



PROCEEDINGS
OF THE
NEW ENGLAND ZÖOLOGICAL CLUB

NOTES ON EAST AFRICAN BIRDS WITH
DESCRIPTIONS OF TWO FORMS
NEW TO SCIENCE

BY HERBERT FRIEDMANN

THE RACES OF RHINOPOMASTUS MINOR

SCLATER (*Systema Avium Ethiopicarum*, 1924, pp. 236-237) recognizes three forms of this wood hoopoe,—the typical race, *somalicus*, and *cabanisi*. While studying the birds collected in Tanganyika Territory by Arthur Loveridge, and in Ethiopia and Kenya Colony by the late Dr. Edgar A. Mearns, I took the opportunity to assemble a good series of this species and to investigate the validity of the named forms. Briefly, my conclusions agree with those of Sclater, but the aggregate he calls *cabanisi* (from the upper part of the valley of the White Nile, south to Uganda and north-central Tanganyika Territory) I propose to subdivide into a smaller, northern race (*cabanisi*) and a larger, southern one, which is named

***Rhinopomastus minor extimus* subsp. nov.**

Type, Museum of Comparative Zoölogy, no. 133,557, adult male, collected 25, December, 1918, at Dodoma, Tanganyika Territory, by Arthur Loveridge.

Subspecific character.—Similar to *cabanisi*, but noticeably larger (wing 106-112 mm. in *extimus*, 97.5-102 mm. in *cabanisi*).

Measurements of type.—Wing, 108; tail, 133.5; culmen, 36 mm.

Range: Northern Tanganyika Territory and Southern Kenya Colony (Taveta and Teita districts to southern Ukamba and southern Kavirondo).

As at present understood, the races of this species are as follows:—

1. *R. m. minor*, characterized by well developed white wing bands and small size (wing, ♂, 93-98; ♀, 90-99 mm.) This form occurs from the plateau country of French and British Somaliland southwest through the Hawash drainage basin across Arussi-Gallaland to southern Shoa as far as the Gato River. It does not appear to have been recorded from the Kaffa and Omo districts, or from the drainage area of the Nile and its eastern tributaries.

2. *R. m. somalicus*, intermediate in character between *minor* and *cabanisi*, sometimes with, sometimes without, the white wing bands. Wing, ♂, 92-98; ♀, 80-87 mm. (according to Zedlitz, Journ. f. Ornith., 1915, p. 35). Known from southern Italian Somaliland (Sarigo in the Garre-Livin district, and the country between Bardera and the coast) and from adjacent parts of Jubaland south along the coast as far as the mouth of the Tana River. During the non-breeding season (February-May) it appears to wander about in central and north-central Kenya Colony. Thus Lonnberg (Kunl. Sv. Vet. Akad., Handlgr., 47, no. 5, 1911, p. 77) records specimens from the area between Chanler Falls and the Lekundu and Luazomela Rivers. His birds were taken in February, while Mearns collected a series of six specimens there in August, and these are *cabanisi*. Zedlitz (*loc. cit.*) suggests that the birds of the northern half of Kenya Colony are *somalicus*, but I do not agree with him, and feel that he probably was confusing breeding and non-breeding individuals.

3. *R. m. cabanisi*, with no white wing band; wing, ♂, 97.5-102.5; ♀, 88-98.5 mm. This bird at first sight is very distinct from *minor*, and might be considered specifically so were it not for the variable nature of the connecting form, *somalicus*. Zedlitz (*loc. cit.*), van Someren (Novitates Zoologicae, XXIX, 1922, p. 83), and others have suggested that the birds

of southern Kenya Colony are different from typical *cabanisi*, but have hesitated to separate them in the absence of topotypical material. *R. m. cabanisi* was described from the White Nile, between 3° and 4° N. Lat., a region where the bird is rare. The type seems to have been lost, and the only clue as to its size is in the original description where it is stated that, "magnitudine, forma, .*Irrisori minori* Rüpp., valde affinis, sed absque remigum maculis albis." It seems, therefore, that the type was rather small, agreeing with the birds of the northern half of Kenya Colony, and not with the more southern ones (*extimus*). The range of *cabanisi* is the upper White Nile from Mongalla south to Uganda, and east through the northern half of Kenya Colony, south to about the Equator.

4. *R. m. extimus*, with characters and range as given above. The southern limits of its range, as given by Sclater (*loc. cit.*) are Teita and the Pangani River, but it extends at least to Dodoma, Tanganyika Territory (on the central railway line).

Material examined: *R. m. minor*, 16; *R. m. somalicus*, 2; *R. m. cabanisi*, 22; *R. m. extimus*, 3.

THE GEOGRAPHIC SIZE VARIATIONS OF THE SILVERY CHEEKED HORNBILL, *BYCANISTES CRISTATUS*

THE silvery cheeked hornbill ranges from Nyasaland and eastern Southern Rhodesia through Tanganyika Territory and Kenya Colony to north-central Ethiopia, and throughout its range is quite local, being restricted to forested areas, which, in eastern Africa, are small and discontinuous. Hitherto no attempt has been made to divide the species into geographic forms. Grote (Mitt. Zool. Mus. Berlin, 1927, p. 205) has suggested that *cristatus* and *subcylindricus* are representative forms of one "Formenkreis" or form-circle, but he has not gone to the extent of calling them both races of *cristatus*. While it is true that, on the whole, *subcylindricus* is a West African, and *cristatus* an East African, bird, as Grote's map shows, yet the former ranges farther to the east than usually has been sup-

posed. In working over Loveridge's East African collections I find that he has recorded *subcylindricus* from Morogoro, Tanganyika Territory. The specimen, which I have not seen, was identified as such by Dr. van Someren, and is now in the Nairobi Museum. Morogoro is well within the range of *cristatus*, and if this individual was not merely a wandering, non-breeding bird (and it would have had to wander nearly five hundred miles from its usual range to get to Morogoro), it follows that the two birds must be considered as specific entities, although their close relationship is apparent.

Aside from the question of the phylogenetic affinities of *subcylindricus* and *cristatus*, a glance at Grote's map of the distribution of the latter shows that it narrows down considerably in western Kenya Colony, and suggests that its continuity might easily be interrupted in that region. I have recently examined a series of twenty-six specimens of *B. cristatus*, in connection with a study of the Ethiopian and North Kenian collections brought together by the late Dr. Edgar A. Mearns while with the Childs Frick expedition of the United States National Museum, and find that the species breaks up into two well-marked forms, differing in size, particularly in the length of the wing. The ranges of the two meet in north-western Kenya Colony, in the area where the distribution of the species narrows down on Grote's map. The type locality of *cristatus* is Lake Tsana, Ethiopia, and therefore the larger, northern form is the typical one. No other names appear to have been applied to this hornbill, and the smaller, southern race may be known as

***Bycanistes cristatus brevis* subsp. nov.**

Type, Museum of Comparative Zoölogy, no. 237,551, adult male, collected on Mt. Lutindi, Usambara Mountains, Tanganyika Territory, 10, December, 1926, by Arthur Loveridge.

Subspecific character.—Similar to *B. cristatus cristatus* but smaller, especially with regard to the wing length.

Measurements of type.—Wing, 345; tail, 307; culmen, from posterior margin of casque, 187; length of casque, 177 mm.

Range: from Kenya Colony (Meru, Chuka, etc.) southward. A bird from Nyeri, Kenya Colony, is more or less intermediate.

The following table of measurements (in millimeters) shows exactly how much difference there is between the two races. Only fully adult birds are included. The culmen is measured from the hind edge of the casque.

Locality	Sex	Wing	Tail	Culmen	Casque
<i>Bycanistes cristatus cristatus</i>					
Ethiopia,					
Arussi	♂	385	295	205	202
Cofali	♂	380	320	200	195
Malke	♂	385	288	197	183
Aletta	♀	353	270	164	93
Aletta	♀	345	266	161	94
<i>Bycanistes cristatus brevis</i>					
Kenya Colony,					
Nyeri	♂	377	300	205	191
Meru	♂	353	302	204	214
Tanganyika,					
Arusha	♂	358	315	205	182
Arusha	♂	360	308	201	169
Usambara Mts.	♂	356	294	187	177
Usambara Mts.	♂	345	307	182	180
Usambara Mts.	♂	356	290	201	208
Usambara Mts.	♂	358	280	201	201
Kenya Colony,					
Meru	♀	332	288	182	93
Chuka	♀	330	290	162	90
Tanganyika,					
Usambara Mts.	♀	326	275	161	92
Usambara Mts.	♀	333	280	160	96
Uluguru Mts.	♀	321	278	157	93
Uluguru Mts.	♀	326	271	148	90