

The Eastern Reef Egret in Victoria and Tasmania: Past and Present

by JOHN M. PETER, RAOU, 415 Riversdale Road, East Hawthorn, Victoria 3123

Summary

Eastern Reef Egrets *Egretta sacra* are widespread in the eastern Indian and western Pacific Oceans, and formerly occurred around the entire Australian coastline, but are now rarely recorded in Victoria or Tasmania. An extensive search of published accounts, plus the RAOU Historical and Field Atlas databases, revealed 16 sites around the Victorian and Tasmanian coasts where the species has been recorded. All records, including the few recent ones, are listed, thus placing the regional decline of the species into a modern perspective. Possible reasons for the decline are discussed, and a comparison is made with declining populations in New Zealand.

Introduction

The Eastern Reef Egret *Egretta sacra* occurs around many coasts and islands in the western Pacific and eastern Indian Oceans, its range extending from the coasts of Japan and eastern China, east to the Tuamotu Archipelago of eastern Polynesia, west to the eastern sector of the Bay of Bengal, and south to Australasia (Hancock & Elliott 1978). Its preferred habitats include coral reefs, wave-cut platforms and other tidal flats. Within Australia, the species is found around almost the entire coast of the mainland, except in Victoria, where it is virtually absent. It is also a rare vagrant to Tasmania (Blakers et al. 1984, Marchant & Higgins 1990). However, this situation was not always so. During the few years before and after the turn of the century, there were numerous and widespread records from the coasts of Bass Strait, as well as other coastal areas of Tasmania. Recorded below is a detailed account of the historical distribution of the Eastern Reef Egret in Victoria and Tasmania (Figure 1).

The morphs: white vs grey

The Eastern Reef Egret is dimorphic, with white and grey (sometimes referred to as 'blue') colour-morphs, which were once considered separate species (Gould 1865). Birds of different colour-morphs frequently intermingle, and have often been recorded interbreeding (Recher & Recher 1969). As a rule, individuals are usually of the grey morph at the northern and southern extremities of their world distribution, but in lower latitudes, especially in the tropical zones, white birds are more common (Mayr & Amadon 1941, Recher & Recher 1969, Serventy & Whittell 1976, Hancock & Elliott 1978).

In northern Australia, the ratio of white-morph birds to grey-morph birds can vary greatly; white birds may be common but, depending on the region, either colour-morph may predominate (Marchant & Higgins 1990). In temperate southern Australia, Eastern Reef Egrets are almost invariably grey. In southern and south-western Western Australia, white individuals are rarely observed (Serventy & Whittell 1976); in South Australia, only grey morphs have been recorded (Condon 1969, Parker et al. 1979); the New South Wales population is dominated by grey birds, and the occurrence of a white-morph bird, especially in southern regions, is regarded as notable (Leach 1976, McKean et al. 1976). Similarly, in New Zealand, grey birds predominate. The first (and only) record of a white-morph individual occurred there as recently as June 1987, near Christchurch (Crossland 1992); an earlier record at Wairau in 1944 (Wodzicki & Eyles 1945, 1946) is now thought to have been a Little Egret *E. garzetta* (Turbott 1990). Against this background, populations in Victoria and Tasmania seem to have been exceptional, in that they supported a healthy proportion of both grey

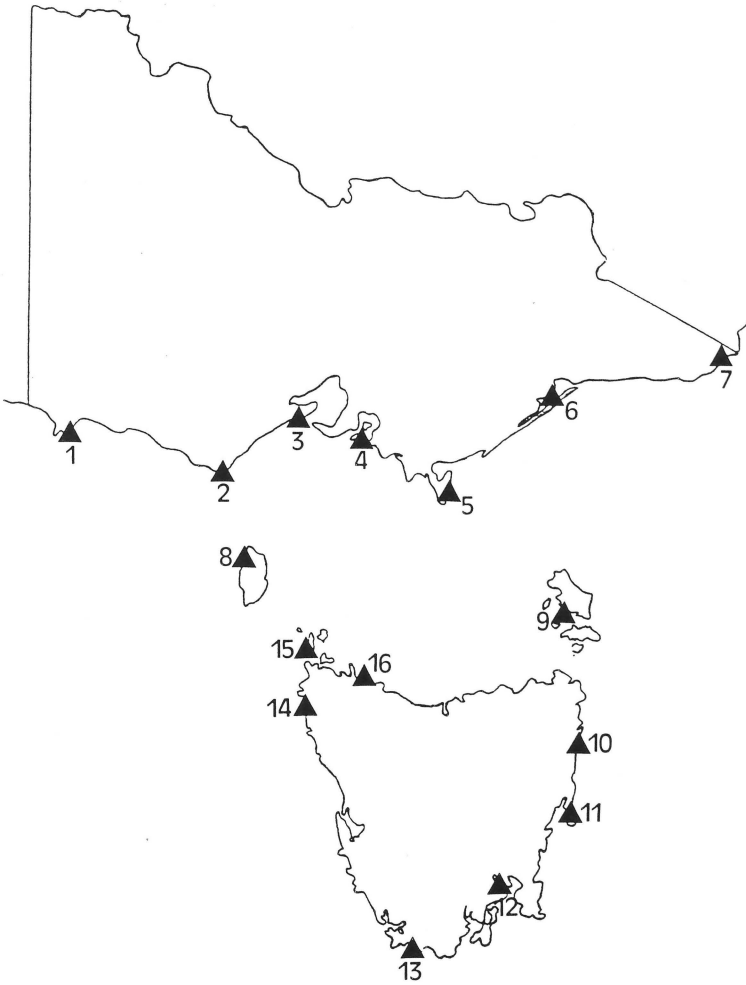


Figure 1. Occurrences (confirmed and unconfirmed) of Eastern Reef Egrets at coastal sites in Victoria and Tasmania.

and white birds. Of the records set out below, eight locations supported white-morph birds, including four where grey morphs were also present, with at least two inter-morph pairs.

Victoria

Wheeler (1967) stated that the species once inhabited the entire Victorian coastline, but it is believed by some that this assertion may have been wrongly based upon misidentified immature White-faced Herons *Egretta novaehollandiae* (Blakers et al. 1984, Emison et al. 1987). All recent reports emanate from Gippsland, mostly from the Mallacoota region; these birds are thought to have strayed from the south coast

of New South Wales (Emison et al. 1987), where the species is a breeding resident (Whiter 1993, H.F. Recher pers. comm.).

1. Portland: Singles were recorded off Point Danger on 10 February 1957 (RAOU Historical Atlas database) and in January 1958 (Learmonth 1966).

2. Cape Otway: A pair of white morphs was recorded 'two or three times' in a cliffy section of the coast near the Cape Otway Lighthouse. Breeding is thought to have taken place, but is not confirmed (Ford 1919). [Although the date is not stated, it is believed to have been between 1849 and 1879, during the author's 'boyhood days' when his father was lighthouse keeper (Ford 1916).]

3. Barwon River: A single specimen was said to have been collected there and deposited in the Museum of Victoria, presumably some time around the turn of the century; however, by 1914, the specimen could not be located (Belcher 1914).

4. Phillip Island: First recorded under the name 'Rooks Crane' around 1855 (Blandowski 1855). During the late 1870s, Campbell (1901) recorded both grey and white morphs at Phillip Island. The last bird recorded there was a white morph, which was shot at Newhaven Lagoon in 1880, and preserved in a glass case (Wheeler 1981).

5. Wilson's Promontory: A single grey morph was photographed as it foraged in the sandy shallows at the mouth of Cove Creek, Refuge Cove, on 19 April 1976 (RAOU Historical Atlas database).

6. Gippsland Lakes: A single grey morph was reported from Lake Victoria on 18 March 1994 (M. Marriott in Mitchell 1994b); the species has previously been noted at Duck Arm, an embayment of Lake Victoria south-west of Paynesville, some time before 1973 (RAOU Historical Atlas database).

7. Mallacoota: Although thought not to be resident in the area (Emison et al. 1987), Eastern Reef Egrets have been observed around Mallacoota more than anywhere else in Victoria. There have been numerous sporadic records, both within Mallacoota Inlet and on the adjacent coastline between Wingan Inlet and Cape Howe, dating back to at least the 1930s. Accounts published before 1977 include records of 'a few' in Mallacoota Inlet during October 1935 (Gannon 1936) and single grey morphs at Bastion Point, Shipwreck Creek and the Betka River Mouth in November 1962 (Anon. 1965). In addition, the RAOU Historical Atlas database includes six records in the region before 1977; RAOU Field Atlas data contain six records round Mallacoota between 1977 and 1981 (Blakers et al. 1984). Since 1981, published records include birds observed on 2 January 1983, east of Wingan Inlet (=Sandpatch Point?) (R.H. Loyn in Robinson 1984); on 11 January 1986 at Quarry Beach (P.S. Lansley in Peake 1991); between 31 December 1993 and 27 January 1994 at Mallacoota (Andrew & Eades 1994, B. Mitchell in Mitchell 1994a); and on 19 April 1994 at Shipwreck Creek (M. Holzebosch in Mitchell 1994c).

Tasmania

The species' formerly widespread Tasmanian distribution is best summarised by Littler (1910), who described it as 'found in many places round the coast ... some of the islands in Bass Strait must be considered its stronghold'. There were also numerous records from the north-western coastline between Woolnorth and Rocky Cape.

8. King Island: A single grey morph was reportedly foraging in shallow water near a sandbar at the mouth of Yellow Rock River on 6 March 1980 (RAOU Field Atlas database). The record was not accepted (Blakers et al. 1984).

9. Furneaux Group

(i) **Rabbit Island:** A pair was observed during November 1901, but the birds were apparently not nesting (Le Souef 1902). On 16 November 1907, another pair, consisting of two grey morphs, was recorded (Armstrong 1908).

(ii) **Clarke Island:** A nest, with three hatching chicks, was found on a small islet off Clarke Island on 28 November 1905 (MacLaine 1906).

10. Scamander: Recorded in 1907, but no details given (RAOU Historical Atlas database).

11. Freycinet Peninsula: A single grey bird 'resembling this species' was observed foraging in a tidal marsh and on an adjacent beach at the estuary of Ranger Creek on 24 November 1978 (M. Orchard in Thomas 1980; RAOU Field Atlas database). The record was not accepted (Blakers et al. 1984).

12. Derwent River: Although not citing any specific records, Hall (1924) wrote that the species was 'rarely found within the mouth of the river, and never up the estuary'.

13. Cox Bight: In this, the most recent confirmed Tasmanian record of the species, six were observed on 3 January 1975 (B. Lane in Newman 1976).

14. Church Rock, near the mouth of the Arthur River: A set of four eggs was taken from the nest of a white bird on 13 November 1885 (North 1913-14).

15. Hunter Group

(i) **Pelican Island:** A single grey morph was recorded on 2 November 1886 (North 1913-14).

(ii) **Penguin Island (Penguin Rocks):** A pair, one white and the other a grey morph, was found nesting, and subsequently raising young, in 1893. On 2 December 1894, a single grey morph was flushed from a nest containing four fresh eggs. Two birds, one of each colour-morph, were also seen flying together (Ashworth & Le Souef 1895; Le Souef 1895, 1908).

(iii) **Albatross Island:** A single white-morph bird was observed attending a nest containing two eggs, concealed below a sloping rock, on 7 November 1909 (Armstrong 1910); the eggs were, of course, collected (North 1913-14).

(iv) **Three Hummock Island:** Eggs were collected on 3 November 1896 and deposited in the H.L. White Egg Collection (RAOU Historical Atlas database).

(v) **Sister Island:** Two nests, both with chicks about one week old, were found in October 1885. On 18 October the following year, a nest containing three fresh eggs was recorded. Several grey morphs and a single white morph were observed on 16 October 1887; two were flushed from a nest containing four eggs (which were duly stolen). Another two empty nests were also found (North 1913-14).

(vi) **Unknown island(s) in the Hunter Group:** Eggs were taken in November 1883. A nest with fresh eggs was found in mid November 1884. On 27 October 1885, two nests (containing four and two chicks, respectively) were found secreted beneath slanting rocks; a third was thought to be nearby. Five adults were also seen 'hovering round ... at this spot' (Campbell 1901). On 10 October 1886, another nest with eggs was found. The species was also 'met with' in November 1889 (Atkinson 1890). In November 1894, Ashworth & Le Souef (1895) were told that 'Reef Herons are fairly numerous on some of the smaller islands' near Three Hummock Island. A nest of a mixed pair, with three eggs, was found on 2 October 1905; the eggs were collected later in the month (North 1913-14). A resident of the Hunter Group reported having seen three pairs of white-morph birds, and a mixed pair (undated; Armstrong 1910).

16. Circular Head — Rocky Cape: A single white morph was taken near Crayfish Creek on 1 June 1886, and deposited in the Tasmanian Museum. The species was also recorded at Circular Head, Stanley, on 3 December 1886. During May and June of the following year, several were seen on the rocks between Circular Head and Rocky Cape, and, on 16 October 1887, a nest containing four eggs was taken from an isolated rock near Rocky Cape Point. Another specimen was taken at Circular Head on 23 November 1890 (North 1913-14, RAOU Historical Atlas database).

The decline

Since about 1909, the decline of the resident population of the Eastern Reef Egret in Victoria and Tasmania appears complete, save for the few seemingly transient birds which comprise recent records. Declines have also been noted in New Zealand, also at the southern edge of the species' range, mainly since the 1940s, but, at some locations, since the turn of the century, as documented by Edgar (1978). One possible reason for the decline rejected by Edgar (1978) is that an expansion of White-faced Herons has displaced Eastern Reef Egrets. He cited different nesting habitats between the species (true in New Zealand, Victoria and Tasmania), and a lack of interspecific antagonism on mutual feeding grounds 'which would surely be observed if there was serious competition for food items'. His first assertion seems legitimate, but the evidence cited to support the latter point is spurious. Nevertheless, his conclusion is valid. On mutual feeding grounds, the two species have been recorded filling different niches, by using different hunting techniques and probably foraging in different sections of reefs (Domm & Recher 1973). Edgar considered that a decline in New Zealand was more likely to have been caused by human actions, including habitat modification and disturbance at nesting sites. However, in Victoria and Tasmania, at the turn of the century many of the locations listed above were isolated, relatively undeveloped and sparsely inhabited, particularly in north-western Tasmania; some still are. Nevertheless, the effect of disturbance from scientific collection on a declining population cannot be discounted as having been at least a factor in the species' disappearance. Eastern Reef Egrets are known to desert their nests readily after human disturbance (Domm & Recher 1973); and on some islands, clutches were taken in successive years. This, however, is likely to have a localised effect. A more likely cause is an unknown, more subtle and wide-reaching natural phenomenon, perhaps working in tandem with one or more human-induced factors. Ornithologists may speculate on the reason for the decline of the Eastern Reef Egret in Victoria and Tasmania, but will probably never know the true cause.

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