

## A NEW SUBSPECIES OF THE SOUTHERN EMU-WREN *STIPITURUS MALACHURUS* FROM SOUTH AUSTRALIA, WITH NOTES ON ITS AFFINITIES

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Until recently the Southern Emu-wren *Stipiturus malachurus* had not been satisfactorily recorded from Eyre Peninsula. Storr (1947a) observed it at Wanilla but then (1947b) withdrew his record because he assumed identity simply from distribution and habitat. Moreover, later reports by Rix (1950) and Condon (1968) from the same region were not supported by any diagnostic evidence. Since then, specimens collected at Sleaford Bay and Tulka near Port Lincoln by J. B. Cox and H. J. Eckert not only confirm that the emu-wren there is the Southern Emu-wren *Stipiturus malachurus*, but also that it is a distinct and undescribed subspecies, as predicted by Ford (1970).

We have compared three males and two females from Eyre Peninsula with 115 males and 78 females from other parts of southern Australia. Together they show that the various populations of Southern Emu-wrens around southern coastal Australia, often well-isolated from each other in 'islands' of habitat, vary morphologically in complex and subtle ways. Some of the variation is environmentally-induced, and recurs in different populations under similar climatic conditions. Emu-wrens in wet, cool, south coastal swamps for example, are usually deep olive-grey and rufous-toned dorsally with thick black shaft streaks, and are rich tawny-rufous almost right across the belly. Those in drier sand-plain heaths inland (e.g. Ninety-mile Desert, South Australia) become paler dorsally and ventrally, accompanied by a reduction in rufous tone and marked thinning of the black dorsal shaft streaks (Gloger's Rule). This trend culminates in the population on Dirk Hartog Island, Western Australia. Under an average rainfall of 300 mm per annum, emu-wrens there are a washed-out pallid olive-grey dorsally and have tawny ventral tones almost restricted to the flanks; their adult males, moreover, have the palest of sky-blue gorgets.

Other variation seems to have a more stable genetic basis, and, being less overtly adaptive, is of the kind that reflects real evolutionary divergence between isolated populations. Examples of it are to be found in the tone of the fore-crown of adult males, in the extent of black streaking there, in the presence of white

shaft streaks on the ear-coverts of both sexes, and in dimensions of the rectrices. The fore-crowns of males in most eastern Australian populations are plain and rather deep rufous, the ear coverts are plain, and the central rectrices (measured when full-grown and unworn) are about 7-10 mm broad. Western Australian males north to Dirk Hartog Island are rufous-crowned but black shaft-streaked as well right over the head, and both sexes have ear coverts that are streaked clearly white and central rectrices that are consistently narrow, usually 5-7 mm broad. Emu-wrens in the Mt. Lofty Range, incidentally, have the tail proportions of eastern populations, ear coverts that may be either plain or faintly streaked, and fore-crowns that on adult males have usually little hint of rufous and are thickly shaft-streaked with black to the frons, as in females (*pace* Ford 1970). With good reason, Edwin Ashby (1920) gave them the subspecific name *intermedius*.

Distinguishing between these two sorts of variation, one plastic, the other expressing the kind of irreversible divergence upon which subspecies can validly be based, poses problems that not even the thorough revisionary analyses of Keast (1957) and Ford (1970) overcame completely. These aspects will be examined more exhaustively in our forthcoming monograph of the Maluridae. Here we only briefly outline geographical variation so that the characteristics of the emu-wrens on Eyre Peninsula can be appreciated in better perspective.

The Southern Emu-wrens isolated on Eyre Peninsula live in heathy scrubs at its eastern tip and extend inland to Wanilla (Eckert 1977). Although this area receives 500-600 mm of rain per annum, they are almost as pallid and washed-out in plumage tones as emu-wrens on Dirk Hartog Island. Like Western Australian birds, too, they have distinct, if duller, whitish streaks on the ear coverts. Their other features, however, have connexions eastwards, for their rectrices are rather broad and the fore-crowns of males plain mid rufous.

Perhaps significantly, Kangaroo Island emu-wrens (*S.m. halmaturinus* Parsons) combine the same characteristics of ear coverts, rectrices and

crown in males, but in wetter and cooler habitats there are discontinuously darker and larger. If this reflects common origin, the two forms probably began to diverge some 15000-18000 years ago when land links between Kangaroo Island and Eyre Peninsula were last broken by eustatic changes in sea-level (Hails 1965; Abbott 1974). Such historic connexions prompt a further and as yet unanswered question: does this elusive species occur also in shrubby heaths at the south-western tip of Yorke Peninsula? And if so, what is its subspecific identity?

*Stipiturus malachurus parimeda*, new subspecies

*Holotype*: B 29412, South Australian Museum, Adelaide; male adult: Sleaford Bay, Eyre Peninsula, 20 December 1975; coll. J. B. Cox. Measurements (mm): wing 43, tail 87, not full-grown, exposed culmen 8.3, tarsus 18.5.

Dorsum pale, with rather fine black shaft-streaks and pale olive-grey cast; ear coverts streaked dull white; lower ventral surface with pallid tawny wash confined to flanks and crissum and centre of belly extensively white; adult males with plain, mid rufous fore-crown, rather extensive blue superciliary stripe, and very pale sky-blue gorget. Body of moderate size, unworn tail long, unworn rectrices rather broad. Measurements (mm) — wing M 42-43, F 40-43; tail M 87-120 x 6-10 width central rectrix, F 104-112 x 9-10; exposed culmen M 8.3-8.7, F 8.4-8.5; tarsus M 18.5-19.8, F 17.5-19.6.

Series studied — 2 adult males, 1 subadult male (judged by duller and more diffuse black

streaking extending on to fore-crown), 2 adult females.

Range — Eastern tip of Eyre Peninsula, between Wanilla and Sleaford Bay.

Note — The name *parimeda* is arbitrarily formed from an anagram of the epithet *media* and the Greek prefix *para*, meaning 'beside' or 'close to', and its gender is feminine. It alludes to the geographical and nomenclatural position of emu-wrens on Eyre Peninsula between populations in Western Australia and the Mt Lofty Range which bear respectively the subspecific names *media* Mathews and *intermedius* Ashby.

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