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since it is known that anatomically they are so alike, the argument for treating them as single genus is strong.

I do not intend to intrude here into the genera of Palaeartic larks beyond pointing out that if the arguments put forward for Ethiopian larks are followed, it is probable that Alauda, Lullula, Galerida and Chersophilus would likewise have to be united in a single genus. Lullula and Chersophilus are monotypic, Alauda is a superspecies of two allied but slightly overlapping species. Verneyen was unable to find anatomical differences between Alauda and Galerida, although he found slight differences to justify Lullula and Chersophilus. These four Palaeartic genera are of course used for certain larks with well known distinctive characteristics in the areas where they occur, and their separation and use has in a sense become natural with time. On behavioural characters Alauda and Galerida are easily separable. Nevertheless if long established usage is in fact one of the reasons for continuing to accept monotypic or almost monotypic genera of European larks, which in certain respects are closely alike, it should be recognised that it is only unfamiliarity which has prevented a similar treatment being accorded to many African larks. Taxonomic treatment of genera of larks is at present inconsistent in the Palaeartic and Ethiopian regions.

Geographical Variation in the South African Populations of the Red-Eyed Bulbul Pycnonotus nigricans (Vieillot)

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The Red-eyed Bulbul Pycnonotus nigricans (Vieillot) is a species of the dry west and interior districts of the South African sub-continent and south-western Angola. The populations are generally conceded as showing little in the nature of demonstrable geographical variation, and in South Africa only the nominate race has at any time been recognised by specialists. The Angola populations of this bulbul have, since 1918, been credited with the name P.n.hariterti Ledlitz, 1916: Huila, southern Angola, but as has been shown by Gyldenstolpe (1924), Roberts (1935), and more recently by Rand, Fieldiana, Zoology, vol. 35, 6, 1958, p. 147, Ledlitz (vide Journal für Ornithologie, vol. lxv, 1916, p. 71) gave this name to the southern Angola populations of Pycnonotus barbatus (Desfontaine) and not those of P.nigrics. Rand (p.153) also shows that P.b.hariterti is not distinguishable from P.b.tricolor (Hartlaub), 1862: Angola, of which race it is now placed as a synonym, and P.nigrics is currently treated as a monotypic species.

Roberts, Annals of the Transvaal Museum, vol. xvi, 1, 1935, p. 130, records that no subspecific differences are to be observed between specimens in the Transvaal Museum collection from the Bechuanaland Protectorate, South-West Africa, central and eastern Cape Province and the Transvaal. Macdonald and Hall, Annals of the Transvaal Museum, vol. xxiii, 1, 1957, p. 23, state "No geographical variation has been noted in this bulbul, but the series from the Kaokoveld (north-western South-West Africa) stands out as being greyer above than others in the British Museum. This may prove to be a good racial character, but it is apparent
that there is not only seasonal change, old plumage being browner than fresh, but also a tendency for old skins to ‘fox’. In the absence of any material truly comparable with these newly collected specimens in fresh plumage it seems unwise to give them a name.’’ Irwin, *Occ. Papers Nat. Mus. Southern Rhodesia*, No. 22B, 1958, pp. 198–201, in dealing with the relationship between *P. nigricans* and *P. barbatus* in the Bechuanaland Protectorate, draws attention (p. 199) to colour variation in the Bechuanaland populations of *P. nigricans* as follows: ‘It should be noted, however, that the *nigricans* populations living in northern Bechuanaland are not identical to those inhabiting the central and southern Kalahari, which are at once distinguished by having the mantle a colder stone brown, the throat blackish brown, upper breast feathers dark brown tipped with off-white and extending further down on the abdomen and flanks and giving the effect of striations.’ Study of the good series of recently collected specimens in the collections of the East London and Durban Museums, augmented by additional loan material from the Transvaal Museum, Pretoria, and the National Museum of Southern Rhodesia, Bulawayo—just over ninety skins in all—shows that the populations of *P. nigricans* in the South African sub-continent are not lacking in geographical variation, as already demonstrated in part by Macdonald, Hall and Irwin, but suggests that only two groups of populations are sufficiently well characterized as to merit recognition by name. While most of my material has been collected during the past ten years, I find the dangers presented by ‘foxing’ to be less troublesome than the marked plumage colour changes effected by wear and actinic action.

*Turdus nigricans* Vieillot, 1818, based on ‘‘Le Brunoin’’ of Levaillant, has recently had its type-locality restricted to Goodhouse, on the lower Orange River, by Macdonald, *Contribution to the Ornithology of Western South Africa*, 1957, p. 116, who based his conclusions on the known route followed by Levaillant on his journey to Great Namaqualand. Of the topotypical populations I have before me specimens in fresh dress from Brandkäros and Kuboos, near Alexander Bay, at the mouth of the Orange River, and others in lightly worn dress from Kenhardt, the wings and tails of which measure: 33* 96–101, 83–85. 3 95, 80 mm. Macdonald, *loc.cit.*, gives similar measurements for additional topotypical material collected at Grootderm and Violl’s Drift, localities on the lower Orange, by the British Museum Expedition of 1949–1950. Specimens from Okahandja, Swakopmund and the Erongo Mountains, South-West Africa, agree closely with those of the lower Orange River and north-western Cape Province (Kenhardt), but six specimens from the Kaokoveld (Kaoko Otavi, Sesfontein, Warmquelle and Orupembe) average lighter and greyer on the upper-parts in series. These latter specimens are part of the series commented on by Macdonald and Hall, *loc.cit.* Not all the Kaokoveld birds are to be separated from those from further south in South-West Africa, and some of the apparent pallor is certainly occasioned by protraction in the moult of the dorsal plumage, which has resulted in sun-bleached feathers being interspersed with the slightly darker fresh ones. However, two females from Kaoko Otavi and Orupembe are admittedly exceptionally pale. These pale Kaokoveld birds either represent intergrading populations or the actual austral outliers of a pale unnamed race
of the arid littoral of south-western Angola. Macdonald, *loc.cit.*, in a later (as published) paper has stated that "there does not appear to be any geographical variation throughout South West Africa," but this observation would not appear to be strictly correct in the light of the known tendency to pallor in the Kaokoveld populations.

In addition to the South-West African populations just dealt with, other populations agreeing with the topotypical ones occur in northern, central and western Bechuanaland, and throughout most of the northern Cape Province, but in the eastern districts of the northern Cape (Vaal and Harts Rivers), south-eastern Bechuanaland Protectorate and western Transvaal (east to Pretoria) rather different populations are to be found. In series such birds are darker and browner, less inclined to grey dorsally, and on the under-parts they are rather browner on the lower throat, less grey, and have the lower breast more markedly streaked than in the populations occurring to the west and north-west. There is no difference in size. These differences have already been recorded by Irwin, *loc.cit.* Such rather dark coloured birds are now known to be intermediate between the pale greyish *P.n.significans* with much white over the median ventral surface, and a significantly darker and mensurally larger group of populations centred on the south-eastern highlands, and occurring in the eastern Cape Province, Orange Free State, Basutoland and the Transvaal highveld. Compared with topotypical *P.n.nigriceps*, specimens of the eastern populations are distinctly darker and browner on the upper-parts, while on the ventral surface they show a marked reduction in the quality and extent of white over the lower breast and abdomen, as a result of the pronounced downward extension of the pectoral streaking and the strong suffusion of brown on the sides of the body and flanks. There is also a diagnostic difference in tail-length: north-western Cape (topotypical *P.n.nigriceps*) and South-West African ♂♂ 80–85, as against 85.5–96 mm. in the eastern populations. The larger overall size of the eastern birds is also revealed in the average greater wing-length and increase in bill mass: wings of *P.n.nigriceps* 94.5–101, as against 98–109 mm., culmens 18.5–21, as against 21–22 mm. It seems to be necessary to give formal recognition to these important structural and colour differences in the populations of *P.nigriceps*, and I propose to recognise two races of this bulbul from within South African sub-continental limits. Further work may well show that the south-western Angola populations are sufficiently pale on the upper-parts as to warrant them being given a name, in which case the northern Kaokoveld birds will doubtless require to be associated with the new taxon. In the meantime, a name is required for the eastern populations, and *P.n.superior* mihi, subsp. nov., is introduced accordingly below.

Irwin, *loc.cit.*, in his important study of the relationship between *P.nigriceps* and *P.barbatius* advances minor preferences in ecological requirements as the essential barriers segregating the two forms, which occur apparently sympatrically in parts of the featureless country of northern and eastern Bechuanaland, and are now recorded as hybridizing to a limited degree in that area. It is generally believed that *P.nigriceps* is an inhabitant of drier country than any of the *P.barbatius* complex of forms, but such arguments are as advanced by Irwin lose much of their cogency and value when it is appreciated that *P.n.superior* has its distribution centred in a region which enjoys a relatively higher rainfall than the
country tenanted by most of the populations of the *P. barbatus* races of southern Africa. It would be interesting to know if *P.n.superior* actually hybridizes with the two contiguous *P. barbatus* forms, *P.b.layardi* Gurney and *P.b.tenebrior* Clancey, because it is known to occur alongside the latter race in the high country (above 5,000 ft. a.s.l.) of East Griqualand, eastern Cape Province. In East Griqualand *P.nigricans* and *P.barbatus* do not appear to hybridize, and it has been reported to me from Matatiele that in some years *P.nigricans* is the only form observed, and in others *P.barbatus*. This is precisely what one would expect in a marginal area where two such closely related competing forms are in contact.

In the species *P.nigricans* it is proposed to recognise two geographical races at the present time, and the nomenclature characters and ranges of these taxa are as follows:

(a) *Pyconotus nigricans nigricans* (Vieillot)


Head-top, face, malar surfaces, chin and upper throat coal-black; rest of upper-parts Buffy Brown/Olive-Brown (*vide* Ridgway, *Color Standards and Color Nomenclature*, 1912, pl. xi). On under-parts, lower throat and breast about Fuscous (pl. xvi), the feathers tipped with off-white, some of the fuscous extend downwards over the white lower breast in the form of striae; abdomen also white, and flanks white washed with pale brown; under tail-coverts chrome yellow.

**Measurements:** 12 ♂♂ wings (flattened) 94.5–101 (97.6), culmens from base 18.5–21 (19.8), tails 80–85 (82.3), 12 ♀♀ 88–85 (91.6), 17.5–20 (19.3), 75–82 (77.7) mm.

**Material examined:** 60. (North-western Cape Province, 5; northern Cape Province, 25; South-West Africa, 10; Bechuanaland Protectorate, 17; western Transvaal, 3).

**Type:** None. Based on “Le Brunoir” of Levaillant, *Histoire Naturelle des Oiseaux d’Afrique*, vol. iii, 1802, p. 38, pl. 106, fig. 1.

**Range:** North-western Cape (mainly centred on the Orange River, but occurring south of the river in places, *e.g.*, to the Kenhardt district), northern Cape Province (eastern populations intermediate in colouration towards *P.n.superior*), South-West Africa (Kaokoveld populations apparently inclining towards an unnamed south-western Angola race), Bechuanaland Protectorate (south-eastern populations near *P.n.superior* in dorsal colouration), western Transvaal (*P.n.nigricans* ⋙ *P.n.superior*).

**Remarks:** Roberts, *loc.cit.*., gives measurements from the large Bechuanaland series collected on the Vernay-Lang Kalahari Expedition of 1930, which agree closely with those given above: 11 ♂♂ wings 96–98, tails 78–84, 8 ♀♀ 89–95, 75–81 mm. Macdonald, *loc.cit.*, gives still further measurements which support my observations: 3 ♂♂ wings 96–101, tails 81–85, 3 ♀♀ 90–93, 77–82 mm. All specimens from the lower Orange River (topotypical) and South-West Africa.
(b) *Pycnonotus nigricans superior*, subsp. nov.


*Diagnosis*: Differs from *P.n.nigricans* as defined above by being distinctly darker and browner, less grey, on the mantle and rump (about Olive-Brown (pl. xl)). On the under-parts darker and browner over the lower throat and breast; pectoral streaking more fully developed and distributed downward than in *P.n.nigricans*, and sides of body and flanks more heavily washed with brown, resulting in a marked reduction in the amount of white shown over the median ventral surface. White of under-parts also duller. Wings and tail darker. Structurally larger, this especially marked in the substantially longer tail (av. 89.0 in ♀♀, as against av. 82.3 mm. in the nominotypical race).

*Measurements*: 12 ♀♀ wings 98–109 (100.5), culmens 20–22 (21.1), tails 85.5–96 (89.0), 12 ♀♀ 92–101 (95.8), 19–22 (20.8), 82–88 (83.6) mm.

*Material examined*: 33. (Central Cape Province, 3; eastern Cape, 15; East Griqualand (Matatiele), 5; Orange Free State (Glen, Excelsior), 4; Basutoland (Mamathe’s), 5; Transvaal highveld (Potchefstroom), 1).

*Measurements of the Type*: Wing 100, culmen 21, tail 88 mm.

*Range*: Eastern Karoo districts and eastern Cape Province, north-eastwards to Griqualand East/Natal border, Basutoland, Orange Free State and Transvaal highveld. In the winter ranging to the eastern Transvaal (Lydenburg (Ayres)) and Natal and Zululand (Ngoye Forest, near Eshowe (R. B. and J. D. S. Woodward)).

*Remarks*: The measurements of the five paratypes from Mamathe’s are interesting: 2 ♀♀ wings 100, 109, tails 88, 96, 3 ♀♀ 96, 97.5, 101; 82.5 (worn), 85, 88 mm.

**ADDENDUM**

Since the above was written a further collection of South-West African specimens of *P.n.nigricans* has become available for study. During the course of a recent trip (May–June, 1959) to South-West Africa a series of 16 specimens was taken at the following localities: Windhoek (7), Okahandja (5), Otjiwarongo (3) and Keetmanshoop (1). This material gives the following critical measurements, which agree intimately with those already recorded above for the western populations of this bulbul: 6 ♀♂ wings 92–98 (95.0), culmens 18–21 (19.4), tails 78–82 (80.2). 7 ♀♀ 87.5–93 (90.0), 19.5–20 (19.1), 75–82 (78.8) mm. Two specimens retain juvénal flight and tail feathers, and are unsuitable for measurement, while the single adult male from Keetmanshoop is large-sized, as in *P.n.superior* (wing 103.5, tail 96.5 mm.), but like the nominate race in colour. It is so unlike all other South-West African birds in size that it may well be a migrant from an eastern area of contact between the two forms. The diagnostic plumage colour characters of the nominotypical race as defined in the above article are entirely substantiated by this additional series of freshly moulted birds.