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MISCELLANEOUS TAXONOMIC NOTES ON AFRICAN BIRDS V

by

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1. A REVISION OF THE SOUTH AFRICAN RACES OF RICHARD'S PIPIT *ANTHUS RICHARDI* VIEILLOT.

Introduction

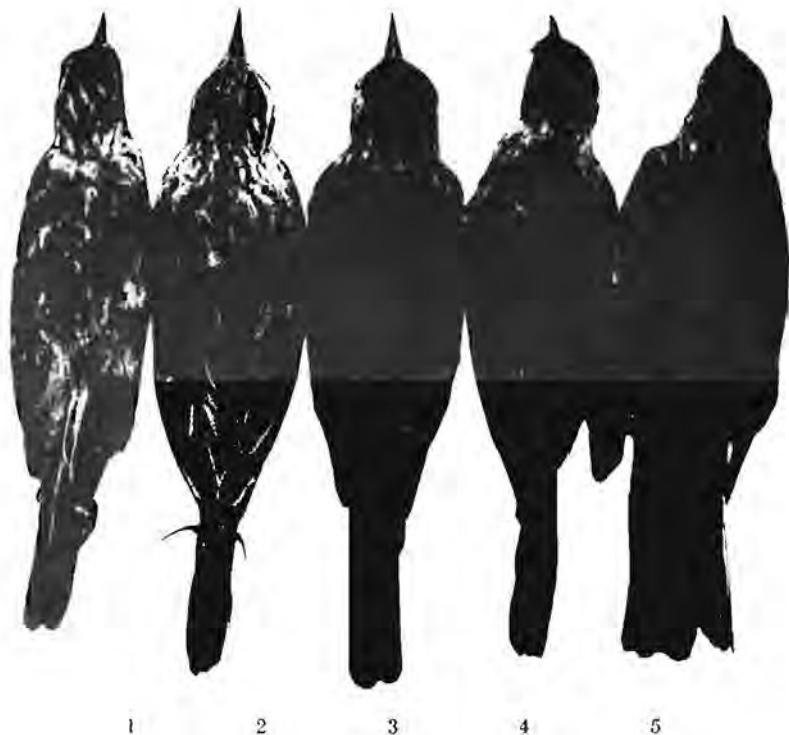
The recognition nomenclaturally of geographical variation in the South African populations of Richard's Pipit *Anthus richardi* Vieillot has for long provided taxonomic workers with a set of problems of some considerable complexity, elucidation of which is made difficult by the simple truth that adequate material for a complete survey is not generally available. The task confronting taxonomists is not mitigated by the fact that much museum material is of little value on account of it having been collected during the southern winter months, at which season this species clearly undertakes quite extensive and as yet little understood migratory movements. Another difficulty is that important colour differences

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clearly perceptible in fresh plumage are largely lost by the time the birds return to the breeding grounds, but, fortunately, as a result of retarded and partial moult in some individuals, it is usually possible, when adequate material taken at all seasons of the year is available, to assess with reasonable accuracy the extent of demonstrable geographical variation in the different populations.

Meinertzhagen, in his revision of the races of *A. richardi* in "Ibis," 1921, pp. 651-658, recognises only two races from South Africa, and a similar view is expressed by Sclater, "Systema Avium Æthiopicarum," part ii, 1930, p. 343, and Roberts, "Birds of South Africa," 1940, p. 293. On the other hand, Vincent, "Check List of the Birds of South Africa," 1952, p. 61, admits no less than six subspecies from South Africa. The views of this worker are supported in the main by the present writer in a brief survey of



The South African Races of *Anthus richardi* Vieillot

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|-------------------------|---------------------------|------------------------|
| 1. <i>A. r. bocagii</i> | 2. <i>A. r. rujuoides</i> | 3. <i>A. r. editus</i> |
| 4. <i>A. r. spurium</i> | 5. <i>A. r. lichenya</i> | |

(Photograph; A. L. Bevis)

geographical variation in the South African populations in the "Annals of the Natal Museum," vol. xii, 1, 1951, pp. 143-144, and in the recognition of three races from the Province of Natal in "A Preliminary List of the Birds of Natal and Zululand," 1953, p. 38. Other recent important communications, apart from short nomenclatural notes and descriptions, dealing with the South African races (in part) are Clancey, "Annals of the Natal Museum," vol. xii, 2, 1952, pp. 259-261, and Pinto and Lamm, "Memorias do Museu Dr. Alvaro de Castro," 2, 1953, pp. 81-84.

The material now assembled shows that five reasonably well differentiated races are maintainable within the confines of the sub-continent, viz., *A.r. rufuloides* Roberts, 1936: Grahamstown, eastern Cape Province; *A.r. bocagii* Nicholson, 1884: Humbe, Huila, Angola; *A.r. spurium* Clancey, 1951: Zimbiti, Beira, southern Portuguese East Africa; *A.r. editus* Vincent, 1951: Sanqubetu Valley, Basutoland; and *A.r. lichenya* Vincent, 1933: Lichenya Plateau, Mlanje Mt., Nyasaland. The inclusion in the South African list by Vincent of the northern Barotseland race, *A.r. lwenarum* White—a large, dark-coloured form closely allied to *A.r. katangæ* Chapin of the southern Belgian Congo—is not confirmed, the birds of Ngamiland and the middle Zambesi area being clearly referable to *A.r. spurium*.

Material

The findings incorporated in this revision of the South African races of *A. richardi* are based extensively on the ample series of breeding specimens specially brought together for the purpose in the eastern Cape Province (topotypical *A.r. rufuloides*) during October, 1953, by the staffs of the Durban and East London Museums. With this comprehensive series as a basis for critical study it has been possible to evaluate suspected subspecific differences in recently collected material from many other parts of South Africa. "Foxing," especially in freshly moulted examples, is particularly troublesome in this species, and, as a result, some old collections are all but valueless. Fortunately, however, several southern African museums have recently added extensively to their ornithological research collections, and as a result of the new pipit material made available it has been possible to prosecute the study of the South African races of *A. richardi* with comparative confidence. I am deeply indebted to the Directors of the following institutions for the loan of the material under their charge: South African Museum, Cape Town; East London Museum; Albany

Museum, Grahamstown; Kaffrarian Museum, King William's Town; Durban Museum; Natal Museum, Pietermaritzburg; Transvaal Museum, Pretoria; Museu Dr. Alvaro de Castro, Lourenço Marques; National Museum of Southern Rhodesia, Bulawayo; Coryndon Memorial Museum, Nairobi. I am also grateful to Mr. C. M. N. White for the loan of specimens of the races occurring in Northern Rhodesia, and to Mr. J. Vincent for permission to examine the paratypical series of his new race, *A.r. editus*. For help with statistical problems I acknowledge gratitude to Dr. R. F. Ewer of the Department of Zoology, University of Natal, Pietermaritzburg. Nearly three hundred skins preserved in South African collections have been available for this revision.

Seasonal Variation and Moulting

In common with other species of the Genus *Anthus* Bechstein, *A. richardi* undergoes pronounced seasonal plumage change as a result of wear and the action of strong sunlight. In most of the races studied, including the comparatively pale *A.r. rufuloides*, and even, to some extent in the very pallid *A.r. bocagii*, the plumage of the freshly moulted bird is liberally suffused with buff-colour of varying intensity according to the race. Breeding birds in worn dress lack almost all trace of buff-colour and are markedly greyer above, the feather centres generally dark, and ventrally they are much whiter than examples in fresh plumage.

A complete moult of the body plumage, and the wing and tail feathers is commenced in February, and by June most birds are in fresh dress. In some individuals, generally females of the year, the major flight feathers and their coverts are not dropped, and the birds breed with the worn juvenal feathers. In any sample of breeding birds taken in October and November, at the height of the season, specimens moulting portions of the plumage will be found, and while a measure of this is undoubtedly due to retarded moult, some of it is certainly the result of a secondary and partial moult; which is usually restricted to some of the dorsal feathers.

Geographical Variation

A. richardi is the most widely though by no means universally distributed of the commoner South African pipits. In the breeding season (September-January) it is generally to be found in fair numbers on level, open, grassy areas, and during this season of the year ranges from about sea-level to elevations of c.9000' a.s.l., and its centre of breeding abundance would appear to lie between

altitudes of 2000' and 5000' a.s.l. After the completion of the annual moult the birds flock and leave the breeding grounds, undertaking migratory movements of some considerable extent, the precise nature of which is far from being clearly understood. At this season of the year Richard's Pipit turns up in the company of other migratory pipits in localities where it does not breed. During these winter peregrinations the birds are often attracted to grassveld land which has been recently burnt.

The ambiguity which surrounded the nomenclatural treatment of the South African populations of *A. richardi* prior to the publication of Meinertzhagen's valuable revision, *loc. cit.*, need not be discussed here, because it is now only of historical interest. Meinertzhagen recognised two races from the South African sub-continent, namely, *A.r. bocagii* from northern South West Africa, and a widely distributed subspecies for which he suggested the name *A. raaltenii* Layard, 1867: Swellendam, Cape, should be used. This arrangement of the races found in southern Africa was accepted without question by workers until the year 1936, when Roberts, "Ostrich," vol. vii, 2, 1936, pp. 111-113, showed that the *Anthus raaltenii* of Layard (*vide* "Birds of South Africa," 1867, p. 123) was not any known form of *A. richardi*, but almost certainly a representative of some diminutive pipit species, perhaps allied to *Anthus brachyurus* Sundevall. For *A. raaltenii auctorum* (*nec* Layard, 1867) Roberts proposed the name *A.r. rufuloides*, the *Type* being a ♂ from Grahamstown. This adjustment has been almost universally accepted by taxonomers, an exception being Vincent who, misconstruing the facts of the case, proposed *A.r. transkeiensis*, the *Type* from Qumbu, Transkei, eastern Cape Province (*vide* "Bulletin of the British Ornithologists' Club," vol. Ixix, 1948, p. 17), for the South African race. As correctly pointed out by White, "Ibis," 1951, p. 464, the introduction of the name *A.r. transkeiensis* was unnecessary, because Roberts unquestionably named the South African race of Richard's Pipit of authors, and it cannot be argued that his name *A.r. rufuloides* is actually a synonym of *A. raaltenii* Layard.

As already recorded under *Material*, an adequate series of *A.r. rufuloides* taken on the breeding grounds in the eastern Cape Province has recently been brought together by the Durban and East London Museums. This valuable topotypical series shows that the breeding populations of the eastern Cape studied are all closely similar, and that the range of individual variation in any population sample is significantly restricted. On the basis of this excellent

material, *A.r. rufuloides* can be defined as a rather pallid race occupying a position intermediate between *A.r. bocagii* of extreme northern South West Africa and southern Angola and the eastern buffy-coloured race, *A.r. spurium*. Dorsally it presents a cold, almost greyish olive aspect, with little obvious buffy suffusion, and on the under-parts this race is noticeably whitish, only the breast, sides of the body and flanks being washed with a light yellowish stone-colour.

While material from critical areas in southern and western districts of the Cape and in Namaqualand is not available to me, birds agreeing intimately with eastern Cape topotypes are found in Damaraland far to the north-west, and in the Orange Free State, Natal and southern Zululand to the north-east. In the foothills country on the periphery of the Basutoland massif the local populations reveal a pronounced tendency to darkness of the upper-parts. Such dark examples of *A.r. rufuloides* are, strictly speaking, intergrades between that subspecies and the large and intensely saturated high altitudinal race, *A.r. editus*, which breeds at considerable elevations in the Basutoland montane system. *A.r. editus* has a very circumscribed distribution, and need not interest us further in this general discussion on geographical variation.

Immediately to the north of the Damaraland populations, in Ovamboland and southern Angola—an area renowned for its large number of excessively pallid endemic forms—is to be found a group of populations the birds of which, following the normal variational trend as exemplified by many other species of pipits, larks, francolins, etc., inhabiting this segment of the South African sub-continent, show a marked colour divergence from the norm of *A.r. rufuloides* in presenting a very bleached aspect. In this race, *A.r. bocagii*, the buffy suffusion to the plumage is reduced to its absolute minimum, and even examples in newly moulted dress show only the faintest wash of yellowish stone-colour on the breast and a very greyish dorsal surface. In size *A.r. bocagii* is smaller than *A.r. rufuloides*, and it is the palest of all the African races of *A. richardi*.

To the east of the limited range of *A.r. bocagii* and the South West African populations of *A.r. rufuloides*, and to the north of the other populations of that race, occur birds markedly more chromatic. Such populations are by contrast with *A.r. bocagii* and *A.r. rufuloides* richly coloured, the entire ventral surface liberally suffused with warm buff, particularly on the breast, and the upper-parts are noticeably warmer, being of a cinnamon-buff colour. The dark centres to the feather of the upper-parts are less dark than those of

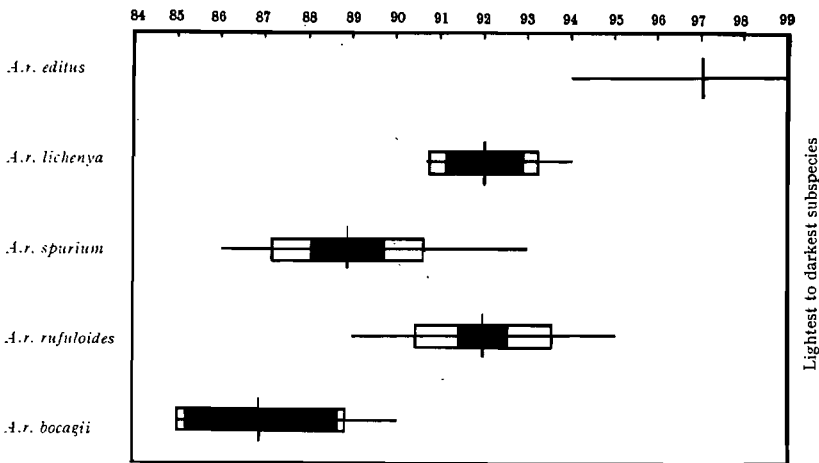
A.r. rufuloides, and in size these birds are smaller, though in this respect similar to *A.r. bocagii*. Populations of this type range eastwards from Ngamiland and the Chobe River to parts of south-eastern Northern Rhodesia and the delta of the Zambesi, and southwards throughout southern Portuguese East Africa, parts of western Southern Rhodesia, and Bechuanaland to northern Zululand, parts of the Transvaal and the northern Cape (British Bechuanaland). The southernmost extremity of the range of this buffish race, which I have described as *A.r. spurium*, corresponds approximately with the 27°S. line of latitude. Judging by such material as is available, *A.r. spurium* intergrades with *A.r. rufuloides* over a wide area to the south of its ascertained range. I have already discussed (Clancey, *loc. cit.*, 1952) the difficulty experienced in the classification of such interracial hybrids, and using rather similar unstable material Pinto and Lamm, *loc. cit.*, have questioned the veracity of my published findings. *A.r. spurium* also ranges to the north of the Zambesi delta throughout northern Portuguese East Africa at low altitudes.

In the high areas of Southern Rhodesia, particularly in the moister eastern highlands, we have a closely analogous set of circumstances to those obtaining in the Basutoland massif, the indigenous populations of such areas being markedly darker and redder above and more rust-coloured below than the surrounding populations of *A.r. spurium*. In size the dark highland birds range larger than *A.r. spurium*, though not to the extent of that attained by the Basutoland race, *A.r. editus*. It would appear that the dark Southern Rhodesian populations here considered cannot be separated from the birds of the Nyasaland highlands to which the name *A.r. lichenya* has been given by Vincent, even though the two montane groups of populations be separated from one another by over two hundred miles of territory tenanted by quite different looking birds (*A.r. spurium*). In the high areas of the north-eastern Transvaal occur rather similar dark-coloured birds, which appear to be actually intermediates between *A.r. lichenya* and *A.r. spurium*, but their real status is not understood, and the problem warrants more critical study with adequate material specially collected for the purpose.

Making due allowance for some unfortunate lacunæ in the research material available at the present time, notably from most districts of the western and southern Cape Province and the southern half of South West Africa, a fairly accurate picture of geographical variation in the South African populations of *A. richardi* can now

be drafted. Five racial groups of populations can be conveniently recognised by trinomial designation from the sub-continent, and while further collecting will undoubtedly necessitate adjustments in the distributions detailed below, it is not anticipated that the recognition of further endemic subspecies from South Africa will be a feasible proposition, even by present day standards.

Generally speaking, the smallest and palest of the races (*A.r. bocagii* and *A.r. rufuloides* (colour only)) are to be found in desert-like and associated grass and scrubland regions of the west and south, and the largest and darkest (most saturated), *i.e.*, *A.r. editus* and *A.r. lichenya*, are confined as breeding birds to highland plateaux at considerable elevations in the eastern part of the sub-continent.



Statistical analysis of wing-length (in mm.) in adult males of South African races of *Anthus richardi*. Horizontal lines represent size range; open rectangles represent standard deviation and blacked in rectangles twice the standard error (see map, p. III, for geographical disposition of races).

A.r. spurium is perfectly intermediate between the two groups, because in its small size it approaches *A.r. bocagii* and in colouration *A.r. lichenya*, and ecologically it bridges the gap between the other subspecies. Absence of satisfactory isolating mechanisms and the high mobility of the populations clearly result in considerable gene-flow and the broad zones of intergradation between the races known to exist in certain instances. Material at present available is insufficient upon which to base any satisfactory distributional history of the species in southern Africa.

In the attendant diagram of statistical analysis of wing-length in adult males of the South African races of *A. richardi*, I have arranged the races in the only truly satisfactory sequence, by colour and not geographically—a permissible expedient in view of the fact that no true cline is involved in the present study.

The races of *A. richardi* recognised from South Africa as a result of this revision are as below detailed.

1. *Anthus richardi rufuloides* Roberts

Anthus raalteinii of authors, not of Layard, 1867.

Anthus richardi rufuloides Roberts, "Ostrich," vol. vii, 2, December, 1936, p. 111: Grahamstown, Albany district, eastern Cape Province, South Africa.

Synonym: *Anthus richardi transkeiensis* Vincent, "Bulletin of the British Ornithologists' Club," vol. lxix, 1948, p. 17: Qumbu, Transkei, eastern Cape Province.

Upper-parts dull buffish olive-grey, feathers of the crown, nape and mantle with dark umber-brown centres and paler fringes. Under-parts dull white; breast with blackish spots; wash of yellowish stone-colour on breast, sides of the body and flanks.

Wing-measurements: (wings flattened) ♂♂ 89, 89, 90, 90, 90, 90, 90.5, 90.5, 91, 91, 91, 91, 91.5, 92, 92, 92, 92, 92.5, 92.5, 92.5, 92.5, 92.5, 92.5, 93, 93, 93, 93, 93, 93, 93, 93, 94, 95, 95, 95 mm.
♀♀ 84.5, 85, 85, 85, 86, 86, 86, 86, 86, 86.5, 86.5, 87, 87, 87, 87, 87, 87, 87, 88 mm.

Mean ♂♂ 92.0 mm. S.E. ± 0.27

♀♀ 86.2 mm.

(Fifty-four eastern Cape Province and Natal birds measured)

Type: In the collection of the Transvaal Museum, Pretoria.

Range: The greater part of the Cape Province, ranging north-eastwards to most of the Orange Free State, Basutoland at low levels, Natal and southern Zululand, and in the north-west to Damaraland and Great Namaqualand, South West Africa. Intergrading to the north and east of its range with *A.r. spurium* and in the foothills of the periphery of the Basutoland massif with *A.r. editus*. Migrant flocks of this race occur commonly in the eastern low country during the southern winter months.

Remarks: As already noted above, material from most parts of the western Cape Province and from Great Namaqualand is almost non-existent in the available research collections. A single unsexed specimen (wing 86 mm.) collected on the aerodrome at Oudtshoorn in the south-western Cape by W. L. Chiazzari on 11 October, 1942, and now in the collection of the Natal Museum differs from topotypical material of *A.r. rufuloides* in being paler and more buffy above, the feathers of the crown without pronounced dark centres. On the underside it is delicately suffused with pale pinkish buff and the spots on the breast are broad and conspicuous. How far this single example represents the breeding population of the south-western Cape Province is unknown. Roberts, "Annals of the Transvaal Museum," vol. xvi, 1935, p. 126, has already drawn the attention of workers to the absence of research material from the area in question.

This is a relatively dull, cold-coloured race, with little in the nature of the buffish and rufous suffusions which characterize the races occurring to the north-east of its range.

2. *Anthus richardi bocagii* Nicholson

Anthus bocagii Nicholson, "Ibis," 1884, p. 469, *nom. nov. pro.*

Anthus pallescens Bocage (*nec* Vigors and Horsfield), "Jorn. Acad. Sci. Lisboa," No. 17, 1874, p. 52: Humbe, Huila Province, southern Angola.

Compared with *A.r. rufuloides* much paler and more bleached above, especially on the nape and rump, the feathers with less dark centres. Ventrally very pale and whitish, the breast, sides of the body and flanks only lightly washed with pale stone-colour. Breast spots lighter. Smaller in size.

Wing-measurements: ♂♂ 85, 86, 86, 87.5, 90 mm. ♀ 80 mm.

Mean ♂♂ 86.9 mm. S.E. ± 0.87

(Six Ovamboland specimens measured)

Type: (Of *A. pallescens* Bocage). Not traced (not in Museu Bocage, Lisbon).

Range: Apparently confined to the Etosha Pan and adjacent arid areas of Ovamboland and the southern parts of the Province of Huila, southern Angola. Replaced immediately to the south of its stated range by birds which are inseparable from *A.r. rufuloides*.

Remarks: This is the palest of the African subspecies of *A. richardi*, from an area famed for its numerous, distinctive endemic forms. It should be here noted that birds from areas to the north of the range of *A.r. bocagii* in Angola are darker above and with the breast more copiously streaked on a buffy ground. These birds are not so dark and large as *A.r. lwenarum* and *A.r. katangæ*, but the racial status of such populations is not at all clear from the literature, and they may well represent an undescribed race. White *in litt.* informs me that he has obtained this innominate subspecies at Balovale, Barotseland, during the non-breeding season.



Anthus richardi Vieillot

Map showing the distributions of the southern African races of *Anthus richardi*.

1. *A.r. rufuloides*; 2. *A.r. bocagii*; 3. *A.r. spurium*; 4. *A.r. editus*;
5. *A.r. lichenya*; 6. *A.r. lwenarum*; 7. *A.r.?* *subsp. nov.*

• (o) marks the type-localities of the named races

3. *Anthus richardi spurium* Clancey

Anthus richardi spurium Clancey, "Annals of the Natal Museum," vol. xii, 1, 1951, p. 144: Zimbiti, near Beira, southern Portuguese East Africa.

Differs from *A.r. rufuloides* in being paler and more buffy dorsally in fresh plumage, the feather centres much less dark. Under-parts markedly different, being strongly tinged with buff, especially on the breast, sides of the body and flanks. *A.r. rufuloides* is by comparison a cold-coloured, almost greyish race, with the under-parts distinctly whiter, and with only the breast, sides of the body and flanks moderately washed with yellowish stone-colour. Smaller.

Wing-measurements: ♂♂ 86, 87, 87, 87.5, 88, 88, 88, 88, 88, 89, 89, 89, 90, 90, 91, 91, 91, 93 mm.

♀♀ 80, 80, 82, 83, 83.5, 84, 85, 85, 85.5, 86 mm.

Mean ♂♂ 88.9 mm. S.E. ± 0.41

♀♀ 83.4 mm.

(Twenty-eight lower Zambesi and southern Portuguese East African specimens measured)

Type: In the collection of the Natal Museum, Pietermaritzburg, Natal.

Range: Not completely worked out. Known to range from the middle Zambesi and the Chobe River area, parts of south-eastern Northern Rhodesia, and the lower stretches of the Zambesi southwards through parts of western Southern Rhodesia, Bechuanaland, and southern Portuguese East Africa to northern Zululand, Swaziland, most of the Transvaal, and the northern Cape Province in British Bechuanaland. Intergrading over a wide area in the south of its range with *A.r. rufuloides*. Extralimitally *A.r. spurium* ranges from the mouth of the Zambesi northwards throughout northern Portuguese East Africa, except in the highlands of the west where *A.r. lichenya* occurs.

Remarks: This recently described race has already been adversely criticised by Pinto and Lamm, *loc. cit.*, who have, without any real justification, erroneously assumed that the differences claimed for it, both in the original description and in my paper on the birds of the Lebombo Mountains and Tongaland (1952, pp. 259-261), are simply the outcome of comparing worn breeding examples with freshly moulted material, and that *A.r. spurium* is only *A.r. rufuloides* in worn dress. The long table of wing-measurements

given on p. 83 of the "Memorias" only serves to confirm that Portuguese East African birds are appreciably smaller than those of the eastern Cape Province (*A.r. rufuloides*), as can be confirmed independently by comparing the different measurements given in this paper. Statistically the size difference is significant ($P < .001$).

Through the kindness of Dr. A. A. da Rosa Pinto I have been able to examine a series of eight specimens in fresh dress from Sul do Save, southern Portuguese East Africa, in the collection of the Museu Dr. Alvaro de Castro, Lourenço Marques. These agree perfectly with my other material from the type-locality and many other districts of the territory, and on comparison with the excellent series of topotypical *A.r. rufuloides* now available to me confirm that *A.r. spurium* is a well-defined, relatively buffish race with significantly smaller dimensions, and with a wide and complex distribution. The findings of Pinto and Lamm are quite inadmissible in the light of the information now available.

A.r. spurium closely resembles *A.r. lacuum* Meinertzhagen of Kenya Colony, but is rather richer buff above, and the feather fringes are not so pale, resulting in a somewhat darker, less mealy, appearance. Ventrally there is little difference, except that in series *A.r. spurium* is more heavily spotted on the breast, and the buffish ground colour to the breast, sides of the body and flanks is slightly darker. *A.r. lacuum* is larger than *A.r. spurium*, being similar mensurally to *A.r. rufuloides*, *A.r. lichenya*, *A.r. lwenaarum*, etc.

The rather dark birds of the highland areas of the northern Transvaal possibly represent intermediate populations between *A.r. spurium* and *A.r. lichenya* of eastern Southern Rhodesia, though the true status of these populations is by no means clear from the small amount of comparable material available. On the other hand, there is a distinct correlation between altitude and increased intensity of melanin in the feather pigment of the majority of the African racial representatives of *A. richardi*, and the dark-coloured northern Transvaal populations may actually be highly stabilized and be of equivalent rank to the adjacent highland forms already recognised by name: *A.r. lichenya* to the north and *A.r. editus* to the south-west. Extensive collecting in this critical area is clearly needed.

4. *Anthus richardi editus* Vincent

Anthus richardi editus Vincent, "Annals of the Natal Museum," vol. xii, 1, 1951, p. 135: Sanqubetu River Valley, Basutoland (29° 17' S. 29° 21' E.), at 8000' a.s.l.

Much darker and more saturated above than *A.r. rufuloides*, the stripes on the crown rather more pronounced. On the under-parts wholly suffused with pinkish buff, and with the spots on the breast larger and somewhat more numerous. Wings and tail darker. Larger, especially in the male.

Wing-measurements: Vincent, in the original description, gives the wing-measurements of ♂♂ as 94-99, ♀♀ 88.5 mm. I have only been able to measure three specimens of this high elevation race during the course of this study, though I did have the privilege of examining the paratypical series immediately prior to the publication of the description of *A.r. editus*. The wing-measurements of the three skins at my disposal are as follows: ♂ 97, ♀♀ 87, 88 mm.

(Three specimens examined)

Type: In the British Museum (Natural History), South Kensington, London. Formerly in the private collection of Mr. J. Vincent.

Range: Confined to the massif of Basutoland at high elevations. Intergrading with *A.r. rufuloides* at lower levels, as noted under that subspecies. Recorded as a winter visitor to Natal.

Remarks: This interesting race is known only from about eleven skins, and was discovered by Vincent during the course of his survey of the high montane avifauna of Basutoland in 1946 and 1947, when he collected eight specimens. There is a single ♂ example from the type-locality collected by R. E. Symons in the South African Museum (16 November, 1915), and a ♀ in the Albany Museum, Grahamstown, from the Malutsanyene Falls collected by J. Cottrell in January, 1926.

5. *Anthus richardi lichenya* Vincent

Anthus richardi lichenya Vincent, "Bulletin of the British Ornithologists' Club," vol. liii, 1933, p. 131: Mlanje Mountain, southern Nyasaland, at 6500' a.s.l.

When compared with *A.r. spurium* noticeably darker and redder above, less inclined to buff, and with the feather centres deeper black. Ventrally more strongly suffused with reddish buff, and with the breast spots blacker. Larger, but not as large as *A.r. editus*.

Wing-measurements: ♂♂ 90.5, 91, 91, 91.5, 92, 93, 93, 94 mm.
♀♀ 85, 85, 87, 87, 87, 88, 88, 88, 89 mm.

Mean ♂♂ 92.0 mm. S.E. ± 0.43

♀♀ 87.1 mm.

(Seventeen Southern Rhodesian specimens measured)

Type: In the British Museum (Natural History), South Kensington, London.

Range: In the South African sub-continent confined to the eastern highland areas of Mashonaland and parts of Matabeleland, Southern Rhodesia. Extralimitally in the highlands of Nyasaland.

The rather dark-coloured populations of the contiguous high areas of the northern Transvaal may represent a phase of intergradation between *A.r. lichenya* and *A.r. spurium*, but see extended remarks under the latter race.

Remarks: This is a well-defined subspecies, closely allied to *A.r. editus*, *A.r. lwenarum* and *A.r. katanga*, which are highland and interior forms characterized by saturated dorsal surfaces and generally large size. The populations of the highlands of northern Nyasaland (? and southern Tanganyika Territory) should perhaps be separated on account of the rich cinnamon tinge to the upperparts, wings and tail, and the deep cinnamon wash on the sides of the body and flanks. The bill seems smaller and more gracile than in *A.r. lichenya* and its congeners. This form is perhaps related to *Anthus latistriatus* Jackson, 1899, described from Kavirondo, a rare species in collections, material of which has not been available for this study.

Summary

Examination of a large study material preserved in southern African museums reveals that five indigenous races of the pipit species *Anthus richardi* Vieillot are to be found in the South African sub-continent. The nomenclature, criteria and ranges of the various races are detailed at length. *A.r. lwenarum* White of northern Barotseland, included by Vincent in his South African "Check List," 1952, is shown not to occur within the established limits of the sub-continent.

2. A NEW SUBSPECIES OF GREY-HEADED SPARROW *PASSER GRISEUS* (VIEILLOT) FROM NATAL, SOUTH AFRICA.

Sclater, in his "Systema Avium Æthiopicarum," ii, 1930, p. 725, recognises only one generally distributed race of the Grey-headed Sparrow *Passer griseus* (Vieillot) from Africa south of the Zambesi River, namely, *P.g. diffusus* (A. Smith), 1836: north of the Orange River, and *P.g. mosambicus* van Someren, 1921: Lumbo, northern Portuguese East Africa, which is stated to occur in the lower Zambesi area. *P.g. georgicus* Reichenow, 1904, described from