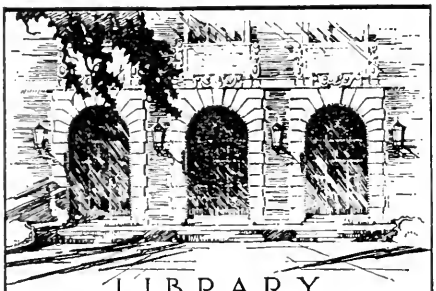

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BIRDS FROM GABON AND MOYEN CONGO

AUSTIN L. RAND

HERBERT FRIEDMANN

MELVIN A. TRAYLOR, JR.

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NOVEMBER 25, 1959

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BIRDS FROM GABON AND MOYEN CONGO

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This paper is dedicated to

PROFESSOR ERWIN STRESEMANN

on the occasion of his seventieth birthday.

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Contents

Introduction

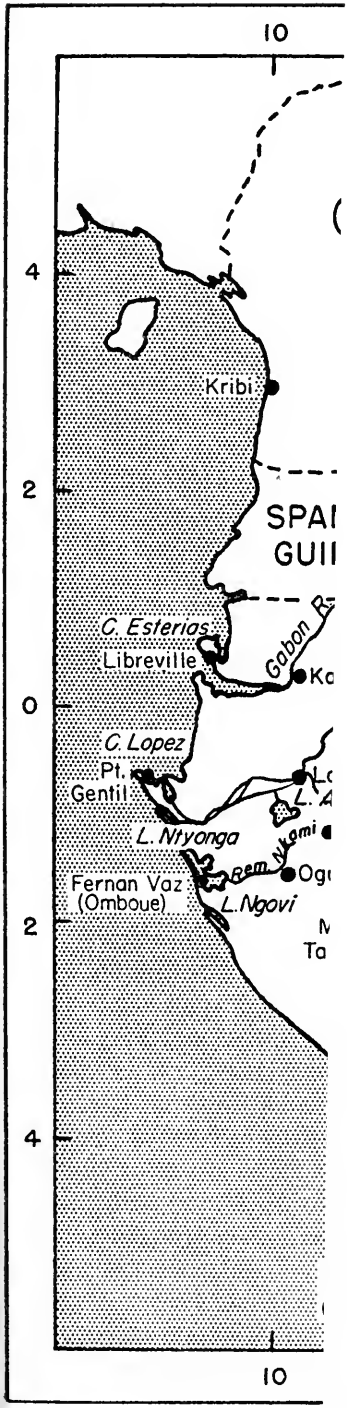
In introducing a new study of the birds of Gabon we are mindful of the fact that the beginnings of our knowledge of the bird life of that portion of western Africa were connected with an American museum, the Academy of Natural Sciences of Philadelphia. However, there cannot be said to be any connection between that historical fact and the present study, as the intervening century has seen little active interest in Gabon on the part of American ornithologists. Even the early interest in Gabon at the Philadelphia institution was not due to any advance planning on the part of the Academy. In the middle of the last century the collections there were being augmented by the extensive purchases made in Europe by Dr. Thomas B. Wilson, who obtained from the Verreaux brothers many lots of specimens, including the bulk of the Gabon material they had then just received from a young collector in that country, Paul Belloni Du Chaillu. A few years later the Philadelphia collections were greatly enriched by additional very important collections made in Gabon by the same collector, on the basis of which John Cassin was able to describe for the first time no less than 48 species of birds new to science.

Du Chaillu (1835–1903), the rediscoverer of the gorilla, who became a celebrated, and for a time a much discussed, explorer, is the real pioneer figure in Gabon ornithology. While it is true that the Academy of Natural Sciences did implement and sponsor Du Chaillu's later work in Gabon, this, in itself, was the result of an accident. Du Chaillu was born in France, but while he was a small child his father was appointed to a minor colonial post in the French settlement on the Gabon River, and there the future explorer and collector went at an early age and there he was educated by the Jesuit missionaries. He became interested in the exploration and natural history of western Africa, and in this way established his contacts with the great dealers in natural history specimens in Paris, the Verreaux brothers. According to Sharpe (1906, p. 340), who got the story direct from Jules Verreaux, the young Du Chaillu, after his first efforts at scientific collecting, ". . . was entrusted with money for a second expedition into the interior of Gabon by certain French zoologists. Du Chaillu's second collection was lost in a shipwreck, and

when he afterwards arrived in Paris with another consignment, he made known his arrival to Jules Verreaux, and announced his intention of surrendering the collection he had brought with him for the benefit of the former subscribers. The latter, however, were unreasonable, and wanted to prosecute Du Chaillu for the loss of the money contributed towards his second venture, and he therefore sailed away to America; and thus Cassin was able to describe the wonderful novelties which Du Chaillu had brought back from Gabon. He afterwards went back to the latter country under the auspices of the Academy of Natural Sciences of Philadelphia, and continued his researches. . . ." Du Chaillu's first collecting in Gabon was done before 1855; his second term of field work was from 1855 to 1859; his third from 1863 to 1865. Scattered notes on birds are to be found in several of his books (*Explorations and Adventures in Equatorial Africa*, 1861; *The Country of the Dwarfs*, 1872; *My Apingi Kingdom*, 1871).

From the days of Du Chaillu (who in 1855 became an American citizen) to the work of Charles R. Aschemeier (1917–19) and of Harry A. Beatty (1951–52), the collectors of the specimens reported on in this paper, no American seems to have been actively concerned in ornithological work in Gabon, the few intervening naturalists having been French (as was Du Chaillu originally) or German.

We can find no completely satisfying record of dates or itinerary of the Verreaux brothers in the field in Gabon, although the title of one of their papers, *Observations sur les moeurs des oiseaux exotiques* (1855), gives the impression that the observations might have been, at least partly, their own. Sharpe (1871) lists many Gabon specimens with Jules Verreaux given as the collector. Reichenow (1900, p. xiii) writes that Du Chaillu and the Verreaux brothers collected the birds of Gabon and made rich new discoveries, and that the descriptions of the Verreaux brothers, who had also gathered observations on the habits of the birds, were largely written by themselves. Such of these notes as do apply to Gabon birds may have been theirs, but some may have been sent them with specimens by Du Chaillu, Aubrey-Lecomte, Franquet, Guislain, Gujon, and Avinine, all of whom were in Gabon and all of whom collected birds which found their way to the Paris museum, where they were studied by Oustalet (1879). Many of these notes are unfortunately erroneous; they are observations that have never since been duplicated or are in direct opposition to subsequent knowledge. Consequently they cannot be accepted as presented. No such element of doubt clouds the actual specimens, however. When Dr. Wilson purchased some of the first Gabon collections, Verreaux turned them over to Strickland to iden-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Kribi
SPAI
GUII
C. Esterias
Libreville
Gabon R.
C. Lopez
Pt.
Gentil
L. Ntyonga
Fernan Vaz
(Omboue)
L. Ngovi

MAP SHOWING LOCALITIES MENTIONED IN THE TEXT

tify before shipping them on to Philadelphia. Two short papers by Strickland (1851), and two others by Jules and Edward Verreaux, describing new and little-known species, also published in 1851, inaugurate the literature on Gabon ornithology. In the next four years the Verreaux brothers published four or more papers, while another group of four papers by Cassin was issued between 1857 and 1860. In 1859 D. G. Elliot described several species of birds on the basis of Du Chaillu's collections. These publications made known to the world the remarkable series of ornithological discoveries that resulted from Du Chaillu's explorations. In 1861 the collector published *Explorations and Adventures in Equatorial Africa*, a book which set off a heated and prolonged controversy, but which finally weathered the storms and took its place in the literature of African travel and adventure. Aside from the spectacular rediscovery of the gorilla, Du Chaillu's adventures and exploits were written in too exciting and too popular a vein to be acceptable to the savants of his time until they had at least registered a modicum of skepticism. Furthermore, it was a time when skepticism was healthy, as Africa was still a vast blank in the records. It may help to point up the state of knowledge by recalling that it was suggested in all seriousness in the discussions prior to Du Chaillu's 1863 trip that the mountains he had sighted earlier in Gabon were connected with the Atlas range, that the rivers he had explored were connected with the Congo, and that a native tribe he had described extended its sway across to the Nile! Fortunately, these wild speculations have long since been laid away, and the work accomplished by Du Chaillu remains as a firm foundation for subsequent additions.

These additions were not long in coming. In 1857 Gustav Hartlaub published his *System der Ornithologie Westafrica's*, which presented the knowledge of the birds of western Africa, from Senegal to Angola, in a convenient and accurate book. An earlier version of this work was actually published, in parts, as early as 1853 and 1854 (Journal für Ornithologie). This book made it relatively easier for anyone to work on west African birds and stimulated others to "fill in" blank or weak spots. A German expedition to Loango was in the field from 1873 to 1876, with its headquarters at Chinchoxo, just north of Landana, north of the mouth of the Congo. Falkenstein was the ornithologist of the party, and the birds he collected were described by Cabanis and Reichenow. A more general account of this expedition was published over many years, the parts of interest to us being by Eduard Pechüel-Loesche (1882; 1907).

In his catalog of his collection of African birds, Sharpe (1871) lists a few Gabon specimens taken by two men named Walker and Skertchley, of whom nothing further seems to be recorded.

Alfred Marche and Victor de Compiègne, accompanied by Savorgnan de Brazza and Dr. Ballay, made a notable visit to Gabon during their voyage to west Africa from 1872 to 1874, the ornithological results of which were described by Bouvier in 1875, and by Oustalet in 1879. Between 1876 and 1884 A. Lucan and Louis Petit collected birds at Landana. Unlike Du Chaillu, who worked chiefly in the heavily forested parts of the country, these men did a considerable portion of their collecting in the open savannas, and thereby complemented, as well as added to, the earlier data. Their birds were studied by Sharpe and by Bouvier. Petit published a few papers, the chief one being his *Ornithologie Congolaise* (1899). Much later (1926), after remaining in the French Congo for many more years, Petit published a book on his life and adventures, containing many notes on natural history, *Dix années de chasses d'un jeune naturaliste au Congo.* In 1879–80 a few birds were collected in Gabon by Laglaise, which were published on in the latter year by Eugene Eudes-Deslongchamps. In the course of his work along the lower Congo, Harry H. Johnston collected a few birds at Landana, listed in his book *The River Congo from its Mouth to Bólóbó,* published in 1884. Late in 1885 Jacques de Brazza returned to France from the French Congo with a collection of birds made with the assistance of Pecile and Thollon.

The birds of Gabon, which had such a flourishing literature for over a quarter of a century, beginning with Du Chaillu's early work, then receded into the background for nearly thirty years. The only sizable collection made during this period was gathered by Ansorge along the lower Ogowé River in 1907; this collection went to Lord Rothschild's museum at Tring, but it was never reported on as a whole. In 1917 the Smithsonian Institution dispatched the Collins-Garner Expedition to the Fernan Vaz district of Gabon. The primary objective of this expedition was to study the speech of the great apes, a subject which Professor Garner had made peculiarly his own field for many years. However, a collector-taxidermist, Charles R. Aschemeier, accompanied the party, and in the two years the expedition remained in the field he collected approximately 1100 birds, which are included in the material reported on in this paper. Because the work of the expedition was planned around that of Professor Garner, who needed considerable attention because of his advanced age, and as two members of the party, Collins and Furlong, who

were big-game hunters, were prevented, at the last minute, from going on the expedition, Aschemeier was more or less restricted to a limited radius in the lowland forested area for practically the entire time. This made the resulting bird collection less comprehensive than it might have been, but good and very useful series of many species were obtained. The collection was used as comparative material by numbers of students of African birds but no report on them was written until 1933, when one of the present authors (Friedmann) completed an account of this material. This report was not published because of the restrictions on governmental printing during the depression, and it remained on the shelf for many years awaiting the time when it could be revised and brought up to date. The occasion to do so was provided when Chicago Natural History Museum received from Gabon a large collection made by Harry A. Beatty in 1951 and 1952, and an agreement was made to combine the two collections in one report.

In the interval between Aschemeier's work and Beatty's collecting, contributions to knowledge of Gabon birds were made by two French naturalists. A. R. Maclatchy published extensive notes on Gabon birds in 1936 and 1937, while P. C. Rougeot, who has been stationed in the Mayombe, Tchibanga and Woleu-N'Tem sections for a number of years, has added greatly to our information about certain of the birds, especially of the lyre-tailed honey-guide. He has published some of his observations either alone or with Berlioz, while the latter has put on record the data of Rougeot's general collections.

In 1949 a most valuable addition to our knowledge of the birds of Gabon and Moyen Congo was made by Maclatchy and René Malbrant, who published the first volume of their *Faune de L'Équateur Africain Français*. In this work they have summarized all previous published records from this area, and have included species from adjoining territories that might logically be expected to occur. Their good judgment in selecting this latter group is shown by the fact that 22 of these species were found by Aschemeier or Beatty, and only four species, *Ptyonoprogne fulvigula, Campephaga p. phoenicea, Pycnonotus ansorgei* and *Ploceus nigrimentum*, were collected that they did not anticipate. They also included a valuable climatological and geographic discussion on which we have leaned heavily in our introduction.

When Harry A. Beatty reached Gabon in January of 1951, he planned his itinerary to procure as complete a representation of the birds of this region as possible. Through the help of A. R. Maclatchy, whom he had the good fortune to meet at Mouila, and the advice of

James P. Chapin, whose knowledge of lower Guinea birds is unrivaled, he succeeded admirably. Beatty was in the field for over eighteen months, and collected in the forest and savanna regions of both Gabon and the Moyen Congo, and at elevations up to 3000 feet in the Du Chaillu Mountains. His collection totaled over 1800 birds, and combined with Aschemeier's material it provides a solid base for a critical study of Gabon–Moyen Congo birds.

ASCHEMEIER'S ITINERARY

The expedition landed at Port Gentil, Cap Lopez, on Cap Lopez Bay (Cap Lopez is really an island [Mandji] and is in the domain of the Ouroungo tribe). From there they traveled by a wood-burning paddle steamer up the Ogolelli River to Lake Nkami and to Omboue, where the administrative headquarters of the District of Fernan Vaz is situated. Omboue is commonly referred to as "the Post" both by Europeans and by natives. The country in and around it is wooded, interspersed with small clearings. From Omboue the expedition went to Ntyonga or N'chonga, where a base camp was established. From this base Aschemeier made several trips to Andendi and Rembo Kotou, where specimens were gathered. He went along to Anguanamo where he spent some time and made extensive collections. From Anguanamo he went to Ogouma on the Rembo Nkami, which proved to be one of the best collecting localities of the whole trip. From there he went for a short excursion into Eschira, where he met a very old native who claimed he had met and known Paul Du Chaillu, the celebrated explorer of Gabon. At Eschira the country becomes more hilly, but nowhere in western Gabon is there any really high country.

Owing to the fact that the main object of the expedition was the study of anthropoid apes and the fact that Mr. Garner's physical condition made it necessary for Mr. Aschemeier to remain with him at Ntyonga most of the time, the extent of the latter's wanderings was seriously curtailed. Nevertheless, working on birds as well as other groups in his spare time, Aschemeier accumulated a collection of about eleven hundred birds of over 150 forms. His work was confined almost wholly to the district of Fernan Vaz.

Collecting Localities

The spelling of native place names in English is always a difficult matter since some sound combinations that are foreign to the English language do not readily lend themselves to Anglicized alphabetical

formulation. The spellings used in this paper were determined by Mr. Garner on the basis of the code used by the British Royal Geographical Society. In cases where the French spelling differs from the English version, both are given in the following list. The locality names are arranged alphabetically. It may be noted in advance that the word "Rembo" means "river." The descriptions of the country have been supplied by Mr. Aschemeier.

Abonga, Rembo Nkami

Abonga is near Orobi-Jokwa on the river and is surrounded by heavy bush. Aschemeier found a scarcity of animal life in the vicinity, quite unlike Orobi-Jokwa and Ogouma, particularly the latter.

Aboona, or Awoona, Fernan Vaz

A small village across the lake from Ntyonga. The country around the village clearing is wooded.

Andendi, Fernan Vaz

Andendi, a small town on the sizable island of Ntyonga. The country around is quite open; grassy plains and bushy scrub.

Anguanamo, Ngovi (Lisbao of Stieler's Atlas)

Anguanamo is made an island by the swollen streams in the rainy season. It is on Lake Ngovi, the headquarters of Chief Edembi of the Ngovis, a very well-liked native chief. During the dry season (from about the middle of May to the middle of September) the receding of the waters reunites Anguanamo with the mainland. The leopards then go to Anguanamo to rear their young. On one side is forest, on another a large savanna, and on the other the lake. It is not far from the ocean. The island is well-wooded.

Ashanja, Fernan Vaz

Ashanja is a town not far from Omboue, the Post. The character of the country, very similar to that of Omboue, is more open and not so much forested or overgrown with bushes. Here may be seen enormous numbers of weaver birds (*Ploceus collaris*) because of the large number of palm trees. This particular bird builds its nest close to villages only. Ashanja, on the lake front, is one-half mile from the ocean. Birds and mammals are quite plentiful.

Kruso, Eschira

Kruso is the first town one reaches after leaving Ogouma. It is in the bush and a full day's travel on foot from Ogouma on the Rembo Nkami. On the way to and in Eschira one encounters hilly country. A waterfall along the trail adds to the scenic interest. Beyond Kruso one sees again some small open plains in the bush and at St. Croix Mission is the beginning of the great plain of Eschira, where it is possible to walk for days and not reach the other end.

Lake Anengue, Fernan Vaz

Lake Anengue, or Anenge, is a lake emptying into the Ogowe River, one of the large rivers of the Congo. While passing up the river, one can see many hippopotami. In the dry season there are many islands created by

the subsiding of the swollen river. On them can be seen many birds, especially herons and other water birds. Many islands of papyrus can be seen floating down the stream and on the lake. The country is heavily wooded, with an occasional opening in the bush.

Lake Ngovi, N'govi or N'gove

Lake Ngovi is situated in a large tract of land by that name. As it empties into the ocean at Iguela it is brackish and at high tide definitely salty. The lake is about twenty miles long and at its widest part about four miles wide. There are numerous lagoons; both banks of the Rembo Ngovi, which empties into it, are covered with papyrus plants. The flora and fauna of Ngovi are varied and abundant.

Monyongo, N'govi or N'gove

Monyongo is a town located directly across the lake from Anguanamo. It is peopled to a great extent by the Mpangwe tribe.

M'pando Beach, Fernan Vaz

M'pando Beach, containing beds of quicksand, is noted chiefly for oysters, which are collected by the natives for the few white men resident in the country. The character of the surrounding country is for the most part that of open plains interspersed with "islands" of trees.

Mperi, Rembo Nkami, Fernan Vaz

Mperi, on the Rembo Nkami, is surrounded by deep heavy bush. Here, where the animals of the forest are rather plentiful, was procured the first gorilla by the members of the expedition. In many places the natives have cut openings in the timber where they raise bananas or plantains and the white settlers raise coffee.

Mpivia, Fernan Vaz

Mpivia is a creek, at the source of which is a small trading post and town by the same name. The creek is heavily wooded on both sides and in it and the large swamps nearby many crocodiles are found. The blue-winged duck (*Pteronetta*) and the vulturine fish eagle (*Gypohierax*) abound here. A kingfisher which had been recently shot was quickly pulled under water by a fish. The surrounding country is much forested.

Ntyonga or N'chonga, Fernan Vaz

Ntyonga (or N'chonga), on Lake Ntyonga, is a fairly extensive island made up of plains interspersed with wooded sections. One notes the absence of some of the characteristic animals of the country, as, for instance, the gorilla, which occurs just across the lake. The chimpanzee is here, however. Many of the larger birds are here in numbers, among them ibises and herons, together with bee-eaters, the nest holes of which may be seen frequently.

Ogouma (Ogooma), Rembo Nkami

Ogouma (Ogooma) on the Rembo Nkami; the town (native) is in a small clearing in the bush. The Rembo Nkami is quite swift, although one can see hippopotami going up stream to rear young. Heavy forests are very predominant with few open places, and, because of the dense jungle, travel to the Ogowe River takes several days. This is an excellent collecting locality.

Omboue, Fernan Vaz

Omboue, located on Lake Nkami, is the seat of government for the District of Fernan Vaz. Fernan Vaz was formerly a small town on the Atlantic Ocean, but the French have now given that name to a large district. Omboue is situated in a clearing, and the country around has the character of dense bush dotted intermittently with small plains. It is only about seven miles from the ocean.

Orobi-Jokwa, Rembo Nkami

Orobi-Jokwa is on one of the small plains near Ogouma, on the river. This plain is about one mile long and half a mile wide.

Pemba Nyambi, Ngovi or N'gove ("Bread of the Spirits")

Pemba Nyambi is situated at the upper end of Lake Ngovi on the eastern side of the lake. Here the country is abundantly covered with heavy forest and bush. One can follow the trails for a long time and still be in the dense bush. The soil is very fertile, and many clearings for plantations have been made by the natives, who hew down and then partly burn many large trees.

Rembo Kotou, Fernan Vaz

Rembo Kotou is a long but very narrow river. It empties into Lake Ntyonga, in reality an arm of Lake Nkami. The country is covered with dense forest with only an occasional small opening and is crossed by elephant trails which serve as paths. Here is supposed to occur the pygmy elephant called by the natives "masalla." Very few natives live on the Rembo Kotou.

Sanga Mbuiri, Fernan Vaz

Sanga Mbuiri, or Sanga Mbwiri ("Salt of the Spirits"), is a town not far from Omboue. Sanga Mbuiri, Omboue, and Ashanja are on Lake Nkami, only a short distance from the Atlantic Ocean, and are very similar.

Tsango Nyongo, Ngovi

Tsango Nyongo, or Sango Nyongo, is on Lake Ngovi and is on one of the highest points in that part of the country. The town is situated on one of the few bluffs on the lake. The country around is very similar to that of the rest of Ngovi. Much water and deep heavy bush is encountered here.

BEATTY'S ITINERARY

Beatty landed at Libreville on the north coast of Gabon in January of 1951. He collected for almost two months at nearby Cap Esterias, and then moved down to Omboue in Fernan Vaz where he remained till the middle of May. During this period he made short side trips to Gooboue and Port Gentil. On May 14 he flew into Mouila, where he was most kindly received at the mission by the Rev. and Mrs. J. Corby. Mouila remained his headquarters until the end of the dry season in late September, and during this period he collected at Mount Tandou, M'Bigou in the Du Chaillu Mountains, Fougamou and several localities on the N'Gunie River.

With the coming of the rains, he shifted his operations to the Bateke plateau region in southeastern Moyen Congo. Here he collected at Djambala and Gamboma from the middle of October to the middle of January. During the short "dry season" at the end of January he traveled north to Impfondo, a town on the Ubangi in the midst of the forest, and remained there and at nearby Mossaka until the end of March.

Beatty then returned to Gabon, planning to collect in the high plateau forests as soon as the dry season arrived. He remained at Tchibanga and Labamba on the edge of the savanna until early June, and then spent his last month collecting at Mimongo in the Du Chaillu Mountains at altitudes up to 3000 feet.

Collecting Localities

Djambala, Moyen Congo
: On the Bateke plateau, altitude 2400 feet; a mixture of savanna and gallery forest; the savanna element predominates.

Fougamou, Gabon
: On the N'Gunie River below Mouila; in the forest.

Gamboma, Moyen Congo
: On the Bateke plateau; savanna.

Gooboue, Gabon
: A day's journey by pirogue from Omboue; high primary and secondary forest. Here Beatty heard the lyre-tailed honey guide, *Melichneutes robustus*, but was unable to collect it.

Impfondo, Moyen Congo
: On the Ubangi; high secondary forest for many miles from the river, then primary forest. The water was low, and here he found *Pseudochelidon eurystomina* nesting on the sand bars. Found only here were such riparian birds as *Riparia congica*, *Nectarinia congensis* and *Brachycope anomala*.

Labamba, Gabon
: On the edge of the forest and savanna, and consequently with a rich and varied fauna.

Libreville, Cap Esterias, Gabon
: A locality on the northwest coast. Many small stretches of savanna and gallery forest, with heavy forest extending inward for 25 miles. The fauna here is predominantly forest, with only a few of the savanna species like *Quelea erythrops* and *Estrilda melpoda* present.

M'Bigou, Du Chaillu Mountains, Gabon
: Originally a forest locality, but some savanna birds such as *Estrilda astrild* were common in the old plantations. Altitude 2400 feet.

Mimongo, Du Chaillu Mountains, Gabon
: Another forest locality, but with plantations attracting a few savanna birds. Altitude 2700 feet.

Mossaka, Moyen Congo
On the Congo below the Ubangi; savanna.

Mouila, Gabon
On the N'Gunie River. Surrounded by savannas and gallery forest; Mount Tandou is to the west and the Du Chaillu Mountains to the east. Bird life rich in both savanna and forest forms.

M'Pouia (Mpouia, M'Pouya), Moyen Congo
On the Congo, due east of Djambala; savanna.

Mount Tandou, Gabon
West of Mouila; altitude 1800 feet; high secondary and primary forest.

N'Koumou, Moyen Congo
50 km. south of Gamboma; a large colony of *Ploceus cucullatus*, from which Beatty collected a fine series.

Omboue, Fernan Vaz, Gabon
Administrative headquarters for the Fernan Vaz district; mixed savanna and patches of forest, with numerous lakes and coastal lagoons.

Port Gentil, Gabon
On Cape Lopez, a main port of entry; coastal marsh and savanna.

Tchibanga, Gabon
Mixed savanna and gallery forests, with many marshy areas. Very rich in birds.

FAUNAL RELATIONSHIPS

Climate and Terrain

The region covered by Malbrant and Maclatchy (L'Équateur Africain Français) and by the collections reported here includes the districts of Gabon and the Moyen Congo of French Equatorial Africa. The maximum extension is from 4° N. Lat. to 5° S. Lat.; the region is bounded on the west by the Atlantic Ocean and on the east by the Ubangi-Congo River. The political boundary between Gabon and the Moyen Congo is for the most part the divide between the Congo and Atlantic watersheds, but this is in no case a faunal boundary, and the two districts may be treated as a biological unit.

East of a low coastal plain that varies from about twenty to a hundred miles wide, the interior of Gabon and Moyen Congo is occupied by a vast plateau ranging from about 1000 to 3000 feet in altitude. The highest elevations, above 3300 feet, are found in the Du Chaillu Mountains in the region of Mimongo and M'Bigou. This altitude is apparently not enough to produce truly montane conditions, and there is no evidence here of a montane avifauna similar to that on Mount Cameroon and the Cameroon highlands.

Roughly the whole of Gabon and the northern third of the Moyen Congo are covered by a continuation of the vast Lower Guinea forest

of southern Cameroon and central Belgian Congo. The remainder of the region is savanna, part of the southern Congo savanna district of Chapin (1932, p. 90). The meeting between forest and savanna is irregular, particularly in Gabon. There is a narrow strip of coastal savanna that is continuous as far north as Port Gentil and appears sporadically to Libreville and Cap Esterias. Farther inland there is a long tongue stretching northwestward to Tchibanga and Mouila, and the whole of the southeastern corner of the Moyen Congo, the Bateke Plateau, is savanna, interspersed with gallery forest along the major streams.

Since the whole of the region under consideration lies within five degrees of the equator, one would expect the equatorial regime of two rainy and two dry seasons during the year. This is only suggested, however, by a slight diminution of the rains during the "short dry season" in January, and there is for all practical purposes a rainy season from October to mid-May, and a dry season from mid-May through September. This is the pattern of the southern tropics, and it is reflected in the breeding seasons of the savanna birds that nest during the same periods as Angola and Kasai populations.

Avifauna

The avifauna of Gabon and the Moyen Congo is not a homogeneous element; it reflects the ecological dichotomy of the region in being a composite of Lower Guinea forest and southern Congo savanna elements. This area is in no sense a faunal subregion or district with a peculiar fauna of its own; endemism is slight and the richness of the fauna is due to the mixing of the two distinct forest and savanna elements. It is only in the narrow strip of coastal savanna from the Loango coast to Libreville that endemic forms are found, and the total is only eight out of some 138 savanna species. Only two of the forest birds have developed endemic subspecies, and one of these is shared with the lower Congo.

Forest element.—Of the birds reported on in the present paper, 182 species are primarily forest-haunting birds, either living in the forest or confined to clearings or edges. Of these species, 164 are found throughout the Lower Guinea forest district of Chapin, that is, from southern Nigeria and Cameroon south to Gabon and east to the upper Congo, and 91 extend into the gallery forests of northern Angola. The uniformity of the tropical forest environment is shown by the fact that in 113 (69 per cent) of these species the same race is found throughout the Lower Guinea forest, and of those reaching Angola,

53 (59 per cent) are the same form. A few typical examples of birds found throughout Lower Guinea and northern Angola without racial variation are:

Alcedo quadribrachys guentheri
Melittophagus gularis australis
Eurystomus gularis neglectus
Tockus f. fasciatus
Ceratogymna atrata
Pogoniulus l. leucolaima
Indicator e. exilis
Thripias xantholophus
Oriolus n. nigripennis
Malacocincla r. rufipennis
Pycnonotus v. virens
Pycnonotus l. latirostris
Baeopogon i. indicator
Nicator vireo
Eremomela b. badiceps
Fraseria o. ocreata
Artomyias f. fuliginosa
Dyaphorophyia c. castanea
Onychognathus fulgidus hartlaubii
Lamprocolius s. splendidus
Anthreptes rectirostris tephrolaemus
Nectarinia seimundi minor
Nectarinia r. rubescens
Ploceus n. nigricollis
Nigrita f. fusconota

In cases where there is subspecific variation in the forest birds, the Gabon and Moyen Congo birds belong almost invariably with the race of southern Cameroon. The two regions share 175 species, and in only one case is the Gabon bird distinct from that of Cameroon:

Gabon	Cameroon
Himantornis haematopus petiti	*haematopus*

There are three additional species in which the Cameroon race is found in Gabon, and the race of the upper Congo in the Moyen Congo:

Gabon and Cameroon	Moyen Congo and upper Congo
Tricholaema hirsutum flavipunctatum	*chapini* (also *angolense* in so. Gabon and Angola)
Pycnonotus barbatus nigeriae (also *gabonensis* in coastal Gabon)	*tricolor*
Bleda eximia notata	*ugandae*

There are 96 species that range from Cameroon to Angola, and of these 21 have evolved an Angolan race. It might be expected that some part of this Angolan element would have penetrated southern Gabon, but except for *Tricholaema hirsutum angolense*, they have failed to do so. Some of the species in this group are:

Gabon and Cameroon	Angola
Apaloderma narina brachyurum	*narina*
Gymnobucco calvus major	*congicus*
Polipicus e. elliotii	*angolensis*
Chlorocichla flavicollis soror	*flavigula*
Neocossyphus p. poensis	*praepectoralis*
Apalis r. rufogularis	*angolensis*
Bias m. musicus	*pallidiventris*

Dyaphorophyia concreta harterti	*ansorgei*
Nectarinia chloropygia luhderi	*orphogaster*
Malimbus m. malimbicus	*granti*
Nigrita c. canicapilla	*angolensis*

There is a small group of seven species with local and disjunct ranges that are found in the French Congo but not in Cameroon. Because of their fragmented and possibly relict distributions, they are not good faunal indicators, and do little to detract from the almost identical Gabon and Cameroon avifaunas. These Gabon and Moyen Congo species, not found in Cameroon, are:

Merops malimbicus; a seacoast and forest edge bird, found in Nigeria and upper Congo.

Bombylonax breweri; also found in upper Congo.

Pseudochelidon eurystomina; breeds along the middle Congo and Ubangi rivers, winters in Gabon.

Riparia congica; banks of the middle and lower Congo and the Ubangi.

Batis minima; also in the Ituri (*ituriensis* of Chapin).

Nectarinia congensis; forested banks of the major rivers of the Congo basin.

Brachycope anomala; forested banks of the major rivers of the Congo basin; once taken in extreme southeast Cameroon.

Savanna birds.—The relationships of the savanna species found in Gabon and Moyen Congo are by no means as clear as those of the forest species. The great majority of the species are found both north and south of the forest (the Guinean savanna district of Chapin), but many range widely throughout east and south Africa. In the discussion below, no attempt is made to discriminate between the wide-ranging forms and those confined to the Guinean savanna district. A second major element is composed of south and east African species which reach their northernmost west African range in Gabon and are not known north of the forest. There seems to be no representative in Gabon or Moyen Congo of the counterpart of this group, that is, birds found in the savannas north of the forest but not south of it.

Between the northernmost extensions of the southern Congo savanna in Gabon and Moyen Congo and the southern edge of the Ubangi-Uelle savanna in the latitude of Yaounde, Cameroon, there is an almost unbroken stretch of forest that would appear to be a barrier for any of the savanna birds. There are, however, a few natural savannas in this region, and, probably more important, many man-made clearings that through continual burning have become grass-covered and apparently act as stepping stones to maintain a continuous population flow between Cameroon and Gabon. Without

this connection, it would be difficult to explain the fact that the birds of the Gabon savannas show a closer relationship racially to the birds of Cameroon than to those of Angola. Even at Oyem in the heart of the Gabon forest region, Rougeot (1951, p. 162) reports such typical savanna birds as *Colius striatus nigricollis, Passer griseus ugandae, Vidua macroura, Estrilda n. nonnula, Spermestes c. cucullatus* and *Emberiza c. cabanisi.*

Out of 85 species that occur from Cameroon to Angola, 38 are racially unchanged. Of the remainder, in which the Angola form differs from that of Cameroon, the Gabon form is the same as the Cameroon in 22 cases, the same as the Angolan in 18, and has evolved as an endemic race in 7. Since the Gabon and Moyen Congo savannas are continuous with those of Angola, the preponderance of Gabon birds racially related to those of Cameroon is surprising. Typical of this group of birds are:

Gabon and Cameroon	Angola
Colius striatus nigricollis	*congicus* (Kasai)
Eurystomus a. afer	*pulcherrimus*
Hirundo senegalensis saturatior	*monteiri*
Prinia subflava melanorhyncha	*graueri*
Cisticola natalensis strangei	*huambo*
Cisticola b. brachyptera	*loanda*
Dryoscopus g. gambensis	*congicus*
Tchagra m. minutus	*anchietae*
Zosterops senegalensis pusilla	*quanzae*
Nectarinia fuliginosa aurea	*fuliginosa*
Nectarinia c. cuprea	*chalceus*
Euplectes ardens concolor	*ardens*
Lonchura c. cucullata	*scutata*
Emberiza c. cabanisi	*cognominata*

Among the species in which the Gabon race is that of Angola rather than Cameroon are:

Gabon and Angola	Cameroon
Melittophagus pusillus meridionalis	*pusillus*
Melittophagus v. variegatus	*loringi*
Hirundo abyssinica unitatis	*maxima*
Parus niger insignis	*purpurascens*
Batis minor congoensis	*batesi*
Chloropeta natalensis major	*batesi*
Tchagra senegala rufofusca	*camerunensis*
Nectarinia venusta kuanzae	*venusta*
Estrilda subflava clarkei	*subflava*
Serinus mozambicus tando	*punctigula*

The seven endemic subspecies, confined to the coastal savannas, are:

Dendropicos fuscescens sharpii
Pseudhirundo griseopyga melbina
Melocichla mentalis meridionalis
Laniarius ferrugineus bicolor
Nectarinia verticalis cyanocephala
Estrilda astrild rubriventris
Estrilda atricollis gabonensis

The second element of the Gabon-Moyen Congo savanna fauna is composed of those southern species which reach the northernmost extension of their west African range in this area. There are 28 species in this group, of which two, *Caprimulgus f. fossii* and *Cisticola ayresii gabun*, have formed endemic races in the coastal savannas. The remainder are racially identical with the populations of Angola or the Kasai. Examples of this group are:

Pternistis afer cranchii
Turtur c. chalcospilos
Halcyon albiventris orientalis
Melittophagus b. bullockoides
Jynx r. ruficollis
Hirundo angolensis
Erythropygia leucophrys ruficauda
Batis molitor puella
Batis minulla
Lanius s. souzae
Petronia superciliaris
Estrilda p. perreini
Serinus c. capistratus

The only full species endemic to Gabon is *Ploceus subpersonatus*. Its nearest relative is *P. pelzelni*, with which it is sometimes placed in the genus *Icteropsis*, but it has diverged so much that it must be considered a distinct species.

To summarize the relationships of the Gabon-Moyen Congo avifauna, the forest element is an integral part of the Lower Guinea fauna, and racially its species are almost identical with those of Cameroon. Within the savanna element, the relationship of those forms found both north and south of the forest is slightly more with Cameroon forms than those of Angola, but there is also a segment of savanna birds that reach their northernmost range here and are not found north of the forest. Gabon-Moyen Congo cannot be considered a faunal sub-region, and its only endemic elements, nine subspecies and one species, are confined to the coastal savannas.

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and the Moyen Congo, and finally we wish to thank the Rev. and Mrs. J. Corby, who offered him the hospitality of their mission at Mouila.

List of Birds

In their list of birds known or probable from Gabon and the Moyen Congo Malbrant and Maclatchy list a total of 712 species. In the combined collections of Aschemeier and Beatty, numbering about 2900 skins, 378 species are represented—53 per cent of the possible avifauna.

Beatty kept copious field notes, and these have been used extensively in the biographies of the different species. Aschemeier has also contributed many notes; where neither collector is mentioned by name, it is evident from the context whose notes are being used.

Chicago Natural History Museum is fortunate to have on deposit from the Cleveland Museum of Natural History the A. I. Good collection of over 5000 birds from Cameroon. This collection was the basis of Dr. Good's *The Birds of French Cameroon* (1952, 1953), and we have used it extensively in our study.

Family **PELECANIDAE**

Pelecanus rufescens Gmelin

Pelecanus rufescens Gmelin, 1789, Syst. Nat., **1**, pt. 2, p. 571—West Africa.

USNM: Anguanamo, Ngovi, 1 ♂, July 4, 1918.

This specimen is white; the lesser and middle wing coverts with dusky shaft streaks; primaries and their coverts sooty black, the shafts of the four outer primaries yellowish white basally; secondaries and their coverts, tertiaries and scapulars gull gray, blackish along the shaft, and white basally; tail gull gray, the feathers blackish along the shaft; upper tail coverts white, with dusky shaft streaks.

Family **PHALACROCORACIDAE**

Phalacrocorax africanus africanus (Gmelin)

Pelecanus africanus Gmelin, 1789, Syst. Nat., **1**, pt. 2, p. 577—restricted type locality, River Nile, Egypt (Grant and Mackworth-Praed, 1933, Bull. Brit. Orn. Club, **53**: 209).

CNHM: Cap Esterias, 1 ♂, Oct. 2, 1951.

USNM: Omboue, 1 ♂, May 2, 1917.

The October bird, taken near the sea in the mangroves of a small river mouth, had greatly enlarged gonads, indicating breeding. Its

plumage is black, except that the head has brownish feathers, and the throat is mottled brownish and whitish with some black feathers.

Family ANHINGIDAE

Anhinga rufa rufa (Lacépède and Daudin)

Plotus rufus Lacépède and Daudin, 1802, *in* Buffon's Hist. Nat. [18 mo. Didot ed.] Quadr., **14**: 319, Ois., **17**: 81—Senegal.

CNHM: Fernan Vaz, 1 ♀ ? im., Apr. 5, 1951.

USNM: Anguanamo, Ngovi, 3 ♂ ad., 1 ♀ juv., July 13 and Aug. 8, 1918.

Lake Ngovi, 2 ♀ ad., Aug. 1, 1918.

The juvenile bird is molting. The wings and tail have feathered out fully into pennaceous plumage similar to that of the adult; the rest of the bird is covered with dense down. The down on the crown, nape and hind neck is dull earth brown; that of the chin, throat and under parts of the body is whitish.

Aschemeier obtained the young bird in a mangrove swamp where it was perching near a nest, probably the one in which it had been raised. There was quite a colony of snake birds there and a number of nests were seen. The immature has largely pale brown under parts. The adults are all in fresh plumage.

Family ARDEIDAE

Ardea purpurea purpurea Linnaeus

Ardea purpurea Linnaeus, 1766, Syst. Nat., ed. 12, p. 236—restricted type locality, France (Stresemann, 1920, Av. Mac., p. 226).

CNHM: Omboue, Fernan Vaz, 1 ♂ ad., July 4, 1951.
Gamboma, 1 im., Dec. 27, 1951.

USNM: Anguanamo, Ngovi, 1 ♂, 1 ♀, July 4 and 14, 1918.

The July 4 Omboue specimen had greatly enlarged gonads, indicating breeding.

The wing measurement of this species is usually given as about 330–380 mm., but the west and south African adult males in CNHM are all small: Gabon, 346; Bechuanaland, 337, 337, 343, 353, 355. A Kenya male is large, wing 360 mm. The Gabon and Bechuanaland birds (May–July) are dark compared with the paler gray Kenya bird.

Butorides striatus atricapillus (Afzelius)

Ardea atricapillus Afzelius, 1805, Kongl. Vet. Akad. Nya Handl. Stockholm, **25**, (1804), p. 264—Sierra Leone.

CNHM: Omboue, Fernan Vaz, 1 ♂ ad., Apr. 11, 1951.

Ardeola ralloides (Scopoli)

Ardea ralloides Scopoli, 1769, Annus 1, Hist. Nat., p. 88—Krain.

USNM: Anguanamo, Ngovi, 1 ♀ im., July 31, 1918.

The few west African specimens of the squacco heron are paler above than comparable birds from eastern Africa.

Bubulcus ibis ibis (Linnaeus)

Ardea ibis Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 144—Egypt.

CNHM: Omboue, Fernan Vaz, 1 ♂, March 13, 1951.

USNM: Omboue, Fernan Vaz, 1 ♀, May 15, 1917.
Ntyonga, Fernan Vaz, 1 ♂, Nov. 8, 1917.

Egretta alba melanorhynchos (Wagler)

Ardea melanorhynchos Wagler, 1827, Syst. Av. Addit.—Senegambia.

CNHM: Omboue, Fernan Vaz, 1 ♀, March 14, 1951.

Wing: 362 mm.

Though reported as chiefly a non-breeding visitor, November to January, the species has been reported previously in June and in August. The present specimen, without nuptial plumes and showing no wing molt, was one of two on a savanna marsh, according to Beatty.

Nycticorax nycticorax nycticorax (Linnaeus)

Ardea nycticorax Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 142—southern Europe.

USNM: Anguanamo, Ngovi, 1 ♀ subad., July 29, 1918.

This heron is usually considered a resident in west Africa with its numbers swelled by winter migrants (Bannerman, 1930, p. 77); however, despite a colony with nests reported from Boma on the lower Congo (Chapin, 1932, p. 420), Malbrant and Maclatchy (1949, p. 98) give its status in French Equatorial Africa as a migrant from Europe and Asia with several localities, but only a single date (January 25).

Tigriornis leucolopha (Jardine)

Tigrisoma leucolopha Jardine, 1846, Ann. Mag. Nat. Hist., **17**: 86—restricted type locality, Old Calabar (Sclater, 1924, Syst. Av. Aeth., p. 30).

USNM: Mpivia, Fernan Vaz, 1 ♀, Sept. 15, 1918.

The above specimen does not agree with Sharpe's (1898, p. 191) description in certain minor details. There are no arrowhead markings of sandy buff on lower back or rump, the feathers are merely narrowly fringed with buff; the tail has only two very narrow buff bars and a buff top; and there are other slight discrepancies. Bannerman's (1930, p. 80) description fits the present bird much better. As Chapin (1932, p. 423) has pointed out, there is considerable individual variation, particularly in the light barring. These bars are apt to be narrower on the backs of adult females.

This most sylvan of the herons is relatively seldom seen, and hence relatively infrequently collected.

Ixobrychus minutus payesii (Hartlaub)

Ardea payesii Hartlaub, 1858, Jour. f. Orn., p. 42—Casamanse, Senegal.

USNM: Omboue, Fernan Vaz, 1 ♀, Sept. 5, 1917.

This female is in immature plumage. A young bird, with fuscous down and the pin feathers showing on the feather tracts of the neck, breast, and wings, taken at the same locality, October 22, 1917, is placed here, although without absolute certainty. Aschemeier found it alone on the ground near Omboue and saw no adult heron near it.

Family **SCOPIDAE**

Scopus umbretta umbretta Gmelin

Scopus umbretta Gmelin, 1789, Syst. Nat., **1**: 618—Senegal.

CNHM: Omboue, Fernan Vaz, 1 ♂, 1 ♀, March 10 and 13, 1951.

Wing: ♂ 292, ♀ 293 mm.

The geographical variation of this species on the African continent seems fairly clear; birds of this species in the mangroves of western Africa from Sierra Leone to southern Nigeria are small (wing 250–266 mm.) and, according to Bates (1931, p. 300), generally dark; southern and eastern Africa are occupied by birds of larger size, illustrated by specimens in Chicago Natural History Museum as follows: Angola, ♂ 308, ♀ 298, 300, 307; Bechuanaland, ♂ 317, ♀ 318; Kenya and Uganda, ♂ 307, 314, 315, ♀ 305, 306, 307, 316, 333; Ethiopia, ♂ 304, ♀ 309 mm. The rest of the range, from Senegal

to Gabon, away from the coast, is occupied by birds of intermediate size (280–322 mm.) (op. cit.). The only question is whether to use subspecific names—*S. u. minor* and *S. u. umbretta*—for extremes of the cline, or name both the extremes and the intermediate part, as *S. u. minor* for the small, *S. u. umbretta* for the medium, and *S. u. bannermani* for the large birds. In either case, Gabon birds with measurements in the upper part of the group intermediate in size, are referable to *S. u. umbretta*. We prefer to use names for the extremes of the cline only.

Family CICONIIDAE

Ibis ibis (Linnaeus)

Tantalus ibis Linnaeus, 1766, Syst. Nat., 12th ed., **1**: 241—Egypt.

USNM: Lake Ngovi, Ngovi, 1 ♂, July 17, 1918.
Pemba Nyambi, Ngovi, 1 ♀, Aug. 26, 1918.

Dissoura episcopus microscelis (Gray)

Ciconia microscelis Gray, 1848, Gen. Bds., **3**: 561—Africa.

CNHM: Omboue, Fernan Vaz, 1 ♂, March 17, 1951.

USNM: Ntyonga, Fernan Vaz, 2 ♂, Feb. 2, 1918.

Family THRESKIORNITHIDAE

Hagedashia hagedash brevirostris (Reichenow)

Theristicus brevirostris Reichenow, 1907, Orn. Monatsb., **15**: 147—Alen, southern Cameroon.

USNM: M'pando Beach, 1 ♂, May 10, 1917.
Anguanamo, Ngovi, 1 ♂, Aug. 2, 1918.

Chapin (1932, pp. 477–478) writes that Gabon specimens may be expected to have longer bills than Upper Guinea examples. He mentions a bird from Camma River with a culmen 160 mm. long, as compared with 128 mm. in a bird from Gambia. The present examples have culmens measuring 142 and 135 mm., respectively.

Family ANATIDAE

Dendrocygna viduata (Linnaeus)

Anas viduata Linnaeus, 1766, Syst. Nat., 12th ed., **1**: 205—Cartagena, Colombia.

USNM: Lake Anengue, Fernan Vaz, 1 ♀, July 23, 1917.

Sarkidiornis melanotos (Pennant)

Anser melanotos Pennant, 1769, Indian Zool., p. 12—Ceylon.

CNHM: Impfondo, 1 ♂, Feb. 25, 1952.

Anas sparsa leucostigma Rüppell

Anas leucostigma Rüppell, 1845, Syst. uebers Vög. N.–O. Africa, p. 130—Abyssinia.

CNHM: Mount Tandou, Mouila, 1 ♂, 1 ♀, June 8, 1951.

Wing: ♂ 255, ♀ 242 mm.

Both birds are in fairly fresh plumage, and the gonads are marked as greatly enlarged, indicating breeding. They are very similar, differing only in the male being slightly larger, having the pale areas of scapulars and tail more buffy, the narrow pale edgings of the under parts generally less conspicuous, the chin and throat darker and more heavily streaked, and the black area of the bill slightly larger. According to Beatty, in fresh birds, "bill black, white at base and near end"; in skins the pale areas are yellow to orange.

Berlioz (1947, p. 89) described a new race of this species as *A. s. maclatchyi* from a single skin from Booue, Gabon, altitude 200 meters. The characters given, contrasted with those of east and south African birds, were as follows: darker, with pale markings of wing, scapulars and tail reduced, the markings on the tail less oblique, and all these pale markings more buffy; the white stripe on the wing coverts reduced to one half the width, and a larger black area on the bill (wing, ♂ 220 mm.). Malbrant and Maclatchy (1949, p. 112) record the wing of another Gabon bird as 265 mm.

For comparison, Chicago Natural History Museum has the following specimens: Abyssinia: 3, wing ♂ 280, ♀ 247, 252 mm. Kenya: 8, wing ♂ 250, 253, 253, 266, 268, ♀ 235, 249, 257 mm. Tanganyika Territory, Mount Meru and Usambara: 3, ♂ 268, ♀ 230, 242 mm. Angola, Benguela, Dondi: 1, ♂ 261 mm.

Lacking South African birds (*A. s. sparsa*) we assume the present specimens represent *A. s. leucostigma*. Certainly the specimens all have the central part of the bill black, the base and tip (except the black nail) yellowish, not a slate and dark bill as described for *A. s. sparsa* from South Africa. However, Grant and Mackworth-Praed (1933a) say one cannot tell *sparsa* from *leucostigma* in skins, though they are valid races on the bill characters in life. Chapin (1932, p. 498) has already commented on the larger size of an Abyssinia male he examined (wing ♂ 272 mm.). In amount of spotting, in

shape of tail spotting, and in size of white wing stripe, those specimens show considerable variation, all extremes being evident in the Kenya birds. Chapin also found his Abyssinia male had a smaller area of black on the bill than Ituri birds. In our material the male from Abyssinia has slightly more yellow at the tip of the bill than any of the others, but the two females fall within the range of variation of Kenya birds. The Angola bird also has considerable yellow on base and tip of bill—as much as many Kenya birds. In color spotting, the buffiest specimens as well as whitish ones come from Kenya, though Berlioz (1947, p. 93) speaks of an Abyssinia bird that has the pale markings buffy.

The two Gabon specimens fall within the range of variation of the Kenya birds, except in one character; one of them, the male, has the markings of the scapulars and tail more buffy than any east African specimens. However, Berlioz (1947, p. 93) examined an Abyssinia specimen in which the buffiness approached that of his Gabon bird.

The Angola bird, coming from a southwestern part of the range from which there are few records, should be mentioned especially; it has reduced white spotting, some of it quite buffy, but falls within the range of variation of Kenya birds. It was taken in Benguela at Dondi, February 12, 1937, and was received from K. H. Prior.

There is some evidence for a tendency toward increase in size and decrease in black in the bill in the northeast (Abyssinia) and for an increase in buffiness of barring to the west (Gabon), but the overlap is too great to allow races to be recognized. *A. s. maclatchyi* is considered a synonym of *A. s. leucostigma*.

Beatty writes that a search for ducks on the Gavassa River, where he got his two birds, is a labor of love, for they are few and far apart, and the river is swift flowing, varies from shallow to quite deep, and averages one hundred feet wide. The river bottom is gravel and with no aquatic vegetation. He concluded that these birds fed on animal life, though the natives insisted that the ducks visited the plantations at dusk and dawn to feed on manioc.

Pteronetta hartlaubii hartlaubii (Cassin)

Querquedula hartlaubii Cassin, 1859, Proc. Acad. Nat. Sci. Phila., p. 175—Camma River, Gabon.

CNHM: Mouila, 1 ♂, Sept. 3, 1951.

USNM: Anguanamo, Ngovi, 2 ♂, Aug. 13, 1918.
Mpivia, Fernan Vaz, 1 ♀, Sept. 13, 1918.

None of these four birds shows white feathers about the head. Though Sclater (1924, p. 44), Peters (1931, p. 132), and Bannerman (1930, p. 149, and 1951, p. 69) consider *P. h. albifrons* Neumann 1908, from the Ituri forest, a synonym and recognize no races, Chapin (1932, p. 503) shows that the birds from the eastern part of the range have more white on the head and two races can be recognized.

There are no upper Congo area birds in Chicago Natural History Museum, but we have 11 males from Cameroon and one from Spanish Guinea; four have no white on the head, and eight have a little white, or a white band on the forehead, the maximum width of this band being seven millimeters. This is less than the described condition for many of the upper Congo area birds.

Thus we agree with Malbrant and Maclatchy (1949, p. 114) in calling Gabon and Moyen Congo birds *P. h. hartlaubii*.

Aschemeier found Hartlaub's duck most common at Mpivia. Beatty recorded a flock of ten in a small swamp on the savanna.

Family ACCIPITRIDAE

Elanus caeruleus caeruleus (Desfontaines)

Falco caeruleus Desfontaines, 1789, Hist. (Mem.) Acad. Paris, (1787), p. 503, pl. 15—Algiers.

CNHM: Djambala, 2400 feet, 2 ♂, Nov. 14 and Dec. 15, 1951.

Wing: 258, 267 mm.

The gonads of both birds were recorded as not enlarged.

Machaerhamphus alcinus anderssoni (Gurney)

Stringonyx anderssoni Gurney, 1865, Proc. Zool. Soc. London, p. 618—Otjimbinque, Damaraland.

CNHM: Tchibanga, 1 ♀, Apr. 17, 1952.

Wing: 352 mm.

This bird, with enlarged gonads, is in the dark type of plumage.

Malbrant and Maclatchy (1949, p. 125) write that this species is not rare in the Moyen Congo, but that it has not been taken in Gabon. Thus, this is the first Gabon record for this widespread species.

Aviceda cuculoides batesi (Swann)

Baza cuculoides batesi Swann, 1920, Syn. List Accip., p. 107—River Ja, Cameroon.

CNHM: Libreville, 1 ♂ ad., Feb. 1, 1951.

Wing: 303 mm.

This specimen is very dark above, with much reduced barring below, very little rufous on the nape, and nearly uniform under wing coverts.

We are following Chapin (1932, p. 539), and Malbrant and Maclatchy (1949, p. 123) in referring this Gabon bird to *batesi*.

Apparently there was but one previous record for this species from French Equatorial Africa, though, as Malbrant and Maclatchy point out, this may be due to its shyness, rather than to actual rarity. The present specimen came from a clearing in the forest. Its gonads were greatly enlarged, indicating breeding, and its stomach contained insects.

Milvus migrans parasitus (Daudin)

Falco parasitus Daudin, 1800, Traité d'Orn., **2**: 150—South Africa.

CNHM: Djambala, 2400 feet, 1 ♂ ad., 1 ♀ ad., 1 ♀ im., Oct. 18–Nov. 11, 1951.

Wing: ♂ ad. 395, ♀ ad. 398, ♀ im. 415 mm.

Both adults have yellow bills. One specimen is considerably more chestnut than the other.

The west African bird has been described as *M. m. tenebrosus* Grant and Mackworth-Praed (1933b), type locality Beoumi, Ivory Coast, and characterized as darker than *parasitus* from South Africa. Bannerman (1951, p. 98) accepted this but did not re-examine the material. We follow Malbrant and Maclatchy (1949, p. 124) and Amadon (1953, p. 408) in calling Gabon birds *M. m. parasitus*.

Neither adult was in breeding condition.

Accipiter toussenelii toussenelii (J. and E. Verreaux)

Nisus toussenelii J. and E. Verreaux, 1855, Jour. f. Orn., **3**: 101—Gabon.

CNHM: Cap Esterias, 1 ♂ ad., Feb. 1, 1951.
Impfondo, 1 ♀ im., Feb. 12, 1952.

USNM: Omboue, Fernan Vaz, 1 ♀, May 29, 1917.

Chapin (1932, p. 628) has recorded the Fernan Vaz female. The adult male from Cap Esterias has the front and outer sides of the thighs plain rufous like the flanks, and the inner and posterior sides of the thighs plentifully mixed with grayish.

The Impfondo bird is in the white-breasted immature plumage in which *A. t. toussenelii* and *A. t. canescens* are indistinguishable. Chapin (1932, p. 629) says that these two races may be expected to

intergrade on the Middle Congo and records *A. t. canescens* for Lukolela. Malbrant and Maclatchy (1949, p. 138) indicate that *canescens*, with gray thighs in the adult, may be the bird of the Moyen Congo, and the present Impfondo immature may belong to that race.

We follow Chapin (1932, p. 628) in considering *A. toussenelii* a species separate from *A. tachiro*.

Urotriorchis macrourus batesi Swann

Urotriorchis macrourus batesi Swann, 1921, Syn. List Accip., ed. 2, p. 29—Bitye, River Ja, Cameroon.

CNHM: Libreville, 1 ♂, Jan. 30, 1951.

USNM: Ogouma, 1 ♂, Jan. 21, 1919.

Wing: ♂ 265, 282 mm.

This is another little-known forest hawk. In neither bird is the long tail suitable for measurement; thus, the most diagnostic subspecific feature, the longer tail, of *U. m. batesi* is impossible to judge in these skins.

The color of the eye has been variously recorded as yellow, yellow suffused with red, and brown. These specimens had the iris recorded as "red" and "carmine."

The Libreville specimen was caught in a native trap in a clearing in the forest. In its stomach was a small bat.

Buteo auguralis Salvadori

Buteo auguralis Salvadori, 1865, Atti Soc. Ital. Milano, 8: 377—Abyssinia and Gebel Aidun, Lybian Desert.

CNHM: Fougamou, 1 ♂ im., Aug. 11, 1951.
Labamba, 1 ♂, June 5, 1952.

Wing: ♂ imm. 336 mm.

Though the adult is similar in general plumage to an adult from Angola, the tail is mixed dusky and rufous and the lateral rectrices have obscure barrings.

Beatty took this specimen in a clearing in the forest.

Kaupifalco monogrammicus monogrammicus (Temminck)

Falco monogrammicus Temminck, 1824, Pl. Col., livre 53, pl. 314—Senegal.

CNHM: Mouila, 2 ♂, May 24 and Sept. 1, 1951.
Gamboma, 1 ♀, Jan. 3, 1952.

Wing: ♂ 213, 214; ♀ 220 mm.

Malbrant and Maclatchy (1949, p. 135) record this species for Gabon and Moyen Congo binominally, without mention of subspecies. Chapin (1932, p. 605) also records it as *K. monogrammicus* for the Congo, but recognizes both races in his discussion and says that the equatorial region of the Congo is the meeting area of the northern and southern races. One would expect the dark, heavily barred southern race, *K. m. meridionalis*, to be the form of Gabon, as it is of Angola, but the above three specimens, in the paler upper parts, paler throat, and less dense and paler barring below, compare well with a series of *K. m. monogrammicus* from Liberia and contrast sharply with a series of *K. m. meridionalis* from Angola (for a review of the species see Rand, 1951, p. 573).

The May and January specimens show wing molt; the September bird is marked as having its gonads greatly enlarged.

Lophaetus occipitalis (Daudin)

Falco occipitalis Daudin, 1800, Traité d'Orn., **2**: 40—Knysna District of Cape Province.

CNHM: Fougamou, 1 ♂, Aug. 28, 1951.

USNM: Anguanamo, Ngovi, 1 ♀, Aug. 13, 1917.

Cassinaetus africanus (Cassin)

Limnaetus africanus Cassin, 1865, Proc. Acad. Nat. Sci. Phila., p. 4—Ogabi River, Gabon.

CNHM: Fougamou, 1 ♀, Aug. 12, 1951.

Wing: 322 mm.

This specimen represents one of the rare forest eagles of Africa. It matches descriptions very well, except for having a short wing. Chapin (1932, p. 574) gives wing measurements of 333 and 341 for two Gabon birds, and a female from the Congo has a wing measurement of 381 mm. The present specimen, marked as a female, is just completing its wing molt. Beatty writes that it was taken in a village clearing.

Gypohierax angolensis (Gmelin)

Falco angolensis Gmelin, 1788, Syst. Nat., **1**, pt. 1, p. 252—Angola.

USNM: Omboue, Fernan Vaz, 2 ♂, Apr. 20 and Oct. 25, 1917.
M'pando, Fernan Vaz, 1 ♂ im., June 6, 1917.
Aboona, Fernan Vaz, 1 ♀, Jan. 10, 1918.
Ntyonga, Fernan Vaz, 1 ♂, Feb. 9, 1918.

The fact that Beatty failed to find this striking black and white vulture whereas Aschemeier obtained a series of specimens suggests local or temporal variation in its occurence.

Gymnogenys typicus pectoralis (Sharpe)

Polyboroides pectoralis Sharpe, 1903, Bull. Brit. Orn. Club, **13**: 50—Efulen, Cameroon.

CNHM: Mouila, 2 im. unsexed, May 18 and June 10, 1951.
Impfondo, 1 ♀, Feb. 12, 1952.

Wing: ♀ 379 mm.; imm. 369, 379 mm.

The small size of these birds places them with the small west African race, which also occupies the Kasai and the equatorial forests of the Congo. To the south the larger south African race, *G. t. typicus*, evidently replaces it in Angola, whence Chicago Natural History Museum has two adult females (wing 438, 451 mm.) and a Bechuanaland female (wing 480 mm.). The larger *G. t. typicus* had been recorded as a wanderer as far northwest as Nigeria (Bannerman, 1930, p. 304).

Dryotriorchis spectabilis batesi Sharpe

Dryotriorchis batesi Sharpe, 1904, Ibis, p. 601—Efulen, Cameroon.

CNHM: Mouila, 1 ♀, Sept. 3, 1951.

Wing: 326 mm.

This adult of this little known eagle has the under parts strongly pinkish, without spots, the flanks only barred blackish. The ovary was recorded as greatly enlarged, indicating breeding. Though this is usually considered a forest species, Beatty found this specimen in an old plantation in a savanna area.

Family **PHASIANIDAE**

Francolinus lathami lathami Hartlaub

Francolinus lathami Hartlaub, 1854, Jour. f. Orn., **2**: 210—Sierra Leone.

CNHM: Fougamou, 3 ♂, 1 ♀, Aug. 9–24, 1951.

USNM: Ogouma, Rembo Nkami, 3 ♂, 1 ♀, Nov. 11, 1918–Jan. 20, 1919.

The Fougamou birds measure wing ♂ 143, 146, 149, ♀ 145 mm., and this variation falls within that of a series of Cameroon birds. Three of the four August birds had enlarged gonads; the November–January birds were all molting.

In Gabon, as elsewhere, this is a bird of the primary forest where it is difficult to see, and where it escapes by running. Some specimens were secured from natives who trapped them.

Francolinus coqui angolensis Rothschild

Francolinus coqui angolensis Rothschild, 1902, Bull. Brit. Orn. Club, **12**: 76—Bailundu, Angola.

CNHM: Djambala, 1 ♀, Oct. 30, 1951.

Wing: ♀ 133 mm.

As compared with three specimens from Angola, this female is similar to the darkest and plainest of them in the reduction of brown and the predominating of blacks and gray in concise pattern of the upper parts, and in the nearly clear gray of the lesser upper wing coverts, but differs in being slightly darker above and in having the narrow bars on the under parts less distinct.

When first recording this species for the Moyen Congo, as an extension of range, Berlioz (1941, p. 399) referred an immature female to *angolensis* on geographic grounds. Malbrant and Maclatchy (1949, p. 141), with additional specimens from the Moyen Congo, refer them to *F. c. lynesi*, which they also give as occurring in the Kasai. However, the Kasai bird has been described as a separate subspecies, *F. c. kasaicus* (White, 1945, p. 310), characterized by being more reddish above compared with *angolensis*. A single female from the Kasai supports White's view.

The race *lynesi* Sclater, 1932 (120 miles west of Elizabethville, Belgian Congo, with a range in the Katanga and into Northern Rhodesia), we have not seen, but it is described as darker and richer-colored than *F. c. coqui*. Of *F. c. vernayi* Roberts, 1932 (Tsotsoroga Pan, Bechuanaland), we have three males. This bird is pale buff on the upper parts, with the barring on the flanks and abdomen sparser and more scattered, compared with *F. c. coqui*. Though Peters (1934, p. 72) says this is known from only the type locality, Roberts (1935, p. 60) gives three localities.

F. c. hoeschianus Stresemann, 1937, Waterberg Plateau, southwest Africa, is a very distinct pale reddish and large-sized race. We have four topotypes.

The range of this species is in the more open country around the rain forest in east Africa. The Moyen Congo seems to be the northern extension of the southwest African group of races. To the north the nearest (geographical) representative is *Francolinus c. schlegelii*, in the Oubangi-Chari and the Bahr-el-Ghazal. This is sometimes

considered a race of *coqui*, but there is a tendency to consider it a species because of the lack of sexual dimorphism, which is a conspicuous feature of *F. coqui*. Neumann (1933, p. 225) described the Oubangi-Chari birds as *F. c. confusus*, but studies of recent collectors of these birds have not supported this separation (Cave, 1947, p. 3; 1949, p. 103; Berlioz, 1934, p. 228).

Francolinus squamatus squamatus Cassin

Francolinus squamatus Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8: 321—Cape Lopez, French Congo.

CNHM: M'Bigou, Mount Du Chaillu, 1 ♂, July 11, 1951.
Mouila, Mount Tandou, 1 ♀, June 5, 1951.
Mimongo, 1 ♂, 3 ♀, June 20–Aug. 3, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, Nov. 10, 1918.

Wing: 2 ♂ 182, 186; 5 ♀ 165, 169, 171, 174, 186 mm.

A series of Cameroon birds agrees well with these birds, though perhaps averaging slightly more brownish in general tone. The June, July and August specimens, in fairly fresh plumage, have their gonads much enlarged, indicating breeding. The November bird's plumage was much worn.

Pternistis afer cranchii (Leach)

Perdix cranchii Leach, 1818, *in* Tuckey's Narr. Explor. Zaire, app. p. 408—lower Congo Valley.

CNHM: Djambala, 2 ♂, 2 ♀, Dec. 3–14, 1951.

Wing: 2 ♂ 182, 187; 2 ♀ 167, 171 mm.

Gabon and Moyen Congo seem to be the northern limit of the range of the group in western Africa. These birds, in fairly fresh plumage, all had enlarged gonads, indicating breeding.

Excalfactoria adansonii (J. and E. Verreaux)

Coturnix adansonii J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), 3: 515—Gabon.

CNHM: Cap Esterias, 1 ♂ ad., 1 ♂ subad., Jan. 24 and Feb. 5, 1951.
Mouila, 1 ♀, July 24, 1951.

Though the back of the adult male is usually described as blotched with black, the back of our adult male is uniformly bluish; the subadult male has some brown and black feathers of the juvenile plumage on the back and flanks. There is possibly geographical variation

in the black blotching on the back, as our five Kenya and Uganda adult males all have this blotching, while of two males from the Katanga, one has none, and the other has only an indication of it.

Bannerman (1951, p. 144) points out that whether the species is resident or migratory in west Africa is unknown. The dates of our specimens are January, February and July, and all three specimens, including the male, which was still carrying some immature feathers, were marked as having enlarged gonads.

Family NUMIDIDAE

Phasidus niger Cassin

Phasidus niger Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8: 322—Cape Lopez, French Congo.

CNHM: Fougamou, 1 ♂, Aug. 23, 1951.

USNM: Anguanamo, Ngovi, 1 ♀, July 14, 1918.

Rembo Kotou, Fernan Vaz, 1 ♀ [= ♂], Nov. 20, 1917.

Wing: ♂ 217 mm.

The blackness of the fresh (1951) specimen, compared with a brownish black male and female from southern Cameroon (CNHM) taken in 1928 and 1944, indicates that foxing takes place rapidly in museum specimens.

The number of spurs present in this species is variable. The three males have spurs as follows: one, 1 spur on each leg; one, 2 spurs on one leg, 3 on the other, the middle spur being small; and one, 3 spurs on each leg. In the two females, one has a small spur on one leg only, the other has 1 spur on each leg.

Numida meleagris marchei Oustalet

Numida marchei Oustalet, 1882, Ann. Sci. Nat., Zool., (6), **13**, art. 2, p. 1—Gabon.

CNHM: Djambala, 2 ♂, Dec. 15, 1951.

Wing: 2 ♂ 262, 263 mm.

These birds belong to the group of west African guinea fowl with an unbarred collar, low casque, no nasal bristles and oval wattles that are all red, that ranges from Senegal to Gabon at least. Bannerman (1930, p. 347) divided these birds into two races: *N. m. galeata*, ranging on the mainland from Senegal to Cameroon (Sanaga River); and *N. m. marchei* of the Gabon and Congo (birds from Luluabourg were

separated as *N. m. callawaerti;* Chapin, 1932). Later Bannerman (1951, p. 146) expressed doubts as to the distinctness of *marchei.*

For comparison we have the following specimens in Chicago Natural History Museum: Senegal, 1; French Sudan (Mopti), 1; Gambia, 1; Liberia (Ganta), 4; Cameroon, 12. From an examination of this series it appears that the Senegal, French Sudan, and Gambia birds differ more from the Liberia-Cameroon birds than do the latter from Djambala birds. Perhaps it was for this reason that Hartert (1921, p. 85), when reporting that a series from Aïr (Asben) was similar to a Senegambia series, did not include lower Niger birds with them, but referred the latter to the Gabon form.

It seems advisable to recognize three races, for all of which names are available, to indicate the variation in this form.

(1) **Numida meleagris galeata** Pallas

Numida galeata Pallas, 1767, Spic. Zool., **1**, fasc. IV, pp. 13, 15—no locality, restricted to Bathurst, mouth of River Gambia (Murphy, 1924, Bull. Amer. Mus. Nat. Hist., **50**: 265).

This name was applied to the domesticated guinea fowl, and Hartert (1921, p. 85), having previously shown, in 1919, that it was applicable to the west African bird, used it for Senegambia birds. Murphy's restriction of the type locality is in accord with this. Our single Gambia bird agrees well with our Senegal and French Sudan birds. Compared with birds from Liberia and farther south they are characterized by greater extent of vermiculations in the background color of upper parts with a sandy tinge, against which the black surrounding the white spots is rather conspicuous. The under parts have the white spots larger. This gives a pale, sandy appearing bird.

Two of our specimens (male) measure, wing 237, 249 mm. Hartert (1921, p. 85) noted that a series from Aïr (Asben) was similar to a Senegambia series.

(2) **Numida meleagris zechi** Reichenow

Numida zechi Reichenow, 1896, Orn. Monats., **4**: 76—Kratschi, Togoland.

Though this name was applied to the domesticated bird of villages in Togoland, it seems to be available for this population of Upper Guinea.

Our specimens from Liberia are slightly darker than those from Cameroon but are fairly close, and both series differ from our specimens of *N. m. galeata* in having the pale vermiculations of the upper parts smaller and largely lacking a sandy tinge; in having the spot-

ting of the under parts smaller; in having the unbarred collar darker. Thus zechi is a darker and grayish-black rather than a paler, sandy-tinged bird. It is also slightly larger: wing, Liberia, ♂ 270, sex? 271, ♀ 249–250; Cameroon, ♂ (8) 257–271 (av. 263.2), ♀ 257, 260, 261, 263 mm.

(3) **Numida meleagris marchei** Oustalet

Numida marchei Oustalet, 1882, Ann. Sci. Nat., Zool., (6), **13**, art. 2, p. 1—Gabon.

Our two Djambala, middle Congo birds are assumed to represent this form. They are very similar to *N. m. zechi* from Cameroon and Liberia, and closer to them than *zechi* is to *galeata* of Gambia. They differ in the slightly larger white spotting of the upper parts, as noted by Bannerman (1930, p. 349), but other characters that he gives—larger size and darker and more bluish cropband with more or less developed whitish crossbars—are not apparent. Wing, ♂ 262, 263. It appears to be a lightly marked race whose range is separated from the range of *zechi* by the forest belt.

Farther inland forms have been described showing intergradation with other groups; north of the forest from interior Cameroon, there is *N. m. blancoui* Grote 1936, having the wattles blue with red tips, an intermediate between *zechi* and *strasseni*, which latter is itself an intermediate approaching *major;* and south of the forest in eastern Kasai there is *callewaerti* Chapin 1932, of which we have a series from Luluabourg (type locality) intermediate between *marchei* and *marungensis*.

Guttera plumifera plumifera (Cassin)

Numida plumifera Cassin, 1857, Proc. Acad. Nat. Sci. Phila., **8**: 321—Cape Lopez, French Congo.

CNHM: Mouila, 3 ♂, 1 ♀, Sept. 12–14, 1951.

USNM: Fernan Vaz, 1 ♂, June 18, 1918.

Wing: 3 ♂ 240, 242, 245; 1 ♀ 237 mm.

Five birds from Cameroon have the spots at the base of the hind neck slightly larger than in these Gabon birds.

Family **TURNICIDAE**

Turnix sylvatica lepurana (Smith)

Ortygis lepurana A. Smith, 1836, Rep. Exped. Centr. Africa, p. 55—north of Kurrichane, western Transvaal.

CNHM: Cap Esterias, 1 ♀, Jan. 21, 1951.

Wing: 87 mm.

Our single Gabon bird compares well with a series of seven birds from the Kasai District of the Belgian Congo in having the upper parts rather dark brown and black, with gray edgings to the feathers and large black areas in the dark spottings of the upper wing coverts and tertials; with large black markings on the sides of the neck and upper breast; and with the rufous of the throat rather dark.

Compared with these, five birds from Southern Rhodesia differ rather sharply in having the upper parts more yellowish brown and black, with conspicuous whitish edgings on each side of the feathers; in the markings of the wing coverts and tertials being more brown, with less black in them, and the buffy white margins of these feathers being more extensive; in the black markings of the sides of the upper breast being smaller; and in the rufous of the throat being considerably paler.

If only these two series of birds were being considered, they could be easily separated as fairly well marked subspecies. But our specimens from other parts of Africa do not fall readily into one or the other of these categories.

Two birds from Bechuanaland and one from Angola (Chitau, Bihe District) agree fairly well with the Southern Rhodesia birds. One Cape Province and five Natal birds (near Port Shepstone) agree with the Kasai series, though some are somewhat paler. Eight birds from Tanganyika show some variation, but average closer to the Kasai series. The Kenya and Uganda series is still more variable, and this series of 14 specimens contains a few that are very similar to the yellowish Rhodesia specimens, and others similar to the darker Kasai specimens.

Thus, pale birds characterize Southern Rhodesia, Bechuanaland, and Angola, darker birds Gabon, Kasai, Cape Province, Natal, and Tanganyika, while both types occur in Kenya and Uganda. The distribution of these light, dark, and mixed populations is such that no clear geographic pattern emerges, and consequently it seems advisable to follow current usage and refer them all to *lepurana*.

The present female was marked as having ovary enlarged, indicating breeding in January.

Family **RALLIDAE**

Himantornis haematopus petiti (Oustalet)

Psammocrex petiti Oustalet, 1884, Naturaliste, II, p. 509—Landana, Port. Congo.

USNM: Ogouma, Rembo Nkami, 1 ♂, Jan. 2, 1919.

Chapin (1939, p. 27) has commented on this specimen, and he shows that this subspecies, ranging from southern Gabon to the lower Congo, is valid.

Canirallus oscularis batesi Sharpe

Canirallus batesi Sharpe, 1900, Bull. Brit. Orn. Club, **10**: 56—Rio Benito, French Congo.

CNHM: Libreville, Cap Esterias, 1 ♀, Feb. 8, 1951.

Wing: ♀ 176 mm.

Though Malbrant and Maclatchy (1949, p. 150) and Bannerman (1931, p. 8) recognize the subspecies *batesi*, Chapin (1939, p. 7) doubts its validity. If *batesi* is valid, this specimen certainly is referable to it. However, we lack adequate comparative material on which to comment.

Crecopsis egregia (Peters)

Ortygometra (*Crex*) *egregia* Peters, 1854, Monatsb. K. Akad. Berlin, p. 134—Tete, Zambesi.

CNHM: Fernan Vaz, Omboue, 1 ♂, Apr. 22, 1951.
Djambala, 2400 feet, 2 ♂, Dec. 14, 15, 1951.

Wing: 122, 122, 126 mm.

Limnocorax flavirostra (Swainson)

Gallinula flavirostra Swainson, 1837, Bds. West Africa, II, p. 244—Senegal.

CNHM: Fernan Vaz, Omboue, 2 ♂, Apr. 19, 1951.

Both specimens are immature, with some whitish in the throat.

Sarothrura rufa bonapartii (Bonaparte)

Corethrura bonapartii Bonaparte, 1856, Compt. Rend., **43**: 599—Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Jan. 31 and Feb. 7, 1951.
M'Bigou, Mount Du Chaillu, 1 ♀, July 18, 1951.

Wing: ♂ 66, ♀ 70, 71.

A survey of our 41 specimens of this species indicates that, contary to the views of Mackworth-Praed and Grant (1937, p. 629),

there is pronounced geographical variation in this species, as Chapin (1939, p. 18) also found.

Our series of *S. r. elizabethae* from Kenya consists of 20 specimens: wing, ♂ (10) 71–76 (av. 74 mm.); ♀ (7) 75–81 (av. 77 mm.). The males are uniform, and there is less variation in the females than we expected from the literature. Of *S. r. rufa* we have a single specimen from Natal (wing, ♂ 78). From Angola we have four specimens (wing, ♂ 73, 76; ♀ 76, 77), and from the Kasai district of the Belgian Congo one male (wing 74 mm.) that should be *ansorgei* van Someren, which Chapin (l.c.) synonymizes with *S. r. rufa*. The two females differ from each other. One is rather similar to the least spotted Kenya female; the other is blacker above, with finer spotting, and with very much less, and finer marking on the upper wing coverts.

Our birds are: Cameroon, wing, ♂ 70, 71, 72, ♀ 71; Gabon, ♂ 66, ♀ 70, 71. Chapin gives wing as ♂ 66, ♀ 69 for cotypes of *bonapartii*, separable from Angola, south Africa and Kenya birds on this smaller size. This small west African race, according to Chapin (l.c.), has the brownish pattern more conspicuous, and our single adult female from Cameroon agrees well with his description. However, our two Gabon birds, though small, are rather different from the Cameroon bird. One is rather similar to Kenya females except for the considerable reduction of barring on the upper wing coverts; the other has narrow, pale, crescent-shaped marks on the back (not broad and buffy brown like the Cameroon female), reduced markings on the wing coverts, and conspicuous dusky markings on the flanks, but almost lacks a buffy or brownish tinge on the under parts.

Being practically topotypical, Gabon birds must be *S. r. bonapartii*, but that this race crosses the equatorial forest and that Cameroon birds are the same seems questionable. The latter may be found to be another small race, recognizable by their pale, boldly patterned plumage.

Family HELIORNITHIDAE

Podica senegalensis camerunensis Sjostedt

Podica camerunensis Sjostedt, 1893, Orn. Monats., 1: 42—Bonge, near Mount Cameroon.

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, Apr. 6, 8, 1951.

USNM: Fernan Vaz, Mpivia, 1 ♂, 1 ♀, Sept. 16, 17, 1918.
Anguanamo, Ngovi, 1 ♂, July 4, 1918.

These specimens belong to the dark race. The Chicago Natural History Museum male is adult: under parts black rather heavily

marked with partly obscured white spots; a few fine white spots on the mantle; the gray of the throat immaculate and the white line along the side of the neck barely indicated. One of the U. S. National Museum males has only a whitish tinge on the abdomen, a few spots on the flanks (mostly concealed) and no white on the back; the second male has the flanks wood-brown with rounded white spots, the white more extensive on the abdomen, and a bare indication of a white line on the sides of the neck.

Chicago Natural History Museum has two Cameroon males for comparison. They are similar to each other except that one lacks any white spots on the mantle; the Omboue bird is very similar to them except for having somewhat more white spotting below. The race to the south, *P. s. albipectus* from the Loango coast, is said to have the under parts whitish in the middle, even in adult males (see Chapin, 1939, p. 34).

The Omboue male in adult plumage and with gonads marked as enlarged has all the primaries of both wings growing in at once, as though they were molted at one time. The old secondaries, however, are still in place.

Family **OTIDIDAE**

Lissotis melanogaster melanogaster (Rüppell)

Otis melanogaster Rüppell, 1835, N. Wirbelth., Vög., p. 16—Lake Tsana, Abyssinia.

CNHM: Djambala, 2400 feet, 1 ♂, Oct. 22, 1951.

USNM: Fernan Vaz, Ntyonga, 1 ♀, May 4, 1918.

Wing: ♂ 331 mm.

The male had enlarged gonads, indicating breeding.

Family **JACANIDAE**

Actophilornis africana (Gmelin)

Parra africana Gmelin, 1789, Syst. Nat., 1, pt. 2, p. 709—Ethiopia.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 13, Apr. 6, 1951.

USNM: Ngovi, Anguanamo, 1 ♀, July 31, 1918.

Wing: 2 ♂ 150, 151 mm.

Family **CHARADRIIDAE**

Xiphidiopterus albiceps (Gould)

Vanellus albiceps Gould, 1834, Proc. Zool. Soc. London, p. 45—Niger River or Fernando Po.

CNHM: Fernan Vaz, Omboue, 2 ♀, 1 sex?, March 29–Apr. 1, 1951.

USNM: Fernan Vaz, Omboue, 1 ♀, May 20, 1917.

Wing: 2 ♀ 204, 209 mm.

Stephanibyx lugubris (Lesson)

Charadrius lugubris Lesson, 1826, Dict. Sci. Nat., **42**: 36—Senegal.

CNHM: Fougamou, 1 ♂, Aug. 23, 1951.

Wing: 161 mm.

Charadrius pecuarius Temminck

Charadrius pecuarius Temminck, 1823, Pl. Col., **31**: 183—Cape of Good Hope.

CNHM: Fernan Vaz, Omboue, 1 ♂, Mar. 11, 1951.

Wing: 104 mm.

Charadrius marginatus mechowi (Cabanis)

Aegialitis mechowi Cabanis, 1884, Jour. f. Orn., p. 437—Kwango River, Angola.

CNHM: Libreville, Cap Esterias, 1 ♀, Feb. 20, 1951.
Mouila, 1 sex? im., Sept. 29, 1951.

Wing: ♀ 100 mm.

The adult female in fairly fresh plumage has no black on the forehead. Neither bird has more than a trace of a rusty wash below.

By extending the range of *C. m. marginatus* to Angola, Grant and Mackworth-Praed (1953, p. 13) make *mechowi* a synonym of it, and use *hesperius* for all west African birds. Bannerman (1951, pp. 178, 180) still uses *pallidus* as the subspecific name for the west African race, though Peters (1934, p. 250) accepts Bates' identification of the type with *C. m. marginatus* (Grant and M.-Praed, l.c., identify it with *venustus*). Bannerman also incorrectly uses *C. m. russatus* Bates 1932, instead of the substitute name *C. m. nigirius* Bates 1932, for the upper Niger race, a race which Grant and M.-Praed do not recognize. Our treatment follows Chapin's (1939, p. 66).

Charadrius hiaticula tundrae (Lowe)

Aegialitis hiaticula tundrae Lowe, 1915, Bull. Brit. Orn. Club, **36**: 7—Valley of Yenessei, Siberia.

CNHM: Libreville, Cap Esterias, 1 ♀, Feb. 21, 1951.

Wing: 125 mm.

This bird is referred to *tundrae* on the basis of smaller size; Chapin (1939, p. 68) gives *C. h. hiaticula*, wing 127–139 mm., and *C. h. tun-*

drae, wing 122–132 (usually under 129 mm.). Malbrant and Maclatchy (1949, p. 165) do not mention this race for French Equatorial Africa, though they give the wing measurement for *C. h. hiaticula* as 121–132 mm., evidently from Bannerman (1931, p. 98).

Charadrius tricollaris forbesi (Shelley)

Aegialitis forbesi Shelley, 1883, Ibis, p. 560—Shouga, Niger River.

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 11, 1951.
Djambala, 2400 feet, 1 ♀, Oct. 26, 1951.

Wing: ♂ 123; 2 ♀ 119, 130 mm.

The larger, brownish-fronted, more grayish-throated *forbesi* is certainly the geographical representative of *C. tricollaris*. Intergradation has apparently not been demonstrated and the Chicago Natural History Museum specimens (*tricollaris*, 34; *forbesi*, 7) do not show it. Both birds have been recorded from Gabon, but *forbesi* appears to be the form of regular occurrence. There are single records of *tricollaris* from Cameroon and Accra (Bannerman, 1931, p. 102; 1951, p. 185) within the range of *forbesi*, and records of *forbesi* from within the range of *tricollaris*, all of which may be records of wanderers. Bannerman (l.c.) and Chapin (1939, p. 70) consider *forbesi* a species, but they consider *bifrontatus* of Madagascar, despite lack of intergradation, a race of *tricollaris*. We follow Sclater (1924, p. 120) and Peters (1934, p. 253) in considering *forbesi* and *tricollaris* conspecific.

It is interesting to note that Chapin (l.c.) records a specimen of *forbesi* in the Nairobi Museum collected by W. J. Eggeling at Butiaba, Uganda, on Lake Albert, and Chicago Natural History Museum received with the van Someren collection a specimen taken at that locality by that collector, dated July 13, 1935.

Family SCOLOPACIDAE

Numenius phaeopus phaeopus (Linnaeus)

Scolopax phaeopus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 146—Sweden.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 21, 1951.

Actitis hypoleucos (Linnaeus)

Tringa hypoleucos Linnaeus, 1758, Syst. Nat., ed. 10, 1: 149—Sweden.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Nov. 24, Dec. 5, 1918.

Capella media (Latham)

Scolopax media Latham, 1787, Gen. Synops. Bds., Suppl. 1, p. 292—England.

CNHM: Fernan Vaz, Omboue, 1 ♂, March 16, 1951.

Wing: 145 mm.

When Sclater wrote his *Systema* in 1924, there were no west African records of this species, though it was a common winter visitor and migrant in eastern Africa, south to the Cape.

Since then it has been found commonly in Nigeria, and recorded in the inundation zone of the Niger in French Sudan, and in the Gold Coast (Bannerman, 1951, p. 198).

There is a single other record for farther south in west Africa, from Port Gentil, Gabon (Malbrant and Maclatchy, 1949, p. 171).

Family **BURHINIDAE**

Oedicnemis vermiculatus buttikoferi Reichenow

Oedicnemis buttikoferi Reichenow, 1898, Orn. Monats., **6**: 182—Liberia.

CNHM: Fernan Vaz, Omboue, 2 ♂, 1 ♀, March 9–May 3, 1951.

USNM: Fernan Vaz, Omboue, 2 ♂, 4 ♀, Apr. 29–June 28, 1917.

Wing: 2 ♂ 203, 208; 1 ♀ 205 mm.

The ranges of the two generally recognized races of this species, *buttikoferi* (type locality Liberia) and *vermiculatus* (type locality Lake Jipe, near Teita, Kenya) are a matter of some disagreement. Using only bill size, Chapin (1939, p. 54), Bannerman (1931, p. 74) and Mrs. Meinertzhagen (1924, p. 343) confine the large-billed *buttikoferi* to Liberia and Nigeria, and extend the nominate race to Gabon. However, Friedmann (1930, p. 185) and Sclater (1924, p. 143), using color as the main character, extend the darker *buttikoferi* east to Uganda, including Gabon.

Measurements of culmen lengths as given in the literature are so conflicting as to make it futile to compare one set of figures with another. Mrs. Meinertzhagen gives culmen lengths as follows: East Africa: 11 ♂ 45–48; 13 ♀ 45–50; 7 unsexed 43–47. Gabon: 4 ♂ 49–54; 2 ♀ 48–49. Friedmann's comparable measurements are: East Africa: unsexed 41–43.5. Gabon: unsexed 45–48. Our measurements are: East Africa: 10 ♂ 44–51; 7 ♀ 44–48. Gabon: 2 ♂ 50, 50; 1 ♀ 47.

Gabon specimens average somewhat larger than east African, but the difference does not appear to be as abrupt as Friedmann's (and Chapin's) measurements would suggest. We have seen no Upper Guinea material, but the single measurement made by Mrs. Meinertz-

hagen of a Liberia specimen was 54, equal to her largest Gabon bird, and Bannerman gives measurements of two birds from Liberia and Nigeria as only 50. Bill measurements, therefore, do not appear to divide the species into two well-marked races.

Although we have not been able to compare our Gabon specimens directly with *buttikoferi*, we have compared them with two near topotypes of *vermiculatus* from Lake Manyara, Tanganyika. They are distinctly darker, more grayish than the latter, and since these are the alleged characters of *buttikoferi*, we are placing the Gabon population in that form.

Family GLAREOLIDAE

Pluvianus aegyptius angolae A. C. Meinertzhagen

Pluvianus aegyptius angolae A. C. Meinertzhagen, 1927, Bull. Brit. Orn. Club, **47**: 100—Cunga, Quanza River, Angola.

CNHM: Impfondo, 2 ♂, Feb. 20 and March 3, 1952.

Wing: 128, 132 mm.

On the basis of our material the dividing line between this small southern race and the large nominate race seems to fall along the border between the Guinean and Sudanese savanna districts. Eighteen specimens from Egypt, the French Sudan, and Senegal measure 134–146 mm. (av. 139.5) in wing length. However, six Cameroon birds and one specimen from Nigeria measure 129–136, and two females from Mongalla, southern Sudan, measure 130 and 131, closer to the southern *angolae*, wing 125–131 (Chapin, 1939, p. 110) than to the nominate race.

Although the species is not known from heavily forested Lower Guinea, there is evidently a connection between the populations north and south of the forest, possibly along the Ubangi-Congo River, as suggested by Chapin.

Glareola cinerea cinerea Fraser

Glareola cinerea Fraser, 1843, Proc. Zool. Soc. London, p. 26—mouth of the Niger.

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 29, 1951.
Impfondo, 3 ♂, Feb. 20, 1952.

The enlarged gonads of February birds indicate breeding in this month.

Glareola nuchalis nuchalis Gray

Glareola nuchalis Gray, 1850, Proc. Zool. Soc. London, (1849), p. 63—Fifth Cataract of the Nile, near Berber.

CNHM: Mouila, 1 ♂, 1 ♀, Aug. 31, 1951.

Wing: ♀ 153 mm.

We are following recent practice in calling all the white-collared populations of this species *nuchalis*, though there is a slight geographical variation in it: notably an increase in size in the southern part of the range, and a paling of color of the upper parts in the southeastern part of the range.

An additional complication in the taxonomy of this species is the occurrence and reported interbreeding of the rufous and the white-collared birds in Cameroon, which Bannerman (1931, p. 216) reports. We have in Chicago six specimens of the white-collared *G. n. nuchalis* and one of the chestnut-collared *G. n. liberiae* from Sakbayema, Sanaga River, Cameroon. None shows any signs of intergradation. Possibly they meet as species.

Family **LARIDAE**

Thalasseus maximus albididorsalis (Hartert)

Sterna maxima albididorsalis Hartert, 1921, Vög. Pal. Fauna, **2**: 1698—Baie du Levrier, Cape Blanco, Morocco.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 19, 1951.

Wing: 336 mm.

This bird has the forehead and crown white, and thus is in non-breeding dress.

Family **RYNCHOPIDAE**

Rynchops flavirostris Vieillot

Rynchops flavirostris Vieillot, 1816, Nouv. Dict. Hist. Nat., **3**: 338—Senegal.

CNHM: Mouila, 1 sex?, Sept. 8, 1951.

Impfondo, 1 ♂, Feb. 20, 1952.

Wing: 355, 361 mm.

The male had greatly enlarged gonads, indicating breeding.

Family **COLUMBIDAE**

Treron australis calva (Temminck)

Colomba calva Temminck, 1808, *in* Knip, Les Pigeons, les Colombes, p. 35, pl. 7—Loango.

CNHM: Libreville, Cap Esterias, 1 ♀, Feb. 2, 1951.
Mouila, Mount Tandou, 1 ♂, June 6, 1951.
Mimongo, 2700 feet, 1 ♂, Aug. 5, 1952.
USNM: Fernan Vaz, Lake Anengue and Mperi, series, July 22–Dec. 3, 1917.
Ogouma, Rembo Nkami, series, Oct. 6–Dec. 13, 1918.

This bird appears as *Vinago calva calva* in Malbrant and Maclatchy (1949, p. 196). It seems advisable to merge *Vinago* in *Treron*, as does Peters (1937, p. 14), and to consider *calva*, along with all the rest of the African green pigeons except *waalia*, conspecific with *australis* of Madagascar, as Grote has suggested (*contra* Chapin) and as Amadon (1953, p. 411) has done.

Columba malherbii iriditorques Cassin

Columba iriditorques Cassin, 1856, Proc. Acad. Nat. Sci. Phila., 8: 254—St. Paul's River, Liberia.

CNHM: Gamboma, 1 ♂, Dec. 31, 1951.

Wing: 167 mm.

The greatly enlarged gonads of this specimen indicate breeding.

Amadon (1953, p. 412) has shown that *malherbii* and *iriditorques* are conspecific.

Columba unicincta Cassin

Columba unicincta Cassin, 1860, Proc. Acad. Nat. Sci. Phila., (1859), p. 143—Ogowe River, Gabon.

CNHM: Mimongo, 3200 feet, 2 ♂, June 23, 1952.

Both specimens have enlarged gonads, indicating breeding.

Cameroon and Uganda specimens compare well with these Gabon birds. Comparative wing measurements of adults are: Gabon, ♂ 217, 224. Cameroon, ♂ 228; ♀ 210, 215. Uganda, ♂ 211, 212, 215, 217, 219, 220, 220; ♀ 201, 208, 210, 212, 216 mm. These run a little larger than the measurements given by Bannerman (1931, p. 327): wing ♂ 200–220; ♀ 200–217 mm.

Streptopelia semitorquata semitorquata (Rüppell)

Columba semitorquata Rüppell, 1837, Neue Wirbelth., Fauna Abyss., Vög., p. 66—Taranta Mountains, Abyssinia.

CNHM: Mouila, 1 ♂, 1 ♀, July 6–Sept. 18, 1951.
Mimongo, 2700 feet, 1 ♂, June 6, 1952.

Djambala, 2400 feet, 1 ♀, Dec. 16, 1952.
Gamboma, 1 ♂, Jan. 1, 1952.
USNM: Fernan Vaz, Omboue, 1 ♂, 3 ♀, Apr. 25–Aug. 23, 1917.
Fernan Vaz, Ntyonga, 1 ♀, June 15, 1918.

Sclater (1924, p. 156) accepts three races: *semitorquata; erythrophrys* (type locality Senegal), calling it a doubtful race; and *minor* (type locality southern Somaliland). Peters (1937, p. 93) follows this, adding one more, *maxima*, known only from the type locality (Toten Maun Road). Bannerman (1931, p. 338; 1951, p. 242) accepts *erythrophrys* as valid. Chapin (1939, p. 163) accepts only two races, *semitorquata*, covering most of the range of the species, and *minor*, of southern Somaliland to Zanzibar in coastal eastern Africa.

S. s. erythrophrys was considered by Bannerman to be smaller than *semitorquata* and to range in West Africa.

S. s. maxima was described by Roberts (1932, p. 24) as characterized by its large size (wing 212 mm.), and at the same time he described another race (op. cit., p. 25) as *S. s. australis*, characterized by being smaller than *maxima* but larger than any form of the north (wing 187–200, av. 195 mm.). Both "races" were said not to differ in color.

S. s. minor was characterized by Jackson (1938, p. 458) as being smaller and paler (wing, ♂ 170–173 mm.).

The material in Chicago Natural History Museum gives the following measurements:

	Male	*Female*
Portuguese Guinea	180, 182, 190, 191	
Liberia	174	171
Cameroon	(8) 170–190 (av. 181)	173, 175
Gabon	174, 181, 185	179
Belgian Congo (Kasai and Katanga)	179, 181, 184, 184, 188	178, 184
Tanganyika Terr.	(7) 180–192 (av. 185.7)	(9) 181–189 (av. 183.6)
Uganda	(9) 177–190 (av. 184.1)	170, 178
Kenya (interior)	(7) 182–192 (av. 184.4)	(5) 175–188 (av. 179.6)
Kenya (coastal)	(7) 180–195 (av. 183.5)	181, 182
Sudan	178 (one sex? 186)	
Abyssinia	182, 189	183, 188, 188
British Somaliland	197, 197, 203	188
Angola	196, 196, 200, 200	181, 188
Bechuanaland	192, 195, 195, 203, 205, 207	
Southern Rhodesia	(193 sex?)	
Natal	181, 183, 185, 190, 192, 200	187, 188

From these measurements it appears that certain west African populations average slightly smaller than most east African populations; coastal Kenya birds barely average slightly smaller than inte-

rior populations; and British Somaliland birds and southern African birds from Angola to Natal are largest.

It seems impractical to use any subspecific names in discussing this size variation; in part because of the only moderate differences in the extremes; in part because of the geographical pattern presented by the variation, with birds of moderate size in a wide area and those of larger size in two widely separated areas.

However, *S. s. minor* is recognizable as a slightly to moderately well-defined race on color; it is paler on the upper parts, with breast less intensely vinaceous and gray of under tail coverts paler. In series this paleness is rather apparent, but individual variation makes allocating of certain individuals difficult. The following specimens we refer to *minor:* Lokoke, wing, ♂ 181, 182; ♀ 182. Lamu, ♂ 180, 181. Rabai, ♂ 180, 184. Tsavo, ♂ 195. Muniuni, ♂ 183 mm. Birds from the vicinity of Kilimanjaro, Dar-es-Salaam, and Mozale are not this form.

It seems advisable to recognize but two races: *S. s. minor* of coastal east Africa, and *S. s. semitorquata* for the rest of the range, with *erythrophrys, maxima,* and *australis* as synonyms. It is interesting to note that these Gabon birds are more like Cameroon birds in size than they are like Angola birds.

Tympanistria tympanistria (Temminck)

Columba tympanistria Temminck, 1810, *in* Knip, Les Pigeons, les Colombes, p. 80, pl. 36—South Africa.

CNHM: Libreville, 1 ♂, 1 ♀, Feb. 9, 23, 1951.
Mouila, Mount Tandou, 1 ♂, May 31, 1951.

Amadon (1953, p. 413) shows that the widely accepted northern subspecies *T. t. fraseri* is not valid and that no subspecies are to be recognized in this species.

Turtur chalcospilos chalcospilos (Wagler)

Columba chalcospilos Wagler, 1827, Syst. Av., Columba, p. 83—eastern Cape Province.

USNM: Fernan Vaz, Ashanja, 1 ♀, June 24, 1917.

Chapin (1939, p. 149) wrote that the species must be found near the coast at the mouth of the Congo, but he had no records. Malbrant and Maclatchy (1949, p. 191) were unable to find it in French Equatorial Africa, despite search for it at Pointe Noir, and they doubted the few early records for the French territory.

This specimen thus substantiates the occurrence of the green-spotted dove in Gabon and is an extension of range north from Angola. In eastern Africa the species ranges north to Abyssinia, but in the western part of the continent it does not range north of the forest, and it is evidently rare in Gabon.

Turtur afer kilimensis (Mearns)

Chalcopelia afra kilimensis Mearns, 1915, Proc. U. S. Nat. Mus., **48**: 383—Kilimanjaro, 5000 feet.

CNHM: Libreville, Cap Esterias, 1 ♂ im., 1 ♀, Jan. 21, Feb. 6, 1951.
Fernan Vaz, Omboue, 1 ♀, Apr. 3, 1951.
Gamboma, 1 ♂, Dec. 31, 1951.
Impfondo, 1 ♀, Feb. 14, 1952.

USNM: Fernan Vaz, Omboue, 4 ♂, Apr. 24–Sept. 20, 1917.
Fernan Vaz, Ntyonga, 2 ♂, 1 ♀, June 4–10, 1918.
Anguanamo, Ngovi, 1 ♂, 1 ♀, Aug. 21, 30, 1918.

T. a. kilimensis is on the average moderately washed with buff below. Series from Cameroon, Kasai, and Uganda are alike in this respect, but five specimens from Angola average darker below. However, in all the series, including the one from Gabon, there are one or two very pale birds that lack the buff altogether, and one or two dark birds equal to the average Angola specimen. If the color scale is broken into three segments, pale, medium and dark, the distribution looks like this:

	Pale	Medium	Dark
Cameroon	2	11	1
Gabon	2	2	1
Kasai	1	5	0
Uganda	5	8	6
Tanganyika (topotypes)	1	0	1
Angola	0	1	5

Dark birds predominate in Angola, but there is no geographic pattern that would fit any further subdivision of this race.

Calopelia brehmeri brehmeri (Hartlaub)

Chalcopelia brehmeri Hartlaub, 1865, Jour. f. Orn., **13**: 97—Gabon.

CNHM: Mouila, 1 ♂, Sept. 18, 1951.

USNM: Anguanamo, Ngovi, 1 ♂, July 3, 1918.
Ntyonga, Fernan Vaz, 1 ♀, May 16, 1918.

These Gabon birds are of course topotypical. Peters (1937, p. 113) merges *Calopelia* with *Turtur* because of lack of difference in structural characters, but the distinctive color pattern of this forest dove, compared with that of the open country *Turtur*, prompts us to follow Chapin (1939, p. 151) in recognizing *Calopelia*.

Malbrant and Maclatchy (1949, p. 192) record this species under the name *Capolelia puella brehmeri;* the generic name is evidently a misprint, and the species name *puella*, though used by Bannerman (1951, p. 250), is preoccupied and must be replaced by the next oldest, *brehmeri* (see Peters, 1937, p. 113).

The September male had greatly enlarged gonads, indicating breeding.

A nest and two young with down still adhering to the feathers were taken at Ntyonga, June 6, 1918. The feathers are appearing on the back and breast. Above, they are brown, tipped with hazel; below, russet vinaceous. The nest is a rather large one for the size of the dove, being about 6 by 8 inches, of coarse sticks loosely arranged and bound together by the excrement of the birds.

Family **PSITTACIDAE**

Psittacus erithacus erithacus Linnaeus

Psittacus erithacus Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 99—Guinea, in errore (Gold Coast Colony substituted by Peters, Bds. World, 1937, **3**: 229).

CNHM: Libreville, Cap Esterias, 1 ♀, Jan. 20, 1951.
Impfondo, 1 ♀, March 7, 1952.

USNM: Fernan Vaz, Omboue, 1 ♂, May 7, 1917.
Fernan Vaz, Ntyonga, 2 ♂, 1 ♀, Nov. 7–11, 1917.
Fernan Vaz, Andendi, 1 ♂, May 17, 1918.
Anguanamo, Ngovi, 4 ♂, 1 ♀, July 1–Aug. 29, 1918.
Ogouma, Rembo Nkami, 1 ♂, Nov. 9, 1918.
Orobi-Jokwa, Rembo Nkami, 1 ♂, Dec. 19, 1918.

Wing: 2 ♀ 239, 244 mm.

These specimens vary considerably in the intensity of their coloration, some being much darker above and on the breast than others.

The gray parrot is found throughout the forested areas.

Agapornis pullaria pullaria (Linnaeus)

Psittacus pullarius Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 102—Asia, Aethiopia, in error (Gold Coast substituted by Neumann, 1908, Nov. Zool., **15**: 387).

CNHM: M'Bigou, Mount Du Chaillu, 2 ♂, 1 ♀, June 23–July 15, 1951.

Tchibanga, 1 ♂, 1 ♀, Apr. 30, 1952.

Mimongo, 2700 feet, 1 ♂, June 16, 1952.

Wing: 4 ♂ 85, 87, 87, 92; 1 ♀ 84 mm.

Found in gallery forests and savannas, usually in pairs. The female from Tchibanga has a great many yellow feathers on the back, scapulars and wing coverts.

Family MUSOPHAGIDAE

Tauraco persa zenkeri (Reichenow)

Turacus buffoni zenkeri Reichenow, 1896, Jour. f. Orn., **44**: 9 — Jaunde, Cameroon.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, Jan. 28–Feb. 13, 1951.

Mouila, Mount Tandou, 1 ♂, 1 ♀, May 31, June 2, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, June 23, 1951.

Djambala, 2400 feet, 1 ♂, 1 ♀, Nov. 24, Dec. 11, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♂, 2 ♀, Dec. 10, 1918–Jan. 3, 1919.

Wing: Gabon, 3 ♂ 171, 179, 181; 3 ♀ 171, 181, 184 mm.

Moyen Congo, 1 ♂ 191; 1 ♀ 195 mm.

Only two of these specimens are typical of *zenkeri* of Cameroon, in which the white subocular streak does not extend behind the eye. The remainder have a greater or lesser amount of white, ranging from a few isolated white feathers to a narrow but distinct stripe. In this character they are intermediate to *persa* of the lower Congo and northern Angola (and also of Ivory Coast and Nigeria) in which the white subocular stripe is broad and extends well back from the eye.

The two Moyen Congo birds are exceptionally large (wing, ♂ 191, ♀ 195). Eight Cameroon specimens are smaller (wing, ♂ 171, 179, 181, 182; ♀ 170, 171, 173, 174), and Bannerman (1933, p. 54) gives a range of 172–182 for eight males, and 181 for a single female. However, a series of Ogowe River specimens in the American Museum shows a maximum of 190, approaching the Djambala specimens.

Tauraco macrorhynchus verreauxii (Schlegel)

Musophaga Verreauxii Schlegel, 1854, Jour. f. Orn., **2**: 462—Gabon.

CNHM: Fernan Vaz, Omboue, 1 ♂, March 24, 1951.
Libreville, Cap Esterias, 1 ♂, Feb. 7, 1951.
Mouila, Mount Tandou, 1 ♂, 1 ♀, May 30, June 6, 1951.
Mimongo, 2700 feet, 1 ♂, Aug. 7, 1952.
USNM: Anguanamo, Ngovi, 1 ♂, July 24, 1918.
Pemba Nyambi, Ngovi, 1 ♂, Aug. 25, 1918.
Ogouma, Rembo Nkami, 3 ♂, Nov. 25–Dec. 10, 1918.
Wing: 3 ♂ 161, 165, 166; 1 ♀ 163 mm.

Corythaeola cristata (Vieillot)

Musophaga cristata Vieillot, 1818, Analyse, p. 68—Africa.

CNHM: Mouila, Mount Tandou, 1 ♀, June 1, 1951.
Djambala, 2400 feet, 1 ♂, Nov. 13, 1951.
USNM: Ntyonga, Fernan Vaz, 5 ♂, 1 ♀, July 8, 1917–June 13, 1918.
Ogouma, Rembo Nkami, 1 ♂, Dec. 10, 1918.
Wing: 1 ♂ 323; 1 ♀ 334 mm.

Rand (1951, p. 587) has recently discussed the geographical variation within this species. Gabon specimens agree with those from Cameroon in having the lower parts of the cheeks blue. Birds from Upper Guinea to Sudan and Kenya have this area gray.

Family CUCULIDAE

Clamator cafer (Lichtenstein)

Cuculus cafer Lichtenstein, 1793, Cat. Rerum rar., Hamburg, p. 14—Kaffirland (i.e., eastern Cape Province).

CNHM: Tchibanga, 1 ♀, Apr. 23, 1952.
Djambala, 2400 feet, 1 ♀, Dec. 2, 1951.
Wing: 169, 174 mm.

Not previously recorded from the Moyen Congo, although certainly to be expected, as it had been recorded earlier from Gabon and the Uelle. Found in gallery forest.

There is extreme individual variation in the color of the under wing coverts and axillaries in this species, from dull white to almost wholly black.

Cuculus solitarius solitarius Stephens

Cuculus solitarius Stephens, 1815, Gen. Zool., **9**: 84—eastern Cape Province.

CNHM: Mouila, 1 ♂, Sept. 16, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♀, Nov. 22, 1918.

Wing: ♂ 162; ♀ 157 mm.

These wing measurements are rather small. The trinomial is used, since Amadon (1953, p. 416) has recently separated the birds of Fernando Po as *C. s. magnirostris*.

Cuculus clamosus gabonensis Lafresnaye

Cuculus gabonensis Lafresnaye, 1853, Rev. Mag. Zool., Paris, p. 60—Gabon.

CNHM: Labamba, 1 ♂, May 28, 1952.

Wing: 180 mm.

This specimen is topotypical. It is glossy black above, upper breast and throat chestnut, lower breast to and including under tail coverts creamy buff, barred throughout, with the black bars slightly narrower than the pale bars except on the under tail coverts, which have black bars about one half as wide as the pale bars. From Cameroon (Kribi and Efulen) we have two adult males (wing 171, 181). Both have slightly paler throats and one has the whole lower breast, abdomen and under tail coverts creamy buff with only a few scattered, small bars on the flanks; the other is similar but with a light scattering of narrow bars on the flanks. None of these three shows any appreciable amount of gray on the forehead.

The pale Cameroon birds match, on their under parts, the original description of *mabirae*. The Gabon bird agrees well with a topotypical male of *mabirae* in Chicago Natural History Museum (Mabira forest), including the lack of a gray forehead, except that the Mabira forest bird has the dark barring of the under parts slightly wider.

The white barring on the outer primary is similar in all four of our birds.

The race *gabonensis* is given as ranging from Togoland to the Congo mouth and the eastern Congo and the Kasai, with *clamosus*, the all black southern race, occurring in migration.

The race *mabirae*, described from Uganda, is said to inhabit Uganda and occur in the Belgian Congo. From the considerable, conflicting literature it seems that the west African birds are very variable, and the same is true of birds as far east as Uganda; *mabirae* cannot be separated from *gabonensis*.

Chrysococcyx cupreus cupreus (Shaw)

Cuculus cupreus Shaw, 1792, Mus. Leverianum, p. 157—"Most probably an African bird"=Africa (restricted to Gambia by Grant, 1915, Ibis, p. 419).

CNHM: Gamboma, 2 ♂, Dec. 28, 29, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♂, 2 ♀, Nov. 25–Dec. 7, 1918.

Wing: 2 ♂ 106, 107 mm.

The two females vary in the color of the crown, one being more violaceous brown than the other. Neither has green bars on the top of the head—only on the back.

Moreau and Chapin (1951, p. 178) have recently shown that although there is a great deal of variation in size between different populations of this species, it is not possible to separate the birds from north of the Zambesi into subspecies.

Chrysococcyx caprius (Boddaert)

Cuculus caprius Boddaert, 1783, Tabl. Pl. Enlum., p. 40—Cape of Good Hope, (*ex* Daubenton, Pl. Enlum., no. 657).

CNHM: Port Gentil, 1 ♂, May 10, 1951.
Impfondo, 1 ♂, Feb. 27, 1952.
Djambala, 2400 feet, 2 ♂, Oct. 23, Nov. 1, 1951.
Gamboma, 1 ♀, Jan. 11, 1952.

USNM: Fernan Vaz, Omboue, 1 juv. not long out of nest, Sept. 20, 1917.

Wing: ♂ 108, 112, 113, 118; ♀ 108.

The May male was in breeding condition, and the January and February birds were courting.

Chrysococcyx klaas klaas (Stephens)

Cuculus klaas Stephens, 1815, *in* Shaw's Gen. Zool., **9**: 128—Cape Colony.

CNHM: Mimongo, 2700 feet, 1 ♀, June 26, 1952.
Tchibanga, 1 ♂, Apr. 22, 1952.
Labamba, 1 ♂, June 3, 1952.
Gamboma, 1 ♂, Jan. 17, 1952.

Wing: 3 ♂ 90, 90, 92; 1 ♀ 93 mm.

Found most commonly in trees around old plantations.

Ceuthmochares aereus aereus (Vieillot)

Cuculus aereus Vieillot, 1817, Nouv. Dict. Hist. Nat., 8: 229—Malimbe, Portuguese Congo.

CNHM: Omboue, Fernan Vaz, 2 ♂, 1 ♀, March 21–Apr. 29, 1951.
Mouila, Mount Tandou, 1 ♂, June 6, 1951.
Djambala, 1 ♂, Oct. 16, 1951.

USNM: Omboue, Fernan Vaz, 2 ♂, 2 ♀, May 1–June 16, 1917.
Ntyonga, Fernan Vaz, 1 ♂, March 24, 1918.
Ogouma, Rembo Nkami, 4 ♀, Nov. 13–Dec. 26, 1918.
Abonga, Rembo Nkami, 1 ♂, Dec. 16, 1918.

Wing: 4 ♂ 109, 112, 118, 120; 1 ♀ 115 mm.

Centropus grillii grillii Hartlaub

Centropus Grillii Hartlaub, 1861, Jour. f. Orn., 9: 13—Gabon.

CNHM: Mouila, 1 ♂, Aug. 31, 1951.
Djambala, 2400 feet, 1 ♀, Nov. 3, 1951.

Wing: ♂ 156; ♀ 166 mm.

The female is in fresh breeding plumage with only scattered eclipse feathers on the under parts, and is labeled "ovaries greatly enlarged." The male is in immature plumage with barred primaries, but is labeled "testes enlarged."

Malbrant and Maclatchy (1949, p. 207) had only January and February specimens from Gabon and the Moyen Congo, and believed that the species might be only migratory in this region. The above specimens, however, demonstrate that it is a resident species.

Centropus monachus occidentalis Neumann

Centropus monachus occidentalis Neumann, 1908, Bull. Brit. Orn. Club, **21**: 77—Ombrokua, Ogowe River, Gabon.

CNHM: Omboue, Fernan Vaz, 1 ♀, Apr. 3, 1951.
Mouila, 1 ♀, May 19, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, June 30, 1951.
Mimongo, 2700 feet, 1 ♀, Aug. 5, 1952.
Libreville, Cap Esterias, 1 ♂, 2 ♀, Jan. 19–Feb. 4, 1951.

USNM: Omboue, Fernan Vaz, 1 ♂, 2 ♀, May 12–Sept. 11, 1917.
Sanga Mbuiri, Fernan Vaz, 1 ♀, July 31, 1917.

Wing: 1 ♂ 195; 4 ♀ 177, 182, 189, 194 mm.

Several of the females have the rump and upper tail coverts finely barred with buff. They are otherwise in full adult plumage, and these are evidently the last of the immature feathers to be replaced.

Centropus senegalensis senegalensis (Linnaeus)

Cuculus senegalensis Linnaeus, 1766, Syst. Nat., 12th ed., 1: 169—Senegal.

CNHM: Mouila, 1 ♀, June 8, 1951.
Djambala, 1 ♂, 1 ♀, Nov. 7, 23, 1951.

Wing: ♂ 153; ♀ 163, 169 mm.

Family **TYTONIDAE**

Tyto alba affinis (Blyth)

Strix affinis Blyth, 1862, Ibis, p. 388—Cape of Good Hope, Cape Town (fixed as type locality by Grant and Mackworth-Praed, 1937, Bull. Brit. Orn. Club, **57**: 157).

CNHM: Omboue, Fernan Vaz, 1 ♂, Apr. 16, 1951.

Wing: 277 mm.

Although widespread in the tropical zone of Africa, except in regions of heavy forest, this species has not previously been recorded from Gabon (Malbrant and Maclatchy, 1949, p. 242).

Taken in the dense foliage of a small tree in the native village.

Family **STRIGIDAE**

Bubo leucostictus Hartlaub

Bubo leucostictus Hartlaub, 1855, Jour. f. Orn., 3: 354—Dabocrom, Gold Coast.

CNHM: Fougamou, 1 ♀, Aug. 14, 1951.

Wing: 330 mm.

Collected in primary forest, at the edge of a village.

Scotopelia peli (Bonaparte)

Strix peli Bonaparte, 1850, Consp. Av., 1: 44—Ashanti.

CNHM: Omboue, Fernan Vaz, 1 ♀, Apr. 5, 1951.

Wing: 399 mm.

Collected as it flew out over the lake, about ten o'clock in the morning.

Scotopelia bouvieri Sharpe

Scotopelia bouvieri Sharpe, 1875, Ibis, p. 260—Lopé, Ogowe River, Gabon.

CNHM: Mouila, 1 ♀, June 16, 1951.

Wing: 297 mm.

In breeding condition. The stomach contained an adult fiddler crab.

Glaucidium sjostedti Reichenow

Glaucidium sjostedti Reichenow, 1893, Orn. Monats., **1**: 65—Cameroon Mountain.

USNM: Anguanamo, Ngovi, 1 ♀, Aug. 6, 1918.

This is a very remarkable species: feathers of the nape and hindneck long and loose, forming a sort of cape, scapulars long and loose, bristles over the nostrils prominent, bristles covering the toes spiny, coloration peculiar. It is the extreme of the genus *Glaucidium* as generally recognized. *Noctua capensis* Smith (type of *Smithiglaux* Bonaparte) has been available for comparison, but it is only distantly related to *Glaucidium sjostedti*. *Smithiglaux* (which is not a valid genus) is a bird with feathered toes, weak bristles over the nostrils and without a well-developed nuchal cape; it also has a different type of coloration. *Glaucidium castanonotum* (Blyth) of Ceylon and *Glaucidium castanopterum* (Horsfield) of Java have also been available for examination; in type of coloration and some other characters the latter seems to be the nearest to *Glaucidium sjostedti*.

Ciccaba woodfordii nuchalis (Sharpe)

Syrnium nuchale Sharpe, 1870, Ibis, p. 487—Fanti.

CNHM: Mouila, 1 ♂, Sept. 29, 1951.

Mimongo, 2700 feet, 1 ♂, 1 sex?, June 29 and Aug. 6, 1952.

Gamboma, 1 ♂, 1 ♀, Jan. 11 and 17, 1952.

USNM: Ntyonga, Fernan Vaz, 1 im. sex?, "irides yellow," Nov. 12, 1917.

Wing: 3 ♂ 257, 259, 264; 1 ♀ 253; sex? 255 mm.

Family **CAPRIMULGIDAE**

Caprimulgus natalensis gabonensis Alexander

Caprimulgus gabonensis Alexander, 1908, Bull. Brit. Orn. Club, **21**: 90—Gabon.

CNHM: Mouila, 1 ♂, 1 ♀, May 19 and July 24, 1951.

Omboue, Fernan Vaz, 1 ♂, March 10, 1951.

Wing: 2 ♂ 136, 143; 1 ♀ 130 mm.

Caprimulgus fossii fossii Hartlaub

Caprimulgus fossii Hartlaub, 1857, Syst. Orn. Westafr., p. 23—Gabon.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, Jan. 19–22, 1951.
Port Gentil, 1 ♂, May 9, 1951.

USNM: Omboue, Fernan Vaz, 1 ♂, 6 ♀, 1 juv. ♀, May 1–Oct. 20, 1917.
Andendi, Fernan Vaz, 1 ♂, May 20, 1918.

Caprimulgus fossii welwitschii Bocage

Caprimulgus welwitschii Bocage, 1867, Jorn. Sci. Lisboa, 1, no. 2, p. 133—between Penedo and Cacoaco, Angola.

CNHM: Tchibanga, 1 ad. ♀, 1 im. ♀, Apr. 21, 22, 1952.

Bowen (1931, p. 41) was the first to recognize that typical *fossii* was a small dark race, limited to Gabon, and that the widespread race generally known as *fossii* should be called *clarus* (=*welwitschii;* cf. Chapin, 1939, p. 426). *C. f. fossii* is small (wing 140–151, tail 99–111) and dark. The ground color of the upper parts is pale gray, vermiculated with fuscous, and without any tawny wash. This race is found only in the coastal districts of Libreville and Fernan Vaz, and on the island of Corisco, Spanish Guinea (specimen in Good collection).

The specimens from Tchibanga, less than 150 miles from Fernan Vaz, and only 50 miles inland, are typical of *welwitschii* of Angola and much of central Africa. The upper parts are washed with tawny, and the belly is a much deeper buff. These specimens agree perfectly in color with a series of twelve topotypes of *welwitschii* from Angola, and in size the adult is at the lower end of the range of variation in that form.

Measurements of Angola and Gabon birds are:

welwitschii

Angola,	6 ♂	wing 160, 161, 164, 167, 167, 171. tail 119, 120, 125, 129, 130, 130.
	5 ♀	wing 156, 158, 162, 162, 163. tail 111, 113, 113, 114, 128.
Gabon,	1 ♀	wing 156. tail 111.

fossii

Gabon,	4 ♂	wing 145, 146, 147, 151. tail 104, 105, 109, 111.
	7 ♀	wing 141, 143, 145, 145, 145, 146, 148. tail 96, 96, 99, 102, 103, 104, 105.
Corisco Is.,	1 ♂	wing 140. tail 99.

January, April and May birds from Gabon were all in breeding condition, and the October juvenal from Omboue is just out of the nest.

Caprimulgus climacurus subsp.

CNHM: Gamboma, 1 ♂, Jan. 18, 1952.

Wing: 141. Tail: 189+ mm. (central rectrices molting).

This specimen is much blacker, less rufescent, than examples of *C. c. climacurus* or *sclateri*, both of which are recorded as winter visitors to Gabon. Above it is gray, heavily vermiculated with fuscous, the only rufescence being on the lesser and median wing coverts. The only specimen in the Chicago Museum that matches it is a November male from Bafia, Cameroon, which is equally gray, but paler.

In the color of the upper parts, the Gamboma male matches closely a series of six *leoninus* from Sierra Leone in the American Museum. On the under parts, however, the resemblance is not as close; the spotting and vermiculations on the breast are more extensive than in *leoninus*, and the ventral barring is correspondingly reduced. *Leoninus* is not known to be migratory; the dates of the American Museum skins are March 21, June 16, August 15 and October 4. The Gamboma bird is probably *leoninus*, but on present evidence this is not proven.

Cosmetornis vexillarius (Gould)

Semeiophorus vexillarius Gould, 1838, Icones Av., **2**, pl. 13—Sierra Leone.

CNHM: Impfondo, 1 im. ♂, Feb. 13, 1952.

Wing: 204 mm.

Family **APODIDAE**

Apus affinis affinis (Gray)

Cypselus affinis J. E. Gray, 1830, Ill. Ind. Zool., **1**, pl. 35, fig. 2—no locality (=Ganges).

CNHM: Tchibanga, 1 ♂, 1 ♀, Apr. 10, 19, 1952.

Wing: ♂ 133; ♀ 135 mm.

Both specimens in breeding condition.

Apus caffer ansorgei (Sclater)

Micropus caffer ansorgei Sclater, 1922, Bull. Brit. Orn. Club, **42**: 63—Ndalla Tando, Angola.

CNHM: Mouila, 1 ♀, Sept. 6, 1951.
Wing: 143 mm.

Cypsiurus parvus brachypterus (Reichenow)

Tachornis parvus brachypterus Reichenow, 1903, Vög. Afr., **2**: 386—Chinchoxo, Cabinda.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, 1 im. ♀, Jan. 13–26, 1951.
Labamba, 1 ♀, May 10, 1952.
Djambala, 2400 feet, 1 im. ♀, Oct. 16, 1951.
Wing: 2 ♂ 121, 122; 2 ♀ 120, 124; 1 im. ♀ 129 mm.

Specimens from Libreville were collected from large flocks over the savannas; those from Labamba and Djambala were taken in the villages. All adults were in breeding condition.

Family **COLIIDAE**

Colius striatus nigricollis Vieillot

Colius nigricollis Vieillot, 1817, Nouv. Dict. Hist. Nat., **7**: 378—Malimbe, Port. Congo.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♂, 1 ♀, June 20, 1951.
Mouila, 1 ♀, June 15, 1951.
Djambala, 2400 feet, 1 ♂, Oct. 29, 1951.
Wing: 3 ♂ 98, 98, 99; 2 ♀ 93, 96 mm.

Beatty records this coly's habit of clinging to a small twig, tail down, often two birds against each other on opposite sides of the twig. He is certain that when in this position they are mating. Van Someren, however (1956, p. 204), has seen this same type of behavior many times, with as many as six birds together, and does not consider that it has anything to do with mating.

Family **TROGONIDAE**

Apaloderma narina brachyurum Chapin

Apaloderma narina brachyurum Chapin, 1923, Amer. Mus. Nov., no. 56, p. 4—Avakubi, Ituri Dist., Belgian Congo.

CNHM: Mimongo, 3000 feet, 1 ♂, June 26, 1952.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, June 26, 1951.
Wing: ♂ 136; ♀ 131 mm.

Apaloderma aequatoriale (Sharpe)

Hapaloderma aequatoriale Sharpe, 1901, Bull. Brit. Orn. Club, **12:** 3—Efulen, Cameroon.

CNHM: Mimongo, 2700 feet, 1 ♀, June 21, 1952.

Wing: 122 mm.

Family ALCEDINIDAE

Ceryle maxima gigantea (Swainson)

Ispida gigantea Swainson, 1837, Bds. West Afr., **2:** 93, pl. 11—Senegal (type probably from farther southeast).

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 14, 1951.

USNM: Tsango Nyongo, Ngovi, 1 ♂, 1 ♀, Aug. 7, 1918.
Anguanamo, Ngovi, 1 ♂, Aug. 29, 1918.
Ogouma, Rembo Nkami, 1 ♂, Nov. 18, 1918.

Wing: 1 ♂ 190 mm.

Not uncommon along streams in the forest. The Cap Esterias bird was one of a pair seen occasionally along the seacoast; small fish in stomach.

Ceryle rudis rudis (Linnaeus)

Alcedo rudis Linnaeus, 1758, Syst. Nat., 10th ed., **1:** 116—Egypt.

CNHM: Fernan Vaz, Omboue, 1 ♀, March 15, 1951.
Impfondo, 3 ♂, Feb. 14–March 4, 1952.

Wing: 3 ♂ 126, 131, 131; 1 ♀ 138 mm.

Alcedo quadribrachys guentheri Sharpe

Alcedo guentheri Sharpe, 1892, Cat. Bds. Brit. Mus., **17:** 141 (in key), 156, pl. 4, fig. 2—West Africa from Congo to Gabon and the Niger district as far as Lagos.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, Jan. 31–Feb. 20, 1951.
Fougamou, 1 sex?, Aug. 20, 1951.

USNM: Mpivia, Fernan Vaz, 4 ♂, 1 ♀, Aug. 13–Sept. 20, 1918.

Wing: 2 ♂ 70, 72; 1 ♀ 72; 1 sex? 77 mm.

Two males have the chest completely flammulated with deep purple and dusky, and three others have it partially so. This is apparently a subadult character, since three of these birds are paler below and one has a pale base to the mandible, a juvenal character.

Alcedo cristata galerita Müller

Alcedo galerita P. L. S. Müller, 1776, Natursyst. Suppl., p. 94—Senegal.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Jan. 20, Feb. 3, 1951.

Fernan Vaz, Omboue, 1 ♂, March 9, 1951.

Port Gentil, 1 ♂, May 10, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, June 19, 1951.

Labamba, 1 im. ♀, June 8, 1952.

Wing: 4 ♂ 52, 53, 55, 55; 1 ♀ 57; 1 im. ♀ 51 mm.

In recent reviews of *Alcedo cristata* (Peters, 1945, p. 176; Chapin, 1939, p. 289; Bannerman, 1933, p. 251) the nominate race has been considered to range over the whole of Africa south of the Sahara with the doubtful exception of Bechuanaland, where *robertsi* Peters (olim *longirostris* Roberts) was reputed to be found. Salomonsen, however (1934, p. 240), recognized two races, *galerita* of east and west Africa, and *cristata* of south Africa, the latter being a large, pale race. He either disregarded or was unaware of Roberts' *longirostris*. As seven specimens of Roberts' original series of *longirostris* are now available for comparison, it is possible to evaluate critically that race, which none of the above reviewers had seen.

Roberts separated *longirostris* from *cristata* of south Africa on the basis of its much longer culmen:

longirostris	(17)	33.5–37.5	(av. 35.3)
cristata	(16)	31–34	(av. 31.5)

These measurements are comparable to our own, since the seven *longirostris* in the Chicago Museum measure 34–37.5 (av. 36.0), and the populations of south Africa and Bechuanaland are readily separable on bill length.

When these measurements are compared with those in specimens from the rest of Africa, however, it appears that the long-billed form ranges throughout the continent instead of being restricted to Bechuanaland; the nominate form must be restricted to south Africa, and the remaining populations must be known as *galerita* Müller, the next oldest name.

The comparable measurements of our Chicago Museum specimens are:

cristata			
Cape Province	(1)	32	
galerita			
Central Africa, Tanganyika to Angola	(15)	31–36.5	(av. 34.1)
West Africa, Liberia to Gabon	(9)	32–36	(av. 33.6)
East Africa, Abyssinia to Kenya	(11)	32.5–39	(av. 35.1)

These are not the same ranges as for the two races that Salomonsen determined on the basis of wing length. The latter character varies clinally, from small in west Africa to medium in east Africa to large in south Africa. Salomonsen's measurements are:

cristata			
South Africa, Cape to Rhodesia	(47)	57–64	(av. 60.1)
galerita			
West Africa, Senegal to Gabon	(47)	50–56	(av. 53.3)
East Africa, Abyssinia to Tanganyika	(52)	52–62	(av. 56.2)

There is no clear cut break between the two forms when they are separated on wing length, and length of culmen provides a more satisfactory criterion.

There is variation in color of the under parts from dark rufous in west Africa to very pale, dusty rufous in Bechuanaland and south Africa. A large part of this, however, must be due to fading and wear, since a male from Bechuanaland is molting, and the new feathers of the under parts are almost as dark as in Gabon and Liberian birds.

Although Vincent (1952, p. 42) does not consider the birds of south Africa different from those of the Rhodesias and Bechuanaland, the close agreement between our measurements and those of Roberts and Salomonsen makes it appear that there is a small-billed race in south Africa. The continental races of *Alcedo cristata* are:

cristata: Cape Province; wing long, bill short.

galerita: remainder of Africa; wing short to long, bill long.

Beatty found these birds wherever there was water, even along the seacoast; occasionally they were seen capturing insects.

Alcedo leucogaster batesi (Chapin)

Corythornis leucogaster batesi Chapin, 1922, Ibis, p. 442—Bitye, Cameroon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 21, 1951.
Mouila, Mount Tandou, 1 ♂, June 4, 1951.
Labamba, 1 ♀, June 7, 1952.

Wing: 2 ♂ 53, 54; 1 ♀ 55 mm.

In all three specimens the upper mandible is black and the lower red.

Myioceyx lecontei (Cassin)

Ispidina lecontei Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8: 158—Moonda River, Gabon.

USNM: Omboue, Fernan Vaz, 1 ♂, Oct. 18, 1917.

Wing: 50. Tail: 22. Culmen: 20 mm.

The bill is wholly black, only the extreme tip horn color. There are a few scattered dusky and lilac-tipped feathers on the rictus.

Birds from Uganda have been generally recognized as *M. l. ugandae*, the distinguishing character being the more intense blue spotting on the crown. When four Uganda birds, including the type of *ugandae*, are compared to ten Cameroon specimens the differences are not sufficiently marked for taxonomic purposes. All four of the Uganda birds and six out of ten of the Cameroon birds have the crown clearly spotted; the remaining Cameroon birds have the spots obsolete or absent. Although there may be a tendency to greater spotting in Uganda, the species should be considered monotypic.

Ispidina picta picta (Boddaert)

Todus pictus Boddaert, 1783, Tabl. Pl. Enlum., p. 49—Juida (=St. Louis, Senegal).

CNHM: Libreville, Cap Esterias, 1 ♂, 2 ♀, Jan. 21–Feb. 11, 1951.

Fernan Vaz, Omboue, 2 ♂, March 24, 26, 1951.

Tchibanga, 1 ♂, Apr. 15, 1952.

M'Pouya, 1 ♀, Nov. 4, 1951.

Gamboma, 1 ♂, Dec. 30, 1951.

USNM: Fernan Vaz, Omboue, 1 ♀, Oct. 18, 1917.

Fernan Vaz, Ntyonga, 1 ♀, May 29, 1918.

Wing: 5 ♂ 50, 51, 52, 52, 52; 3 ♀ 50, 52, 53 mm.

Halcyon badia badia J. and E. Verreaux

Halycon (Cancrophaga) badia J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), 3: 264—Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 sex?, July 14, 1951.

Mouila, 1 ♂, Sept. 13, 1951.

Mimongo, 1 ♂, 1 ♀, June 19, 26, 1952.

USNM: Fernan Vaz, Ntyonga, 1 im. ♀, May 14, 1918.

Wing: 2 ♂ 93, 94; 1 ♀ 96; 1 sex? 96 mm.

Halcyon senegalensis fuscopileus Reichenow

Halcyon senegalensis fuscopileus Reichenow, 1906, Orn. Monats., **14**: 171—Jaunde and Bipindi, Cameroon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 6, 1951.
Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 12, Apr. 20, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 2 im. ♂, June 22, 24, 1951.
Fougamou, 1 ♂, Aug. 11, 1951.
Gamboma, 1 ♂, 1 ♀, Jan. 3, 12, 1952.
Impfondo, 1 ♂, Feb. 12, 1952.

USNM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, Oct. 26, 1917.
Ogouma, Rembo Nkami, 3 ♂, Dec. 3–11, 1918.
Anguanamo, Ngovi, 1 ♀, July 13, 1918.

Wing: 5 ♂ 96, 99, 99, 103, 103; 2 ♀ 96, 97; 2 im. ♂ 97, 100 mm.

Both *senegalensis*-type birds with pale crowns and *fuscopileus*-type with dark crowns are found in this series. The preponderance, however (five out of seven adults in the Chicago Museum series), are *fuscopileus*, and the population as a whole should be referred to that form.

H. s. senegalensis is generally considered the race of the savannas, and *fuscopileus* the race of the equatorial forests. While this is true in broad outlines, it does not seem to apply to local populations. The specimen with the palest crown was collected in the heavy forest along the Ubangi River at Impfondo. The two darkest birds were collected from the gallery forest at Gamboma. The situation is parallel to that in *Ceryle maxima* (Rand, 1951, p. 590), in which two color types occur with varying frequency throughout the range of the species. The names to be applied to different populations depend on the relative frequency of the two plumage types as evidenced in large series, and not on individual variations or local habitats.

Halcyon malimbica malimbica (Shaw)

Alcedo Malimbica Shaw, 1811, Gen. Zool., **8**, pt. 1, p. 66—Malimba, Portuguese Congo.

CNHM: Libreville, Cap Esterias, 3 ♂, Jan. 26–Feb. 18, 1951.
Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 16 and Apr. 2, 1951.
Djambala, 1 ♂, Nov. 10, 1951.

USNM: Fernan Vaz, Mpivia, 1 ♀, Sept. 19, 1918.

Wing: 5 ♂ 105, 110, 113, 114, 114; 1 ♀ 112 mm.

A single male from Duque de Bragança, northern Angola, is considerably larger than Gabon birds (wing 120). Chapin (1939, p. 281) gives the variation in wing length for this race as 107–114, and Bannerman (1933, p. 267) as 107–114 (one 116).

Beatty frequently observed this species feeding on insects scared up by driver ants. A male from Cap Esterias had a mouse in its stomach.

Halcyon albiventris orientalis Peters

Halycon orientalis Peters, 1868, Jour. f. Orn., **16**: 134—Inhambane, Mozambique.

CNHM: Djambala, 2400 feet, 1 im. ♂, Nov. 16, 1951.

Wing: 98 mm.

Family **MEROPIDAE**

Melittophagus pusillus meridionalis Sharpe

Melittophagus meridionalis Sharpe, 1892, Cat. Bds. Brit. Mus., **17**: 44 (in key), 45, pl. 1, fig. 4—restricted type locality, Pinetown, Natal.

CNHM: Djambala, 2400 feet, 1 im. ♂, 1 im. ♀, 1 ad. sex?, Oct. 25–Nov. 11, 1951.

Wing: 1 im. ♂ 70; 1 im. ♀ 76; 1 ad. sex?, 79 mm.

The single adult has the narrow blue superciliary that characterizes this southern race. It is surprising that the nominate race has not been found in northern Gabon, since Good (1952, p. 137) records it from "all over the Cameroon except the forest."

Melittophagus variegatus variegatus (Vieillot)

Merops variegatus Vieillot, 1817, Nouv. Dict. Hist. Nat., **14**: 25—Malimbe, Portuguese Congo.

CNHM: Libreville, Cap Esterias, 4 ♀, 1 ad. sex?, 2 im. ♂, 3 im. ♀, 2 im. sex?, Jan. 14–Feb. 11, 1951.

Port Gentil, 1 ♀, May 10, 1951.

USNM: A good series from the following localities:

Fernan Vaz, Omboue, Apr. 30–Aug. 27, 1917.

Fernan Vaz, Sanga Mbuiri, July 28 and Aug. 2, 1917.

Fernan Vaz, Ntyonga, Aug. 17, 1917, and Apr. 15–June 4, 1918.

Wing: 5 ♀ 81, 82, 84, 86, 88; 1 ad. sex? 82 mm.

The status of *M. v. loringi* Mearns (type locality, Butiaba, Lake Albert, Uganda) has been a matter for debate for some time. Bannerman (1933, p. 304, ftn.) does not recognize it, and Chapin (1939, p. 303) and Peters (1945, p. 230) regard it as doubtful. Specimens in the Chicago Museum, however, show it to be a well-marked race.

The only reliable character for separating the two forms is the blue superciliary stripe which is present in *loringi* and absent in *variegatus*. In a series of 37 adults from Uganda, all specimens show a well-marked superciliary. Two specimens from Akonolinga, Cameroon, also have the superciliary, as did Serle's (1950, p. 359) 8 specimens from British Cameroon. Among the 25 adults from Gabon, however, 3 have a fine line, 5 have a few blue feathers above the eye, and 17 show no trace of blue whatsoever. Four birds from Mombolo, Angola, and one from Balovale, western Northern Rhodesia, agree with the Gabon birds, but show more black in the breast band in an approach to *bangweoloensis* of the Katanga and Northern Rhodesia.

The northern boundary between *variegatus* and *loringi* apparently lies in Spanish Guinea. Of six specimens from there, two show a distinct superciliary, and the others have a variable amount of blue feathering. The range of *loringi*, therefore, is from Cameroon east to Uganda across northern Congo, and south to the southern end of Lake Kivu (from Chapin); *variegatus* ranges from Gabon south to central Angola, and east through the central Congo, where it intergrades extensively with *loringi* (from Chapin).

Melittophagus bullockoides bullockoides (A. Smith)

Merops Bullockoides A. Smith, 1834, So. Afr. Quart. Jour., (2), no. 4, p. 320—South Africa (restricted to Marico District, Transvaal).

CNHM: Djambala, 2400 feet, 1 im. ♀, 2 sex?, Nov. 25–Dec. 13, 1951.

Wing: 1 im. ♀ 107; 2 sex? 111, 111 mm.

One of the unsexed birds is also immature, with dull, blue-black tail coverts. The trinomial is used, since Clancey (1953, p. 57) has recently named *M. b. randorum* from Tanganyika Territory.

Melittophagus gularis australis (Reichenow)

Meropiscus australis Reichenow, 1885, Jour. f. Orn., **33**: 222—"Angola and Congo" (type from Cameroon).

CNHM: Mouila, Mount Tandou, 1 ♂, 1 ♀, June 6, 11, 1951.
Mimongo, 2700 feet, 1 ♂, 2 ♀, June 16–26, 1952.

Fougamou, 1 ♀, Aug. 2, 1951.
Gamboma, 2 ♂, 1 ♀, 1 sex?, Jan. 12–17, 1952.
USNM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, June 16, 1917.
Wing: 4 ♂ 90, 93, 94, 94; 5 ♀ 89, 90, 92, 95, 96 mm.

Apparently it requires at least two years for this species to acquire the fully adult plumage, with jet black back. Of nine adults from Gabon (with fully developed scarlet throat patch and blue ventral striping) seven have the upper parts clear black and two are strongly washed with green. Among 21 adults from Cameroon, 11 have the upper parts black, and 10 have them washed with green. Individuals apparently breed when one year old, however, since the two greenish Gabon birds are marked as in breeding condition.

The extent of the red tipping on the ventral streaking shows wide individual variation, and appears more pronounced on the older birds with black backs.

The female from Fougamou was seen to dive into a forest pool like a kingfisher.

Aerops albicollis (Vieillot)

Merops albicollis Vieillot, 1817, Nouv. Dict. Hist. Nat., **14:** 15—Senegal.

CNHM: Djambala, 2400 feet, 1 ♀, 1 im. ♀, Nov. 11, 1951.
Wing: ad. ♀ 100; im. ♀ 91 mm.

Merops apiaster Linnaeus

Merops apiaster Linnaeus, 1758, Syst. Nat., 10th ed., **1:** 117—southern Europe.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 21, 1951.
Wing: 147 mm.

This migrant has not previously been taken in Gabon or the Moyen Congo, although known from Manyanga on the Lower Congo (see Malbrant and Maclatchy, 1949, p. 231).

Merops malimbicus Shaw

Merops malimbicus Shaw, 1806, Nat. Misc., **17**, text to pl. 701—Malimbe, Portuguese Congo.

CNHM: Libreville, Cap Esterias, 2 ♀, 3 im. ♀, Jan. 21–23, 1951.
M'Bigou, Mount Du Chaillu, 1 ♂, 1 ♀, June 24 and July 18, 1951.
Mouila, Mount Tandou, 2 ♂, 1 ♀, June 1, 1951.
Labamba, 1 ♀, May 12, 1952.
Gamboma, 1 im. ♀, Dec. 29, 1951.

Wing: 3 ♂ 135, 138, 138; 5 ♀ 128, 131, 132, 133, 139; 4 im. ♀ 126, 128, 130, 137 mm.

Beatty records these birds as usually found in the savannas in flocks containing from 20 to 200. However, in February and March he saw flocks numbering many thousands of birds on the sandbars of the Ubangi.

Bombylonax breweri (Cassin)

Meropogon Breweri Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 34—Ogobai River, Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, 2 ♀, March 21–Apr. 8, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, June 16 and Aug. 10, 1917.

Fernan Vaz, Ashanja, 1 ♀, June 24, 1917.

Fernan Vaz, Ntyonga, 1 ♀, Apr. 13, 1918.

Orobi-Jokwa, Rembo Nkami, 1 ♂, 2 ♀, 1 sex?, Dec. 19, 1918.

Wing: 2 ♂ 115, 117; 2 ♀ 114, 115 mm.

This species is not closely related to *Merops* or any other genus of bee-eaters. In wing structure it is more like *Meropogon;* that is, the secondaries of the folded wing almost reach the tips of the primaries; the outer primary is over half the length of the second; and the third, fourth, and fifth primaries are subequal and form the tip, the fourth being the longest. The present species has not the broad rounded breast feathers of *Meropogon,* and the bill is broader and not so compressed; even the wing formula, while similar, differs slightly in detail, so it probably should not be placed with this Celebesian genus.

Family CORACIIDAE

Eurystomus glaucurus afer (Latham)

Coracias afra Latham, 1790, Index Orn., **1**: 172—Africa (=Senegal).

CNHM: Mouila, 1 ♂, May 26, 1951.
Impfondo, 1 ♀, Feb. 20, 1952.

USNM: Fernan Vaz, Ntyonga, 1 ♂, Nov. 3, 1917.

Wing: 1 ♂ 183; 1 ♀ 160 mm.

Eurystomus gularis neglectus Neumann

Eurystomus gularis neglectus Neumann, 1908, Orn. Monats., **16**: 28—Canhoça, Angola.

CNHM: Libreville, Cap Esterias, 2 ♂, Jan. 30 and Feb. 6, 1951. Mouila, 1 ♂, 1 ♀, Sept. 14, 18, 1951.

USNM: Ogouma, Rembo Nkami, 4 ♂, 1 ♀, Nov. 25–Dec. 3, 1918.

Wing: 3 ♂, 155, 155, 157; 1 ♀ 156 mm.

Compared to a topotype from northern Angola. The much richer coloring of the under parts is the best character for this race; the upper tail coverts vary from black to the rich blue that is supposed to characterize *neglectus*.

Family **BUCEROTIDAE**

Tockus fasciatus fasciatus (Shaw)

Buceros fasciatus Shaw, 1811, Gen. Zool., 8, pt. 1, p. 43—Angola.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 6, 1951.
Fernan Vaz, Omboue, 1 ♀, May 23, 1951.
Mouila, Mount Tandou, 1 ♂, June 6, 1951.

USNM: Fernan Vaz, Omboue, 5 ♂, 6 ♀, May 2–Aug. 30, 1917. Anguanamo, Ngovi, 1 ♂, 1 ♀, Aug. 8, 10, 1918.

Wing: 2 ♂ 245, 261; 1 ♀ 250 mm.

The two pairs of white rectrices, particularly the outer ones, are frequently washed with fuscous to a variable extent. The male from Mouila has the basal half of the right outer rectrix, and the basal two-thirds of the left one, fuscous. The male from Cap Esterias has the basal half of the outer web of the left outer rectrix, and the basal third of the inner web of the right one, fuscous. A male from Omboue (USNM no. 254219) has both white pairs fuscous on the outer web for about two-thirds of their length, and on one side this color extends to the inner web as a streak. In none of the cases where there is fuscous on the white feathers is the pattern symmetrical.

Tockus hartlaubi hartlaubi (Gould)

Toccus hartlaubi Gould, 1861, Proc. Zool. Soc. London, (1860), p. 380—West Africa.

CNHM: Mouila, Mount Tandou, 1 ♂, 1 ♀, June 5, 8, 1951. Impfondo, 1 ♂, Feb. 14, 1952.

Wing: ♂ 154, 159; ♀ 140 mm.

Malbrant and Maclatchy (1949, p. 236) record the nominate race from Gabon and southern Moyen Congo, and they list *T. h. granti* from eastern and northeastern Moyen Congo. They record no spe-

cific localities for the latter. Our male from Impfondo, on the Ubangi, is typical *hartlaubi*, however, and shows no suggestion of the white tipping on the wing coverts that distinguishes *granti*. It is doubtful if *granti* should be included in the list of French Congo birds.

Tockus camurus camurus Cassin

Tockus camurus Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8: 319—Cape Lopez, Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, Jan. 31, 1951.
Fernan Vaz, Omboue, 2 ♂, 2 ♀, March 12–14, 1951.
Mouila, Mount Tandou, 1 ♀, May 31, 1951.
Impfondo, 1 ♀, March 1, 1952.

USNM: Fernan Vaz, Omboue, 1 ♂, 2 ♀, May 28–June 18, 1917.
Fernan Vaz, Ntyonga, 2 ♀, Nov. 2, 1917, and June 3, 1918.
Ogouma, Rembo Nkami, 2 ♂, 2 ♀, Nov. 13–Dec. 2, 1918.

Wing: 3 ♂ 152, 155, 156; 4 ♀ 149, 154, 154, 155 mm.

Chapin (1939, p. 41) has called attention to the fact that birds from west Africa, especially females, more frequently have light spotting on the lesser wing coverts than birds from eastern Congo. This is apparent from a study of the specimens in the Chicago Museum, the series from Gabon having the highest percentage of spotted individuals. Of a series of seven birds from Kivu and Ruwenzori, none has spotted coverts. Among Cameroon birds, one of seventeen males and nine of fifteen females are spotted. In the Gabon series, two of six males and eight of ten females are spotted. Considering the intermediate character of the Cameroon material, no purpose would be served by recognizing this difference in the nomenclature.

Tropicranus albocristatus cassini (Finsch)

Orthlophus Cassini Finsch, 1903, Notes Leyden Mus., **23**: 196 (in key), 201—Gabon.

CNHM: Libreville, Cap Esterias, 1 ♀ (= ♂), Feb. 15, 1951.
Mouila, 1 ♂, Sept. 8, 1951.
Mount Tandou, 1 ♀, May 31, 1951.

USNM: Fernan Vaz, Omboue, 2 ♀, May 19 and June 5, 1917.
Fernan Vaz, Ntyonga, 1 ♂, Nov. 10, 1917.
Ogouma, Rembo Nkami, 1 ♀, Nov. 22, 1918.

Wing: 2 ♂ 230, 252; 1 ♀ 244 mm.

Bannerman's (1933, p. 343) measurements for this form make the differences between the sexes excessive (wing, ♂ 240–268, ♀ 194–212), and it is evident that he confused the immature birds with females.

In adult males, the bill is black with a reddish brown stripe extending forward from the nostril, and the casque is blade-shaped, extending at least four-fifths of the way to the tip, and cut off square in front. This is the form figured by Elliott (1882, pl. 40). The bill of the adult female is shorter, the mandible and tip of the maxilla are mostly white, and the casque is humped, the highest point about one-third or one-half the distance to the tip, and tapering gradually to the culmenal ridge. In immatures of both sexes, the bill is like the female's, but shorter, the casque not so high, and the whole bill black, paler at the tip.

The following measurements were taken from a series of twenty-six specimens which were divided into age classes within each sex on the basis of bill form.

	Wing	Tail	Culmen
Males			
9 ad.	230–262 (246)	392–557 (441)	93–103 (97.1)
4 im.	197–219 (207)	364–394 (376)	63–75 (71.8)
Females			
3 ad.	237, 243, 244	377+, 463 (one molting)	78, 80, 86
10 im.	204–221 (211)	374–436 (397)	67–79 (71.0)

As shown above, the adult females fall within the range of adult males in wing and tail measurements, although a larger series might show an average difference. There is no significant difference between immatures of both sexes.

Bycanistes sharpii sharpii (Elliot)

Buceros sharpii Elliot, 1873, Ibis, p. 177—Angola.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Jan. 20, 29, 1951.
Mouila, Mount Tandou, 1 ♂, June 9, 1951.

USNM: Fernan Vaz, Ntyonga, 3 ♂, 2 ♀, Nov. 8, 1917–May 23, 1918.
Fernan Vaz, Omboue, 2 ♂, May 28, 1917.
Ogouma, Rembo Nkami, 1 ♂, Dec. 6, 1918.

Wing: 2 ♂ 255, 271; 1 ♀ 225 mm.

The majority of these specimens are typical *sharpii*, with wholly black outer primaries. However, a male from Ntyonga has an extensive white patch on the inner webs of the small outermost and the next large primary, and two others from the same locality have a small white area at the tips of the primaries. This is an approach to the race *duboisi*, in which the ends of the primaries are white.

Bycanistes cylindricus albotibialis (Cabanis and Reichenow)

Buceros albotibialis Cabanis and Reichenow, 1877, Jour. f. Orn., **25**: 103—Chinchoxo, Loango coast.

CNHM: Fougamou, 1 ♀, Aug. 11, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Nov. 24, 1918.
Fernan Vaz, Mperi, 1 ♂, Dec. 27, 1917.

Wing: 2 ♂ 320, 322; 2 ♀ 292, 296 mm.

The above measurements are at the lower end of the range of variation as given by Bannerman (1933, p. 322) for Cameroon birds (wing, 6 ♂ 325–344; 2 ♀ 295–310). Chapin (1939, p. 359) mentions that the species gradually increases in size from west to east across the Congo, but that "with such gradual intergradation it is hopeless to recognize any races."

The August female from Fougamou is in full breeding condition.

Ceratogymna atrata (Temminck)

Buceros atratus Temminck, 1835, Pl. Col., livr. 94, p. 558—Ashanti.

CNHM: Mouila, 1 ♀, May 18, 1951.
Fougamou, 1 ♂, Aug. 4, 1951.

USNM: Fernan Vaz, Ntyonga, 1 ♂, 2 ♀, July 8–Nov. 3, 1917.
Anguanamo, Ngovi, 1 ♀, Aug. 9, 1918.
Ogouma, Rembo Nkami, 1 ♂, Nov. 2, 1918.

Wing: 1 ♂ 389; 1 ♀ 353 mm.

The Ogouma male has the front of the casque open in an irregular narrow seam, like a sore that has not completely healed. Apparently it had been injured, and the wound had only partly coalesced.

Family **CAPITONIDAE**

Gymnobucco calvus major Neumann

Gymnobucco calvus major Neumann, 1920, Jour. f. Orn., **68**: 80—Buea, Cameroon.

CNHM: Mouila, 1 ♀, Sept. 30, 1951.
USNM: Ogouma, Rembo Nkami, 1 ♀?, Dec. 2, 1918.
Wing: 1 ♀ 101 mm.

The long wing (101) of the Mouila female places it in the race *major*. It is, however, definitely paler on the throat and sides of the neck than typical specimens from Mount Cameroon, and in this character it more closely resembles *congicus* from the lower Congo. Southern Gabon is the southern limit of the range of *major*, *congicus* having been reported from the Loango coast and the Moyen Congo (Malbrant and Maclatchy, 1949, p. 270).

Serle (1954, p. 59) considers *major* an invalid race, placing it in the synonymy of *calvus*. The wing measurements on which he bases his conclusions are:

44 ad., Sierra Leone to Nigeria	85–93 (av. 89.0)
21 ad., so. British Cameroons	86–97 (av. 92.0)
4 ad., Cameroons	92–99 (av. 96.0)

Since the difference between the population of British Cameroons and the birds to the west was too small to recognize, Serle believed that *major* could not be upheld. However, the type locality of *major* is Buea, on the southeast slope of Mount Cameroon, a region from which the birds usually agree racially with the French Cameroon form. Three topotypes from Mount Cameroon in the Chicago Museum measure 91, 93, 99, in the same size range as Serle's French Cameroon birds. Boulton's (1931, p. 45) measurements of Cameroon birds help confirm the large size of this population: 8 ♂ 95–106 (av. 99.2), 4 ♀ 95–100 (av. 98.2). *G. c. major*, therefore, is a valid race ranging from Gabon through southern French Cameroon to the eastern slopes of Mount Cameroon.

Gymnobucco peli Hartlaub

Gymnobucco peli Hartlaub, 1857, Orn. Westafr., p. 175—Dabocrom, Gold Coast.

USNM: Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Dec. 13–23, 1918.

The bristle-nosed barbet ranges from Upper Guinea to the lower Congo valley and to Gabon, where it occurs in the forested areas only.

Gymnobucco bonapartei bonapartei Hartlaub

Gymnobucco Bonapartei Hartlaub, 1854, Jour. f. Orn., **2**: 410—Gabon.

CNHM: Mouila, Mount Tandou, 1 ♂, 2 ♀, 1 im. ♀, June 1–5, 1951.
Impfondo: 1 ♂, Feb. 19, 1952.
Wing: 2 ♂ 78, 80; 2 ♀ 79, 82; 1 im. ♀ 80 mm.

Buccanodon duchaillui duchaillui (Cassin)

Barbatula Duchaillui Cassin, 1856, Proc. Acad. Nat. Sci. Phila., **7**, (1855), p. 324—Moonda River, Gabon.

CNHM: Libreville, Cap Esterias, 1 juv. ♀, Feb. 15, 1951.
Mimongo, 2700 feet, 3 ♂, 1 ♀, June 18–July 10, 1952.
USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Nov. 22, 23, 1918.
Wing: 3 ♂ 80, 83, 84; 1 ♀ 84 mm.

Pogoniulus scolapaceus flavisquamatus (J. and E. Verreaux)

Barbatula flavisquamata J. and E. Verreaux, 1855, Jour. f. Orn., **3**: 101—Cape Lopez, Gabon.

CNHM: Libreville, Cap Esterias, 1 im. ♂, Feb. 23, 1951.
Mouila, Mount Tandou, 1 sex?, June 6, 1951.
Labamba, 1 ♂, 1 ♀, May 12, 1952.
Gamboma, 1 ♀, Jan. 21, 1952.
USNM: Fernan Vaz, Omboue, 1 ♂, June 12, 1917.
Ogouma, Rembo Nkami, 1 ♂, Nov. 13, 1918.
Wing: 3 ♂ 54, 54, 56; 1 im. ♂ 53; 2 ♀ 55, 56; 1 sex? 54 mm.

The range of *P. s. flavisquamatus* is given by Peters (1948, p. 46) as "southern Cameroons, Gabon, and French Congo, eastward to the Uelle, the Semliki valley, the Manyema, and the Kasai." To the south it is replaced by *flavior* (olim *angolensis*) of northern Angola and southwestern Belgian Congo, and in the east by *aloysii* of Uganda and western Kenya. *Flavior* is characterized by having the yellow edgings of the feathers of the upper parts brighter and more greenish, less golden, by having the under parts paler and less marked with fuscous, and by larger size. *Aloysii* has duller yellow edgings above than *flavisquamatus*, is washed below with ochre, and is slightly larger.

Although Gabon specimens are topotypes of *flavisquamatus*, in color they are intermediate between Cameroon populations and *flavior* from Angola. Compared to Cameroon birds, Gabon specimens have somewhat brighter markings above, and a more greenish wash is evident, particularly on the crown. The fuscous markings below are not as evident, nor is there the ochraceous wash which is found in some Cameroon specimens. In size, however, Gabon specimens are small, like the Cameroon birds, and the two populations should be kept together.

Comparative measurements of the adults of different races are:

	Wing
flavisquamatus	
Cameroons (27)	53–57, one 59 (av. 55.5)
Gabon (6)	54–56 (av. 55)
flavior	
Angola (4)	57–60 (av. 58.5)
aloysii	
Uganda (9)	55–59 (av. 57.4)

The sexes are identical in size.

Pogoniulus leucolaima leucolaima (J. and E. Verreaux)

Barbatula leucolaima J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 263—Gabon.

CNHM: Tchibanga, 1 ♂, Apr. 29, 1952.
Labamba, 1 ♀, June 7, 1952.
Djambala, 2 ♂, Nov. 15 and Dec. 12, 1951.

Wing: 3 ♂ 52, 53, 54; 1 ♀ 51 mm.

Pogoniulus subsulphureus flavimentum (J. and E. Verreaux)

Barbatula flavimentum J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 262—Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 12, 1951.
Mouila, Mount Tandou, 1 ♂, June 2, 1951.
Djambala, 1 ♂, Nov. 12, 1951.

USNM: Ogouma, Rembo Nkami, 3 ♂, 1 sex?, Oct. 10–Nov. 24, 1918.

Wing: 3 ♂ 49, 49, 51 mm.

Amadon (1953, p. 421) has recently shown that the nominate form is confined to Fernando Po.

The Djambala and Libreville birds were both in breeding condition.

Pogoniulus atroflavus (Sparrman)

Bucco atro-flavus Sparrman, 1798, Vetensk.-Acad. nya. Handl., **19**: 305, pl. 9—Sierra Leone.

CNHM: Labamba, 1 ♂, May 9, 1952.

Wing: 62 mm.

This is the species previously known as *P. erythronotus* Cuvier (see Peters, 1948, p. 51).

Tricholaema hirsutum flavipunctatum J. and E. Verreaux

Tricholaema flavipunctata J. and E. Verreaux, 1855, Jour. f. Orn., **3**: 102—Gabon.

CNHM: Mouila, Mount Tandou, 1 ♂, 1 ♀, June 3, 1951.
USNM: Fernan Vaz, Omboue, 1 ♂, Aug. 29, 1917.
Wing: 1 ♂ 89; 1 ♀ 87 mm.

Tricholaema hirsutum angolense Neumann

Tricholaema hirsutum angolense Neumann, 1908, Bull. Brit. Orn. Club, **21**: 47—Golungo Alto, Angola.

CNHM: Labamba, 1 ♂, 1 ♀, May 22, 23, 1952.
Wing: ♂ 96; ♀ 92 mm.

Tricholaema hirsutum chapini Bannerman

Tricholaema hirsutum chapini Bannerman, 1924, Bull. Brit. Orn. Club, **44**: 101—Uelle River, near Djabia, Belgian Congo.

CNHM: Impfondo, 1 ♀, Feb. 12, 1952.
Wing: 84 mm.

Malbrant and Maclatchy (1949, p. 271) have recorded these three races of *T. hirsutum* from French Equatorial Africa, listing *flavipunctatum* from Gabon, *angolense* from southern and western Moyen Congo, and *chapini* from eastern Moyen Congo. The pair from Labamba extends the range of *angolense* into southern Gabon and shows that the break between *angolense* and *flavipunctatum* is an exceedingly abrupt one.

In *flavipunctatum* the breast feathers are blackish, broadly edged with light greenish yellow, and the belly feathers are brown, tipped with greenish yellow and with blackish subterminal spots. The general effect is of pale greenish yellow under parts, streaked on the breast and spotted on the belly with black. In *angolense* the edgings and tippings are weak, dull yellow and narrower, and the subterminal spots are brown. The general effect is of dull brown under parts, washed with yellow on the breast and mottled with yellow and brown on the belly. In both forms the throat is white, streaked or spotted with black. Females are duller than the males.

The two races are quite distinct, and individuals cannot be confused. It is surprising, therefore, not to find any signs of intergradation among the four specimens from Mount Tandou, Mouila, and Labamba in southern Gabon. The pair from Mount Tandou cannot be distinguished from a series of twelve birds from Cameroon, nor do the pair from Labamba differ in any way from seven birds from northern Angola. The dividing line between the two races in southern Gabon, therefore, lies at about 2° S. Lat.

T. h. chapini belongs to the group of races with a black crown and white superciliary and malar stripes. Malbrant and Maclatchy have previously recorded it from the adjacent localities of Lukolela and Nola.

Lybius minor minor (Cuvier)

Pogonias minor Cuvier, 1816, Regne Anim., **1**, (1817), p. 428, note 2—Afrique et aux Indes (restricted to northern Angola).

CNHM: Tchibanga, 2 ♂, Apr. 20, 29, 1952.

Wing: 90, 91 mm.

This race (as *L. l. levaillanti*) has been recorded from Gabon at Mouila and the Moyen Congo at Pt. Noire by Malbrant and Maclatchy (1949, p. 272) and from Tchibanga by Berlioz (1953b, p. 132). It is a coastal form extending from Gabon to Benguella, central Angola. Compared with six specimens from Benguella, the Tchibanga birds are much paler orange on the belly. They are, however, in worn plumage, while the Benguella specimens are freshly molted.

Lybius bidentatus friedmanni (Bannerman)

Pogonornis bidentatus friedmanni Bannerman, 1933, Bull. Brit. Orn. Club, **53**: 124—Ndala Tando, Angola.

CNHM: Mimongo, 2700 feet, 1 im. ♂, June 30, 1952.
Djambala, 3 ♂, 4 ♀, 1 juv., Nov. 8–29, 1951.

Wing: 3 ♂ 105, 106, 106; 4 ♀ 103, 103, 103, 103 mm.

These specimens have been compared with a series of 29 adults from Cameroon. They agree in size, but in coloration the red edging on the greater coverts of the Cameroon birds averages distinctly longer. Even allowing for variation in the appearance of the resulting wing stripe caused by varying makes of skins, there is a reduction in the edging in Gabon birds. The latter, however, fall within the range of variation in the Cameroon series. A single topotypical male from Ndala Tando in the American Museum has narrow edgings like the Gabon birds.

For comparison of measurements, wings of 11 Cameroon males are 100–107 mm. (av. 103.5), of 18 females 98–109 mm. (av. 102.1).

Trachylaemus purpuratus purpuratus (J. and E. Verreaux)

Trachyphonus lurpuratus (sic) J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 260—Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 15, 1951.
Mouila, Mount Tandou, 1 ♂, June 7, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, June 27, 1951.

Mimongo, 2700 feet, 1 ♂, Aug. 5, 1952.

Gamboma, 1 ♂, Jan. 20, 1952.

Impfondo, 1 ♀, Feb. 18, 1952.

USNM: Ogouma, Rembo Nkami, 3 ♂, Dec. 12, 1918–Jan. 1, 1919.

Wing: 4 ♂ 107, 112, 112, 113; 2 ♀ 104, 113 mm.

Family **INDICATORIDAE**

Indicator exilis exilis (Cassin)

Melignothes exilis Cassin, 1856, Proc. Acad. Nat. Sci. Phila., **8**: 157—Moonda River, Gabon.

CNHM: Impfondo, 1 sex?, Feb. 15, 1952.

Wing: 63 mm.

Indicator maculatus stictithorax Reichenow

Indicator stictithorax Reichenow, 1877, Jour. f. Orn., **25**: 110—Cameroons.

CNHM: Fougamou, 1 ♀, Aug. 18, 1951.

Wing: 98 mm.

Family **PICIDAE**

Jynx ruficollis ruficollis Wagler

Jynx ruficollis Wagler, 1830, Nat. Syst. Amphibien, p. 118, note—Kaffirland (=Vitenhage, eastern Cape Province).

CNHM: Tchibanga, 1 ♀, Apr. 20, 1952.

Djambala, 2400 feet, 1 ♀, Nov. 1, 1951.

Wing: 1 ♀ 91 mm. (one molting).

Until recently the nominate race was considered to range from Cape Province to Kivu and southern Gabon. In 1952, however, Clancey (1952, p. 12) separated the populations of western Transvaal and Bechuanaland as *J. r. striaticula* and restricted the nominate race to Natal and Cape Province. He had no material from Angola or the lower Congo. More recently Berlioz (1953a, p. 66) has separated a race *rougeoti* from southern Gabon and Moyen Congo, apparently unaware of Clancey's action. Both of these new forms were defined in part by the same character, the finer and less sharply

accentuated striations of the under parts; *striaticula* was also characterized as having a paler rufous throat patch.

Available for comparison, including material in the American Museum, are two birds from Cape Province, five from Natal, three from Angola, one from Kivu and four from the French Congo. Within this series, the Cape Province and Kivu specimens are the most heavily streaked below, and the French Congo and Angola birds least so. The Natal series is highly variable; the most heavily streaked specimen, from the Ifafa River, agrees with Cape Province birds, while the two most lightly streaked individuals, from Durban and the Ifafa River, are like specimens from Brazzaville and Ambaca, Angola. These differences do not lend themselves to delimiting subspecies.

The April Tchibanga female is marked "ovaries enlarged," confirming Berlioz's conclusion that the species breeds in Gabon.

Campethera caroli caroli (Malherbe)

Chloropicus Caroli Malherbe, 1852, Rev. Mag. Zool., (2), **4**: 550—Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 21, 1951.
Fernan Vaz, Omboue, 1 ♂, 3 ♀, March 28–Apr. 30, 1951.
Labamba, 1 ♀, May 12, 1952.
Iranga, 1 ♂, March 20, 1952.

USNM: Fernan Vaz, Omboue, 4 ♀, May 29–Sept. 7, 1917.
Fernan Vaz, Sanga Mbuiri, 1 ♀, Aug. 1, 1917.
Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Jan. 1 and Nov. 27, 1918.
Anguanamo, Ngovi, 1 ♂, Aug. 5, 1918.

Wing: 3 ♂ 101, 101, 102; 4 ♀ 102, 102, 102, 105 mm.

The ground color of the under parts varies from dull olive to olive green, and the color of the ventral spotting from buff to pale greenish yellow. Many specimens have also a reddish adventitious stain, and a female has a bright green stain on the head, which is apparently not uncommon (cf. Chapin, 1939, p. 574).

Campethera nivosa efulenensis (Chubb)

Dendromus efulenensis Chubb, 1908, Bull. Brit. Orn. Club, **21**: 92—Efulen district, Cameroons.

CNHM: Fernan Vaz, Omboue, 1 ♂, Apr. 17, 1951.

USNM: Fernan Vaz, Ntyonga, 2 ♂, June 1–3, 1918.

Wing: 1 ♂ 87 mm.

The two Ntyonga males are worn. The Omboue bird is as dark below as the darkest of a series of 26 adults from Cameroons, and is more greenish, less olive. Post-mortem change, however, in the shade of green is evidently rapid in this species, and minor variations cannot be assumed to have taxonomic significance. The ground color of the under parts in the Cameroons series varies from greenish olive to olive brown, with the older skins usually, but not invariably, the most brown.

Northern Angola has usually been included in the range of *efulenensis*. Three skins from northern Angola in the Chicago Museum are much paler below than Cameroon birds, and agree closely with a series of *herberti* from Uganda; *herberti* has previously been recorded from Lukolela and the Kasai (Chapin, 1939, p. 577) and evidently extends to northern Angola.

Beatty collected the Omboue specimen in heavy forest.

Campethera permista permista (Reichenow)

Picus (Campothera) permistus Reichenow, 1876, Jour. f. Orn., **24**: 97—Gold Coast, Cameroons and Gabon (=Gabon).

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 18, 1951.
Labamba, 1 ♂, 1 ♀, May 24, 28, 1952.
Djambala, 1 ♂, 1 ♀, Oct. 25 and Nov. 27, 1951.
Impfondo, 1 ♂, Feb. 27, 1952.
Gamboma, 1 ♀, Jan. 1, 1952.

Wing: 4 ♂ 96, 98, 98, 100; 4 ♀ 94, 95, 98, 101 mm.

C. maculosa, from Portuguese Guinea to the Gold Coast, is the western representative of *permista*. The relationship between *maculosa* and *C. p. togoensis*, both of which have been reported from the Gold Coast, should be investigated to determine if they are truly distinct species.

Dendropicos fuscescens sharpii Oustalet

Dendropicus Sharpii Oustalet, 1879, Nouv. Arch. Mus. Hist. Nat., Paris, (2), **2**: 62—Doumé, Ogowé River, Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, Jan. 20, 1951.
M'Bigou, Mount Du Chaillu, 2 ♂, 1 ♀, June 22–July 7, 1951.
Djambala, 1 im. ♂, Dec. 17, 1951.

Wing: ♂ 80, 81, 83; im. ♂ 82; ♀ 79 mm.

In west Africa, from Cameroons to the central highlands of Angola, variation in this species follows a distinctly clinal pattern, and four races are recognizable. From south to north, *camacupae* is found in central Angola, *loandae* in northern Angola, *sharpii* in Gabon, and *camerunensis* in Cameroons. The cline is marked by a rapid decrease in size, an increase in the yellow wash both above and below, and a decrease in the dorsal barring, which is virtually absent in *camerunensis*.

Comparative wing measurements are:

camacupae (9)	95–100	(av. 96.9)
loandae (9)	82–92	(av. 88.2)
sharpii (4)	79–83	(av. 80.7)
camerunensis (20)	78–86	(av. 81.6)

The two Angola races are well discriminated by size alone; there is no significant difference in this character, however, between *sharpii* and *camerunensis*.

In the color of the under parts, *camacupae* is dirty white, heavily streaked on the breast, and less so on the abdomen, with fuscous. In *loandae* the streaking is not as heavy, and a faint yellow wash appears on the abdomen. The yellow wash is at a maximum in *camerunensis*, where it covers the whole of the under parts, and is only slightly less intense in *sharpii*.

In *camacupae* the dorsal barring is fuscous and pale yellow; in *loandae* it is washed with golden yellow; in *sharpii* the back is golden brown with the barring showing only faintly; in *camerunensis* the bars are completely obscured.

On the basis of available material, *sharpii* and *camerunensis* are barely separable, and we would not recognize two races if other authors had not found the populations of *sharpii* on the lower Congo and Ubangi to be distinct. Malbrant and Maclatchy (1949, p. 279) have stated that *camerunensis* may eventually be found to be the form of a large part of Gabon. Doumé, the type locality of *sharpii*, is in eastern Gabon, near the Moyen Congo border.

Beatty's specimens were collected from large trees on the edges of clearings, or in the villages.

Dendropicos gabonensis gabonensis (J. and E. Verreaux)

Dendrobates gabonensis J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 513 —Gabon.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Jan. 28, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, July 8, 1951.
Tchibanga, 1 ♂, Apr. 13, 1952.
USNM: Ogouma, Rembo Nkami, 1 ♀, Dec. 11, 1918.
Wing: 3 ♂ 77, 79, 83; 1 ♀ 83 mm.

Serle (1950, p. 367) has recently transferred *D. reichenowi* of British Cameroons from being a race of the upper Guinea species *lugubris* to *gabonensis*. The small size, streaked ear coverts and greater extent of the red on the crown ally *reichenowi* to *gabonensis;* however, the broad ventral streaking is typical of *lugubris*. Rather than to try to weigh the different characters to determine to which form *reichenowi* is more nearly allied, it is better to unite these three representative forms in one species, which will bear the prior name *gabonensis*.

In Gabon Beatty found this species confined to high secondary forest.

Polipicus elliotii elliotii Cassin

Polipicus Elliotii Cassin, 1863, Proc. Acad. Nat. Sci. Phila., p. 197—Muni River, Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 1, 1951.
Wing: 94 mm.

For a discussion of variation in this species, see Rand and Traylor (1959, p. 269).

Mesopicos goertae agmen Bates

Mesopicos goertae agmen Bates, 1932, Bull. Brit. Orn. Club, **53**: 74—40 miles east of Wayadugu, upper Volta.

CNHM: Djambala, 2400 feet, 1 ♂, Oct. 25, 1951.
Wing: 109 mm.

Collected in an old plantation.

Thripias xantholophus (Hargitt)

Dendropicus xantholophus Hargitt, 1883, Ibis, p. 173—Gabon.

CNHM: Mount Tandou, 1 ♀, May 21, 1951.
Gamboma, 1 ♂, 1 ♀, Dec. 28, 1951, and Jan. 11, 1952.
Wing: ♂ 117; ♀ 106, 116 mm.

Although there is considerable variation in this woodpecker, much of it correlated with geography, there are no characters sufficiently clear cut to make it possible to recognize any races. Variation in

plumage characters is almost confined to the females, the males of all populations appearing much alike.

In a series of nine birds from Cameroons, all have the forehead spotted with white. From Gabon, the Mouila bird is equally spotted, but in the two from Gamboma the spotting is almost gone. Eight out of nine Angola specimens, and two from the Kivu and Ituri have the forehead immaculate, while about 20 per cent of a series of 38 birds from Uganda have traces of spotting.

Van Someren (1921, p. 105) separated Uganda birds as *chloroticus* on, among other characters, the reduced spotting of the under parts. This character is apparent among the females, those from Uganda having less spotting than females from west Africa. The males of all populations are less densely spotted, resembling the Uganda females. The latter are further characterized by having a slight yellow wash on the under parts.

In size there is overlap in range of measurements between different populations, but Angola and Uganda birds average slightly larger.

		Wing	Culmen
Males			
Cameroons	(4)	113–116 (av. 114.5)	30–34 (av. 32.5)
Gabon	(1)	117	34
Angola	(3)	116–120 (av. 118)	32–33 (av. 32.7)
Uganda	(7)	117–123 (av. 119.9)	31–35 (av. 33.7)
Females			
Cameroons	(5)	108–113 (av. 111.0)	28–31 (av. 29.2)
Gabon	(2)	106, 116	28, 30
Angola	(7)	111–117 (av. 114.6)	27–30 (av. 29.0)
Uganda	(6)	114–120 (av. 116.3)	30–31 (av. 30.4)

Taken alone, the Cameroons and Uganda populations would be separable on the assemblage of the above characters. However, the Angola birds agree with the former in the heavier spotting of the under parts and the lack of yellow wash, and with the latter in unspotted forehead and average larger size. Gabon birds agree most closely with Cameroon birds, although the spotting of the forehead is reduced. Any racial segregation would be unsatisfactory.

Family **EURYLAIMIDAE**

Smithornis capensis camarunensis Sharpe

Smithornis camarunensis Sharpe, 1905, Ibis, p. 469—Ja River, Cameroon.

CNHM: Mimongo, 2700 feet, 1 ♂, Aug. 6, 1952.

Wing: 70 mm.

This is apparently a rare species in Gabon; Malbrant and Maclatchy (1949, p. 284) record it only from Lastoursville and Oyem. This specimen, in breeding condition, was taken in heavy growth in an old plantation.

Smithornis rufolateralis rufolateralis Gray

Smithornis rufolateralis Gray, 1864, Proc. Zool. Soc. London, p. 143, pl. 16—West Africa (=Gold Coast).

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, June 26, 1951.

Wing: 64 mm.

Collected in primary forest.

Family ALAUDIDAE

Mirafra rufocinnamomea schoutedeni White

Mirafra rufocinnamomea schoutedeni White, 1956, Bull. Brit. Orn. Club, **76:** 58—Luluabourg, Kasai.

CNHM: Mouila, 5 ♂, May 15–26, 1951.
Djambala, 2400 feet, 1 ♀, Oct. 31, 1951.

Wing: 5 ♂ 79, 80, 80, 80, 82; 1 ♀ 76 mm.

White (l.c.) has published the most recent review of this species, and we are following his arrangement, since we lack sufficient material to critically appraise his central African races. However, the above material has been compared with nine specimens of topotypical *fischeri* from Mombasa, and the differences between them are of such a minor character that the two populations could not be separated racially.

Compared to Mombasa birds, the Gabon specimens are slightly grayer above, and the pale edgings of the secondaries and the abdomen are paler, less buffy. However, the Gabon specimens are in worn breeding plumage (the Mouila birds are all marked "testes greatly enlarged") and the Mombasa specimens are all fresh and unworn, so much of this difference is what one would expect with wear. The only absolute color difference between the two populations is the presence in two of the six west African birds of a pure white throat, a character that does not appear in any other form. The breast spotting, one of the characters used by White, is equally heavy in both. There is an average size difference between the Mombasa and Gabon birds, the latter being larger.

Males		Wing
Gabon	(5)	79–82 (av. 80.2)
Mombasa	(7)	74–78 (av. 76.1)
Females		
Moyen Congo	(1)	76
Mombasa	(2)	75, 75

The resemblance between these two widely separated populations of a highly plastic species is almost certainly a case of convergence, since many strikingly different races intervene.

Family HIRUNDINIDAE

Pseudochelidon eurystomina Hartlaub

Pseudochelidon eurystomina Hartlaub, 1861, Jour. f. Orn., p. 12—Gabon.

CNHM: Impfondo, 4 ♂, 6 ♀, Feb. 17–24, 1952.

Wing: ♂ 120, 122, 123, 130; ♀ 118, 120, 122, 124, 124, 124 mm.

Chapin (1954a) has published an admirable summary of our knowledge of this species, which breeds on sandbars along the middle Congo and lower Ubangi rivers, and "winters" near the coast of southern Gabon.

Beatty found about fifty nesting holes in the colony at Impfondo. When approached at night a single bird would fly out from each hole. These proved to be the males, the females remaining on the nest.

Riparia congica (Reichenow)

Cotile congica Reichenow, 1887, Jour. f. Orn., p. 300—Manyanga, lower Congo.

CNHM: Impfondo, 1 ♀, Feb. 16, 1952.

Wing: 91 mm.

This is the first record for this species from the Ubangi River (above its mouth), and the first record for the Moyen Congo. Beatty did not find it very numerous, but several pairs were nesting on sandbars, in holes in the sand.

Riparia cincta parvula Amadon

Riparia cincta parvula Amadon, 1954, Amer. Mus. Nov., no. 1656, p. 2—Luluabourg, Kasai.

CNHM: Port Gentil, 2 ♂, May 10, 1951.
Djambala, 2400 feet, 2 ♂, Oct. 19, 27, 1951.
Gamboma, 1 ♂, Jan. 17, 1952.

Wing: 4 ♂ 115, 120, 123, 125 mm.

The wing measurements are small, and fall within the range of variation of this recently described form. There can be no doubt that this form breeds in French Equatorial Africa, since one of the males from Djambala was in breeding condition and was carrying nesting material when shot.

Ptyonoprogne fulvigula bansoensis (Bannerman)

Riparia rufigula bansoensis Bannerman, 1923, Bull. Brit. Orn. Club, **44**: 5—Bamenda, British Cameroons.

CNHM: Djambala, 2400 feet, 1 ♂, 2 ♀, Oct. 23 and Nov. 6, 1951.

Wing: 1 ♂ 106; 2 ♀ 112 (one molting).

Racially, the Moyen Congo birds belong with the dark race *bansoensis* which hitherto has been known only from the highlands of British Cameroon and adjacent French Cameroons. It is not exclusively a highland bird, however, since Bannerman (1939, p. 287) records it from 3500 feet, and Good (1953, p. 101) collected it at Yaounde, Cameroons, below 3000 feet. Available material shows that *bansoensis* not only extends to the Moyen Congo but also to northern Angola and northwestern Northern Rhodesia—regions that previously were included in the range of the widespread *rufigula*. *Rufigula* ranges from the Gold Coast and northern Nigeria to Abyssinia, south through Kenya and the eastern Belgian Congo to Portuguese East Africa, Nyasaland and the Katanga, but it is nowhere found in the forest.

Available material of *bansoensis* consists of Good's pair from Yaounde, three from Djambala, a female from Mount Soque, central Angola, and a male from Kabompo Gorge, Northern Rhodesia. They form a uniform series, and when compared to a topotypical series of nine *rufigula* from Kenya are much darker, particularly on the upper parts. The under parts are more variable, but average darker brown on the abdomen and deeper rufescent on the throat and breast.

In wing measurements, *bansoensis* averages somewhat smaller than *rufigula* (the sexes are alike): *bansoensis* (6), 105–116 (av. 110.5); *rufigula* (10), 108–118 (av. 113.6).

The distribution of this species is limited by the availability of bare hillsides and of the rocky cliffs on which it nests. Beatty found four pairs in the savanna at Djambala near a large rocky outcrop. The birds were not breeding at that time.

Pseudhirundo griseopyga melbina (J. and E. Verreaux)

Atticora melbina J. and E. Verreaux, 1851, Rev. Mag. Zool., p. 310—Gabon.

CNHM: Fernan Vaz, Omboue, 1 ♂, March 31, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, 2 ♀, Sept. 18–Oct. 10, 1917.

Chapin (1953b, p. 739) does not recognize this race. He compared specimens from the Middle Congo with *griseopyga* from east and central Africa and could find no differences. However, the present specimens, plus five from Benito, Spanish Guinea, are strikingly different from typical *griseopyga* and must be kept separate as *P. g. melbina*. The range of this form is isolated from that of *griseopyga*, being restricted to the coastal districts from Spanish Guinea to Mayumba and Landana. As noted by Malbrant and Maclatchy (1949, p. 355) the species is unknown in French Equatorial Africa away from the coast, reappearing on the middle Congo as typical *griseopyga*.

Compared to *griseopyga*, *melbina* has the rump dark fuscous instead of pale gray brown, and the crown is equally dark and faintly glossed with blue instead of dark brown. There is no difference in wing length between the two forms:

Males		
melbina	(1)	97
griseopyga	(11)	91–102 (av. 97.8)
Females		
melbina	(3)	95, 96, 96
griseopyga	(7)	90–100 (av. 95.6)

It is of interest to compare four specimens from Liberia with *melbina*, since the Liberian population has frequently been included in that race. The Liberian birds are dark brown on the rump and crown rather than fuscous, have the tips to the outermost tail feathers much more attenuated, and are smaller (wing of two males 92, 93, one female 93, one unsexed 93). They must be kept distinct as *P. g. liberiae* Bannerman.

Beatty collected his specimen from a flock of about fifty, which were flying over the savanna.

Phedina brazzae Oustalet

Phedina brazzae Oustalet, 1886, Naturaliste, ser. 2, **3**: 300—Nganchu, middle Congo River, Moyen Congo.

CNHM: Djambala, 2400 feet, 1 ♀, Nov. 1, 1951.

Wing: 100 mm.

This is the first record for the French Congo since the type was collected at Nganchu in 1884, although the species has been recorded at several localities in the Kasai. Beatty noted a small colony of four pairs around a rocky escarpment on the side of a valley.

Hirundo nigrita Gray

Hirundo nigrita G. R. Gray, 1845, Gen. of Birds, **1**, pl. 20—lower Niger River.

CNHM: Fernan Vaz, Omboue, 1 sex?, Apr. 6, 1951.

USNM: Anguanamo, Ngovi, 1 ♂, Aug. 4, 1918.
Fernan Vaz, Mpivia, 1 ♂, Sept. 20, 1918.
Ogouma, Rembo Nkami, 1 ♀, Dec. 8, 1918.

Wing: 1 sex? 109 mm.

The male collected at Mpivia on September 20 is in an advanced stage of molt, all the rectrices being still enclosed basally in their sheaths.

Hirundo angolensis Bocage

Hirundo angolensis Bocage, 1868, Jor. Sci. Nat., Lisboa, **2**: 47—Huila, Angola.

CNHM: Mouila, 2 ♂, May 28 and Sept. 6, 1951.
Tchibanga, 3 ♂, 1 ♀, Apr. 9, 29, 1952.

Wing: 2 ♂ 114, 115; 1 ♀ 118 mm.

Until Berlioz (1953b, p. 136; 1954, p. 69) recorded two specimens from Tchibanga, this species was not known from French Equatorial Africa. No Angola material is available for comparison, and we follow Chapin (1953b, p. 754) in not recognizing any races. Compared to 12 Kenya and Uganda specimens (*arcticincta*), the Gabon birds have the tail less deeply forked, as noted by Chapin for Angola specimens, and have slightly less white on the mid-line of the abdomen. Fork of the tail in 12 Kenya birds ranges from 16–23 (av. 19.1), and in three Gabon birds measures 11, 15, 16 mm.

Berlioz (1953b, p. 136) unites *angolensis* with *lucidus* of northern Africa, and lists his specimens from Tchibanga as *H. lucidus angolensis*. He reasons that the two forms are obvious representatives in northern and southern Africa, that they have never been found at the same localities, and that *H. lucidus subalaris* of the lower Congo is a connecting link between them.

There is no question that the two forms are representatives; however, the ranges of *angolensis* and *subalaris* in the lower Congo interdigitate so extensively that they should be kept as separate species until interbreeding populations are found. *Angolensis* has been taken

at four localities between Kwamouth and the mouth of the Congo, and in Gabon, and *subalaris* has been found at Leopoldville, Stanley Pool and Brazzaville, so that there is virtual overlap in their ranges. Both *lucidus* and *angolensis*, as well as *aethiopica*, are African representatives of the Palearctic *rusticus*, and until a review of all the forms in this group, both African and Asiatic, is undertaken, it seems premature to unite them.

It is surprising that this species is not better known from Gabon. Beatty found a colony of about 150 birds nesting in the administration building at Mouila in May, and a pair nesting in the church in September. At Tchibanga, he found six pairs nesting in a thatched house, "each nest, of mud pellets, is 12 inches long and 6 inches wide with a straight entrance."

The fact that Aschemeier failed to find this swallow during his sojourn in Gabon, together with the absence of earlier records, makes it appear that the species may have extended its range there in recent years.

Hirundo rustica rustica Linnaeus

Hirundo rustica Linnaeus, 1758, Syst. Nat., 10th ed., **1**: 191—Europe (=Sweden).

CNHM: Libreville, Cap Esterias, 3 ♂, 2 ♀, Jan. 15–Feb. 25, 1951.

Djambala, 2400 feet, 1 ♂, Oct. 18, 1951.

USNM: Ogouma, Rembo Nkami, 3 ♂, Dec. 21, 23, 1918.

Wing: 1 ♂ 121; 2 ♀ 120, 120 mm.

Hirundo abyssinica unitatis Sclater and Mackworth-Praed

Hirundo puella unitatis Sclater and Mackworth-Praed, 1918, Ibis, p. 718—Pinetown, Natal.

CNHM: Mouila, 1 ♂, 2 ♀, May 28, 1951.

Tchibanga, 2 ♂, 1 ♀, Apr. 10, 13, 1952.

Wing: 3 ♂ 106, 108, 110; 2 ♀ 106, 110 mm.

When compared with series of seven *maxima* from Cameroon and eight *unitatis* from Angola, the Gabon birds clearly belong to the latter race, in which the ventral striping is more narrow.

Beatty found these birds nesting under the eaves of houses at both localities.

Hirundo senegalensis saturatior Bannerman

Hirundo senegalensis saturatior Bannerman, 1923, Bull. Brit. Orn. Club, **43**: 85—Accra, Gold Coast.

CNHM: Tchibanga, 2 ♂, 1 im. ♀, Apr. 14, 15, 1952.

Wing: ♂ 136, 150; im. ♀ 142 mm.

All three specimens are badly worn, but allowing for wear they agree with a series of eleven *saturatior* from Cameroon. They have no trace of the white spotting on the inner web of the rectrices that distinguishes *monteiri* of Angola. The meeting place of *saturatior* and *monteiri* is along the Loango coast, where both spotted and unspotted birds have been taken.

Beatty found this swallow nesting in houses.

Hirundo semirufa gordoni Jardine

Hirundo gordoni Jardine, 1851, Contr. Orn., p. 141—Cape Coast Castle, Gold Coast.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, Jan. 29 and Feb. 3, 1951.

Mouila, 2 ♂, 1 im. sex?, May 17–June 21, 1951.

Wing: 4 ♂ 118, 119, 120, 124; 1 ♀ 116 mm.

Beatty found these birds always in pairs, even when not breeding.

Psalidoprocne nitens nitens (Cassin)

Atticora nitens Cassin, 1857, Proc. Acad. Nat. Sci. Phila., **9**: 38—Muni River, West Africa.

CNHM: Mouila, 1 im. ♂, Sept. 10, 1951.

Mount Tandou, 1 ♂, June 5, 1951.

Fougamou, 2 ♂, Aug. 12, 1951.

Wing: 3 ♂ 98, 102, 102 mm.

Psalidoprocne petiti Sharpe and Bouvier

Psalidoprocne petiti Sharpe and Bouvier, 1876, Bull. Soc. Zool. Fr., **1**: 38, pl. 2—Landana, Portuguese Congo.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 sex? (= ♀), Jan. 24 and Feb. 20, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 12, 1951.

Tchibanga, 2 ♂, 1 ♀, Apr. 19, 1952.

Djambala, 2400 feet, 1 ♀, Nov. 12, 1951.

Wing: 2 ♂ 101, 102; 3 ♀ 91, 95, 97 mm.

At M'Bigou Beatty found a colony of about 10 pairs excavating nest holes in a cliff face. The Tchibanga and Djambala birds were also in breeding condition.

Family CAMPEPHAGIDAE

Campephaga quiscalina quiscalina Finsch

Campephaga quiscalina Finsch, 1869, Ibis, p. 189—Fantee.

CNHM: Mimongo, 2700 feet, 1 ♂, Aug. 10, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, Oct. 10, 1918.

Wing: 1 ♂ 96 mm.

The purple-throated cuckoo-shrike is a rather shy, retiring denizen of the forested areas. Little is known of it, doubtless due to the difficulty of observing it.

Campephaga phoenicea phoenicea (Latham)

Ampelis phoenicea Latham, 1790, Index Orn., **1**: 367—Africa (=Gambia).

CNHM: Impfondo, 1 ♂, 1 ♀, Feb. 20, 1952.

Wing: ♂ 99; ♀ 97 mm.

This is the first record of this species for the Moyen Congo; it has yet to be taken in Gabon. *Phoenicea* ranges in west Africa from Gambia to southern and eastern Cameroon, and in east Africa from the Sudan and Abyssinia to extreme northeastern Congo and Uganda.

In using the trinomial, we follow Chapin (1953b, p. 195) who unites *phoenicea, petiti* and *sulphurata* (=*flava* of Chapin) in one species. The forms are representatives for the most part, and intergrades are known from Angola and Uganda, but the situation in Cameroon, where *petiti* and *phoenicea* are found together without apparent intergradation, requires further study.

The two Impfondo birds have been compared with specimens of *phoenicea* from Liberia, Cameroon and Ethiopia, and agree with them in all characters. The shoulder patch in the male is the orange variant which appears sporadically throughout the range of the species. The female is soiled whitish below, barred with fuscous, and to judge from the rectrices is in worn immature plumage.

Beatty collected this pair from the top of a large tree in an old plantation; they were not in breeding condition.

Campephaga phoenicea petiti (Oustalet)

Campophaga petiti Oustalet, 1884, Ann. Sci. Nat., Zool., ser. 6, **17**, art. 8, p. 1—Landana.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 8, 1951.

Mimongo, 1 ♂, Aug. 9, 1952.

Djambala, 2400 feet, 1 ♀, Nov. 1, 1951.

Wing: ♂ 94; ♀ 93, 96 mm.

The two females are typical *petiti*, being bright yellow below with some broken barring on the breast. One has the chin white, the other yellow. The male has no olivaceous wash on the inner webs of the primaries, the distinguishing character of male *sulphurata*.

Beatty found these birds in the tops of trees in high second growth. The M'Bigou specimen was in breeding condition.

Cyanograucalus azureus (Cassin)

Graucalus azureus Cassin, 1851, Proc. Acad. Nat. Sci. Phila., **5**: 348—western Africa.

CNHM: Fernan Vaz, Gooboue, 1 ♂, Apr. 30, 1951.

Fougamou, 1 ♂, Aug. 2, 1951.

Mouila, 1 ♂, Sept. 18, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Nov. 27, 1918.

Wing: 3 ♂ 109, 113, 114 mm.

The female is a lighter blue than the males, lacks the dark throat, the black of the lores and forehead is more restricted, and a mere spot of black is present on the chin. This species was usually found high up in the trees of the primary forest, and at Fougamou Beatty encountered a flock of ten birds. The male from Mouila was breeding.

Family **DICRURIDAE**

Dicrurus ludwigii sharpei Oustalet

Dicrurus sharpei Oustalet, 1879, Nouv. Arch. Mus., Paris, ser. 2, **2**: 97—Doumé, upper Ogowé River.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 8, 1951.

Djambala, 2400 feet, 1 ♂, 2 ♀, Nov. 7–27, 1951.

Wing: ♂ 102; ♀ 103, 104, 110 mm.

The bird from M'Bigou is apparently the first record of this species for Gabon since the type was collected at Doumé. The only specimen recorded by Malbrant and Maclatchy (1949, p. 363) was from Djambala. Six specimens from Liberia and Cameroon show no variation when compared to these topotypes.

Beatty found this species only in gallery forest or old plantations. Two of the Djambala birds were in breeding condition.

Dicrurus atripennis Swainson

Dicrurus atripennis Swainson, 1837, Birds W. Afr., **1**: 256—Sierra Leone.

USNM: Fernan Vaz, Mperi, 1 ♀, Dec. 26, 1917.

Ogouma, Rembo Nkami, 2 ♂, Oct. 2, 1918, and Jan. 17, 1919.

The shining drongo is the most numerous of the forest drongos and is a little more gregarious—less solitary—than most of its relatives.

Dicrurus adsimilis coracinus J. and E. Verreaux

Dicrurus coracinus J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 311—Gabon.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, 1 sex?, Jan. 20–Feb. 21, 1951.

Mouila, 1 ♂, May 15, 1951.

Tchibanga, 1 ♀, Apr. 30, 1952.

Impfondo, 1 ♀, Feb. 13, 1952.

USNM: Ogouma, Rembo Nkami, 2 ♂, Dec. 28, 1918, and Jan. 1, 1919.

Wing: 3 ♂ 126, 126, 135; 2 ♀ 126, 130; 1 sex? 122 mm.

Beatty found this species fairly common in the tall trees around old plantations. The Impfondo female had a nest in the fork of a stout branch at the top of a tall tree, about 200 feet up.

Family **ORIOLIDAE**

Oriolus brachyrynchus laetior Sharpe

Oriolus laetior Sharpe, 1897, Bull. Brit. Orn. Club, **7**: 17—Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♀, June 24 and July 12, 1951.

Fougamou, 1 ♂, Aug. 23, 1951.

Mimongo, 1 ♀, June 21, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, Dec. 6, 1918.

Wing: ♂ 117, 124; ♀ 114, 116, 117 mm.

Both males have the broad golden yellow collar characteristic of this race, and the females have the same character but to a lesser degree. In a series of five males and one female of *brachyrynchus* from Sierra Leone and Liberia, none have any yellow collar, and the race *laetior* is certainly distinct.

On the basis of our Gabon material, it would appear that this form shows consistent sexual dimorphism. In the males the golden collar is 10 to 20 mm. wide, and in the brightest colored individual there is a golden wash over the whole back; in the females there is a golden wash only on the nape, and the back is olive green.

However, in a series of 9 females from Uganda, 4 have distinct collars 5–10 mm. wide, and 5 of 17 males are indistinguishable from the females in this character. In Cameroons the overlap in variation between the two sexes is even greater. Out of 23 males, 6 lack a true hind collar, and 9 others are within the range of variation of the brighter females, leaving only 8 males that can be distinguished by the golden wash extending over the whole back.

Beatty found this species to be most common around old plantations. All specimens were marked as breeding.

Oriolus nigripennis nigripennis J. and E. Verreaux

Oriolus (*Baruffus*) *nigripennis* J. and E. Verreaux, 1855, Jour. f. Orn., p. 105—Gabon River.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, July 11, 1951.
Mouila, 1 ♂, 1 ♀, Sept. 8, 1951.
Mimongo, 1 ♀, July 11, 1952.

Wing: ♂ 117, 124; ♀ 117, 117 mm.

Amadon (1953, p. 436) has recently described the race *O. n. alleni* for the birds from Liberia and Sierra Leone. Two Liberian females, compared to the two topotypical Gabon females, exhibit the characters of this form. They are a darker, duller green above, the golden yellow on the sides of the neck is much less extensive, and the central tail feathers have a greenish wash instead of being jet black. They also average smaller.

The Mouila pair was breeding.

Family **PARIDAE**

Parus niger insignis Cabanis

Parus (*Pentheres*) *insignis* Cabanis, 1880, Jour. f. Orn., p. 419—Malange, Angola.

CNHM: Tchibanga, 1 ♀, Aug. 6, 1952.
Djambala, 2400 feet, 2 ♂, Oct. 19, 20, 1951.

Wing: ♂ 87, 88; ♀ 83 mm.

These have been compared with a series of four males and two females from Angola. They agree well in color and size, and have the white edgings on the outer rectrices characteristic of this race.

Beatty collected these birds in sparse brush in the savanna. All were in breeding condition.

Family **TIMALIIDAE**

Malacocincla fulvescens fulvescens (Cassin)

Turdirostris fulvescens Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 54—Camma River, Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, 1 sex?, March 30–Apr. 17, 1951.

Mouila, Mount Tandou, 1 ♀, June 10, 1951.

USNM: Ogouma, Rembo Nkami, 2 ♂, Dec. 9, 23, 1918.

Wing: 2 ♂ 74, 77; 1 ♀ 71; 1 sex? 70 mm.

This topotypical series shows considerable variation in the gray streaking on the throat, one of the diagnostic characters of the nominate race. The throat varies from clearly streaked in one male from Omboue to immaculate in the unsexed bird from the same locality, and a male from Ogouma has a tawny wash on the throat.

Beatty found this bird to be common in the undergrowth of the forest from ten to twenty feet up. It was not shy but was extremely elusive, remaining just out of sight and not flushing or flying away.

Malacocincla rufipennis rufipennis (Sharpe)

Trichastoma rufipennis Sharpe, 1872, Ann. Mag. Nat. Hist., ser. 4, **12**: 451—Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, June 26, 1951.

Fougamou, 1 ♀, Aug. 5, 1951.

Mimongo, 2700 and 3200 feet, 3 ♂, June 19–25, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, Nov. 25, 1918.

Wing: 3 ♂ 71, 74, 75; 2 ♀ 69, 69 mm.

These specimens are topotypes of the nominate form, which ranges from Cameroon south to northern Angola and east at least to the eastern Congo.

This species is susceptible to rapid foxing. A series of twenty specimens from Cameroon, collected during the 1930's, compared

to this fresh material, is more reddish, less olive brown on the upper parts. However, a single 1953 Cameroon specimen is indistinguishable from Gabon birds, and two specimens collected in the 1940's are only slightly more reddish.

Beatty found this species on the ground and in the low undergrowth in the primary forest. All his specimens were in breeding condition.

Malacocincla cleaveri batesi (Sharpe)

Turdinus batesi Sharpe, 1901, Bull. Brit. Orn. Club, **12**: 2—Efulen, Cameroon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 sex?, July 14, 1951.

Tchibanga, 1 ♂, May 1, 1952.

Wing: ♂ 75 mm.

When compared with a topotypical series from Cameroon, these birds are more olive, less reddish above. This difference is probably due to foxing, however, since the Cameroon specimens are all over fifteen years old.

Family **PYCNONOTIDAE**

Pycnonotus barbatus nigeriae Hartert

Pycnonotus barbatus nigeriae Hartert, 1921, Bull. Brit. Orn. Club, **41**: 126—Degama, S. Nigeria.

CNHM: Libreville, Cap Esterias, 1 ♂, 4 ♀, Jan. 19–Feb. 19, 1951.

Mouila, 2 ♂, May 26, 28, 1951.

Mouila, Mount Tandou, 1 ♀, June 8, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♂, 1 ♀, June 19–July 11, 1951.

Tchibanga, 1 ♂, 1 ♀, Apr. 25, 1952.

Labamba, 1 ♀, May 24, 1952.

Mimongo, 2700 feet, 6 ♂, 2 ♀, June 19–Aug. 6, 1952.

Wing: ♂ 94, 96, 96, 96, 97, 97, 97, 97, 98, 98, 99, 101; ♀ 84, 86, 89, 90, 91, 92, 93, 94, 96, 99 mm.

Pycnonotus barbatus gabonensis Sharpe

Pycnonotus gabonensis Sharpe, 1871, Proc. Zool. Soc. London, p. 132, pl. 7, fig. 1—Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, 2 ♀, March 20 and Apr. 10, 1951.

USNM: A good series from Fernan Vaz, Omboue, May 12–Oct. 11, 1917; Fernan Vaz, Sanga Mbuiri, July 30–Aug. 5, 1917; Anguanamo, Ngovi, Aug. 12, 1918.

Wing: 2 ♂ 98, 99; 2 ♀ 92, 94 mm.

Pycnonotus barbatus tricolor (Hartlaub)

Ixos tricolor Hartlaub, 1862, Ibis, p. 341—Congo.

CNHM: Djambala, 2400 feet, 2 ♂, 1 ♀, 1 sex?, Oct. 26–Nov. 10, 1951.

Gamboma, 1 ♂, 1 ♀, Dec. 26, 1951, and Jan. 12, 1952.

Impfondo, 1 ♂, 2 ♀, Feb. 21 and March 9, 1952.

Wing: ♂ 95, 95, 96, 99; ♀ 87, 87, 90, 91 mm.

Sharpe described *gabonensis* from a specimen from Gabon collected by Walker, and placed it in that section of the genus in which the crissum is yellow. Later (1881, p. 148), when more material was available from Gabon and Cameroon, he reversed his decision and placed *gabonensis* in the white-vented section, and extended its range to include southern Cameroon. From the plate accompanying the original description it is evident that the type has a pale yellow crissum of the type found in the Fernan Vaz region as discussed below.

From southern Nigeria through southern Cameroon to coastal northern Gabon and interior southern Gabon lives a population in which the crissum is white with a variable pale yellow wash. This is the race *nigeriae*. The yellow wash is present even among topotypical individuals (Rand, 1958, p. 151; Serle, 1950, p. 372) from southern Nigeria and cannot serve as a taxonomic character, although it varies between localities. Birds from Yokadouma in southeast Cameroon and Mimongo in central Gabon have the heaviest yellow wash, but specimens from Mouila, M'Bigou, Labamba and Tchibanga in southern Gabon cannot be distinguished from topotypical *nigeriae*.

True *gabonensis*, in which the crissum is pale yellow, half-way between *nigeriae* and *tricolor*, is found in west central Gabon in the vicinity of Fernan Vaz. This is a variable population, but the majority of the specimens are distinct intermediates which cannot be allocated to either *nigeriae* or *tricolor*. Similar populations are recorded by Malbrant and Maclatchy (1949, p. 301) from the region between Brazzaville and Dolisie, the southern edge of the Moyen Congo, where *nigeriae* and *tricolor* intergrade along their zone of contact.

The Fernan Vaz population is composed partly of pale yellow-vented birds, typical *gabonensis,* and partly of white-vented birds like *nigeriae;* the proportion of the *gabonensis* type to the *nigeriae* type is 2:1. The area surrounding Fernan Vaz is at present occupied by *nigeriae,* and it is not until we reach the Mayombe that yellow-vented birds (*tricolor*) are found. This suggests that the white-vented *nigeriae* may have spread into our area after the yellow-vented stock was already there, but prior to the establishment of isolating mechanisms between them, so that we find here a population of mixed origin.

The listed specimens from the Moyen Congo have been compared with series from the Congo and Angola and are typical *tricolor* with bright yellow crissums. They presumably meet and intergrade with *nigeriae* along the Gabon–Moyen Congo boundary, but specimens from this region are lacking. A single bird from Mimongo is typical *tricolor* in coloration. Similar specimens have been recorded from the range of *nigeriae* at Ngaundere and Lolodorf in Cameroon (Bannerman, 1936, p. 135), and they have influenced many authors to keep *tricolor* and *barbatus* as separate species. However, *gabonensis* is an effectual link between the two forms, and the appearance of *tricolor*-like specimens within the range of *nigeriae* is due to individual mutants.

The ranges and diagnostic characters of the three forms in our region are:

nigeriae: southern Nigeria, southern Cameroon and Gabon, except for the area occupied by the next race; crissum white with a variable pale yellow wash.

gabonensis: area around Fernan Vaz; the *gabonensis* type of birds is also found in southern Moyen Congo, and the two populations may be connected along the coast; intermediate between *nigeriae* and *tricolor,* crissum pale yellow.

tricolor: widespread in the Congo, Angola and eastern Moyen Congo; crissum bright yellow.

Pycnonotus virens virens (Cassin)

Andropadus virens Cassin, 1857, Proc. Acad. Nat. Sci. Phila., p. 34—Cape Lopez, Gabon.

CNHM: 9 ♂, 14 ♀ from Gabon and Moyen Congo: Omboue, Gooboue, Mouila, Mount Tandou, M'Bigou, Fougamou, Labamba, Mimongo, Djambala; all months of the year.

USNM: A large series from Omboue, Sanga Mbuiri, Ntyonga, Andendi, Ngovi, Ogouma, Orobi-Jokwa.

Wing: 8 ♂ 71, 72, 76, 77, 79, 79, 81, 81; 12 ♀ 68, 70, 71, 71, 72, 72, 73, 74, 75, 75, 76, 78 mm.

The races of this species have recently been reviewed by Rand (1951, p. 609; 1958, p. 169) and Chapin (1953b, p. 109). Gabon birds are, of course, topotypical *virens*.

Common everywhere in secondary growth.

Pycnonotus gracilis gracilis (Cabanis)

Andropadus gracilis Cabanis, 1880, Orn. Centralb., p. 174—Angola.

CNHM: Fougamou, 1 ♂, Aug. 20, 1951.
Mouila, 1 ♂, Sept. 9, 1951.
Labamba, 1 ♂, 1 ♀, May 15, 20, 1952.
Mimongo, 2700 feet, 1 ♂, June 22, 1952.
Impfondo, 1 ♂, Feb. 29, 1952.

USNM: Ogouma, Rembo Nkami, 3 ♀, Nov. 21–Dec. 6, 1918.
Fernan Vaz, Ntyonga, 1 ♂, Apr. 19, 1918.

Wing: 5 ♂ 72, 72, 73, 73, 76; 1 ♀ 70 mm.

The races of this species have recently been reviewed by Rand (1951, p. 613); Gabon specimens belong in the nominate race, which extends from southern Nigeria to Angola.

Pycnonotus ansorgei ansorgei (Hartert)

Andropadus ansorgei Hartert, 1907, Bull. Brit. Orn. Club, **21**: 10—Degama, Nigeria.

CNHM: Mimongo, 3200 feet, 1 sex?, June 17, 1952.

Wing: 68 mm.

This is apparently the first record for Gabon, although the species has been taken in Spanish Guinea (type locality of *A. a. muniensis* Grote) and its presence was to be expected. Rand (1951, p. 616) had tentatively recognized *muniensis*, but after the examination of more extensive material he has shown (1958, p. 171) that it is not separable from the nominate form.

Beatty collected this specimen "in the forest, in middle story tree."

Pycnonotus curvirostris curvirostris (Cassin)

Andropadus curvirostris Cassin, 1859, Proc. Acad. Nat. Sci. Phila., p. 46—Camma River, Gabon.

USNM: Ogouma, Rembo Nkami, 1 ♂, 2 ♀, Nov. 23–Dec. 12, 1918.
Fernan Vaz, Ntyonga, 1 ♂, June 3, 1918.
Orobi-Jokwa, Rembo Nkami, 1 ♂, Dec. 19, 1918.

This is evidently an uncommon species in Gabon. It has been known previously only from the region of the Camma River.

Pycnonotus latirostris latirostris (Strickland)

Andropadus latirostris Strickland, 1844, Proc. Zool. Soc. London, p. 100—Fernando Po.

CNHM: Libreville, Cap Esterias, 1 ♀, Jan. 15, 1951.
Mouila, Mount Tandou, 1 ♂, 1 ♀, June 4, 6, 1951.
Labamba, 1 ♂, June 4, 1952.
Mimongo, 1 ♂, 1 ♀, June 18, 1952.

USNM: A good series from the following localities:
Fernan Vaz, Ntyonga, May 24, 1918.
Ogouma, Rembo Nkami, Nov. 19–Dec. 23, 1918.

Wing: 3 ♂ 78, 85, 86; 3 ♀ 75, 77, 79 mm.

Beatty found these birds in heavy second growth or in the lower story of the forest.

Pycnonotus gracilirostris congensis (Reichenow)

Andropadus gracilirostris congensis Reichenow, 1916, Orn. Monats., 24: 181—Leopoldville, Congo River.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Feb. 14, 25, 1951.
Mouila, Mount Tandou, 1 ♂, 1 ♀, June 6, 7, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, July 17, 1951.
Labamba, 2 ♂, 2 ♀, June 3–6, 1952.
Mimongo, 1 ♂, 1 ♀, Aug. 1, 8, 1952.

Wing: ♂ 81, 83, 84, 86, 86, 87; ♀ 82, 82, 83, 85, 85 mm.

This is a uniform series except for the pair from Libreville. These are olive gray below, lacking the buffy wash found in the other specimens.

The breeding season seems to be irregular. Several June and August birds are marked as breeding, but other adults taken at the same time are marked "gonads not enlarged."

Calyptocichla serina (J. and E. Verreaux)

Criniger serina J. and E. Verreaux, 1855, Jour. f. Orn., p. 105—Gabon.

CNHM: Mouila, 1 ♂, Sept. 9, 1951.
Labamba, 3 ♂, 1 ♀, May 11–June 6, 1952.

Wing: ♂ 92, 92, 93, 94; ♀ 91 mm.

The Mouila male was in breeding condition.

Baeopogon indicator indicator (J. and E. Verreaux)

Criniger indicator J. and E. Verreaux, 1855, Jour. f. Orn., p. 105—Gabon.

CNHM: Mouila, 1 ♂, Sept. 19, 1951.
Mimongo, 2700 feet, 1 ♂, June 22, 1952.

Wing: ♂ 103, 105 mm.

In the treetops in high secondary forest.

Baeopogon clamans (Sjostedt)

Xenocichla clamans Sjostedt, 1893, Orn. Monats., **1**: 28—Ekundu, Cameroons.

USNM: Fernan Vaz, Ntyonga, 1 ♂, June 3, 1918.
Fernan Vaz, Mpivia, 1 ♂, Sept. 15, 1918.
Ogouma, Rembo Nkami, 1 ♂, Nov. 25, 1918.

Allowing for size, the only real structural difference between *Ixonotus* and *Baeopogon* is the peculiar feathers of the rump and flanks of the former. In *Baeopogon* the feathers of the rump are full and fluffy but do not have a thickened shaft at the base as in *Ixonotus*. The two genera are very closely related and at first we were inclined to unite them, but for the present it is better that they be kept separate.

A female from Cameroons does not seem to be essentially different.

Ixonotus guttatus guttatus J. and E. Verreaux

Ixonotus guttatus J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 306—Gabon.

CNHM: Fougamou, 2 ♂, Aug. 11, 1951.
Mouila, 2 ♂, 1 ♀, 1 sex?, Sept. 11–26, 1951.
Labamba, 2 ♂, 1 ♀, June 3–8, 1952.
Impfondo, 2 ♂, Feb. 24 and March 9, 1952.

USNM: A good series from Ogouma, Rembo Nkami, Nov. 19–28, 1918.

Wing: 8 ♂ 88, 89, 90, 90, 91, 91, 92, 93; 2 ♀ 88, 92 mm.

The rump feathers are long, soft and rather fluffy at the tip, the shaft thickened at the base. On each side of the rump on the flanks there is a patch of soft downy feathers and on the lower rump there are soft downy feathers hidden by the longer ones.

Beatty found these birds in flocks of ten to twenty, moving along through the tops of the tallest forest trees. At rest, the birds frequently raised their wings above their backs in a manner reminiscent of the American mocking bird (*Mimus polyglottos*).

Chlorocichla simplex (Hartlaub)

Trichophorus simplex Hartlaub, 1855, Jour. f. Orn., p. 356—Rio Boutry, Gold Coast.

CNHM: Labamba, 1 ♀, June 4, 1952.
Djambala, 2400 feet, 1 ♂, Nov. 25, 1951.

Wing: ♂ 107; ♀ 95 mm.

Beatty found this species in the heavy undergrowth in old plantations. It is surprising that the related species, *C. falkensteini*, known from Cameroon and Angola, has not yet been taken in French Equatorial Africa.

Chlorocichla flavicollis soror (Neumann)

Xenocichla flavicollis soror Neumann, 1914, Orn. Monats., **22**: 9—Kamadekke, Ogowé River, Gabon.

CNHM: Mouila, 1 ♂, May 15, 1951.
Labamba, 5 ♂, May 18–June 9, 1952.
Mimongo, 1 ♂, 2 ♀, July 11–Aug. 6, 1952.
Djambala, 2400 feet, 3 ♂, 1 ♀, Nov. 23–Dec. 10, 1951.
Impfondo, 1 ♂, March 6, 1952.

Wing: 11 ♂ 100, 103, 103, 105, 105, 105, 106, 107, 107, 107, 109; 3 ♀ 94, 100, 103 mm.

Malbrant and Maclatchy (1949, p. 304) list *soror* from Gabon and *flavigula* from the southern and eastern Moyen Congo. Our Impfondo and Djambala birds, however, agree perfectly with Gabon series of *soror* and show no approach to a series of five topotypical *flavigula* from Angola. The latter are much more yellow on the throat and more olivaceous below than *soror*.

Beatty found these birds common in gallery and secondary forest, frequently in groups of three or four pairs. The December specimens from Djambala were breeding.

Thescelocichla leucopleura (Cassin)

Phyllostrophus leucopleurus Cassin, 1855, Proc. Acad. Nat. Sci. Phila., **7**: 328—Moonda River, Gabon.

CNHM: Libreville, Cap Esterias, 3 ♂, Jan. 20–Feb. 4, 1951.
Fernan Vaz, Omboue, 3 ♂, March 24 and Apr. 10, 1951.
Fougamou, 1 ♂, Aug. 5, 1951.
Mouila, 1 ♂, Sept. 11, 1951.
Mimongo, 2700 feet, 2 ♂, 1 ♀, June 16–Aug. 1, 1952.

USNM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, Aug. 31 and Oct. 10, 1917.
Ogouma, Rembo Nkami, 1 ♂, Nov. 19, 1918.

Wing: 10 ♂ 108, 109, 113, 114, 114, 114, 115, 115, 115, 117; 1 ♀ 114 mm.

Beatty records this species as common in high forest as well as open brush, usually traveling in small flocks of eight to ten individuals. Breeding specimens were taken at Cap Esterias, Omboue (March and April), and Fougamou.

Phyllastrephus albigularis albigularis (Sharpe)

Xenocichla albigularis Sharpe, 1881, Cat. Bds. Brit. Mus., **6**: 103, pl. 7—Fantee, Gold Coast.

CNHM: Fougamou, 1 ♂, Aug. 4, 1951.

Wing: ♂ 86 mm.

This is the first record for this species from Gabon. Beatty found it in the middle story trees of the primary forest.

Phyllastrephus icterinus tricolor (Cassin)

Trichophorus tricolor Cassin, 1857, Proc. Acad. Nat. Sci. Phila., **9**: 33—Muni River, West Africa.

CNHM: Libreville, Cap Esterias, 1 ♀, 1 sex?, Feb. 2, 5, 1951.
Fernan Vaz, Gooboue, 1 sex?, Apr. 29, 1951.
Tchibanga, 1 ♂, Apr. 30, 1952.

USNM: A good series from the following localities:
Fernan Vaz, Rembo Kotou, Nov. 19, 1917.
Fernan Vaz, Sanga Mbuiri, July 26, 1917.
Fernan Vaz, Ntyonga, Nov. 2, 1917–June 6, 1918.
Ogouma, Rembo Nkami, Oct. 20, 1918–Jan. 17, 1919.
Orobi-Jokwa, Rembo Nkami, Dec. 19, 1918.

Wing: 1 ♂ 81; 1 ♀ 73; 2 sex? 70, 82 mm.

Phyllastrephus xavieri xavieri (Oustalet)

Xenocichla xavieri Oustalet, 1892, Naturaliste, ser. 2, **6**: 218—Bangui, Ubangi River.

CNHM: Gamboma, 1 ♀, Jan. 18, 1952.

Wing: 75 mm.

The relationship between *P. icterinus* and *P. xavieri*, which are apparently identical in color and differ only in size, has recently been reviewed by Chapin (1953b, p. 166) and Rand (1958, p. 211). *P. xavieri* is larger than *icterinus;* there is practically no overlap in wing measurements between the respective sexes. However, males of *icterinus* overlap females of *xavieri*, and unsexed specimens with wing lengths in the middle 70's cannot be allocated to species with certainty.

The range of wing lengths is given below:

	Males	Females
xavieri		
(Chapin)	83–90	73–77
(Rand)	86–92 (av. 88.7)	73–77 (av. 75.1)
icterinus		
(Chapin)	73–80	67–70
(Rand)	75–82 (av. 78)	69–74 (av. 72.3)

Chapin's measurements were probably based for the most part on Congo birds; Rand's measurements for *xavieri* were taken from Uganda specimens, and for *icterinus* from Cameroon specimens. Since no female has been recorded with a wing above 80, and no male with a wing as low as 70, the two unsexed birds from Gabon with wings 70 and 82 may safely be considered as female and male respectively.

The four Gabon birds (♂♂ 81, 82; ♀♀ 70, 73) as a series lie within the range of *icterinus* and are assigned to that species. The Gamboma female, however (wing 75), is within the range of *xavieri* and also varies in color, which makes this separation more probable.

Compared to the Gabon series, the Gamboma bird is much less yellow below, with a stronger olive wash on flanks and breast. In the Gabon specimens, the tail is dark rufous, only faintly washed on the outer webs with green, while the Gamboma specimen has the tail strongly washed with olive. These are not characters that have been noted for distinguishing the species, but further collecting may show them to be constant for the local populations in French Equatorial Africa.

Bleda syndactyla multicolor (Bocage)

Criniger (Xenocichla) multicolor Bocage, 1880, Jor. Sci. Nat., Lisboa, 8, no. 29, p. 55—Loango coast.

CNHM: Libreville, Cap Esterias, 2 ♂, Feb. 10, 22, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, June 26, 1951.

Wing: 2 ♂ 118, 122 mm.

The February 10 bird from Cap Esterias retains traces of the immature plumage; the February 22 bird was in breeding condition. At Cap Esterias Beatty found this species common but shy and elusive.

Bleda eximia notata (Cassin)

Trichophorus notatus Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8, (1856), 159—Moonda River, Gabon.

CNHM: Libreville, Cap Esterias, 5 ♂, 5 ♀, Jan. 15–Feb. 22, 1951.
Fernan Vaz, Omboue, 1 ♂, 1 sex?, Apr. 18, 20, 1951.
Mouila, Mount Tandou, 1 ♂, June 2, 1951.
Fougamou, 1 ♂, 1 ♀, Aug. 17, 1951.

USNM: Fernan Vaz, Omboue, 2 ♀, June 6, 12, 1917.
Fernan Vaz, Ntyonga, 1 ♀, June 1, 1918.
Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Nov. 16–Dec. 23, 1918.

Wing: 9 ♂ 91, 93, 94, 94, 95, 98, 99, 100, 100; 6 ♀ 83, 84, 86, 87, 90, 90 mm.

Within the race *notata*, coastal populations average paler yellow below and on the tail tips and are more greenish, less yellowish above than inland birds. This is the variant that Reichenow (1916, p. 180) called *pallidior*, type locality the Loango coast. Birds from Boma, lower Congo, the Loango coast and Libreville are all pale compared to specimens from inland localities and from Fernan Vaz. However, five birds from Lake Ogemwe on the Ogowe River (AMNH) are variable and span the gap between the paler and darker forms. Because of this overlapping population, and the fragmented range of the pale form, it is not worth while to recognize these differences in the nomenclature. If, however, two forms are recognized, the pale one would have to be called *notata*, with *pallidior* a synonym, since the pale Libreville birds are practically topotypes of *notata*. A new name would have to be found for the dark birds.

Beatty found this species common in the heavy undergrowth of secondary forest. At Libreville the birds were often in family parties.

Bleda eximia ugandae van Someren

Bleda eximia ugandae van Someren, 1915, Bull. Brit. Orn. Club, **35**: 116—Mabira Forest, Uganda.

CNHM: Impfondo, 1 ♂, Feb. 21, 1952.

Wing: 107 mm.

This specimen agrees well with four topotypes from Uganda in its large size and obscure pre-ocular spot. Malbrant and Maclatchy (1949, p. 303) do not list this race for the French Congo.

Collected in the undergrowth of high forest.

Nicator chloris chloris (Valenciennes)

Lanius chloris Valenciennes, 1826, Dict. des Sci. Nat., **40**: 226—Galam, Senegal.

CNHM: 14 ♂, 7 ♀, Gabon and Moyen Congo, all months of the year.

USNM: Fernan Vaz, Omboue, 3 ♂, 2 ♀, May 23–Sept. 8, 1917.
Fernan Vaz, Ntyonga, 2 ♂, Nov. 2, 1917, and June 15, 1918.
Ogouma, Rembo Nkami, 3 ♂, Oct. 2–Dec. 31, 1918.

Wing: 12 ♂ 100–114 (av. 105.7); 7 ♀ 86–95 (av. 91.3) mm.

Common in heavy growth in primary forest and old plantations. The male from Libreville was courting, and Beatty describes its actions: "It squatted on a branch, spreading its wings and tail. It would hop about a few times, then squat again. There were no call notes heard."

Nicator vireo Cabanis

Nicator vireo Cabanis, 1876, Jour. f. Orn., p. 333, pl. 2—Chinchoxo, Loango coast.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, June 27, 1951.

Wing: 83 mm.

Collected in the undergrowth of primary forest.

Criniger barbatus chloronotus (Cassin)

Trichophorus chloronotus Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 43—Camma River, Gabon.

CNHM: Libreville, Cap Esterias, 2 ♂, 2 ♀, Jan. 26–31, 1951.

Wing: ♂ 103, 110; ♀ 98, 102 mm.

Beatty found these birds only in the high forest. On one occasion a flock of ten was noted feeding in the undergrowth; their calls reminded him of those of bee-eaters.

Criniger calurus calurus (Cassin)

Tricophorus calurus Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8, (1856), p. 158—Moonda River, western Africa, Gabon.

CNHM: Fougamou, 1 ♂, 1 ♀, Aug. 3, 1951.
Mouila, Mount Tandou, 1 sex?, June 2, 1951.

USNM: A fair series from Ntyonga, Fernan Vaz, Nov. 2, 1917, and June, 1918.
Ogouma, Rembo Nkami, Nov. 27, 1918–Jan. 17, 1919.

Wing: ♂ 89–94; ♀ 83–86. Culmen: ♂ 21–22; ♀ 21–21.5 mm.

These are all thick-billed birds with the characters of *calurus*, and the type of *calurus* in the Philadelphia Academy is also thick-billed (White, 1956b, p. 158). Evidently this species is much more common than the thin-billed *ndussumensis*.

Criniger ndussumensis Reichenow

Criniger verreauxi ndussumensis Reichenow, 1904, Vög. Afr., **3**: 383—Kinyawanga, 40 miles east of Yesse (cf. Chapin, 1948, Auk, **65**: 444).

CNHM: Mouila, Mount Tandou, 1 ♂, June 8, 1951.
Mimongo, 3000 feet, 1 sex?, Aug. 5, 1952.

USNM: Ntyonga, Fernan Vaz, 1 ♂, May 24, 1918.
Ogouma, Rembo Nkami, 1 ♂, Jan. 2, 1919.

Wing: ♂ 82; 1 sex? 86. Culmen: 19, 19 mm.

Despite the sexing, these measurements agree better with measurements of a female from Cameroon (wing 87; culmen 18); a series of seven males from Cameroon measure: wing 90–95 (av. 91.5); culmen 19–20.

These specimens agree well with two specimens of this species from the Semliki area of the Congo (i.e., nearly topotypical). Though long confused with the very similar *C. calurus*, a series of nine birds from Cameroon and these two from Gabon agree well, and they differ trenchantly in a number of small details from a large series of Cameroon and Gabon *calurus* in the following characters:

(1) Bill slightly shorter and much more slender.

(2) Grayish white area in front of eye more distinct.

(3) Flanks darker.

(4) Nuchal hairs and rictal bristles less well developed.

(5) More buffy under tail coverts.

Though each is a small variable character, their correlation indicates that we are not dealing with individual variants, as Chapin suggested, but with another species, as Berlioz and White claimed (see White, 1956b, p. 158).

Neolestes torquatus Cabanis

Neolestes torquatus Cabanis, 1875, Jour. f. Orn., p. 237, pl. 1, fig. 1—Chinchoxo, Portuguese Congo.

CNHM: Tchibanga, 1 ♀, 1 sex?, Apr. 28, 1952.
Djambala, 6 ♂, 1 ♀, Oct. 21–Nov. 15, 1951.

Wing: ♂ 69, 73, 73, 74, 75, 76; ♀ 71, 75 mm.

Beatty describes a curious habit of this bird: "Occasionally one of these birds would dart up into the air for one hundred feet, in short jerky flight with a noisy wing beat, and remain there within a five foot circumference for several minutes before descending rapidly and jerkily. This performance is accompanied by a continuous twittering."

Although not previously reported from the Moyen Congo, this species is evidently common at Djambala.

Family **TURDIDAE**

Erythropygia leucophrys ruficauda Sharpe

Erythropygia ruficauda Sharpe, 1882, Proc. Zool. Soc. London, p. 589, pl. 45, fig. 1—Malimbe, Portuguese Congo.

CNHM: Mouila, 1 ♂, May 20, 1951.
Tchibanga, 3 ♂, 1 ♀, Apr. 16–29, 1952.
Djambala, 2400 feet, 1 ♂, 1 ♀, Oct. 18, 30, 1951.

Wing: ♂ 62, 63, 65, 66, 66; ♀ 63, 64 mm.

This is the first record for this species from Gabon; the only previous record for the Moyen Congo was Brazzaville (Malbrant and Maclatchy, 1949, p. 333). Compared to three topotypical *munda* from northern Angola, these specimens show the characters ascribed to *ruficauda* in having a greater extent of rufous at the base of the central tail feathers. The only exception is the male from Djambala, which has the central rectrices wholly dark but the proximal half of the shaft reddish.

Beatty found these birds only in the savannas in tall grass. All were marked as in breeding condition.

Alethe castanea castanea (Cassin)

Napothera castanea Cassin, 1857, Proc. Acad. Nat. Sci. Phila., 8: 158—Moonda River, Gabon.

CNHM: Libreville, Cap Esterias, 1 ♀, Feb. 22, 1951.
Fernan Vaz, Omboue, 1 ♂, March 17, 1951.
Mouila, Mount Tandou, 2 ♂, May 31, June 4, 1951.
Mouila, 1 ♂, 2 ♀, Sept. 13 and 16, 1951.

Wing: ♂ 90, 91, 93, 97; ♀ 89, 89, 92 mm.

A series of twelve Cameroon specimens has been compared to these topotypes of *castanea*. Fresh skins (1946 and 1947) agree well with the Gabon series, but specimens taken before 1940 are redder above. This species is evidently subject to rapid foxing.

Beatty found these birds in the dense undergrowth of both primary and secondary forest, where they frequently followed the driver ants.

Sheppardia cyornithopsis cyornithopsis (Sharpe)

Callene cyornithopsis Sharpe, 1901, Bull. Brit. Orn. Club, 12: 4—Efulen, Cameroon.

CNHM: Mimongo, 2700 feet, 1 ♂, June 19, 1952.

Wing: 75 mm.

This specimen agrees in size and color with a series of six Cameroon adults.

Beatty collected this bird in the heavy undergrowth of old plantation forest.

Stiphrornis erythrothorax gabonensis Sharpe

Stiphrornis gabonensis Sharpe, 1883, Cat. Bds. Brit. Mus., 7: 174, pl. 6, fig. 2—Gabon.

CNHM: Libreville, Cap Esterias, 1 sex? im., Feb. 22, 1951.

Wing: 61 mm.

This specimen has the clear white abdomen characteristic of this race. It was collected in the undergrowth of high forest.

Cossypha heuglini subrufescens Bocage

Cossypha subrufescens Bocage, 1869, Proc. Zool. Soc. London, p. 436—Caconda, Benguella.

CNHM: Tchibanga, 1 ♂, 1 ♀ (?), Apr. 11, 22, 1952.

Wing: ♂ 98; ♀ (?) 100 mm.

This pair has been compared with a series of eighteen specimens from Angola, including one bird from Duque de Bragança, Malange, and seventeen from Benguella and Huila. The Gabon birds agree well with the Duque de Bragança specimen, and differ from the series from more southern Angola in averaging darker rufous below. The difference, however, is not enough to be of taxonomic significance.

These birds were found on the savanna. The male was in breeding condition.

Cossypha niveicapilla melanonota (Cabanis)

Bessornis melanonota Cabanis, 1875, Jour. f. Orn., p. 235—Chinchoxo, Portuguese Congo.

CNHM: Fernan Vaz, Omboue, 2 ♂, 1 ♀, Apr. 3, 22, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, July 11, 1951.

Djambala, 1 ♂, Nov. 29, 1951.

USNM: Sanga Mbuiri, 1 ♀, Aug. 2, 1917.

Omboue, 1 ♀, Oct. 1, 1917.

Wing: 4 ♂ 90, 100, 102, 103; 1 ♀ 97 mm.

Birds from Cameroon are as black on the back as Gabon specimens, and *melanonota* evidently ranges from Cameroon to the lower Congo in the west.

Malbrant and Maclatchy (1949, p. 331) record a specimen from Booue, central Gabon, as the nominate form of upper Guinea. Although this specimen from the center of the range of *melanonota* may be inseparable from *niveicapilla*, it is a misuse of the subspecies concept to apply that name to it. A subspecific name applies to the population, not to the individual, and all members of a population, even the most extreme variants, must bear the same name.

Beatty found these birds in heavy matted vegetation, sometimes in the savanna, more often in swampy areas.

Cossypha natalensis Smith

Cossypha natalensis A. Smith, 1840, Illustr. Zool. South Afr., Aves, pl. 60—Port Natal, South Africa.

CNHM: Fernan Vaz, Omboue, 1 ♀?, Apr. 20, 1951.

Wing: 91 mm.

Beatty collected this bird near the ground in dense undergrowth of secondary forest.

Myrmecocichla nigra (Vieillot)

Oenanthe nigra Vieillot, 1818, Nouv. Dict. Hist. Nat., **21**: 431—west coast of Africa (=Malimba).

CNHM: Mouila, 1 ♂, June 16, 1951.
Djambala, 2 ♂, 3 ♀, Oct. 23 and Nov. 12, 1951.
Gamboma, 2 ♂, Jan. 2, 1952.

Wing: ♂ 95, 96, 99, 100, 100; ♀ 92, 92, 96 mm.

White (1946, pp. 89, 509) records specimens from Mwinilunga, Northern Rhodesia, as *M. n. stoehri* Roberts without comment. A comparison of four males from Mwinilunga with these near topotypes of *nigra* from Moyen Congo reveals no differences. *Stoehri* was described (Roberts, 1941, p. 116) as more brownish, less glossy black, than *nigra*, and was evidently based on an immature, since the young of *nigra* have the white wing patch of the adult but are duller and browner.

Saxicola torquata salax (J. and E. Verreaux)

Pratincola salax J. and E. Verreaux, 1851, Rev. Mag. Zool., (2), **3**: 307—Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 4 ♂, 2 ♀, June 24–July 10, 1951.
Djambala, 2400 feet, 1 juv. ♀, Oct. 17, 1951.
Gamboma, 1 ♂?, Jan. 14, 1952.
Mossaka, 1 ♂, 1 ♀, March 17, 1952.

Wing: 6 ♂ 66, 66, 66, 67, 67, 70; 3 ♀ 65, 66, 66 mm.

The population of northern and western Cameroon was separated by Grote (1922, p. 486) as *S. t. adamauae*, but he compared his new form only to *pallidigula* of Mount Cameroon and Fernando Po, from which it differed in being smaller. When a series of nine *adamauae* from French and British Cameroons are compared to our Gabon series of *salax*, no color differences can be observed. Bannerman (1936, p. 381) stated that the chestnut breast band of *adamauae* was narrower than in *salax*, but this is not evident in our present material. The Cameroon population averages larger than Gabon birds, but not enough to be of taxonomic significance, and *adamauae* must be considered a synonym of *salax*, which ranges from Cameroon to the mouth of the Congo. Wing measurements:

	Males	Females
Cameroons (*adamauae*)	68, 71, 72	(6) 66–70 (av. 68)
Gabon (*salax*)	(6) 66–70 (av. 67)	65, 66, 66

Beatty found this species in heavy brush in old plantations or savannas.

Neocossyphus poensis poensis (Strickland)

Cossypha poensis Strickland, 1844, Proc. Zool. Soc. London, p. 101—Fernando Po.

CNHM: Mimongo, 2700 feet, 1 ♀, June 18, 1952.

Wing: 98 mm.

This bird compares well with a series of ten *poensis* from Cameroon, differing only in being paler rufous on the mid-line of the under parts. About half the distal third of the outer web of the outermost rectrix is white along the shaft, and a narrow strip of white extends across the web at about the midpoint. A male from Sangmelina, Cameroons, exactly matches this pattern.

A male and female from Canzele, northern Angola, collected by Heinrich in 1954 and 1955, apparently are the first records of this species for that country. They differ from typical *poensis* in being browner above, and buffier, less grayish on the throat, and in having the outer web of the outer rectrix wholly black. These are the characters given by Chapin (1953b, p. 566) for *praepectoralis* of the middle and eastern Congo, to which race these birds evidently belong.

Beatty collected his single specimen near the ground in the forest.

Turdus olivaceus saturatus (Cabanis)

Peliocichla saturata Cabanis, 1882, Jour. f. Orn., p. 320—Duala, Cameroon.

CNHM: Fernan Vaz, Omboue, 2 ♀, Apr. 12, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 7, 1951.
Mimongo, 2700 feet, 1 ♀, July 11, 1952.

Wing: 3 ♀ 108, 113, 115 mm.

Turdus olivaceus centralis Reichenow

Turdus pelios centralis Reichenow, 1905, Vögel Afrikas, **3**: 690—Wadelai, Bahr-el-Jebel.

CNHM: Impfondo, 3 ♂, 1 ♀, Feb. 11–March 2, 1952.

Wing: ♂ 114, 119, 120; ♀ 109 mm.

Turdus olivaceus subsp.

CNHM: Djambala, 1 juv. ♂, Nov. 2, 1951.

Wing: 112 mm.

In our treatment of the confusing *olivaceus-libonyanus-abyssinicus* group of thrush species, we have followed Chapin's (1953b, p. 581) arrangement, placing the gray thrushes of west Africa in *olivaceus* rather than *libonyanus*.

Birds from French Equatorial Africa have generally been referred to *T. o. saturatus*, which ranges (*fide* Chapin) from Sierra Leone to Cameroon and the great bend of the Ubangi, and south to the lower Congo, intergrading with *centralis* of the upper Congo and Uganda somewhere in the western Congo. Our Gabon specimens agree well with a series of nine Cameroon birds in their generally dark coloration and restricted rufous on the flank.

The Impfondo birds are quite variable, but as a series they have more rufous on the flanks and are closer to *centralis* than to *saturatus*. The juvenal specimen from Djambala has much more rufous on the flanks than a juvenal from Cameroon, and may also be *centralis*. However, Malbrant and Maclatchy (1949, p. 328) found birds from western Moyen Congo to be intermediate between *saturatus* and *bocagei* of northern Angola and the Kasai. Since *centralis* is morphologically intermediate between the last two races in the extent of the rufous flanks, juvenals of *centralis* and of intermediates between *saturatus* and *bocagei* would be indistinguishable.

A single specimen from Garoua, Cameroon, is much paler than *saturatus* of southern Cameroon, and with more rufous on the flanks. It belongs to the race *adamauae* Grote, which is found only in the Adamawa district of British and French Cameroons.

The Impfondo specimens were in breeding condition.

Family **SYLVIIDAE**

Sylvietta virens virens Cassin

Sylvietta virens Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 39—Camma River, Gabon.

CNHM: Mouila, 1 ♂, Sept. 29, 1951.
Djambala, 2400 feet, 2 ♂, Oct. 16 and Nov. 22, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, July 4, 1917.
Ogouma, Rembo Nkami, 1 ♂, Nov. 16, 1918.

Wing: 45, 49.5, 50, 50, 52 mm.

Nominate *virens* is the race found from Cameroon to the Ubangi and south to Gabon and the lower Congo. Along the Loango coast and at the mouth of the Congo it is replaced by the western Angola form, *tando*. Comparing these topotypical *virens* with nine specimens of *tando*, the latter is paler and more greenish above, purer white on the belly, and paler, clearer rufous on the throat and breast.

Beatty found these birds in gallery forest and old plantations.

Eremomela scotops congensis Reichenow

Eremomela congensis Reichenow, 1905, Vögel Afrikas, **3**: 639—Leopoldville, Congo.

CNHM: Djambala, 2400 feet, 1 ♂, 1 ♀, 1 sex?, Oct. 24, 1951.

Wing: 1 ♂ 57; 1 ♀ 56 mm.

In our area known only from the southern Moyen Congo. Beatty collected these in sparse brush and short grass.

Eremomela badiceps badiceps (Fraser)

Sylvia badiceps Fraser, 1842, Proc. Zool. Soc. London, p. 144—Clarence, Fernando Po.

CNHM: Labamba, 1 ♂, May 9, 1952.

Mimongo, 2700 feet, 4 ♂, 1 ♀, June 22 and Aug. 10, 1952.

Wing: ♂ 51, 51, 52, 52, 53; ♀ 54 mm.

Beatty found these birds always in the treetops. Four were collected from one flock at Mimongo, June 22; one male was in breeding condition.

Apalis rufogularis rufogularis (Fraser)

Drymoica rufogularis Fraser, 1843, Proc. Zool. Soc. London, p. 17—Clarence, Fernando Po.

CNHM: Fernan Vaz, Gooboue, 1 sex? (= ♀), Apr. 30, 1951.

Wing: 45 mm.

Although recorded from the Camma River, this species is rare in Gabon, and Malbrant and Maclatchy (1949, p. 340) failed to encounter it. Beatty collected this specimen from a flock of about six birds feeding in the tops of second growth trees.

Camaroptera brevicaudata tincta (Cassin)

Syncopta tincta Cassin, 1855, Proc. Acad. Nat. Sci. Phila., **7**: 325—Moonda River, Gabon.

CNHM: Libreville, Omboue, M'Bigou, Mouila, Tchibanga, Djambala, and Impfondo, 12 ♂, 2 ♀; throughout the year.

USNM: Omboue, Anguanamo, and Ogouma, 7 ♂, 2 ♀; throughout the year.

Wing: 12 ♂ 54–57 (av. 55.2); 2 ♀ 50, 52 mm.

Birds from southern Cameroon agree well with these topotypes of the gray-breasted *tincta*. Specimens from northern Cameroon are much paler and belong to nominate *brevicaudata*, which ranges across the continent along the southern edge of the desert. Another pale race, *harterti*, adjoins *tincta* to the south, in northwestern Angola; it can be distinguished from *brevicaudata* only by its green rather than brown tail.

Beatty found this species common everywhere in the dense brush of old plantations.

Camaroptera chloronota chloronota Reichenow

Camaroptera chloronota Reichenow, 1895, Orn. Monats., **3**: 96—Misahöhe, Togoland.

USNM: Anguanamo, Ngovi, 1 ♂, Aug. 30, 1918.

Wing: 55 mm.

This is apparently the second record of this species for Gabon; Berlioz has previously (1955, p. 188) recorded a male from Kango.

This species is extremely variable. Eight fully adult males, seven from Cameroon and one from Gabon, vary in the color of the under parts from pale gray, with the throat and the mid-line of the belly white and the breast faintly washed with green, to uniform dark gray, with a well-marked olive green breast band. The Gabon specimen is at the dark end of the series but is well matched by a bird from Bitye, Rio Ja.

Immatures are silky white on the throat and the mid-line of the belly, with the flanks and breast pale gray. The breast is usually washed with pale yellowish or buffy, not with green, and in this plumage the immature male resembles the adult female. Juvenals have the under parts yellow.

Cisticola erythrops erythrops (Hartlaub)

Drymoeca erythrops Hartlaub, 1857, Orn. Westafr., p. 58—West Africa between Cape Palmas and Calabar.

CNHM: Labamba, 1 ♂, May 15, 1952.

Wing: 60 mm.

This is only the second record for Gabon, Berlioz (1953b, p. 133) having recorded two birds from Bayadi, near Tchibanga. This specimen is slightly paler below than a series of *erythrops* from Cameroon, more like *sylvia* of the eastern and southern Congo, but it is included in *erythrops* since birds from Tchibanga and Landana belong to that form.

Beatty found it in pairs in the savanna.

Cisticola anonyma (Müller)

Drymoeca anonyma Müller, 1855, Jour. f. Orn., p. 197 (new name for *D. rufi-capilla* Fraser 1843)—Nun River, southern Nigeria.

CNHM: Libreville, Omboue, Mouila, Fougamou, M'Bigou, Labamba, Mimongo and Impfondo, 15 ♂, 5 ♀, 2 juv. ♂; throughout the year.

USNM: Fernan Vaz, Omboue, 1 ♂, March 24, 1918.
Anguanamo, Ngovi, 1 ♂, Aug. 21, 1918.
Ogouma, Rembo Nkami, 2 ♂, Nov. 24, Dec. 30, 1918.

Wing: 15 ♂ 59–64 (av. 61.7); 5 ♀ 51, 53, 54, 54, 54 mm.

At Libreville in January and February these birds were at the height of their breeding cycle. Beatty gives the following account of their courtship. "I watched a pair of birds as the female perched on a dry branch a few feet above the ground. She was silent. The male flew up to a position about twelve inches above her to perform the courtship dance. The dance was performed with rhythm and song. With the body suspended vertically the male bird dropped six inches and bounced up by an energetic flap of the wings. Up and down was the pattern of the dance until the female flew away in a minute or so. The song was a pleasing chirp delivered at each flap of the wings."

Beatty found one dome-shaped nest placed in bunch grass a foot or so from the ground.

Cisticola lateralis antinorii (Heuglin)

Drymoeca antinorii Heuglin, 1869, Ibis, p. 102—Djur, Bahr-el-Ghazal.

CNHM: Djambala, 1 ♂, 1 ♀, Oct. 28 and Nov. 2, 1951.

Wing: ♂ 64; ♀ 54 mm.

The female is probably immature, being considerably more rufous above than the male. The male was in breeding condition.

Chapin (1953a, p. 83) has recently shown that birds from the lower and middle Congo are the same as *antinorii* and that *modesta*

Bocage is a synonym of the latter. The birds from northern Angola and the southern Congo from the Kasai to Manyema, which were previously called *modesta*, he described as *vincenti*. The two Djambala specimens are indistinguishable from five *antinorii* from Uganda.

Cisticola galactotes amphilecta Reichenow

Cisticola amphilecta Reichenow, 1875, Jour. f. Orn., p. 44—Accra, Gold Coast.

CNHM: Fernan Vaz, Omboue, 1 ♂, Apr. 8, 1951.
Mouila, 1 ♂, 2 ♀, May 21, 25, 1951.
Impfondo, 1 ♂, 1 ♀, Feb. 26, March 10, 1952.
Gamboma, 1 ♂, Dec. 31, 1951.

Wing: Gabon, 2 ♂ 64, 66; 2 ♀ 56, 58. Moyen Congo, 2 ♂ 59, 64; 1 ♀ 52 mm.

There is a marked difference in color between the three birds from the Moyen Congo and the four from Gabon. The former agree well with six males from Cameroon, and are presumably typical *amphilecta*. The Gabon series, however, is much duller-colored. The rufous wash on the crown is more gray and is restricted to the forehead, blending into the color of the back about mid-crown. The rufous wash on the sides of the head is much reduced, and the rufous edgings of the primaries, which produce a reddish patch in *amphilecta*, are a pale straw brown. These differences are an exaggeration of the racial characters of *amphilecta*, which is differentiated from *nyanzae* of east Africa by being duller and more grayish.

This species was always found in tall grass in the vicinity of water.

Cisticola robusta nuchalis Reichenow

Cisticola nuchalis Reichenow, 1893, Orn. Monats., 1: 61—Kagera River, northwest Tanganyika Terr.

CNHM: Gamboma, 1 ♂, Dec. 26, 1951.

Wing: 64 mm.

The only previous record for anywhere along the middle Congo is from the vicinity of Bolobo (Chapin, 1953b, p. 363). It is a young bird which could not be identified racially. The present specimen matches closely a series of *nuchalis* from Uganda, and it is small, like that race. It is paler above, particularly on the crown, than *angolensis*, the race that would most logically be looked for along the middle Congo, and it is much smaller than that form. The wing of male *angolensis* measures 69–73. The race *santae* of Cameroon is

small like *nuchalis*, wing of male 64–68, but a single male from Djutista is darker and more richly colored above, like *angolensis*.

Cisticola natalensis strangei (Fraser)

Drymoica strangei Fraser, 1843, Proc. Zool. Soc. London, p. 16—Accra, Gold Coast.

CNHM: Mouila, 4 ♂, 2 ♀, 1 imm., May 22–June 14 and July 24–Sept. 1, 1951.
Djambala, 5 ♂, Oct. 16–Nov. 12, 1951.
Gamboma, 1 ♂, Jan. 9, 1952.

Wing: 8 ♂ 70–73 (av. 71.1); 1 ♀ 62 mm.

The nesting season seems to run from October to May. The Djambala and Gamboma males are in fresh breeding dress, and two are marked as breeding. Three May and June birds from Mouila are in excessively worn breeding dress, while the July and early September birds are in off-season plumage. The immature was taken July 24.

Cisticola chiniana fortis Lynes

Cisticola fortis Lynes, 1930, Ibis, *Cisticola* Suppl., p. 321, pl. 11, fig. 47—Pedreira, Bihe Dist., Angola.

CNHM: Djambala, 1 ♀, Oct. 25, 1951.
"Gabon," 2 ♂ (prepared for skeletons).

Wing: ♂ 70, 71; ♀ 56 mm.

This is only the second record for the Moyen Congo; Malbrant and Maclatchy (1949, p. 346) list two specimens from Brazzaville. It is unfortunate that there are no exact data for the Gabon specimens, since the species has not previously been taken there.

Beatty only notes that the Djambala bird was taken in short grass.

Cisticola brachyptera brachyptera Sharpe

Cisticola brachyptera Sharpe, 1870, Ibis, p. 476, pl. 24, fig. 1—Volta River, Gold Coast.

CNHM: Mouila, 2 ♂, 1 ♀, May 5, 18, and July 25, 1951.
Tchibanga, 2 ♂, Apr. 15, 1952.
Djambala, 6 ♂, 2 ♀, Oct. 20–Dec. 3, 1951.

Wing: 10 ♂ 49–52 (av. 49.9); 3 ♀ 43, 44, 45 mm.

The area of intergradation between the grayish brown *brachyptera* of the Upper Guinea savanna and the more reddish brown *loanda* of

Angola and the southern Congo is evidently in the southern Moyen Congo. The range of individual variation within the series from Djambala runs from typical *brachyptera* to typical *loanda*, but the average is closer to the former.

The nesting season in the southern French Congo runs from late October to April or May. The Djambala series is in fresh breeding plumage and several are marked as in breeding condition. April and May birds from Gabon are in worn nuptial plumage, and the single July bird is in fresh off-season dress, with the dorsal streaking more evident.

Cisticola juncidis terrestris (Smith)

Drymoica terrestris A. Smith, 1842, Illust. Zool. S. Afr., pl. 74, fig. 2—between Latakoo and Kurrichane, Bechuanaland.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 17, 1951.
Port Gentil, 1 sex?, May 10, 1951.
Fougamou, 1 ♀, Aug. 18, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, May 2, 15, 1917.
Fernan Vaz, Ntyonga, 1 ♀, Apr. 11, 1918.

Wing: 2 ♂ 48, 51; 1 ♀ 43 mm.

This form is widely but sparsely distributed in Gabon. The most northern records appear to be four birds from Bata and Benito in Spanish Guinea, specimens which Good (1953, p. 85) listed as *C. j. uropygialis*. They have been compared, however, with two topotypes of *terrestris* from Bechuanaland, and are indistinguishable.

The March–May Gabon specimens are in breeding dress, but the August bird from Fougamou is in fresh off-season plumage. This is normal for birds from the Gabon savanna for they generally breed during the southern rains from November to May. The Spanish Guinea nesting cycle may be the reverse, however; three July birds are in off-season plumage, but an August female is in breeding plumage.

Cisticola brunnescens midcongo Lynes

Cisticola brunnescens midcongo Lynes, 1938, Rev. Zool. Bot. Afr., **31**: 182—Kunungu, middle Congo River.

CNHM: Gamboma, 9 ♂, 2 sex?, Jan. 6–14, 1952.

Wing: 9 ♂ 50–54 (av. 52.2) mm.

All the males are in perennial dress with clear dark buff (="rust red," according to Lynes) crown. Some are in worn and others in

fresh plumage, but none are noted as breeding. Both of the two unsexed birds have streaked crowns. One has a wing of 46 mm. and is washed with pale yellow below, presumably an immature female. The second has a wing of 51 mm., and must be an adult female.

This is the second locality from which this race of the middle Congo has been taken. Beatty found it only in a limited area of savanna marshland where it was common. It lived on the ground in the short grass.

Cisticola ayresii gabun Lynes

Cisticola ayresii gabun Lynes, 1931, Bull. Brit. Orn. Club, **52**: 9—Port Gentil, Gabon.

CNHM: Gamboma, 1 ♂, Dec. 26, 1951.

Wing: 48 mm.

This race has a very localized range, being otherwise known only from the type locality and Kunungu, just across the river from Gamboma in the Belgian Congo.

Prinia subflava melanorhyncha (Jardine and Fraser)

Drymoica melanorhynchus Jardine and Fraser, 1852, Contr. Orn., p. 60—Abomey, Dahomey.

CNHM: Labamba, 4 ♂, 1 juv. ♂, May 6–17, 1952.
Djambala, 5 ♂, 1 ♀, 1 sex?, Oct. 16–Dec. 15, 1951.

Wing: 9 ♂ 51, 51, 51, 52, 54, 54, 55, 55, 56; 1 ♀ 50 mm.

The populations of Cameroon and Gabon are generally considered intermediate between *melanorhyncha* of Sierra Leone to Nigeria, and *immutabilis* of Kenya and Uganda. The only difference between the two races is size, *immutabilis* being larger. Both are distinguished from *subflava*, which ranges from Senegal to Abyssinia north of the equatorial belt, by the lack of a distinct non-breeding plumage.

Comparative wing measurements of populations from the ranges of *melanorhyncha* and *immutabilis* are given below, including measurements of the western population, Sierra Leone to Nigeria, from Bannerman (1939, p. 223):

	Males	Females
Sierra Leone to Nigeria (Bannerman)	(9) 47–52	(9) 44–49
Sierra Leone	(4) 49–53 (av. 50.0)	(1) 44
Cameroon	(15) 49–56 (av. 52.8)	(11) 48–52 (av. 50.4)
Gabon	(9) 51–56 (av. 53.2)	(1) 50
Kenya-Uganda	(10) 49–55 (av. 52.4)	(10) 47–53 (av. 50.8)

Although birds from Sierra Leone to Nigeria average distinctly smaller than the other populations, there is still considerable overlap, and it is not worth while to recognize *immutabilis* on such a small difference. There is no significant variation between Cameroon, Gabon and Kenya-Uganda specimens.

There is no variation in color except that caused by age of skin. Fresh material from Gabon and Cameroon is quite gray brown above, while older skins from Cameroon and Kenya are a paler, more buffy brown. In Gabon, breeding birds from Djambala are slightly grayer than non-breeding birds from Labamba.

Beatty found these birds invariably in the savannas.

Prinia leucopogon leucopogon (Cabanis)

Drymoeca leucopogon Cabanis, 1875, Jour. f. Orn., p. 235—Chinchoxo, Loango coast.

CNHM: Mouila, 1 ♀, May 16, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 1 ♀, June 21 and July 12, 1951.
Tchibanga, 1 ♂, Apr. 20, 1952.
Djambala, 4 ♂, 1 ♀, Nov. 22–Dec. 13, 1951.
Impfondo, 1 ♀, Feb. 28, 1952.

Wing: ♂ 54, 58, 60, 60, 61, 62; ♀ 54, 55, 55, 57 mm.

A single male from Camabatela, northern Angola, is apparently the first record for that country since that of Reichenow (1905, p. 595). It agrees well with Gabon birds and shows no approach to the eastern race *reichenowi*, in which the belly is white washed with buff, rather than gray.

At Mouila and M'Bigou, Beatty found these birds confined to dense brush in old plantations, but at Djambala they were in the high trees in gallery forest. The song is a loud warbling duet, commencing and ending suddenly as the birds move from tree to tree.

Prinia bairdii bairdii (Cassin)

Drymoica bairdii Cassin, 1855, Proc. Acad. Nat. Sci. Phila., 7: 327—Moonda River, Gabon.

CNHM: Mouila, 3 ♂, 1 ♀, June 6–Sept. 11, 1951.
Labamba, 1 ♂, 1 sex?, May 17 and June 6, 1952.
Mimongo, 2700 feet, 3 ♂, 2 ♀, June 21–Aug. 4, 1952.

USNM: Fernan Vaz, Mpivia, 1 ♂, Sept. 19, 1918.

Wing: 6 ♂ 56, 56, 57, 57, 57, 58; 3 ♀ 54, 55, 57 mm.

Beatty writes of this species: "The loud liquid whistled note, repeated rapidly about ten times, is often heard coming from the matted vegetation of old plantations, but the bird is very seldom in view."

Bathmocercus rufus rufus Reichenow

Bathmocercus rufus Reichenow, 1895, Orn. Monats., 3: 113—Yaounde, Cameroon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 2 ♀, June 26–July 7, 1951.

Mimongo, 2700 feet, 1 ♂, June 19, 1952.

Wing: ♂ 56, 57; ♀ 51, 55 mm.

These birds compare well with a series of 17 males and 4 females from Cameroon. Beatty noted them in the thick undergrowth of old plantations where the pairs would frequently sing duets. The bare skin on the throat of both sexes was blue.

Melocichla mentalis meridionalis (Sharpe)

Cisticola meridionalis Sharpe, 1883, Cat. Bds. Brit. Mus., 7: 243—Chinchoxo.

CNHM: Mouila, 1 ♂, June 14, 1951.

Tchibanga, 3 ♂, Apr. 2–23, 1952.

Djambala, 2400 feet, 5 ♂, 1 ♀, 1 sex?, Oct. 17–Dec. 14, 1951.

Wing: ♂ 73, 75, 75, 75, 76, 77, 78, 78, 79; ♀ 77; sex? 79 mm.

Recent authors—Reichenow (1905, p. 538), Chapin (1953b, p. 420), and Malbrant and Maclatchy (1949, p. 349)—have kept the Gabon and Moyen Congo populations of *Melocichla mentalis* in the nominate race. The latter has been considered to range from Portuguese Guinea east through Cameroon to the Ubangi and probably the Uelle, and south to the lower Congo and Kasai. The present series, however, differs markedly from a series of 15 males and 6 females from Sierra Leone to Cameroon and cannot be placed in *mentalis*.

The under parts of the nominate form are a ruddy buff, slightly paler on the mid-line of the abdomen, and becoming whitish on the throat. The upper parts are a ruddy brown. The Gabon and Moyen Congo birds are much paler and less reddish below, with the mid-line of the abdomen whitish. They are also grayer brown above. In these characters they are closer to *grandis* of Angola. The latter, as represented by fourteen males and one female from central Angola, is dull whitish below with a pale buff breast band and darker buff flanks; above, it is similar to Gabon birds. When Sharpe described

meridionalis, he included Angola within its range, but on the basis of present evidence the two forms are distinct.

Wing measurements show no significant differences among the three races.

	Males		Females	
mentalis	(15)	72–82 (av. 76.8)	(6)	73–77 (av. 75.0)
meridionalis	(9)	73–79 (av. 76.2)	(1)	77
grandis	(14)	71–82 (av. 78.0)	(1)	77

Beatty found this species confined to the tall grass in the savannas.

Schoenicola brevirostris alexinae (Heuglin)

Sphenoeacus alexinae Heuglin, 1863, Jour. f. Orn., p. 166—Bahr-el-Ghazal.

CNHM: Djambala, 2400 feet, 1 ♂, Nov. 3, 1951.

Wing: 57 mm.

Beatty found this species to be rare; the only specimen was in breeding condition.

Bradypterus grandis Ogilvie-Grant

Bradypterus grandis Ogilvie-Grant, 1917, Ibis, p. 78—Bitye, Rio Ja.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 1 sex?, June 20 and July 7, 1951.

Mimongo, 2700 feet, 1 ♂, June 16, 1952.

Wing: ♂ 64, 66; sex? 65 mm.

These are the first examples of *grandis* to have been collected since Bates took the type in 1914. There are also in the Chicago Museum two males and one female from Gabon that have been prepared as skeletons. They are without further data, and are in no condition to be used for comparative purposes, but they suggest that the species may be more widespread than the few museum examples indicate.

The late Captain C. H. B. Grant was kind enough to compare this series with the type of *grandis* in the British Museum. He wrote that "the type is slightly warmer brown in tone above, including tail, than your Mimongo male, and has a few more spots on throat, otherwise agrees. I think both the type and this specimen of yours are young, or at any rate not adult. Judging by other *Sathrocercus* sp. your M'Bigou male is fully adult."

The Mimongo male, which most resembles the type, has the throat and upper breast moderately spotted with blackish, and the remainder of the under parts white, with flanks washed with brown, but no brownish breast band; the lesser coverts are edged with white.

The M'Bigou male, which Grant considered adult and which is marked "T.G.E.," is much darker above and more heavily spotted on the breast, has a distinct dusky breast band, and has the dusky wash on the flanks much more extensive, leaving only the mid-line of the belly white. Although these may be age differences, the Mimongo male is also marked "T.E." and shows no other signs of immaturity, so that the variation may be only individual.

The closest relative of *grandis* is *B. carpalis* of the eastern Congo and Uganda. On appearance one would be inclined to unite them in a single species, but the differences in proportion of wing and tail and the length of the hind claw are sufficiently marked to keep them distinct.

Four males and one female of *carpalis* have been compared with our three *grandis*. In color of upper parts, *carpalis* agrees most closely with our dark M'Bigou specimen, but both the lesser and the median coverts are edged with white, and the greater coverts are usually edged with pale buff. The spotting on the throat and upper breast is heavier and more extensive, and there is no sign of a pectoral band, although the flanks are strongly washed with dusky. These differences are only of degree, but the measurements below show a marked difference in proportions.

grandis	Wing	Tail	Culmen	Tarsus	Hind claw
M'Bigou (♂)	64	72	17	24	7
Mimongo (♂)	66	77	17	26	7.5
M'Bigou (unsexed)	65	76	17	26	7.5

Tail=115.4% of wing; hind claw=11.2% of wing.

carpalis					
Uganda (♂)	71	76	19	27.5	10
Congo (♂)	67	70	19	28.5	10
Congo (♂)	72	72	..	28.0	10
Congo (♂)	70	73	19	27.0	9.5
Congo (♀)	69	68	18.5	27.0	...

Tail=102.9% of wing; hind claw=14.2% of wing.

Although *carpalis* is larger in practically all dimensions, it has a proportionately shorter tail than *grandis*. On the other hand, the hind claw is proportionately longer in *carpalis*, being one third longer than in *grandis*. For these reasons, it is preferable to keep the two forms separate, despite their close similarity in pattern.

A single female of *B. graueri* in the American Museum has been examined. It stands in the same relation to *grandis* that the latter stands to *carpalis;* that is, it is smaller, the pectoral spotting is even

more reduced, and the edgings of the lesser coverts are pale buff, rather than white. It is almost certainly related to *carpalis* and *grandis*, despite its having twelve rectrices instead of ten. Measurements of *graueri:*

	Wing	Tail	Culmen	Tarsus	Hind claw
Lubero (♀).....	60	70.5	16	23.5	5.0

Tail=116.7% of wing.

Beatty's field notes are worth quoting in full for this rare bird. "In dense low growth of recently abandoned plantations. These birds keep near the ground and are rarely observed. A beautiful song is the only clue to its presence."

Acrocephalus arundinaceus (Linnaeus)

Turdus arundinaceus Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 170—Rückfort Sluice near Danzig.

CNHM: Fernan Vaz, Omboue, 1 ♀, Mar. 20, 1951.
Djambala, 2400 feet, 1 ♀, Dec. 17, 1951.

Wing: 92, 93 mm.

Presumably these birds belong in the nominate race, the only one known from western Africa.

Acrocephalus schoenobaenus (Linnaeus)

Motacilla schoenobaenus Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 184—Sweden.

CNHM: Djambala, 2400 feet, 1 ♂, Nov. 26, 1951.
Mossaka, 2 ♂, 1 ♀, Mar. 19, 26, 1952.

Wing: ♂ 66, 68, 70; ♀ 70 mm.

Hippolais icterina icterina (Vieillot)

Sylvia icterina Vieillot, 1817, Nouv. Dict. Hist. Nat., **11**: 194—Nancy, France.

CNHM: Djambala, 2400 feet, 2 ♀, Oct. 24 and Nov. 6, 1951.

Wing: 76, 77 mm.

Sylvia borin (Boddaert)

Motacilla borin Boddaert, 1783, Tabl. Pl. Enlum. Hist. Nat., p. 35—France.

CNHM: Djambala, 2400 feet, 1 ♂, 2 ♀, 1 sex?, Nov. 2–Dec. 10, 1951.

Wing: ♂ 79; ♀ 77, 81 mm.

Phylloscopus trochilus (Linnaeus)

Motacilla trochilus Linnaeus, 1758, Syst. Nat., ed. 10, **1**: 188—England.

CNHM: Djambala, 2400 feet, 2 ♂, 1 sex?, Oct. 25–Dec. 10, 1951.

Wing: ♂ 64, 69; sex? 69 mm.

This is the first record for this species from Moyen Congo, although it was to be expected. The October and December birds are yellow below and agree with a series of breeding *trochilus* from Europe. The November male, however, is whitish below, and presumably belongs to the race *acredula*, in which this color phase is common.

Phylloscopus sibilatrix (Bechstein)

Motacilla sibilatrix Bechstein, 1793, Naturforsch., **27**: 47—Thuringia, Germany.

CNHM: Djambala, 2400 feet, 1 ♀, Dec. 14, 1951.
Impfondo, 1 ♂, March 7, 1952.
Mossaka, 1 ♀, March 19, 1952.

Wing: ♂ 78; ♀ 70, 73 mm.

This is the first record for this species in the Moyen Congo, although it has been taken in southern Cameroon and the Mayombe district, Belgian Congo.

Macrosphenus flavicans flavicans Cassin

Macrosphenus flavicans Cassin, 1859, Proc. Acad. Nat. Sci. Phila., p. 42—Camma River, Gabon.

USNM: Ogouma, Rembo Nkami, 1 imm. ♀, Nov. 21, 1918.

This specimen is the type of *M. collinsi* Riley (1924, p. 326) and is really an immature example of *flavicans*. It differs from the adult in being greener above; less yellowish below; the bases of the scapulars yellowish, not cinnamon-buff; and two feathers of the alula tipped with white, forming a conspicuous mark. It has some bluish-gray feathers on the throat.

Macrosphenus concolor (Hartlaub)

Camaroptera concolor Hartlaub, 1857, Syst. Orn. Westafr., p. 62—Guinea.

CNHM: Gamboma, 1 ♂, Jan. 8, 1952.

USNM: Ogouma, Rembo Nkami, 2 ♀, Dec. 13, 1918, and Jan. 17, 1919.

Wing: ♂ 57; ♀ 51, 53 mm.

The only previous record for this species from Gabon or the Moyen Congo is that of Berlioz (1954, p. 67), from the rapids of the Moukalaba. Beatty records it from gallery forest, in high trees.

Family MUSCICAPIDAE

Hyliota flavigaster barbozae Hartlaub

Hyliota barbozae Hartlaub, 1883, Jour. f. Orn., p. 329—Caconda, Benguella, Angola.

CNHM: Djambala, 2400 feet, 1 ♀, Oct. 30, 1951.

Wing: 65 mm.

This is apparently the second record for this species from the Moyen Congo; it has not been taken in Gabon. Beatty found it among scrub trees, in short grass.

Parisoma plumbeum plumbeum (Hartlaub)

Stenostira plumbea Hartlaub, 1858, Jour. f. Orn., p. 41—Casamance River, Senegambia.

CNHM: Labamba, 1 ♂, June 4, 1952.

Wing: 67 mm.

Collected from the top of a tree in the forest.

Fraseria ocreata ocreata (Strickland)

Tephrodornis ocreatus Strickland, 1844, Proc. Zool. Soc. London, p. 102—Fernando Po.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 27, 1951.
Mouila, 1 ♀, Sept. 14, 1951.
Gamboma, 2 ♂, Jan. 4, 1952.
Impfondo, 1 ♂, March 1, 1952.

USNM: Fernan Vaz, 3 ♂, Oct. 26, 1917–March 20, 1918.
Ntyonga, Ngovi, 1 ♂, Aug. 21, 1918.
Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Nov. 24–Dec. 6, 1918.

Wing: 5 ♂ 96, 96, 96, 96, 100; 1 ♀ 91 mm.

This series agrees well with six specimens from Cameroon, except that the latter have a pale rusty wash on the throat.

Beatty found these birds in the tops of the trees in high forest. At Omboue he collected two of a flock of six birds; the stomach contents were beetles and small millipedes.

Fraseria cinerascens cinerascens Hartlaub

Fraseria cinerascens Hartlaub, 1857, Syst. Orn. Westafr., p. 102—Ashanti, Gold Coast.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, 1 juv., Jan. 15–Feb. 21, 1951.

Fernan Vaz, Omboue, 1 ♂, 1 juv. ♀, March 18, 28, 1951.

Labamba, 1 ♀, June 2, 1952.

USNM: Fernan Vaz, Omboue, 2 im. ♂, May 25 and Aug. 27, 1917.

Wing: 3 ♂ 81, 81, 81; 2 ♀ 77, 78 mm.

These birds agree well with a series from Cameroon. Three Liberian specimens, however, are paler gray on the upper parts and have the crown more nearly concolorous with the back in an approach to *guinea* of Portuguese Guinea.

These birds were usually perched low in the forest near streams or in swampland, but two were taken in the undergrowth of high forest.

Muscicapa seth-smithi (van Someren)

Pedilorhynchus epulatus seth-smithi van Someren, 1922, Nov. Zool., **29**: 96—Budongo Forest, Uganda.

CNHM: Fougamou, 1 ♀, 1 juv., Aug. 6, 1951.

Wing: ♀ 57 mm.

Collected at the edge of the primary forest. The adult was feeding the young.

Muscicapa cassini Heine

Muscicapa cassini Heine, 1859, Jour. f. Orn., p. 428—Camma River, Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, Apr. 5, 8, 1951.

Fernan Vaz, Gooboue, 2 ♂, Apr. 29, 1951.

Impfondo, 2 ♂, Feb. 14, 20, 1952.

USNM: Fernan Vaz, Mpivia, 1 ♂, 3 ♀, Sept. 13, 20, 1918.

Wing: 6 ♂ 70, 71, 71, 71, 73, 74 mm.

Three males and six females from Cameroons agree well with this series of topotypes from Gabon. A single male from Liberia, however, is smaller (wing 67) and paler above, particularly on the crown.

Beatty always found these birds in the vicinity of water. They perched on stumps or overhanging branches from which they would actively pursue their prey.

Muscicapa striata striata (Pallas)

Motacilla striata Pallas, 1764, *in* Vroeg., Cat. raison., Adumbr., p. 3—Holland.

CNHM: Fernan Vaz, Omboue, 1 ♀, Apr. 9, 1951.
Djambala, 2 ♂, 3 ♀, Oct. 29–Dec. 1, 1951.

Wing: ♂ 87, 92; ♀ 84, 86, 87, 88 mm.

Muscicapa sp.

CNHM: Djambala, 1 ♀, Nov. 29, 1951.

Wing: 80 mm.

This specimen belongs either to *hypoleuca* or *albicollis*, but in both size and shape of wing, the second primary being equal to the fifth, it lies in the area of overlap between the two forms. In *hypoleuca* the second primary is usually shorter than the fifth, and the wing size in females is 75–80 (Bannerman, 1936, p. 201); in *albicollis* the second is usually longer than the fifth, and the size range is 79–84.5. Malbrant and Maclatchy (1949, p. 317) list a record of *hypoleuca* from Landana, and Chapin (1953b, p. 646) lists *albicollis* from the Kasai, so both forms can be expected in Gabon.

Muscicapa comitatus comitatus (Cassin)

Butalis comitatus Cassin, 1857, Proc. Acad. Nat. Sci. Phila., **9**: 35—Muni River, Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 3 ♀, June 22–July 16, 1951.
Mimongo, 2700 feet, 1 ♂, June 18, 1952.

Wing: ♂ 67, 68; ♀ 62, 64, 64 mm.

There have been four races described for this species, although not all are universally recognized. They are:

comitatus: Gabon to northern Angola; dark slate gray above, paler slate gray below; throat and middle of abdomen white.

camerunensis: southern Cameroons; paler gray than *comitatus*, but throat and mid-line of abdomen more gray, less white.

stuhlmanni: eastern Congo and Uganda; in color like *comitatus;* darker than *camerunensis*, and bill longer.

aximensis: Upper Guinea, west to the Gold Coast; white of abdomen most extensive, and flanks washed with buffy.

For comparison with our five topotypical *comitatus* we have 8 males and 7 females from Uganda and the upper Congo, 19 males and 8 females from Cameroon, a male and a female from northern

Angola, and one female from Ondo, southwestern Nigeria. The latter shows the characters ascribed to *aximensis*, which is evidently a well-marked race.

Within the remainder of the range of the species, there is much individual variation but no recognizable geographic variation. The color characters cited above may be present on the average, but there is complete overlap among the different populations, and no individual specimen could be allocated with certainty. The longer bill of *stuhlmanni* is not evident, even on the average. It is necessary, therefore, to place *stuhlmanni* and *camerunensis* in the synonymy of *comitatus*, which has a range from Cameroon to the upper Congo and Uganda, and south through Gabon to northern Angola. This action was foreshadowed by Chapin (1953b, p. 648), who synonymized *camerunensis*, and stated that "there is so little difference between *stuhlmanni* and *comitatus* that the boundary will be hard to draw."

Found generally in the middle story of the heavy growth in old plantations. This was one of the species in the large mixed flocks seen foraging through the forests.

Artomyias fuliginosa fuliginosa Verreaux

Artomyias fuliginosa Verreaux, 1855, Jour. f. Orn., p. 104—interior of Gabon.

CNHM: Mouila, Mount Tandou, 2 ♂, June 6, 7, 1951.
Fougamou, 1 ♂, Aug. 11, 1951.
Labamba, 1 ♀, May 10, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 im. ♀, Dec. 2, 1918.

Wing: 3 ♂ 78, 83, 86; 1 ♀ 86 mm.

There is no apparent geographical variation among Gabon, Cameroon (8 specimens), and Uganda (7 specimens) populations, although individual differences are striking. We have not seen any specimens of the recently described *A. f. chapini* Vaurie from southern Nigeria.

Usually found perched on the top limbs of dead trees, on one occasion several pairs together. The male and the immature from Ogouma were perched side by side.

Bias musicus musicus (Vieillot)

Platyrhynchus musicus Vieillot, 1818, Nouv. Dict. Hist. Nat., **27**: 15—Malimbe, Portuguese Congo.

CNHM: Mouila, Mount Tandou, 1 ♂, May 31, 1951.
Mouila, 1 ♂, 1 ♀, Sept. 14, 22, 1951.
Tchibanga, 1 ♂, 1 im. ♂, Apr. 30, 1952.
Mimongo, 2700 feet, 1 ♀, June 16, 1952.
Gamboma, 1 ♂, 1 ♀, 1 im. ♂, Jan. 17, 20, 1952.
Wing: 4 ♂ 85, 86, 87, 89; 3 ♀ 82, 84, 88 mm.

With series of females of the various races available for comparison (2 *pallidiventris*, 19 *musicus*, 9 *femininus* and 9 *changamwensis*), it is evident that Chapin's (1953b, p. 656) treatment of this species is quite correct. Nominate *musicus*, characterized by a rufescent wash on the under parts, particularly the breast, ranges from French Equatorial Africa through Cameroon to upper Guinea and east to the upper Congo. Here it meets *femininus* of Uganda, which is paler below. *Changamwensis* of Kenya and Tanganyika is paler both above and below, and can best be discriminated from the equally pale *pallidiventris* of northern Angola by the fuscous of the nape, which terminates abruptly instead of merging into the rufous mantle.

Usually seen in the high trees of secondary forest. The species was breeding at Mouila in September.

Batis minor congoensis Neumann

Batis minor congoensis Neumann, 1907, Jour. f. Orn., p. 354—Ngombi, on the Congo River.

CNHM: Tchibanga, 1 ♀, Apr. 23, 1952.
Djambala, 2400 feet, 2 ♂, 2 ♀, Oct. 18–Nov. 11, 1951.
Wing: ♂ 60, 62; ♀ 57, 58, 61 mm.

The Tchibanga specimen is apparently the first record for Gabon; previous records for the Moyen Congo are Brazzaville and Dolisie. Beatty found this species exclusively in the savanna, in the areas of brush and short grass.

Batis molitor puella Reichenow

Batis puella Reichenow, 1893, Jahrb. Hamburg, Wiss. Anst., **10**, pt. 1, p. 125—Bussisi, south shore of Lake Victoria.

CNHM: Djambala, 2400 feet, 1 ♀, Oct. 18, 1951.
Wing: 63 mm.

This is the first record of this species for French Equatorial Africa. The specimen was previously noted by Rand (1953, p. 140) in his recent review of the genus. Collected in sparse brush and short grass.

Batis minulla (Bocage)

Platystira minulla Bocage, 1874, Jor. Sci. Nat., Lisboa, **5**: 37—Biballa, Mossamedes Prov., Angola.

CNHM: Djambala, 2400 feet, 1 ♀, Oct. 16, 1951.

Wing: 53 mm.

This species seems to differ somewhat in its ecological requirements from its two previous congeners. Beatty found it in the thick growth of tall brush, whereas *minor* and *molitor* were in brushy areas of the savanna.

This specimen has been compared with a series of seven females from Angola, with which it agrees well.

Batis minima (J. and E. Verreaux)

Platystira minima J. and E. Verreaux, 1855, Rev. Mag. Zool., ser. 2, **8**: 219—Gabon.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 1 sex?, July 11, 16, 1951.

Wing: ♂ 50; sex? 49 mm.

Since Verreaux collected his two adult(?) males and one immature, no further specimens have been found. The present two birds differ from Verreaux's in having the typical *Batis* glossy black breast band, instead of a dark gray, unglossed one. In size, however, these birds agree closely with Verreaux's type:

	Wing	Tail	Culmen	Tarsus
M'Bigou (♂)	50	32	13	13
M'Bigou (unsexed)	49	32	14	14
minima (type) (from Verreaux)	47	30	14	14

The two Gabon birds have been compared with American Museum specimens of *ituriensis* and *poensis*, the two species to which *minima* might be related. There is one basic difference between these two forms: in *ituriensis*, confined to the upper Congo, the female is similar to the male in having a glossy black breast band; in *poensis*, found in Cameroon, Nigeria and Fernando Po, the female has a dark chestnut breast band. Unfortunately, no females of *minima* are known, and it is not possible to decide relationships on this obvious character.

When males are compared, *minima* appears to be much more nearly related to *ituriensis*. Although there is some overlap in wing

measurements, males of *minima* and *ituriensis* both average smaller than *poensis:*

	Males	Females	Unsexed
minima	50		47, 49
ituriensis			
(AMNH)	50	49.5, 50	
(Gyldenstolpe, 1924, p. 211)	49, 51	51	
poensis			
(AMNH)	50, 52, 53, 54		
(Bannerman, 1936, p. 261)	(5) 48–56	(2) 48–51	

In pattern, *poensis* differs from the other two forms in having on the nape a much larger white patch which extends well up on the hind crown.

On the basis of males only, *minima* and *ituriensis* are conspecific, nor are there any apparent subspecific differences. Unless the females of *minima* should prove to have a chestnut breast band, the two forms should be united under the name *minima,* which has many years' priority.

Beatty collected these birds in the high vegetation of old plantations.

Dyaphorophyia castanea castanea (Fraser)

Platystira castanea Fraser, 1842, Proc. Zool. Soc. London, p. 141—Clarence, Fernando Po.

CNHM: Cap Esterias, Omboue, Gooboue, Mouila, Fougamou, Labamba, and Djambala, 9 ♂, 7 ♀, 3 im.; all seasons.

USNM: Fernan Vaz, Ntyonga, 1 ♂, May 30, 1918.

Ogouma, Rembo Nkami, 7 ♂, 3 ♀, Nov. 13–Dec. 12, 1918.

Wing: 10 ♂ 58–62 (av. 59.4); 7 ♀ 56–61 (av. 58.7) mm.

The breeding season evidently extends throughout the year. Birds noted as in breeding condition were taken in March, May, August, and September, and immatures were taken in March, May, and November. Beatty writes of their courtship: "Both sexes share in a strange flight dance. The birds dart back and forth with great speed, producing a loud whirring sound seemingly made by the wing quills. The call note or song is a prolonged repetition of 'womp, womp' etc."

These birds were found throughout the forest.

Dyaphorophyia tonsa Bates

Dyaphorophyia tonsa Bates, 1911, Bull. Brit. Orn. Club, **27:** 86—Bitye, Rio Ja, Cameroon.

CNHM: Mouila, Mount Tandou, 1 ♂, May 31, 1951.

Wing: 54 mm.

This is evidently a rare bird in Gabon, having been recorded previously only from N'Denguelila and Tchibanga (Berlioz, 1954, p. 66). Other males may have escaped detection because of their similarity to the much more common *D. castanea.* Beatty collected this specimen in high secondary forest.

Dyaphorophyia blissetti chalybea Reichenow

Diaphorophyia chalybea Reichenow, 1897, Orn. Monats., **5:** 46—Bipindi, Cameroon.

CNHM: Mouila, 1 im. ♀, May 17, 1951.

Wing: 51 mm.

Another rare species in Gabon, having been collected only once before, by Ansorge on the Ogowe River. Collected by Beatty in the thick growth of an old plantation.

Dyaphorophyia concreta harterti Bates

Diaphorophyia ansorgei harterti Bates, 1926, Bull. Brit. Orn. Club, **46:** 105—Bitye, Rio Ja, Cameroon.

CNHM: Mimongo, 2 ♂, 1 ♀, June 22, 30, 1952.

Wing: ♂ 58, 63; ♀ 61 mm.

This series has been compared with seven males and five females from Cameroon; it agrees closely with these, both in color and size. This race is characterized by having the upper parts dark olive, glossed with bluish green; the under parts in the male are deep golden yellow, without any chestnut wash, and the under parts in the female are the same but with a heavy chestnut wash on the throat and upper breast and usually a lighter wash on the sides of the breast and flanks. The only other record for French Equatorial Africa is that of Berlioz (1954, p. 65) from N'Denguelila, southern Gabon. He recorded his two males as *D. c. ansorgei* on geographical grounds, but the present series shows that they are undoubtedly *harterti.*

Platysteira cyanea cyanea (Müller)

Muscicapa cyanea P. L. S. Müller, 1776, Syst. Nat., Suppl., p. 170—Senegal.

CNHM: Libreville, Omboue, M'Bigou, Tchibanga, Mimongo, and Djambala, 9 ♂, 5 ♀; all seasons.

USNM: Fernan Vaz: Omboue, Abonga, Mbuiri, Ntyonga, 4 ♂, 7 ♀; July–Oct., 1917.

Wing: 7 ♂ 62, 64, 64, 65, 65, 66, 67; 4 ♀ 64, 64, 65, 65 mm.

The region of the lower Congo is evidently the meeting place of the nominate race of Upper Guinea and Cameroon and *nyanzae* of the eastern Congo and Uganda. *Nyanzae* is distinguished from *cyanea* by having a narrow white frontal line in both sexes. This is a variable character in females, specimens from as far west as Nigeria sometimes having a white line and some from Uganda lacking it. In the males, however, the character is much more consistent, and only males should be used in racial determinations. Only two females are available from Djambala, both of which show a white line; however, a female from Libreville also has one, but three males from that locality lack it. Until a series of males is collected from Djambala, that population may be considered *cyanea*.

Beatty found these birds in heavy undergrowth wherever there were clearings in the forest, and also in the native villages. At Libreville in February the birds were preparing to nest. The males were in full song, "which is a surprisingly lovely whistled tune which can be heard and recognized two hundred yards away."

Elminia longicauda teresita Antinori

Elminia teresita Antinori, 1864, Cat. desc., p. 50—Djur, Bahr-el-Ghazal.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 3 ♂, 1 ♀, June 21–July 11, 1951.

Tchibanga, 1 ♂, Apr. 19, 1952.

Djambala, 2400 feet, 3 ♂, 3 ♀, 2 sex?, Nov. 8–Dec. 16, 1951.

Wing: 6 ♂ 62, 63, 64, 66, 66, 66; 4 ♀ 61, 62, 64, 64 mm.

This species was found commonly in secondary growth and gallery forest. The males were courting at M'Bigou in July, and Beatty notes that the male performs much like the American redstart (*Setophaga ruticilla*), periodically opening and closing the tail and drooping the wings.

Trochocercus nigromitratus (Reichenow)

Terpsiphone nigromitrata Reichenow, 1874, Jour. f. Orn., p. 110—Cameroon River.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, July 14, 1951.

Mimongo, 3000 feet, 1 ♀, June 29, 1952.

Wing: ♂ 66; ♀ 59 mm.

We follow Chapin (1953b, p. 693) in considering *nigromitratus* monotypic. We have no upper Congo material, but four Uganda birds are indistinguishable in color from Cameroon and Gabon specimens. The crest length of the Uganda birds averages greater, but with so few specimens the difference is not adequate for taxonomic purposes: Uganda, 12, 12, 13, 15; Cameroon, 9, 10, 11, 12; Gabon, 10, 11.

The M'Bigou specimen was collected from a high tree in the savanna; the Mimongo bird was taken from a mixed flock in the high forest.

Trochocercus nitens nitens Cassin

Trochocercus nitens Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 50—Camma River, Gabon.

CNHM: Fougamou, 1 ♂, Aug. 3, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Nov. 15, 1918, and Jan. 1, 1919.

Wing: ♂ 63, 64; ♀ 63 mm.

These birds were collected in primary forest. The Fougamou specimen is marked as breeding. Beatty noted the color of the mouth as yellow-green.

Terpsiphone rufiventer neumanni Stresemann

Terpsiphone tricolor neumanni Stresemann, 1924, Jour. f. Orn., p. 259—Attogondama, Gabon.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 ♀, Jan. 13 and Feb. 22, 1951.

Fernan Vaz, Omboue, 1 ♂, 1 sex?, Apr. 11, 18, 1951.

Fougamou, 3 ♂, 1 ♀, 1 sex?, Aug. 3–17, 1951.

Mimongo, 3200 feet, 3 ♂, 1 ♀, June 17–29, 1952.

USNM: A good series from Fernan Vaz (Omboue, Rembo Kotou, Ntyonga) and Rembo Nkami (Ogouma, Abonga). Throughout the year.

Wing: 10 ♂ 74–81 (av. 77.6); 3 ♀ 73, 75, 75 mm.

In his recent reviews, Chapin (1948, p. 111; 1953b, p. 699) has shown that there are only three species of *Terpsiphone* in Africa but that within each species there is a wide range of geographic variation. Within *rufiventer, neumanni* and *tricolor* of Fernando Po form a pair of races in which the back is slate and the breast and belly deep

rufous. In all other races, except *bedfordi*, the back is rufous like the under parts; in *bedfordi* the whole bird is slate with a glossy black head.

Although *rufiventer* has hybridized freely with *viridis* in Gambia and Portuguese Guinea, producing the stabilized population that Chapin calls *T. r. rufiventer*, and has also hybridized with *viridis* in Uganda to produce *T. r. emini*, in Cameroon and Gabon the two forms live side by side with no known cases of hybridization. Within *neumanni*, however, mutants are found that approach the wholly slate-colored condition in *bedfordi*, and appear very different from the normally colored birds.

An adult female from Mimongo, and an adult male from Lolodorf, Cameroon, both have a gray wash over the upper breast, blending into the darker gray of the throat. A female from Kribi, Cameroon, has the gray covering the whole of the under parts except the under tail coverts, which are chestnut. This is the plumage phase described as *camburni*, from the upper Ituri, now a synonym of *bedfordi*. It is evident that this melanistic mutation, which has become fixed in *bedfordi*, still occurs sporadically in the gray-backed *neumanni*. The appearance of these gray-bellied individuals within the range of *neumanni* cannot be due to hybridization with *bedfordi*, since their ranges are separated by the whole of the Belgian Congo, where the red-backed *ignea* is found.

In *neumanni* the young of both sexes are paler below than the adults, and often have a grayish wash on the sides of the breast. Adult males are more brightly colored below than the females.

This species was confined to primary forest or occasionally high second growth. Twice Beatty collected specimens from mixed flocks in the forest. Males in breeding condition were taken at Libreville in January and Fougamou in August.

Terpsiphone viridis speciosa (Cassin)

Muscipeta speciosa Cassin, 1859, Proc. Acad. Nat. Sci. Phila., **11**: 48—Camma River, Gabon.

CNHM: Omboue, M'Bigou, Mouila, Labamba, Mimongo, Gamboma, and Impfondo, 18 ♂, 6 ♀, 1 juv.; all seasons.

USNM: Fernan Vaz, Omboue, 6 ♂, 2 ♀, June 29–Oct. 19, 1917. Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Nov. 17–28, 1918.

Wing: 13 ♂ 79–84 (av. 81.5); 5 ♀ 73, 74, 75, 77, 77 mm.

This is the widespread race of *viridis* that is found from Cameroon, Gabon and the Kasai to the upper Congo and Manyema dis-

tricts. It is characterized by being highly polymorphic in the males, practically all combinations of back, wing and tail colors being found. In a series of 43 adult males from Cameroon and Gabon, the tail streamers are white in 33, black in 9, and chestnut in one. Back colors are white, black or chestnut, or mixed in varying proportions. There is invariably some white on the wing, at least on the outer edgings of the secondaries, and in extreme individuals the coverts and both webs of the secondaries are broadly edged with white. Young males have chestnut backs and tails like the female, and may not show any white on the wing, but the glossy blue-black of the throat is more intense, and extends over the breast.

There is an adult female from Omboue that appears to be a melanistic mutant of a type not recorded for this species. It is wholly slate gray, strongly glossed on the crown with blue-green, and more lightly glossed on the throat and breast with greenish-blue. The rump feathers and the outer webs of the inner secondaries are faintly edged with rufous, but the primaries and outer secondaries are edged with slate. The tail and under tail coverts are slate gray like the belly. The coloration strongly recalls that of *T. rufiventer bedfordi*, but the crest is long as in *speciosa*, and the head and under parts are exactly as in that species. It may possibly be a hybrid between *speciosa* and the sympatric *T. rufiventer neumanni*. The back, wings and tail are identical with *neumanni*, but a hybrid with that form would be expected to show some rufous below.

Beatty found these birds almost exclusively in the second growth of old plantations. Males in breeding condition were found at all the localities listed. The juvenal, hardly old enough to be out of the nest, was taken at Mimongo in June.

Terpsiphone viridis melampyra (Hartlaub)

Tchitrea melampyra Hartlaub, 1857, Syst. Orn. Westafr., p. 90—Gabon (here restricted to the Gabon River).

CNHM: Libreville, Cap Esterias, 2 ♀, Jan. 16, 27, 1951.

Wing: 72, 72 mm.

In Chapin's recent reviews of the African forms of this genus (1948; 1953b, pp. 699–728) he has ignored the name *melampyra*. As pointed out by Grant and Mackworth-Praed (1957), this action is indefensible, since the type of *melampyra* is in the British Museum and belongs quite clearly to the species called by Chapin *rufocinerea* Cabanis, 1875. This is the same sense in which Bannerman (1936, p. 300) used *melampyra*. In the discussion below, however, it will be

shown that the races of *melampyra* from coastal southwestern Cameroon to central Angola are subspecies of the widespread *viridis*, and not a separate species.

In his recent reviews Chapin records the following races for *rufocinerea* (=*melampyra*):

batesi: from southern Cameroon to the Ituri.

melampyra: western Cameroon and Gabon to the lower Congo.

bannermani: northwestern Angola.

Both *batesi* and *melampyra* are stated to be sympatric with the widespread Lower Guinea *T. viridis speciosa*, and *bannermani* is said to be sympatric with the south African *T. viridis plumbiceps*. Available material indicates that *melampyra* replaces *speciosa* in coastal Cameroon and Gabon and is more closely related to it than Chapin's arrangement would suggest. *T. batesi* is a well-marked form, characterized by gray head, bright orange-rufous back and under tail coverts, and short central rectrices, barely prolonged beyond the lateral ones. It is found throughout southern Cameroon and is sympatric with *speciosa* everywhere except in coastal localities. Along the coast, both forms are replaced by *melampyra*, which has the head glossy blue-black, the back darker rufous, the under tail coverts much duller, and, in the male, the central rectrices prolonged to about twice the length of the lateral ones.

The break between *melampyra* and *batesi* is as abrupt as that between *melampyra* and *speciosa;* among 16 *batesi* and 19 *melampyra* none shows any signs of intergradation. On Cameroon material alone there is nothing to show to which form *melampyra* is more closely related. Females of *melampyra* and *speciosa* are distinguishable with difficulty, the gaps between the short crest and rufous under tail coverts of *melampyra* and the long crest and slate under tail coverts of *speciosa* being bridged by individual variation. In wing size, males of *melampyra* are intermediate, as shown by the following measurements of Cameroon specimens:

	Males		Females	
speciosa	(30)	76–86 (av. 81.9)	(11)	75–80 (av. 77.8)
batesi	(11)	73–80 (av. 77.0)	(6)	74–79 (av. 76.2)
melampyra	(12)	76–82 (av. 79.7)	(6)	74–80 (av. 77.0)

Localities in Cameroon from which specimens of *melampyra* are at hand are Kribi, Campo, Edea, and Eboje, all on or near the coast, and there are specimens from Bata, Benito, and Isla Coroisco in Spanish Guinea. In Gabon *melampyra* is confined to the northwest

corner. Recorded localities are Rio Moonda and Libreville, both on the north coast, and these populations are continuous with those of Spanish Guinea and Cameroon. Populations in adjoining localities are intermediate, and *melampyra* intergrades extensively with *speciosa* along the lower Ogowe River. Of four males from Lambarene and the Abonga River (AMNH), one is typical *speciosa,* with black and white tail; one is like *melampyra,* but with some white edgings on the greater coverts, and a long crest; and the other two are *melampyra,* but somewhat more heavily glossed on the breast. A single Kango bird is like the latter specimens. Two of six males from Omboue and one of two from Ogouma lack all white on the wings and have the crissum slate mixed with rufous. From Fernan Vaz to the Loango coast there are no records of *melampyra,* and *speciosa* appears to reach the coast unchanged.

Along the lower Congo there is another region of intermediacy. Two specimens from Boma, near the mouth of the river, are typical *melampyra;* two out of four males from Manyanga and Lutete, however, have traces of white on the wing in an approach to *speciosa.* In the Kasai the opposite condition holds; most males are typical *speciosa,* but two approach *melampyra* in having only a trace of white on the wings.

In Angola *melampyra* extends as far south as Canzele, 30 kilometers west of Camabatela, and as far east as Luhanda, 5 kilometers north of Quela. A series of ten males from these localities and one from Noqui on the Congo agree well with the series from Cameroon and Gabon, differing only in having the under tail coverts more consistently rufous, without any slaty wash. Directly to the south of Canzele, at Ndala Tando and Golungo Alto, appears *bannermani,* which is intermediate between *melampyra* and *plumbiceps.* Despite its intermediate position, a series of seven *bannermani* from Golungo Alto is quite constant in characters, being a dark bluish slate on head and under parts, with a blue-black wash on the crown and bright rufous on back and under tail coverts, paler than in *melampyra. Plumbiceps* is even paler gray below, and the crown is washed with a blue gray gloss, the back is a duller, less orange rufous, and the under tail coverts and lower abdomen are whitish. Specimens of *plumbiceps* have been taken within the range of both *melampyra* and *bannermani,* but the race is known to be migratory, and the farthest north breeding record in Angola is apparently Mount Moco, Benguella.

From the above discussion it is evident that *melampyra* and *bannermani* are allopatric with the different races of *viridis,* and that

batesi is the only race of Chapin's species *melampyra* that is sympatric with *viridis*. *Batesi* is shown to be quite distinct from the Cameroon population of *melampyra* and no intermediates are known. On the other hand, *melampyra* intergrades freely with *speciosa* in Gabon and the lower Congo, and grades into *plumbiceps* through the intermediate *bannermani*. There is nothing in this distribution that prevents *melampyra* and *bannermani* from being races of *viridis*, rather than a distinct species, and *batesi* a monotypic species, ranging from British Cameroons east to the Ituri. It is possible that *batesi* may have to be divided into two or three races, since specimens from the Ituri are much paler than Cameroon birds, and males from British Cameroons have the central tail feathers up to 60 mm. longer than the lateral ones, rather than only 10 mm. longer.

Stizorhina fraseri fraseri (Strickland)

Muscicapa fraseri Strickland, 1844, Proc. Zool. Soc. London, p. 101—Fernando Po.

CNHM: Omboue, Mouila, Mount Tandou, Fougamou, Tchibanga, Djambala, Gamboma, 10 ♂, 2 ♀, 1 sex?; all times of year.

USNM: Fernan Vaz, Ntyonga, 1 ♂, 1 ♀, May 29 and June 15, 1918.

Ogouma, Rembo Nkami, 1 ♂, Dec. 23, 1918.

Wing: 9 ♂ 95, 95, 97, 98, 98, 100, 101, 102, 105; 2 ♀ 91, 93 mm.

Beatty found this bird primarily in heavy secondary forest, where it usually frequented the middle and upper stories. On one occasion he lured a bird overhead by an imitation of its lovely whistled song. It perched above him, flipping fanwise the bright rufous outer tail feathers, which made a conspicuous display.

Chloropeta natalensis major Hartert

Chloropeta natalensis major Hartert, 1904, Bull. Brit. Orn. Club, **14**: 73—Canhoca, Angola.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♂, 1 ♀, June 26 and July 2, 1951.

Tchibanga, 1 ♂, Apr. 18, 1952.

Wing: ♂ 61, 63, 66; ♀ 63 mm.

Malbrant and Maclatchy (1949, p. 317) list *C. n. batesi* of Cameroon as the race of Gabon and the Loango coast. The present series, however, has been compared with 14 *major* from Angola and 14 *batesi* from Cameroon, and its relations are definitely with the former. The

species has not been taken in northern Gabon or Moyen Congo, and there is evidently a considerable gap between the ranges of the two forms. *Batesi* is characterized by a well-defined brown cap, duller olive green upper parts, and small size; the Gabon birds have the greenish crown and brighter upper parts of *major*, although they are intermediate in size. Wing sizes of the different populations are:

	Males		Females	
major				
Angola	(5)	67–70 (av. 68.4)	(9)	66–68 (av. 67.2)
Gabon	(3)	61, 63, 66	(1)	63
batesi				
Cameroon	(7)	59–62 (av. 59.9)	(7)	57–61 (av. 58.4)

The Angola population of *major* is not homogeneous; nine birds from the highlands of Mount Moco and Mount Soque are a duller, more greenish, yellow below than five specimens from Mombolo in the lowlands. The Gabon series agrees with that from Mombolo in the brighter yellow under parts.

Found in the undergrowth of old plantations and in gallery forest. Beatty writes that the male and female sing in duet, the male a short warble answered instantly by the female's harsh note.

Family **MOTACILLIDAE**

Anthus brachyurus leggei Ogilvie-Grant

Anthus leggei Ogilvie-Grant, 1906, Bull. Brit. Orn. Club, **19:** 26—Mokia, southeast of Ruwenzori.

CNHM: Djambala, 1 ♂, 1 im. ♂, Oct. 30 and Nov. 9, 1951.

Wing: ♂ 63; im. ♂ 60 mm.

The adult male was in breeding condition. Beatty writes: "In sparse brush, short grass. A shy bird, it flushed in pairs, and would fly erratically in a wide circle at a great height uttering twittering noises, then would dart downward to a landing."

Anthus pallidiventris pallidiventris Sharpe

Anthus pallidiventris Sharpe, 1885, Cat. Bds. Brit. Mus., **10:** 560—Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 21 and Apr. 13, 1951.
Fernan Vaz, Gooboue, 1 sex?, May 3, 1951.
Mouila, 1 ♂, May 25, 1951.

USNM: A good series: Fernan Vaz, Omboue, Apr. 24–Oct. 21, 1917; Fernan Vaz, Ntyonga, Nov. 1, 1917, and Apr. 10–June 4, 1918.

Wing: 3 ♂ 97, 98, 99; 1 sex? 98 mm.

With wear, birds become a uniform dark gray brown above as the pale edgings of the feathers are lost; the under parts become more whitish, less buffy. Young birds are more rufous brown above, and are smaller (wing ♂ 96, ♀ 88). Three specimens from Bata and Benito, Spanish Guinea, in the Good collection, represent a northward extension of range for this species. It has not, apparently, been taken in Cameroon.

Common on the savannas and in clearings in the native villages. The Mouila male was breeding.

Anthus similis nyassae Neumann

Anthus nicholsoni nyassae Neumann, 1906, Jour. f. Orn., p. 233—between Sangesi and Sangea, northeast of Lake Nyassa.

CNHM: Djambala, 1 ♀, 1 im. ♀, Oct. 24, 1951.

Wing: ad. ♀ 84; im. ♀ 81 mm.

In French Equatorial Africa this species is confined to the savannas of southern Moyen Congo. To the northward it reappears in the Cameroon highlands as *A. s. bannermani*, of which there is a single female from the hills near Yaounde in the Good collection.

Chapin (1953b, p. 80) recognized the race *schoutedeni* for the population from the Middle Congo, but more recently White (1957, p. 30) has considered *schoutedeni* inseparable. We have inadequate comparative material on which to base an independent judgment.

Macronyx croceus croceus (Vieillot)

Alauda crocea Vieillot, 1816, Nouv. Dict. Hist. Nat., **1**: 365—Senegal.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 31 and Apr. 3, 1951.
Mouila, 1 ♂, June 14, 1951.
Djambala, 1 ♂, Oct. 29, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, 1 im. ♂, May 22, 1917.
Fernan Vaz, Mbuiri, 1 ♀, July 28, 1917.

Wing: 4 ♂ 92, 96, 97, 99 mm.

These birds become very gray on the upper parts with wear. The March and April males from Omboue are in badly worn breeding plumage; the rich buffy edgings to the dorsal feathers are badly faded and half worn away, leaving the upper parts a dark gray brown. These two specimens were in breeding condition.

Motacilla aguimp vidua Sundevall

Motacilla vidua Sundevall, 1850, Öfvers. K. Sv. Vet. Akad. Vörhandl., 7: 128—Assouan, upper Egypt.

CNHM: Fernan Vaz, Omboue, 2 sex?, March 12, 1951.

USNM: Anguanamo, Ngovi, 1 ♂, Aug. 3, 1918.

Wing: 2 sex? 90, 90 mm.

The August male is in abraded plumage.

Motacilla clara chapini Amadon

Motacilla clara chapini Amadon, 1954, Amer. Mus. Nov., no. 1656, p. 4—Nkongsamba dist., at 3000 feet, Cameroons.

CNHM: M'Bigou, Mount Du Chaillu, 1 sex?, July 11, 1951.

Wing: 78 mm.

This specimen is somewhat paler, particularly on the crown, than three topotypes from Cameroons. Beatty collected it on a sand bar in a river.

Family **LANIIDAE**

Prionops caniceps rufiventris (Bonaparte)

Sigmodus rufiventris Bonaparte, 1853, Rev. Mag. Zool., p. 441—Mozambique, errore (=Gabon).

CNHM: Fougamou, 1 ♂, 1 ♀, Aug. 12, 1951.

USNM: Ogouma, Rembo Nkami, 1 ♀, Jan. 2, 1919.

Wing: 1 ♂ 112; 1 ♀ 111 mm.

Dryoscopus gambensis gambensis (Lichtenstein)

Lanius gambensis Lichtenstein, 1823, Verz. Doubl., p. 48—Senegambia.

CNHM: Tchibanga, 1 ♂, 2 ♀, Apr. 17, 30, 1952.
Gamboma, 1 ♀, Jan. 8, 1952.

Wing: ♂ 92; ♀ 88, 89, 90 mm.

Beatty found these birds in gallery forest and savanna brush.

Dryoscopus senegalensis (Hartlaub)

Sigelus senegalensis Hartlaub, 1857, Syst. Orn. Westafr., p. 112—Senegal (=Gabon).

CNHM: Libreville, Cap Esterias, 2 ♂, Jan. 16 and Feb. 14, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 7, 1951.
Mimongo, 2700 feet, 1 ♂, 1 ♀, Aug. 1, 4, 1952.

Wing: ♂ 77, 79, 80; ♀ 78, 78 mm.

Bannerman (1939, p. 406) describes a nestling male of this species as much like the adult female, with a gray rump. A nestling male in the Chicago Museum, from Bitye, Cameroon, is dark chocolate brown on the crown, back, wings, and tail, and pure white on the rump and under parts.

Beatty collected these birds in the thick brush of old plantations. The Libreville males were breeding.

Tchagra minutus minutus (Hartlaub)

Telephonus minutus Hartlaub, 1858, Proc. Zool. Soc. London, p. 292—Ashantee.

CNHM: Mouila, 1 ♂, May 25, 1951.
Tchibanga, 2 ♂, Apr. 9, 1952.
Djambala, 1 ♂, 1 ♀, Oct. 28, 1951.

Wing: ♂ 73, 73, 75, 78; ♀ 77 mm.

The October pair are in fresh plumage; the April and May birds are badly worn. One Tchibanga male is molting from immature to adult plumage. Beatty found these birds in thick, high brush, coming out into the sparse brush and tall grass to feed.

Tchagra senegala rufofusca (Neumann)

Telophonus senegalus rufofuscus Neumann, 1907, Jour. f. Orn., **55**: 376—N'gungo in North-Bailundu, Angola.

CNHM: Gamboma, 1 ♀, Jan. 16, 1952.

Wing: 91 mm.

Compared with four Angola specimens (Duque de Bragança, Mount Soque) the present specimen has the back equally ruddy-brown but slightly paler, and the gray of the under parts slightly less intense. Thus it suggests an approach to *armena*, which ranges from Northern Rhodesia to Kenya, intergrading with *rufofusca* in the Kasai area of the Belgian Congo. The race to the north, *camerunensis* Neumann, 1907, Yaounde (4 Cameroon specimens, including a topotype examined), differs in the duller, much less ruddy-brown back.

Beatty found this to be a bird of the brush-grass country.

Tchagra australis emini (Reichenow)

Telephonus australis emini Reichenow, 1893, Orn. Monats., **1**: 60—Bukoba, west of Lake Victoria.

CNHM: Gamboma, 1 ♂, Jan. 21, 1952.

Wing: 77 mm.

This specimen compares well with Cameroon birds in the dark, brownish crown and back; in the gray breast and flanks, lightly tinged olive on the latter; and in the secondaries being black, broadly edged rufous, and the scapulars having black centers. Thus they belong to *emini* (of which *frater*, Reichenow, 1902, Cameroon, is a synonym), which otherwise ranges from the lower Congo River, through the northern Congo to Uganda.

The western Angola race *ansorgei* is similar but paler brown above and has the whole under parts heavily tinged with buff. In the race *souzae*, of interior Angola to the Kasai, the under parts are gray but the secondaries and the scapulars are rufous, with little or no black. Chapin (1954b, p. 25) has questioned the record of *souzae* from as far north as Kwamouth.

The distribution pattern of races in this species is quite different from that in the closely related *T. senegala*, in which the Angola race occurs at Gamboma. The species *australis* seems to be more of a brush-living bird than *senegala*.

Laniarius luhderi luhderi Reichenow

Laniarius luhderi Reichenow, 1874, Jour. f. Orn., **22**: 101—Cameroon delta.

CNHM: Libreville, Cap Esterias, 2 ♂, 3 ♀, 1 sex?, Jan. 28–Feb. 17, 1951.

M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♂, 1 ♀, June 27–July 13, 1951.

Mimongo, 2700 feet, 2 ♂, June 19 and Aug. 10, 1952.

Djambala, 2 ♂, Nov. 24 and Dec. 2, 1951.

Wing: 7 ♂ 91, 92, 92, 92, 94, 96, 98; 3 ♀ 86, 87, 88 mm.

Betty found these birds almost everywhere in the heavy undergrowth of old plantations. They were usually paired, and would sing a duet. "The male utters a double note whistle, which is answered immediately by the *kek-kek-kek* of the female. Not a persistent singer, and can be heard at dawn and dusk." Two of the Libreville birds are completing molt into adult plumage, with only a few juvenal rectrices and primaries remaining.

Laniarius ferrugineus bicolor (Hartlaub)

Dryoscopus bicolor Hartlaub, 1857, Syst. Orn. Westafr., p. 112—Gabon.

CNHM: Port Gentil, 1 ♂, 1 ♀, May 9, 1951.

USNM: Fernan Vaz, Ashanja, 1 ♂, June 24, 1917.

Wing: 1 ♂ 105; 1 ♀ 101 mm.

These birds are white without a pink tinge on the under parts, and the white in the wing is restricted to the wing coverts. They are thus typical, as well as topotypical, *bicolor*. Around the mouth of the Congo this race intergrades with *guttatus*, which has white on the edges of the two inner secondaries.

Laniarius leucorhynchus (Hartlaub)

Telephonus leucorhynchus Hartlaub, 1848, Rev. Mag. Zool., **11**: 108—Elmina, Gold Coast.

CNHM: Mouila, 1 ♂, May 20, 1951.

Wing: 95 mm.

In breeding condition.

Telophorus bocagei bocagei (Reichenow)

Laniarius bocagei Reichenow, 1894, Orn. Monats., **2**: 125—Yaounde, Cameroon.

CNHM: Mimongo, 2700 feet, 2 ♂, Aug. 1, 8, 1952.
Labamba, 1 im. ♀, June 4, 1952.

Wing: ♂ 80, 81; im. ♀ 76 mm.

Beatty collected all three of these birds from the tops of trees in old plantations.

Malaconotus cruentus gabonensis Shelley

Malaconotus gabonensis Shelley, 1894, Bull. Brit. Orn. Club, **3**: 43—Gabon and Cameroon.

CNHM: Libreville, Cap Esterias, 1 ♂, Feb. 2, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 14, 1951.

Wing: ♂ 110; ♀ 110 mm.

A shy bird of primary forest.

Lanius souzae souzae Bocage

Lanius souzae Bocage, 1878, Jor. Sci. Nat., Lisboa, **6**: 213—Caconda, Angola.

CNHM: Djambala, 1 ♂, Oct. 19, 1951.

Wing: 80 mm.

This is the first record of this species from the Moyen Congo, although it was known from Leopoldville and its presence was to be expected.

Lanius mackinnoni Sharpe

Lanius mackinnoni Sharpe, 1891, Ibis, p. 444, pl. 13—Bugemaia, Kavirondo, Kenya.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 3 ♀, June 20, 24, 1951.

Mimongo, 1 ♂, 1 ♀, Aug. 1, 1952.

Wing: ♂ 86, 88; ♀ 83, 84, 84, 85 mm.

This was not a shy bird, and Beatty frequently found them in the villages, usually in pairs. Two of the M'Bigou birds were breeding.

Lanius minor Gmelin

Lanius minor Gmelin, 1788, Syst. Nat., **1**, pt. 1, p. 308—Italy.

CNHM: Djambala, 1 ♀?, Oct. 21, 1951.

Wing: 114 mm.

This migrant has been taken only once before in our area, at Brazzaville (Malbrant and Maclatchy, 1949, p. 367).

Lanius collaris smithii (Fraser)

Collurio smithii Fraser, 1843, Proc. Zool. Soc. London, p. 16—Cape Coast Castle, Gold Coast.

CNHM: Mouila, 1 ♀, 1 sex?, May 20, 24, 1951.

Wing: ♀ 91 mm.

Lanius collaris capelli Bocage

Lanius capelli Bocage, 1879, Jor. Sci. Nat., Lisboa, **7**, no. 26, p. 93—Cassange, Angola.

CNHM: Djambala, 2 ♂, Oct. 29 and Nov. 10, 1951.

Wing: 94, 95 mm.

The distribution of *smithii* is most peculiar. The main part of its range is north of the heavy forest, from French Guinea to western Uganda, but there is an isolated population from southern Gabon to the lower Congo. East and south of the latter, in southern Moyen Congo, the southwestern Belgian Congo, and Angola, is found *capelli*. Although the birds of the southern Gabon and Moyen Congo savannas often agree racially with Cameroon populations rather than those of Angola, it is rare to have them vary racially within the two districts.

Family STURNIDAE

Onychognathus fulgidus hartlaubii Hartlaub

Onychognathus hartlaubii Hartlaub, 1858, Proc. Zool. Soc. London, p. 291—Fernando Po.

CNHM: Mouila, Mount Tandou, 1 ♂, 2 ♀, June 10, 11, 1951.
Mimongo, 2700 feet, 1 ♂, Aug. 4, 1952.
Impfondo, 1 ♂, 1 ♀, Feb. 24, 29, 1952.

Wing: ♂ 127, 131, 138; ♀ 125, 126, 128 mm.

Beatty found these birds commonly in the villages and plantations, feeding on the oil nuts.

Lamprocolius splendidus splendidus (Vieillot)

Turdus splendidus Vieillot, 1822, Tabl. Enc. Meth., Orn., **2**: 653—Malimbe, Enclave of Cabinda.

CNHM: Mouila, 2 ♂, 1 ♀, May 17 and July 26, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 2 ♂, 2 ♀, July 12–19, 1951.
Gamboma, 2 ♂, Dec. 29, 30, 1951.

USNM: Fernan Vaz, Lake Anengue, 1 ♂, 1 ♀, July 22, 1917.
Fernan Vaz, Mperi, 2 ♂, Dec. 13, 24, 1917.
Anguanamo, Ngovi, 1 ♀, Aug. 15, 1918.
Ogouma, Rembo Nkami, 3 ♂, 4 ♀, Oct. 5–Dec. 6, 1918.

Wing: 6 ♂ 150, 150, 151, 152, 157, 164; 3 ♀ 133, 136, 139 mm.

As first noted by Gyldenstolpe (1924, p. 25), females of this race have the throat bluish-purple instead of reddish-purple and the crown oily green like the mantle instead of bluish green as in the males.

Found commonly in all types of forest and second growth, frequently in flocks of fifteen or twenty. Beatty notes that the loud whistling sound made by the wing quills carries far. Both July and December specimens are marked as breeding.

Lamprocolius purpureiceps J. and E. Verreaux

Lamprocolius purpureiceps J. and E. Verreaux, 1851, Rev. Mag. Zool., p. 418—Gabon.

CNHM: Libreville, Cap Esterias, 5 ♂, Jan. 20–Feb. 15, 1951.
Fougamou, 2 ♂, Aug. 12, 1951.
Gamboma, 2 ♂, 2 ♀, Dec. 31, 1951, and Jan. 13, 1952.

USNM: Ogouma, Rembo Nkami, 3 ♂, Dec. 9–28, 1918.

Wing: 8 ♂ 115–129 (120.5); 2 ♀ 116, 118 mm.

Large series from Uganda and Cameroon have been compared to these topotypes from Gabon. There is no variation in color, but Uganda birds average somewhat larger. Wing measurements:

	Males	Females
Gabon	(8) 115–129 (av. 120.5)	(2) 116, 118
Spanish Guinea	(1) 117	
Cameroon	(19) 118–131 (av. 123.7)	(12) 116–125 (av. 119.5)
Uganda	(10) 120–135 (av. 126.7)	(8) 119–125 (av. 121.1)

Commonly found in flocks of up to twenty birds. According to Beatty, they feed commonly on drupes and berries in the lower trees, but between foraging flights they roost on dead branches at the tops of the tallest trees. The December female was breeding.

Family NECTARINIIDAE

The arrangement within this family follows that of Delacour (1944).

Anthreptes gabonica (Hartlaub)

Nectarinia gabonica Hartlaub, 1861, Jour. f. Orn., p. 13—Gabon.

CNHM: Fernan Vaz, Omboue, 1 ♀, Apr. 11, 1951.

Wing: 55 mm.

Beatty writes: "A pair was building a nest on a dead branch overhanging the lake. The nest is made of dry grass blades, bits of thin bark and dry lichens, suspended from a thin branch. It is oval-shaped, about five inches in length, with the entrance in the side near the top, under a small canopy. Compact and interwoven with cobwebs."

Anthreptes fraseri cameroonensis Bannerman

Anthreptes fraseri cameroonensis Bannerman, 1921, Bull. Brit. Orn. Club, **41**: 137—River Ja, Cameroon.

CNHM: M'Bigou, Mount Du Chaillu, 1 ♂, June 26, 1951.
Fougamou, 1 ♀, Aug. 11, 1951.
Mimongo, 3200 feet, 1 ♀, June 17, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, 2 ♀, Nov. 21–Dec. 31, 1918.
Fernan Vaz, Ntyonga, 1 ♂, June 3, 1918.

Wing: 1 ♂ 73; 2 ♀ 58, 60 mm.

The Fougamou female has a short wing, but otherwise compares well with a series of females from Cameroon. The June female from Mimongo was breeding. This is entirely a bird of the primary forest.

Anthreptes aurantium J. and E. Verreaux

Anthreptes aurantium J. and E. Verreaux, 1851, Rev. Mag. Zool., ser. 2, 3: 417—Gabon.

CNHM: Fernan Vaz, Omboue, 3 ♂, 2 ♀, March 27–Apr. 8, 1951.

USNM: Fernan Vaz, Omboue, 3 ♂, 3 ♀, June 26–Oct. 2, 1917.

Wing: 3 ♂ 67, 68, 68; 2 ♀ 61, 63 mm.

In three of the females there are traces of orange in the pectoral tufts; these are probably old birds. Beatty collected one pair in the compound of a native hut, near the secondary forest. This was exceptional, however, since the species is usually found along the borders of streams and lakes. One pair was building a nest in a small palm along the shores of a lake, in April.

Anthreptes rectirostris tephrolaemus (Jardine and Fraser)

Nectarinia tephrolaemus Jardine and Fraser, 1851, Contr. Orn., p. 154—Fernando Po.

CNHM: Mouila, 1 ♀, Sept. 18, 1951.
Labamba, 1 ♂, June 5, 1952.

Wing: ♂ 58; ♀ 54 mm.

Anthreptes collaris somereni Chapin

Anthreptes collaris somereni Chapin, 1949, Bull. Brit. Orn. Club, 69: 83—Anda, Lake Azinga, Gabon.

CNHM: Various localities, 7 ♂, 4 ♀; throughout the year.

USNM: A small series from various localities; throughout the year.

Wing: 6 ♂ 48, 48, 49, 50, 51, 51; 4 ♀ 47, 49, 50, 50 mm.

In the above series there are a number of young of both sexes, three shot on the same day, November 16, probably a family party. They are olive citrine on the upper parts, darker on the head; below they are yellowish citrine, a little lighter on the throat and inclining to citrine yellow on the center of the belly.

Common everywhere in scrub and second growth. An April male at Omboue was building a nest and a July male at Mouila was attending young.

Nectarinia seimundi minor (Bates)

Anthreptes seimundi minor Bates, 1926, Bull. Brit. Orn. Club, **46**: 107—Sanaga River, north of Yaounde, Cameroon.

CNHM: Fernan Vaz, Gooboue, 1 ♀, 1 sex?, Apr. 28, 1951.
Tchibanga, 1 ♀, Aug. 5, 1952.
Labamba, 1 ♂, May 12, 1952.

USNM: Ogouma, Rembo Nkami, 3 ♂, 1 ♀, Nov. 16–Dec. 5, 1918.

Wing: 1 ♂ 50; 2 ♀ 46, 49 mm.

The Tchibanga bird was collected in the village, but Beatty usually found the species in second growth forest.

Nectarinia olivacea cephaëlis (Bates)

Cinnyris (*Cyanomitra*) *olivaceus cephaëlis* Bates, 1930, Bull. Brit. Orn. Club, **51**: 52—Bitye, Cameroon.

CNHM: Various localities in Gabon and the Moyen Congo, 9 ♂, 1 ♀; throughout the year.

USNM: A good series from various localities, April to December.

When Grant and Mackworth-Praed (1943, p. 18) described *vincenti* from Uganda and southern Sudan, they compared it only to *ragazzii* of southern Abyssinia from which it is separable on larger size. They did not compare it to *cephaëlis*, which it must meet somewhere in the upper Congo. With 18 *vincenti* from Uganda available for comparison to 26 *cephaëlis* from Cameroon and Gabon, the former proves easily separable on its longer culmen.

		Wing	Culmen
Males			
vincenti	(9)	64–68 (av. 65.9)	26–28.5 (av. 27.0)
cephaëlis	(19)	61–66 (av. 63.7)	23.5–25.5 (av. 24.3)
Females			
vincenti	(9)	57–60 (av. 58.7)	24–27 (av. 25.8)
cephaëlis	(7)	51–58 (av. 55.9)	22–24 (av. 23.0)

Vincenti also averages slightly larger in wing length; there are no apparent color differences, and the females of both forms lack the yellow pectoral tufts.

Bannerman (1948, p. 224) does not recognize *cephaëlis* as distinct from *ragazzii*, and Chapin (1954b, p. 208) admits that they are very close. We have no material of *ragazzii* from southern Abyssinia, nor can we find any published measurements of culmen length. Serle (1957, p. 668), however, has recently compared fresh Nigerian mate-

rial with Abyssinian *ragazzii*, and states that the former appear much paler below.

These birds were found in both primary and secondary forests, feeding in the treetops or undergrowth.

Nectarinia reichenbachii Hartlaub

Nectarinia reichenbachii Hartlaub, 1857, Syst. Orn. West Afr., p. 50—Gabon.

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 ♀, 1 im. ♂, Apr. 15, 17, 1951.

Mouila, 1 im. ♀, May 18, 1951.

Labamba, 1 ♀, May 12, 1952.

USNM: A good series from various localities, June to October.

Wing: 1 ♂ 60; 2 ♀ 54, 58 mm.

Although generally considered to be a rare bird, this species is common in the coastal districts of Gabon, and at Omboue Beatty saw it regularly in the village. Good (1953, p. 147) found the same situation in Cameroon and there are seventeen specimens in his collection. There are no apparent differences between Cameroon and Gabon specimens.

Nectarinia verticalis cyanocephala (Shaw)

Certhia cyanocephala Shaw, 1811, Gen. Zool., 8: 203—Malimba, Portuguese Congo.

CNHM: Libreville, Cap Esterias, 1 sex? (= ♀), Feb. 9, 1951.

Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 11 and Apr. 9, 1951.

USNM: Omboue, Fernan Vaz, 1 ♂, Sept. 4, 1917.

Sanga Mbuiri, Fernan Vaz, 1 ♂, 1 ♀, July 31 and Sept. 4, 1917.

Anguanamo, Ngovi, 1 ♂, July 3, 1918.

Wing: 4 ♂ 65, 65, 65, 68; 3 ♀ 60, 60, 60 mm.

Nectarinia verticalis bohndorffi Reichenow

Nectarinia bohndorffi Reichenow, 1887, Jour. f. Orn., p. 215—Leopoldville.

CNHM: M'Bigou, Mount Du Chaillu, 1 ♂, 1 ♀, June 24 and July 12, 1951.

Labamba, 1 im. ♂, May 25, 1952.

Djambala, 6 ♂, 3 ♀, Oct. 29–Dec. 16, 1951.

Wing: 7 ♂ 63–69 (66.3); 4 ♀ 59, 62, 62, 64 mm.

Chapin (1954b, p. 212) does not recognize *cyanocephala* as a distinct race of coastal Gabon. On our material, however, it is a well-marked race, with its range restricted to the coastal regions, and replaced in interior Gabon and the Moyen Congo by *bohndorffi*. *Cyanocephala* is distinguished by its much more purplish iridescent throat and breast, and by its darker, more sooty belly. Besides the above fresh material of *cyanocephala*, there are two old "Gabon" skins in the National Museum that show the characters equally well. Within our Gabon material, there is no overlap between *cyanocephala* and *bohndorffi*.

Bannerman (1948, p. 216) recognized *cyanocephala* and gave as its range Río Muñi to Landana. Two males in the Good collection from Corisco Island, Spanish Guinea, are closer to *cyanocephala* than to *bohndorffi*, but the characters are not well marked. It is doubtful if the race extends to coastal Cameroon.

Nectarinia cyanolaema octaviae (Amadon)

Cyanomitra cyanolaema octaviae Amadon, 1953, Bull. Amer. Mus. Nat. Hist., **100**: 427—Efulen, Cameroon.

USNM: Fernan Vaz, Ntyonga, 1 ♂, 1 ♀, Nov. 1, 1917, and May 30, 1918.

Fernan Vaz, Sanga Mbuiri, 3 im. ♂, Aug. 1, 2, 1917.

Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Nov. 17–Dec. 13, 1918.

One of the males (no. 255,697) is much darker above, with a suggestion of gloss, and the forehead and throat patch are a different color. In fact, the throat patch differs in color in each one of the three males. It varies from a deep violet to a dark shining green, with the intermediate specimen a dark shining green on the throat, and violet on the lower border. The difference in color may possibly be due to age. The lightest-colored of the three birds is the one with the shining green throat.

Nectarinia fuliginosa aurea (Lesson)

Cinnyris aureus Lesson, 1847, Descr. Mamm., Ois., p. 271—Liberia.

CNHM: 10 ♂, 3 im. ♂, 4 ♀; various localities and dates.

USNM: Fernan Vaz, Omboue, 3 ♂, 1 ♀, June 21–Oct. 19, 1917.

Fernan Vaz, Sanga Mbuiri, 3 ♂, Aug. 1, 1917.

Wing: 10 ♂ 68–72 (av. 69.2); 4 ♀ 61, 64, 64, 65 mm.

Throughout the greater part of its range, from Liberia to Gabon, this is a coastal species. It is only along the lower Congo that it penetrates far inland, reaching Leopoldville and Kwamouth, and, in Angola, Canzele and Gabela.

Chapin (1954b, p. 221) noted that there are two well-marked races in this species, specimens from the lower Congo and Angola being much darker, particularly on the upper parts, than birds from Upper Guinea and Cameroon, with the Gabon population intermediate. Our material agrees with Chapin's arrangement. A male in fresh plumage from Gabela, Angola, is a uniform dark fuscous above, the crown and mantle being concolor with the wings and tail. Four males from Omboue, on the other hand, have the crown and mantle cinnamon brown, much paler than the wings and tail. Fading with wear is pronounced in this species, but the Angola birds show much less fading than do Gabon birds. Two worn birds from Canzele, just beginning their post-nuptial molt, have faded to the same color as fresh Gabon material, while worn birds from Gabon are almost whitish brown on the mantle. Another character is the iridescence on forehead and throat, which is more extensive in Angola birds. In none of the seven Gabon males does the iridescence on the crown reach the level of the posterior border of the eye, but in the Angola males it reaches or exceeds it by up to 3 mm.

There is a difficulty, however, in assigning a proper name to the two different forms. The type locality of *fuliginosa* is Malimba, Portuguese Congo, from which region no material is available. Oustalet (1893, p. 126) described a dark race, *nigrescens*, based on specimens from Leopoldville. Chapin (1954b, p. 220) had specimens from Boma, at the mouth of the Congo, that he considered must represent *fuliginosa*, as Boma is only seventy-five miles from Malimba. They were dark, like the Leopoldville birds, and Chapin considered *nigrescens* a synonym of *fuliginosa*, leaving the lighter-colored birds from northern Gabon to Liberia without a name. However, names are available for the paler northern race, the earliest being *aurea* as used here. A single topotypical male from Liberia matches our worn Gabon specimens closely but is darker below, more like the unworn specimens.

Birds at Libreville were nesting in January and February, and all are in worn breeding plumage. The March and April specimens are all in fresh plumage. Beatty noted one of the males anting:

"I noticed it hopping about on a stout branch, acting strangely. Its actions were very fast, but I could see that it was snatching things off the branch and putting them under its wings and toward the rump. After a few minutes I shot the bird and searched the feathers. I found several medium sized, long legged black ants in the feathers under the wing."

Nectarinia rubescens rubescens (Vieillot)

Cinnyris rubescens Vieillot, 1819, Nouv. Dict. Hist. Nat., **31**: 506—Kingdom of Congo and Cacongo.

CNHM: Tchibanga, 1 ♂, 1 ♀, Aug. 6, 1952.
Mimongo, 3200 feet, 1 ♂, June 17, 1952.
Labamba, 1 ♂, May 20, 1952.
Djambala, 1 ♂, 1 im. ♂, 1 sex?, Nov. 22, 1951.
Iranga, near Impfondo, 2 ♂, 1 ♀, March 20, 1952.

USNM: Ogouma, Rembo Nkami, 2 ♂, Oct. 7 and Nov. 17, 1918.

Wing: 6 ♂ 63, 63, 65, 67, 67, 67; 1 ♀ 59 mm.

Angola birds average larger than Cameroon specimens, as noted by Bannerman (1948, p. 196). Wings of three Angola males are 70, 70, 70, while seventeen Cameroon males range 63–70 (av. 66.4). The difference is not great enough to use in recognizing subspecies.

Nectarinia amethystina deminuta (Cabanis)

Chalcomitra deminuta Cabanis, 1880, Orn. Centralb., p. 143—Angola.

CNHM: Djambala, 2400 feet, 1 ♂, Oct. 18, 1951.

Wing: 72 mm.

The only previous record of this species from the French Congo is a male from Ngabe that Chapin (1954b, p. 221) considered to be a hybrid between *deminuta* and *fuliginosa*. The presence of an undoubted specimen of *deminuta* at Djambala assures the second parent hypothecated for the hybrid.

Both Jackson (1938, p. 1349) and Bannerman (1948, p. 197) state that in east Africa the females of *N. amethystina doggetti* and *N. r. rubescens* are indistinguishable. Although there are no apparent differences in color or wing length, *doggetti* possesses a consistently longer culmen: *doggetti* (6 ♀) 24–26 (av. 24.8); *rubescens* (6 ♀) 21–22.5 (av. 21.7).

Our Djambala male was breeding.

Nectarinia venusta kuanzae (Reichenow)

Cinnyris affinis kuanzae Reichenow, 1899, Orn. Monats., 7: 192—Malange, Angola.

CNHM: Tchibanga, 4 ♂, 1 im. ♂, 1 ♀, Apr. 17–22, Aug. 6, 1952.

Wing: 4 ♂ 46, 47, 47, 48; 1 ♀ 45 mm.

The immature male is midway between immature and adult plumage, although not in active molt. There is a bluish purple throat stripe, the belly is yellow, the rump is purple, and there are scattered green feathers on the back. These are all characters of the eclipse plumage of the male. However, the plumage of the crown is juvenal, there are no scattered green feathers, and the remiges and rectrices are partially juvenal and partially adult. It would appear that the first "winter" plumage is similar to the eclipse plumage, and that the full adult plumage is assumed at the first pre-nuptial molt.

Bannerman (1948, p. 181) suggests that the typical race may be found in Gabon. The present specimens, however, show the darker yellow under parts of *kuanzae*. This is more logical, since the population of Tchibanga in southern Gabon is continuous with that of the lower Congo and that of Angola, rather than with that of Cameroon. The species is unknown in the north of Gabon.

This is a savanna species, and Beatty collected these specimens at manioc flowers in the plantations.

Nectarinia chloropygia luhderi (Reichenow)

Cinnyris chloropygius luhderi Reichenow, 1899, Orn. Monats., 7: 169—Bipindi, Cameroon.

CNHM: Various localities throughout Gabon and the Moyen Congo, 9 ♂, 1 im. ♂, 2 ♀; throughout the year.

USNM: A good series, mostly males, from various localities, May–December.

Wing: 9 ♂ 48–53 (av. 50.3); 2 ♀ 48, 51 mm.

Birds collected between December and March were nesting.

Nectarinia minulla (Reichenow)

Cinnyris minullus Reichenow, 1899, Orn. Monats., 7: 170—Yaounde, Cameroon.

CNHM: Libreville, Cap Esterias, 1 ♂, 1 ♀, Feb. 18, 23, 1951. Labamba, 1 ♂, May 19, 1952.

Wing: ♂ 47, 48; ♀ 46 mm.

The Libreville birds were nesting.

Nectarinia bouvieri (Shelley)

Cinnyris bouvieri Shelley, 1877, Monog. Nectariniidae, p. 227, pl. 70—Landana, Enclave of Cabinda.

CNHM: Tchibanga, 2 ♂, 1 ♀, Aug. 5, 1952.

Wing: ♂ 57, 57; ♀ 54 mm.

Tchibanga is the only locality in Gabon from which this species is known. Berlioz recorded the first specimen in 1953 (1953b, p. 137). Beatty collected these birds in the village, although they are known as a savanna species.

Nectarinia cuprea cuprea (Shaw)

Certhia cuprea Shaw, 1811, Gen. Zool., 8: 201—Malimba, Enclave of Cabinda.

CNHM: Tchibanga, 1 ♂, Apr. 12, 1952.

Djambala, 2400 feet, 5 ♂, Oct. 21–Nov. 14, 1951.

Wing: 58, 60, 61, 63, 64 mm.

These specimens agree well with a series from Cameroon, and differ from *chalcea* of Angola in being more reddish-, less greenish-bronze on the back. At Djambala these birds were confined to the bushy areas of the savanna; the Tchibanga bird was taken in the village.

Nectarinia congensis van Oort

Nectarinia congensis van Oort, 1910, Orn. Monats., 18: 54—Boma, Lower Congo (=Irebu; Chapin, 1954, Bull. Amer. Mus. Nat. Hist., 75B: 268).

CNHM: Impfondo, 4 ♂, 2 ♀, Feb. 11–March 7, 1952.

Wing: ♂ 64, 65, 65, 66; ♀ 58, 59 mm.

This is the first record for this species from the French Congo, and for any locality on the Ubangi above its mouth. Beatty collected all specimens at Canna flowers. Two of the males were in breeding condition.

We agree with Chapin that *congensis* should be considered a full species and not a race of *erythroceria* as proposed by Delacour. It shares more characters with *melanogaster*, with which it was first allied, than it shares with *erythroceria*. From *melanogaster*, *congensis* differs only in lacking the yellow sides to the breast and the iridescent subterminal bars to the breast feathers. From *erythroceria* it differs in lacking the purple rump, upper tail coverts, and narrow breast band, in having the breast scarlet instead of maroon, and in lacking the iridescent subterminal bands to the breast feathers. In this complex genus these characters are usually of specific value, and *congensis*

should be kept separate. These are the same characters that distinguish the sympatric species *reichenowi*, *chloropygia*, and *minulla*.

Nectarinia superba superba (Shaw)

Certhia superba Shaw, 1811, Gen. Zool., 8: 193—Malimba, Enclave of Cabinda.

CNHM: Mouila, 1 ♂, May 26, 1951.
Fougamou, 2 ♂, 1 ♀, Aug. 12, 15, 1951.
Labamba, 2 ♂, June 1, 1952.
Tchibanga, 1 ♀, May 3, 1952.

Wing: 5 ♂ 73, 75, 75, 76, 77; 1 ♀ 69.

Beatty found these birds in old plantations and native villages, but always at the edge of heavy forest. They are typical of the dark-bellied nominate race (Rand and Traylor, 1959, p. 271).

Nectarinia johannae johannae (J. and E. Verreaux)

Cinnyris johannae J. and E. Verreaux, 1851, Rev. Mag. Zool., ser. 2, 3: 314—Gabon.

CNHM: Gamboma, 2 ♂, Jan. 17, 18, 1952.

Wing: 68, 71 mm.

One specimen still has remains of the juvenal plumage scattered about the body, but the wings and tail are fully adult except for two inner secondaries. Both specimens were collected in gallery forest.

Hylia prasina prasina (Cassin)

Sylvia prasina Cassin, 1855, Proc. Acad. Nat. Sci. Phila., p. 325—Moonda River, Gabon.

CNHM: Fernan Vaz, Omboue, 1 ♂, March 28, 1951.
Fernan Vaz, Gooboue, 1 ♂, Apr. 27, 1951.
Mouila, Mount Tandou, 1 ♂, June 6, 1951.
Mimongo, 2 ♂, June 17 and Aug. 8, 1952.

USNM: Fernan Vaz, Omboue, 2 ♂, 1 ♀, June 21–Oct. 18, 1917.
Fernan Vaz, Sanga Mbuiri, 1 im. ♀, July 31, 1917.
Ogouma, Rembo Nkami, 1 ♀, 1 im. ♀, Dec. 12, 31, 1918.

Wing: 7 ♂ 65, 65, 66, 66, 66, 69, 71; 2 ♀ 56, 58 mm.

The two immature birds (dried skins) have yellowish bills and feet, while in the adult they are black. The young birds resemble the adults in plumage, but are more yellowish green below and paler on the crown and nape.

Family **ZOSTEROPIDAE**

Zosterops senegalensis pusilla Reichenow

Zosterops pusillus Reichenow, 1921, Jour. f. Orn., p. 48—between Nola and Mbaiki, French Equatorial Africa.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♀, July 6, 1951.

"Gabon," 1 ♀ specimen prepared as skeleton, but with remiges and rectrices intact.

Wing: 2 ♀ 49, 54 mm.

Moreau (1957, p. 357) does not recognize *pusilla* of lowland Cameroon and French Equatorial Africa as distinct from *stenocricota* of the Cameroon highlands. However, from Moreau's (op. cit., 422) wing measurements, *pusilla* is recognizable on its small size, and the use of the name facilitates our understanding of variation within the species in west Africa. The fact that there is an intermediate population on Mount Cameroon does not invalidate the race. Moreau's measurements are:

stenocricota		
Bamenda highlands	(24)	56–61 (av. 58.7)
Mt. Cameroon (4000 feet)	(13)	52–57 (av. 54.2)
pusillus		
S. E. of Mt. Cameroon	(12)	49–53 (av. 51.3)

This is evidently a rare bird in Gabon. Beatty collected his M'Bigou specimen from a small flock that was roaming through the treetops in the secondary growth of an old plantation.

Family **PLOCEIDAE**

Petronia superciliaris (Blyth)

Gymnorhis superciliaris Blyth, 1845, Jour. Asiat. Soc., Bengal, **14**: 553—Salt-pannan, Transvaal.

CNHM: Djambala, 1 ♀, Oct. 30, 1951.

Wing: in molt.

This species is found in our region only on the Bateke plateau. Beatty collected this specimen from a flock of ten; its stomach was full of crushed insects, mostly Coleoptera.

Passer griseus ugandae Reichenow

Passer diffusus ugandae Reichenow, 1899, Orn. Monats., **7**: 190—Uganda.

CNHM: Gabon and Moyen Congo, 11 ♂, 3 im. ♂, 3 ♀; throughout the year.

Wing: 11 ♂ 82–89 (av. 85.1); 2 ♀ 82, 83 mm.

According to the labels, the breeding season extends from April to July, and specimens taken during this period are in worn plumage. A series of eight birds from Djambala (October–December) are marked as not breeding and are in fresh plumage. They all have black bills, however, instead of the horn-colored bills usually associated with the non-breeding season. The black bill may be retained throughout the year in the equatorial regions.

There are two September immature males from Mouila. One is molting wings and tail, and the other retains the juvenal feathers; both have a pale horn mandible. The best criterion for recognizing immatures is the length of wing and tail. Wing lengths of these two birds are 78, 78, and tail lengths are 54, 55, compared to a range of 82–89 in wing length and a range of 60–69 in tail length in eleven adult males.

A male from Impfondo has several anomalous characters. In texture of plumage and length of wing and tail (80 and 56, respectively), it is evidently a young bird. However, the culmen is wholly black as in the adult, but is shorter (14.5) than those of either the immatures (15, 15.5), or the adults (15.5–17; av. 16.1). There are distinct blackish shaft streaks on the upper back, and the tenth (outermost) primary is longer than the primary coverts. The shaft streaks are an immature character, according to Reichenow (1904–5, p. 230); the tenth primaries in the other two young are longer than in the adults, but do not reach the primary coverts. Except for the short black bill, the characters noted above are immature characters, some in an extreme condition, but the bill cannot be matched in any of about 70 available specimens of *ugandae*.

Ploceus superciliosus (Shelley)

Hyphantornis superciliosus Shelley, 1873, Ibis, p. 140—Accra, Gold Coast.

CNHM: Mouila, 1 ♂, 1 sex?, June 13 and July 27, 1951.
Djambala, 2 ♂, Dec. 3, 1951.

Wing: 2 ♂, 67, 70 mm.

The two birds from Mouila are the first records for Gabon. The male (June) is molting from excessively worn breeding plumage into eclipse plumage. The two December males are in nuptial plumage but were not in breeding condition.

Ploceus bicolor tephronotus (Reichenow)

Symplectes tephronotus Reichenow, 1892, Jour. f. Orn., p. 184—Buea, Cameroon.

CNHM: Mimongo, 2700 feet, 3 ♂, 2 ♀, 1 im. ♀, June 17–Aug. 2, 1952.

Wing: 3 ♂ 86, 89, 89; 2 ♀ 81, 88 mm.

When series of recent, unworn specimens from Gabon are compared with equally fresh specimens of *amaurocephalus* from Angola, the former are seen to be grayer on the back and more blackish, less brownish on the crown. The plumage foxes rapidly with age and wear, however, and older specimens of *tephronotus* from Cameroon are brown on the back like Angolan specimens, and even more reddish brown on the crown. Bannerman (1949, p. 36) pointed out these changes when synonymizing *analogus* of lowland Cameroon with *tephronotus*.

Beatty found these birds paired, although not breeding at the time. They were commonly found in secondary forest in old plantation growth, but were occasionally seen foraging in the treetops in primary forest. The song of the male begins with a beautiful whistle, followed by the typical *Ploceus* warbled note.

Ploceus nigerrimus Vieillot

Ploceus nigerrimus Vieillot, 1819, Nouv. Dict. Hist. Nat., **34:** 130—Kingdom of Congo (=Portuguese Congo).

CNHM: Gabon and Moyen Congo, 8 ♂, 4 im. ♂, 6 ♀; throughout the year.

USNM: A good series, various localities at Fernan Vaz; May–August.

Wing: 8 ♂ 83–87 (av. 84.6); 6 ♀ 76, 76, 78, 78, 79, 79 mm.

Birds were nesting at Libreville in January, Impfondo in February, Omboue in April, and M'Bigou in July.

Ploceus nigrimentum Reichenow

Ploceus nigrimentum Reichenow, 1904, Vögel Afr., **3:** 39—Galanga, Angola.

CNHM: Djambala, 1 ♀, Nov. 10, 1951.

Wing: 86 mm.

As noted by Chapin (1954b, p. 312), this is the first record of this species north of the Benguella Plateau in Angola. Beatty writes that five birds were sitting on the tops of low trees in the savanna; they were very shy.

Ploceus pelzelni monachus (Sharpe)

Sitagra monacha Sharpe, 1890, Cat. Bds. Brit. Mus., **13**: 426—Fanti, Gold Coast.

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 im. ♂, 1 ♀, March 26–Apr. 14, 1951.

Port Gentil, 1 ♂, May 9, 1951.

Mossaka, 2 ♂, 2 ♀, March 19, 26, 1952.

Wing: 2 ♂ 59, 60; 3 ♀ 52, 54, 55 mm.

At Port Gentil Beatty found several scattered groups of half a dozen pairs, each nesting in young palms in the marsh area.

Ploceus subpersonatus (Cabanis)

Hyphantornis subpersonata Cabanis, 1876, Jour. f. Orn., p. 92—Chinchoxo, Enclave of Cabinda.

CNHM: Fernan Vaz, Omboue, 2 ♂, 1 im. ♂, 1 ♀, Apr. 7–12, 1951.

Wing: 2 ♂ 68, 69; 1 ♀ 66 mm.

These are the first records from Gabon for this species, which was previously known only from the coastal lower Congo and the Enclave of Cabinda. Chapin (1954b, p. 316) has described the female, the first authenticated example of that sex.

Beatty generally found this species in second growth; one male was in floating grass at the border of the lake.

Ploceus cucullatus bohndorffi Reichenow

Ploceus bohndorffi Reichenow, 1887, Jour. f. Orn., p. 214—Stanleyville, upper Congo.

CNHM: Mimongo, M'Bigou, Impfondo, N'Koumou, Gamboma, Djambala and M'Pouya, 34 ♂, 3 ♀; throughout the year.

Wing: 29 ♂ 85–93 (av. 89.0); 2 ♀ 81, 85 mm.

Ploceus cucullatus collaris Vieillot

Ploceus collaris Vieillot, 1819, Nouv. Dict. Hist. Nat., **34**: 129—Angola.

CNHM: Omboue, Fougamou, Mouila, Tchibanga, and Labamba, 14 ♂, 4 ♀; throughout the year.

USNM: Large series from Omboue, Ntyonga, Ashanja, and Anguanamo; May–November.

Wing: 13 ♂ 81–85 (av. 82.9); 2 ♀ 76, 77 mm.

Ploceus cucullatus subsp.

CNHM: Libreville, Cap Esterias, 1 ♀, Jan. 14, 1951.

Wing: 77 mm.

Chapin (1954b, p. 361) has discussed the relations between *collaris* and the species *cucullatus* and has shown that they must be considered conspecific. Much of his evidence was found in the above series, which shows intergradation in a narrow band running generally northwest–southeast across Gabon and Moyen Congo. Of six males from Mimongo, all have extensive rufous on the under parts and the chestnut collar of *bohndorffi*, but three lack the black V on the back and have the dorsal feathers uniformly tipped with yellow as in *collaris*. The same type of variation occurs at Djambala, where one out of five males of *bohndorffi* has the back uniform as in *collaris*. A single male from M'Bigou is also intermediate. The opposite condition obtains at Labamba, where one of two males, otherwise typical *collaris*, has the dark chestnut of the under parts extending onto the flanks instead of being confined to the breast.

The Mimongo series is interesting in showing intergradation not only with *collaris* but with nominate *cucullatus* of Upper Guinea and Cameroon. The latter is distinguished from *bohndorffi* by having the under parts much paler. One of the Mimongo birds matches *cucullatus;* the others grade into typical *bohndorffi*.

The Libreville female could be either *collaris* or *bohndorffi*, or possibly typical *cucullatus*. The only other specimen from Libreville (Berlioz, 1955, p. 191) was also a female and indeterminate. In size it appears closer to *collaris*, but our series of females is too small for measurements to be conclusive.

Despite intergradation with the larger *bohndorffi*, the Gabon populations of *collaris* average slightly smaller than topotypical populations from Angola. Wing measurements: Gabon, 13 ♂, 81–85 (av. 82.9); Angola, 12 ♂, 84–90 (av. 86.4).

Beatty found breeding colonies in every month of the year except May and July, but the birds almost certainly breed during these months, since both in 1951 and 1952 he found colonies in April, June, and August.

Ploceus aurantius aurantius (Vieillot)

Malimbus aurantius Vieillot, 1805, Hist. Nat. plus beaux Ois. Chant., p. 73, pl. 44—Malimba, Enclave of Cabinda.

CNHM: Fougamou, 1 ♂, Aug. 16, 1951.

Mouila, 2 ♂, Sept. 15, 1951.
Impfondo, 5 ♂, 1 ♀, Feb. 15–May 4, 1952.
Wing: 8 ♂ 70, 71, 71, 72, 73, 73, 73, 73 mm.

This is a highly variable species, each local population varying in some degree from its neighbors, and occasionally strikingly so. The pattern of variation is so irregular, however, that it is not possible to divide the species racially, except for *P. a. rex* from Lake Victoria.

As Chapin (1954b, p. 328) noted, birds from Gabon are smaller than other populations. There is considerable overlap, however, as can be seen in the measurements below.

The main source of variation is in the color of the under parts and the presence or absence of a brownish patch on the throat. As Bannerman (1949, p. 121) noted, Gabon birds have a distinct brownish patch on the throat; they are matched in this respect by the southern Nigerian population, although the latter is not as richly colored on the under parts as Gabon birds. A single Liberian male has the brown spot less well defined. However, in Cameroon, between these two brown-throated populations, the birds have the palest under parts of any, without a trace of brown throat. Specimens from the middle and upper Congo River, from Loukolela to the Ituri, are most like the Cameroon birds, but a trifle darker below. The most richly colored population, however, from Impfondo in the Moyen Congo, lies between these two paler forms of Cameroon and the Congo River.

P. a. rex, found only on the northern shores of Lake Victoria, is nearest the upper Congo birds in the color of the under parts. It is distinguished from the nominate form by the great reduction or absence (in 50 per cent of the specimens) of the black spot before the eye; it also averages larger.

Wing measurements of males of the various populations are:

P. a. aurantius		
Liberia	(1)	74
Nigeria	(4)	70–75 (av. 72.8)
Cameroon	(5)	71–77 (av. 73.6)
Middle and upper Congo	(5)	72–75 (av. 73.8)
Moyen Congo	(5)	71–73 (av. 72.4)
Gabon	(6)	67–73 (av. 70.3)
P. a. rex		
Buvuma Island	(12)	73–78 (av. 75.7)

There were nesting colonies at Mouila and Impfondo.

Ploceus ocularius crocatus (Hartlaub)

Hyphantornis crocata Hartlaub, 1881, Abhandl. Nat. Ver., Bremen, 7: 100—Magungo, Victoria Nile.

CNHM: Tchibanga, 4 ♂, 1 ♀, 1 im. ♀, Apr. 20–25, 1952.

USNM: Fernan Vaz, Ashanja, 1 ♀, June 24, 1917.

Wing: 4 ♂ 71, 72, 72, 73; 2 ♀ 65, 69 mm.

These birds average distinctly smaller in wing length than specimens from adjoining Angola and Cameroon (3 Angola males, 73, 79, 80; 5 Cameroon males, 73, 74, 74, 78, 79; 3 Cameroon females, 71, 73, 74). All the Gabon specimens, however, are badly worn, and fresh-plumaged material is necessary to determine if the difference is significant.

The female from Ashanja is the most northern record of this species for Gabon, and the Gabon populations are continuous with those of Angola rather than Cameroon. It is surprising to find a single subspecies encircling the Congo forest from Cameroon east to Uganda and west again to Angola without significant variation.

The birds from Tchibanga were not breeding. Beatty found them on the savannas and in secondary growth.

Ploceus nigricollis nigricollis (Vieillot)

Malimbus nigricollis Vieillot, 1805, Hist. Nat. plus beaux Ois. Chant., p. 74, pl. 45—Malimba, Enclave of Cabinda.

CNHM: Libreville, Omboue, Mouila, Tchibanga, Labamba, Djambala, Impfondo, 14 ♂, 2 im. ♂, 7 ♀; throughout the year.

USNM: Fernan Vaz, Omboue, 7 ♂, 3 ♀, June 20–Oct. 24, 1917.

Wing: 14 ♂ 74–82 (av. 76.3); 7 ♀ 73–77 (av. 75.0) mm.

Beatty found this to be a common bird of the secondary and gallery forests, usually foraging in pairs or small flocks in the heavy undergrowth. There was a colony of thirty pairs nesting in an oil palm near a village at Libreville in January.

It has long been known that the black-backed *nigricollis* of Lower Guinea hybridizes extensively with the green-backed *brachypterus* of Upper Guinea and Nigeria in western Cameroon. Recently Serle (1950, p. 632) and Chapin (1954b, p. 320) have united the two forms. In the U. S. National Museum there is a pair of typical *nigricollis* without collector's labels, but bearing on the museum labels the locality "Bismarkburg, W. Afr." If these birds truly came from Togoland, they would force a reconsideration of the status of *nigri-*

collis and *brachypterus*, since no other specimens of *nigricollis* are known from west of British Cameroons, and birds from the latter region are a hybrid population. Unfortunately, there seems to be no way to trace further the history of these specimens.

Brachycope anomala (Reichenow)

Ploceus anomalus Reichenow, 1887, Jour. f. Orn., p. 214—Stanleyville, upper Congo.

CNHM: Impfondo, 1 ♂, 1 im. ♂, 1 ♀, Feb. 29–March 5, 1952.

Wing: 1 ♂ 63; 1 ♀ 59 mm.

This is the first record of this species for the Moyen Congo; it has yet to be taken in Gabon. Its presence in the Moyen Congo was to be expected, since Good (1953, p. 167) has recorded a pair from Mouloundou in extreme southeastern Cameroon. These specimens were taken in bushy areas near the village.

Malimbus malimbicus malimbicus (Daudin)

Tanagra malimbica Daudin, 1802, Ann. Mus. Hist. Nat. Paris, 1: 151—Malimba, Portuguese Congo.

CNHM: Impfondo, 1 ♂, 1 ♀, Feb. 12, 1952.
Fougamou, 1 ♂, 1 ♀, Aug. 17, 1951.
Mouila, Mount Tandou, 1 ♂, 1 ♀, June 2, 1951.
Mimongo, 1 ♀, June 29, 1952.

USNM: Fernan Vaz, Rembo Kotou, 2 ♂, Nov. 18, 19, 1917.
Ogouma, Rembo Nkami, 2 ♂, Dec. 9, 1918, and Jan. 2, 1919.

Wing: 3 ♂ 86, 88, 88; 3 ♀ 78, 82, 85 mm.

The difference between *malimbicus* (Portuguese Congo to Cameroon) and *granti* (northern Angola) is most apparent in the paler red crown, the more slender bill, and the duller, less blackened abdomen of *granti*, as shown by comparing seven Cameroon males and eight Angola (Golungo Alto, Canzele) males in Chicago Natural History Museum. The above Gabon and Moyen Congo specimens are more like Cameroon birds. Bannerman (1949, p. 126) suggests another character—red, not black throats of young birds—that may characterize *granti*. Chapin (1954b, p. 385) suggests that birds from the Malimba area may actually be like Angola birds, necessitating a reshuffling of subspecies names.

When the twelve Gabon and Cameroon males are compared with eight Kivu and Uganda males, the distinctions between the two pop-

ulations are not sufficient to maintain the race *crassirostris* for birds from Uganda and the eastern Congo. The characters used to separate *crassirostris* are greater bill length and greater extent of black around the eye. While there is an average difference in these characters, there is almost complete overlap in the range of variation, and it is not possible to recognize two races.

Bill measurements of the different populations are: Gabon (3 ♂), 20, 21, 21; Cameroon (9 ♂), 19–22.5 (av. 21.1); Kivu and Uganda (8 ♂), 20.5–22.5 (av. 21.6).

Beatty found these birds in the lower and middle stories of the forest.

Malimbus rubricollis rubricollis (Swainson)

Ploceus rubricollis Swainson, 1838, Animals in Menageries, p. 306—Malimba, Portuguese Congo.

CNHM: Fernan Vaz, Omboue, 1 ♂, Apr. 30, 1951.

Wing: 106 mm.

A single adult male specimen of *praedi* from Angola in our collection measures wing 97, as one would expect for this smaller, southern race. The alleged race *centralis* described from the eastern Congo (Ndussuma, west of Lake Albert) is often recognized as differing from *rubricollis* in its smaller size. However, our series of 21 Uganda males, usually referred to *centralis*, measure wing 97–104 (av. 100.7) while four Cameroon males measure 99, 102, 104, 104 mm. It seems necessary to synonymize *centralis* with *M. r. rubricollis*.

Malimbus nitens moreaui White

Malimbus nitens moreaui White, 1957, Bull. Brit. Orn. Club, 77: 29—Efulen, Cameroons.

CNHM: Fernan Vaz, Omboue, 1 im. ♂, 1 ♀, March 27, 30, 1951.
Fougamou, 1 ♂, 1 im. ♂, 1 ♀, Aug. 5–17, 1951.

USNM: A fair series from Omboue, Ntyonga, Mpivia, and Ogouma; throughout the year.

Wing: 7 ♂ 91, 92, 92, 93, 94, 94, 95; 4 ♀ 82, 83, 84, 87 mm.

This species has a nestling plumage similar in pattern to the adult but much duller, and a distinct first year plumage in which the extent of the red is greater than in the adult. In the nestling, the breast is dull rust and the remainder of the plumage brownish black. In first year birds the breast and throat are red, and the sides of the head and crown are black with a distinct reddish wash, the red breast

feathers are gray at the base, and the remainder of the plumage is black with a slight gloss.

In the adult the top and sides of the head and the chin and upper throat are again black, with only the breast and lower throat red. In the adult plumage the bases of the red feathers are white, not gray. The timing of the molts is difficult to determine but in some individuals it must be almost continuous, since two specimens have all three types of breast feathers present at the same time.

We wish to thank Mrs. B. P. Hall for examining for us the young of this species in the British Museum.

Malimbus cassini (Elliot)

Sycobius cassini Elliot, 1859, Ibis, p. 392—Gabon.

USNM: Ntyonga, Fernan Vaz, 1 ♂, June 2, 1918.
Ogouma, Rembo Nkami, 3 ♂, 2 ♀, Dec. 7, 1918.

One of the specimens from Ogouma, marked as a female and agreeing with the males in structure, is uniformly black without any red about the plumage whatever. It is evidently an adult female. Two immature birds, male and female, from the same locality have the top of the head, cheeks to a line even with rear of the eye, throat, and chest orange chrome. The rest of the plumage is a little duller black than in the adult, and the female is duller than the male. The bills are horn color in the immature and dull black in the adult.

Malimbus racheliae (Cassin)

Sycobius racheliae Cassin, 1857, Proc. Acad. Nat. Sci. Phila., p. 36—Muni River, Gabon.

CNHM: "Gabon," 1 ♂, 1 ♀, without further data; originally prepared as skeletons.

Wing: ♂ 89; ♀ 85 mm.

Berlioz (1955, p. 190) has recently urged that *racheliae* be considered a race of *scutatus*, since the two forms do not overlap, and the only difference is the replacement of some of the red in *scutatus* by yellow in *racheliae*. Berlioz appears to have overlooked two papers by Serle (1950, p. 633; 1954, p. 78) on birds from British Cameroons. Serle collected both species at Kumba and Mossaka, and his specimens show a marked difference in size as well as color pattern. Wing lengths: *scutatus*, 5 ♂ 89–93, 1 ♀ 90; *racheliae*, 6 ♂ 76–79, 4 ♀ 72–77. A further distinction is that no females of *racheliae* show a black stripe dividing the colored breast patch, a character of *scutopartitus*, the race of *scutatus* found in British Cameroons.

According to Serle there are also ecological differences. *Racheliae* is a bird of the primary forest, while *scutopartitus* is found only in second growth and forest clearings. He never saw the two forms together.

There is evidently a marked cline of increasing wing length from British Cameroons to Gabon.

	Males	Females
British Cameroons (Serle)	(6) 76–79	(4) 72–77
Cameroon	83, 86	80, 81
Gabon	89	85

Malimbus erythrogaster erythrogaster Reichenow

Malimbus erythrogaster Reichenow, 1893, Orn. Monats., **1**: 205—Yaounde, Cameroon.

CNHM: Mimongo, 1 ♀, Aug. 7, 1952.

Wing: 88 mm.

This is the first record for the species from Gabon. This specimen agrees well with two topotypical Cameroon females. It was collected in a small tree in heavy old plantation growth.

Quelea erythrops (Hartlaub)

Ploceus erythrops Hartlaub, 1848, Rev. Mag. Zool., **11**: 109—São Tome Island.

CNHM: Libreville, Cap Esterias, 5 ♂, 1 ♀, Jan. 14–Feb. 23, 1951.

Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 10, 14, 1951.

Tchibanga, 4 ♂, 2 ♀, Apr. 11, 22, 1952.

Djambala, 2 ♂, Nov. 4, 1951.

Wing: 11 ♂ 63–66 (av. 63.9); 4 ♀ 59, 60, 61, 62 mm.

February males from Libreville have just begun to assume the red head of the breeding plumage, the March male from Omboue is just completing its molt, and the April males from Tchibanga are in full plumage and in breeding condition. The October males from Djambala are in eclipse plumage. This breeding rhythm is approximately like that of the populations south of the forest. According to Chapin (1954b, p. 399) the southern birds have red heads from January to March at least, while those from savannas north of the forest are in breeding plumage from July to October.

One male from Tchibanga has scattered red feathers on the lower belly.

Euplectes hordaceus hordaceus (Linnaeus)

Loxia hordacea Linnaeus, 1758, Syst. Nat., 10th ed., **1**: 173—in Indiis (=Senegal).

CNHM: Mouila, 2 ♂, 2 ♀, May 16–22, Sept. 13, 1951.
Tchibanga, 5 ♂, Apr. 13–17, 1952.
Labamba, 2 ♀, May 28, 30, 1952.
Mimongo, 1 ♂, Aug. 10, 1952.
Djambala, 2 ♂, 1 ♀, Nov. 4 and Dec. 17, 1951.
Gamboma, 1 ♂, Jan. 15, 1952.

Wing: 10 ♂ 75–80 (av. 77.2); 5 ♀ 64, 66, 66, 66, 67 mm.

We agree with Bannerman (1949, p. 172) in recognizing only two races, *craspedopterus* from Abyssinia with white under tail coverts, and nominate *hordaceus* from the remainder of the range of the species. The variation in the intensity of orange shows complete overlap in series from different localities, and the black line along the forehead, which is supposed to distinguish *sylvatica* of Lower Guinea and northern Angola, is lacking in a quarter of our Cameroon and Gabon specimens.

The breeding cycle is that of the savanna south of the forest. December males are completing their molt into breeding dress, and males are in breeding condition through May. The August male from Mimongo is just completing molt into eclipse plumage, with the outermost primaries only half grown.

Euplectes afra afra (Gmelin)

Loxia afra Gmelin, 1789, Syst. Nat., 13th ed., **1**, pt. 2, p. 857—Africa (restricted to Senegal).

CNHM: Tchibanga, 8 ♂, 1 ♀, Apr. 10–23, 1952.
Impfondo, 9 ♂, 2 ♀, Feb. 11–March 8, 1952.
Mossaka, 1 ♂, 3 ♀, March 17, 18, 1952.

Wing: 16 ♂ 53–56 (av. 54.6); 6 ♀ 51, 52, 52, 52, 53, 53 mm.

Judged by the breeding seasons, the population at Impfondo represents an extension of the upper Congo populations, while those from Mossaka and Tchibanga are more nearly related to the birds of the southern savannas. Our Impfondo males are all in eclipse plumage in February and March, which agrees with the cycle at Stanleyville, where Chapin found the breeding season to be from July to November. On the other hand, the March and April males from Mossaka and Tchibanga are in breeding plumage, as are Angola and lower Congo males at the same season.

It is possible that the Impfondo birds are not a resident form, but are wanderers from north and east after the breeding season. There is no natural savanna there, and all the specimens were taken on the grassy air port. The Tchibanga breeding colony was situated in a swampy part of the savanna; it numbered about ten males and fifty females.

Euplectes macroura macroura (Gmelin)

Loxia macroura Gmelin, 1789, Syst. Nat., 13th ed., **1**, pt. 2, p. 845—Whidah (=Dahomey).

CNHM: Fernan Vaz, Omboue, 4 ♂, March 9–16, 1951.
Mouila, 1 ♂, 1 ♀, May 19, 26, 1951.
Labamba, 3 ♀, May 25–June 5, 1952.
Tchibanga, 1 ♂, Apr. 12, 1952.
Djambala, 7 ♂, 1 ♀, Oct. 17–Nov. 26, 1951.
Gamboma, 3 ♂, 1 ♀, Jan. 2–10, 1952.

Wing: 10 ad. ♂ 78–86 (av. 81.1); 6 im. ♂ 73, 74, 75, 75, 76, 78; 6 ad. ♀ 65, 67, 67, 68, 68, 71 mm.

The breeding season is that of the southern savannas, from January to June. The molt into the breeding plumage is prolonged; October males from Djambala are either just beginning or are partially feathered, while early January males from Gamboma are just completing molt and have not yet started to breed. March to May specimens are all marked as in full breeding condition.

Euplectes axillaris mechowi (Cabanis)

Urobrachya mechowi Cabanis, 1881, Orn. Centralb., p. 183—Malanje, Angola.

CNHM: Mossaka, 1 ♂, March 17, 1952.

Wing: 86 mm.

Bannerman (1949, p. 204) has discussed the variation within the west African populations of *axillaris;* he places all the birds from southern Angola to Cameroon in the race *bocagei,* type locality Huila, Angola, leaving *mechowi* and *camerunensis* in synonymy. We have two males representing *mechowi* from Duque de Bragança and Chitau in northern Angola, and for *bocagei* four topotypes from Huila. Our male from Mossaka and the two northern Angola birds are distinctly more reddish, less yellowish, orange on the lesser wing coverts than Huila birds, and should be kept distinct. A male from Benguela is more like *bocagei.* We do not have sufficient material to outline the ranges of the two forms, but four males from Katanga

agree with our specimens of *mechowi*, and a single male from Balovale, Northern Rhodesia, has the coverts yellowish as in *bocagei*.

In wing size the two forms appear to be the same: *bocagei*, 5 ♂ 85, 87, 89, 89, 91; *mechowi*, 3 ♂ 86, 89, 91.

None of the above specimens is large enough to be referred to *quanzae* from the lower Cuanza River in Angola. Wing length in that form, according to Bannerman, is 93–100.

The Mossaka male is just completing its molt into breeding dress, all the rectrices being still in their sheaths. It is marked, however, as being in breeding condition.

Euplectes ardens concolor (Cassin)

Vidua concolor Cassin, 1848, Proc. Acad. Nat. Sci. Phila., p. 66—Sierra Leone.

CNHM: Tchibanga, 3 ♂, Apr. 17, 20, 1952.

Wing: 76, 77, 77 mm.

These males are in full nuptial plumage and marked as breeding.

Euplectes hartlaubi humeralis (Sharpe)

Penthetriopsis humeralis Sharpe, 1901, Bull. Brit. Orn. Club, **11**: 57—Nandi, Kenya Colony.

CNHM: Gamboma, 4 ♂, 2 ♀, 1 sex?, Dec. 26, 1951–Jan. 10, 1952.

Wing: 4 ♂ 96, 101, 101, 105; 2 ♀ 83, 93 mm.

The range of the race *humeralis*, as it is generally accepted, is fragmented. There is one population in Uganda and western Kenya colony, a second in the savannas of Cameroon, and a third along the middle Congo River in both the Belgian and French Congos.

When compared to three Kenya and Uganda specimens the Moyen Congo males have more reddish, less yellowish, orange lesser coverts. They also average somewhat greater in tail length: Gamboma, 4 ♂, 109, 119, 130, 131; Kenya-Uganda, 3 ♂, 97, 97, 101.

Chapin (1954b, p. 438) gives the range of tail measurements of the Kenya-Uganda birds as 100–110, of middle Congo and Cameroon birds as 115–116, and of males from Lake Leopold II in the western Congo as 122–125. The middle Congo birds appear to be definitely longer-tailed than eastern birds, and on the basis of our material to have darker orange lesser wing coverts. However, a single male from Leopoldville (tail 115) has pale wing coverts, as in Uganda birds. The available material is insufficient to justify recognition of a western race.

Vidua macroura (Pallas)

Fringilla macroura Pallas, 1764, *in* Vroeg, Cat. rais., Adumbr., no. 144, p. 3—East Indies (=Angola).

CNHM: Omboue, Mouila, M'Bigou, Tchibanga, Labamba, Mimongo, Djambala, 9 ad. ♂, 10 im. ♂, 3 ad. ♀, 5 im. ♀; throughout the year.

Wing: ad. ♂ 68–73 (av. 70.0); ad. ♀ 63, 65, 65; im. ♂ 58–65 (av. 62.6); im. ♀ 59–63 (av. 61.8) mm.

Males in breeding plumage were taken between November and April, showing that the breeding season corresponds to that of the southern savannas.

This species was common wherever there were clearings or savanna. It was frequently encountered in the villages, feeding on the ground.

Spermophaga haematina pustulata (Voight)

Fringilla pustulata Voight, 1831, *in* Cuvier, Das Thierreich, **1**: 581—Malimba, Enclave of Cabinda.

CNHM: Libreville, Omboue, Mouila, M'Bigou, Labamba, and Djambala, 12 ♂, 2 ♀, 1 im. ♂, 2 im. ♀; throughout the year.

USNM: Omboue, Andendi, Ntyonga, 8 ♂, 3 ♀; throughout the year.

Wing: 11 ♂ 68–74 (av. 71.0); 2 ♀ 68, 70 mm.

Beatty found this species almost entirely in the dense undergrowth of old second growth or gallery forest. One male, at Labamba, in May, was captured on its nest. The nest was made of fine and soft dry grasses, placed three feet off the ground in a dense thicket. The six eggs were snow white.

From Camabatela, Golungo Alto, and Gabela in northwestern Angola, the Chicago Museum has a fine series of twelve males and six females of the related species *ruficapilla*. If the record of *pustulata* from Quicolungo, Angola (Chapin, 1954b, p. 484) is correct, northern Angola is the only region in which the two species *haematina* and *ruficapilla* are known to co-exist. Elsewhere throughout their ranges they replace each other.

Pirenestes ostrinus ostrinus (Vieillot)

Loxia ostrina Vieillot, 1805, Hist. Nat. plus beaux Ois. Chant., p. 79, pl. 48—Africa and India (=southern Gabon coast).

CNHM: Fernan Vaz, Omboue, 1 ♂, 1 im. ♂, Apr. 5, 10, 1951.
USNM: Fernan Vaz, Omboue, 2 ♂, 2 ♀, Aug. 8–Oct. 24, 1917.
Wing: 3 ♂ 63, 64, 67; 2 ♀ 61, 63 mm.

Pirenestes ostrinus rothschildi Neumann

Pyrenestes ostrinus rothschildi Neumann, 1910, Jour. f. Orn., p. 528—Warri, Niger delta.

CNHM: Libreville, Cap Esterias, 2 ♂, 4 ♀, 1 im. sex?, Jan. 14–Feb. 19, 1951.
Mouila, 1 ♂, 1 im. ♂, May 22 and June 7, 1951.
M'Bigou, 1 im. ♂, June 27, 1951.
Labamba, 2 ♂, 2 ♀, May 22–June 8, 1952.
Wing: 5 ♂ 61, 62, 62, 62, 64; 5 ♀ 59, 60, 62, 63, 64 mm.

Our material supports Chapin's (1954b, p. 490) conclusion about the distribution in Gabon of the races of this puzzling species. In this review Chapin no longer recognizes the very local race *gabonensis* of the lower Ogowe River, but puts this population with *rothschildi*.

Within the species *ostrinus* Chapin recognizes three races, based on width of the mandible (sexes alike). His criteria are: *rothschildi*, 10.2–14.5 (av. 12.3); *ostrinus*, 14.5–17.6 (av. 15.8); *maximus*, 17.5–20.1 (av. 18.8).

The race *maximus* has not been taken in Gabon and does not concern us here. It is primarily a bird of the savannas north and south of the forests. The smallest race, *rothschildi*, is found in the regions of heavy forest in Lower Guinea. The intermediate race, *ostrinus*, is found along the edges of the forest, between the ranges of *maximus* and *rothschildi*, and also in the coastal savannas of southern Gabon, north to Omboue.

Although our material supports the ranges as outlined above, we cannot agree with Chapin that, in Gabon at least, the presence of small- and large-billed specimens together is a secondary effect caused by spread of cultivation, and that specimens should be identified individually on bill size without regard to the population of which they are a part. Our specimens from Libreville and Mouila (and Chapin's from Lambarene) are consistently small-billed. The series from Omboue and Labamba are mixed, but the former, *ostrinus*, is predominantly large, while the latter, *rothschildi*, is small. These mixed populations should be expected where the large-billed *ostrinus* of northern Angola meets the small-billed forest form, *rothschildi*, along the edges of the coastal and southern savannas of Gabon.

These populations are the units by which we study geographical variation, and they must be allocated to subspecies by a preponderance of characters shown; individuals within the population must then be called by the name of the race to which the population belongs.

Measurements of adult specimens, sexes alike (width of mandible): Libreville, 11.5, 11.6, 11.6, 12.1, 12.1, 14.2; Omboue, 13.0, 15.3, 15.3, 15.4, 15.7; Mouila, 12.5; Labamba, 12.0, 12.3, 12.6, 16.4; Canzele, Angola, 15.4, 16.3.

All specimens of both races were collected in the dense undergrowth of old plantations or wooded swamps. They were very shy, and when disturbed they retired into the undergrowth and were not to be seen again. At Libreville one pair was building a nest twenty feet up in a stout vine hanging from a tree. They indulged in their nuptial flight at very great heights, the male following about twenty feet behind the female in an undulating flight.

Clytospiza monteiri (Hartlaub)

Pytelia monteiri Hartlaub, 1860, Proc. Zool. Soc. London, p. 111, pl. 161—Bembe, Angola.

CNHM: Tchibanga, 3 ♂, 1 ♀, Apr. 15–28, 1952.

Wing: ♂ 57, 58, 60; ♀ 58 mm.

In Gabon this species is confined to extensions of the lower Congo savannas, and is not known north of Tchibanga. Birds were paired and breeding in April.

Nigrita canicapilla canicapilla (Strickland)

Aethiops canicapilla Strickland, 1841, Proc. Zool. Soc. London, p. 30—Fernando Po.

CNHM: Gooboue, Labamba, Mimongo, Djambala, Gamboma and Impfondo, 13 ♂, 2 ♀, 1 sex?; throughout the year.

USNM: Ogouma, Rembo Nkami, 1 ♂, 1 ♀, Oct. 10 and Dec. 31, 1918.

Anguanamo, Ngovi, 1 ♂, July 8, 1918.

Wing: 13 ♂ 68–72 (av. 70.6); 2 ♀ 69, 72 mm.

Beatty found this to be exclusively a bird of the treetops, either in secondary forest, or, as at Labamba, in gallery forest. Birds were breeding at Labamba in May, and a Mimongo bird taken August 1 was beginning its molt from immature to adult plumage.

Nigrita luteifrons luteifrons J. and E. Verreaux

Nigrita luteifrons J. and E. Verreaux, 1851, Rev. Mag. Zool., ser. 2, **3**: 420—Gabon.

CNHM: Libreville, Cap Esterias, 2 ♂, 3 im. ♂, 2 im. ♀, Jan. 15–Feb. 25, 1951.

Fernan Vaz, Omboue, 3 ♂, March 19–Apr. 19, 1951.

USNM: Ogouma, Rembo Nkami, 3 ♂, 2 ♀, Nov. 17–Dec. 25, 1918.

Wing: 4 ♂ 57, 58, 59, 60 mm.

It appears that there may be two races represented in the nominate form, which is considered to extend from southern Nigeria east to the Semliki Valley and south to northwestern Angola and the Kasai. Bannerman (1949, p. 255) gives the color of the irides as light gray or creamy white, based on specimens from Nigeria and Cameroon. Bates' specimens from Cameroon and Beatty's from coastal Gabon are also marked pale gray. However, Aschemeier's specimens from Ogouma, away from the coast, and Chapin's (1954b, p. 469) from the Belgian Congo are marked "irides red." If an eastern red-eyed race is found to exist, it would be called *N. l. orientalis* Neunzig, type locality Beni, Semliki Valley.

These birds were nesting at Omboue. One pair had its nest in a bush behind Beatty's hut, about eight feet from the ground. The nest was made of fine grass and was oval in shape, with the entrance high in the side. Each time the parent birds returned to the nest, they would sing their beautiful song, and the young would immediately start begging. A second pair was building in the top of a mango tree in the village.

Nigrita bicolor brunnescens Reichenow

Nigrita bicolor brunnescens Reichenow, 1902, Orn. Monats., **10**: 173—Princes Island.

CNHM: Fernan Vaz, Omboue, 1 sex?, Apr. 11, 1951.

Mouila, Mount Tandou, 1 ♂, June 10, 1951.

Tchibanga, 1 ♀, Apr. 13, 1952.

USNM: Anguanamo, Ngovi, 1 ♂, Aug. 30, 1918.

Ogouma, Rembo Nkami, 1 ♂, 1 sex?, Nov. 24, 28, 1918.

Wing: 1 ♂ 60; 1 ♀ 59 mm.

Found singly or in pairs in the secondary forest.

Nigrita fusconota fusconota Fraser

Nigrita fusconotus Fraser, 1842, Proc. Zool. Soc. London, p. 145—Clarence, Fernando Po.

CNHM: Mouila, Mount Tandou, 2 ♂, June 7, 1951.
Mimongo, 2700 feet, 1 ♀, June 26, 1952.

Wing: ♂ 49, 50; 1 ♀ 51 mm.

Parmoptila woodhousei woodhousei Cassin

Parmoptila woodhousei Cassin, 1859, Proc. Acad. Nat. Sci. Phila., p. 40—Camma River, Gabon.

USNM: Ogouma, Rembo Nkami, 2 ♂, 1 ♀, Nov. 27 and Dec. 6, 1918.

One of the males (November 27) is immature. It lacks the red forehead; the brown of the throat and cheeks is just appearing; the lower parts are washed with brownish buff, and it is browner on the back than the adult.

A male in the United States National Museum from Bitye, Cameroons, is larger and has the throat lighter and the red of the forehead more restricted than the adult male listed above.

Estrilda rubricata congica (Sharpe)

Lagonosticta congica Sharpe, 1890, Cat. Bds. Brit. Mus., **13**: 280—Kasongo, Lualaba River, Belgian Congo.

CNHM: Mouila, 1 ♂, May 18, 1951.
Tchibanga, 5 ♂, 1 im. ♂, Apr. 12–28, 1952.
Djambala, 1 ♂, 1 ♀, Nov. 7, 1951.

Wing: 7 ♂ 46, 47, 48, 48, 49, 49, 49; 1 ♀ 50 mm.

These match closely a series of *congica* from western Uganda. They might be expected to show some signs of intermediacy with the pink-billed *landanae* of Landana and the lower Congo, but there is none. Delacour (1943, p. 77) and Chapin (1954b, p. 523) both unite *landanae* with *rubricata*. Although their known ranges do not overlap, they approach each other closely on the southern Gabon coast, and until some evidence of intermediates is found they are better kept as distinct species.

Ten males from Cameroon average paler, brighter red below and have on the crown a pink wash lacking in *congica*. They belong to the race *sannagae*, about whose validity there has been some question.

The breeding season is apparently prolonged, since birds were nesting at all localities.

Estrilda perreini perreini (Vieillot)

Fringilla perreini Vieillot, 1817, Nouv. Dict. Hist. Nat., **12**: 179—Malimba, Enclave of Cabinda.

CNHM: Tchibanga, 1 ♂, Apr. 29, 1952.
Djambala, 2 ♂, 1 ♀, Nov. 29 and Dec. 13, 1951.

Wing: ♂ 48, 49, 49; ♀ 48 mm.

The three Djambala birds were collected high up in trees in the gallery forest. The Tchibanga male was breeding.

Estrilda astrild rubriventris (Vieillot)

Fringilla rubriventris Vieillot, 1823, Encyc. Meth., **3**: 992—Senegal (=Portuguese Congo).

CNHM: Gooboue, Mouila, M'Bigou, Labamba, and Mimongo, 7 ♂, 2 im. ♂, 6 ♀, May–July.

USNM: Ogouma, Rembo Nkami, 2 ♂, Nov. 24 and Dec. 7, 1918.

Wing: 7 ♂ 45–48 (av. 46.4); 6 ♀ 43–47 (av. 44.7) mm.

There is considerable variation in the shade of red on the under parts and in the amount of barring on the sides; all are more heavily washed below with red, however, than birds of other races. The range of this race in Angola must be limited to the coastal region of the extreme northwest, since specimens from Golungo Alto and Benguela are much less washed with red below and belong to the form *angolensis*.

This species must breed early in the year; only a May 3 Gooboue male is marked as breeding, and the two young birds from M'Bigou, taken July 7, are molting into adult plumage. Beatty found these birds in flocks of up to two hundred individuals.

Estrilda melpoda melpoda (Vieillot)

Fringilla melpoda Vieillot, 1817, Nouv. Dict. Hist. Nat., **12**: 177—west coast of Africa (=Senegal).

CNHM: Libreville, Cap Esterias, 4 ♂, 2 ♀, 2 sex?, Jan. 31–Feb. 28, 1951.
Fernan Vaz, Omboue, 1 ♂, 1 ♀, March 12 and May 2, 1951.
M'Bigou, 1 ♀, June 22, 1951.
Tchibanga, 1 ♀, Apr. 24, 1952.
Labamba, 4 ♂, 4 ♀, 1 sex?, May 27–June 6, 1952.

USNM: Fernan Vaz, Omboue, a small series, Apr. 30–Oct. 25, 1917.

Fernan Vaz, Ntyonga, 2 nestlings, June 1, 1918.
Wing: 8 ♂ 44–47 (av. 46.0); 9 ♀ 45–47 (av. 45.9) mm.

Estrilda melpoda fucata Neumann

Estrilda melpoda fucata Neumann, 1932, Anz. Orn. Gesellsch., Bayern, **2**: 153—Luluabourg, Kasai.

CNHM: Djambala, 1 ♂, 2 ♀, Nov. 1, 2, 1951.
Impfondo, 3 ♂, March 5, 9, 1952.
Wing: ♂ 46, 46, 47, 48; ♀ 47, 47 mm.

Although the line of demarcation between the orange-yellow-cheeked *melpoda* and the much redder-cheeked *fucata* is very poorly marked, the specimens from the French Congo sort out reasonably well as assigned above. There is considerable variation within each series, but the Gabon specimens agree best with a series of *melpoda* from Cameroon, while the Moyen Congo specimens compare better with a series of *fucata* from the Katanga. The single female from Tchibanga has been placed in *melpoda* for geographic reasons, although on color it is closer to *fucata*. Similarly, one male from Impfondo has cheeks as yellow as any *melpoda*, but the remainder of the series are good *fucata*. As Chapin (1954b, p. 542) noted, populations from as far west as Liberia are intermediate; two males from Liberia in the Chicago Museum are as red as any *fucata*.

Estrilda paludicola ruthae Chapin

Estrilda paludicola ruthae Chapin, 1950, Bull. Brit. Orn. Club, **70**: 23—Loukolela, middle Congo River.

CNHM: Djambala, 1 ♂, 1 sex?, Oct. 20 and Nov. 4, 1951.
Mossaka, 1 ♂, 1 ♀, March 19, 1952.
Wing: 2 ♂ 44, 46; 1 ♀ 45 mm.

The Mossaka pair shows clearly the characters of this race, being very pale, almost white, below. The Djambala birds, however, have a faint buffy wash on the under parts and are closer to *paludicola* of the upper Congo.

Chapin (1954b, p. 539) has noted that *melpoda* and *paludicola* cannot be considered conspecific, since both are now known from the middle Congo. This is even more strikingly seen in northern Angola, where both forms are found in a small area in western Malanje and eastern Cuanza. The resident race of *paludicola* found here is *benguellinus*, which is heavily washed with ocher below and has a pink crissum, but the population of *melpoda* shows no approach

to these characters, being pale gray below with a small buff patch around the vent.

Estrilda atricapilla atricapilla J. and E. Verreaux

Estrelda atricapilla J. and E. Verreaux, 1851, Rev. Mag. Zool., ser. 2, **3**: 421—Gabon.

CNHM: Libreville, Cap Esterias, 1 sex?, Jan. 29, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 3 ♂, 3 ♀, June 20–July 13, 1951.
Labamba, 3 ♂, May 29–June 4, 1952.
Mimongo, 2700 feet, 1 ♀, Aug. 9, 1952.

Wing: 6 ♂ 45, 45, 46, 46, 46, 47; 3 ♀ 45, 45, 47 mm.

Only the one bird was seen at Libreville, but they were commonly in small flocks elsewhere, usually in the low brush and grass of old plantations. The Labamba specimens are in heavy molt.

Estrilda subflava clarkei (Shelley)

Coccopygia clarkei Shelley, 1903, Bull. Brit. Orn. Club, **13**: 75—Richmond Road, Natal.

CNHM: Tchibanga, 5 ♂, 4 ♀, Apr. 21–30, 1952.

Wing: ♂ 43, 43, 43, 44, 44; ♀ 42, 43, 43, 44 mm.

The males have a slight reddish wash over the under parts, reminiscent of the nominate race of the northern savannas. This wash is not found in any of a series of twelve males from Angola, Northern Rhodesia and the Katanga, although two of them have a reddish spot on the breast. It is curious that the northernmost population of *clarkei* in west Africa should vary in the direction of the northern *subflava*, even though separated from the nearest population of that race in Cameroon by five hundred miles of forest.

Beatty found these birds in small flocks around the village. Several are marked as breeding, but it must have been near the end of the season, since the majority are in molt.

Estrilda atricollis gabonensis (Lynes)

Ortygospiza gabonensis Lynes, 1914, Bull. Brit. Orn. Club, **33**: 131—Gabon.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 16, 30, 1951.
Labamba, 2 ♂, May 11, 16, 1952.
Gamboma, 1 ♀, Jan. 6, 1952.

Wing: ♂ 48, 48, 49, 49; ♀ 49 mm.

Berlioz (1955, p. 192) and Cowles (1957, p. 60) have recently summarized our knowledge of *gabonensis;* the only other definite localities are Mouila, and Owendo near Libreville. Cowles suggests that there may be no difference between *gabonensis* and *dorsostriatus* of Uganda. Our four males of *gabonensis* were compared with three males of *dorsostriatus* from Uganda; the latter differ only in having the white barring on the breast distinctly thinner. One of the *dorsostriatus* has a few white feathers on the chin, but one of Cowles' *gabonensis* did also.

Chapin (1954b, p. 501) lists specimens from Loukolela as *Ortygospiza a. fuscata,* and our female from Gamboma might be expected to belong to that form. However, it is not as dark on the upper parts as three specimens of that form from Ndola, Northern Rhodesia, and has the white barring on the breast wider, so that it appears closer to *gabonensis.*

Beatty found *gabonensis* in the short grass of the savannas; they were always in pairs, although none were in breeding condition. The Omboue birds were in fresh plumage, while those from Labamba were badly worn. The female from Gamboma was one of a pair in the savanna marshland.

Lonchura fringilloides (Lafresnaye)

Ploceus fringilloides Lafresnaye, 1835, Mag. Zool., year 5, pl. 48—India (=Liberia).

CNHM: Tchibanga, 2 ♂, 1 ♀, Apr. 19 and Aug. 5, 1952.

Wing: ♂ 61, 62; ♀ 63 mm.

The April male was in breeding condition; the August pair were carrying grass material to a nest site at the top of a tall tree in the village.

Lonchura bicolor poensis (Fraser)

Amadina poensis Fraser, 1842, Proc. Zool. Soc. London, p. 145—Clarence, Fernando Po.

CNHM: Libreville, Cap Esterias, 2 ♂, 1 juv., Jan. 15–24, 1951.
Mouila, Mount Tandou, 2 ♂, June 2, 6, 1951.
Labamba, 1 ♂, 3 ♀, May 30 and June 1, 1952.
Mimongo, 2700 feet, 1 ♂, 1 ♀, June 16 and Aug. 6, 1952.

USNM: Ogouma, Rembo Nkami, 1 ♂, 2 ♀, Nov. 19–Dec. 5, 1918.

Wing: 6 ♂ 49, 49, 50, 50, 50, 52; 4 ♀ 49, 50, 52, 53 mm.

The breeding season must be prolonged, because there is a juvenal from Libreville just out of the nest and birds from Labamba are still in breeding condition.

Lonchura cucullata cucullata (Swainson)

Spermestes cucullata Swainson, 1837, Bds. West. Afr., 1: 201—Senegal.

CNHM: Fernan Vaz, Omboue, 2 ♂, March 10 and Apr. 19, 1951.
M'Bigou, Mount Du Chaillu, 2400 feet, 5 ♂, 1 ♀, June 22, 24, 1951.
Tchibanga, 3 ♂, 1 im. ♂, 1 ♀, Apr. 13 and Aug. 5, 1952.
Labamba, 1 ♂, 1 ♀, 1 sex?, all im., May 10 and June 4, 1952.
Djambala, 1 ♀, Nov. 2, 1951.

USNM: Fernan Vaz, Omboue, 1 ♂, May 15, 1917.
Fernan Vaz, Mbuiri, 1 ♀, Aug. 2, 1917.

Wing: 7 ♂ 47–50 (av. 48.4); 3 ♀ 47, 49, 49 mm.

Although a few of these birds show some reduction of iridescence and increase of white tipping on the flanks in an approach to the southern *scutatus*, the series as a whole is referable to *cucullata*.

It is interesting that *L. cucullata* and *L. bicolor*, both of which are found throughout Gabon, were only found together at one locality, Labamba, by either Aschemeier or Beatty. Even at Labamba the two were not associated, *bicolor* being found in the tall grass along the river and *cucullata* in the grassy areas around the village. According to Beatty's notes, this ecologic difference holds throughout Gabon; *cucullata* was always found in proximity to the villages, while *bicolor* was common in the mixed brush and grasslands of old plantations.

Family **FRINGILLIDAE**

Serinus capistratus capistratus (Finsch and Hartlaub)

Crithagra capistrata Finsch and Hartlaub, 1870, Vögel Ost-Afr., p. 458—Golungo Alto, Angola.

CNHM: M'Bigou, Mount Du Chaillu, 2400 feet, 1 ♂, 1 ♀, June 19, 1951.
Tchibanga, 1 ♂, Apr. 24, 1952.
Labamba, 1 ♂, May 19, 1952.

Wing: ♂ 61, 61, 62; ♀ 61 mm.

These specimens agree well in color with two topotypical males from Golungo Alto and a series of five males and three females from other localities in northern Angola.

Beatty found these birds along the lake at M'Bigou and in gallery forest. All were in breeding condition.

Serinus mozambicus tando Sclater and Mackworth-Praed

Serinus mozambicus tando Sclater and Mackworth-Praed, 1918, Ibis, p. 465—Ndala Tando, northern Angola.

CNHM: Tchibanga, 1 ♀, Apr. 20, 1952.
Labamba, 1 im. ♀, June 2, 1952.
Djambala, 3 ♀, 1 im. ♀, Oct. 28 and Nov. 1, 1951.

Wing: 4 ♀ 64, 65, 65, 66 mm.

On two occasions Beatty noted habits of these birds that are so at variance with the reports of other naturalists, and with what we would expect from a serin, that they should be quoted in full: "10/28. In thick high brush. A small flock, perhaps 10 birds, roamed the tree tops, perching on dead branches and darting after passing insects." "11/1. These birds were in the tops of tall trees, darting after flying insects." On both occasions he collected two members of the flock.

The Tchibanga bird was in breeding condition.

Emberiza cabanisi cabanisi (Reichenow)

Polymitra (Fringillaria) cabanisi Reichenow, 1875, Jour. f. Orn., p. 233, pl. 2—Cameroon.

CNHM: Mimongo, 2700 feet, 1 ♂, Aug. 7, 1952.
Djambala, 1 ♀, 1 imm. ♂, 2 imm. ♀, Oct. 17–23, 1951.

Wing: 1 ♂ 81; 1 ♀ 82 mm.

The Mimongo male has been compared to a long series of *cabanisi* from Cameroon, and it is typical of the nominate race. The Djambala female shows an approach to *cognominata* of Angola in having only the chin white instead of the whole throat, but the upper parts are similar to *cabanisi* in lacking a gray crown stripe and any rufous edgings to the back feathers.

The only previous record for this species for either Gabon or the Moyen Congo is a single specimen from Kinkala, just west of Brazzaville, referred by Malbrant and Maclatchy (1949, p. 424) to *cog-*

nominata. The southern Moyen Congo is evidently the zone where these two quite distinct races overlap.

At Djambala the birds were found in an area of sparse brush and short grass, and at Mimongo at the edge of an old plantation.

Fringillaria tahapisi tahapisi (Smith)

Emberiza tahapisi A. Smith, 1836, Rep. Exped. Cent. Afr., p. 48—sources of the Vaal River.

CNHM: Mouila, 2 ♂, May 20, 22, 1951.
Djambala, 1 ♂, 1 ♀, Nov. 10, 23, 1951.
Gamboma, 2 ♂, 1 im. ♂, Dec. 26, 28, 1951.

Wing: 5 ♂ 75, 75, 78, 78, 79; 1 ♀ 75 mm.

Commonly found in villages and along the edges of the savanna.

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List of Families

Publication 879

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