

THE *DENISONIA GOULDII* SPECIES-GROUP (SERPENTES, ELAPIDAE) IN WESTERN AUSTRALIA

G.M. STORR*

ABSTRACT

The Hooded Snakes, variously placed in *Denisonia*, *Unechis*, *Parasuta* or *Cryptophis*, are herein treated as a species-group within the large genus *Denisonia* Krefft. In Western Australia this species-group is represented by *Denisonia nigriceps* (Günther), *D. monachus* Storr, *D. gouldii* (Gray) and *D. spectabilis* (Krefft). The western representative of *D. spectabilis* is described as a new subspecies *D. s. nullarbor*. *D. s. spectabilis* of South Australia is redescribed.

INTRODUCTION

Boulenger's concept of the genus *Denisonia* (Boulenger, 1896) satisfied herpetologists for 65 years, even though it was zoogeographically anomalous in including species from the Solomon Islands but no others from outside of Australia and Tasmania.

In 1961 Worrell began the dismemberment of *Denisonia* by proposing five new genera, namely *Drysdalia* (for *coronoides*, *mastersii* and *coronata*), *Unechis* (*carpentariae*), *Suta* (*suta*), *Parasuta* (*gouldii* and *nigrostriata*) and *Cryptophis* (*pallidiceps*, *nigrescens*, *flagellum* and *dwyeri*); he restricted *Denisonia* to *D. maculata*, *devisi* and *fasciata*. Worrell's concepts of *Denisonia* and *Drysdalia* have been largely accepted, but the other four genera have been combined and redefined in as many ways as there are investigators.

Reappraisal of the genera of Australian Elapidae has thus become urgent. McDowell (1967, 1969) provided many valuable insights into the subject, but his survey of two characters (venom gland musculature and morphology of the hemipenis) constituted a starting point, not a framework, for a broadly based phylogeny of Australian elapids. Until such a phylogeny is produced it seems best to divide *Denisonia* informally, i.e. into species-groups. The present paper deals with the western members of one such group. For a review of the eastern members see Coventry (1971).

* Western Australian Museum, Francis Street, Perth, Western Australia 6000.

This revision is largely based on material in the Western Australian Museum (registered numbers cited without R prefix). I am grateful to Ms A. Edwards for the loan of Eyre Peninsula specimens in the South Australian Museum (SAM) and to Dr A.E. Greer for the loan of the syntypes of *Hoplocephalus spectabilis* Krefft in the Australian Museum (AM). Mr H. Ehmman of Sydney has kindly summarised for me the results of his unpublished revision of *Unechis*.

SYSTEMATICS

Denisonia gouldii species-group

Small cryptozoic elapid snakes that feed on small snakes and lizards. Head flat, without a canthus rostralis; eye small; little or no narrowing at neck; tail short (except in *D. nigrostriata*). Head shields typically elapine, i.e. there is no fragmentation and no fusion (except for temporals in *D. monachus*); preocular separated from frontal and normally in contact with nasal; upper labials 6; lower labials 7; midbody scale rows 15 (mostly 17 in *D. flagellum*), normally reducing to 13 well before vent. Head and nape black, broken or not by pale markings; a dark vertebral stripe in two species (*D. nigriceps* and *nigrostriata*), otherwise dorsals with or without dark edging or basal spot; ventral surfaces pearly white.

Seven species in southern and eastern Australia: *Denisonia nigrostriata* (Krefft, 1864), *D. nigriceps* (Günther, 1863); *D. monachus* Storr, 1964; *D. gouldii* (Gray, 1841); *D. spectabilis* (Krefft, 1869); *D. flagellum* (McCoy, 1878); *D. dwyeri* Worrell, 1956.

Key to Western Australian Species

- 1 Narrow to broad, more or less diffuse, black stripe or zone along middle of back and tail *D. nigriceps*
 No black vertebral stripe or zone 2
- 2 Black hood broken by pale spot or bar in front of eye and extending back on to first 4-9 vertebral scales; dorsals with dark edge or dark basal spot; two secondary temporals 3
 Black hood usually not broken and extending back on to first 1-6 vertebrae; dorsals red without black markings; one secondary temporal (except in Hamersley Range) *D. monachus*

- 3 Dorsals reddish brown, black edging of scales giving a reticulate pattern; ventrals usually more than 160 *D. gouldii*
- Dorsals greyish brown with a dark basal spot and no reticulate pattern; ventrals usually fewer than 160 *D. spectabilis*

Denisonia nigriceps

(Fig. 1)

Hoplocephalus nigriceps Günther, 1863, Ann. Mag. nat. Hist. (3) 12: 362.

Denisonia nigrostriata brevicauda Mitchell, 1951, Rec. S. Aust. Mus. 9: 50.
Fowlers Bay, S.A.

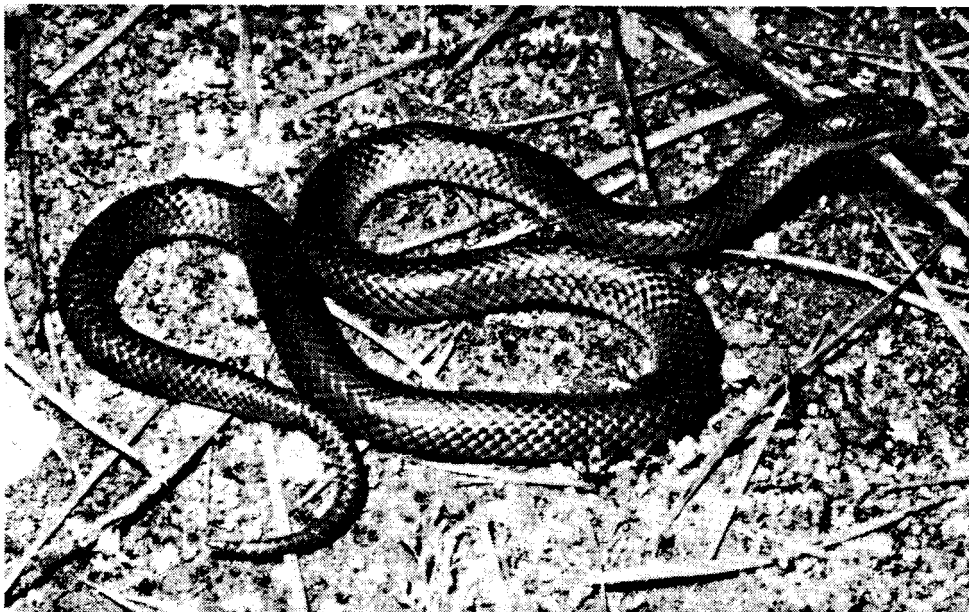


Fig. 1: A *Denisonia nigriceps* from Perth, photographed by G. Harold.

Diagnosis

A large, stout member of the *D. gouldii* group distinguishable from all other members, except *D. nigrostriata* of eastern Queensland, by black dorsal stripe. Distinguishable from *D. nigrostriata* by stouter body, very much shorter tail (less than 16% of SVL) and many fewer subcaudals (fewer than 35).

Distribution

Southern Western Australia, north to Dandaragan, Gingin, Mundaring, Bruce Rock, Holleton, Widgiemooltha and Cocklebidy, but absent from far south (east of Scott River and south of Bridgetown, Mt Barker and Bremer Bay) (see Fig. 2). Also southern South Australia, south-western New South Wales and north-western Victoria.

- *D. nigriceps*
- ▲ *D. monachus*

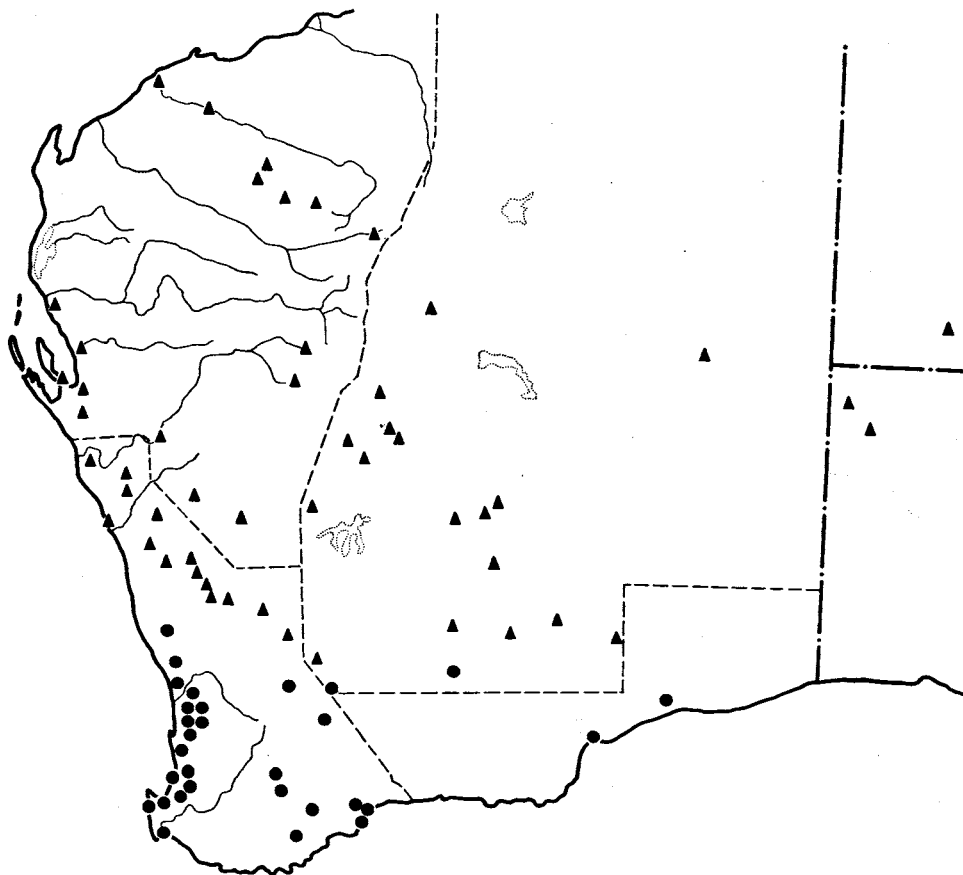


Fig. 2: Southern Western Australia showing location of specimens of *Denisonia nigriceps* and *D. monachus*.

Description

Snout-vent length (mm): 169-530 (N 65, mean 329.2). Length of tail (% SVL): 9.9-15.2 (N 63, mean 12.3).

Internasals 0.5-0.95 (N 48, mean 0.70) times as long as prefrontals. Frontal 1.4-1.9 (N 48, mean 1.69) times as long as wide, 1.8-2.4 (N 46, mean 2.11) times as wide as supraoculars; posterior facets more strongly concave than in other species; posterior apex acute but rounded. Preocular usually widely separated from frontal and usually in very short contact with nasal. Postoculars usually 2, upper nearly always the larger. Temporals 2 + 2. Upper labials 6. Lower labials 7. Midbody scale rows 15, increasing to 19-21 on neck (N 49, mean 20.0) and normally decreasing to 13 well before vent (2 specimens have 15 and one specimen has 12 rows just before vent). Ventrals 148-171 (N 59, mean 158.3). Subcaudals 19-33 (N 63, mean 25.9). Ventrals plus subcaudals 169-197 (N 59, mean 184.2).

Head and nape glossy greyish black, continuous with a greyish black vertebral stripe or zone 0-9 (N 47, mean 4.7) scales wide, more or less sharply delimited from laterals, which are whitish with a dark purplish (sometimes reddish) brown basal blotch (blotches becoming larger and blacker dorsally and gradually merging with wholly dark scales of back). Lips and lower surface whitish.

Geographic variation

In the western population (east to Widgiemooltha) the number of ventrals (and to a lesser extent subcaudals) decrease from north-west to south-east. For example, north of latitude 32°30'S ventrals range from 156 to 164 (N 15, mean 160.6); south of 34°S ventrals range from 149 to 159 (N 14, mean 153.8). These data indicate that the holotype of *D. nigriceps* (ventrals 148) probably came from the hinterland of King George Sound.

The eastern populations (Eucla Division and South Australia) differ from the western in their slightly longer tail (12.4-14.8% of SVL, N 8, mean 13.8; *vs* 9.9-15.2, N 55, mean 12.1), more numerous subcaudals (26-33, N 9, mean 29.6; *vs* 19-32, N 54, mean 25.3) and the tendency for a small pale blotch to form in front of the eye. These differences seem too slight for recognising an eastern subspecies *brevicauda*.

Material

South-West Division (W.A.): Dandaragan (9262); Gingin (8461); Wanneroo (68992); Mussel Pool (51562); Bruce Rock (474); East Muntadgin, 63 km E of Narembeen (51167, 68274); Mundaring Weir (15666, 15827, 19986, 39738); Helena Valley (31539); Kalamunda (47791); Pickering Brook (14047); Canning Dam (9842); Mt Dale (56104); 8 km SE of Byford (29821); Jarrahdale (10509); Mt Cooke (12648, 34547-8); Hyden (10694); Huntly (5397-8); Wagerup (19048); Yarloop (7338, 9229); Bunbury (19801); 25 km W of Collie (49257); Dongolocking Reserve (33°02'S, 117°43'E) (49648); Badgebup (3432); Lowden (6600, 6727, 8123); Argyle

State Forest, S of Donnybrook (68374); near Busselton (25904, 26840, 47655); Yelverton (12132); Ongerup (29792) and 10 km SE (42623, 42625); middle Fitzgerald River (36867-9, 36936, 37040); lower Fitzgerald River (36809, 36836); Doubtful Island Bay (19791, 19793-4); 12 km S of Chester Pass (31978); Scott River (36042).

Eastern Division (W.A.): Wanaway, 10 km SSW of Widgiemooltha (4693).

Eucla Division (W.A.): Mullendunya Tank (32°53'S, 124°35'E) (45360); Cocklebiddy (66497).

South Australia: Denial Bay (SAM R117); Flinders I. (SAM R13147); Yardea (SAM R15121); Iron Duke (SAM R17357); Moonabie Hill (SAM R14453); 20 km NNE of Hawker (55496, 55801).

Denisonia monachus

(Fig. 3)

Denisonia monachus Storr, 1964, West. Aust. Nat. 9: 88. Kalgoorlie, W.A.



Fig. 3: A *Denisonia monachus* from Linden, photographed by G. Harold.

Diagnosis

A small member of the *D. gouldii* group without a dorsal stripe and normally with black hood unbroken by pale markings; further distinguishable from all other members of group by single secondary temporal. (Speci-

mens from the Hamersley Range are moderately large and have two secondary temporals.)

Distribution

Western arid and semiarid zones of Western Australia, north to the lower Fortescue and Hamersley Range; east to Mundiwindi, Well 6 (Canning Stock Route), Kathleen Valley, Laverton, and Naretha; and south to Geraldton, Three Springs, Dalwallinu, Mukinbudin, Westonia and Kalgoorlie. Also an apparently isolated population in far east of Western Australia (Warburton Range), south-western Northern Territory and north-western South Australia. (See Fig. 2.)

Description

Snout-vent length 123-460 (N 89, mean 271.1). Length of tail (% SVL): 10.8-15.3 (N 85, mean 12.8).

Internasals 0.55-0.8 (N 33, mean 0.74) times as long as prefrontal. Frontal 1.1-1.85 (N 55, mean 1.53) times as long as wide, and 1.8-2.9 (N 56, mean 2.31) times as wide as supraoculars. Preocular separated from frontal and in short contact with nasal (rarely narrowly separated). Postoculars 2. Primary temporals 1 (18% of specimens) or 2 (lower occasionally reaching lip). Secondary temporals 1 (2 in Hamersley Range). Upper labials 6. Lower labials 7. Midbody scale rows 15, increasing to 15-21 on neck (usually 17 or 19, N 19, mean 18.0) and normally decreasing to 13 well before vent (14 just before vent in one specimen, 15 in another). Ventrals 153-171 (N 48, mean 163.7). Subcaudals 21-33 (only one specimen with fewer than 24, N 54, mean 28.0). Ventrals plus subcaudals 178-200 (N 48, mean 191.4).

Top of head glossy black, black extending back on to first 1-6 (N 85, mean 3.6) vertebrals. Rest of upper surface bright brick-red. Lips and under surface white.

Geographic variation

In the western populations size increases from south to north. For example, no specimen from south of a line joining Wooramel and Laverton exceeds 370 mm in snout-vent length; whereas four specimens from north of that line exceed 400 mm. All specimens from the Hamersley and Ophthalmia Ranges, and none from elsewhere, have 2 + 2 temporals. Two of three specimens from the Warburton Range have a pale spot in front of each eye.

Material

North-West Division (W.A.): Fortescue River at North-West Coastal Highway (57355); Millstream (20081, 57358); near Mt Bruce (51654, 54338, 62460); 64 km NNE of Paraburdoo (64666); 27 km SE of Mt Meharry

(66321); 48 km W of Mt Newman (54215); Mundiwindi (42912); Callagiddy (40696); Wooramel (54598, 54990); Karalundi (42650); 19 km N of Meekatharra (34591); 15 km S of Nanga (54586); Overlander (21217); 16 km SSW of Wannoo (64428-9); Billabong (50092-3, 51671-2); 32 km W of Yalgoo (51033); Burnerbinmah (29614).

South-West Division (W.A.): 42 km ESE of Kalbarri (33811); 47 km NNE of Yuna (57540) and 35 km NE (26504) and 29 km NE (57561-4) and 25 km NE (57538); Wilroy (57664); Geraldton (9845, 25903); Newmarracarra (1718-9, 21221); Mingenew (2918), Three Springs (4843); Perenjori (15132); Bunjil (1273-4); Maya (21876, 31192), Buntine Reserve (43656, 44924); Buntine (27132-4); Nugadong (58776); 12 km NE of Dalwallinu (51104) and 23 km E (53162), Cleary (29602-4); Mukinbudin (29739).

Eastern Division (W.A.): Well 6, Canning Stock Route (27247); Warburton Range (22003, 22084-5); 10 km S of Wiluna (31525); Gidgee (6589); Albion Downs (30977); Kathleen Valley (14368, 19776-7); Booylgoo Spring (1111, 2992); Youanmi (28091); Laverton (11475, 41774); Mt Margaret (17682); Malcolm (41778); Yarri (46619); Kalgoorlie (20606); Eastern Goldfields (450, 26632); Karonie (29671); Cundeelee (21711); Kanandah (37896); Naretha (15084, 29670, 37657-8); Westonia (39800).

Northern Territory: Ayers Rock (46639).

South Australia: Mt Lindsay (31786) and 64 km NW (31726).

Denisonia gouldii

(Fig. 4)

Elaps gouldii Gray 1841, In: G. Grey's Journals of two expeditions of discovery in north-west and western Australia during the years 1837, 38 and 39. 2: 444. Western Australia.

Diagnosis

A medium-sized member of the *D. gouldii* group without a dorsal stripe and with black hood broken by a pale mark in front of eye. Most like *D. spectabilis* but differing in its greater size; reddish, black-edged dorsal scales; and more numerous ventrals and subcaudals.

Distribution

Southern Western Australia east to the western hinterland of the Great Australian Bight (Mt Coobaninya) and generally north to Eneabba, Coorow, Koorda, Corinthian and Kalgoorlie, with an apparently isolated population much further north on the middle Murchison (Billabalong). Absent from deep south-west (south of Bunbury and west of Walpole). (See Fig. 5.)



Fig. 4: A *Denisonia gouldii* from Yanchep, photographed by G. Harold.

- *D. gouldii*
- ▲ *D. s. nullarbor*

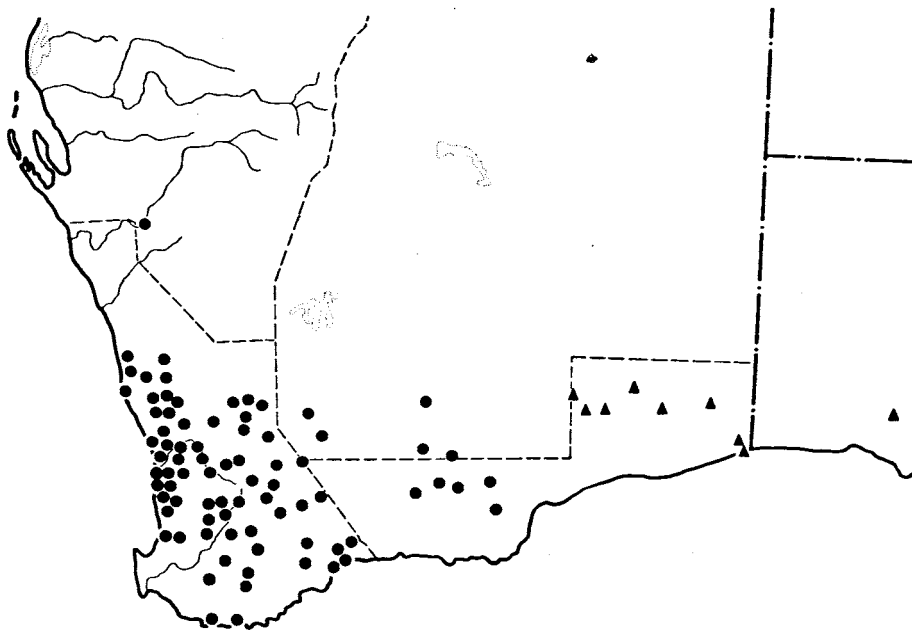


Fig. 5: Southern Western Australia showing location of specimens of *Denisonia gouldii* and *D. spectabilis nullarbor*.

Description

Snout-vent length (mm): 131-469 (N 347, mean 296.8). Length of tail (% SVL): 10.3-15.9 (N 160, mean 13.3).

Internasals 0.6-0.9 (N 42, mean 0.72) times as long as prefrontals. Frontal 1.2-1.8 (N 45, mean 1.49) times as long as wide, and 1.8-2.7 (N 41, mean 2.14) times as wide as supraoculars. Preocular widely separated from frontal and in short contact with nasal. Postoculars 2. Temporals 2 + 2. Upper labials 6. Lower labials 7. Midbody scale rows 15, increasing to 18-22 (N 45, mean 20.3) on neck, and decreasing to 13 before vent. Ventrals 153-177 (N 57, mean 165.5). Subcaudals 25-38 (N 66, mean 31.5). Ventrals plus subcaudals 183-212 (N 57, mean 196.8).

Head and nape glossy black, broken by orange-brown mark in front of eye (fading to creamy or brownish white in alcohol), black extending back on to first 4-9 (N 65, mean 6.4) vertebrae. Rest of upper surface orange-brown or reddish brown, each scale finely edged with black (giving dorsum a reticulate pattern); dorsals in some specimens (especially on side of body) with dark basal blotch. Lips and lower surfaces whitish.

Material

North-West Division (W.A.): Billabalong (51673).

South-West Division (W.A.): Stockyard Gully, near Eneabba (28087-9); 15 km N of Marchagee (49994, 57799); 4 km E of Mt Peron (48991, 49008-9); Watheroo (2085); 25 km NNW of Badgingarra (67422) and 18 km N (34318); SE of Jurien (29209); Cervantes (34409, 37723); Dandaragan (28151); Moora (26079); Koorda (1508); Bencubbin (31153); Mukinbudin (34697); 18 km N of New Norcia (50026) and 11 km N (29784); Regans Ford (58780); Mogumber (27141); Trayning Reserve (46378); 9 km NE of Dowerin (50024-5); 13 km W of Bolgart (29081-4); Gingin (21247-50); 7 km E of Bindoon Hill (28085-6); Yorkrakine (22763, 25589); 25 km N of Kellerberrin (56540-1, 56550) and 7 km NW (52369-72); Merredin (1366); Culham (15077, 19874-7); Chittering (32610); proposed reserve SW of Gingin (59298); Yanchep National Park (59445, 59555); SW of Yanchep (15078) and 7 km S (41769) and 10 km S (15826); Neerabup National Park (59351-3, 59386-7); Lake Pinjar (29755); 16 km N of Wanneroo (29750); Melaleuca Park (59456); Pearce (29165); Bailup (21340); Cunderdin (939); Northam (4221, 4927); Wanneroo (26686, 31221, 31223); Upper Swan (3008); Woorooloo (3856); Gidgiegannup (19802, 19879); Red Hill (3869); West Swan (879); Mussel Pool (51560-1); Wanneroo Road (2717); Balcatta (3855); North Beach (10907); Osborne Park (3352); Dianella (20882, 26901); Morley (20566); Guildford (645); West Midland (4758); Midland (25835, 28045); John Forrest National Park (6922); Glen Forrest (16906); Parkerville (5269); Mahogany Creek (765, 4728); Mundaring (4639, 40833); Chidlow (29164); York (10558); Badjaling (52532-4); Danging (12651);

Mundaring Weir (15023-5, 19985, 20605, 21325) and 2 km SW (14543-4, 17091, 19157, 19497); Darlington (6487, 28899); Helena Valley (196, 198); South Guildford (39791); Bayswater (1102, 3367); Maylands (3826); Mt Lawley (4145, 14495); North Perth (3857); City Beach (62502); West Leederville (2808); Perth (1177, 3366, 3424, 4415, 4936, 5112); Rivervale (7002); Belmont (2438); South Belmont (4216); Maida Vale (34005-6); Kalamunda (25611, 29283); Forrestfield (4432, 40198, 43855); Lesmurdie (22893); Bickley (3828); Carmel (14170); Wattle Grove (2798, 26875); Cannington (65581); Manning (25972, 25982); Salter Point (12667); Bicton (31174); Coolbellup (27253); Bibra Lake (14920); Gosnells (387, 1737, 47792); Bartons Mill (31939, 32017); Beverley (29737); Darkin (1541, 22860); Beraking (21207-8); Mt Dale (19134, 49887, 56103, 57606); 24 km SE of Karragullen (56080-1) and 8 km SE (15079); Roleystone (5896, 22655, 26162-3); Canning Dam (5235, 36331); Armadale (2321-3); Forrestdale (14481, 49886); Jandakot (51655, 62154-7); Naval Base (25069); Bedfordale (10875); Narembeen (1158) and 53 km E (25828) and 64 km E (25825); Gibb Rock, 61 km ESE of Narembeen (59721); Corrigin (19878); 6 km E of Jarrahdale (19383); Rockingham (21299); Warnbro Beach (25677); Serpentine (4670) and 2 km SE (64983); Mandurah (41756); North Dandalup (4416-7); Bending Reserve (52599-600, 55295); Kondinin (1271); Lake Varley (21604); Kulin (4406, 7873, 37712); Popanyinning (19988); Pinjarra (8113-6); Harvey Estuary (29221); Coolup (7292); Dwellingup (26618); Dryandra Forest Reserve (26002); Mooterdine (28090); Yornaning (5016) and 25 km E (51358); Yornaning Reserve (51374-5); Wickepin (623); 13 km NNW of Dragon Rocks (43698-9) and 6 km NNW (43696-7, 43717-8) and 3 km NNW (43719); Dragon Rocks Reserve (42980, 43689-90, 43693-5, 43700-2, 43722, 43737, 43763); Kuender (28272); Narrogin (521, 524, 526, 25961-3); Williams (368, 781, 4707, 22860); Waroona (395) and 8 km N (60715); Yarloop (67580); North Tarin Rock Reserve (40059, 40081, 44441-2); Tarin Rock Reserve (40046, 40056); Lake Grace (5362); Dumbleyung (374); Wagin (709-10); Mornington (5368-70); Burekup (31213); 8 km SW Collie (15082); West Arthur (632); Dongolocking Reserve (49642-7, 49649, 49651-2); 25 km E Pingrup (29163, 39806); Lake Magenta Reserve (39907, 39928-30, 39945, 45322, 47331); Ravensthorpe (60435) and 26 km W (44857-8) and 9 km ESE (67348-9); Badgebup (3331); Jerramungup (21880); East Mt Barren (15083); Dempster Inlet (37727); Kojonup (24982); Tambellup (2746); between the upper reaches of the Perup and Tone Rivers (42548); Cranbrook (785, 6568, 67563); Brittens Rock, Walpole district (49908); Denmark (6569).

Eastern Division (W.A.): 32 km E of Kalgoorlie (3749); Corinthian (1794); Marvel Loch (1522, 3870); 48 km S of Widgiemooltha (46612); 70 km ENE of Norseman (65474).

Eucla Division (W.A.): 56 km S of Norseman (252); 31 km WNW Clear Streak Well (59940) and 28 km WNW (59939) and 7 km NE (58005); 10 km E of Boingaring Well (58033); Mt Coobaninya (33°02'S, 123°21'E) (59755).

Denisonia spectabilis nullarbor subsp. nov.

(Fig. 6)

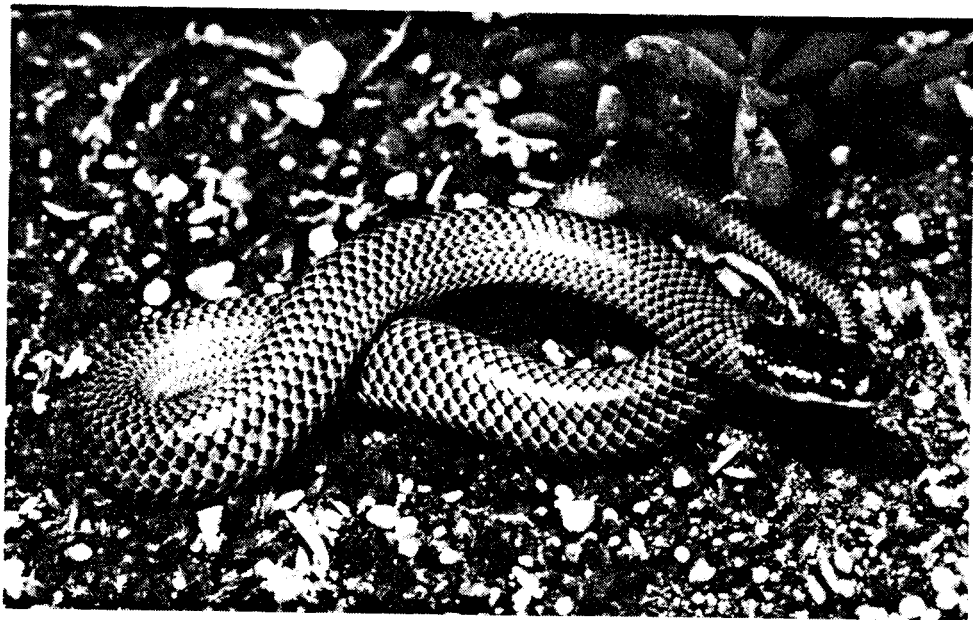


Fig. 6: Holotype of *Denisonia spectabilis nullarbor* photographed in life by T.M.S. Hanlon.

Holotype

R66626 in Western Australian Museum, collected on 23 September 1979 by T.M.S. Hanlon and G. Harold at 4 km S of (new) Eucla, Western Australia, in 31°43'S, 128°52'E.

Diagnosis

A small member of the *D. gouldii* group without a dorsal stripe and with black hood broken by a pale mark in front of eye. Distinguishable from *D. s. spectabilis* by much smaller extent of pale markings on head, longer tail and more numerous subcaudals, and from *D. gouldii* by more greyish, less reddish, dorsals which are not finely black-edged all round, fewer ventrals and lesser size.

Distribution

The Nullarbor Plain of south-eastern Australia and western South Australia and adjacent coastal plain (see Fig. 5).

Description

Snout-vent length (mm): 145-337 (N 14, mean 237.9). Length of tail (% SVL): 11.5-18.5 (N 14, mean 14.2).

Internasals 0.7-0.9 (N 14, mean 0.78) times as long as prefrontals. Frontal 1.2-1.7 (N 14, mean 1.49) times as long as wide, and 1.7-2.3 (N 14, mean 2.06) times as wide as supraoculars. Preocular widely separated from frontal and in short contact with nasal (N 12) or separated (N 2). Postoculars 2. Temporals 2 + 2. Upper labials 6. Lower labials 7. Midbody scale rows 15, increasing to 19-23 (N 14, mean 20.0) on neck, and decreasing to 13 before vent. Ventrals 135-158 (N 14, mean 144.4). Subcaudals 24-36 (N 14, mean 30.2). Ventrals plus subcaudals 163-189 (N 14, mean 174.6).

Head and nape glossy black broken by orange-brown mark in front of eye (fading to white in alcohol), black extending back on to first 4-7 (N 14, mean 5.5) vertebrae. Rest of upper surface greyish brown with or without an orange tinge, each scale with a black basal blotch which may extend back as a fine edge on anterior facets (posterior facets not black-edged). Lips and lower surface whitish.

Paratypes

Eucla Division (W.A.): Rawlinna (15187) and 35 km NW (43585) and 38 km E (14106) and 112 km ENE (45656); 8 km S of Loongana (29441-2); Forrest (14472, 15085-6, 16898); 4 km S of (new) Eucla (24645) and 10 km NNW (66498).

South Australia: 40 km SSE of Ooldea (25468).

Denisonia spectabilis spectabilis

Hoplocephalus spectabilis Krefft, 1869, The snakes of Australia, p. 61. Port Lincoln, S.A.

Diagnosis

A small member of the *D. gouldii* group without a dorsal stripe and with black hood extensively broken by pale markings in front of and behind eye. Distinguishable from *D. flagellum* of Victoria and south-eastern South Australia by shorter tail, longer and slenderer body, fewer midbody scale rows (15 vs usually 17) and more numerous ventrals.

Distribution

Southern South Australia.

Description

Snout-vent length (mm): 146-356 (N 20, mean 264.8). Length of tail (% SVL): 10.1-17.4 (N 20, mean 12.6).

Internasals 0.6-1.1 (N 19, mean 0.79) times as long as prefrontals. Frontal 1.2-1.9 (N 19, mean 1.63) times as long as wide, and 1.7-2.6 (N 19, mean 2.07) times as wide as supraoculars. Preocular widely separated from frontal and in short contact with nasal. Postoculars 2. Temporals normally 2 + 2 (3 secondaries on one side of one specimen). Upper labials 6. Lower labials normally 7 (5/6 in one specimen). Midbody scale rows 15, increasing on neck to 19-23 (N 18, mean 20.4) and decreasing to 13 before vent (12 in one specimen). Ventrals 138-168 (N 17, mean 149.5). Subcaudals 21-33 (N 20, mean 26.9). Subcaudals plus ventrals 164-199 (N 17, mean 176.4).

Hood black, broken by broad pale (white in alcohol) transverse bar in front of eye (which is usually continuous with its opposite number and often medially breaking narrow dark bar across snout) and pale area behind eye (continuous with white of lips), and usually pale apices of parietals; in orbital region black of hood represented by narrow ring around eye; hood extending back for 4-6 (N 19, mean 4.7) vertebrals. Rest of upper surface greyish brown, each scale with a dark basal blotch. Lips and lower surface whitish.

Material

South Australia: 32 km N of Fowlers Bay (SAM R14663); 23 km W of Penong (SAM R13863a-b); Denial Bay (SAM R292); Uro Bluff (SAM R16849); Lincoln Gap (SAM R12478); Wilcherry (SAM R12082, 12800); Mamblin (SAM R10704); Mt Wedge (SAM R3150); Hambidge Conservation Park (SAM R8388); 28 km N of Cowell (SAM R9503); Hincks Conservation Park (SAM R10189); Tumby Bay (SAM R903); Port Lincoln (SAM R11094; syntypes AM 6593-5, 6597, 6599).

REFERENCES

- BOULENGER, G.A. (1896)—*Catalogue of the snakes in the British Museum (Nat. Hist.)*, 3. London: British Museum.
- COVENTRY, A.J. (1971)—Identification of the black-headed snakes (*Denisonia*) within Victoria. *Vict. Nat.* 88: 304-306.
- KREFFT, G. (1869)—*The snakes of Australia; an illustrated and descriptive catalogue of all known species*. Sydney: Government Printer.

- McDOWELL, S.B. (1967)—*Aspidomorphus*, a genus of New Guinea snakes of the family Elapidae, with notes on related genera. *J. Zool., Lond.* 151: 497-543.
- McDOWELL, S.B. (1969)—*Toxicocalamus*, a New Guinea genus of snakes of the family Elapidae. *J. Zool., Lond.* 159: 443-511.
- WORRELL, E. (1961)—Herpetological name changes. *West. Aust. Nat.* 8: 18-27.