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## MISCELLANEOUS TAXONOMIC NOTES ON AFRICAN BIRDS XXXIX

by

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### ON THE RACES OF THE COMMON TERN — *STERNA HIRUNDO* LINNAEUS OCCURRING IN SOUTH AFRICAN WATERS

In a note to *Sterna hirundo* Linnaeus in my "Catalogue of Birds of the South African Sub-Region" in *Durban Mus. Novit.*, vol. vii, 1965, p. 313, I showed that more than one race of the Common Tern occurred seasonally along the coasts of southern Africa. In addition to the nominate race, one of the shorter billed and rather darker central and eastern Palaeartic races also occurs regularly, mainly in the east from Durban northwards.

Recent re-examination of the now larger Durban Museum series of South African-taken *S. hirundo* enables me to take the question of the races occurring in South Africa a stage further. Thirty-six specimens from the eastern Cape (from Cape Recife and Port Elizabeth), north-east to Natal and Zululand obtained almost throughout the year reveal little or no colour variation consonant with the subspecific variation defined in standard works on the basis of material obtained on the Palaeartic breeding grounds, and owing to the abraded and moulting condition of the wings and tails of most skins no variation of moment is discernible in the measure-

Novoselovo, Yenisei R., Minusinsk district, U.S.S.R. While this subspecies may well be included in the above listed specimens, the fact that the three May and June specimens, these in heavy moult and in non-breeding dress but showing partial assumption of nuptial colouring to the softparts, have red legs as in *S.h.hirundo* (in *minussensis* the feet of the birds in nuptial dress are dark, much as in *longipennis*) militates against its recognition from South African waters at this stage. As *minussensis* is an intermediate between *S.h.hirundo* and *S.h.longipennis*, and virtually all its diagnostic characters are only to be appreciated on breeding specimens, it is doubtful if it will ever be possible to allocate unringed non-breeders taken on the shores of the Indian Ocean area to this subspecies.

The following subspecies of the Common Tern may be admitted to the South African Sub-Region list on the basis of the following characters:

(a) ***Sterna hirundo hirundo*** Linnaeus, 1758: Sweden

On African wintering grounds exposed culmen 34,5 - 40mm. Dark outer vanes, tip and rhachis stripe to inner vanes of major remiges slate or slate-black.

(b) ***Sterna hirundo tibetana*** Saunders, 1876: Tibet

Culmen length shorter than last: 30 - 34mm (on African-taken examples). Grey of dorsum somewhat darker. Dark outer vanes and tip and rhachis stripe to inner vanes of major remiges almost jet black.

Breeds in high central Asia from the Pamirs and Chinese Turkestan, east to Kansu and Ningsia, western Inner Mongolia, south to Tibet and Tsinhai, thence to Sikang; also west to Rupshu and Ladak (after Vaurie). Winters on the coasts of the western half of the Indian Ocean, south in the east to the eastern Cape and Natal. Vaurie records it from the coasts of India and La Touche from the coast of south-eastern China.

#### SUBSPECIATION IN *TRACHYPHONUS VAILLANTII* RANZANI, 1821

Reichenow, *Journ.f.Ornith.*, vol. xxxv, 1887, p. 60, was the first author to show that the Crested Barbet *Trachyphonus vaillantii* Ranzani of the southern half of Africa is polytypic, when he named *T.suahelicus* from Usegua, in north-eastern Tanzania. Shelley, *Cat.*

*Birds Brit. Mus.*, vol. xix, 1891, pp. 99-102, accepted the conclusions of Reichenow, defining characters for the separating of *suaehelicus* from *vaillantii*. Later, in vol. ii of his *Die Vögel Afrikas*, 1903, pp. 154, 155, Reichenow repudiated his own *T.suaehelicus*, synonymizing it with *T.caffer* (Vieillot) = *T.vaillantii*. In the *Ibis* for 1912, p. 397, Ogilvie-Grant proposed as a new species *Trachyphonus nobilis* from the Okavango Swamp of northern Botswana on a single specimen with a robust bill. Sclater, *Syst.Av.Aethiop.*, part i, 1924, pp. 284, 285, listed *T.vaillantii* as comprising three races: nominate *T.vaillantii* described from South Africa, *T.v.suaehelicus* and *T.v.nobilis*, which arrangement was followed by Chapin, *Birds of the Belgian Congo*, part ii, 1939, pp. 491, 492, and Peters, *Check-List Birds of the World*, vol. vi, 1948, p. 61. Most recent authors have, however, decided against admitting subspecies in the present barbet, treating it as monotypic, notably, Mackworth-Praed and Grant, *Birds Eastern and North Eastern Africa*, vol. i, 1952, pp. 731, 732, and White, *Revised Check List African Non-Passerine Birds*, 1965, p. 272. Traylor, *Pub.cult.Co.Diam.Ang.Lisboa*, No. 51, 1960, p. 177, discussed the variation shown by the species but found it difficult to compress the wealth of variation into the relatively rigid framework of subspecies and treated the species as monotypic. More recently, I have shown in *Durban Mus.Novit.*, vol. viii, 11, 1968, pp. 127, 128, that two populations should be recognised for the South African Sub-Region.

A re-examination of the variation in the Crested Barbet recently carried out in the Durban Museum utilizing a series of some 150 specimens indicates that subspecies can be defined, despite the reservations of Traylor, on more or less acceptable criteria, and that the arrangement adopted by Sclater (1924), Chapin (1939) and Peters (1948) is fundamentally correct. The characters defined by Shelley as long ago as 1891, *viz.*, the degree of white dorsal squamation and the nature of the torque are still basic to any arrangement of the populations of *T.vaillantii* into races, and it is surprising that so much attention has been paid to largely unreliable variables, such as wing-length and the degree of red tipping to the head in either defining and defending or repudiating races.

In such a bizarrely patterned and decorative species as *T.vaillantii*, with its plumage ensemble of black and white spotting and barring and yellow areas ornamented with red, segregating basic and relatively stable characters from unstable ones and simple individual variation is frequently a daunting task. Despite an initial impression of the species being inordinately individually variable this premature conclusion was soon modified when the material was sorted out

into geographical and age-class segregates, when it was found that mensural, pattern and colour variables were relatively stable for individual populations.

Workers who have sought to justify subdivisions in the present barbet have relied on (a) variation in the length of the wing, (b) the degree of red tipping to the head and neck feathers, (c) the amount of spotting over the glossy blue-black torque, and (d) the degree of broad white transverse squamation over the caudad mantle and scapulars. Grote, *Ornith. Monatsber.*, vol. xxxvii, 1929, p. 76, used variation in wing-length to sub-divide the Tanzanian populations into coastal (*T.v.suahelicus*) and inland, plateau (*T.v.suschkini*) taxa, but as demonstrated by Chapin, *loc. cit.*, the size difference postulated by Grote does not hold. Traylor, *loc. cit.*, also nullified the use of wing-length as a means of defining races. In my short communication of 1968, which appeared in a paper on subspeciation in Rhodesian birds, I cautioned that in using size one had to guard against the inclusion of data from immature (pre-basic) material, in which the shorter remiges of the juvenal dress are retained, in the final analysis. During the course of the present investigation it was ascertained that the standard wing-length spectrum for adult ♂♂ in a population is 5 or 6mm and that adult males of all populations vary within the relatively narrow spectrum limits of 11mm (97 - 108mm). Juveniles and immature birds have much shorter wings, having wing-lengths as low as 90mm.

My findings on useful subspecific parameters in the main confirm the conclusions reached many years ago by Shelley. Variation of subspecific import follows ecological contours closely. Mesic populations generally show broad red tipping to the head and neck surfaces and are frequently heavily streaked over the breast with orange-red, the yellow ground is relatively saturated, and the lower (caudad) mantle and scapulars are lightly transversely scalloped with white or are plain glossy blue-black. Size in mesic populations also appears to be large in comparison with dry country birds. In populations from more xeric areas size runs appreciably smaller, the yellow surfaces are distinctly paler, the amount of red tipping to the head and neck feathers is markedly reduced, as is the amount of orange-red streaking to the breast. Over the lower mantle and scapulars the transverse white scaling is prominent, this often extending up over most of the mantle.

Independent of these subspecifically significant differences and apparently lacking any obvious ecological correlation is a marked clinal decrease in the size of the blue-black torque from large in

the south of the species range to small in the north and the degree to which it is spotted with pinkish white, this particularly marked in males in fresh dress, and the extent of the red tipping to the upper tail-coverts, which follows a closely similar pattern of south-north geographical distribution.

The southern mesic populations with saturated yellow surfaces, broad red tipping to yellow head and neck feathers, white dorsal scaling moderately developed, upper tail-coverts broadly marked with carmine, blue-black torque deep (22 - 25mm deep in centre in ♂♂), the spotting restricted to the anterior half, the breast heavily streaked with orange-red constitute nominate *T.vaillantii*, based on a Levaillant reference. This form ranges from Natal and Zululand north to Rhodesia south of the miombo biome and the Save R. in Moçambique. The type-locality of *T.v.vaillantii* has been restricted by Vincent (1935) to the south-eastern Cape, which is outside the determined breeding range, but may stand as the species has been recorded as straggling to Amanzi, the Niven family farm in the Uitenhage district of the Eastern Cape, in recent years. A later restriction to the Ham R., in south-eastern South-West Africa, can be ignored as the species has never been taken in southern South-West Africa. Lying to the north of the range of *T.v.vaillantii* one finds rather smaller sized birds with paler yellow surfaces and substantially reduced red tipping and streaking, particularly over the breast, the white scalloping to the dorsum broader and more extended anteriorly over the mantle, and the red to the upper tail-coverts reduced and the pectoral band (torque) much smaller in size (15 - 20mm in centre in ♂♂), the spotting often more extensive. Birds showing these characters range from Huila in Angola, east to Zambia, Moçambique in Tete district, southern Malawi and Rhodesia north of nominate *vaillantii*. For this assemblage of xeric birds I have adopted the hitherto equivocal name *T.nobilis* Ogilvie-Grant, 1912, proposed on a singleton collected on an island in the Okavango Swamp, Botswana, by R. B. Woosnam. This taxon, proposed as a full new species, was erected on what appears to be simply an individual variation, namely a heavier bill than in *vaillantii*.

North of the xeric *T.v.nobilis* populations, that is from northern Angola, the northern districts of Zambia and the Katanga, Zaire, east to the coast of Tanzania lie the populations comprising *T.v.suahelicus*. When admitted, this subspecies is generally credited with having more extensive red tipping to the yellow head feathers and shorter wings than in *T.v.vaillantii*, though Shelley, who dealt with it in the *Catalogue of Birds* in 1891, averred that the diagnostic

characters were (a) a loss of white transverse scalloping to the lower mantle and scapulars and (b) the fact that the small torque is heavily and completely overlaid with broad pinkish spots. The degree of red tipping to the head and neck feathers and the length of the wing do not serve to separate *T.v.suahelicus* from *T.v.vaillantii*, though the virtual absence of dorsal squamation and the heavy spotting to the much smaller torque do merit the recognition of the northern mesic assemblage of populations as taxonomically different to the southern one, as advocated by Shelley.

Study of the ample material from southern African territories suggests that there is some local non-breeding season movement in an easterly direction in the case of some populations, when singletons may be encountered in districts where the species is not known to breed. Its occurrence in the south-eastern Cape — the type-locality of the nominate subspecies — as at Amanzi, Uitenhage, in recent years, derives from this overlooked biological aspect.

Three races of the Crested Barbet may be recognised on the basis of the characters outlined in this report, the names, characters and ranges of taxa being as hereunder given:

(a) ***Trachyphonus vaillantii vaillantii*** Ranzani

*Trachyphonus Vaillantii* Ranzani, *Elem.di Zool.*, vol. iii, 1821, part 2, p. 159: South Africa (*ex* Levaillant), restricted to the south-eastern Cape by Vincent, *Bull.Brit.Orn.Club*, vol. iv, 1935, p. 94 (to which area only a rare straggler).

♂ Yellow head and lateral neck surfaces broadly scaled red; posterior auricular patch dusky; lower mantle and scapulars variably squamated with white. Ground to venter bright Lemon Yellow (Ridgway, pl. iv), the mid- and lower-breast heavily streaked with orange-red; across the lower fore-throat a broad glossy blue-black torque, spotted over the anterior half with pinkish white (torque 22 - 25mm deep in the centre in ♂♂). Upper tail-coverts broadly tipped Scarlet-Red (pl. i).

♀ As in the ♂ but duskiest yellow over the fore-throat; torque rather smaller, with more rosy coloured spotting; rest of venter less immaculate than in male, often with coarser and more widely distributed red streaking to breast.

Wings of 20 ♂♂ 102 - 108, m 103,9, SD 1,89, tails 83 - 93, m 87,9, SD 2,71mm.

Wings of 5 ♀♀ 102 - 107, m 103,9, SD 1,77, tails 83 - 94, m 87,9, SD 4,05mm.

*Range:* Natal, south to about Durban, Zululand, Swaziland, the Transvaal, eastern Botswana from Kanye north to Francistown and the south-eastern edge of the Makarikari Salt Pan complex, Rhodesia south of the miombo biome, and southern Moçambique north to about the Save R.

*Remarks:* Relatively large size, deep yellow ground to venter, heavy red streaking to mid- and lower-breast, large torque with spotting restricted to anterior half, and white dorsal scaling restricted to caudad mantle and scapulars distinguish this race.

(b) ***Trachyphonus vaillantii nobilis*** Ogilvie-Grant

*Trachyphonus nobilis* Ogilvie-Grant, *Ibis*, 1912, p. 397: "Lake Ngami", but = Okavango Swamp, northern Botswana.

♂ As in *vaillantii* but ground to head paler yellow, with much reduced red scaling, auricular patch white, and with more extensively distributed and broader white scaling to the mantle and scapulars, and with shorter red tipping to the upper tail-coverts. Below, ground paler yellow throughout, with reduced and finer orange-red streaking over the mid- and lower-breast; torque smaller and rather more heavily spotted with pinkish white, and more broadly edged with white laterally (torque 15 - 20mm deep in centre). ♀ Differs from nominate *vaillantii* in being more heavily scaled with white dorsally and in having less red over the upper tail-coverts. Below, paler yellow ground to entire venter, with reduced red streaking on breast; torque smaller, with more extensive white edging to lateral and caudad surfaces. Size smaller.

Wings of 20 ♂♂ 97 - 102, m 99,1, SD 1,50, tails (of 18) 79 - 89, m 83,2, SD 2,60mm.

Wings of 5 ♀♀ 95 - 100, m 98,8, SD 2,46, tails 80,5 - 85, m 83,1, SD 2,16mm.

*Range:* Southern and central Angola from Huila and Benguela, east to Cuando-Cubango, north-eastern South-West Africa on the Okavango R., the Caprivi Strip, northern Botswana in the Okavango Swamp and on the Chobe R., Zambia in Barotse, Southern and Central Provinces, Rhodesia in the Zambesi R. valley and in the miombo biome, *i.e.*, north of the range of nominate *vaillantii*, Moçambique in the Tete district (? and Manica e Sofala), and southern Malawi.

*Remarks:* Paler yellow ventral ground in fresh dress with reduced and finer red scaling to head and streaking to breast, much smaller torque size, heavier white scaling above, less red over upper tail-

coverts, and smaller general size distinguish present race from nominate *vaillantii*. Female tends to show a more prominent white bar caudad to the torque. Several dry season-taken females from Newington, in the eastern Transvaal, in the Durban Museum resemble *T.v.nobilis*, and could have been non-breeding visitors from the interior.

*T.nobilis* was separated in the first instance on a putatively deeper, heavier bill than in the case of *vaillantii*. A single Barotseland ♀ examined by me has a slightly heavier bill than in most of the other material handled. Such variation appears to be purely individual in character.

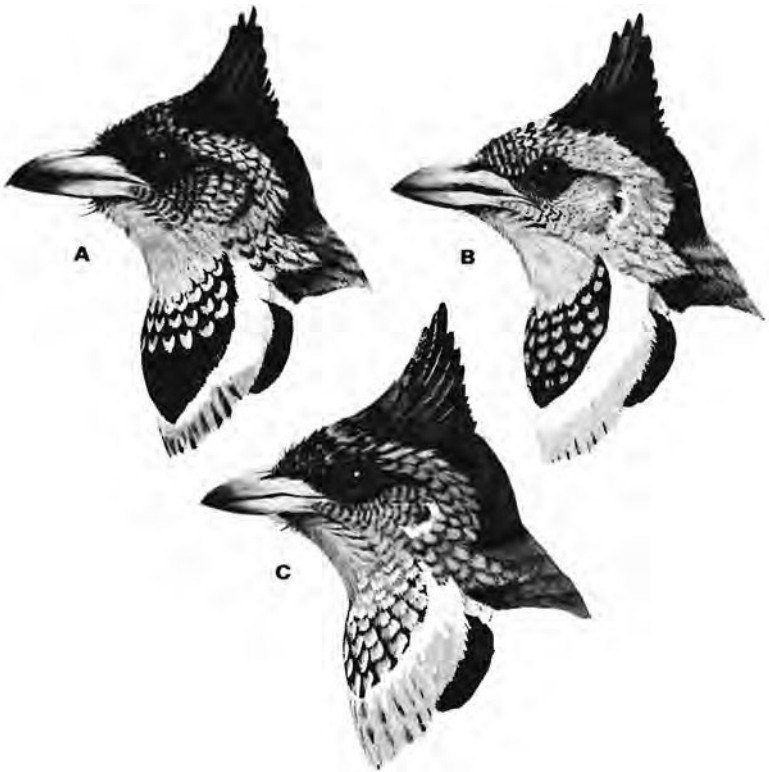


FIG. 1

*Trachyphonus vaillantii* Ranzani

Heads of adult males of the three races of the Crested Barbet showing variation in size of and degree of spotting to torque and other differences.

A. *T.v.vaillantii*

B. *T.v.nobilis*

C. *T.v.suahelicus*



(c) **Trachyphonus vaillantii suahelicus** Reichenow

*Trachyphonus suahelicus* Reichenow, *Journ.f.Ornith.*, vol. xxxv, 1887, p. 60: Usegua, north-eastern Tanzania.

*Trachyphonus vaillantii suschkini* Grote, *Ornith.Monatsber.*, vol. xxxvii, 1929, p. 76: Tabora, Western Province, Tanzania.

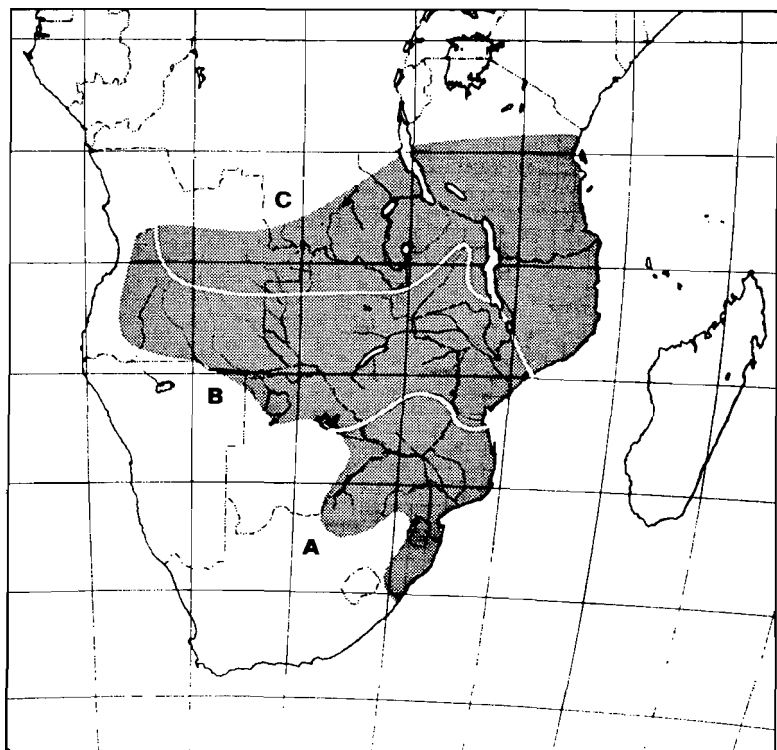
♂♀ The present race differs from *nobilis*, as defined above, in showing more extensive red tipping to the forehead, distal crown, face and sides of the neck on a buffy yellow ground, revealing less sub-terminal yellow; posterior auricular patch edged white; lower mantle and scapulars normally plain glossy blue-black, not broadly scaled with white; torque small as in *nobilis* but more densely overlaid with pinkish white spots, which may obscure entire black ground when in newly moulted condition. Size variable, tending to be small in the east along the coast, larger in the interior. A juvenile of this race has the forehead and crown solid carmine, the feathers not black, tipped with dull yellow and red as *vaillantii* and *nobilis*, and the breast is more densely washed and streaked with red. The yellow ground to the head and neck is buffier than in southern birds. Size a little smaller than nominate *vaillantii*.

Wings of 10 ♂♀ 99 - 104, m 101,6, SD 2,55, tails (of 6) 78 - 85, m 82,5, SD 2,68mm.

*Range:* Tanzania, northern Malawi, northern Moçambique (southern limits uncertain), Zambia in the Northern and Luapula Provinces, west to the North-Western Province, southern Zaire in Katanga and north-eastern Angola in Moxico and, presumably, Malanje and Huambo, but limits in Angola uncertain.

*Remarks:* Greater amount of red tipping to distal coronal feathers, more buffy yellow ground to head, still further reduction or complete absence of white scaling to caudad mantle and scapulars (compared with nominate *vaillantii*), and small torque copiously overlaid with pinkish white spotting, distinguish this northern race from the other two subspecies.

Chapin, *loc. cit.*, refers northern Angola birds to *suahelicus*, which action is followed here. Unfortunately *suahelicus* is sparse over much of its range, and the material available in collections is unsatisfactory for critical work, but when adequate series become available it may be found desirable to restrict *suahelicus* very largely to Tanzania, separating the more western populations of the present taxon *suahelicus* under a new name on characters yet to be determined.



MAP I

*Trachyphonus vaillantii* Ranzani

Sketch-map showing the racial mosaic of the Crested Barbet. The species tends to be local and is not distributed evenly or throughout the ranges as shown.

- A. *Trachyphonus vaillantii vaillantii* Ranzani.  
 B. *Trachyphonus vaillantii nobilis* Ogilvie-Grant.  
 C. *Trachyphonus vaillantii suahelicus* Reichenow.

## VARIATION IN THE BEARDED SCRUB ROBIN

*ERYTHROPYGIA BARBATA* (HARTLAUB AND FINSCH),  
1870

Since being divorced from the reasonably highly polytypic and allopatric *Erythropygia quadrivirgata* (Reichenow), the central and western *Erythropygia barbata* (Hartlaub and Finsch), 1870: Caconda, Huila, Angola, has been treated as a monotypic species with a range extending from western Angola, east to western Tanzania and central and northern Malawi. Ripley, in the continuation of Peters' *Check-List Birds of the World*, vol. x, 1964, p. 26, gives its range as Angola, Zambia and central and northern Malawi, though in point