

THE GENUS *OMOLEPIDA* (LACERTILIA, SCINCIDAE) IN WESTERN AUSTRALIA

G.M. STORR*

[Received 28 January 1975. Accepted 1 October 1975. Published 30 September 1976.]

ABSTRACT

The two species occurring in Western Australia are described, namely *Omolepida branchialis* (Günther) and *O. maxima* nov.

INTRODUCTION

The genus *Omolepida* has had a chequered history. It was introduced by Gray when he removed *O. casuarinae* from *Cyclodus* (= *Tiliqua*). Günther (1867) combined *Omolepida* with *Hinulia*, a genus mainly comprising Australian species that are now placed in *Ctenotus* and *Sphenomorphus*. Boulenger (1887) went much further when he merged *Omolepida*, *Hinulia* and numerous other genera in his huge genus *Lygosoma*. For half a century workers accepted Boulenger's classification, though they often recognized *Omolepida* as a subgenus or section of *Lygosoma*.

Malcolm Smith (1937) returned *Omolepida* to *Tiliqua*; in this he was followed by Mitchell (1950). Glauert (1961) placed the Western Australian congeners of *Omolepida casuarinae* in *Tiliqua*, but he invalidly retained the name *Omolepida* for a subgenus of *Lygosoma* consisting of certain short-limbed skinks currently referred to *Sphenomorphus*.

Omolepida casuarinae (Duméril & Bibron), *O. branchialis* (Günther) and *O. maxima* (described herein) form a close-knit group of species. I believe they can be no more rightly included in *Tiliqua* than in *Egernia*.

All the material used in this revision is lodged in the Western Australian Museum. I am grateful to Mrs Ariadna Neumann for translating the original description of *Lygosoma (Homolepida) petersi*.

* Curator of Birds and Reptiles, W.A. Museum.

Genus *Omolepida*

Omolepida Gray, 1845: 89. Type species (by monotypy): *Cyclodus casuarinae* Duméril & Bibron.

Homolepida Boulenger, 1887: 211. Emendation of *Omolepida* Gray.

Diagnosis

Moderately large to very large pentadactyl skinks with interparietal completely separating parietals. Distinguishable from *Egernia* by very short limbs with fourth digit not longer than third and by small ear aperture without pointed lobules. Distinguishable from *Tiliqua* by fragile tail, absence of occipital scales, and unpigmented (rather than blue-black) tongue.

Distribution

Australia and Tasmania. Three species.

Description

Nasals usually in contact. No supranasal or postnasal, but *O. branchialis* and *O. maxima* have vertical groove behind nostril. Prefrontals separated or in contact. Frontal in contact with two supraoculars. Frontoparietals paired, much shorter than interparietal. Enlarged nuchals usually present. Loreals 2, in horizontal series. Supraoculars 3 or 4. Supraciliaries 4-7. Lower eyelid movable, without transparent disc. Subocular series interrupted by third-last labial. Temporals 4, uppermost largest. Upper labials 6-8. Scales smooth, in 20-28 rows at mid-body, median pair much wider than other dorsals.

Omolepida branchialis

Hinulia branchialis Günther, 1867, Ann. Mag. Nat. Hist. (3) 20: 47. Champion Bay, W.A. (F.H. DuBoulay).

Lygosoma melanops Stirling & Zietz, 1893, Trans. Roy. Soc. South Aust. 16: 173. Between Everard Range, S.A., and Barrow Range, W.A. (Elder Expedition).

Lygosoma gastrostigma Boulenger, 1898, Proc. Zool. Soc. London 1898: 922. Sherlock River, W.A. (E. Clement).

Lygosoma (Homolepida) branchiale var. *elongatum* Werner, 1910, Fauna Südwest-Australiens 2: 479. Boorabbin, W.A. (Michaelsen & Hartmeyer).

Lygosoma (Homolepida) petersi Sternfeld, 1919, Senckenbergiana 1: 81. Hermannsburg, N.T. (M. von Leonhardi).

Lygosoma (Homolepida) wood-jonesii Proctor, 1923, Trans. Roy. Soc. South Aust. 47: 80. St Francis Island, S.A. (F. Wood Jones).

Diagnosis

A small *Omolepida* distinguishable from *O. casuarinae* by post-narial groove and four (rather than three supraoculars) and from *O. maxima* by

much smaller size (snout-vent length up to 130 mm) and lack of white spots in adults.

Distribution

Greater part of Western Australia from east Kimberley south to the Swan River, Norseman and Nullarbor Plain; including some islands off west coast (Dolphin, Barrow, Bernier, Dirk Hartog, Baudin and Lancelin). Extralimital in western South Australia and south of Northern Territory.

Description

Snout-vent length (mm): 30-130 (N 332, mean 86.4). Length of appendages (% SVL): foreleg 11-25 (N 312, mean 15.8), hindleg 14-26 (N 304, mean 19.8), tail 73-130 (N 146, mean 99).

Nasals forming a median suture. Prefrontals separated. Supraoculars 4, second largest, first and last smallest. Supraciliaries 4-7; usually 5, with first and second widest, and first and fourth highest. Upper labials 6-8 (N 330, mean 7.3). Ear aperture small, usually with a moderately large rounded lobule on anterior margin and occasionally one or two smaller lobules elsewhere. Enlarged nuchals 0-5 (N 332, mean 3.0) on each side. Midbody scale rows 20-28 (N = 327, mean 24.6). Lamellae under fourth toe 10-18 (N 302, mean 13.4), each with a narrow to wide, smooth or tuberculate, dark brown callus.

Upper surface and sides pale olive grey to dark olive brown, each dorsal and lateral scale with or without a small anterior dark brown spot or one or more short blackish longitudinally orientated dashes or streaks. Underneath whitish, with or without brown or black dots, small spots or short dashes. Juveniles (also subadults in Kimberley) dorsally and laterally pale to dark reddish brown, dotted or spotted with white or pale brown; underneath whitish, usually unmarked.

Remarks

At first it seemed possible to divide *O. branchialis* into subspecies, e.g. *melanops* for the populations inhabiting spinifex (*Triodia* spp.) in the arid and semi-arid zones from the Kimberley south to the Norseman district, and *branchialis* for the inhabitants of coastal limestone from Shark Bay south to the Swan River. However, such an arrangement was made difficult by the discovery near Yuna, 70 km inland from the west coast, of a spinifex-inhabiting population like typical *branchialis* in most respects but with coloration intermediate between *branchialis* and *melanops*.

Another contender for subspecific recognition is the cave-inhabiting population near Madura on the Nullarbor Plain (briefly described below).

Geographic variation

Relative length of appendages decreases from north to south, e.g. tail averages 118% of snout-vent length in the Kimberley Division and 89% in the South-west Division. In other characters inter-regional variation seems to be

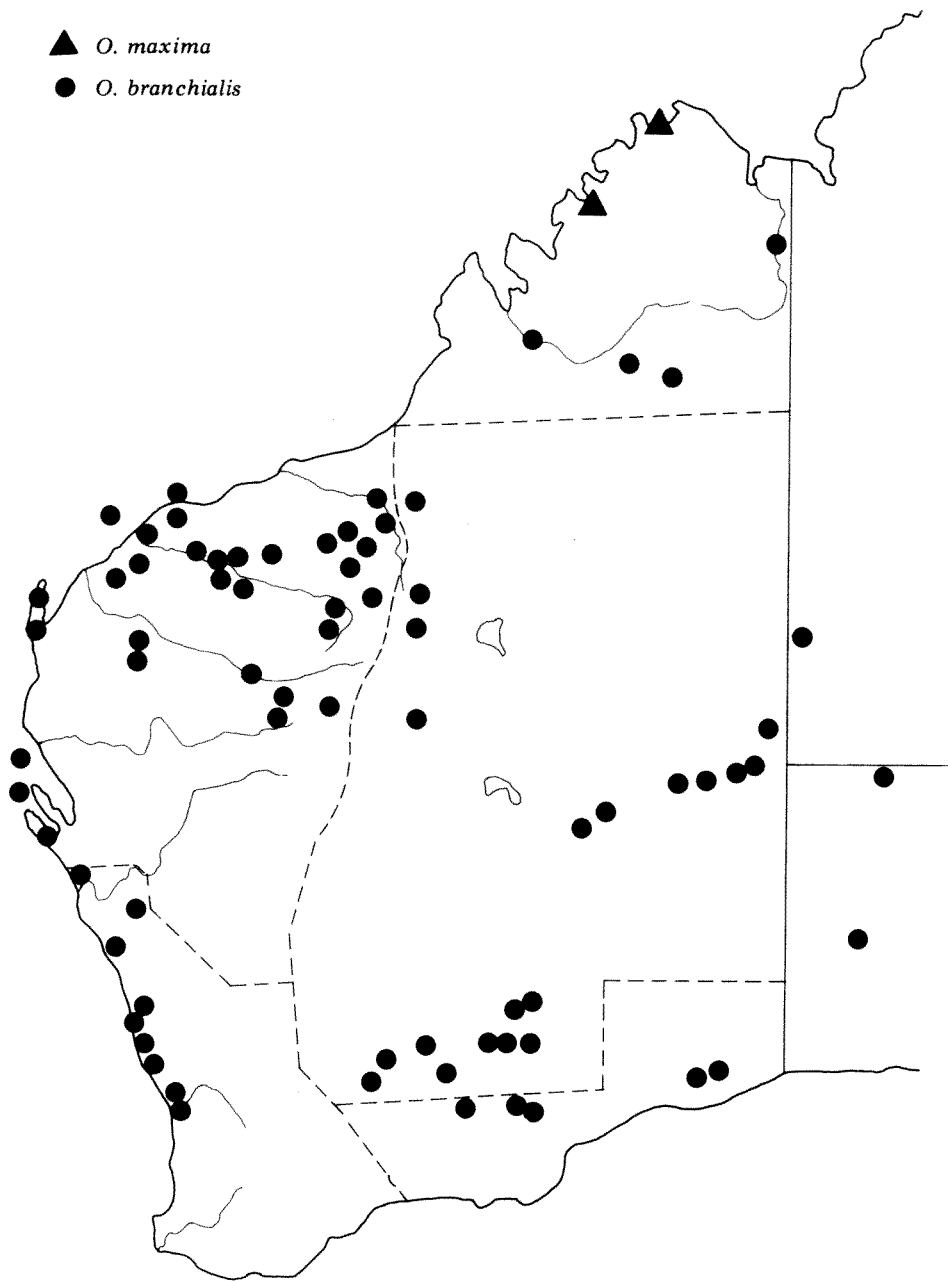


Fig. 1: Map of Western Australia showing location of specimens of *Omolepida branchialis* and *O. maxima*.

of a random or unpredictable nature, which is in keeping with the patchy distribution of this species.

Kimberley specimens are characterized by small size (maximum SVL 98), relatively narrow separation of prefrontals, low number of nuchals (mean 2.5) and of upper labials (only 2% with 8), high frequency of low flat-topped fourth supraciliary (rather than a high scale with pointed top), and retention of juvenile coloration by subadults and occasionally even by adults.

Specimens from the North-west Division are large; it is only here that SVL exceeds 115 mm. On the mainland, but not Barrow Island, frequency of 8 labials (53%) is much higher than elsewhere. In the Pilbara, but not in the south of the Division or on Barrow Island, number of midbody scale rows (mean 26.1) is considerably higher than elsewhere. At Kumarina, in the south-east of the Division, most specimens lack ventral spotting, a trait shared with the next population.

Specimens from the mallee/spinifex zone of the far south-west of the Eastern Division, adjacent parts of the Eucla Division, and similar country on Eyre Peninsula, South Australia, are small (maximum SVL 95 mm) and usually unspotted below. Their subdigital lamellae are more narrowly callose than elsewhere, and their plantar scales usually bear a dark tubercle.

Specimens from the northern and central parts of the Eastern Division, north-western South Australia and the Northern Territory are generally intermediate between Kimberley and Pilbara specimens, though a higher proportion of them, especially in the south, lack ventral spotting.

Specimens from the lower west coast from Bernier Island south to the Swan River are the most distinctive. Dorsally they are pale olive grey rather than dark olive brown as in most spinifex-inhabiting populations, and the dorsal and lateral scales are usually marked with one or more blackish longitudinal short streaks or dashes rather than a dark brown anterior spot. (Only in the type locality (Geraldton district) are found specimens with the gill-like markings that gave the species its name.) Number of midbody scale rows (mean 22.0) and of subdigital lamellae (mean 11.6) are low. The ear aperture is smaller than elsewhere and usually lacks a lobule (as distinct from a pre-auricular scale that tends to lie over anterior part of aperture). Upper labials are fewer than in most regions, and it is only here that counts of 6 have been observed (5%).

The two specimens (36165, 36719) from the Nullarbor Plain, like most specimens from the lower west coast, have 22 rows of midbody scales. They, too, are pale olive or olive brown above but completely lack dorsal or ventral spotting.

Material

Kimberley Division (W.A.): Lake Argyle (47490-521); 13 km E of Margaret River HS (46111-2); Louisa Downs (46050-3); 26 km SSE of Gogo (23038-9); Mt Anderson (27759).

North-west Division (W.A.): Dolphin Island (14277); Barrow Island (27757-8, 28460, 28684-91, 47546-84); Karratha (22933); Mardie (13862); 16-27 km E of Yarraloola (25631, 25641, 25647, 25656, 25659-60); 16 km N and 16 km W of Peedamulla (26512-3); Millstream (20170-4, 20176-7, 20182, 20186); near Kangiangi (20175, 20184); Mt Ulric (20179, 20185); Tambrey (20178); Coolawanyah (20181); Hooley (34731); Asbestos Creek (20180, 20183); Wittenoom and vicinity (13322, 37071, 37086); Woodstock (13090, 13227*a-b*, 27751); Warrawagine (13236*a-d*); Ripon Hills (13238*a-d*); 5 km SE of Mt Edgar (45761-2); 8 km S of Corunna Downs (13237*a-f*); Mosquito Creek (13242*a-f*); 15 km S of Nullagine (36337); Balfour Downs (19850); Poonda (27756); Mt Newman (25176); Exmouth (31416); Yardie Creek (13231*a-h*) and 65 km S (27752-5); Ningaloo (13199, 13232, 32029) and 40 km NE (21767); 5-13 km S of Learmonth (22402-4); 20 km NW of Ullawarra (25265); Kookhabinna Gorge, Barlee Range (25355); 30 km NW of Mt Vernon (25235); Ethel River (22804-5, 25227); Mulgul (22701); Kumarina (23953-64, 25188-92); Bernier Island (20497); Dirk Hartog Island (42371-3); Baudin Island (25735); Carrarang (39029).

Eastern Division (W.A.): Barromine, 50 km E of Warrawagine (13236*a-d*); Talawana (39129-30, 42232-3); 32 km E of Jiggalong (25187); 27 km N of The Weld Spring (15842); 37 km SE of Giles (20752); Blackstone Mining Camp (44347) and 7 km NE (20980); Cavenagh Range (20736) and 14 km W (20991); Jameson Range (28992); Mt Palgrave, Barrow Range (20999); near Warburton Range (15157, 16554, 22176); 18 km SW of Muggan Rockhole (20708-9); 10 km SW of Nullye Soak (47452-3); Queen Victoria Spring (12985-6, 13547, 16551, 39995); 20 km NW of Cundeelee Mission (12988, 21689); near Zanthus (16552-3, 26424-5); Chifley (21654); Karonie (14232-3); near Coolgardie (19141-2); 28 km W of Bullabulling (30692); 25 km S of Karalee (33968); near Widgiemooltha (30847).

Eucla Division (W.A.): 8 km E of Norseman (30777); 13 km E of Fraser Range (30693-701, 30716); 25 km SE of Fraser Range (25562); 13 km N of Madura (36719); 38 km NE of Madura (36165).

South-west Division (W.A.): 34 km N of Murchison House (34040); 32 km NE of Yuna (26496, 47522-45); near Geraldton (1724-5, 1727, 31545); Beagle Point (19757-9); Stockyard Gully (13413); Green Head (37719); near Jurien Bay (15859, 30480, 30494-6, 46576); Lancelin Island (16544-8, 17878-9); Lancelin (16549-50); near Wanneroo (11002, 41784); Marmion (46130); North Beach (4783, 21272); City Beach (10664, 12645); Perth (416, 444); Dalkeith (12914).

Northern Territory: 10 km SW of Barrow Creek (24315) and 15 km SW (24362); Davenport Range (40142); Owen Springs (20847-8); 44 km WNW of Mt Olga (20790).

South Australia: 45 km W of Musgrave Park (20958-9); 160 km N of Cook (31862); 37 km ENE of Wirrulla (24531); 16 km S of Kimba (25566-7).

Omolepida maxima sp. nov.

Holotype

R27760 in Western Australian Museum, collected by W.H. Butler on 6 January 1966 at Kalumburu, Western Australia, in 14°18'S, 126°38'E.

Paratype

R46885 in Western Australian Museum, collected by R.E. Johnstone on 25 August 1974 in the Prince Regent River Reserve, Western Australia, in 15°34'S, 125°25'E.

Diagnosis

A very large *Omolepida*, similar to *O. branchialis* in all respects but size and coloration.

Distribution

Sandstone plateaux of north-west Kimberley.

Description

Snout-vent length (mm): 201-230. Length of appendages (% SVL): foreleg 13-14, hindleg 17-19, tail 108.

Nasals forming a median suture. Prefrontals widely separated. Supraoculars 4, second and third largest, last smallest. Supraciliaries 5, second widest, first and fourth highest. Upper labials 7. Ear aperture moderately large with one or two obtuse or truncate lobules. Enlarged nuchals 3 or 4 on each side. Midbody scale rows 22. Subdigital lamellae smooth, 15-17 under fourth toe.

Upper and lateral surfaces reddish brown; back, tail and flanks spotted with brownish white. Underneath whitish.

Remarks

In everything but size *O. maxima* is so like *O. branchialis* that its speciation can only have taken place recently. In coloration it is fairly similar to juvenile *branchialis*, which reminds one that it is in the geographically nearest population of *branchialis* that the white-spotted juvenile coloration is retained longest.

Omolepida maxima joins the growing list of reptiles endemic to the sub-humid zone of north-west Kimberley. Other examples are *Amphibolurus microlepidotus*, *Diporiphora superba*, *Diporiphora convergens* and *Ctenotus mastigura*.

REFERENCES

- BOULENGER, G.A. (1887)—*Catalogue of the lizards in the British Museum (Natural History)*. 2nd ed. vol. 3. London: The Trustees of the British Museum (Natural History).

- GLAUERT, L. (1961)—*A handbook of the lizards of Western Australia*. Perth: Western Australian Naturalists' Club.
- GRAY, J.E. (1845)—*Catalogue of the specimens of lizards in the collection of the British Museum*. London: The Trustees of the British Museum.
- GÜNTHER, A. (1867)—Additions to the knowledge of Australian reptiles and fishes. *Ann. Mag. nat. Hist.* (3) 20: 45-68.
- MITCHELL, F.J. (1950)—The scincid genera *Egernia* and *Tiliqua* (Lacertilia). *Rec. S. Aust. Mus.* 9: 275-308.
- SMITH, M.A. (1937)—A revision of the genus *Lygosoma* (Scincidae: Reptilia) and its allies. *Rec. Indian Mus.* 39: 213-234.