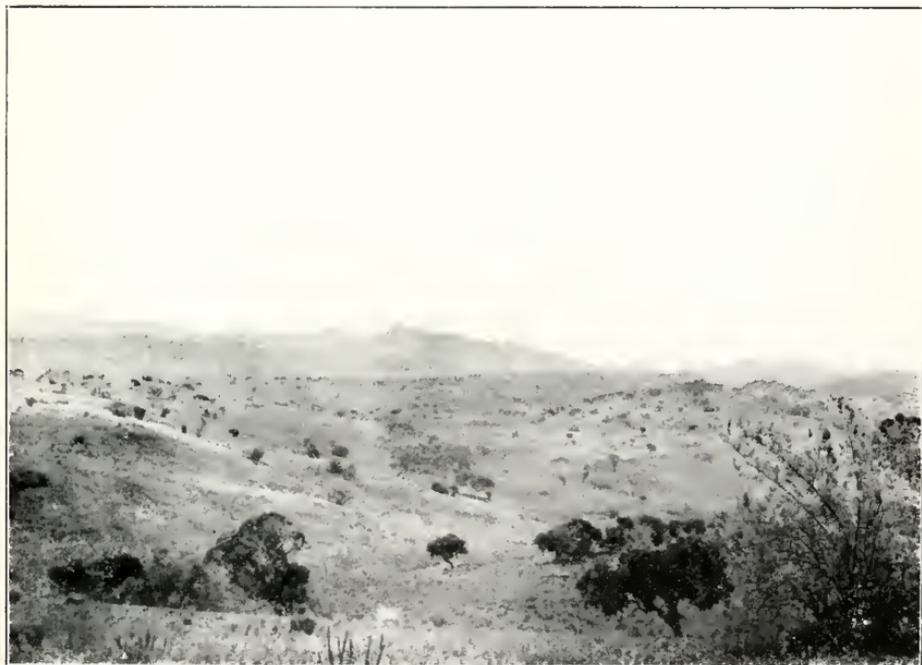


Fig. 6



Fig. 7



Fig. 8



Fig. 9

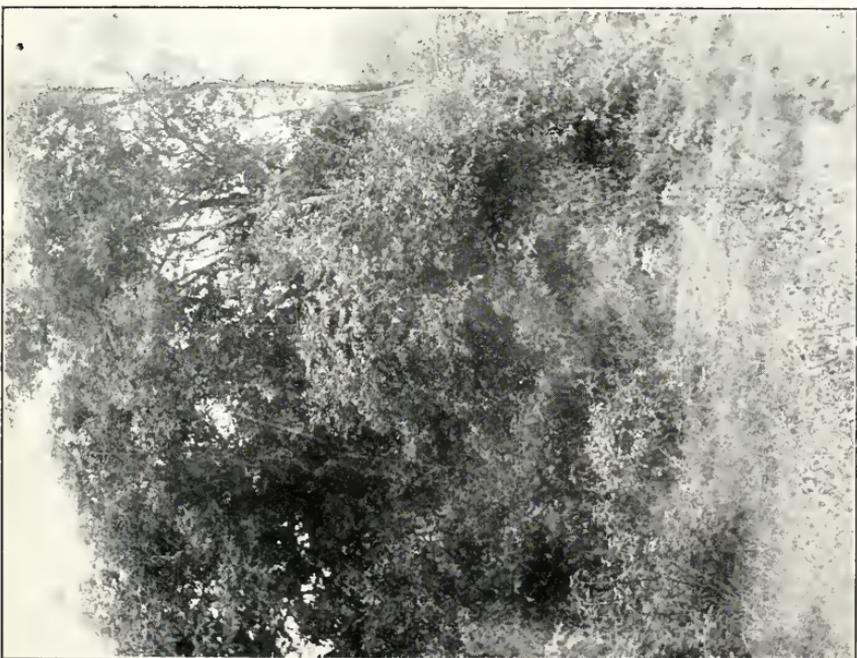
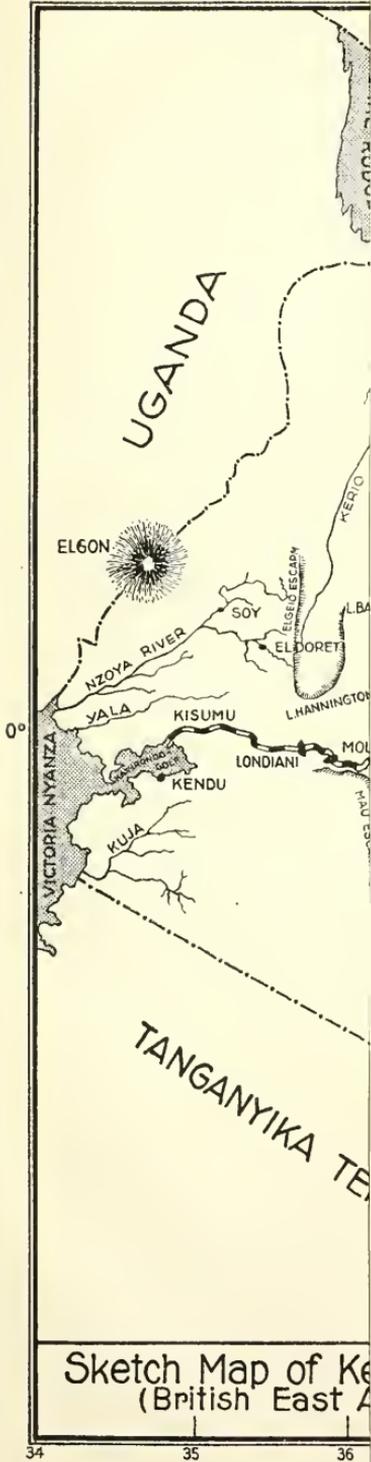
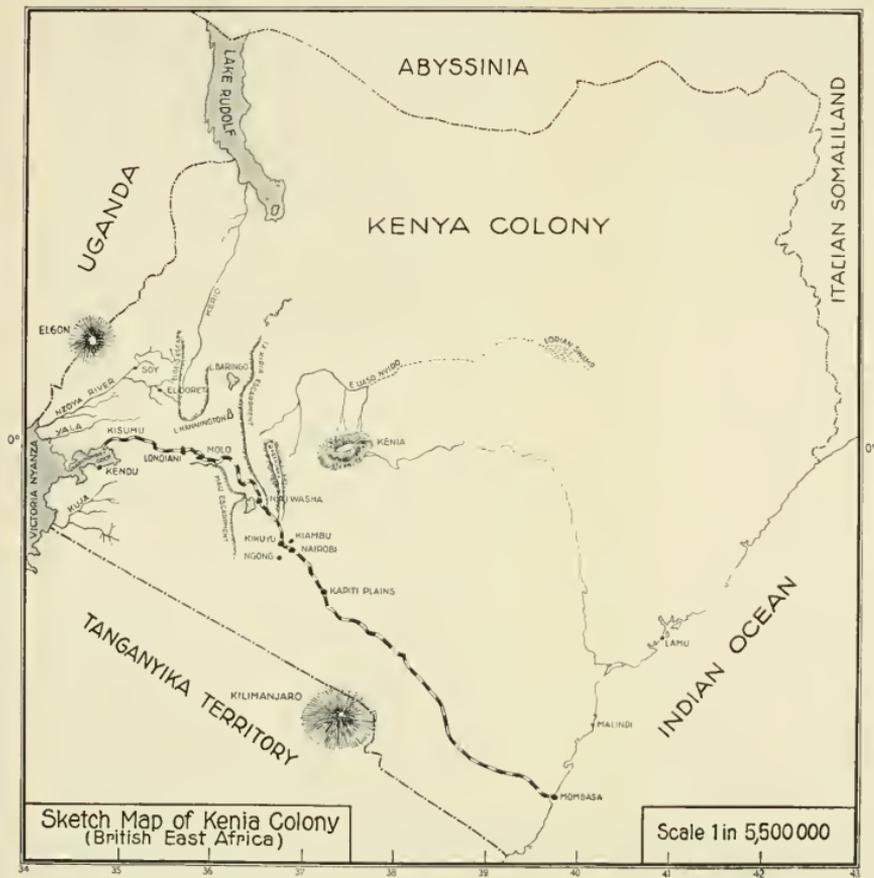


Fig. 10



Sketch Map of Kenya
(British East Africa)



Sketch Map of Kenia Colony
(British East Africa)

Scale 1 in 5,500,000

Addenda.

Add to *Melaeornis lugubris ugandae* (p. 122):

As regards *M. l. ugandae* v. Someren says (op. cit.) among other things that it differs from *edoloides* (the Senegal form) in being less blue black in colour and smaller in size. But in Nov. Zool., XXIX, 1922, p. 93 the same writer says "lacking the bluish-black gloss". — The question is then, whether the former description is to be used or the latter. My specimen indeed has a faint blue-black gloss and so if *ugandae* is a good form — as seems to me to be the case — my specimen must be *ugandae*. (v. Someren has also seen my bird and named it so). — The author quoted says that *ugandae* is as small bird, but he does not give any measurements (in comparison with other allied forms) to prove this statement.

Add to *Dicrurus adsimilis* (p. 145):

Bannerman (op. cit.) has also stated that the generally light quill-lining is a character subject to a certain amount of variation and that freshly moulted quills have a much darker lining than old quills. — Prof. O. Neumann on the contrary thinks that the true *divaricatus* from Senegal, differing in the almost whitish lining is well distinct from the East-African bird which should be called *Dicrurus adsimilis fugax* Ptrs.

Corrigenda.

p. 2, line 5	Chief of the	instead of	chief of
p. 7, line 29	<i>Uraeginthus</i>	" "	<i>Ureginthus</i>
p. 8, line 8	paraphernalia	" "	paraphanelia
p. 9, line 10	<i>microrhynchus</i>	" "	<i>macrorhynchus</i>
p. 9, line 28	} <i>Str. semitorquata ery-</i> <i>throphrys</i>	" "	<i>Str. sem. semitor-</i>
p. 10, line 39		" "	<i>quata</i>
p. 11, line 14	water is very	" "	water very
p. 14, line 24	<i>Jynx rufic. cosensi</i>	" "	<i>J. r. cocensi</i>
p. 20, line 7	difficult to get near it . .	" "	difficult get
p. 21, line 4	At this	" "	On this
p. 28, line 14	and farther	" "	and further
p. 29, line 38	females, agrees	" "	females, agree
p. 34, line 38	Eupoda	" "	Eupodoa
p. 36, line 9	They are	" "	The are
p. 43, line 17	an opportunity	" "	an occasion
p. 47, line 40	a slight hint	" "	a slight tint
p. 51, line 3	always above	" "	almost over
p. 51, line 21	brown tinge	" "	crown tinge
p. 54, line 1	transverse band	" "	transversal band
p. 54, line 14	as follows	" "	as follow
p. 57, line 11	the latter having	" "	the latter being
p. 59, line 29 and 34	Praed	" "	Pread
p. 62, line 35	1980—2240 mm.	" "	1980—2240 m.
p. 69, line 17	all greater	" "	all higher
p. 70, line 8	length	" "	length
p. 73, line 15	brown and	" "	brown ad
p. 73, line 20	the pupil is	" "	the pupilis
p. 74, line 40	difficult indeed	" "	difficult indieed
p. 74, line 47	different dresses	" "	diffrant dresses
p. 77, line 41	Central Abyssinian	" "	Central Abyssinia
p. 78, line 23	Immediately	" "	Immediatly
p. 79, line 20	was known	" "	was kown
p. 81, line 8	form however I dare not express any	instead of	formy however I dare
			not ex pressany
p. 82, line 36	the rectrices are a	" "	the rectrices a
p. 85, line 9	total length	" "	total leghth
p. 85, line 44	West-African	" "	westaffrican
p. 86, line 4	whether we can	" "	wether we can
p. 87, line 4	forms a 36 cm.	" "	forms 36 cm
p. 91, line 15	are somewhat	" "	somewhat
p. 92, line 5	<i>Jynx ruficollis cosensi</i>	" "	<i>J. r. cocensi</i>
p. 95, line 18	found in the	" "	found in
p. 95, line 37	I might as well	" "	It might as well
p. 97, line 9	in the third	" "	in the tird
p. 97, line 14	roseate-lilac coloured	" "	roseate-lilae coloured

p. 97, line 16	<i>Eurystomus</i>	instead of	<i>Eurystomusf</i>
p. 97, line 34	the latter character	" "	which later character
p. 99, last line	this dwelling	" "	his dwelling
p. 101, line 6	with slightly	" "	with slight
p. 101, line 9	sharply set off	" "	sharply sett of
p. 102, line 12	East Africa	" "	Eest Africa
p. 103, line 24	streaks of the	" "	streak of the
p. 103, line 25	colour of	" "	colour on
p. 108, line 10	cription	" "	scription
p. 110, line 17	of another	" "	of an other
p. 112, line 41	and loss of	" "	and lost of
p. 118, line 22	<i>arcticincta</i>	" "	<i>arcticinata</i>
p. 114, line 22	differs in	" "	differs to
p. 116, line 20	<i>jacksoni</i>	" "	<i>jaksoni</i>
p. 120, line 37	is an astonishing	" "	is an astounding
p. 121, line 40	length	" "	length
p. 122, line 23	The length	" "	The lengthe
p. 128, line 42	now to another	" "	now to the other
p. 130, line 28	poor flier	" "	poor flyer
p. 134, line 20	also put	" "	also puts
p. 144, line 3	probability the are also minor	" "	probability that is also a case of minor
p. 144, line 37	<i>Dicrurus</i>	" "	<i>Dierurus</i>
p. 145, line 19	remarks see	" "	remarks on
p. 148, line 28	is a young bird	" "	is a jounng bird
p. 151, line 17	<i>Podocarpus</i>	" "	<i>Podocorpus</i>
p. 152, line 4	and never	" "	and newer
p. 161, line 28	at Kisumu	" "	Kisum
p. 164, line 5	the northern limit	" "	the northern limit
p. 164, line 39	Nile find	" "	Nile discovery
p. 165, line 3	Weaver-bird	" "	Weeever-bird
p. 165, line 23	coastland	" "	Coastland
p. 167, line 10	transition-dress	" "	transition-dres
p. 168, line 10	almost a band	" "	almost to a band
p. 177, line 22	<i>alexanderi</i>	" "	<i>alexandri</i>
p. 172, line 40	later on	" "	later one
p. 174, line 28, 39, 44	<i>salvadorii</i>	" "	<i>salvadori</i>
p. 175, line 11	or skinned	" "	or skined
p. 175, line 46	<i>massaica</i>	" "	<i>massiaca</i>
p. 176, line 13	<i>Penthetria</i>	" "	<i>Coliuspassei</i>
p. 182, line 11	those from the	" "	those in the
p. 187, line 7	and agrees	" "	and agree
p. 189, line 9	the crater-lake	" "	the rater-lake
p. 192, line 26	his specimens	" "	his specimen
p. 193, line 12	as farther	" "	as further
p. 193, line 42	as it agrees	" "	and it agrees
p. 194, line 33	so pronounced	" "	so pronounced
p. 197, line 5	He came	" "	He came
p. 201, line 17—19	mm	" "	cm
p. 203, line 14	brown, that	" "	brown, this
p. 205, line 4	various phases	" "	various phase
p. 206, line 10	in the depths	" "	in the dephts
p. 207, line 11	and the	" "	an the
p. 207, line 17	specimen agrees	" "	specimen agree
p. 211, line 21	minor occurs	" "	minor occurring
p. 212, line 11	bird were procured	" "	bird was procured
p. 212, line 20	them they are	" "	these they are
p. 222, line 39	down on the shores	" "	down at the shores
p. 224, line 23	Sunbird were	" "	Sunbird was

p. 224, line 40	the more commonly it occurs	instead of	it occurs more commonly
p. 225, line 7 and 15	Abyssinian	" "	Abessynian
p. 225, line 29	as has been already	" "	as already
p. 225, line 30	this characteristic	" "	this character
p. 228, line 13	approach	" "	approaches
p. 228, line 17	merge into	" "	merges into
p. 229, line 14	was difficult	" "	was difficult
p. 229, line 23	alpine creature	" "	alpine being
p. 229, line 38	Smithson. Misc.	" "	Smithson. Misc.
p. 230, line 39	area while there are such	" "	are and there being so
p. 233, line 39	bird as South Africa	" "	bird to S.A.
p. 233, line 40	uniformly rufous	" "	uniform rufous
p. 234, line 2	ditto	" "	
p. 235, line 1	westside	" "	West — side
p. 235, line 12	differ distinctly	" "	differs distinctly
p. 235, line 15	these particulars	" "	these characters
p. 236, line 1	especially on the lower	" "	especially the lower
p. 237, line 15	of the colour	" "	to the colour
p. 237, line 19	agree better	" "	agree better
p. 238, line 5	edges, so that	" "	edges, whereby
p. 238, line 6	appears darker	" "	appear darker
p. 239, line 41	styled his	" "	given his
p. 242, line 4	question whether there are not	" "	question as to whether there are
p. 242, line 6	North-East Africa	" "	Nord-east Africa
p. 242, line 20	occurring	" "	occurring
p. 242, line 29	district	" "	district
p. 243, line 4	grey	" "	greyish
p. 243, line 10	having a	" "	have a
p. 243, line 2	behaviour	" "	behaviour
p. 248, line 4	agrees very	" "	agree very
p. 248, line 33	wing as	" "	wing to
p. 250, line 8	on a single	" "	on one single
p. 250, line 14	rufipennis, which	" "	rufipennis, and
p. 250, line 17	ways, through	" "	ways, in
p. 251, line 11	only 3 have	" "	only 3 of them have
p. 251, line 44	where lie larger	" "	where there lay larger
p. 253, line 8	same locality	" "	same locality
p. 253, line 13	central	" "	Central
p. 253, line 32	form will thus	" "	form thus
p. 254, line 45	difference any more	" "	difference no more
p. 255, line 24	of the lower	" "	of lower
p. 256, line 30	not least	" "	not the least
p. 257, line 16	Kilimanjaro	" "	Kilmanjaro
p. 263, line 15	by the Swedish	" "	by the swedish
p. 265, line 45	Nicoll	" "	Nicholl

In certain places mistakes have also slipped in the deviding of words between two liues.

I here take the opportunity to express my thanks to my friend, Mr. Owen Morton, Malmö, who has translated this work into English and rendered assistance in reading the proofsheets.



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