

at Glen Forrest, Helena Valley, Bayswater, Tuart Hill, Nedlands, Karrakatta and Fremantle.

Many persons in the South-West, especially Mrs. S. Mifflin and other members of the Leschenault Naturalists' Society, have reported Wanderers around Bunbury between January 1 and March 28, 1976. Of the more than 200 Wanderers sighted, 82 were along the Collie River at Roelands, 70 at Bunbury and 27 at Donnybrook. The butterflies were most abundant throughout March 1976, especially at the following localities (listed from north to south): Harvey, Binningup, Beela, Brunswick Junction, Roelands, Bunbury, Waterloo, Boyanup, Argyle, Capel, Donnybrook, Wyadup (near Yallingup) and Grace Town (on Cowaramup Bay).

The butterflies have been recorded even further to the South-West, viz., at Augusta in January 1968 (Koch, 1971) where they were seen again in mid-June 1976.

Wanderer butterflies are attracted to a variety of flowers, including those of *Lantana*, *Ageratum*, *Zinnia*, *Abelia*, *Buddleia*, *Dahlia*, *Poinsettia*, *Eriobotrya* and *Abutilon*.

The W.A. Herbarium has the following records of milkweed plants, the food of the caterpillar:

*Asclepias curassavica*—Carnarvon, Geraldton, Trayning, Fremantle, Mundijong.

*Asclepias fruticosa*—Kings Park, Armadale, Jarrahdale, Dwellingup, 7 mi. W of Busselton.

However, milkweed must have a much wider distribution than these data indicate, for, in April 1976, caterpillars of the Wanderer were reported from Augusta, Narrogin and Pingelly. Furthermore, during the course of the present increase of the Wanderer around Bunbury, the butterflies were found to be numerous at the following localities in which milkweed was growing: Harvey (Harvey river and roadsides), Roelands (along the Collie River), Bunbury (various gardens), Dardanup to Wellington Mill (in the upper reaches of the Ferguson River), and Joshua Brook (3 mi. E of Boyanup).

Some residents believe that the Wanderer has been present in Bunbury for at least 10 years. All stages of the Wanderer (and also the Lesser Wanderer) were associated with *A. fruticosa* growing along the railway line at Blair Street, Bunbury, e.g. on 18/5/1974, 21/7/1974, 10/6/1975, 1/8/1976. *A. fruticosa* was the food plant of large numbers of Wanderer caterpillars at the Collie River in April 1975.

In Kings Park, caterpillars of both the Wanderer and the Lesser Wanderer have been observed feeding on *Staphelia variegata* and *S. grandiflora* in the Botanic Gardens. Indubitably, the butterflies must recognise *Staphelia* species as food plants of the caterpillars, which thrive on these plants and at times are regarded as pests by gardeners. Previously species of *Calotropis* and *Asclepias* were the only recorded food plants of the Wanderer in Western Australia. Detailed information on these and other food plants elsewhere in Australia is given by Smithers (1973). The present record is the first of *Staphelia* as a food plant of the Wanderer in Australia.

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## STATUS OF THE PURPLE-CROWNED WREN (*MALURUS CORONATUS*) AND BUFF-SIDED ROBIN (*POECLIDRYAS SUPERCILLIOSA*) IN WESTERN AUSTRALIA

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#### SUMMARY:

A review of the records of the Purple-crowned Wren (*Malurus coronatus*) and Buff-sided Robin (*Poecilodryas superciliosa*) in the Kimberleys of Western Australia is presented chronologically to show that the numbers of these once common species have been drastically reduced.

#### INTRODUCTION

In Western Australia the Purple-crowned Wren and Buff-sided Robin are found in the Kimberleys. They inhabit thick vegetation at the margins of watercourses, the Purple-crowned Wren preferring pandanus, rushes and "bamboo" (canegrass) thickets at the water's edge, and the Buff-sided Robin the taller, lush thickets. Both species were once common in the Ord and Fitzroy River drainages.

The fifth Harold Hall Expedition of 1968 began a period of intense ornithological activity in the Kimberleys. Since 1971, staff of the Vertebrate Department of the Western Australian Museum, independently, or in association with other institutions (such as the Western Australian Department of Fisheries and Wildlife) have spent many months in all parts of the Kimberleys. These efforts have been augmented by the contract work of W. H. Butler for the Western Australian Museum and the American Museum of Natural History. Greater mobility has allowed us to visit areas previously inaccessible. Thus the total time collecting and observing in the Kimberleys in the last 7 years probably outweighs the efforts of the previous 90-odd years. Despite the greatly increased effort since 1968, the Purple-crowned Wren has only been recorded at five localities, and the Buff-sided Robin at seven localities.

The rapid decline in numbers and area of distribution of these two species is best shown by examining the relevant parts of observers' notes in chronological order.

#### PURPLE-CROWNED WREN

T. H. Bowyer-Bower (1886, Ms), Aug. 26-Sept. 27, on lower Fitzroy [13 km S of Yeedal], 23 specimens collected "as they pass along the rushes near the water's edge (far from which I have not observed them) . . . their numbers being from 5-7 . . . long rushes or bamboo up the stems of which they climb with ease . . ." (Observed in some bushes about to 200 yards from the riverside; this is the furthest I have seen them away from the banks; they are very wren like.) Oct. 17-29, Fitzroy River between Mount Anderson and Liveringa, 7 specimens collected. Nov. 8, lagoon near Mount Anderson, 2 specimens collected.

F. M. House (1902), "On the Pentecost River . . . great numbers of *Malurus coronatus* [May 1901]. After leaving this river [and travelling west] I did not see the bird again until we were traversing the Drysdale River . . . but not in such numbers."

R. Hall (1902), records 3 specimens collected Aug. 22, 1900 in J. P. Rogers' collection from the Fitzroy (between Derby and Brooking Crossing). Rogers: "I showed these skins to a black boy who resides up the river. He says they are always found in the billabongs high up the Margaret River . . ."

J. F. Kilgour (1904). Ord River Station, autumn 1904, "almost wherever there is water."

J. P. Rogers (1908). "I found the Purple-crowned Wren . . . very numerous on the small rivers between Turkey Creek Telegraph Station and Wyndham. This is a rare bird on the Fitzroy."

F. L. Whitlock (1925), on the Fitzroy, June 1924 - April 1925. "Local in the extreme. Only seen near the [Fitzroy] crossing and some 8 miles further down the river near Gogo Station. Favours *Pandanus aquaticus*. The greatest numbers I saw in one morning's walk was 4 parties of 3 or 4 birds. They were very difficult to find . . ."

D. L. Serventy (1958, Ms), Oct. 4, Geikie Gorge, "1. C. Carnaby shot a ♀ in dense vegetation on the left bank . . . Oct. 5, A. J. Marshall: ♀ in *Tiodia* . . ."

H. R. Officer (1964), "On neither the 1959 nor 1962 visits were any seen or heard along the Fitzroy or Ord Rivers, or any of the creeks feeding them, although *Pandanus* is plentiful."

J. Wheeler (1965), "Considerable areas along the Ord and Fitzroy were searched [in 1963] for *M. coronatus*, without success."

J. Dell (1971, Ms), 3 - 10 Oct., "♂ in melaleuca along the Ord."

W. H. Butler (1971, Ms), 8 specimens collected at 16° 33'S, 128° 39'E; total of 3 on Oct. 4 and 5 and 5 on Oct. 25.

Mrs. H. B. Gill (*pers. comm.* to Dr. G. M. Storr, 1973). Drysdale Crossing (15° 41'S, 126° 25'E) "4 pairs in half mile of river . . ."

C. J. O. Harrison (1974), records 2 specimens collected on July 2, 1968 in pandanus along Manning Creek at Joint Hill (16° 27'S, 125° 56'E).

L. A. Smith and R. E. Johnstone (1975, Ms), 3 collected at Meeharie Creek, a tributary of the Drysdale River. "2 parties seen, one of 7 and one of 4."

Judging by the number of specimens collected by Bowyer-Bower and also by the black boy's comment to Rogers the species was once common on the Fitzroy. However, as early as 1908 Rogers called it "a rare species on the Fitzroy". Shilling (1948), who spent about a year at Liveringa did not record the species, while Officer (in 1959 and 1962) and Wheeler (in 1963), despite deliberate attempts to find it, failed to do so. "Thus since 1925 when Whitlock stated they were "very difficult to find" it has only been seen in 2 localities on the Fitzroy.

According to the notes made by House, Kilgour and Rogers, the wren was once common on the Pentecost River and in the Ord drainage. Since 1907 it has been found in two localities on the Ord River but these have subsequently been drowned by Lake Argyle. It has not been recorded from the Pentecost since 1902.

House's comment as he crossed the Drysdale is the only early record for the Drysdale River drainage. That Hill failed to record it during his 10 month stay at Napier Broome Bay suggests that it may have only been present in the more arid upper Drysdale drainage.

Thus the range of the Purple-crowned Wren which once included the Fitzroy, Ord and at least part of the Drysdale drainage has now been reduced to three isolated populations: at Manning Creek and Geikie Gorge in the Fitzroy drainage, and Meeharie Creek in the Drysdale drainage. As the latter is only 4 kilometres from Mrs. H. B. Gill's record of the species, we treat the two localities as one.

#### BUFF-SIDED ROBIN

T. H. Bowyer-Bower (1886, Ms), Aug. 27 - Sept. 17, on lower Fitzroy [13 km S of Yeeda], 6 specimens collected. Oct. 28, Fitzroy River between Mount Anderson and Liveringa, 3 specimens collected.

A. J. North (1898), on G. A. Keartland's collection (Calvert Expedition, 1896-97). 1 adult ♂ near junction of Fitzroy and Margaret Rivers. Keartland: "... only seen in the dense [freshwater] mangrove scrub on the margins of the Fitzroy . . ."

R. Hall (1902), records 4 specimens in J. P. Rogers' collection from the Fitzroy (between Derby and Brooking Crossing).

J. F. Kilgour (1904), Ord River Station, autumn 1904, "common on river banks."

G. M. Matthews (1909), records 7 males and 5 females in J. P. Rogers' collection from Wyndham (Parry Creek). "Common. Always frequents patches of scrub near water."

G. F. Hill (1911), Aug. 1909 - July 1910, "Uncommon. Seen only in moist and densely timbered country near Napier Broome Bay and Drysdale River."

F. L. Whitlock (1925). On the Fitzroy, June 1924 - April 1925, mainly near the [Fitzroy] crossing "... of the river forests to which it was exclusively confined."

P. Slater (1959), Kimberley Research Station (Ivanhoe). Classified as a "winter breeder."

J. C. Carnaby (*pers. comm.* to Dr. G. M. Storr). "Fitzroy Crossing Feb. 28, 1959, nest under construction . . . Fitzroy River [Noonkenbah], June 10, 1959, nested . . ."

Carnaby also records five nests within 3 km of each other 48 km east of Wyndham (two on Jan. 3, 1965 and three in December 1965; one on Dec. 19, one on Dec. 26, and another on Dec. 27).

J. A. Smith (*pers. comm.* to Dr. G. M. Storr), "2 at Mitchell River Falls [14° 50'S, 125° 42'E], Nov. 22, 1970. Pair in patch of rainforest by Mitchell River [14° 50'S, 125° 42'E], Nov. 14, 1971. Building a nest on Nov. 21, 1971."

L. A. Smith and R. E. Johnstone (1973, Ms), 2 specimens collected from patch of rainforest at edge of Camp Creek, Mitchell Plateau (14° 52'S, 125° 50'E).

I. C. J. Galbraith (1974), records one specimen collected at Geikie Gorge on June 5, 1968.

G. M. Storr, R. E. Johnstone, J. Dell and L. A. Smith (1975), "Scarce along watercourses in Prince Regent River Reserve."

L. A. Smith and R. E. Johnstone (1975, Ms), "2 + 1 downstream from camp [on lower Drysdale in 14° 13'S, 126° 55'E], one collected. Thick riverside vegetation."

R. E. Johnstone, J. Dell, L. A. Smith and P. J. Fuller (1976), 2 collected Aug. 21, 1975. "At least 4 birds lived in the thicket of *Xanthostemon* and *Alphitonia* at the head of Fern Gully [14° 39'S, 126° 56'E]."

The Western Australian Museum has two specimens from the Ord River, collected July 1945 and two specimens from Kalumburu collected July 1960.

The above extracts indicate that the Buff-sided Robin was once common in the Fitzroy and Ord River drainages. Since 1925, however, there have only been three records from the Fitzroy drainage (Noonkenbah, Fitzroy Crossing and Geikie Gorge), and three from the Ord River drainage (Ivanhoe, 48 km east of Wyndham and Ord River).

Field work in the last 3 years has shown that it has a fragmented distribution in the subhumid north-west part of the Kimberleys (Mitchell Plateau, Mitchell River, two localities on the lower Drysdale and two in the Prince Regent River Reserve).

So, although the species has a wide distribution in the Kimberleys, the total number of individuals is small, there only being very few, small, scattered populations.

#### DISCUSSION

Of the two species, the numbers of the Purple-crowned Wren have been most affected. There are probably two main reasons for this. Firstly, the relatively low vegetation, such as pandanus and canegrass that the Purple-crowned Wren prefers, would be much more susceptible to damage

by grazing cattle than would the taller, sturdier trees and shrubs preferred by the Buff-sided Robin. Secondly, the original distribution of the Purple-crowned Wren was probably confined to the more arid areas of the Kimberleys: the Fitzroy, Ord and parts of the Drysdale River drainages, the very areas that have been subject to greatest alteration by the pastoral industry.

On the other hand, the Buff-sided Robin, as well as occurring in the Fitzroy, Ord and Drysdale River drainages, has been found in the wetter north-west Kimberley, areas where its habitat has suffered far less interference.

We consider the numbers of these two species to be so few, and their habitat so prone to alteration, that they warrant consideration as rare and endangered species.

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## BIRDS OF BEDOUT ISLAND—A VISIT IN MAY 1972

By T. E. BUSH and G. A. LODGE

### INTRODUCTION

Bedout Island (19° 35' 28" S, 119° 5' 46" E) is a Class C reserve 22 nautical miles north of Larey Point, the nearest part of the Australian mainland, but 55 nautical miles NNE of Port Hedland via the navigation channels. It is of interest to naturalists as it is the most southerly recorded breeding station in Western Australia of the Lesser Frigate-bird and of the Brown and Masked Gannets. However because of the difficulty of access ornithologists have rarely visited it.

The first ornithological survey of the island was made by J. T. Tunney (1902, p. 73) who collected there in May 1901 for the W.A. Museum. In 1944 the island was surveyed from the air by Stanley Fowler during an aerial reconnaissance for the CSIRO. In October 1949 Dr. D. L. Serventy spent a few hours on the island whilst a member of a fisheries party aboard the F.R.V. *Warren*. In his report (Serventy, 1952, pp. 48-50) he reviewed all the previous records.

The Lands and Surveys Department granted a lease of the island to Bernard Bardwell, Marie Fanny Harper and John David Dunn from January 1, 1928 to December 31, 1937, for the purpose of excavating guano. This was cancelled in 1930, prior to expiration, on a report from the Pearly Inspector at Broome, Mr. A. O. Ferguson, who stated that no guano had come through the port.

On May 14-15, 1972 we accompanied a fishing party from Port Hedland and spent a night and a total of 15 daylight hours on the island. Landing was made in a small dinghy, leaving the larger vessel anchored beyond the reef.

Bedout Island is a low-lying, undulating sand cay with an area of 45 acres at high tide and about 75 acres at low tide, surrounded by a white sandy beach varying from 20 to 75 metres in width. The large expanse of reef exposed at low tide is studded with pools in which marine life abounds. The rock stacks which protrude above the general level of the reef are covered with oysters. The island itself, apart from the two bare areas where heavy guano accumulation prevents plant growth, is covered with clumps of *Spinifex longifolius*. An automatic navigation beacon stands on the highest point of the island.

### NOTES ON BIRDS OBSERVED

**Brown Gannet, *Sula leucogaster*.** This species was the commonest bird on the island, occupying almost the whole of it for nesting and we estimated there were about 5,000 breeding pairs. Nests were on the beach, with concentrations where the beach was widest, as well as amongst the *Spinifex* clumps. Breeding was protracted in the extreme. There were young at all stages, while other parts were brooding eggs or constructing nests. Nesting among *Spinifex* clumps, where material was readily available, were generally more substantial than those on the beaches. Here some eggs had been laid in a mere scrape in the sand. Two eggs were the normal clutch, with only one 3-egg clutch being observed. All nests inspected where the confining, allowing easy photography. A few thousand birds were very on the beaches. These included many immatures. A sample of 10 eggs averaged 61 x 40 mm, varying from 56-66 x 36-43 mm.

**Masked Gannet, *Sula dactylatra*.** This species was nowhere near as plentiful as the preceding and we estimated the breeding population as about 400 pairs. Apart from an isolated pair breeding took place amongst the Brown Gannets in the two bare areas and the major beach concentrations. Breeding was protracted as with the Brown Gannet. The nests were generally not as substantial and were quite often only a scrape in