

SHORT COMMUNICATIONS

HYBRIDIZATION OF SPLENDID AND TURQUOISE WRENS

The Splendid Wren *Malurus s. splendens* is distinguished from the Turquoise Wren *M. s. callainus* by the absence of a black bar on the lower back and by differences in its hues of blue. Table I summarizes their differences. Both have a black band on the breast and another on the nape and a purple-blue throat. Their reeling songs are similar and in the arid zone they mostly inhabit dense mulga scrub with an understorey of *Eremophila*.

Serventy and Whittell (1967: 320) record that blue wrens near Mungilli Claypan (25°23' S, 124°15' E) in the Gibson Desert are transitional between *splendens* and *callainus*. This comment was based on a male collected by Serventy in dense mulga nineteen kilometres north-east of Mungilli Claypan on 25 July 1963. It is like *callainus* but lacks a black bar across the lower back. Additional specimens have now been collected in the Gibson Desert, the Great Victoria Desert and the district of Wiluna, which provide further insight into the interaction between the two taxa.

TABLE I
Differences between *splendens* and *callainus*

	<i>splendens</i>	<i>callainus</i>
Crown	violet	light blue
Upper back	violet	light blue
Lower back	violet	black
Upper tail-coverts	violet	light blue
Upper tail	bluish	greenish
Ear-coverts	blue	silvery blue
Abdomen	violet	blue

On 6 September 1966 G. M. Storr and I collected a male where Serventy obtained his specimen. On 23 April 1973 I collected a male at Long Creek, thirty-seven kilometres west of Granite Peak HS (25°39' S, 120°58' E). In August 1973 R. Johnstone, G. Lodge and I collected a series of males near Mungilli Claypan, near Terhan Rockhole (27°03' S, 124°47' E) and near Wiluna when conditions were very lush. Each specimen is compared with the coloration of *splendens* and *callainus* as set out in Table I:

WAM A 12716, ad. ♂, thirty-two kilometres west of Terhan Rockhole; lower back black, abdomen exactly intermediate, blues of dorsum darker than *callainus* but not violet;

WAM A 12722, ad. ♂, sixteen kilometres east of Terhan Rockhole; lower back black with blue tips to feathers, abdomen intermediate but more like *callainus*, blues of dorsum darker than *callainus*, upper-tail bluish;

WAM A 9643, ad. ♂, nineteen kilometres north-east of Mungilli Claypan; lower back blue, otherwise like *callainus*;

WAM A 12718, ad. ♂, eight kilometres west of Mungilli Claypan; lower back black, abdomen intermediate but more like *callainus*, blues of dorsum darker than *callainus*;

WAM A 12719, ad. ♂, nineteen kilometres north-east of Mungilli Claypan; lower back black, abdomen intermediate but more like *callainus*, upper tail bluish, blues of dorsum darker than *callainus*;

WAM A 12720, ad. ♂, nineteen kilometres north-east of Mungilli Claypan; lower back black with some blue, otherwise like *callainus*;

WAM A 12721, ad. ♂, twenty-nine kilometres north-east of Mungilli Claypan; lower back blue, abdomen exactly intermediate, upper tail-coverts dark blue, crown and back darker than *callainus*;

WAM A 12723, ad. ♂, Long Creek, Granite Peak; lower back like upper back, blues of dorsum intermediate, abdomen intermediate;

WAM A 12724, ad. ♂, sixty-two kilometres east of Wiluna; lower back like upper back, blues of dorsum intermediate, abdomen intermediate.

These specimens are from areas geographically intermediate between the known distributions of *splendens* and *callainus*. Their coloration confirms that the two are connected by populations with intermediate characteristics but not all individuals of the transitional population round Mungilli Claypan have blue on the lower back. Significantly, however, blue wrens from the area of Wiluna are much paler than *splendens* from the south-west of Western Australia at least north to Menzies and Yalgoo.

Mack (1934) described *M. splendens aridus* (type-locality Lake Way, Wiluna (type-specimen HLW 2361)) as markedly lighter in coloration than typical *splendens*, particularly on the head, ear-coverts and back. I have examined this specimen; it is like A 12723 and A 12724. This indicates that *splendens* near Wiluna is affected by gene-flow from *callainus*,

and so the effects of hybridization between *splendens* and *callainus* are evident over a long distance (at least 430 km), which suggests conspecificity.

Callainus may also secondarily hybridize with the Black-backed Wren *M. s. melanotus*. Schodde (1965) drew attention to the occurrence of *melanotus* on the eastern side of the Flinders Range in South Australia and hence the possibility of its contact with *callainus*, which occurs on the western side of the Flinders Range. The disposition of blue and black in *callainus* and *melanotus* is similar but their hues of blue are different, especially on the throat where *melanotus* is blue and *callainus* purple-blue.

Ford (1974) has discussed subspeciation in *Malurus splendens*: the ancestral form was split into *melanotus*, *callainus* and *splendens* by two barriers, the Eyrean Barrier and a barrier consisting of the Nullarbor Plain, Great Victoria Desert and Gibson

Desert. Hybridization between *callainus* and *splendens* shows that the latter barrier is no longer operative.

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THE NEST OF COLLOCALIA V. VANIKORENSIS, AND TAXONOMIC IMPLICATIONS

The type of nest built and the ability or inability to echo-locate have proved critical characters in the taxonomy of the swiftlets (Sims 1961, *Ibis* 103a: 205-209; Medway 1966, *Proc. Linn. Soc. Lond.* 177: 151-172). Although descriptions exist of the nests of some other taxa that, on morphological grounds, have been recognized as subspecies of *Collocalia vanikorensis*, the one built by typical *C. v. vanikorensis* has not been adequately described. During the Royal Society and Percy Sladen Expedition to the New Hebrides in 1971, nests of this subspecies (verified by capture of the sitting birds, cf. Mayr 1937, *Am. Mus. Novit.* (915): 1-19) were found on 28 August in Lemthen Thac cave, near Hog Harbour, Espiritu Santo (167°08'E, 15°08'S).

All nests seen were on small ledges or irregularities in the cave wall and were built of vegetable material. Three were collected. Two of these, empty but each with a sitting adult, had circular rims, overall external diameter 70 mm; egg-cavity also circular, internal diameter 40 mm, 13 and 14 mm deep respectively. One nest was 20 mm tall on the side adhering to the cave wall, 40 mm on its outer side; the other was more wedge-shaped in profile, deepening from 8 to 40 mm. A third nest, containing two half-grown nestlings, measured 60 mm in external diameter, 35 mm tall on the outer side; the egg-cavity had a complete rim, 50 mm internal diameter perpendicular to the cave wall, 40 mm parallel to it, 13 mm deep. All were constructed mainly of green moss, to some pieces of which were attached flakes of bark (suggest-

ing that the moss had been collected off the trunks or limbs of trees); a few fronds of filmy fern were also included in one nest. This material was compacted and bound together by a sparing amount of a soft moist transparent nest-cement, which was copious only at the margin of the nest where it adhered to the cave wall. The nests were in the darkness of the true cave and birds in flight were clearly heard to utter the rattle-like echo-locating call familiar to me from other investigations (Medway 1959, *Nature, Lond.* 184: 1352-1353).

Griffin and Suthers (1970, *Biol. Bull.* 139: 495-501) have shown that *C. v. granti* utters this rattle-like call and by its use can orient and avoid obstacles in darkness. Information on the type of nest built confirms that *granti* (see Medway 1966: 159) and also *tagulae* (see Hartert 1899, *Novit. zool.* 6: 206-217) are conspecific with *vanikorensis*. A vegetable nest of similar structure, held together by a similar soft and permanently moist nest-cement, is also built by Sundaic swiftlets currently placed in the species *C. salangana* (Medway 1970, *J. Orn., Lpz.*, 111: 196-205). Among the taxa grouped under *salangana*, the concealed barbs at the bases of the feathers of the back are entirely dark brown or black, whereas in all subspecies of *vanikorensis* listed by Mayr (1937, modified by Medway 1966) at least some of these barbs are white. Apart from this character, which is variable within the *vanikorensis* group, no consistent difference separates them. Both are middle-sized members of the 'grey' echo-locating group of swift-