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THE OLIVE IBIS OF DUBUS AND ITS REPRESENTATIVE ON SÃO THOMÉ¹

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The type of *Ibis olivacea* Dubus² came from the mainland of Africa, and not from the islands in the Gulf of Guinea. This opinion, already expressed by Mr. Bannerman,³ is supported by my recent examination of Dubus' specimen in the Brussels Museum. It is a mounted bird (Fig. 1) still admirably preserved; and, so far as I can tell, it differs but slightly from Cameroon and Congo specimens.

There is a possibility, not considered by Mr. Bannerman, that it may have come from Upper rather than Lower Guinea, for this is the more usual meaning of "Côte de Guinée" in French; and Dubus wrote⁴ that in the same box, when the King of the Belgians purchased it, were contained a specimen of *Anastomus lamelligerus* and the type of *Ardea calceolata* Dubus. The latter name is now considered a synonym of *Melanophoyx ardesiaca* (Wagler), a heron which is found both in South Africa and on the Upper Guinea coast, but which has not been recorded from the Cameroon, Gaboon, or Lower Congo. Neither has the open-billed stork been collected along the coast of forested Lower Guinea, but there is at least one record for the Ivory Coast (Grand Bassam; Arsène, collector).

These are merely hints as to the origin of Dubus' ibis; but they are strengthened by a comparison of its measurements with those of a specimen from Liberia (type of *splendida* Salvadori) and of a few examples from the Lower Guinea coast (see Table). The measurements I took of the type of *olivacea* are distinctly larger than those of specimens from the Cameroon and Gaboon, but very close, on the other hand, to those given by Count Salvadori⁵ for Büttikofer's specimen from Sofore Place, Liberia. When proposing the name *splendida*, Salvadori was under the impression that the Prince's Island form was the true *olivacea*. In no

¹Scientific Results of The American Museum of Natural History Congo Expedition. Ornithology No. 9.

²1838, Bulletins de l'Académie Royale des Sciences, Bruxelles, IV, (1837), p. 105, with plate.

³1919, Bull. Brit. Orn. Cl., XL, pp. 5-7; 1921, Ibis, (11) III, pp. 108-110.

⁴1838, Bull. Ac. Roy. Sci., Bruxelles, IV, (1837), p. 40.

⁵1903, Ibis, (8) III, p. 185.



Fig. 1. The type specimen of *Lampribis olivacea* Dubus, photographed in the Royal Museum of Natural History, Brussels.

point, however, does the type of *olivacea* differ from Salvadori's description of *splendida*.

The differences between Upper Guinea and Lower Guinea forms, on which Reichenow¹ based his name *cupreipennis*, are at most subspecific, and the coppery or bronze patches on the greater secondary coverts, given by Salvadori as a character of *splendida*, are also to be seen, though not quite so brilliant, in the Cameroon and Gaboon specimens. The Lower Guinea bird is apparently to be distinguished by the more greenish

¹1903, Ornithologische Monatsberichte, XI, p. 134; 1905, 'Die Vögel Afrikas,' III, p. 804.

tinge of its body and neck plumage, which are of a warmer brown tone in typical *olivacea*. A comparison of Büttikofer's specimen (in Leyden) with the type of *olivacea* (in Brussels) and specimens of *cupreipennis* (in London, Tervueren, and Berlin) is to be hoped for.

Pending this, I shall call the Upper Guinea bird *L. o. olivacea* (of which *splendida* is then a synonym) and the Lower Guinea form *L. o. cupreipennis*. The specimen of *cupreipennis* in The American Museum of Natural History from Ayakubi in the eastern Congo forest¹ is larger than the coastal specimens, and thus resembles in size—though not in color—the type of *olivacea*; but it is still far smaller than *L. akeleyorum* of the mountain forest of Kenia in East Africa.² It will be recalled that Mr. Akeley was quoted as saying that he had met with this ibis also on Mt. Elgon and the Aberdares, where as yet none has been secured by collectors.

A second specimen of *cupreipennis* from the Belgian Congo has now been brought back by Dr. H. Schouteden from the neighborhood of Bolobo. In measurements it agrees with Zenker's specimen from Bipindi, Cameroon. It would seem unwise to separate an Ituri race on such slight grounds.

No specimen of *Lampribis* has yet been taken on Fernando Po, but the fact that these are forest ibises makes it probable that one exists there. Two other islands in the Gulf of Guinea are known to be inhabited by the genus. On Prince's Island lives *L. rothschildi* Bannerman, of dimensions equal to the mainland birds but lacking the bronzy patches on the greater wing-coverts. It does not, however, extend without change to the island of São Thomé, as Bannerman has stated. In the Paris Museum of Natural History there is a mounted specimen of *Lampribis* from São Thomé, received through the Portuguese Colonial Exposition of 1900, which I have had the privilege of examining. The reddish color of its bill indicates that it is adult; but of all the specimens of the *olivacea* group which I have seen, this one has the dullest colors and the smallest dimensions throughout. Its wing measures 75 mm. less than that of the Prince's Island bird collected by Fea, and its bill is 20 mm. shorter.

Remembering that Bocage reported specimens from São Thomé³ without giving measurements, I wrote to the Curator of the Bocage Museum in Lisbon, Dr. Fernando Frade, who most courteously supplied me

¹Chapin, 1921, *Ibis*, (11) III, pp. 609-610.

²Chapman, 1912, *Bull. Amer. Mus. Nat. Hist.*, XXXI, p. 235; van Someren, 1922, *Nov. Zool.*, XXIX, p. 8.

³1888, *Jornal de Sciencias*, Lisboa, XII, No. xlviii, pp. 231, 232; 1889, (2) I, No. i, pp. 35, 36; 1889, No. ii, p. 144; 1889, No. iii, p. 210; 1891, II, No. vi, p. 84.

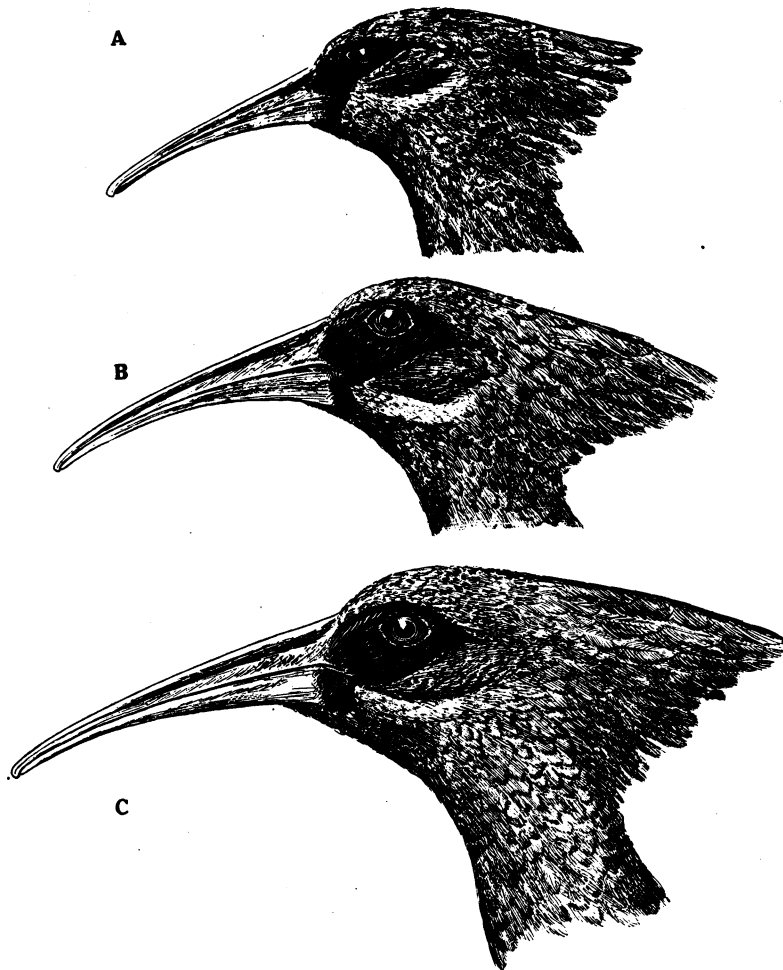


Fig. 2. Heads of (A) *Lamprolaima bocagei* (type), (B) *L. olivacea cupreipennis* (male, Avakubi), (C) *L. akeleyorum* (male, type). $\times \frac{2}{3}$.

To be compared with figures in Reichenow's 'Die Vögel Afrikas,' 1905, III, p. 805. The form there called *L. olivacea* is evidently *L. rothschildi*.

with a complete set of measurements from four specimens now preserved in the collection there. These agree with the Paris specimen in being extremely small. It seems fitting to name this new form in honor of the distinguished author of 'L'Ornithologie d'Angola.' The authorities of the Paris Museum have graciously permitted me to designate their specimen as the type.

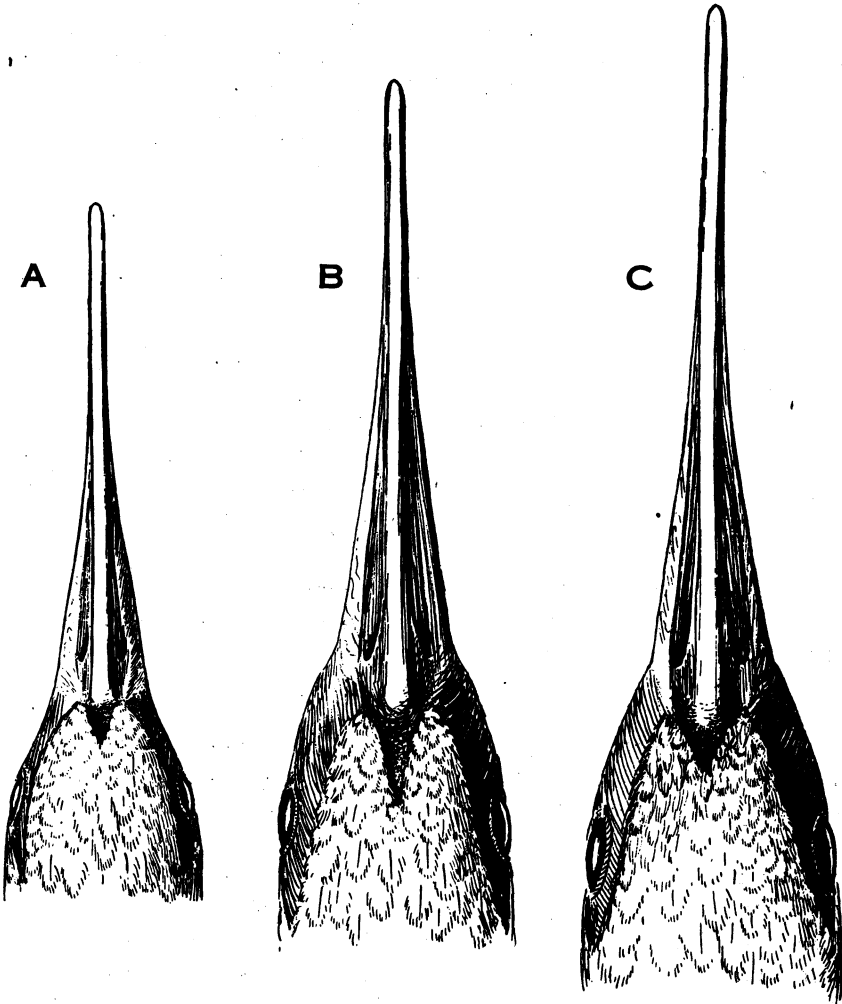


Fig. 3. Views from above, to show bills and frontal feathering of (A) *Lampribis bocagei* (type), (B) *L. olivacea cupreipennis* (male, Avakubi), (C) *L. akeleyorum* (male, type). $\times \frac{4}{5}$.

***Lampribis bocagei*, new species**

SPECIFIC CHARACTERS.—Duller in coloration and smaller than *Lampribis olivacea*; more similar in color to *L. rothschildi*, but still decidedly smaller.

TYPE.—Adult (from its measurements presumably a male), Rio de São Thomé, São Thomé; Muséum d'Histoire Naturelle, Paris, C. G., 1901, No. 119.

DESCRIPTION OF TYPE.—Head, neck, and chest dull brown. The light malar stripe is scarcely distinguishable; and the reflections along the edges of the crest-

feathers, though not very noticeable, are greenish. The primaries are dark brown, with a slight greenish gloss, the greater secondary-coverts have very little violet color, being more greenish than in *olivacea*, and their outer webs lack bronze areas entirely. The other wing-coverts have relatively little glossy green, it is confined almost wholly to their outer webs. Scapulars and interscapulars are dark olive-brown, with slight greenish luster in some lights. Rump and tail not bluish, but dark green, with considerable gloss, especially on rectrices. Lumbar feathering and under tail-coverts blackish brown with faint green gloss.

The bare frontal indentation is small, 4.5 mm. wide, and 5.5 deep. The feathering of the cheek also comes higher and closer to the eye than in *olivacea*, *cupreipennis*, or in Reichenow's figure of the Prince's Island bird.¹ The bill decidedly reddish, especially on culmen.

MEASUREMENTS OF TYPE.—Wing (straightened), 225 mm.; tail, 103; bill (to rear border of nostril), 75; metatarsus, 53; longest crest-feathers, 69.

Only the largest of the four specimens in Lisbon, a male, exceeds the type in any of its measurements. Taking the five known specimens, we find the average measurements for the species, inclusive of both sexes, to be: wing, 247.8 mm.; tail, 95.4; bill, to rear of nostril, 72.8; metatarsus, 52.0.

So far as known, *Lamprolaima bocagei* is restricted to the Island of São Thomé, where it is said to be called "Gallinhola" or "Gallinha do matto" by the Portuguese planters.

SUMMARY

Lamprolaima rara is so distinct a species as to require no comment in the present paper. The remaining forms comprised in the genus are so closely allied that whether they are treated binomially or not depends largely upon the point of view. From the few specimens available—it is rare to find more than two in a museum—intergradation seems not at all complete. No doubt exists as to their making up a very compact group or "Formenkreis." In point of size, *L. bocagei* and *L. akeleyorum* are the opposite extremes of the series, and the other relations will be evident from my diagrams in Fig. 4. The first of these illustrates length of bill in adults, as measured from rear of nostril; the second, wing-length. *L. rothschildi* differs little in size from *olivacea* but has good color characters, in which it resembles the dwarfed *bocagei*. *L. splendida* is to be regarded as a synonym of *olivacea*, and *cupreipennis* as its representative race in Lower Guinea. Further comparisons, especially of the specimens now in Leyden and in Brussels, would be advisable. *L. akeleyorum*, of which one additional specimen has been collected by W. N. van Someren on Mt. Kenia, may be mentioned as the fourth species.

¹1905, 'Die Vögel Afrikas,' III, p. 805.

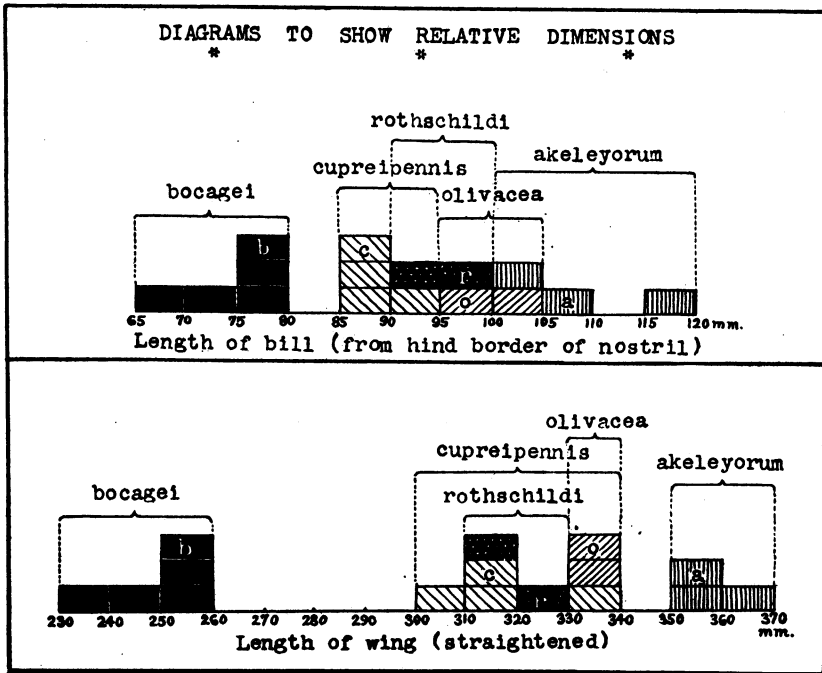


Fig. 4. Size relations in *Lampribus olivacea* and its allies.

The type specimen of each form is indicated by the initial letter of its name. Bates' specimen of *cupreipennis* from Efulen is omitted because of its pronounced immaturity.

The isolating factors which have facilitated the development of so many forms are easily discerned. Whereas the island species are kept apart by many miles of salt water, the three continental forms are prevented from intermingling by considerable stretches of grasslands now intervening between the forest areas they inhabit.

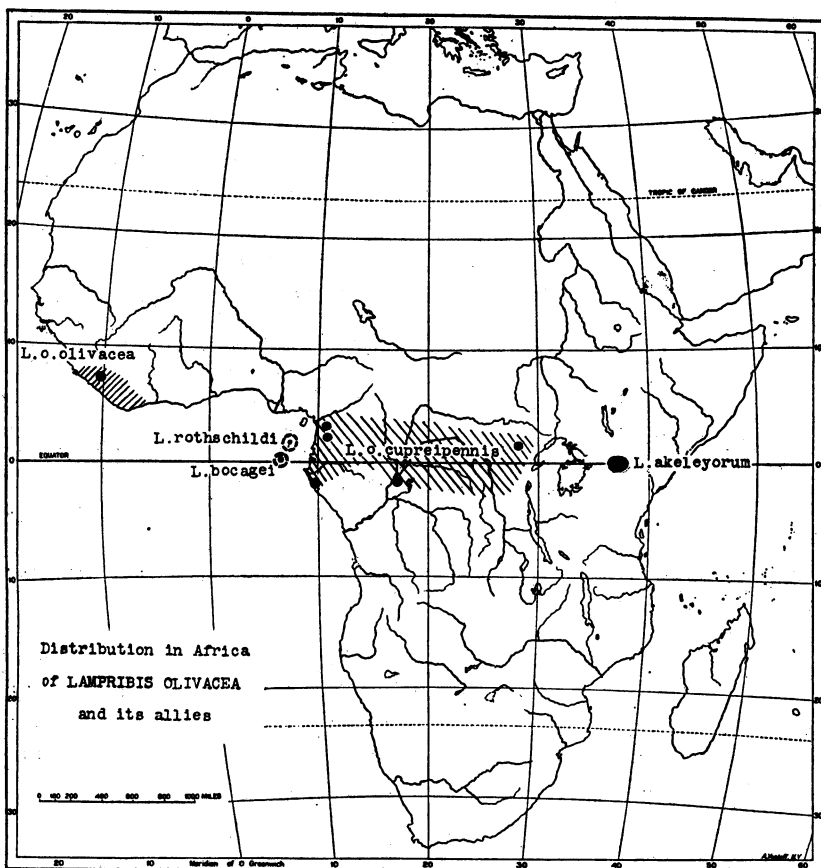


Fig. 5. Ranges of all forms of *Lampribis* excepting *L. rara*.

Known localities for *L. o. olivacea* and *L. o. cupreipennis* are shown as heavy round dots, but their probable ranges are shaded. There is a possibility that *L. akeleyorum* extends as far west as Mt. Elgon.

Measurements in the *Lampribus olivacea* group

	Wing	Tail	Culmen from Rear of Nostril	Tarsus	Middle Toe With Claw
<i>L. bocagei</i>					
ad., (type), São Thomé ¹	255	103	75	53	59
♂, São Thomé (F. Newton) ²	256	101	76	55	62
♂, São Thomé (F. Newton) ²	233	88	75	50	61
♀, São Thomé (F. Newton) ²	255	96	68	50	52
(sex?) São Thomé (F. Newton) ²	240	89	70	52	51
<i>L. rothschildi</i>					
♂, (type), Prince's Is. (L. Fea) ³	328	...	95	66	..
♀, Prince's Is. (Dohrn and Keulemans) ⁴	313	110	abt. 90	67	..
<i>L. o. olivacea</i>					
♂, (type), Guinea Coast ¹	333	146	96	67	71
♂, (type of <i>splendida</i>), Liberia (Büttikofer) ⁵	330	150	abt. 100	72	..
<i>L. o. cupreipennis</i>					
"♀," (type), Bipindi (Zenker) ⁶	310	130	85	57	..
imm., Efulen (Bates) ^{1,7}	280	...	76
ad., Camma R. (Du Chaillu) ¹	317	125	86.5	62	63
ad., near Bolobo (Schouteden) ¹	309	127	85	59	61.5
♂, Avakubi (Lang and Chapin) ¹	335	133	94	70	70
<i>L. akeleyorum</i>					
♂, (type), Mt. Kenia, 9000 ft. (Akeley) ¹	358	160	108	71	79
♀, Mt. Kenia, 9000 ft. (Akeley) ¹	362	165	102	64	70
♂, Mt. Kenia, 6500 ft. (van Someren) ¹	355	159	115.5	73	74

¹Measurements taken by the author; in these the wing was straightened, as probably in most other cases.

²Measurements taken by Dr. Frade.

³Measurements by Bannerman (1919, Bull. Brit. Orn. Club, XL, p. 7); Salvadori (1903, Ibis, p. 187) gave the wing of the same individual as 340 mm.

⁴Dohrn and Keulemans seem to have secured only a single specimen; Dohrn (1866, P. Z. S., p. 331) must have been in error in stating the wing length as 370 mm. The present measurements are those of Salvadori (1903, Ibis, p. 188).

⁵Measurements by Salvadori (1903, Ibis, p. 185).

⁶From Reichenow, 1905, 'Die Vögel Afrikas,' III, p. 804.

⁷Clearly an immature bird, whence the short bill and wing.

