

# The occurrence of the Asian subspecies of the Gull-billed Tern (*Gelochelidon nilotica affinis*) in the Darwin region, Northern Territory

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## Abstract

The Asian subspecies *Gelochelidon nilotica affinis* of Gull-billed Tern breeds in Asia and migrates to northern Australia during its non-breeding season, which is the Australian wet season/summer. A substantial non-breeding population of this tern occurs in northwestern Australia and it is also an uncommon but regular visitor to the northern coasts of Queensland. However, *G. nilotica affinis* remains infrequently reported in the Top End. This fact has prompted us formally to report its occurrence in the Darwin region. Interestingly, our own and other recent reports fall outside its normal wet season/summer visiting period in northern Australia. We comment on the importance of recognising and recording this migratory tern, which is separable from the Australian-breeding subspecies (*G. affinis macrotarsa*) with some care in the field, and include some guidelines to identification of these terns in the field.

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The Gull-billed Tern (*Gelochelidon nilotica*) is a large tern belonging to the family Sternidae. The Australian-breeding subspecies (*G. nilotica macrotarsa*) is widespread throughout Australia and breeds on inland wetlands, lagoons, swamps and lakes (Higgins & Davies 1996). Resident *G. nilotica macrotarsa* is nomadic in its range and is an opportunistic breeder, with breeding influenced by rainfall events inland across the continent. During the non-breeding periods, Gull-billed Terns frequent the coastlines of Australia. In northern Australia there is significant overlap of *G. nilotica macrotarsa* with the Asian-migrant subspecies *G. nilotica affinis*. When coastal, these two subspecies have similar daily routines to migratory shorebirds – feeding over mudflats during low tide, and roosting (not restricted to typical shorebird roosts) during high tide.

The Asian subspecies is a migrant to northern Australia and occurs along coastlines during the Austral summer (the wet season), its non-breeding season. Extralimital records of *G. nilotica affinis* are from southeastern Queensland (Higgins & Davies 1996), New South Wales (James 2011) and Victoria (Carter 2011).

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Rogers (2004) speculated that northern Australia could be a major non-breeding area for *G. nilotica affinis*, and this has subsequently been confirmed. *Gelochelidon nilotica affinis* and *G. nilotica macrotarsa* are routinely identified to subspecies level in the course of regular shorebird surveys of Eighty Mile Beach and Roebuck Bay, and between them these regions regularly hold more than 1000 *G. nilotica affinis* (Rogers *et al.* 2009; Danny Rogers, pers. comm.). Sparse but regular sightings have also been reported from Cairns, but attention has been drawn to the fact that few reports seemed to exist for the Top End (Denning 2011).

There are previous records of *G. nilotica affinis* in the Top End. It was recorded in small numbers in the Darwin area between September and April during the years 1974 to 1980 (McKean 1981). Schodde (1991) reported that specimens were collected from the East and South Alligator Rivers in February 1973 and October 1974, respectively.

The Gull-billed Tern is easily recognised in the field as a large white tern, with a thick black gull-like bill, white above and below, rather long black legs by tern standards, and pointed wings (Higgins & Davies 1996). The Australian subspecies (*G. nilotica macrotarsa*) (Figure 1a) boasts a black cap during the breeding season, with some streaking of the crown usually remaining during the non-breeding season. The Asian subspecies (*G. nilotica affinis*) (Figure 1b) has slightly darker grey back and tail. It is smaller overall, and has a chisel-shaped bill, whereas *G. nilotica macrotarsa* has a proportionately longer bill and slightly drooped tip (Rogers 2004; Figures 1 and 2).

Note, with reference to Figure 2, that when individuals of both subspecies are seen side by side in the field, the smaller size of *G. nilotica affinis* is very obvious. Importantly, *G. nilotica affinis* has a broken black eye-mark, with a black spot around the eye, and another on the ear-coverts; they can be narrowly joined. By contrast, *G. nilotica macrotarsa* has a large continuous black mark from the eye to the ear covert. *Gelochelidon nilotica affinis* has a white lower eyelid, which aids in the division of the black marking between the eye and the ear covert (Rogers 2004). Note also the difference in the shape and size of the bill, and the darker upper parts of *G. nilotica affinis*. The clean white cap is typical of *G. nilotica affinis*, but quite uncommon in *G. nilotica macrotarsa*, which often has black speckling in the crown in non-breeding plumage (Figure 1).

In breeding plumage *G. nilotica affinis* is black-capped, and less easily distinguished from *G. nilotica macrotarsa*. However the timing of pre-breeding moult can often be helpful in identification. The Asian subspecies, a trans-equatorial migrant, is in non-breeding plumage for most of the time in Australia, with breeding plumage only likely to be seen in adults in March or April (just before its northwards migration). In contrast, breeding plumage can be seen in some Australian Gull-billed Terns in all months.

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**Figure 1.** Gull-billed Terns in non-breeding plumage, Lee Point beach, August 2013:  
a. Two individuals of Australian subspecies (*Gelochelidon nilotica macrotarsa*);  
b. Two individuals of Asian subspecies (*G. nilotica affinis*). (Bastiaan J. Hensen)



**Figure 2.** Terns in non-breeding plumage, Lee Point beach, August 2013:  
Individual of Asian subspecies (*Gelochelidon nilotica affinis*) in right foreground;  
individual of Australian subspecies (*Gelochelidon nilotica macrotarsa*) in left foreground;  
individual of Caspian Tern (*Hydroprogne caspia*) in background. (Bastiaan J. Hensen)

To date, there has been no genetic work done on the subspecies of Gull-billed Terns that occur in Australia, however Rogers *et al.* (2005) suspect that if DNA analyses were performed, *G. nilotica affinis* would be resolved as a separate species. The purpose of this short note is to raise awareness of the Asian subspecies in the Northern Territory, and to increase the reporting rate of this migratory tern by field observers. Birdwatchers may be interested in an ‘armchair tick’ in the instance that *G. nilotica affinis* is indeed awarded full-species status.

Some recent observations of *G. nilotica affinis* in the Darwin region have been made on the northern beaches of Darwin (Table 1). Note that the sightings are outside the normal migratory summer (September–April) season, and as such are of particular interest.

**Table 1.** Compilation of reports of Gull-billed Terns in the Darwin region, Northern Territory.

| Date       | Location              | Reference (comment)   |
|------------|-----------------------|---|
| 10/1974    | South Alligator River | Report by Schodde (1991)<br>( <i>G. nilotica affinis</i> ) (specimen collected) |
| 1989       | Leanyer Sewage Ponds  | Hillary Thompson<br>( <i>G. nilotica affinis</i> ) (specimen collected)         |
| 31/10/1998 | Leanyer Sewage Ponds  | Niven McCrie<br>(11/12 birds were <i>G. nilotica affinis</i> )                  |
| 11/03/2005 | Lee Point             | Bastiaan Hensen<br>( <i>G. nilotica affinis</i> )                               |
| 24/03/2005 | Lee Point             | Bastiaan Hensen<br>( <i>G. nilotica affinis</i> )                               |
| 2/10/2005  | Lee Point             | Arthur and Sheryl Keates<br>(1 <i>G. nilotica affinis</i> )                     |
| 16/10/2005 | Lee Point             | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                     |
| 1/11/2005  | Lee Point             | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                     |
| 21/10/2006 | Lee Point             | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                     |
| 4/11/2006  | Lee Point             | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                     |

(continued)

**Table 1.** Continued.

| <b>Date</b> | <b>Location</b>      | <b>Reference (comment)</b>  |
|-------------|----------------------|---|
| 28/09/2008  | Lee Point            | Arthur and Sheryl Keates<br>(1 <i>G. nilotica affinis</i> )                                 |
| 29/09/2008  | Lee Point            | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                                 |
| 13/10/2008  | Lee Point            | Arthur and Sheryl Keates<br>(1 <i>G. nilotica affinis</i> )                                 |
| 20/09/2009  | Lee Point            | Arthur and Sheryl Keates<br>(1 <i>G. nilotica affinis</i> )                                 |
| 25/09/2009  | Lee Point            | Arthur and Sheryl Keates<br>(2 <i>G. nilotica affinis</i> )                                 |
| 11/03/2011  | Lee Point            | Bastiaan Hensen<br>( <i>G. nilotica affinis</i> )   |
| 14/10/2011  | Leanyer Sewage Ponds | Bastiaan Hensen<br>( <i>G. nilotica affinis</i> )   |
| 21/05/2013  | Leanyer Sewage Ponds | Gus Daly (sighting of both subspecies,<br>reported on Eremaea)                              |
| 26/05/2013  | Leanyer Sewage Ponds | Gus Daly (sighting of both subspecies,<br>reported on Eremaea)                              |
| 4/07/2013   | Leanyer Sewage Ponds | Gus Daly (sighting of both subspecies,<br>reported on Eremaea)                              |
| 5/07/2013   | Leanyer Sewage Ponds | Gus Daly (sighting of both subspecies,<br>reported on Eremaea)                              |
| 12/08/2013  | Lee Point            | Amanda Lilleyman and Bastiaan Hensen<br>(sighting of both subspecies)<br>(see Figures 1, 2) |

We believe that with some care, field observers can readily distinguish the two subspecies of Gull-billed Terns occurring in the Darwin region, thus facilitating a more thorough investigation of population size and regional distribution of both of them.

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