

The Yellow-lipped Sea Krait (*Laticauda colubrina*) in the Northern Territory

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Abstract

The first authenticated record of the Yellow-lipped Sea Krait (*Laticauda colubrina*) in the Northern Territory resulted from a request to remove a snake from the grounds of the Sky City Casino, on the eastern shores of Darwin Harbour, in October 2014. The colouration of the snake, a female, closely resembled museum specimens from Indonesia. Speculation on its presence in Darwin Harbour include being a ship's stowaway, swimming from nearby Indonesian islands, or a member of an, as yet, unauthenticated Northern Territory population from the islands of Arnhem Land. The sea krait was released alive in the mangrove habitat at East Point Reserve.

The sea kraits are a subfamily (Laticaudinae) of elapid snakes that inhabit the seas from the eastern coast of India to Samoa and Niue in the Pacific Ocean, extending north to Taiwan and the islands of southern Japan and south to New Caledonia (Cogger 2014). Records beyond this distribution are attributed to vagrants dislodged by storms or carried on prevailing currents (Gill & Whitaker 2014). Extra-limital records of *Laticauda* come from Queensland and New South Wales (Smith 1926; Cogger 1975, 2014), Tasmania (Lord 1919), New Zealand (McCann 1966; Gill 1997; Gill & Whitaker 2014), the waters of Russia (Chugunov 1980), and there are even unconfirmed reports from Nicaragua and Mexico (in Dunson 1975). Unlike other sea snakes (Hydrophiinae), sea kraits are amphibious and lay eggs on land (Smith 1926; Cogger 2014), and display high site fidelity (Guinea 1986; Shetty 2000). Two species are recorded from Australian waters – the Yellow-lipped Sea Krait (*Laticauda colubrina*) and the Black-lipped Sea Krait (*Laticauda laticaudata*), although no breeding colonies have been verified. Recently, Rasmussen *et al.* (2014: 356) supported the observations by Cogger & Heatwole (2006) by concluding “We have found no further specimens reported from Australia indicating that *Laticauda* is not breeding in Australian waters,

despite there being breeding populations from surrounding countries (Bonnet *et al.* 2009; Brischox & Bonnet 2009).” Substantial populations of *Laticauda guineai* share the northern Australian continental shelf with Papua New Guinea (Cogger & Heatwole 2006). The absence of sea kraits from the Australian sea snake fauna has been attributed to a cold water barrier in the Timor Sea during the lower sea levels of the Pleistocene (Cogger 1995), or by competitive exclusion by the more numerous and speciose sea snakes of the genus *Aipysurus* (McCarthy 1986), or from a lack of survey effort on the vast northern coastline (Heatwole & Guinea 1993). Therefore, the discovery of a specimen of *Laticauda* ashore in the Northern Territory is significant given our lack of understanding of factors limiting the distribution of species of this genus. The mangrove-lined shores of Darwin Harbour interspersed with rocky headlands and sandy beaches are similar to the habitats occupied by *L. colubrina* in Fiji (Guinea 1986) and in Bali, Indonesia (Mick Guinea, pers. obs.).

On Saturday 18 October 2014, contract snake catcher PM answered a call to remove a snake from the Sky City Casino (12°26.883'S, 130°49.804'E) at Mindil Beach on the eastern shore of Darwin Harbour (Anonymous 2014). The snake (Figure 1) was a female Yellow-lipped Sea Krait (*Laticauda colubrina*), 127 cm in total length with a tail length of 14 cm. It was taken to the Wildlife Operations Unit of Northern Territory Parks and Wildlife Commission at Berrimah, where it was formally identified and a tissue sample (consisting of some belly scales, which are presently deposited in the Flora and Fauna Division, Berrimah, under Reference Number CCM4057, and will ultimately be deposited in the South Australian Museum) was taken for future study (Terry Mahney, pers. comm.). The snake was released unharmed at East Point in Darwin Harbour two days later. The appearance of this individual in Darwin Harbour raises questions as to its origin and how it arrived on Mindil Beach.

Populations of *Laticauda colubrina* are well established on the Indonesian islands north of Darwin. These include Roti, Timor (including Timor-Leste), Tanimbar, Aru and Papua (De Rooij 1917, Heatwole *et al.* 2005). Colouration, body pattern and genetics have separated *L. colubrina* from its regionally restricted congeners *L. guineai* from Papua New Guinea and *L. saintgironsi* from New Caledonia (Heatwole *et al.* 2005; Cogger & Heatwole 2006; Lane & Shine 2011). The Darwin Harbour specimen had 39 narrow black bands along its body and tail that indicated a closer affinity to the Southeast Asian populations than to populations in the Pacific Ocean. The pattern and colouration of the Darwin Harbour specimen more closely resembled a specimen (WAM R.40116) from Aru, Indonesia, in the herpetological collection of the Western Australian Museum than a specimen (NTM R.2855 possibly *L. guineai*) with more bands from Port Moresby, Papua New Guinea, held in the Museum and Art Gallery of the Northern Territory reptile collection.

The sea krait either arrived in Darwin Harbour by swimming from nearby islands in Indonesia or was transported as a stowaway aboard a vessel. Due to the arboreal and



Figure 1. The Yellow-lipped Sea Krait captured at Mindil Beach, Darwin Harbour. (Ray Chatto)

amphibious habits of this species (Guinea 1986; Shine & Shetty 2001; Bonnet *et al.* 2005), entering a boat as stowaway is the more likely scenario. Alternatively, the specimen could belong to a local unauthenticated population from Brumby Island in Arnhem Land (Chatto & Baker 2008).

A possible specimen of *Laticauda* sp. was also observed in a rock pool at East Point, Darwin Harbour, by D.L.C. in the 1980's, but it was not collected. Although the specimen reported here from Mindil Beach is the first authenticated record of *L. colubrina* in Darwin Harbour, its presence in Northern Territory waters poses some interesting questions. Could more individuals establish a resident population? How might climate change affect the distribution of sea snakes in the future by altering habitats, ocean currents and temperatures? More research into the factors limiting the distribution of this species is required to answer these questions.

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