

A new *Pseudonaja* (Serpentes: Elapidae) from Western Australia

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Abstract

The Rottneest Island dugite is described as a new subspecies

Pseudonaja affinis exilis subsp. nov.

Holotype

19870 in Western Australian Museum, collected by B. Davies on Rottneest Island, Western Australia (32°00'S, 115°31'E) on 8 September 1960.

Paratypes (all in W.A. Mus.)

South-west Division (WA)

Rottneest I. (3294, 12794-7, 14922, 15028-9, 19867, 23998, 28896, 48633, 56888, 83928, 87904).

Diagnosis

Differing from *P. a. affinis* of opposite mainland in its smaller size (total length up to 1162, v. 1795 mm), more slender habit, shorter tail, more longitudinal scale rows before vent, fewer subcaudals, more postoculars and much darker adult coloration.

Description

Snout-vent length 223-1005 mm (N 16, mean 611). Tail length (% SVL) 15.0-17.1 (N 16, mean 16.1).

Postoculars 2 (N 7) or 3 (6). Midbody scale rows 19 (N 14), increasing on neck to 21-25 (N 14, mean 22.9) and decreasing before vent to 17 (N 13) or 18 (1). Ventrals 207-219 (N 12, mean 213.9). Subcaudals 48-57 (N 12, mean 53.3).

Adult: upper and lateral surfaces black or blackish brown; lower surface dark grey, dark brown or brown with ventrals edged dark brown. Juvenile: head and neck black; back and tail pale brown; lower surface whitish.

[For comparison, measurements and meristics are given for a sample of *P. a. affinis* from opposite mainland, i.e. the Swan Coastal Plain between Gingin and Pinjarra. Snout-vent length 215-1550 mm (N 68, mean 849). Tail length (% SVL) 14.4-20.7 (N 67, mean 17.9). Postoculars 2 (N 28) or 3 (7). Midbody scale rows 17 (N 1), 18 (1) or 19 (66), increasing on neck to 20-26 (N 43, mean 23.0) and decreasing before vent to 15 (N 17), 16 (13) or 17 (8). Ventrals 203-226 (N 30, mean 216.4). Subcaudals 52-64 (N 30, mean 58.2).]

Derivation of name

Latin for small or slender.

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Discussion

In a study of the tiger snakes *Notechis scutatus* on islands off the South Australian coast, Schwaner (1985) discovered a correlation between size of snake and size of prey. For example, the largest snakes (SVL up to 1324 mm) were found on the Franklin Islands, where they fed on mammals weighing up to 300 g; the smallest snakes (SVL up to 785 mm) were on Roxby Island, where the largest prey was lizards weighing up to 10g.

Possibly size in the dugite is similarly dependent on size of prey. The mainland race *P. a. affinis* evolved in a region inhabited by numerous small terrestrial mammals (Muridae, Peramelidae and Dasyuridae). Apart from the recently introduced house mouse, there are no rodents or other small mammals on Rottneest Island; when they died out is unknown, but presumably throughout much of its evolution *P. a. exilis* has had (like juvenile *D. a. affinis*) to live mainly on lizards.

There is another small insular race of dugite, viz. *P. a. tanneri* of the Archipelago of the Recherche. For a brief description of *tanneri* and for colour photographs of *P. a. affinis* and *P. a. exilis* see Storr *et al.* (1986). For the distribution of subspecies in Western Australia see map, Figure 1.

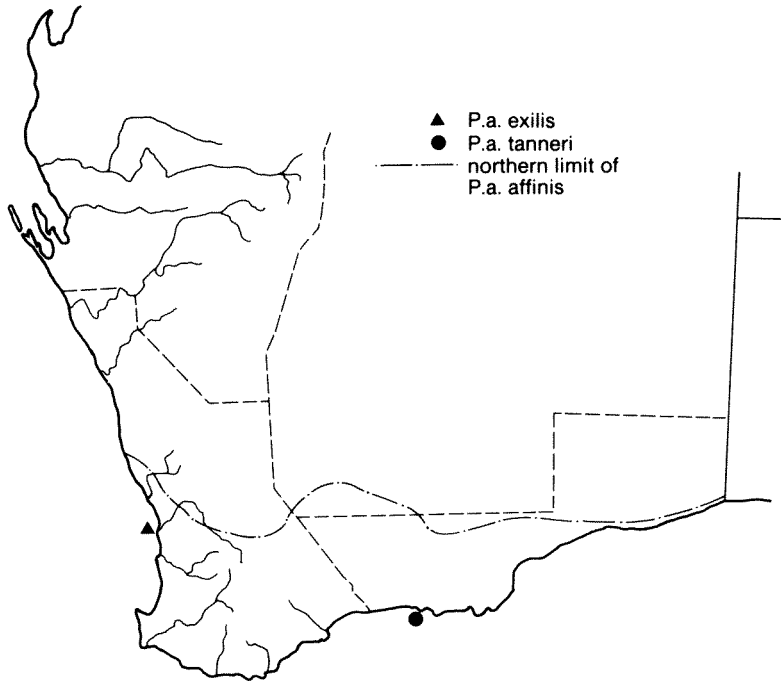


Figure 1 Map of southern Western Australia showing location of *Pseudonaja affinis exilis* and *P.a. tanneri* and northern limit of *P.a. affinis*.

References

- Schwaner, T.D. (1985). Population structure of black tiger snakes, *Notechis ater niger*, on offshore islands of South Australia. In *Biology of Australian Frogs and Reptiles* (eds G. Grigg, R. Shine and H. Ehmann, pp. 35-46. Beatty, Chipping Norton.
- Storr, G.M., Smith, L.A. and Johnstone, R.E. (1986). *Snakes of Western Australia*. West. Aust. Mus., Perth.