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Subspeciation in Layard's Tit-babbler of the southwestern Afrotropics

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The tit-babblers *Parisoma subcaeruleum* and *P. layardi* form a small unit of sympatric species endemic to the South African Sub-Region, where they affect the *Acacia* savanna biome. They are thought to be closely related to the Old World warblers of the genus *Sylvia*. While both South African species are broadly sympatric, *P. layardi* is the less common of the pair and is confined to the extreme west and the south of their joint range, which extends from southwestern Angola, the mid-Zambezi drainage and the plateau of Zimbabwe, south to the Cape and western Natal in the Republic of South Africa. The other species currently treated as congeneric are *P. buryi* of southwestern Arabia, and *P. lugens* and *P. boehmi* of the northeast and eastern parts of Africa. *P. buryi* is monotypic, while *P. lugens* and *P. boehmi* are moderately polytypic, as are *subcaeruleum* and *layardi*. While the two southern African forms are sympatric and share the same *Acacia* biome, they are, nevertheless, moderately differentiated ecologically, with *layardi* found in broken, hill country with tracts of rocky terrain.

In the west of its range, *layardi* is present along the western seaboard at sea level, but in the extreme east, in the highlands of Lesotho, it affects high country, breeding to elevations in excess of 2500 m and reaching the alpine summit of the high Drakensberg. From the ecological point of view it is significant that in the west of the range precipitation levels are low, being *c.* 120 mm annually, whereas in the extreme east the birds espouse an environment which experiences a rainfall of *c.* 600–1500 mm.

Traylor, in his 1986 appraisal of subspeciation in *P. subcaeruleum* and *P. layardi*, admitted four subspecies for both species. While I have no cause for cavil over the four subspecies admitted in *subcaeruleum*, the recognition of four in *P. layardi* calls for reconsideration, and is critically reassessed hereunder.

With its limited range, *P. layardi* has invited a limited measure of interest on the part of systematists. The first worker to describe a form in *P. layardi*, which was named initially from Clanwilliam in 1862 by Hartlaub, was Vincent (1948) who, on the basis of a limited material of eight specimens from the Lesotho highlands and the small Transvaal Museum series of ten then available, separated the Lesotho birds on the basis of colour and bill-length characters. Later, Winterbottom (1958) separated a race on a comparable range of colour variables, based on five specimens from the coastlands of the western Cape and nineteen from a range of localities to the northeast in the lower Orange R. basin of the Richtersveld. Both descriptions compared a dark blue-grey-backed form with a lighter, more olivaceous-backed form (the nominate), no attempt being apparently

made to bring the two dark grey variants together in the comparisons. The geographical variation in the present *Parisoma* is relatively simple, grouping readily into two classes, one dark bluish-grey with white in the wings and over the lores, and the other olivaceous grey, without white in the wings and over the face. Birds in the former group also frequently exhibit a prominent white supra-loral spot. Strangely, neither Vincent nor Winterbottom alluded to the strong development of white over the wings and the face. This was particularly strange in the case of Vincent's highland material from Lesotho which he described as *P. l. barnesi*, these all strongly marked with white in the wings, but in the western Cape where comparable birds are seemingly confined to the dune country, of which Winterbottom had but five specimens, birds of both forms come into very close proximity to one another.

The finding of two widely sundered populations showing closely comparable suites of characters in *P. layardi* follows a comparable trend in a number of Cape endemics, notably *Promerops cafer*/*P. gurneyi*, *Chaetops frenatus*/*Ch. aurantius* and *Pseudochloroptila pseudochloroptila*/*P. symonsi*. However, unlike the listed endemics, the forms here discussed are not even subspecifically differentiated. In the present case there is no ready ecological interpretation, as western birds occupy scrub along the southwestern Cape coast and eastern birds are typical for the species.

The second variant population, differentiated from the dark bluish birds already dealt with, is more olive-tinged over the dorsal surface and wings, and moreover lacks white over the remiges and usually the face, which surfaces are olive-grey. On the underside they differ little from the blue-grey birds though tending to show more white medio-ventrally. To such elements Winterbottom applied the name *P. l. aridicola*, the type a bird taken at Noisabis in the Richtersveld. A critical examination reveals that birds agreeing taxonomically with *aridicola* extend far to the south of the Richtersveld and the basin of the lower Orange R., where they lie in juxtaposition with dark birds confined to the dunes along the coast to the west. Birds agreeing in such characters were collected at a range of localities extending from Kamiesberg to Calvinia and Citrusdal. Some were identified by Winterbottom in 1958 as *aridicola*, which raises the question of the status of *aridicola* as being other than a junior synonym of *layardi*, proposed on a Clanwilliam specimen. In essence, this would deprive the present *layardi* of a name, which can however be met by seeing the latter as congruent with the eastern highland taxon as part of *P. l. barnesi*.

A further name requires to be considered, *P. l. subsolanum* Clancey, 1963: Aprilskraal siding, near Molteno, northeastern Cape. This is not a particularly sharply defined subspecies, but is seen as a connecting link between the two dark well-characterised southern populations of *P. l. barnesi* in having the breast and sides darker, yet lacking any marked white in the wings and face, and can be gainfully employed for the population of "nominate *layardi*-type" birds present throughout the southern mountains and Karoo of the Cape.

Nominate *P. l. layardi* extends from the central and southern parts of Namibia south to the northwest of the Cape in the basin of the lower

Orange R., south to about Port Nolloth on the coast and in the south in the interior of Little Namaqualand to Clanwilliam, Calvinia and Citrusdal, thence northeast to the middle Orange R. Both nominate *layardi* and *subsolanum* are separable in the entire lack of white in the wings and face, such parts being olivaceous grey (about the Deep Mouse Gray of Ridgway).

Three subspecies can be admitted in the present species: *P. l. barnesi*, *P. l. layardi* and *P. l. subsolanum*, the first-named in two widely sundered populations. They are based entirely on plumage characters, no significant differences having been detected in their linear measurements.

Parisoma layardi barnesi Vincent 1948, *Bull. Brit. Orn. Cl.* 68, p. 145: Lekhalabaletsi R. valley above confluence of the Jareteng and Lekhalabaletsi Rivers, Lesotho at 29°17'S, 29°24'E, 8900 ft.

Upper-parts and wings dark bluish leaden grey (about Dark Neutral Gray of Ridgway), and occasionally with a well-defined narrow white superciliary stripe over the lore. Below, white with narrow blackish streaking over the fore-throat and with the breast and sides moderately washed with light neutral grey. The wings with the outer vanes of the remiges broadly edged with white, this carried to the tertials, forming a well-defined white wing-stripe.

Range. Occurs in two widely sundered populations, the eastern one confined to the highlands of Lesotho and adjacent northeastern parts of Cape Province (Drakensberg Range and the interior ranges of the Maluti Mts). A second undifferentiated population is present along the western Cape where it occurs in maritime vegetation from the Port Nolloth district in the north, south narrowly to the southwestern Cape. Localities:- *W. Cape:* Port Nolloth, Wallekraal, Twee Dam (Springbok), Karoopoort (Koue Bokkeveld), Kliprand 27 m N. of Garies, Bitterfontein, Lootsberg Pass, Ysterfontein, Melkbos, Muizenberg. *E. Cape:* Naude's Nek Pass, Strandfontein. *Lesotho:* Marakabeis, mountains E. of Maseru.

Remarks. The type-specimens of *P. layardi* (Clanwilliam) and *P. l. aridicola* were made available for comparison by the South African Museum, Cape Town. The *layardi* type had been mounted and its coloration is now wholly unreliable.

Parisoma layardi layardi Hartlaub 1862, *Ibis* (1)4, p. 147: Zwartland, Malmesbury district; corrected to Clanwilliam, western Cape, by Winterbottom 1957, *Ostrich* 28, p. 235.

Parisoma layardi aridicola Winterbottom 1958, *Bull. Brit. Orn. Cl.* 78, p. 148: Noisabis, Richtersveld, northwestern Cape.

Upper-parts and wings distinctly lighter, less dark bluish-grey, than in *P. l. barnesi*, being about Deep Mouse Gray of Ridgway, and without white over the wings and face, the outer vanes of the flight-feathers greyish olive-buff.

Compared to *subsolanum* differs in the starkly whiter ground to the fore-throat, and the greater extent of the mid-ventral white. Upper-parts lighter olivaceous-grey.

Range. The highlands of Damaraland, Namibia, south in the west of Namibia, inland of the Namib Desert, to the Richtersveld and basin

of the lower Orange to the coast at Port Nolloth. In the interior and east of Little Namaqualand, south to Clanwilliam and the Citrusdal areas, and east to Upington, Carnarvon and Victoria West. Localities:- *Namibia*: Great Karas Mtns. *Cape*: Goodhouse, Namees, Noisabis, Pofadder, Upington, Port Nolloth, Carnarvon, Kamiesberg, Garies, Vanrhynsdorp, Lokenburg (Calvinia), Clanwilliam, Citrusdal, and localities immediately to the east of southern N. Cape.

Remarks. One or two specimens from near Garies and Vanrhynsdorp in Little Namaqualand show a small amount of white in the remiges, revealing a measure of intergradation towards *P. l. barnesi*, although retaining the diagnostic lighter mouse-grey to the upper-parts and wings.

Parisoma layardi subsolanum Clancey 1963, *Durban Mus. Novit.* 6, p. 253: Aprilskraal siding, Molteno, northeastern Cape.

Compared with *P. layardi* differs in being less starkly white over the ground of the fore-throat, and with the breast darker, more buff, less whitish, and with the sides of the body and the flanks much darker grey, with less white medio-ventrally. Upper-parts and wings slightly darker, especially over the pileum, but not as dark and blue as in *P. l. barnesi*.

Range. The highlands of the southwestern Cape, extending east through the southern mountain ranges and adjacent regions of the Karoo to the eastern and northern Cape and the Orange Free State. Localities:- Hanover, Williston, Laingsburg, Oudtshoorn, Campherpoort (East London), Huisrivierpas, Danebury, Graaff-Reinet, Rossouw, Murraysburg, Jamestown, Teebus, Lelykpoortjie, Molteno, Sterkstroom, Griquatown and Aliwal North.

Remarks. This subspecies lies close to the nominate one in lacking a starkly white wing-stripe and loral mark, but its darker ventral parts in a sense link the two dark forms of *P. l. barnesi* lying to the east and west of it.

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