

First Confirmed Breeding Records of Little Egret *Egretta garzetta* in Sumatra, with notes on the occurrence of race *E. g. garzetta*

MUHAMMAD IQBAL¹, AGUS NURZA² AND GIYANTO³

¹KPB-SOS, Jalan Tanjung api-api km 9 Komplek P & K Blok E 1 Palembang 30152, Sumatera Selatan, Indonesia. Email: kpbsos26@yahoo.com; ²Cicem Nangroe, Jl. Hasan Dek No. 78 B (Menys Flower) Simpang Surabaya, Banda Aceh, Indonesia; ³Jl. Bunga Wijaya no. 66, Padang Bulan Selayang, Medan 20131, Sumatera Utara, Indonesia.

Ringkasan: Terdapat enam subspecies Kuntul Kecil *Egretta garzetta*. Satu dari enam subspecies tersebut yaitu subspecies *nigripes* ditemukan tersebar luas di Sumatera, tanpa ada ada catatan berbiak. Survei yang dilakukan pada tahun 2008 mengkonfirmasi bahwa Kuntul Kecil berbiak di Sumatera, dan juga menemukan bahwa subspecies lainnya yaitu *garzetta* juga ditemukan di sepanjang pesisir timur Sumatera.

Introduction

The Little Egret *Egretta garzetta* occurs over much of the Old World from Europe and Africa through India to Australia and New Zealand, (Hancock & Kushlan 1984). Six subspecies are recognized, the most widespread of which is *E. g. garzetta*, found from Europe to East and South-east Asia. Eastern populations of this yellow-footed race are known to breed in southern China, Taiwan, South Korea and Japan, Vietnam and migrate to South-east Asia and Philippines (Hancock & Kushlan 1984; Robson 2008; Davidson 2009). Although a common non-breeding visitor to the Thai-Malay Peninsula and Singapore from September to May (Wells 1999; Keng & Hails 2007), it was not known to breed in Peninsular Malaysia until 2002; since then breeding of *garzetta* has been discovered at four heronries, three of which were well known (Shepherd 2007). The race *nigripes*, distinguished by its black feet, occurs in the Indonesian archipelago and islands of the south-west Pacific (Hancock & Kushlan 1984). This race breeds on Pulau Dua and Pulau Rambut, West Java (Milton & Marhadi 1985; Mardiasuti 2002) and Bali, as well as in Borneo and Sulawesi (Mann 2008; Myers 2009).

In Sumatra, the Little Egret has formerly been regarded as a non-breeding visitor (Marle & Voous 1988; MacKinnon & Phillips 1993), though it has been suspected of breeding on the island (Holmes & Noor 1995; Holmes 1996). Although the only subspecies that has been confirmed from Sumatra is *nigripes* (Marle & Voous 1988; Holmes 1996), MacKinnon & Phillips (1993) claimed that *garzetta* was the most common race here, and in Borneo. Here, we present the results of recent surveys which confirm that the subspecies *garzetta* occurs widely in Sumatra, and that both subspecies breed on the island.

Methods

From January 2008 to January 2009, we conducted systematic searched for breeding colonies of the Little Egret and other waterbirds along the east coast of Sumatra, in three major provinces: Aceh (conducted by AN & MI), North Sumatra (from Bagan

Percut in the north to Tanjung Balai in the south; GI & MI) and South Sumatra (MI). Maps were used to locate potential study areas.

In each study area, we initially interviewed local people to determine the location of breeding colonies. A standard set of questions was asked and answers were recorded on an interview form. Preliminary questions assessed the interviewee's knowledge of waterbirds. Complete interviews were conducted only with people having obvious knowledge of the species. This information was used to target searches for breeding colonies. Routes and transport to identified sites were organised with the assistance of local people. Coastal sites in Aceh and North Sumatra were accessed using vehicular transport (car and motorcycles) or by foot, and a small boat or canoe was used for crossing creeks. In South Sumatra, all sites were accessed by boat. At breeding colonies, we counted the number of each species of heron, and took note of the colour of the feet of all Little Egrets observed, as this is the only reliable means of separating the two likely races (*nigripes* and *garzetta*).

Results

Three confirmed breeding sites were found during this survey: two in Aceh and the other in South Sumatra.

Aceh Province

On 31 December 2008, site 1, located near SMAN 2 (Senior High School 2), Lhokseumawe (5°10'36"N; 97°09'13"E), contained at least 35 occupied nests of Little Egrets, of which up to 20 were *garzetta* (Plate 1) and at least ten were *nigripes*. We did not see any evidence of hybridisation between the two races, or of pairs comprising an individual of each race. On the same day, we saw up to 100 nests of the species at site 2 (5°07'53"N; 97°09'19"E), c. 10 km from site 1. We could not determine the subspecies present at this rookery as it was too distant (c. 0.5-1.0 km) from the nearest point of access.

North Sumatra

On 4 January 2008 we observed a breeding colony of three species of egrets in mangrove forest at Percut Sei Tuan (3°42'53"N; 98°46'46"E). Although Great Egrets *Ardea alba* and Intermediate Egrets *E. intermedia* were observed standing on nests, and Little Egrets were present, none of the latter were seen on nests. Due to the deep mud and tidal water in front of the nesting trees, we were unable to inspect the colony at close range. Most of the Little Egrets observed in North Sumatra during this survey belonged to race *nigripes*, but we have two sightings of *garzetta* in the province. One involved two birds seen in Karang Gading Langkat Timur Nature Reserve (4°07'07" N; 98°21'27"E) on 2 January 2009 (Plate 2), and the other, three birds from a total of 20 Little Egrets in Bagan Percut on 4 January.

South Sumatra Province

On 17 June 2008, a heronry including c. 300 egrets was found at Lake Kumpai (2°26'02"S; 105°34'53"E), Tanjung Selokan (Selokan Bay), Ogan Komering Ilir district, South Sumatra. Most were in breeding plumage. Three pairs of Little Egrets were observed both standing and sitting at nests, but the nests' contents could not be seen. The subspecies was not identified because the birds were so distant from the

observers that it was impossible to obtain a clear view of their feet. The heronry was located in an open mangrove backswamp of c. 15 ha, some 6-7 km from the coast, with nests 2-10 m up in mangrove trees. When the area was visited, the area was flooded to a depth of 10-30 cm. The mangrove trees supporting the nests were identified as an *Avicennia* species. On 15 March 2008, a flock of c. 50 Little Egrets was found near Sugihan Bay (2°24'49"S; 105°33'20"E). At first, it was suspected that all of the birds were of the race *nigripes*, but a few birds had yellowish feet, indicating they were race *garzetta*, and less than 10 birds had black feet with yellow soles, as described for "occasional individuals" of *nigripes* (Kushlan & Hancock 2005). On 30 November 2008, there were two *garzetta* among a total of ten Little Egrets observed at Sungai Lumpur, Ogan Komering Ilir.



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Plate 1: A pair of Little Egrets *E. g. nigripes* standing on their nest in a mangrove tree at Lhokseumawe.



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Plate 2: A Little Egret of race *garzetta* foraging in Karang Gading Langkat Timur Nature Reserve, North Sumatra.

Discussion

Marle & Voous (1988) reviewed the status of Little Egret in Sumatra, and concluded that the species was a non-breeding visitor (*nigripes*) from Java. At Rawa (swamp) Pacing on the Tulang Bawang River, North Lampung, possibly the largest heronries in Sumatra, Holmes & Noor (1995) saw small numbers of Little Egrets in breeding plumage entering the colony, which Holmes (1996) later reported as 'suspected breeding'. Our observations of nests in Lake Kumpai and Lhokseumawe confirm that the Little Egret is now a breeding resident in Sumatra.

On Pulau Rambut, West Java, Little Egrets (*nigripes*) breed from early December to the end of May (Mardiastuti 2002), while at Pulau Dua, also in West Java, they breed for ten months of the year, starting in January or February (Y.R. Noor, unpubl. data). Our observations of nesting at the end of December in Aceh, and probable nesting in June in South Sumatra, therefore fall within the long breeding season on the species. In Peninsular Malaysia, Shepherd (2007) reported *garzetta* breeding in March and October, but did not define the breeding season.

Until now there have been no confirmed records of race *garzetta* in Sumatra. Marle & Voous (1988) concluded that all Little Egrets in Sumatra belonged to the race *nigripes*. During an intensive survey of the tidal lowlands and floodplains of South Sumatra in 1988-1989, Verheugt *et al.* (1993) observed that all Little Egrets had the black feet of the race *nigripes*. MacKinnon & Phillips (1993), on the other hand, asserted that both the yellow-footed (*garzetta*) and black-footed (*nigripes*) subspecies from mainland Asia and Java, respectively, visited Sumatra, and that the former was the commoner of the two. In his review of the Sumatran avifauna Holmes (1996) did not report race *garzetta*, although it was reported from Kalimantan (Holmes 1997). Our observation of *garzetta* in Sugihan Bay on 15 March 2008 therefore constitutes the first confirmed record of this race in Sumatra.

Shepherd (2007) reported an expanding breeding range of *garzetta* in Peninsular Malaysia as far south as Rawang, Selangor. We observed this race breeding at Lhokseumawe, which extends its breeding range c. 600 km westwards from Rawang. We were unable to identify the subspecies of all nesting Little Egrets seen in Sumatra, but it is possible that *nigripes* is also expanding its breeding range westwards from the north-west coast of Java (Pulau Dua and Pulau Rambut) to Sumatra, especially given that Lake Kupai is only 250 km from Pulau Dua.

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