

NOTES ON HABITAT AND BEHAVIOUR OF THE ROCK WREN SUBSPECIES *Xenicus gilviventris rineyi* Falla

By Thane Riney

The following notes were made in April, 1953, by a field investigation team of six men from the Wildlife Division, Department of Internal Affairs. Observations extended over a strip of terrain approximately four miles wide and twenty-five miles long between Chalky and Dusky Sounds (1), and in a second study locality radiated out a distance of about three to five miles from an un-mapped lake approximately two thirds the distance from Fanny Bay, south-west toward Longburn (2), see Fig. 1.

The sub-species here discussed *Xenicus gilviventris rineyi* Falla, (Falla, 1953: 142), appears closely related to other rock wrens, when one compares birds in the hand, but differs from them in behaviour and in habitat preference. Differences in behaviour and habitat between the Fiordland wren and the common rock wren *Xenicus gilviventris gilviventris* Von Pelzeln, may prove to be similar in degree to behaviour and habitat differences recognized between the latter and the bush wren, *Xenicus longipes* (Gmelin), by Guthrie-Smith (1925: 303).

This Fiordland wren had the most restricted habitat of any land bird observed in the West Cape Peninsula, where type specimens were collected. There it was seen almost exclusively in the band of dense scrub between tussock on the tops and the beech forest on the slopes. Farthest distance from the scrub which one was observed penetrating into tussock was 40 to 50 feet. There was no association with rock, boulders, morainal or talus, as I have observed in January, 1953, in Takahe Valley, west of Lake Te Anau, and as has been reported as typical for *X. g. gilviventris* (Guthrie-Smith, 1925; Haast, J., 1867: 33).

Dominant in the sub-alpine scrub was *Olearia colensoi*. Other plants, closely associated and often playing a conspicuous sub-dominant role in appropriate sites were other species of *Olearia*, *Dracophyllum* and *Hebe*, see Fig. 2. Manuka was occasionally a dominant species in restricted localities, particularly on northerly exposures.

The scrub belt at its upper edges was rarely over three or four feet in height, while in favoured sites, more protected from wind, scrub reached eight to ten feet above ground. Scrub plants grow close together and their stiff intertwining branches make this an extremely difficult habitat for a man to move through either by crawling, cutting or crashing through or by attempting to walk on top of the nearly unbroken canopy.

The wren foraged after insects on the ground and along the branches of the scrub. In the scrub, on several occasions, it was watched foraging through the inside of the outer periphery. On two occasions one was observed capturing a small moth. The only time it was observed on the outside of the periphery was as it popped up to view a human intruder, or just before leaving one shrub for another. The wren responded in a positive way to the practice of "squeaking" (with the lips). I suspect that it feeds more on the ground than we were able to observe as in three instances, while crashing through scrub, I flushed wrens on or within six inches of the ground.

The courtesy, or bob, so typical of *X. g. gilviventris*, was not observed in the Fiordland wren. A motion picture record of the bird was closely examined as an additional check. At no time was the wren seen to make a distinct dip as does the common rock wren: down and up in a quick smooth motion. However, it did accomplish a jerky posturing movement in which the body was tilted forward and held posed in a lowered position, which may be related to the pronounced dipping of the common rock wren. It will be of interest in the future to watch for traces of this dipping behaviour in the Fiordland wren.

Wings were "flicked" in a manner similar to that of the rifleman *Acanthidositta chloris* (Sparrman).

A comparison of flight behaviour between rock wrens, observed at Mackinnon's Pass, and bush wrens is made by H. Guthrie-Smith (1925) who says:—

"The powers of flight are greatly superior to those of the bush wren. . . The rock wren can fly comfortably 50 or 60 yards—downhill certainly, but with a sustained easy, unlaboured movement—no fern birds' feeble flutter. The rock wren, too, is much less of a ground bird in its search for moths and other insect-life, often alighting upon and exploring the rounded tops of the shrubby hillside veronicas; the courtesy or bob and then the tip-toe telescopic elongation of the little fellow is also more pronounced. However little differences museum specimens may show, there are well-marked dissimilarities in the live representatives of these two birds."

The flight of the Fiordland wren under discussion is extremely weak; suggestive of the flight of a fledgling passerine. When observed in April, on the West Coast Peninsula, adults made a great buzzing of wings when in the air, but they seemed destined to lose altitude. Wings clearly played a secondary and accessory role in movement when compared with the legs. The following observation exemplifies this weak flight. On April 14, on tops north of Lake Macarthur, a bird was flushed from the tussock, approximately forty to fifty feet from the edge of the scrub. This bird jumped in the air an estimated height of three or four feet, and, although a light breeze blew in the direction of its flight, was unable to reach the edge of the scrub, gradually lost altitude and grounded about ten feet short of cover. It immediately sprang into the air again and buzzed into the scrub. The angle of the slope it was trying to traverse was about 10 degrees. This particular bird (Dominion Museum No. 2398) proved to be in the last stages of its moult. All tail feathers were not fully grown. The extent to which the moult influences feeding and flight behaviour is at present unknown. But, since all but three of the secondaries of the bird mentioned above were fully grown, it is clear that this form has considerably weaker powers of flight than has *X. g. gilviventris*. However, more observations are needed at different times of the year to place present flight records in their proper perspective.

Wrens were seen, in scrub, in each of the two areas indicated in Fig. 1. Each member of the research team could guarantee to see several on any fine day he chose to look for them. Between Chalky and Dusky sounds, wrens were estimated as common in the scrub edge as was the rifleman in the forest. (Is the Fiordland wren restricted to the scrub area for the entire year?) In January, 1952, I observed and described this form in *Olearia* scrub outside Lake Roe camp (an Internal Affairs Dept. shooters' base) several miles east of study area No. 2 (Fig. 1). It is probably distributed throughout many parts of at least southern Fiordland.

Greatest number observed in any one area was by P. Logan and R. Ward on April 4, just before sunset of a clear day. Near their camp, at the upper edge of the scrub belt north-west from Lake Macarthur, they observed four or five different groups of three or four birds each, all within 50 yards of one another. (Do they congregate for roosting?) On two different occasions they watched a rifleman fly away from a wren as the latter occupied the former's perch on a scrub limb. There was no chase witnessed, but both observers were certain that, where these two species occurred together in scrub, the wren was the more aggressive bird.

Wrens were observed apparently alone, in pairs and in small groups of five to eight. They were more difficult to observe during bad weather. On two occasions, in a heavy downpour, several wrens (3 and 8) were flushed from thick undergrowth and near the ground.

Since, as the scrub zone in this area is not in danger of disappearing and is, indeed, spreading on to low-lying tussock areas, it seems unlikely that the species here is in any immediate danger of extinction due to vanishing habitat related to foreseeable normal changes in the environment.

This form has survived extremely high rat population such as were described by Reischek (1887).

At present, polecats are known to be ranging over at least part of the wren habitat for two sets of tracks were seen in fresh snow by the study crew on tops between Fanny Bay and Longburn. Although no record of stoat was obtained on this trip, a stoat was observed a few miles north in Breaksea Sound by Henry (1894?). Polecat and stoat influence on the wren is unknown, but is not suspected to be a serious threat to the existence of the species.

In my opinion, the biggest obvious potential danger to populations of this scrub-inhabiting wren is fire, but in this extremely wet country even extensive scrub fires would be unlikely to destroy a significant part of the habitat at present known to be occupied by this bird.

Something about its nesting behaviour must be known before we can understand some of the most significant aspects of the way in which the Fiordland wren is related to its environment. But, judged by the data in hand, its future seems relatively secure.

Although a few characteristics of the wren are known, in this area, for April, it is in no sense described to the point where we have a clear notion either of where the form occurs or of its status and relations with closely related wrens. More specimens are needed to clear up the taxonomic status of each of the New Zealand wrens. Until a systematic sampling is done throughout New Zealand it will be impossible to prepare adequate descriptions to permit positive identification to species in the field.

One private stalker, Mr. Bernie Chaney, was closely questioned after he came out of an area near Lake Te Anau in 1953, and it is reasonably certain that he saw the same birds described by Falla (1953) and discussed here. But his observations were made over 80 miles from the nearest specimen and should be verified with additional specimens.

A search through Internal Affairs Departmental files reveals that a wren, not recognised as conforming to any of the published descriptions, has been seen by several deerstalkers in recent years. It is possible that they may have seen this newly described form, but some of their descriptions might equally apply to the bush wren, which still exists in the South Island.

A north-south cline in rock wrens is suggested by Falla (1953) from inspection of the limited number of specimens available. One would expect, then, some degree of intergradation in behaviour and habitat preference also to be present between the new form and *X. g. gilviventris* and it is apparent that additional collections and detailed field notes are needed—especially in suspected areas of intergradation.

Indeed, so scanty is our taxonomic knowledge of previously known forms that we cannot with confidence completely characterize any of them.

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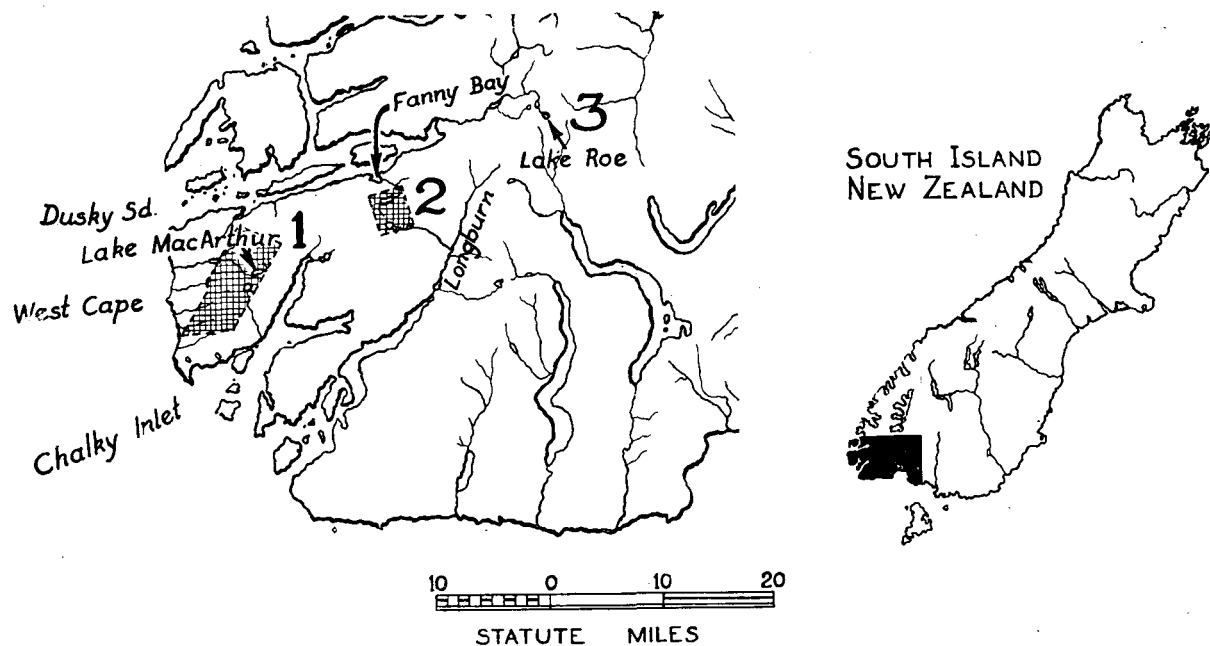


Figure 1.—Map showing location of study areas. The Fiordland wren was seen in each of the three areas listed; specimens are from No. 1 only.



Figure 2.—Upper edge of scrub habitat from top of Reischek Range, three miles S.E. of Lake Macarthur.

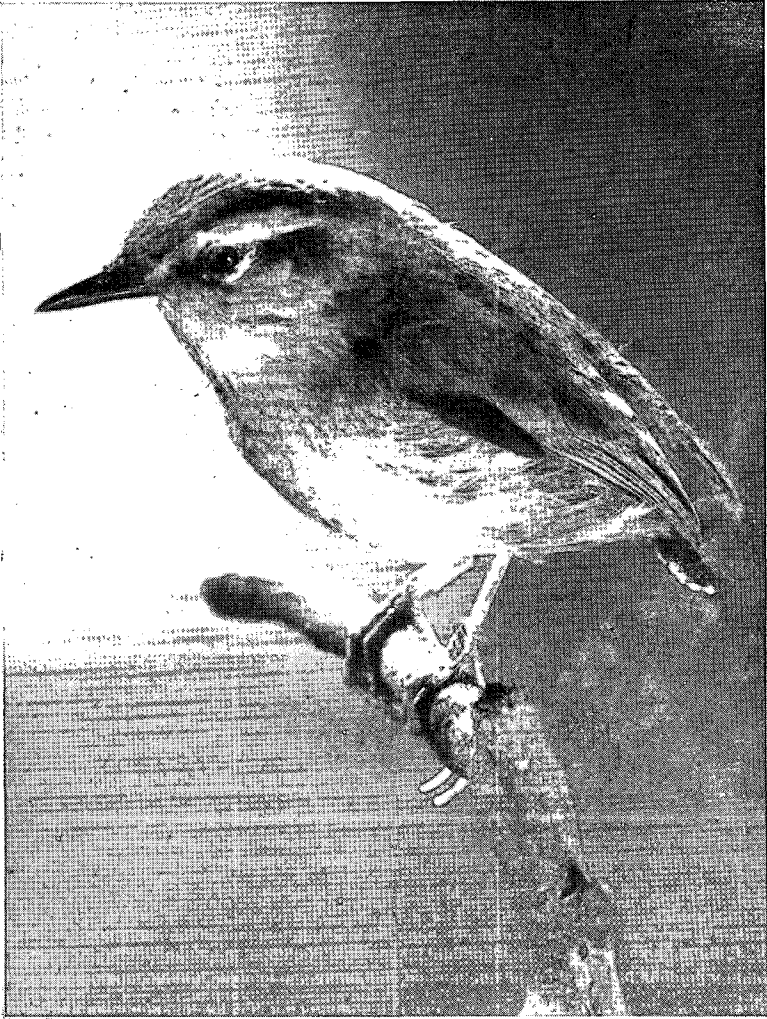


Figure 3.—FIORDLAND WREN (Dominion Museum, No. 2398).

Photo by C. Hale.