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Corella, 1988, 12(2): 56-58

## ROSEATE TERNS *Sterna dougalli* ON SOUTHERN GREAT BARRIER REEF ISLANDS, 1985-1986

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*Received 16 October, 1986*

### INTRODUCTION

In recent decades the populations of the Roseate Tern *Sterna dougalli* have declined precipitously in Europe, South Africa and North America where it is considered to be a threatened species (Nisbet 1980). In Australia, Roseate Terns nest on islands off the western coast of Western Australia and off the eastern coast on the Great Barrier Reef. Breeding records on these islands are relatively few and there has not previously been a widespread regional survey. Some islands appear to be preferred for nesting but large yearly variations in sites and numbers of birds occur (Hulsman 1984).

### STUDY AREA AND METHODS

Approximately 150 continental islands and rocks between Holbourne Island (19°43'S) and the Keppel Group (23°15'S) were surveyed at least once between October 1985 and March 1986. The region is shown in Figure 1. All 23 coral cay islands except for Riptide Cay were surveyed two to four times between December 1985 and May 1986. Included amongst the surveyed islands were all known tern nesting sites except for Riptide Cay, Reid Island and Creek Rock (Kikkawa 1976). There are no records of Roseate Tern nesting on these three islands.

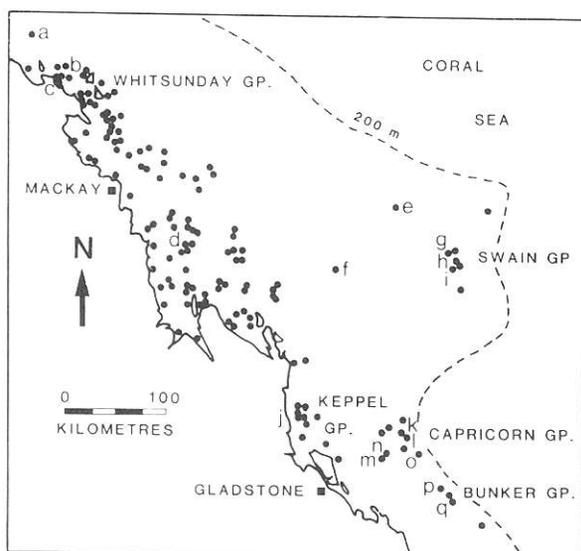


Figure 1 Locality map of the southern Great Barrier Reef showing all islands or groups of islands (●) not including cays or rocks overwashed at high tide. Islands referred to in the text are: a, Holbourne I.; b, Double Cone I.; c, Olden I.; d, Reid I.; e, Riptide Cay; f, Bell Cay; g, Thomas Cay; h, Frigate Cay; i, Bylund Cay; j, Creek Rk.; k, Wilson I.; l, Wreck I.; m, Masthead I.; n, Erskine I.; o, One Tree I.; p, Hoskyn I.; q, Lady Musgrave I.

## RESULTS

### Capricorn-Bunker region

In the 1985-1986 season nesting occurred on five islands. The major colony was on the northern side of Masthead Island where 400-450 nests with eggs were present on 11 December 1985. The colony was only partially successful and over 50 dead chicks were all that remained when the site was re-visited on 6 February 1986. On this same date on Wreck Island there were 40 nests with eggs and 520 birds. It is possible that these may have been unsuccessful nesting pairs from nearby Masthead Island. A colony of 150 birds was nesting in grass at the eastern end of West Hoskyn Islands on 8 December 1985. A single nest with eggs was present both on One Tree Island (8 February 1986) and on Lady Musgrave Island (28 March 1986). Nesting has now been recorded on 12 of the 15 islands in the region (Kikkawa 1976, Walker and Domm 1986).

Nesting was associated with Black-naped Tern *S. sumatrana* colonies on all islands except

Hoskyn Islands (Walker 1986). Low nesting success as seen at Masthead Island is characteristic of the species (Domm and Recher 1973, Hulsman 1977). On 6 January 1986, birds were selecting nest sites on Wilson Island but on 4 February nests were not present (though 90 birds were resting on the beach). Eggs are taken by Silver Gulls *Larus novaehollandiae* and nesting birds are particularly sensitive to the presence of people. For the first time in four years, nesting did not occur on Erskine Island.

### Swain Reefs region

In February 1986 a total of 18 000 birds were counted on the cays of the Swain Reefs. This is an overestimate because some birds were disturbed by the census and flew to other cays where they were recounted. A more realistic total might be between 12 000 and 16 000 birds. Numbers varied from one bird on Bell Cay to 6 000 on Thomas Cay. A total of 5 000 birds were counted on Swain Reefs cays during an April 1986 survey. Approximate numbers counted during previous summer surveys of the cays were 1 000 in November 1976 (Limpus and Lyon 1981) and 3 000 in January 1985 (M. Jones, pers. comm.). Fewer than 40 birds were in breeding plumage in 1986 but a single nest with eggs was present on Frigate Cay on 6 April. The only other breeding record in the region is of two nests with eggs on Bylund Cay on 5 November 1976 (Limpus and Lyon 1981).

A note of caution should be included with regard to species identification. It is believed that all birds sighted were Roseate Terns although large flocks of terns identified as the very similar Common Tern *S. hirundo* were reported on the Swain Reefs cays in July 1983 and July 1984 (Moverley 1985).

### Continental island region

Roseate Terns were rare and were only recorded at the extreme northern end of this region. One or two birds occurred at Olden and Double Cone Islands and a group of 50 birds was present amongst Black-naped Terns on Holbourne Island in December 1985. It is possible that a small amount of nesting occurs on the south-eastern rock of Holbourne Island where Black-naped Terns and Bridled Terns *S. anaethetus* nest (Walker 1986).

There are no previous records for the Roseate Tern in this large region (Kikkawa 1976). It was not sighted during extensive surveys of the islands south of the Whitsunday Group between April 1985 and May 1986 (S. Domm, pers. comm.).

#### DISCUSSION

The geographical distribution of the Roseate Tern is similar to that of the Black-naped Tern on the islands of the southern Great Barrier Reef (Walker 1986). The 1985-1986 colony on Masthead Island was larger than nesting aggregations previously reported in eastern Australia (a larger colony occurred in 1986 on a far-northern Great Barrier Reef island: J Hicks, pers. comm.). As well, the 1986 non-breeding population in the Swain Reefs area is the largest reported in eastern Australia.

Only a small number of terns nesting on the Capricorn and Bunker Islands remain during winter months. Numbers in the Swain Reefs also seem to be lower during winter. Their movements are unknown but they probably go north since they are rarely observed to the south or to the east in the Coral Sea (Hindwood, Keith and Serventy 1963, Stokes and Corben 1985).

#### ACKNOWLEDGEMENTS

The Capricorn-Bunker and Swain Reefs surveys were funded by Queensland National Parks and Wildlife Service. I thank Menna Jones for assistance with the February 1986 tern counts at the Swain Reefs.

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