

# ***Lapemis hardwickii***

Ina Ansmann, 2002

Authority: Gray, 1835

**Common Names:** Hardwick's sea snake; Hardwicke's sea snake; Spine-bellied sea snake

**Description** (Cogger 2000; Heatwole 1987; Mirtschin and Davis 1992; Shine 1994; Smith 1926; Ward 2001): Australian *L. hardwickii* have a distinct colour pattern. A zigzag line divides the body into upper and lower half – the upper being of an olive-grey colour which darkens towards the top of the body and the lower half being cream-yellowish in colour. This colouration varies in juveniles and some adults in that they also show dark grey dorsal blotches, which may form bands around the whole body. Additionally some individuals may exhibit a dark stripe along the ventral surface. The head colouration varies from olive to black and there may be yellow patterns present along the sides and across the mouth.

This sea snake's large head is characterised by large, regular shields and its relatively short body by indistinct ventral scales that are not enlarged compared to the scales of the rest of the body. They have between 110 and 240 ventrals, females generally possessing more than males. The body scales form 23-45 rows, are squarish or hexagonal and juxtaposed. In the lower body area the scales also exhibit tubercles which are larger in males than females. Scales towards the front of body express stronger keeling in males than females.

There are varying reports on the body length of this species. Cogger (2000) mentions an average total length of 1 metre. Smith (1926) speaks of 86cm total length, of which 8.5cm make up the tail. In Shine (1994) the average snout-vent-length (SVL) is 84cm in males and 79cm in females. Ward (2001) records SVL ranges of 50-126cm in males and 42-120cm in females with the highest abundances found between 80 and 90cm in males and between 100 and 110cm in females. He also notes that *L. hardwickii* is of larger size in Australian waters than in the South East Asian areas of its range.

*L. hardwickii* is potentially dangerous to humans since its fangs, which are on average 3.3mm long, deliver twice the dose of neurotoxic venom that is lethal to humans.

**Similar species** (Heatwole 1987; Heatwole 1999; Smith 1926): There is some confusion over the relationship between *L. hardwickii* and *L. curtus*. Heatwole, for example, states in his original book *Sea Snakes* (1987) that there are four species in the genus *Lapemis*. The only one he further talks about throughout the book is *L. hardwickii*. However, in the newer 1999 version of *Sea Snakes*, Heatwole lists the genus *Lapemis* as consisting of only one species and has changed *L. hardwickii* to *L. curtus* throughout the text, but he still uses the common name Hardwick's sea snake. Smith (1926) describes the two as different species with the main identifying character being the ventrals, which are small or even absent in *L. hardwickii* versus distinct in *L. curtus*. He also outlines a different distribution of *L. curtus* being located further West, ie. from Arabia to India.

**Range** (Cogger 2000; Smith 1926): *L. hardwickii* is common in the tropical regions off of Australia as well as stretching north throughout Asian waters to the Mergui Archipelago and southern Japan.

**Ecology and behaviour** (Cogger 2000; Glodek and Voris 1982; Shine 1994): This sea snake inhabits many different habitats, including estuaries and coral reefs. It differs from most other sea snakes in that while most others are specialised on few kinds of prey items (eg. certain fish families), *L. hardwickii* is a generalist feeder. Its prey consists of 90% fishes (including 21 different families) and 10% invertebrates (squid and cuttlefish). Where it co-occurs with other species of sea snakes, their diets often overlap and *L. hardwickii* is usually dominant or co-dominant.

**Breeding biology** (Shine 1994; Ward 2001): *L. hardwickii* reproduces annually. Mating takes place between May and July, followed by ovulation during the months of August to September. Gestation then occurs from August/September through to December. During this period, gravid females migrate into the shallow waters of bays or estuaries, which provide shelters for them and their offspring. Ward (2001) found that females become sexually mature (as shown by eggs being present in the oviduct) at a minimum size of 76cm (SVL) and 2 years of age. He found the mean clutch size to be 8.5 but he notes that it is less in South East Asian *L. hardwickii*. Shine (1994) lists an average clutch size of 3. He also states an average SVL of the live-born offspring of 31cm at birth. Ward (2001) records this value to be approximately 24-28cm.

#### **Literature cited:**

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