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MISCELLANEOUS TAXONOMIC NOTES ON AFRICAN BIRDS XXXVII

by

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THE GREAT SPOTTED CUCKOO IN SOUTHERN AFRICA

The Great Spotted Cuckoo *Clamator glandarius* (Linnaeus), 1758: Gibraltar; of the western Palaearctic and Ethiopian Regions was first demonstrated to be polytypic by the present author in 1951 (*vide* Clancey, *Ann.Natal Mus.*, vol. xii, 1, 1951, pp. 139–142), when I described the South African breeding population as *C.g. choragium* Clancey, 1951: near Hlobane, northern Natal, on the basis of smaller size when compared with Palaearctic breeding birds. These findings resulted from a personal examination of the small Natal Museum series of the species and an independent study of the holdings of the American Museum of Natural History, New York, by the late E. Thomas Gilliard. While accepted as a valid taxon for some years, *C.g.choragium* is now often treated as a synonym of *C.glandarius* following the comments of Vaurie, *Birds of the Palearctic Fauna*, vol. ii (Non Passeriformes), 1965, pp. 574, 575. Earlier, Grant, *Ibis*, 1915, p. 416, Meinertzhagen, *Ibis*, 1922, p. 53, and Friedmann, *Bull.U.S.Nat.Mus.*, No. 153, 1930, pp. 266–268, showed this cuckoo varied greatly in size, but were unable to relate the variation to geography, and believed the species to be inordinately individually variable. Roberts, *Birds of South Africa*, 1940, pp. 140, 141, and other authors have commented to a greater or lesser degree on the possibility of the species being polytypic.

Writing in *Durban Mus.Novit.*, vol. ix, 12, 1972, pp. 174, 175, I reasserted the claims of *choragium*, showing that moulting, non-breeding birds with measurements comparable with those of the Palaearctic populations occurred seasonally in southern Africa, and that in addition to *choragium*, nominate *glandarius* should now be added to the South African list. As this new finding was based almost entirely on the Durban Museum series, I have recently tested its validity by studying all the material preserved in southern African museums and research centres, in so doing examining 110 skins taken in southern, central and eastern Africa.

For the loan of material to augment that in the Durban Museum I am grateful to the South African Museum, Cape Town (Dr. J. M. Winterbottom), the East London Museum (Dr. M. Courtenay-Latimer), the Natal Museum, Pietermaritzburg (Dr. J. A. Pringle), the Transvaal Museum, Pretoria (Dr. A. C. Kemp), the National Museums of Rhodesia, Bulawayo (Mr. M. P. Stuart Irwin), the State Museum, Windhoek (Mr. P. J. Buys), and the Instituto de Investigação cientifica de Angola, Sá da Bandeira (Dr. A. A. da Rosa Pinto). Palaearctic material was kindly lent by the Museum Alexander Koenig, Bonn (Dr. H. E. Wolters).

Variation in *Clamator glandarius*

The Great Spotted Cuckoo is now known to vary markedly in size geographically, though the significance of much of this has for long been masked by the confusing movements of the various populations, all of which are migratory to a greater or lesser degree. Another factor which has been overlooked in studying the variation is that the species is not adult until after the completion of the second moult, and that adults are generally larger than juvenal and immature examples (the latter in first winter or pre-basic dress). Furthermore, critical wing- and tail-measurements have to be adjusted to compensate for the rapid erosion of the broad white tipping to the remiges and rectrices. Immature birds are not always discrete from adults on the basis of a duller and more blackish streaked crown, and in the wings, the cinnamon wash to the inner vanes may on occasion be almost lacking, with the result that meaningful conclusions can only be expected from comparisons between specimens which are unequivocally adult.

C.glandarius is a summer resident in southern Africa, present between the months of September and mid-May (earliest date of specimen: 6 September (Pondoland); ? incorrectly dated; last date: 16 May (Rhodesia)). Shortly after arrival, those birds which breed commence nidification (earliest date of specimen marked as with

eggs yolking in oviduct: 24 October (Rhodesia)). In southern Africa the species is parasitic on corvids, namely the Cape Raven *Corvus albicollis*, the Black Crow or Cape Rook *Corvus capensis* and the Pied Crow *Corvus albus*, but more especially on large, hole-nesting starlings, namely *Lamprotornis nitens*, *L.australis*, *L.mevesii*, *Spreo bicolor* and *Onychognathus morio;* possibly also *O.nabouroup*. In the northern savannas of Africa the host species is the crow *C.albus*, and in Egypt the Hooded Crow *Corvus corone sardonius*. On the Palaearctic breeding grounds the species exploits a wide-range of both small and large corvids. For Spain and Portugal the Raven *Corvus corax hispanus* and the magpies *Cyanopica cyanus cooki* and *Pica pica melanotos* are listed (*vide* Witherby *et al.*, *Handbook British Birds*, vol. ii, 1940, pp. 302, 303). In Somalia the Raven *Corvus corax edithae*, the Fantailed Raven *Corvus rhipidurus*, *C.capensis*, and two starlings (*Lamprotornis* and *Spreo*) are recorded as host species. I give this list of hosts at different points of this cuckoo's breeding range in order to demonstrate that in southern and eastern Africa it exploits a relatively wide-range of much smaller passerines than it does to the north. Most of the non-corvid passerines used as hosts in southern and eastern Africa nest in holes in trees and in rock crevices, and I believe a close correlation exists between the cuckoo's need to enter such relatively small holes in order to deposit its eggs among those of its sturnid hosts and the substantially smaller size of birds breeding in southern (? and parts of eastern) Africa. O. von Frisch, *Journ.f.Ornith.*, vol. cxiv, 1, 1973, pp. 129–131, shows that the female of this cuckoo enters nesting holes in order to lay after the male has lured away the prospective hosts. Mr. R. K. Brooke, of the Durban Museum, who has compared size-data of South African and Palaearctic *C.glandarius* eggs, informs me, however, that there is no statistically significant difference between the two sets of data.

Careful examination of the material reveals little in the form of marked colour variation. Among very freshly moulted and moulting specimens, large males (wings of 202mm and above) are usually lighter silvery grey over the dorsal surface of the head, and the ground to the upper-parts and wings is greyer, less olivaceous, brown than in others with the wings significantly shorter (201mm and below). There is also some variation in the size of the pyramidal white spotting to the wing-coverts, while in juvenal examples the ground of the upper-parts and wings varies from dark olivaceous brown to almost brownish black. In the olivaceous brown birds the wing spotting is yellowish, and in the blackish brown ones almost white.

Apart from colour variation within the corpus of South African material, I find much in the actual condition of the plumage, some birds (again normally long-winged males) often very abraded and bleached early in or at the height of the austral breeding season, while others, usually small birds, exhibit only moderately worn dress. Worn, and frequently faded, birds were found to be in a state of either active or arrested moult. The earliest taken example studied, an adult male from the Umtamvuna R., on the Natal/ Transkei border, dated 6 September, 1908 (? correctly dated), with a wing of 210 and tail of 212mm, is in relatively worn condition and exhibits arrested moult of the primaries. Further evidence that we are dealing with two discrete populations of *C.glandarius* present in southern Africa at the same time is provided by the occurrence of juvenal examples with active remigial moult as early as October (earliest such specimen: ♀, Beatrice, Rhodesia, 14 October, 1928, wing 190, tail 207mm, while the earliest unequivocal South African bred juvenals are dated 10 December (Rhodesia), and as the remiges and rectrices are still in partial sheath these may well have been taken from a nest), when the breeding population is commencing to lay. Many large and particularly long-tailed juvenals in the series before me show no sign of moult, but, judging by the fat-burnt condition of several, were in an excessively fat condition when shot. They were certainly not locally bred birds.

Adult males taken in southern Africa now measured by me have wings 187–213, adult females 187–203. In the description of *C.g.choragium* the wing-length of adult males was given as 186–201 and of females as 185–201, while in the case of Palaearctic birds the wings of adult males were cited as 207–217, of females 197–211. Vaurie, *loc.cit.*, gives the wings of eight Spanish males as 195–211, and 202–221 in twenty from the eastern Mediterranean area. As indicated by me in 1972, so-called males from Spain with wings reading as low as 195 must either be incorrectly sexed specimens, or, as now emerges, be birds still possessing worn pre-basic remiges. They are assuredly not adult males. South African birds measured by Vaurie (twenty) have wings 188–209mm, agreeing exactly with my own findings, and on the basis of measurements alone the validity of *choragium* could certainly not be upheld. However, a point which appears to have escaped Vaurie, and, indeed, was not appreciated in South African ornithological centres until just prior to the publication of my 1972 communication, is that two distinct populations arrive in southern Africa synchronously, one which does not breed, the birds being in the aestivating area where they undergo a complete moult,

and the other which breeds and exploits a wider range of passerine species than northern breeders. These latter are smaller than Palaearctic breeding birds and represent *C.g.choragium*. In the case of females, the overlap in wing-length measurements between Palaearctic breeders and those known to be of the indigenous population of southern Africa makes discrimination of northern birds aestivating in southern Africa frequently rather arbitrary, as many specimens available in collections are either unsexed or of very doubtful sexing, though the distinctly longer tail of northern breeders permits ready allocation of even birds of doubtful sex to one or other category. Unequivocal South African breeding females have tails 183–198, whereas Palaearctic females have tails 200–211.

The large-sized birds which aestivate alongside *choragium* but do not breed appear to be inseparable on any character from those breeding in the Palaearctic, though the lateness of their sojourn in the south (to late March/early April) suggests that they are in all probability birds which breed in the Sahel and Sudanese savannas, east to Ethiopia, and the North East Arid District (also, perhaps, Egypt), rather than in the Maghreb (? formerly) and south-western and south-eastern Europe and the Near and Middle Easts. Lévêque, *Ornith.Beobacht.*, vol. lxv, 1968, pp. 43–71, records that as from as early as February there is a marked build-up of *C.g.glandarius* to the north of the Mediterranean at a time when large-sized birds are numerous in southern Africa.

A posteriori, all the evidence assembled substantiates the view that large-sized, worn and moulting and frequently fat birds taken in southern Africa, the organs quiescent, are northern, non-breeding migrants. Their main aestivating area appears to be the South West Arid District of Chapin with marginal overspill into adjacent areas. As they appear, certainly at this stage, to be taxonomically undifferentiated from birds taken in the Maghreb, the Iberian Peninsula and in the eastern Mediterranean, their breeding range is uncertain, but as they are still present in southern Africa in numbers up to the end of March (when Palaearctic breeders are either already in or moving into breeding quarters) they are almost certainly the birds which nidificate in the northern sub-saharan savannas and the North East Arid District. Departure from the South African aestivating grounds for the northern Ethiopian savannas in late March/early April ties in with the recorded movement of the species through Nigeria to breed in association with the Pied Crow, which lays April–June in Nigeria according to Elgood *et al.*, *Ibis*, vol. cxv, 1, 1973, p. 31. They are unlikely to

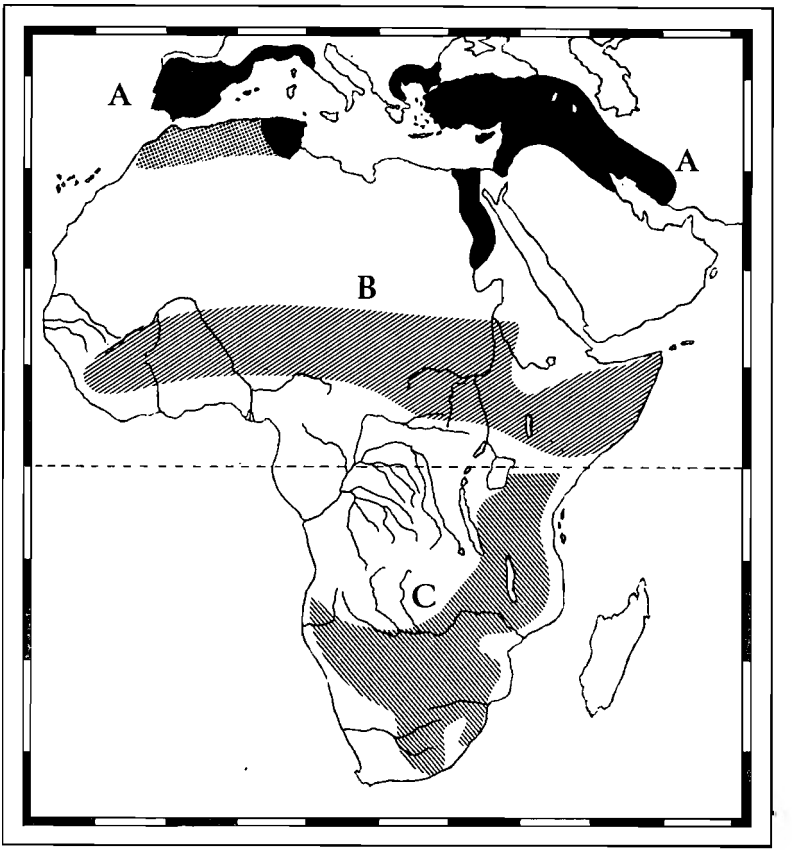
include any elements of the Palaearctic breeding stock, because judging by the summary of current knowledge on this species given by Moreau in his recent *Palaearctic-African Bird Migration Systems*, 1972, pp. 182, 183, flocks occur in Senegal until December, while in nearby Gambia they appear to be seasonally commoner and less transitory, being common November–mid-February. In Darfur, Sudan, birds believed to be Palaearctic migrants on circumstantial evidence were present early November–mid-December (Lynes, *Ibis*, 1925, pp. 353, 354), while in Eritrea non-breeding birds appear in December and stay until March. Moreau believes, and I now consider rightly so, that Palaearctic Great Spotted Cuckoos probably penetrate Ethiopian Africa no further south than 10° N. during their sojourn (*contra* Vaurie, *loc.cit.*, and Voous, *Atlas European Birds*, 1960, pp. 154, 155). I can find no record of flocks in the literature dealing with its occurrence in southern Africa, though records of scattered parties feeding on the ground along the edge of recently burnt grassy tracts bordering bush in northern Botswana are to hand.

The postulated sympatric occurrence of a large body of racially differentiated non-breeding Great Spotted Cuckoos alongside a population of breeding birds, the two arriving on the southern aestivating and breeding grounds synchronously, is not without parallel in the African Cuculidae. An analogous situation occurs in *Clamator jacobinus*, where the races of southern Africa: *C.j.serratus* and *C.j.pica*, have both non-breeding (? Asiatic) elements of *pica* and the non-breeding *C.j.jacobinus* of peninsular India and Sri Lanka (Ceylon) present alongside them while they are breeding (see Clancey, *Durban Mus.Novit.*, vol. vi, 2, 1960, pp. 27–31).

The populations of *Clamator glandarius*

From the above discussion on variation in the Great Spotted Cuckoo it is concluded that there are three distinct population complexes with discrete breeding areas and migration patterns. There may be a fourth complex if it can be verified that Nile Valley birds, which appear to breed rather later than the South African but earlier than those of the sub-saharan savannas, are not migratory to any extent and are not the same as more northern Palaearctic breeders. The discrete categories presently understood are as follows:

(*a*) (i) Birds which breed in the Maghreb (? formerly), the Iberian Peninsula, southern France, ? Italy, the Balkans and eastern Mediterranean islands and Egypt, east to the Near and Middle Easts to Iran (Fars) from March–August;



MAP I

Clamator glandarius (Linnaeus).

Sketch-map showing breeding ranges of the three populations of the Great Spotted Cuckoo.

(*a*) *Clamator glandarius glandarius* (Linnaeus). Shaded area represents former breeding range.
(*b*) *C.g.glandarius*. Ethiopian breeding range.
(*c*) *Clamator glandarius choragium* Clancey.

(ii) and which winter in the northern savannas of Ethiopian Africa from Senegal and Gambia, east to the Sudan, Ethiopia and Eritrea; perhaps further to the south-east, but not normally south of 10° N. Present on the wintering grounds August–March.

(iii) In face of arrival of such migrants as under (ii) breeding and non-breeding populations of (*b*) and (*c*) retreat south.

(iv) Parasitic only on corvids.

(*b*) (i) Birds apparently undifferentiated from (*a*) which breed in the savannas from at least Niger (perhaps west as far as Sierra Leone), eastwards to the Sudan, Ethiopia, northern Kenya and Somalia. Breeding season as (*a*), namely, April–August;

(ii) and spend the non-breeding season (aestivate) in the South West Arid District and adjacent areas of southern Africa from southern Angola and South-West Africa, eastwards to Rhodesia, the Transvaal, Orange Free State and the eastern Cape. Also sparsely in Zambia and south-western Tanzania (? largely transients).

(iii) On its aestivating grounds occurs alongside breeding populations of (*c*).

(iv) Parasitic on corvids, but sturnids on occasion (Somalia).

(*c*) (i) Birds which are shorter winged and tailed that (*a*) or (*b*), this particularly marked in the adult males, which breed in southern Angola, South-West Africa, the northern and eastern Cape, the Orange Free State, Natal (interior), Swaziland, southern Moçambique, the Transvaal and Rhodesia, north in the east to eastern Zambia (no records), Malawi and Tanzania; ? also parts of Kenya. Breeding October–March.

(ii) Non-breeding range unknown, but presumed to be part of the same general area occupied by (*b*) when breeding. Darfur and western Sudan suggested by Archer & Godman, *Birds Brit.Somaliland and the Gulf of Aden*, vol. iii, 1961, p. 656, and Lynes, *loc.cit.*

(iii) Parasitic on corvids, but south of Limpopo in east and in South-West Africa mainly on hole-nesting starlings.

All three categories may ultimately have to be accorded subspecific status (with the population of the Nile Valley in Upper Egypt a possible fourth subspecies), although at this stage I believe it advisable to unit categories (*a*) and (*b*) in the nominate subspecies and recognise (*c*) as *C.g.choragium*. If a difference of subspecific weighting exists between (*a*) and (*b*) it will probably be located in birds in juvenal rather than in the pre-basic (immature) and adult dresses.

CLAMATOR GLANDARIUS

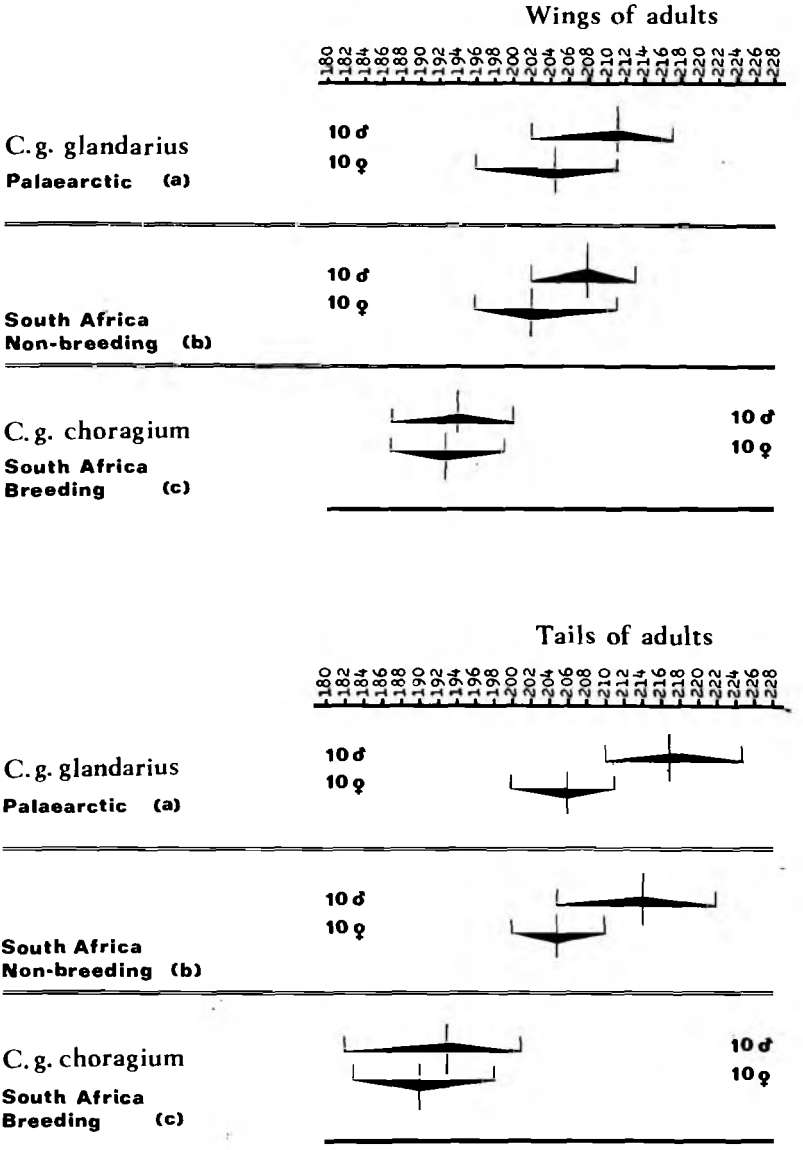


TABLE I

Wing- and tail-length spectra with means, based on ten selected adults of either sex, of the three discrete populations of this cuckoo. The small dimensions of *C.g.choragium* (*c*) will be noticed.

The subspecies of *Clamator glandarius*

Arising from above considerations, two races of the Great Spotted Cuckoo may be admitted at this stage in our understanding of the phenomena:

1. **Clamator glandarius glandarius** (Linnaeus)

Clamator glandarius Linnaeus, *Syst.Nat.*, 10th edition, i, 1758, p. 111: North Africa and southern Europe. Restricted to Gibraltar, *ex* Edwards.

Wings of adult ♂♂ 202–217 (221), tails 205–225; wings of adult ♀♀ 196–211, tails 200–211.

Wings of immature and juvenal ♂♂ 192–211, tails 200–225, of ♀♀ 190–201, tails 195–210mm.

Ranges and status: As defined in (*a*) and (*b*) above.

Remarks: South African aestivating material of (*b*) emanated from the following territories: Angola, 5; South-West Africa, Botswana and northern Cape, 15; Transvaal and Orange Free State, 6; Cape, 4; Rhodesia, 15; Zambia and southern-western Tanzania, 6.

2. **Clamator glandarius choragium** Clancey

Clamator glandarius choragium Clancey, *Ann.Natal Mus.*, vol. xii, 1, 1951, p. 141: near Hlobane, northern Natal.

In freshly moulted dress grey of crown of adult duller, less silvery blue, grey than last, and ground colour of upper-parts and wings rather darker and more olivaceous brown. White pyramidal spotting in wings averaging smaller. Size smaller, thus: adult ♂♂ with shorter wing than in nominate (185–200) and substantially shorter tail ((173) 182–201,5), adult ♀♀ averaging shorter in wing (187–198,5), and with shorter tail ((176) 183–198 (202)).

Wings of immature and juvenal ♂♂ 180–190, tails 186–198, of ♀♀ wings 180–194, tails 187–197mm.

Range and status: As outlined in (*c*) above.

Remarks: In this race the adult, immature (pre-basic) and juvenal males are consistently smaller than their counterparts

breeding in the Palaearctic and the northern Ethiopian savannas. Females range much smaller in these critical measurements but with marginal overlap. Also, as pointed out by me in my 1972 communication, there is little or no variation in size between the sexes, whereas in nominate *glandarius* males range substantially larger than females.

A SECOND SOUTHERN AFRICAN RACE OF *CISTICOLA RUFILATA* (HARTLAUB)

Writing in *Durban Mus.Novit.*, vol. viii, 11, 1968, p. 145, I demonstrated that the mesic populations of the grass-warbler *Cisticola rufilata*(Hartlaub) of Rhodesia differ from those of the South West Arid District (nominate *C.rufilata* (Hartlaub), 1870, described from north-eastern South-West Africa), and referred them to *C.r.ansorgei* Neumann, described in the first instance from Angola. Examination of the long series of this species in the collection of the National Museum of Rhodesia, Bulawayo, shows that ascription of Rhodesian plateau birds to *ansorgei* is incorrect, and that they actually constitute an undescribed race. This may be known henceforth as

Cisticola rufilata vicinior, subsp. nov.

Type: ♂, adult. Rusape, Mashonaland, Rhodesia. Collected on 22 June, 1953, by M. P. Stuart Irwin. In the collection of the National Museum of Rhodesia, Bulawayo. N.M. Reg. No. 12 498.

Diagnosis: Differs from *C.r.rufilata* (Hartlaub), 1870: Elephant Vlei, north-eastern South-West Africa, in having the dorsal surface of the head and neck darker vinaceous Argus Brown (Ridgway, pl. iii); mantle and scapulars more brownish, less silvery grey, over entire ground, and longitudinal striae much broader and darker vinaceous brown. Below, with deeper buff tinge to flanks. Wings appreciably darker.

Compared with *C.r.ansorgei* Neumann, 1906: Caconda, Huila, Angola, dorsal surface of head and neck appears rather more ochraceous and is not sharply demarcated from the mantle and scapulars as in the Angola–Zambia–Malawi race, which has these latter surfaces with a grey rather than brownish ground; dorsal striae broader, and pale edging to tertials redder, less grey.

Material examined: 57 (**Rhodesia:** Epworth Mission (S. of Salisbury), Rusape, Darwendale, Buhera, S. of Gwelo, Chatsworth,