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On variation in *Nectarinia talatala* (Smith)

by P. A. CLANCEY

Received 4th September, 1967

The White-bellied Sunbird *Nectarinia talatala* (Smith) ranges from Angola, the southern edge of the Katanga, Zambia and southern Tanzania, south to the Transvaal and Natal. Van Someren (1921) and Roberts (1936) were among the first workers to record variation within the species; the former worker demonstrating a diminution in size and a bluing of the lustrous surfaces in northern Moçambique populations, while Roberts showed that northern South West African birds were on the whole shorter-billed than those of the Transvaal and Natal. Later workers have frequently expressed doubts as to the existence of subspecific difference in the species, and both Benson (1956) and Winterbottom (1966) aver that the species is monotypic, and that such differences as exist are vague and clinal in character.

A new study of a large panel of material in the Durban Museum suggests that recent doubts as to the polytypic status of *N. talatala* are not entirely well founded. In the White-bellied Sunbird geographical variation affects general size, as revealed by standard wing-, tail- and bill-measurements, the depth of the black breast-band in males, and the intensity with which the plumage, particularly in females is suffused with lipochrome. Study and evaluation of these variables is not simple, because not all populations breed and then moult at the same time of the year, there is much seasonal movement on the part of some populations and even individuals, and as is often the case, not all birds of single blocks of populations wear and fade at the same rate. When all lipochrome has been leached out of the plumage by the action of the sun and weathering, birds present a different aspect, especially on the underside, than when in fresh dress. Breeding birds are usually sullied and greyed below through contact with pollen and plant dust.

Variation follows a simple pattern common to many small passerines in southern Africa: small dimensions along the eastern seaboard and a demonstrable increase in melanin present in birds of the humid south-eastern highland system when compared with those of the drier sequence of biotopes in the interior and far west of the range. In agreement with other recent students, I find variation in bill-length not to be a particularly useful medium for arranging the populations into races, as the pattern described by this variable is irregular.

Eastern low country birds are consistently small-billed, but are not separable on this character from 50 per cent of those examined from the Rhodesian plateau, Zambia, northern Botswana and northern South West Africa. On the other hand, they are distinguishable at the conventional subspecies level from highveld Transvaal and Natal birds on the bill character. Wing- and tail-length measurements are of somewhat greater use in any projected subspecific arrangement, Zambesi valley and eastern littoral populations consisting of birds differing from interior and far western ones by about four mm. in either statistic. Eastern lowland *N. talatala* have wings in ♂♂ generally 51-56, tails 33-38, the plateau birds 57-61, tails 38-43 mm. However, a like diminution in size is found on the Angolan coast,

where Benguela ♂♂ again have wings 52-56 mm. (after Benson). Clearly, size variables on their own are unsatisfactory media for any acceptable breakdown of *N. talatala* into racial taxa.

TABLE 1

Measurements of adult ♂♂ in mm. of selected populations of Nectarinia talatala.

	Population	No.	Wing	Culmen	Tail
			<i>N. t. aresta</i>		
1	Natal	10	55.5-59 (56.9)	23-25 (23.9)	36-42 (39.1)
2	Transvaal	10	56-61 (58.3)	23-24 (23.6)	38-43 (40.1)
			<i>N. t. talatala</i>		
3	Rhodesia (plateau)	10	57-59 (58.0)	21.5-24 (22.5)	38-41 (39.3)
4	N. Botswana	6	56-59 (57.4)	21-23 (21.7)	37-40.5 (39.1)
5	South West Africa	10	56.5-58.5 (57.7)	21.5-24.5 (23.0)	38-41 (39.4)
6	Zambia (except Zambesi and Luangwa valleys)	10	57-58.5 (57.5)	22-24 (22.8)	36-40 (38.5)
7	Zambesi R. valley (middle reaches, E. of Kariba)	10	52-56 (53.7)	21-23 (22.0)	33-37 (35.3)
8	S. Malawi & Moçambique littoral N. of Limpopo	10	51-56 (54.6)	20-23 (21.6)	35-39 (36.8)

Turning to colour as a means of arranging the populations into generally acceptable racial taxa, I find that males show little or nothing of moment on the upperparts. Eastern lowland birds separated as *N. t. lumbo* by Van Someren are not bluer on the upper tail-coverts and throat in freshly moulted dress than interior plateau specimens. Bluening of the dorsal peacock green is a phenomenon induced by actinic alteration of the refractive feather surfaces, and is common to all populations. Ventrally, one finds that males of all populations are delicately washed with pale primrose yellow over the abdominal surface when freshly moulted, this yellow flush disappearing gradually with the weathering of the plumage. What appear to be significant racial differences are, however, to be found in the intensity and depth of the black breast-band and the degree to which the body sides and flanks are washed or overlaid with olivaceous grey or brown. Males of the populations breeding in Natal and the Transvaal highveld, *i.e.*, over the south-eastern highlands of South Africa, are not only large and longest-billed (see Table 1), but differ from all others in having a more jet-black and deeper breast-band, with the ventral white duller and the sides of the body and flanks strongly washed with brownish. In the females of these same populations, the upperparts are darker and browner olivaceous, and the underside is darker over the throat and breast, the medio-ventral plane more strongly yellowish. Such populations appear to be partially migratory, judging by the presence of typical examples as far north as north-eastern Botswana (Goha Hills) and north-western Rhodesia (Nampini Ranch, West of Victoria Falls) between mid-March and September.

In order to test the validity of a belief that Transvaal highveld and Natal birds are partially migratory, I sorted out actual breeders taken in October

and later on in the year. At this season colour leaching has eliminated any difference in the females of the various populations, but the black breast-band and ventral lateral overlay characters in males are usually still readily apparent. It was found that in all the breeding males from the central Zambesi River Valley, from which area a good panel of skins was available, the breast-band was not only much narrower but appreciably browner, less black, than in a like sample from the Transvaal highveld (Pretoria district) and Natal (mainly Pietermaritzburg).

These findings suggest that the frequent arrangement of the White-bellied Sunbird into two races has some actuality, but that the structural differences employed by workers to this end are inadequate, and that the colour characters outlined in the above discussion are more satisfactory. Most workers who have admitted two races apply *Cinnyris talatala* Smith, 1836: between the Orange River and Kurrichaine (*i.e.*, Zeerust), restricted to north-eastern Bechuanaland district, northern Cape, to the southern complex of populations, and *Nectarinia Anderssoni* Strickland, 1852: Damaraland, to the northern, following Roberts, (1936). However, examination of material from eastern Botswana and the dry western periphery of the Transvaal (Ellisras at 23° 55' S: 27° 45' E; Hanglipberg at 24° 20' S: 28° 35' E.) on the south-eastern edge of the South West Arid District reveals no palpable difference between it and specimens from populations present in northern Botswana, the Caprivi, and northern South West Africa, toponymical of *N. anderssoni*. I conclude that the names *talatala* and *anderssoni* apply to the same racial group of populations and are synonymous. Van Someren's *Cinnyris leucogaster lumbo*, described in 1921 from Lumbo, northern Moçambique, is not maintainable on the colour characters enunciated in the original description, these being simply the result of actinic bluing of the metallic feathering in the small sample available of what he took to be nominate *C. leucogaster* (= *N. talatala*). The populations named *lumbo* do range smaller in critical measurements than most plateau birds, but similarly small birds extend into northern Botswana via the Zambesi River Valley and also occur along the Angolan coast. As indicated above, it seems best to disallow *lumbo*, and place this name in the synonymy of *talatala* along with *anderssoni*. One other name remains to be considered, that being *Nectarinia talatala aresta* Clancey, 1962; Eshowe, Zululand. The *Type* is a typical male of the southern form with a deep black breast-band, a strong brownish wash to the flanks, and the bill is long (24+ mm.). This name can be adopted unequivocally for the southern race.

The names, characters and ranges of the two races of *N. talatala* are as hereunder detailed:

***Nectarinia talatala talatala* (Smith).**

Cinnyris talatala A. Smith, *Rep. Exped. Expl. Centr. Afr.*, 1836, p. 53: country between Orange River and Kurrichaine, restricted to north-eastern Bechuanaland district, northern Cape, by Clancey, *Durban Mus. Novit.*, vol. vii., 13, 1966, p. 558.

Nectarinia Anderssoni Strickland, in Jardine's *Contr. Ornith.*, 1852, p. 153: Damaraland, South West Africa, but *Type* perhaps from Okavango River.

Cinnyris leucogaster lumbo van Someron, *Bull. Brit. Orn. Cl.*, vol. xli., 1921, p. 113: Lumbo, northern Moçambique.

Male in newly moulted dress metallic Peacock Green (Ridgway, 1912) above, bluing over the upper tail-coverts. Below, with blackish-brown band across breast caudad to the metallic Ethyl Blue and violet plastron 5-7 mm. deep laterally; rest of underside white, flushed medio-ventrally with Naphthalene Yellow.

Female Olive-Citrine above. Below Naphthalene Yellow, streaked with greyish-brown on throat and breast, and flanks washed with same.

Measurements: As given in Table 1.

Material: 260. (South West Africa, 22; Botswana, 12; Zambia, 32; Rhodesia, 131; Moçambique, 22; Malawi, 5; West and East lowveld of Transvaal, 14; East Swaziland, 15; East Zululand, 7).

Range: Angola in the south and south-west, the northern half of South West Africa, including the Caprivi Strip, northern and eastern Botswana, north-eastern Cape, western and eastern Transvaal, Rhodesia, Zambia, southern Katanga, in the Congo, Malawi, southern Tanzania, Moçambique, eastern Swaziland, and the eastern plain of Zululand.

Remarks: A male from Mazabuko, dated 21st May, 1949, in the collection of the National Museum of Rhodesia, Bulawayo, N. M. Reg. No. 1361, with an orange suffusion to the pectoral tufts and incipient orange or red breast-bar below the black, appears to be the first record of a *N. talatala* *N. oustaleti* hybrid.

***Nectarinia talatala aresta* Clancey.**

Nectarinia talatala aresta Clancey, *Durban Mus. Novit.*, vol. vi., 15, 1962, p. 190: near Eshowe, Zululand.

Male as in *N. t. talatala*, but often more reddish-violet over caudad half of plastron (Amethyst Violet); black breast-band more jet, and deeper—c. 10-15 mm. deep laterally; white of underside duller, and medio-ventral plane greener yellow (Pale Greenish Yellow); sides of body and flanks washed and somewhat streaked with olivaceous brown, not almost white as in nominate *N. talatala*. Bill averaging longer.

Female darker and browner above (Brownish Olive). Below, darker and browner over throat and breast, and abdominal surface deeper yellow (Primrose Yellow); flanks darker and overlaid with light olive-brown.

Measurements: As given in Table 1.

Material: 72. (Transvaal highveld, 24; Natal, 22; western Zululand, 6; Swaziland, 3 (wintering); Rhodesia and Botswana, 17 (wintering)).

Range: Breeds in the acacia savannas of the highveld of the Transvaal, south to western Zululand and Natal. High elevation populations tend to move north and east during the cold, dry winter months, and then recorded Swaziland, Rhodesia and even Botswana. Well marked males of this race recorded from Rhodesia were taken at Sentinel Ranch, Limpopo River, 8th May and 30th June; Bulawayo 11th March and 14th August; Sabi/Lundi confluence, 8th June; Birchenough Bridge 4th and 14th July; Nampini Ranch, West of Victoria Falls, 31st August. The single Botswana record: Goha Hills 21st September.

Remarks: Females in breeding dress retain much of the dark colour of the upperparts, but lose the yellow below, becoming whiter. They are, not,

however, always separable from females of *N. t. talatala* when in worn dress.

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To augment the series in the Durban Museum, additional material was borrowed from the South African Museum, Cape Town, the State Museum Windhoek, the Natal Museum, Pietermaritzburg, the Transvaal Museum, Pretoria and the National Museum of Rhodesia, Bulawayo. To the responsible officials I tender my thanks.

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Breeding biology of *Lamprotornis mevesii* (Wahlberg)

by R. J. DOWSETT

Received 2nd April, 1967

Brooke (1965) has summarised what is known of the breeding of the Long-tailed Starling *Lamprotornis mevesii* (Wahlberg), but he is able to give no information on incubation and nestling periods. The present paper records the nestling period and the growth of nestlings observed in a nest at M'fuwe, Luangwa Valley, Zambia (13° 05' S: 31° 50' E), in March, 1966. This nest is the first to be found in Zambia (Brooke, *op. cit.*). Nest excavation, as observed in the same area in February, 1967, is also described. The species is numerous on alluvial soils in the Luangwa Valley, mainly in *Colophospermum mopane* Leon. woodland, but the area is difficult of access in the rains when the species is breeding.

Nest excavation

On 11th February, 1967, a pair of *L. mevesii* started excavating a hole in a *Kigelia pinnata* tree, only some 10 feet from the tree in which they had nested in March, 1966. They were considered to be the same pair that had nested before, the presumed male having been caught and ringed in March, 1966 and the presumed female being unringed. When the male visited the nest-hole the number on his ring could be read clearly through a x40 telescope. The hole was a natural one and was in the side of an almost vertical branch, some 12 feet above the ground. The hole was about six inches deep and contained rather loose and rotting wood.

Excavation was daily, but was casual and mainly between 0700 and 1000 hours local time. Only the female was seen to excavate. The male usually sat higher up in the tree, and would call when the female entered the nest-hole, often flying down to peer in when she was inside. Sometimes he would fly away with her when she left the hole with wood-chips, which she usually carried in her beak for about 25 yards. On 16th February, she started carrying a few twigs into the hole, but she was still occupied with excavation. On one occasion the male carried a large chip of wood into the hole, only for it to be removed promptly by the female on her next visit. The male seldom entered the hole, and was never again seen to carry anything.