

THE *AMPHIBOLURUS ADELAISENSIS* SPECIES GROUP (LACERTILIA, AGAMIDAE) IN WESTERN AUSTRALIA

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ABSTRACT

This essentially southwestern group of small agamids consists of four taxa in Western Australia: *Amphibolurus p. parviceps* (Storr), *A. p. butleri* nov., *A. a. adelaidensis* (Gray), and *A. a. chapmani* nov.

INTRODUCTION

As I suspected when describing it, '*Tympanocryptis parviceps*' is closely related to *Amphibolurus adelaidensis*. Moreover, the small morphologic gap between them is partly bridged by the newly described *A. p. butleri*. However, *A. parviceps* and *A. adelaidensis* coexist near the mouth of the Murchison and must be treated as separate species.

All the material used in this revision is lodged in the Western Australian Museum.

Amphibolurus adelaidensis species-group

Diagnosis

Small, short-limbed, somewhat spiny agamid lizards; chin 'terraced' (Storr, 1964:46, Fig 2); nasal large and located wholly below canthus rostralis; dorsal pattern consisting of a wide vertebral stripe of ground colour, flanked by a series of short dark transverse bars or small subangular blotches.

Description

Canthus rostralis and supraciliary ridge acute. Tympanum not, partly or entirely covered with small scales. Dorsolateral fold weak or absent. Gular fold strong. Preanal pores continuous with femoral pores but widely

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separated at midline from those of other side; pores located at centre of clusters of 3-5 smaller scales.

Head scales rugose with high median keel. Ordinary dorsals and laterals varying in size and strength of keel, intermixed with large isolated spinose scales (which on back are confined to dark bars). Gulars smooth or weakly keeled. Ventrals and subcaudals moderately to strongly keeled and mucronate.

Distribution

Southwestern and southern Australia, east to Spencer Gulf.

KEY

1. Tympanum covered with small scales; 1-3 scales between nasal and labials; no white dorsolateral line; no midlateral series of spines on base of tail 2
 Tympanum not or only partly covered with scales; 3-6 scales between nasal and labials; white dorsolateral line present; 3-7 white midlateral spines on base of tail 3
2. Dorsal pattern inconspicuous or absent; no white midlateral stripe; femoral pores 9-12 and preanal pores 4-5 on each side *A. parviceps parviceps*
 Dorsal pattern bold; white midlateral stripe present; femoral pores 5-8 and preanal pores 2-3 on each side *A. parviceps butleri*
3. Ventral pattern consisting of dark stripes (Fig. 3); pores not extending more than three-quarters way down thigh; tympanum shallow and usually invaded by small scales *A. adelaidensis adelaidensis*
 Ventral pattern consisting of a dark reticulum or of white spots on a dark ground; pores extending full length of thigh; tympanum deep-set and bare of small scales *A. adelaidensis chapmani*

Amphibolurus parviceps parviceps

Tympanocryptis parviceps Storr, 1964, J. Proc. R. Soc. West. Aust. 47:46. 18 km SE of Ningaloo, W.A. (Storr & Clay).

Diagnosis

The species *A. parviceps* is distinguishable from *A. adelaidensis* by tympanum covered with small scales; deep and angular loreal trough; fewer scales between nasal and labials; and no midlateral series of spines at base of tail (the scales may be enlarged and slightly raised). The subspecies *A. p. parviceps* is distinguishable from *A. p. butleri* by its reduced colour pattern and more numerous femoral and preanal pores.

Distribution

Upper west coast of Western Australia from Ningaloo south to Quobba; also Bernier I. and Dirk Hartog I.

Description

Snout-vent length (mm): 23-46 (N 17, mean 34.0); largest male 42. Length of appendages (%SVL): foreleg 36-48 (N 16, mean 41.1); hindleg 68-83 (N 16, mean 74.3; tail 118-160 (N 17, mean 139.3).

Scale rows between nasal and upper labials 1-3 (N 16, mean 1.9). Upper labials 9-11 (N 15, mean 9.9). Lamellae under fourth toe 18-23 (N 18, mean 20.7). Pores in males only: 9-12 (N 6, mean 10.2) femoral and 4 or 5 (N 6, mean 4.5) preanal on each side.

Dorsal ground colour pale bluish or brownish grey. On each side of back usually a series of small, dark brown hourglass-shaped bars; occasionally patternless. Upper lateral zone brown. Under surface whitish except for grey or black marbling on throat

Remarks

Four specimens of *A. parviceps* (33683-6) from much further south (18 km S of Kalbarri) are tentatively included with the nominate race on the map, Fig. 2.). They comprise three juveniles and an adult female and are devoid of pattern.

Material

North-west Division: 3 km N of Ningaloo (19095-6); Point Cloates (8833, 13221, 13483, 19094); Quobba (19097-8, 32631, 53328); Bernier I. (10654, 13164, 20494-5); Dirk Hartog I. (45860-4).

Amphibolurus parviceps butleri subsp. nov.

Holotype

R54728 in Western Australian Museum, an adult male collected by Messrs G. Harold and M. Peterson on 19 August 1976 on white sand covered with

low heath and *Plectrachne* near east shore of Useless Inlet, 29 km NW of Carrarang, Western Australia, in 26°18' S, 113°21' E.

Diagnosis

Distinguishable from *A. p. parviceps* by stronger and more complex dorsal and lateral colour pattern and fewer pores.

Distribution

Edel Land, mid-west coast of Western Australia.



Fig. 1. Holotype of *Amphibolurus parviceps butleri*, photographed in life by G. Harold.

Description

Snout-vent length (mm): 29-43 (N 16, mean 37.0); largest male 43. Length of appendages (%SVL): foreleg 38-43 (N 16, mean 40.9); hindleg 67-82 (N 16, mean 74.3); tail 117-150 (N 16, mean 139.0).

Scale rows between nasal and upper labials 1-3 (N 16, mean 1.7). Upper labials 8-11 (N 16, mean 9.7). Lamellae under fourth toe 20-24 (N 16, mean 22.2). Pores in males only: 5-8 (N 10, mean 6.3) femoral and 2 or 3 (N 10, mean 2.7) preanal on each side.

Dorsal ground colour pale grey to moderately dark grey. Back and base of tail with 8-10 black transverse bars, broken by broad vertebral stripe of ground colour, widest where contacting vertebral stripe and upper lateral zone (each half-bar thus tending to be hourglass-shaped); bars edged with creamy white. Interspace between dorsal bars blotched with pale reddish brown. Vertebral stripe sometimes bisected by a broken, dark brown,

median line. Upper lateral zone dark grey, dotted with white and blotched with black; blotches squarish in shape and continuous with dorsal bars. Creamy white midlateral stripe from base of tail forward nearly to level of foreleg, reappearing anteriorly as short longitudinal bars on side of neck and below temple and as streaks through upper and lower lips. Lower lateral zone and legs grey, dotted white and vaguely banded with dark grey. White under except occasionally for grey marks on throat and less commonly and more faintly on breast. Chin and lips bright yellow in life (*vide* G. Harold).

Remarks

This subspecies is named after Mr and Mrs W.H. Butler, whose generous grant to the Western Australian Museum enabled us to carry out a herpetofaunal survey of Edel Land and other parts of the Shark Bay region (a full report of this survey is being prepared).

Paratypes

North-west Division: Heirison Prong, 10 km NW of Useless Loop (54726-7, 54872) and 7 km NW (54822); south end of Bellefin Prong (39032-5); Crayfish Bay Well (55031); False Entrance Well (39019, 54839) and 3 km SW (54890); 10 km SW of Carrarang (26683); 1 km E of Editarra Well (54735-6).

Amphibolurus adelaidensis adelaidensis

Grammatophora muricata var. *adelaidensis* Gray, 1841, in G. Grey's Journals of two expeditions . . . western Australia . . . 2:439. Swan River (*vide* Boulenger).

Amphibolurus adelaidensis var. *tasmaniensis* Boulenger, 1885, Catalogue of lizards in the British Museum (Natural History), 1:388. 'Tasmania'.

Amphibolurus pulcherrimus Boulenger, 1885, *ibid.* Western Australia (Du Boulay).

Amphibolurus pallidus Boulenger, 1885, *ibid.* Western Australia, including Perth (Du Boulay).

Diagnosis

The species *A. adelaidensis* is distinguishable from *A. parviceps* by tympanum completely or mostly exposed; shallow and rounded loreal trough; more scales between nasal and labials; a series of white spinose midlateral scales at base of tail; and venter strongly patterned. The subspecies *A. a. adelaidensis* is distinguishable from *A. a. chapmani* by ventral pattern striped rather than reticulate or spotted (Fig. 3).

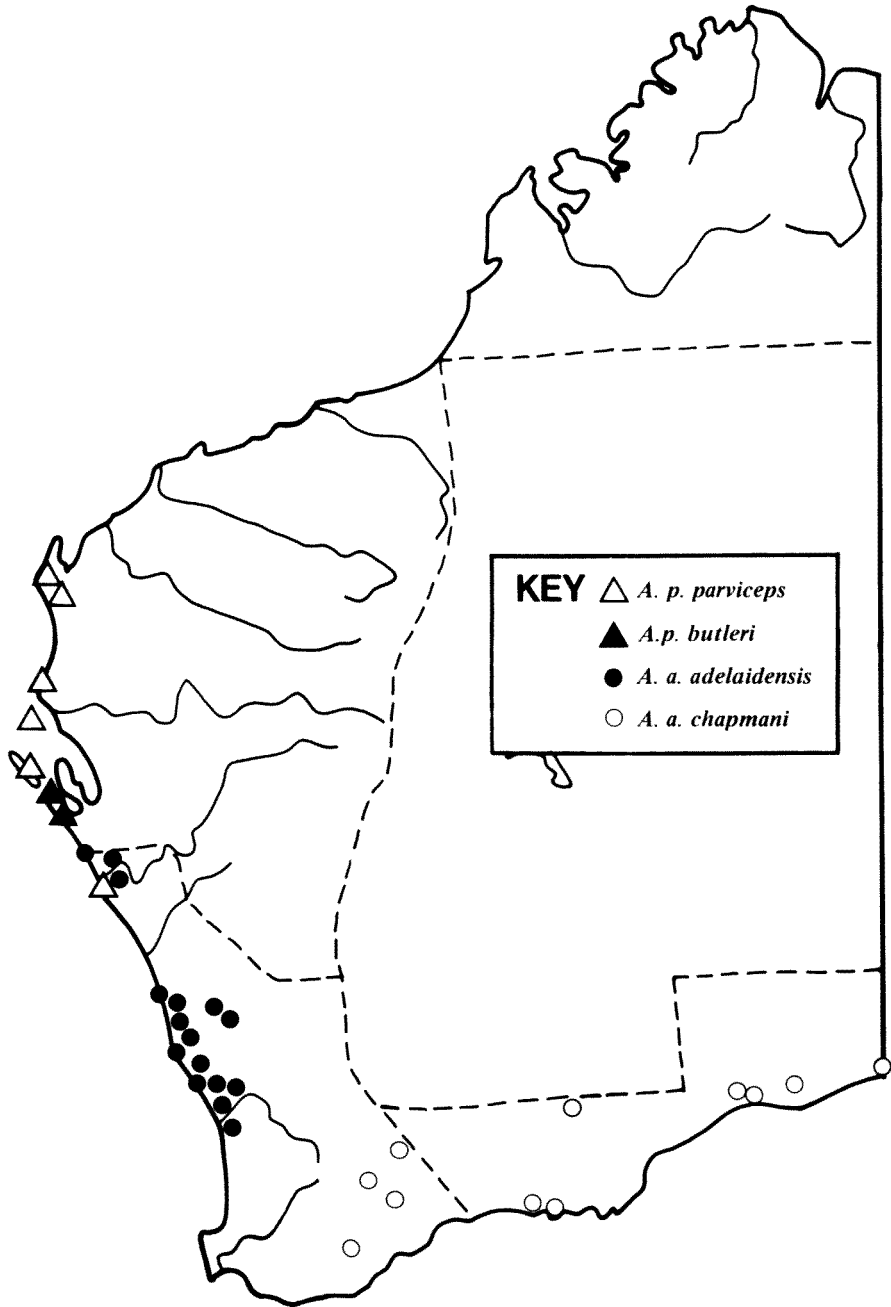


Fig. 2. Map of Western Australia showing location of specimens of *Amphibolurus adelaidensis* species-group.

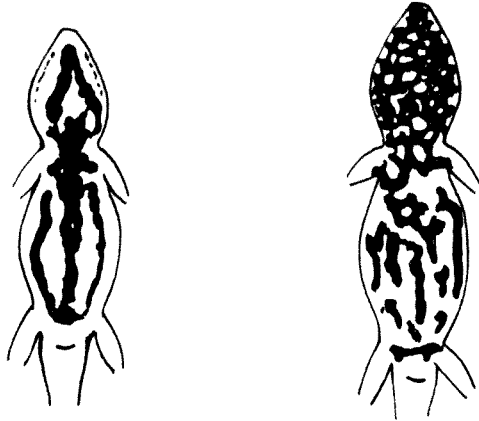


Fig. 3. Sketches of *Amphibolurus a. adelaidensis* (left) and *A. a. chapmani* (right) showing differences in ventral pattern.

Distribution

Mid-west and lower west coasts of Western Australia, from a little north of the Murchison southwards to a little south of the Swan, inland to Coorow and Muchea.

Description

Snout-vent length (mm): 21-52 (N 90, mean 38.2); largest male 45. Length of appendages (%SVL): foreleg 34-53 (N 84, mean 43.0); hindleg 54-76 (N 85, mean 67.5); tail 118-189 (N 87, mean 145.0).

Scale rows between nasal and upper labials 3-6 (N 79, mean 4.8). Upper labials 10-16 (N 80, mean 12.6). Lamellae under fourth toe 15-23 (N 73, mean 19.4). Femoral pores confined to proximal two-thirds of thigh, 6-10 (N 31, mean 8.0) in males; very small or absent in females. Preanal pores 2-5 (N 31, mean 3.6) in males. Spinose scales at base of tail 3-6 (N 59, mean 4.2).

Dorsal and upper lateral ground colour pale grey or greyish brown, darkest on head, palest on tail. Wide vertebral stripe and upper surface of tail not or only faintly marked. Head, laterodorsal and upper lateral surfaces of body and side of tail barred with black, brown or grey; bars short and mostly transverse, but oblique on crown and posterior (and sometimes anterior) part of head; bars on back broadest at contact with vertebral stripe, usually edged with creamy white. Under surface white, males marked with black (and females usually with grey) as follows: reticulation on lips; chevron on throat; blotch on breast, extending back from which are a median stripe and

often on each side a curving lateroventral stripe, all three stripes covering on pelvis.

Material

South-west Division: 7 km E of Zuitdorp wreck (33924); Mt Curious (33444); 26 km NE of Kalbarri (33489, 33509); Hawks Head Lookout, Kalbarri National Park (33873-4); Four Ways, Kalbarri N.P. (37631); 8 and 3 km E of Murchison House (26639, 27722); 11 km ENE of Kalbarri (27721); Wittecarra Gully, 8 km SE of Kalbarri (33883, 33890-1); Cliff Head, 32 km S of Dongara (13321, 22264); 32 km N of Enneabba (51008); Stockyard Gully (13412); 13 km W of Coorow (13125); 10 km S of Coorow (29769, 29990-1, 54469); Green Head (48497); Mt Peron (48415, 48417-9, 48425-6, 48517, 48539-40, 48546-7, 49126, 49213, 51752); Mt Lesueur (48518); Cockleshell Gully (48521, 52146); 5 km W of Padbury (48441, 48447); near Jurien Bay (16482, 30479, 30502, 46577-80, 49895); near Tombstone Rocks (39054, 39792); Lancelin (11341); Ledge Point (33432) and 29 km E (39684); 24 km SE of Gingin (39685); Lake Pinjar (26055); Melaleuca Park (53321); Mussel Pool (51529-33); Sorrento (41814-8); Wembley Downs (26229-30); Perth (4155-6); Leederville (771); West Leederville (5377); City Beach (26482, 28377, 31083, 41813); Cottesloe (534, 5401); Bentley (46204); Myaree (21886); Jandakot (47364-5).

Amphibolurus adelaidensis chapmani subsp. nov.

Holotype

R24657, adult male in Western Australian Museum collected by G.M. Storr and A.M. Douglas on 8 October 1965 in mallee-teatree scrub at 11 km SSE of Cocklebiddy, Western Australia, in 32°08' S, 126°08' E.

Diagnosis

Distinguishable from *A. a. adelaidensis* by ventral pattern consisting of a coarse dark reticulum, tympanum deep-set and completely bare of scales, and pores extending full length of thigh.

Distribution

Far southern semiarid zone of Western Australia, west to the Stirling Range and north to the Lake Grace district, Holt Rock, Fraser Range and southern edge of Nullarbor Plain.

Description

Snout-vent length (mm): 25-53 (N 17, mean 42.2); largest male 46. Length of appendages (%SVL): foreleg 37-46 (N 17, mean 41.4); hindleg 51-70 (N 17, mean 63.1); tail 113-160 (N 17, mean 134.8).

Scale rows between nasal and labials 4-6 (N 17, mean 5.1). Upper labials 10-14 (N 16, mean 12.0). Lamellae under fourth toe 13-20 (N 16, mean 16.8). Femoral pores in both sexes, 5-10 (N 14, mean 7.8). Preanal pores in both sexes, 2-4 (N 14, mean 2.8). Spinose scales at base of tail 5-7 (N 16, mean 5.5).

Dorsal and lateral ground colour pale grey or pale brown, darkest on head and sides. Wide vertebral stripe usually a little darker than ground colour of rest of back. Head, back, tail and flanks with short black or dark brown bars or lines, transverse except for a few obliquely curving lines on crown of head and occiput. Dorsal bars widest at contact with vertebral stripe and usually edged with creamy white. White dorsolateral line coinciding with dorsolateral fold. Ventral and ventrolateral surfaces and upper lips white, heavily reticulated on chin, throat, breast, belly and ventrolateral surface of body with black, dark grey and dark brown; markings paler in females and sometimes barely discernible; reticulum so dense in some males that throat could be described as black or dark brown, dotted white. Under tail usually cross-banded with black, grey or brown.

Remarks

Named after Mr Andrew Chapman of the Western Australian Museum in appreciation of his contributions to Western Australian herpetology.

Paratypes

South-west Division: 7 km W of Holt Rock (29592, 34505); North Tarin Rock Reserve (44435-6); Lake Magenta Reserve (40752); Red Gum Pass, Stirling Range (47363).

Eucla Division: Esperance (11368); Cape LeGrand (30801, 41944); Fraser Range (44526); 11 km SSE of Cocklebiddy (24656) and 14 km SSE (53399) and 21 SSE (53401); Madura (31172); 16 km NE of Eucla (24590).

REFERENCE

STORR, G.M. (1964)—The agamid lizards of the genus *Tympanocryptis* in Western Australia. *J. Proc. R. Soc. West. Aust.* 47:43-50.

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