

away from the open scrub country. In the early morning at Fisher their sweet notes could be heard from all directions, and the birds themselves would come close to the house. They lived on the ground, and ran from bush to bush with tail well cocked.

Brown Song-larks (*Cinclorhamphus cruralis*) were very numerous on the edge of the plain, in the open and scattered scrub country. They had paired, were in full song, and were probably breeding. They must have come south much earlier this year.

The Speckled Warbler (*Chthonicola sagittata*) was noted on the open scrub-country at the edge of the plain. Two nests were found, each containing dark chocolate eggs. The nests were built of dry grass, placed at the base of a bush on the ground.

Turquoise Wren-warbler (*Malurus callainus*).—These most beautiful wrens were quite numerous round the Soak, keeping strictly to the sandhills, and keeping principally to the Casuarinas. They were very tame, and came to within a few feet of me as I sat quietly under a bush to observe them. Twice the hen birds of the Purple-backed Wren Warbler mixed with them, but as soon as the male Purple-backed tried to join them, he was promptly driven off by the female *callainus*.

Purple-backed Wren-Warblers (*Malurus assimilis*) were not plentiful, and were noted only round the Soak.

Whiteface (*Aphelocephala leucopsis*).—These cheery little birds were numerous out on the plain, and I think were nesting.

## Further Notes on the Birds of Shark Bay, W.A.

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Mr. Carter's comments\* on my recent paper on Shark Bay birds appear to call for some further information on my part. In the first place, let me state that none of my references to Mr. Carter's notes in *The Ibis* were made in a critical spirit. Being a resident in Western Australia, no one reads his notes with greater interest and pleasure than I do.

With regard to the rainfall on Dirk Hartog in the year 1920, prior to my landing in June there had been fully six inches. Young of the local Field-Wren (*Calamanthus*) and Pipit (*Anthus*) were then strong on the wing. Compared with Scrub-Wrens (*Sericornis*), my experience points to the fact that the young of *Calamanthus* keep with their parents for a much longer period than do the young of the former. This may account for my not seeing family parties of *Sericornis*, if my surmise was correct that the species bred at the end of summer. Having already made a collection of the birds found on the island, I

\* "Emu" Vol. xxi., p. 56, *et seq.*

did little collecting during my second visit. I had a permit to do so, but Dirk Hartog being a faunal reserve, I naturally refrained as much as possible.

My only reason for alluding to the name "Blue-breasted Wren" was that I considered it a misnomer when applied to *Malurus assimilis*. I didn't in any sense hold Mr. Carter responsible for it.

With regard to the differences in plumage between the Field-Wrens (*Calamanthus*) found on Dirk Hartog, Peron Peninsula, and Bernier Island, all depends on what value is to be set on such slight differences, which I still contend require a fine discrimination to detect, when age of birds and age of specimens are taken into consideration. Mr. Carter's method of shuffling a number of skins together, and then picking out those resembling one another most, at the same time ignoring the labels, is an excellent one, and if the result shows consistent differences between specimens from the three adjacent localities, then it is a very interesting fact. But whether the differences merit sub-specific rank is still a matter for debate. I am content to abide by the result of Mr. Campbell's examination.

In the case of the coloured plate of the White-winged Wren-Warbler (*Malurus cyanotus*),\* I seem to have drawn a wrong inference. Gould doubtfully described this species (?) from a mounted specimen brought to his notice in England. That he had not much confidence in its validity is shown by his recommendation that if it did not stand, the name was to be transferred to its closely allied congener. I thought that the white feathers on the back, as shown in the plate, had been purposely so drawn to show how easily Gould could have been misled. Certainly the extent of white on the wings varies in the individual, perhaps usually due to age; but never in my experience does it extend across the interscapular region. In drawing attention to this, I thought I was confirming Mr. Carter's own observations.

With regard to the Grass Wren, when I referred to the "few miles of water" separating the localities where Mr. Carter and I obtained our specimens, I had in mind the distance of Dirk Hartog from Peron Peninsula; roughly, about twenty miles and not the South Passage. I hope my statement as to the reputed differences in plumage is not a more "sweeping one" than Mr. Carter's assertion that the South Passage, with a width of about a mile at its narrowest, *prevents* the interchange of species between Edel Land and Dirk Hartog. The present-day absence of the Shrike Thrush and Babbler from the latter locality is no evidence that they did not exist there prior to the advent and increase of bush cats. It must not be forgotten that no ornithologist had visited Dirk Hartog for a hundred years until Mr. Carter arrived there. But it has been a sheep station for quite forty years. No doubt cats were introduced with the sheep. Mr. Lloyd, the present manager, told me that formerly small

\* *Malurus cyanotus* is now regarded as a synonym of *M. leuconotus*.

marsupials were plentiful, but were now seldom seen. The Grass-Wren, I fear, has gone, or nearly so. The Crested Bell-Bird will be the next to go. Under such circumstances, ground-feeders like the Shrike Thrush or Babbler have small chance of re-establishing themselves. It is just this class of bird cats seem to prefer. In our south coastal district, the Rufous Tree-creeper (*Climacteris rufa*) has nearly gone from the same cause. Smaller birds like the Black and White Wren-Warbler (*Malurus leucopterus*) and Emu-Wren (*Stipiturus*) seem to hold their own much better. Certainly the absence of the Tit-Warblers (*Acanthiza*) is remarkable. I found them comparatively rare on Peron, and they may be so in Edel Land.

It is very difficult to account for a Black and White Wren being confined to the islands of Dirk Hartog, and Barrow, so much further north. On further consideration, I am inclined to regard this as the survival of a species once inhabiting a continuous region, but now isolated by geological changes. But I think it quite probable that individuals or parties of *M. leuconotus* do occasionally cross the South Passage, either voluntarily or *volens volens*. It would have been interesting to have visited both sides of the strait after the hurricane of last March to see if any interchange of species had taken place. The wind started blowing from the south-east, afterwards veering to north-east. May not the traces of the feathers found by Mr. Carter and myself in the plumage of *Malurus leucopterus* point to an occasional interbreeding with immigrant *M. leuconotus*?

Finally, I must thank Mr. Carter for pointing out the slip I made in the trivial name of *Circus assimilis*. I simply translated the Latin word *assimilis* = *allied*, which is a permissible interpretation. I know the Allied or Swamp Hawk, *Circus gouldi* to my cost in half-grown chickens. It breeds near my home.

My notes were written at the Denham Hotel, whilst the facts were fresh in my memory, and without reference to Check-list or other authority. In these days of Bolshevistic nomenclature, this may have been a rash thing to do. I use the term in its literal meaning of "extreme," but with its attendant atmosphere of confusion. After being out of touch with European ornithology for more than twenty years, I was quite at a loss on reading Mr. D. A. Bannerman's interesting paper in *The Ibis* on the birds of the Canary Islands, to identify the various species mentioned, so chopped about and interchanged have the names become. It was only the trivial names that saved the situation.

In the same journal, another writer, to make his meaning clear, has had to reinforce the trinomial with a fourth name, accompanied by a mathematical sign. We are getting on.

I have written the foregoing notes in my tent over one thousand miles from home. If I have unwittingly misquoted Mr. Carter this must be my excuse. I had no note-book or *Emu* to refer to.