

## A NEW SPECIES OF SCINCID LIZARD FROM WESTERN ARNHAM LAND, NORTHERN TERRITORY.

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### ABSTRACT

A new species of *Egernia* is described from the sandstone escarpment on the western edge of the Arnhem Land plateau. It is most similar in external morphology to the east Australian species *Egernia frerei*, but can be differentiated from this by significant differences in colouration and also by several scalation characters.

KEYWORDS: Scincidae, *Egernia*, Australia, taxonomy, new species.

### INTRODUCTION

A large species of *Egernia* from the East Alligator Rivers region, bordering the western edge of Arnhem Land, Northern Territory, has been known since the fauna was initially listed by Cogger (1974) as *Egernia* cf. *frerei*. Further specimens have since been collected in that region, and the species has been figured by various authors (Cogger 1975 and subsequent editions; Swanson 1979, 1987; Wilson and Knowles 1988), but its status has never been investigated in detail. Cogger (1975 and subsequent editions) figured this species as *E. frerei* and included its distribution in the Northern Territory under the description of *E. frerei*. Swanson (1987) cited the photograph (pl. 106) of this species as *Egernia richardi*, but provided no explanation for doing so. Presumably, the basis for this action lies in the type locality for *Tropidolepisma richardi* Peters (1869) being "Alligator River ... North Australia." Reference to the description of *T. richardi* provided two characters which indicate that it could not be conspecific with the species described here: a flattened out (oblate) body and tail; and 30 mid-body scale rows. Further, Mr Glen Shea (pers. comm.) has examined the type specimen of *T. richardi* Peters, and he concluded it is conspecific with *Egernia carinata* Smith (1939) from south-west Western Australia, and that the cited type locality for *T. richardi* is most likely erroneous. Wilson and Knowles (1988) figure this species (Fig. 472) as *Egernia* sp. "a member

of the *E. frerei* group," but failed to give any diagnostic characters that would separate it from any other species of *Egernia*. In the species account of *E. frerei* they assign it to the *E. major* group. Apparent inconsistencies in group allocation and failure to define either the "*E. frerei* group" or "*E. major* group" have done little towards justifying their inclusion in the text. Similarly, the undiagnosed or unreferenced presentation of the Arnhem Land *Egernia* as an unassigned species has done little to clarify its status.

In this paper the Arnhem Land taxon previously allied to *Egernia frerei* is described as a new species.

### MATERIALS AND METHODS

Measurements were made to the nearest millimetre and, other than maximum snout-vent length (SVL), are here expressed as a percentage of SVL.

Scalation characters discussed follow Taylor (1935: 11) for the headshields; 'midbody scale rows' are the number or longitudinal scale rows around the body counted at a point midway between the axilla and groin; 'paravertebral' scales are the number of scales in a paravertebral row posterior to the parietals to a point opposite the anus; fourth toe lamellae are the number of scales on the underside of the toe from its apex with the third digit to the nail.

Specimens of *E. frerei* (n = 175) held in the Australian Museum, Museum of Victoria,



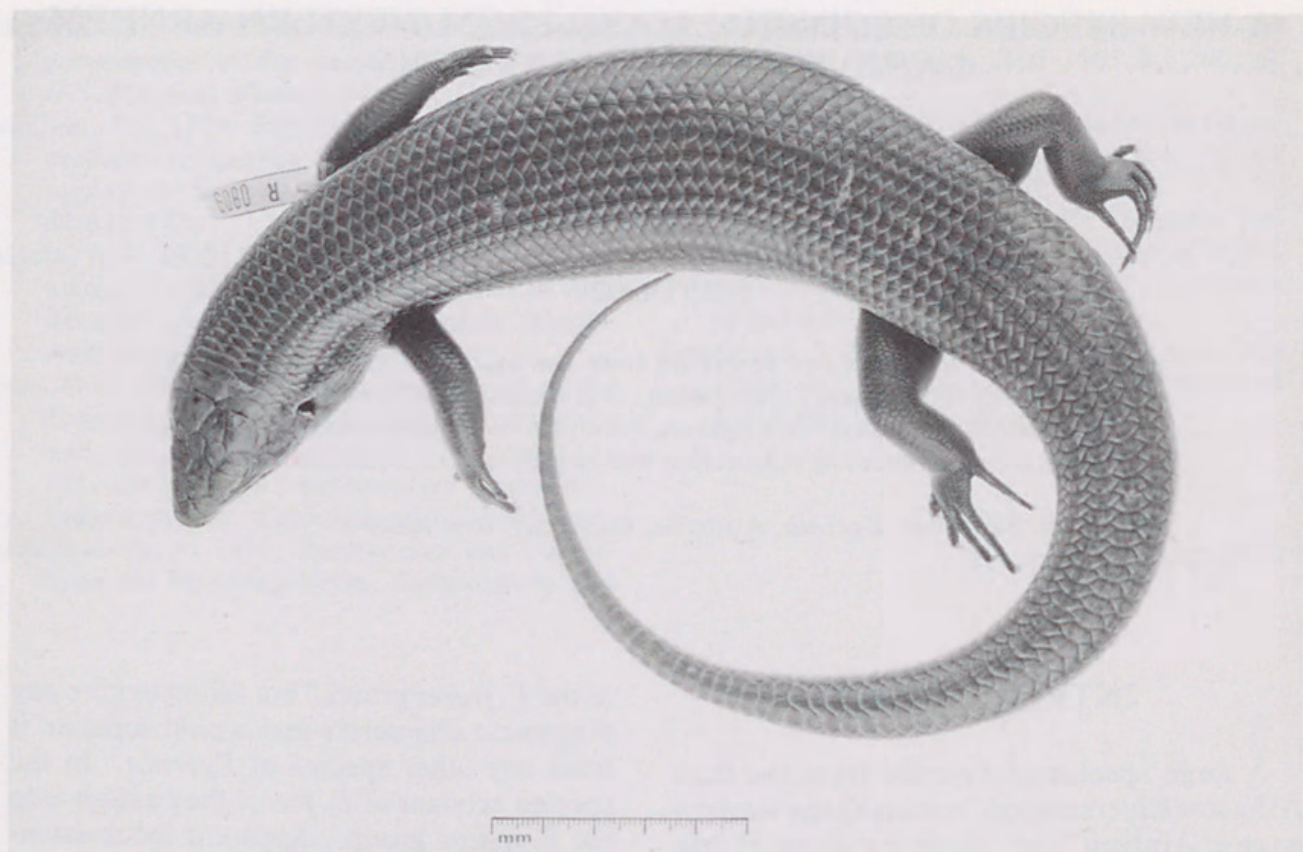


Fig. 1. Holotype (NTM R0809) of *Egernia arnhemensis* from Oenpelli, NT.

Queensland Museum, South Australian Museum and American Museum of Natural History were examined for comparison with known specimens of the new species described below. Abbreviations used in the text are as follows: AM, Australian Museum, Sydney; NTM, Northern Territory Museum.

***Egernia arnhemensis* sp. nov.**  
(Figs 1-3)

**Type material.** HOLOTYPE - NTM R0809: 6.1 km SW of Oenpelli, NT, 12°22'S, 133°02'E, collected by G. Gow and B. Jukes, 21 May 1975; adult (Fig. 1). PARATYPES - NTM R1190: 3 km SW of Oenpelli, NT, 12°21'S, 133°02'E; NTM R8032-34: R8181 Nourlangie Rock NT, 12°52'S, 132°50'E; NTM R8387-88: Little Nourlangie Rock, NT, 12°52'S, 132°47'E; AM R38384: Koongarra, Mt. Brockman Range, NT, 12°33'S, 132°56'E; AM R100018: SE corner of Jabiluka outlier, Magela Creek, NT, 12°33'S, 132°56'E.

**Diagnosis.** A large species of *Egernia* (maximum SVL 208 mm), distinguished from all other members of the genus by the following combination of scalation and colour characteristics: dorsal scales moderately smooth

with several longitudinal striations; enlarged subocular scale row complete, separating upper labials from contact with lower eyelid; nuchals usually 2 or 3 either side; midbody scale rows 44-48; paravertebral scale rows 59-65; colouration dark.

**Details of holotype.** Snout-vent length 192mm; tail length about 260mm, distal 42% reproduced; forelimb to snout length 68mm; axilla to groin length 120mm; hindlimb length 68mm. Prefrontals narrowly separated; supraciliaries 8/7, 1st and 2nd enlarged, posteriormost present as 2 (1 upper and 1 lower) unenlarged subequal scales (lower similar in size to adjacent penultimate supraciliary); nuchals 3/3; primary temporal single; enlarged upper secondary temporals 1/1, each with 1 adjacent smaller temporal bordering the parietal; upper labials 7/8; enlarged auricular lobules 5/5.

Midbody scale rows 44; paravertebral scale rows 59; lamellae beneath the fourth toe 21/24

**Description.** Maximum SVL 208 mm; forelimb to snout length 35-38.9% of SVL (mean=36.1, N=9); axilla to groin length 57.9 - 62.5% of SVL (mean=60.3, N=9); hindlimb length 30.2 - 36.8% of SVL (mean=34.3, N=9); tail length approximately 135-140% of SVL (N=2).



Rostral in broad contact with frontonasal; prefrontals moderately to narrowly separated (44.4%), to narrowly to broadly contacting; supraciliaries 7(25%), 8(40%), 9(20%) or 10(15%); anterior supraciliaries variably enlarged with anteriormost 2(35%), or 3 larger; posterior supraciliaries variably enlarged or fragmented, with the posteriormost either larger(50%), or present as 2 (1 upper and 1 lower), unenlarged subequal scales (the lower similar in size to the adjacent penultimate supraciliary), and the penultimate occasionally similarly fragmented, or both the penultimate and last supraciliaries with a single large scale above (interdigitating between 3rd and 4th supraocular); nuchals 1-3 either side (mode 2, 75%), anteriormost pair occasionally separated by presence of large distinct internuchal; primary temporal single, large and distinct; enlarged upper secondary temporals 1 either side, with 1(90%) - 2 adjacent smaller temporals bordering the parietals; lower secondary temporal single large and distinct; nasals widely separated, each with a prominent postnasal groove; upper labials usually 8(65%), or 7(30%), rarely 9(5%); subocular scale row complete, separating upper labials from lower eyelid; ear opening large with 4(20%), 5(40%), 6(30%), or 7(10%), enlarged auricular lobules anteriorly.

Body scales with 3-4 faint striations, increasing in number towards the nape as scales broaden; midbody scale rows 44-48 (mean=45.3, sd=1.5, N=10); paravertebral scale rows 59-65 (mean=61.4, sd=1.9, N=10).

Lamellae beneath fourth toe 20-24 (mean=22, sd=1.1, N=9), basal portion broad (with a median division), distal portion compressed (undivided).

**Colour and pattern.** Dorsal surface grey to light brown, each scale with a mid to dark brown longitudinal streak medially, head and nape without dark streaking. Lateral surface grey-brown with dark streaking (similar to dorsal surface), becoming lighter ventrally; upper lateral surface between ear opening and forelimbs black (with occasional white flecking) interrupting continuity of the grey-brown dorsal and lateral colouration in this region. This dark colouration tends to break up posteriorly of forelimb to merge with dark longitudinal streaks of the upper to mid lateral surface respectively; facial surface grey-brown with marked dark flecking posterior to orbit. Venter anterior to forelimbs strongly marked with dark flecks, tending to form series of roughly transverse bars. Soles of feet and lamellae mid-dark brown. In life venter with a yellow flush posterior to forelimb.

Mr Keith Martin (pers. comm.) records the colouration of a juvenile individual (approx. 150 mm total length), as uniform dark brown-black marked with bands of yellow spots dorsally.

**Etymology.** The name "*arnhemensis*" has been chosen for the species to emphasis the restricted distribution of the species to a habitat associated with the Arnhem Land plateau.

**Habits.** Mr Keith Martin has collected and observed a number of specimens during the

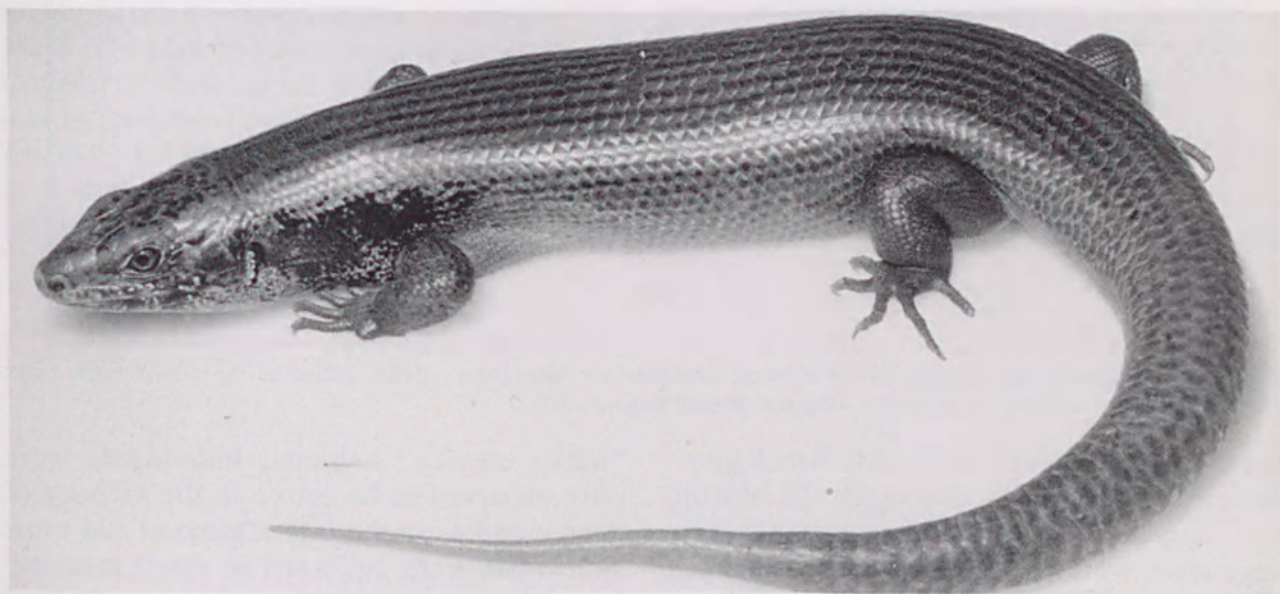


Fig. 2. Paratype (AM R100018) of *Egernia arnhemensis* from the Jabiluka outlier, Magela Creek, NT.



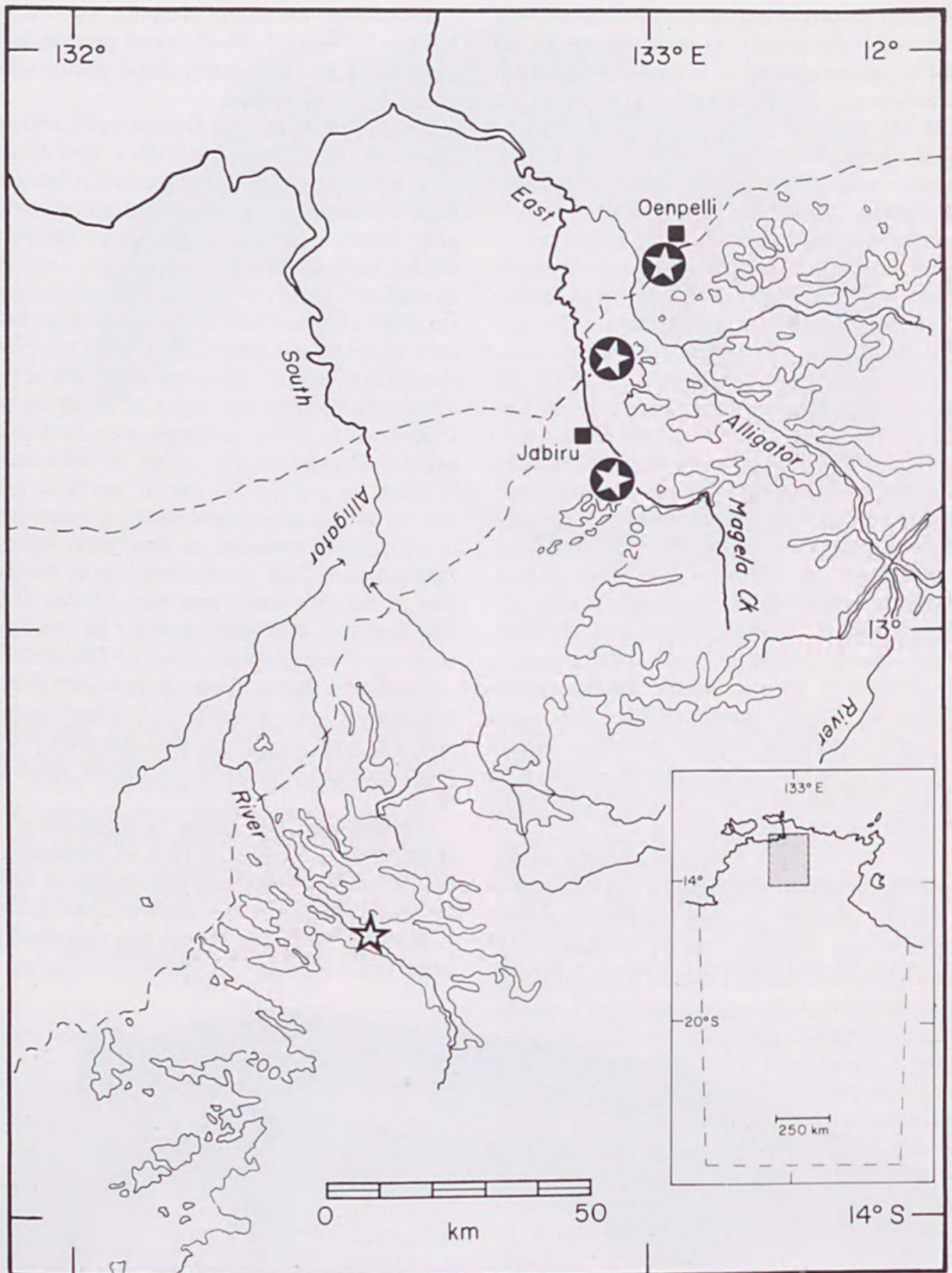


Fig. 3. Map showing the distribution of *Egernia arnhemensis* (specimen records indicated by closed stars, sight records indicated by open star) in the Alligator Rivers Region, NT.

course of field work in the Mt Brockman - Nourlangie region. In this region (K.Martin, pers. comm.) *E. arnhemensis* occurs in thickly vegetated, wet, rocky gorges with numerous deep crevices. The sites at which specimens were collected were "closed forest" and

"rocky crevice" habitats. Individuals were only observed to be active in the vicinity of deep crevices in the late afternoon and most specimens were collected in small mammal traps set in the very late evening and checked at first light. This pattern was also observed



for the specimen collected by Ms Anne Kerle on the Jabiluka outlier. Mr Grant Husband observed *E. arnhemensis* at El Sharana, some 95 km south of the Mt Brockman region.

**Comparison with other species.** *Egernia arnhemensis* is unlikely to be confused with any other member of the genus apart from *E. frerei*, which is similar in size and superficial morphology. It is not the purpose of this paper to document variation in *E. frerei* in Eastern Australia and New Guinea, but rather to point to the distinct differences in features of scalation and colouration between *E. arnhemensis* and *E. frerei*. Those characters which readily distinguish *E. arnhemensis* from *E. frerei* include the following: more numerous midbody scale rows (44-48 vs. 30-36); more numerous paravertebral scales (59-65 vs. 44-56); and a lack of differentiation in colour between the dorsal and lateral surfaces in contrast to a variety of colour patterns in *E. frerei*, most of which feature not only dorsal and lateral differentiation, but also a distinct laterodorsal zone (if in *E. frerei* the dorsal and lateral zones are poorly differentiated, then there is generally an accompanying lack of the dark flecking that is a feature of the colour pattern of *E. arnhemensis*).

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