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## **BIRDS OF WARUL KAWA (DELIVERANCE ISLAND) AND KERR ISLET, NORTH-WESTERN TORRES STRAIT**

WALLACE MACFARLANE & GARRICK HITCHCOCK

### **ABSTRACT**

Twenty-six species of birds previously not known from Warul Kawa, and 7 species previously unknown from the smaller Kerr Islet, were recorded during surveys conducted in September 1999. These sand cays are located in a remote part of Torres Strait, 35 km south of the Papua New Guinea coastline. A breeding colony of Australian Pelican *Pelecanus conspicillatus* has persisted on Kerr Islet for at least 130 years and Warul Kawa was permanently occupied from the 1890s and became overrun by now extinct populations of introduced birds and animals. Since occupation ended in 1928 a population of Orange-footed Scrubfowl *Megapodius reinwardt* has become established on Warul Kawa. Observations on *M. reinwardt*, the condition of its breeding mounds and lists of all bird species recorded from both cays, including from the literature, are presented.

### **INTRODUCTION**

We visited Warul Kawa (Deliverance Island) and Kerr Islet on 20-21 and 22 September 1999 during investigations of the natural and cultural values of the former, which culminated in its declaration as an Indigenous Protected Area (IPA) in 2001 (Commonwealth of Australia 2007; Kwan et al. 1999, 2001). The cays are collectively known by Boigu Islanders as Warul Kawa, which means ‘Turtle Island’. In this paper, Warul Kawa refers only to Deliverance Island (for locations of

places mentioned in text see SC54-07 Boigu 1:250,000 topographic map sheet Ed 3). These remote rarely visited sand cays, 9.5 km apart and in sight of one another, are Australian territory (part of Queensland), and the most north-westerly islands in Torres Strait.

Warul Kawa (9° 32' S, 141° 31' E) is 137.5 km NW of Cape York and 35 km south of the Papua New Guinea coast. The island is approximately 1.4 km long and 0.5 km at its widest, with a total area of about 40 ha (Plate 1). It is surrounded by a shallow reef platform measuring approximately 8 x 4 km, with the long axis of both the reef and islet lying NE-SW. The reef is characterised by rocky rubble interspersed with sandy patches, with little live coral. Brown and green algae are predominant on the rocky substrate with some patchy seagrass present. At low tide, exposed sandbanks extend approximately 2-3 km off the SW corner of the island. There are three vegetation communities on Warul Kawa: dune vegetation, semi-deciduous notophyll vine forest and largely impenetrable vine thicket (Jardine 1904; Kwan et al. 1999; Limpus et al. 1989). Numerous coconut palms, evidence of a former plantation, are also present.

Warul Kawa was declared an IPA in April 2001 under the Commonwealth Government's National Reserve System; the total area of 3,500 ha covers the island and the surrounding reef flats. An IPA is an area over which the traditional Indigenous owners have entered into a voluntary agreement with the Australian Government to promote biodiversity and conserve cultural resources in line with World Conservation Union (IUCN) guidelines. The declaration of Warul Kawa IPA was made under IUCN Category VI – Managed Resource Protected Area: Protected Area managed mainly for the sustainable use of natural ecosystems (Commonwealth of Australia 2007; Department of Environment, Water, Heritage & the Arts 2008). A committee representing those Torres Strait Island communities with traditional rights and interests in Warul Kawa – Boigu, Dauan, Saibai, Mabuig and Badu – is responsible for the management of the IPA, with assistance from the Torres Strait Regional Council.

Nearby Kerr Islet (9.5 km to the S), sometimes called Kiss Islet (9° 37' S, 141° 34' E), is a low-lying sand cay, approximately 1.8 ha in area, sparsely covered with grasses, shrubs, vines and coconut palms. The long axis of the islet lies NE-SW and measures approximately 0.8 x 1.0 km. It is home to a colony of Australian Pelican *P. conspicillatus* which was first described in the 1870s and why Boigu people call it Awaial Kawa, meaning 'Pelican Island' (Anonymous 1877; Hitchcock 2007; Limpus et al. 1989). Hitchcock (2007) includes photographs of Kerr Islet's more open habitats.

Our visit to these islands occurred during the middle of the dry season in Torres Strait. Average rainfall for September, based on Thursday Island records, is 3.1 mm (annual average rainfall 1,750 mm), with average maximum and minimum temperatures for that month of 29.4° C and 23.1° C respectively.



**Plate 1.** Warul Kawa looking south towards Kerr Islet, 25 June 2002.  
Photo: John Burton.

From the 1890s, a Danish-born hermit, Johannes Henrik Enevoldsen, known locally as ‘German Harry’ or ‘Deliverance Harry’, lived on the island, until his death, apparently by shark attack, in 1928. According to Reid (1954), he kept a diary noting bird movements to and from the island, which was collected by his friend, Dick Roache, who discovered his body. Roache, who lived and worked in nearby southeast Dutch New Guinea (now Papua Province, Indonesia), went missing on the Bian River in September 1931 (Sheldon 1938); German Harry’s diary is presumed lost. No one has lived on the island permanently since that time.

The reports of visitors to the island document the introduction of a number of exotic species, which presumably had negative impacts on the local avifauna. In November 1894 the Government Resident of Thursday Island, John Douglas called at Warul Kawa, finding three Europeans living there, as well as a couple of hundred fowl *Gallus gallus*, some of which had run wild, and ducks, pigs *Sus scrofa*, dogs *Canis familiaris* and cats *Felis catus*. He also visited Kerr Islet, where he found large numbers of birds and eggs of the ‘wide awake’ or Sooty Tern, *Onychoprion fuscata* (Douglas 1891, 1899-1900). The Lieutenant Governor of British New Guinea, Sir William MacGregor, visited Warul Kawa in March 1898, and also remarked on the presence of the domesticated animals (MacGregor 1897-1898). Gilbert White, Bishop of Carpentaria, visited in 1903 and found that German Harry’s ‘family’ consisted of ‘five dogs, a dozen Muscovy ducks [*Cairina moschata*], and eighty cats’ (White 1918). Douglas’ successor, Hugh Milman, reported in October 1909 that all the fowls had run wild, that the ducks had been taken by visiting sailors, and that there were ‘hundreds of cats’ (Milman 1909). The English novelist Somerset Maugham, landing in 1921, noted ‘dogs and chickens’ (Maugham 1968). None of these domestic birds and animals are extant on the island today.

Draffan et al. (1983) claimed 14 species of birds were known for Warul Kawa, but names only thirteen. Until this study, no bird species were recorded from Kerr Islet, apart from Australian Pelican and Sooty Tern.

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## METHODS

All major habitats on Warul Kawa were surveyed: dry reef (low tide), covered reef (incoming tide), rocky and sandy shoreline, dune vegetation/beach margins, semi-deciduous notophyll vine forest/dune vegetation, and the margins of vine thicket/semi-deciduous notophyll vine forest. The central part of the island, comprising dense vine thickets, was largely inaccessible. Waders and seabirds were surveyed at low tide using a 100 x 60 spotting scope and 8 x 40 binoculars. All terrestrial bird species were surveyed generally at dawn or near dusk at forest or scrub margins (i.e. 0530-0700 hrs and 1800-1900 hrs). Due to low light levels birds deep in the forest were surveyed generally from 1000-1600 hrs. An attempt was also made to document as many megapode mounds as possible in the time available. The survey was not exhaustive on account of the thick vegetation mentioned above, and mapping of mounds (Plate 2) is only approximate. On small Kerr Islet, all areas were surveyed. The avian systematics and taxonomy adopted here follows Christidis & Boles (2008).

## RESULTS & CONCLUSION

This survey identified 26 species on Warul Kawa, including eight of the birds listed in Draffan et al. (1983). A total of 33 species is now known from the island. Seven bird species were recorded on Kerr Islet, bringing the total known from the cay to eight (Table 1).

A feature of the Warul Kawa avifauna since 1928 is the apparently self-introduced population of the Orange-footed Scrubfowl, a widespread mound building megapode of the region. When a nest mound was located, one or more megapodes were usually seen within 3-5 m of the nest mound, or heard digging in the immediate vicinity. Given that, in some places, pairs may share nesting mounds (Crome & Brown 1979) we estimated that there were approximately 30 birds on the island. Scrubfowl were noted to be very active at the beach/scrub or beach/

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Table 1. Bird species recorded during ● this survey; ❖ reported in the literature, or ♠ both.

	Species	Warul Kawa	Kiss Islet
Bar-shouldered Dove	<i>Geopelia humeralis</i>	❖	
Rose-crowned Fruit-Dove	<i>Ptilinopus regina</i>		●
Pied Imperial-Pigeon	<i>Ducula bicolor</i>	●	
Great Frigatebird	<i>Fregata minor</i>	●	
Australian Pelican	<i>Pelecanus conspicillatus</i>	●	♠
Eastern Reef Egret	<i>Egretta sacra</i>	♠	
Nankeen Night-Heron	<i>Nycticorax caledonicus</i>	♠	●
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	♠	
Orange-footed Scrubfowl	<i>Megapodius reinwardt</i>	♠	
Beach Stone-curlew	<i>Esacus magnirostris</i>	●	
Buff-banded Rail	<i>Gallirallus philippensis</i>	●	
Pacific Golden Plover	<i>Pluvialis fulva</i>	●	
Lesser Sand Plover	<i>Charadrius mongolus</i>	●	●
Grey-tailed Tattler	<i>Tringa brevipes</i>	♠	●
Wandering Tattler	<i>Tringa incana</i>	●	
Ruddy Turnstone	<i>Arenaria interpres</i>	●	
Bar-tailed Godwit	<i>Limosa lapponica</i>	●	
Whimbrel	<i>Numenius phaeopus</i>	♠	
Eastern Curlew	<i>Numenius madagascariensis</i>	●	
Common Greenshank	<i>Tringa nebularia</i>	●	
Terek Sandpiper	<i>Xenus cinereus</i>	●	
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	●	
Curlew Sandpiper	<i>Calidris ferruginea</i>	●	
Sooty Tern	<i>Onychoprion fuscata</i>		❖
Gull-billed Tern	<i>Geobelidon nilotica</i>	❖	
Crested Tern	<i>Thalasseus bergii</i>	●	●
Silver Gull	<i>Chroicocephalus novaehollandiae</i>	♠	●
Sacred Kingfisher	<i>Todiramphus sanctus</i>	❖	
Rainbow Bee-eater	<i>Merops ornatus</i>	●	
Red-headed Honeyeater	<i>Myzomela erythrocephala</i>	●	
Mangrove Golden Whistler	<i>Pachycephala melanura</i>	♠	
Broad-billed Flycatcher	<i>Myiagra ruficollis</i>	❖	
Leaden Flycatcher	<i>Myiagra rubecula</i>	●	
Pale White-eye	<i>Zosterops citrinella</i>	❖	
Yellow White-eye	<i>Zosterops luteus</i>	●	

forest margin prior to dawn and shortly after dusk. In these instances pairs of birds were flushed from vegetation or disturbed on about six occasions. Notes on each of the nesting mounds appear at Table 2.

Draffan et al. (1983) suggest that on small islands, human predation may result in the extermination of Scrubfowl communities. Given the existence over several decades of a population of dozens, if not hundreds, of cats on this small island, it is highly likely that any megapodes living on Warul Kawa prior to their introduction were exterminated, and that the current population is the result of colonisation from coastal areas of southern New Guinea, where they are common, and/or other islands in Torres Strait, where they are widespread, including small, uninhabited sand cays (Draffan et al. 1983; Hitchcock pers. obs.). Adults and chicks are known to be able to fly over considerable water barriers (Draffan et al. 1983; Healey 1994; Jones et al. 1995; Olson 1980). Torres Strait Islanders are known to collect megapode eggs from Warul Kawa (Limpus et al. 1989), but their occasional visits are unlikely to threaten the population.

Depending on future IPA project priorities and objectives it is recommended that, at the very least, comparative studies should be undertaken in the wet and dry seasons. Such studies will assist in formulating the final management plan for the Warul Kawa IPA.

### **ACKNOWLEDGMENTS**

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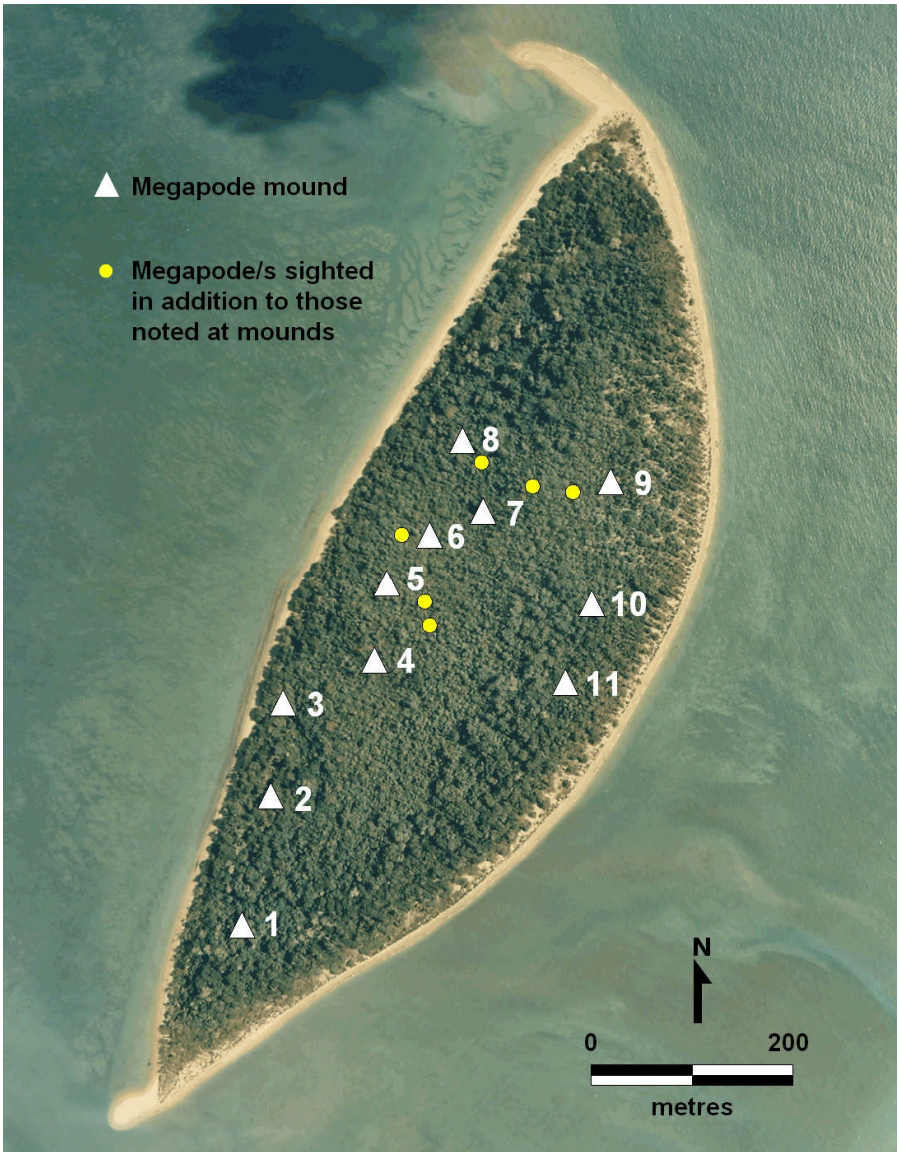


Plate 2. Mound sites and *M. reinhardt* observed on Warul Kawa in September 1999.

**Table 2. Notes on 11 nesting mounds of *M. reinhardt* on Warul Kawa in September 1999.**

Mound	Height	Diameter	Notes
1	3.5 m	14 m	One bird sighted within 5 m of mound. Considerable digging noted on slopes and surrounding forest floor. Large overhanging tree growing from mound.
2	3.0 m	10 m	One bird heard digging close to mound. Dead tree fallen across mound on east side.
3	1.0 m	3 m	Located on forest/beach ridge margin. Very little vegetation in mound, almost 100% sand. No activity or birds sighted.
4	2.0 m	9 m	One bird heard in vicinity of nest. Considerable digging on slopes and forest floor. Large tree growing from mound on south side.
5	5.0 m	6 m	Mound heavily overgrown with vines, hard to approach. Very little recent activity on nest mound. One bird sighted 8 m to north of mound.
6	1.0 m	5 m	Mound generally overgrown with vines. Two birds heard in vicinity.
7	1.2 m	6 m	Old scrapes on mound. Fresh digging close to mound. One bird heard close to mound.
8	4.0 m	16 m	Site well cleared and open. Signs of fresh digging on slopes. No birds heard or seen.
9	2.3 m	7 m	Open forest floor. Fresh digging all around area. One, possibly two birds heard working close together.
10	1.8 m	8 m	All dead leaves scraped into central depression. Bird sighted digging within 4 m of mound. Mound rimmed by three very large trees.
11	2.3 m	6 m	Located close to scrub/vine thicket margin. Very little vegetation incorporated in mound. Constructed of almost 100% sand. No birds seen or heard near site.

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## DUSKY MOORHEN *GALLINULA TENEBROSA* FEEDING ON MORETON BAY FIGS *FICUS MACROPHYLLA*

PETER F. WOODALL

On 29 March 2007 at 09.10 am (AEST) I watched an adult Dusky Moorhen *Gallinula tenebrosa* on an island in the lake at Minnippi Parklands, East Brisbane where several large Moreton Bay Figs *Ficus macrophylla* were growing. It jumped up onto one of the low branches, c. 30 cm above the ground, walked along the branch to a clump of figs and removed a ripe one in its beak. It then moved down to the ground, dropped the fig on the damp soil and pecked at it until it broke into smaller pieces. These pieces were then fed to two chicks (c. 2-3 weeks old) and also eaten by the adult. This process was repeated five times during c. 15 mins of observation before the birds swam off around the island. The following week I saw the same behaviour, with the adult then flying onto a branch about 60 cm above the ground to remove a ripe fig.

Figs have not previously been recorded in the diet of the Dusky Moorhen although they are known to feed on a variety of animal and plant material including the seeds of a *Polygonum* sp. and berries of *Lycium ferocissimum* (Barker & Vestjens 1989).

Rowley (1968) recorded Purple Swampheens feeding on Port Jackson Figs *Ficus rubiginosa* which had fallen to the ground. The figs were held between their toes and then pecked at to break into smaller fragments to swallow.

Marchant & Higgins (1993) reported that Dusky Moorhens “peck at ground or low vegetation ... rarely reaching up on toes for food”. Cramp (1980) reported that the Common Moorhen *Gallinula chloropus* “picks items ... off ground and off plants – often by clambering over

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leaves and balancing on stems by flapping wings". There are no previous records of the Dusky Moorhen foraging off the ground but they roost or rest during the day on platforms or branches up to 2m above the water (Marchant & Higgins 1993).

Figs are very important foods of specialised avian frugivores in Africa, Southeast Asia and Australia (Snow 1981) but, apart from doves and pigeons, few Australian non-passerines have been recorded feeding on them (Barker and Vestjens 1989). Figs are sometimes considered low quality food but Wendeln *et al.* (2000) found considerable variation in the nutritional value of Neotropical figs with some species providing high levels of both energy and nitrogen. No data on the nutritional value of *Ficus macrophylla* figs were found. This article was refereed by Neil McKilligan.

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**NOTES**