AMPHIBOLURUS GIBBA, A NEW DRAGON LIZARD (LACERTILIA: AGAMIDAE) FROM NORTHERN SOUTH AUSTRALIA

by T. F. HOUSTON*

Summary

HOUSTON, T. F. (1974).—*Amphibolurus gibba*, a new dragon lizard (Lacertilia: Agamidae) from northern South Australia. *Trans. R. Soc. S. Aust.* **98**(4), 209-212, 30 November, 1974.

A new species of agamid lizard is described and figured. It is regarded as a member of the *Amphibolurus reticulatus* species-group and shows close affinity with *A. maculosus* (Mitchell). It appears to be confined to the gibber plains of northern South Australia.

Introduction

The species described herein as new is a little known inhabitant of the barren, stone-strewn gibber plains of far northern South Australia. Specimens have been received at the South Australian Museum over the past 27 years but were variously misidentified, most of them as *Amphibolurus imbricatus* Peters (=*A. c. caudicinctus* (Gunther)—Storr 1967). Mitchell's (1955, p. 387) reference to the occurrence of *A. imbricatus* near Marree and Finniss Springs, S. Aust., was based on these specimens.

Enquiries by the present author revealed one specimen in the National Museum of Victoria, Melbourne, but none in other Australian museums. Except where indicated otherwise, all specimens listed below are in the South Australian Museum. All localities mentioned are in South Australia.

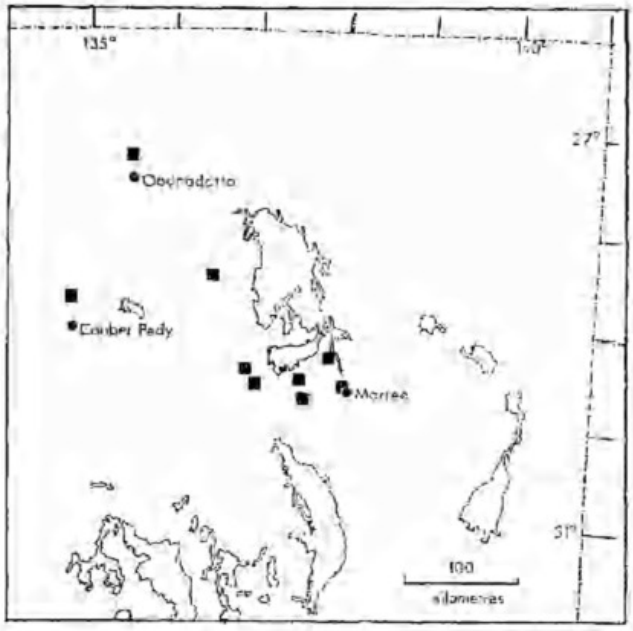


Fig. 1. Map of north-eastern South Australia showing collection localities (solid squares) of *Amphibolurus gibba*.

Amphibolurus gibba n.sp.

FIGS. 1–4; TABLE 1

Holotype: ♀, R13954A, 5.5 km NNW of Alberrie Creek Railway Siding, S. Aust. (29°35'S, 137°31'E), 14.i.1974, ex burrow under cracked mud crust of gibber plain, *R. Forsyth & T. Houston.*

Diagnosis: Agrees with *A. reticulatus* (Gray), *A. inermis* (De Vis) and *A. maculosus* (Mitchell) in general form (short deep head, abrupt profile, denticulate eye lids, smooth-scaled back and relatively short tail). Agrees with *A. maculosus*, but not *A. reticulatus* and *A. inermis*, in having nostrils situated below (not on) canthus rostralis. Differs from the three in having relatively longer hind limbs (mean ratio of leg length to snout-vent length =81%; cf. 57–67% in other species); femoral and preanal pores (mean = 30) more numerous than in *A. inermis* (21) and *A. maculosus* (10, femoral only) but fewer than in *A. reticulatus* (37); ear openings relatively smaller than in *A. reticulatus* and *A. inermis* but not scale-covered as in *A. maculosus*. Dis-

* South Australian Museum, North Terrace, Adelaide, S. Aust. 5000.

tinguishable also by coloration: throat with conspicuous round black patch (with dark reticulum in *A. reticulatus* and *A. inermis;* with longitudinal black streak in *A. maculosus*); chin with median black streak; back buff to terra-cotta red, often darkly speckled, usually with 6–8 pairs of blackish paravertebral spots (with blackish reticulum in adult *A. reticulatus* and *A. inermis;* white to grey in *A. maculosus* with bolder paravertebral spots); tail with linear series of 20–30 dark spots each side (absent in other species).

Description: Stout, moderate-sized dragon lizards reaching a snout-vent length of 82 mm and total length of 190 mm; head relatively short and deep; snout obtuse, rising steeply in profile; nostril situated below slightly swollen canthus rostralis; ear aperture relatively small and elliptical; body depressed; fore limbs relatively large, reaching or almost reaching groin when adpressed; hind limbs moderately long; tail moderately long and evenly tapering. (See Table 1 for proportions). In juveniles the head and appendages are relatively longer than in adults.

TABLE 1

Body proportions expressed as percentage ratios for specimens of A. gibba *with a snout-vent length of 55 mm or more*

(n = sample size, r = range, m = mean, s = standard deviation)

Proportion	n	r	m	s
Head length: SVL	14	28–32	30	1.3
Head width: length	14	68–85	75	4.3
Ear diameter: head width	14	16–21	18	1.5
Fore limb length: SVL	14	39–46	43	2.1
Hind limb length: SVL	14	75–90	81	3.8
Tail length: SVL	12	126–154	143	7.8

Dorsal scales of head weakly to strongly convex, angular, transversely carinate or ridged in front of and behind supra-orbital areas; a row of enlarged, longitudinally ridged or carinate scales from below eye to above ear; outer margin of lower eyelid fringed with a row of very acute scales; 4–6 scale rows separating nasals from upper labials; 12–17 upper labial scales each side; temporal, occipital, nuchal and axillary scales very small and convex, interspersed on the head (sometimes) with a few spinous tubercles; no nuchal crest but a few median scales slightly enlarged; scales on remainder of body, legs and tail (dorsally) flat and smooth, those of the back largest medially; keels appearing only on ventral side of tail, strongest distally; 26–35 (mean = 30) femoral and preanal pores well-spaced along a fairly straight line extending full length of each thigh; each pore surrounded by several scales, those anterior to it being slightly enlarged.

Dorsally grey to buff-brown, tinged in some individuals with pink or terra-cotta; each side of head with 3–4 alternating light and dark vertical bars from eye to lower lip (sometimes faint); back with 6–8 pairs of blackish paravertebral spots from shoulders to rump; similar spots sometimes present on flanks; tail with 20–30 dark blotches along each side; chin with a small black median streak and throat with a large median black patch; chest with a faint grey to intense black patch medially. The holotype, in life, had a light yellow wash across the anterior part of the chest and shoulders.

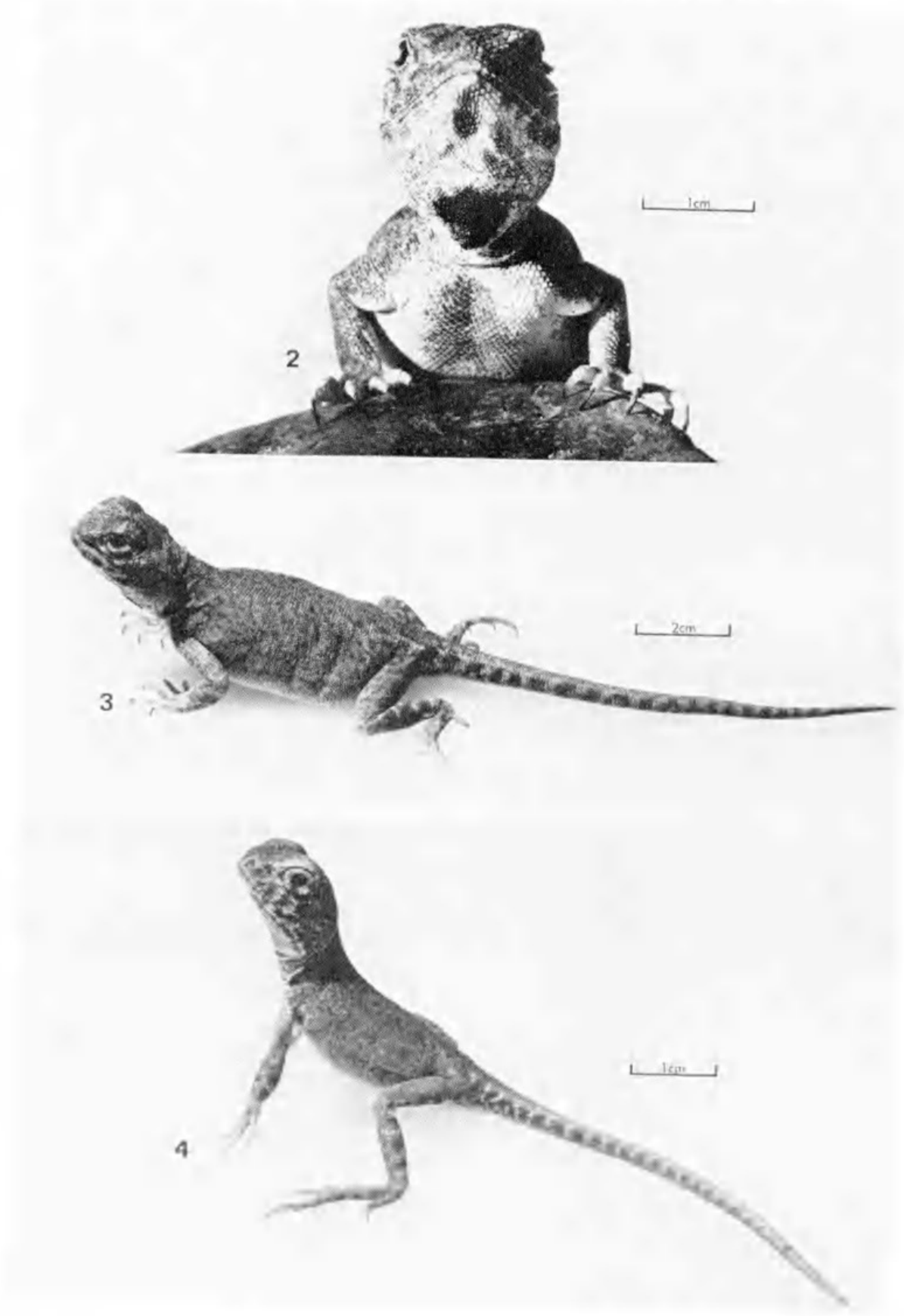
Measurements of holotype (in mm): Head length, 21; head width, 16; maximum diameter of ear, 2.8; snout-vent length, 72; fore limb length, 31; hind limb length, 58; tail length, 100.

The specific epithet, taken from Cooper's (1949) list of Aboriginal words and meaning desert stone or rock, is used as a noun in apposition and is not subject to termination changes.

Specimens examined: Paratypes: same data as the holotype, R13954B–K; 34 km N of Coober Pedy, *E. Story*, 6.x.1973, R13953; 37 km S of Coward Springs on road to Stuart Creek H. S., "gibber, crumbly clay soil, ran into burrow", Zoology Dept., University of Adelaide, 26.x.1969, R11165; Finniss Springs, *A. J. Pearce*, 17.i.1947, R2525, R13894A–B; same loc., *F. J. Mitchell*, 6.ii.1964, R13891; Lake Lettie Waterhole, *G. F. Gross*, 23.iii.1956, R3805; Marree, *F. J. Mitchell*, June 1966, R9499; 3.2 km S of Marree, *F. J. Mitchell*, Feb. 1966, R7605–6, R8310; 19 km SE of Mt Hamilton Stn on Margaret River, *R. Tedford*, 19.v.1953, R3542; 32 km N of Oodnadatta, *J. Bredl*, 1971, R12494A–B; Johnsons Bore track midway between William Creek and the Neales, 23.viii.1969, Nat. Mus. Vic., D39917.

Systematic position

The genus *Amphibolurus* Wagler, as it currently stands, contains many diverse elements and no satisfactory definition of it is available. Its species cohere more by the lack of specialized features characterizing other genera than by possession of features unique to them as a group.



Figs. 2–3. Anterior and lateral views of holotype of *Amphibolurus gibba* in life.
Fig. 4. Juvenile of *A. gibba* in life.

The placement of *A. gibba* in *Amphibolurus* is based on its apparent affinity and close similarity to species (*A. reticulatus* and *A. inermis*) long placed in this genus.

In the totality of its features, *A. gibba* is intermediate between *A. reticulatus* and *A. inermis* on the one hand and *A. maculosus* on the other. Structurally it most closely resembles *A. reticulatus* but in size, nostril position and coloration it approaches *A. maculosus*. The latter species was originally included in the genus *Tympanocryptis* Peters (Mitchell 1948, Storr 1964) on account of its scale-covered ears but was subsequently removed to *Amphibolurus* on the basis of osteological evidence (Mitchell 1965). Closure of the ear openings was believed to be a secondary development.

I support Mitchell's conclusions and suggest that *A. maculosus* and *A. gibba* are derived from a common ancestor and that the covered ears of the former evolved through an intermediate stage such as is now seen in *A. gibba*.

I also suggest that *A. gibba* and *A. maculosus* be regarded as members of the *A. reticulatus* species-group (Storr 1966), although my conception of this group does not extend to include *A. decresii* (Duméril & Bibron) or *A. pictus* Peters (see Houston 1974, pp. 57–58). The species-group as understood here contains habitual burrowers in which sexual dichromatism is either not evident or only feebly developed.

Acknowledgments

I am grateful to Mr. M. J. Tyler, Honorary Associate in Herpetology, South Australian Museum, who sought specimens of the new species on my behalf during visits to two Australian Museums, to Mr. Ross Forsyth who energetically assisted me in field collection, and to Mr. A. J. Coventry, Field Officer, National Museum of Victoria, Melbourne, for providing a specimen for study.

The distribution map (Fig. 1) was prepared by Miss Adrienne Edwards.

References

Cooper, H. M. (1949).—"Australian Aboriginal words and their meanings". (South Australian Museum: Adelaide.)

Houston, T. F. (1974).—Revision of the *Amphibolurus decresii* complex (Lacertilia: Agamidae) of South Australia. *Trans. R. Soc. S. Aust.* **98**(2), 49-60.

Mitchell, F. J. (1948).—A revision of the lacertilian genus *Tympanocryptis*. *Rec. S. Aust. Mus.* **9**(1), 57-86.

Mitchell, F. J. (1955).—Preliminary account of the Reptilia and Amphibia collected by the National Geographical Society—Commonwealth Government—Smithsonian Institution Expedition to Arnhem Land (April to November, 1948). *Rec. S. Aust. Mus.* **11**(4), 373-408.

Mitchell, F. J. (1965).—The affinities of *Tympanocryptis maculosa* Mitchell (Lacertilia: Agamidae). *Rec. S. Aust. Mus.* **15**(1), 179-191.

Storr, G. M. (1964).—The agamid lizards of the genus *Tympanocryptis* in Western Australia. *J. R. Soc. West. Aust.* **47**(2), 43-50.

Storr, G. M. (1966).—The *Amphibolurus reticulatus* species-group (Lacertilia, Agamidae) in Western Australia. *J. R. Soc. West. Aust.* **49**(1), 17-25.

Storr, G. M. (1967).—Geographic races of the agamid lizard *Amphibolurus vaudicinctus*. *J. R. Soc. West. Aust.* **50**(2), 49-56.