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TITLE: *Hydrophis donaldi* (Elapidae, Hydrophiinae), a highly distinctive new species of sea snake from northern Australia

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ABSTRACT:

A new species of viviparous sea snake, *Hydrophis donaldi* sp. nov. (Hydrophiinae), is described from the Gulf of Carpentaria, northern Australia. Molecular analyses reveal this species as a deeply divergent lineage within the *Hydrophis* sub-group, and separate it from all other sampled taxa by fixed nucleotide substitutions at three independent mitochondrial and nuclear loci. The new species is assigned to *Hydrophis* based on the current morphological diagnosis of this large but paraphyletic genus, and is distinguished from all other *Hydrophis* species and closely allied genera by a combination of morphological characters relating to scalation, colour pattern and osteology. Using current keys for sea snakes, *H. donaldi* sp. nov. might be mistaken for *H. coggeri*, *H. sibauensis* or *H. torquatus* *diadema* but it is readily distinguished from these species by a higher number of bands on the body and tail, lower ventral count, strongly spinous body scales, and a wider, more rounded head. Sea snakes have been sampled intensively in the Gulf of Carpentaria due to their vulnerability to by-catch in the region's commercial prawn-trawl fisheries. That this highly distinctive new species has evaded discovery in the region until now is surprising, but might be explained by its habitat preferences. All known specimens of *H. donaldi* sp. nov. were found in estuarine habitats that are relatively poorly surveyed and are not targeted by commercial fisheries.

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