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A New Australian Scincid Lizard, *Ctenotus coggeri*, from the Alligator Rivers Region, Northern Territory.

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ABSTRACT. *Ctenotus coggeri*, a new species of scincid lizard from the Northern Territory, is described. It is endemic to sandstone woodland habitat on the Arnhem Land escarpment where it is sympatric with *Ctenotus inornatus*, the species with which it has previously been confused. Recognition of *C. coggeri* necessitated comparison with *C. inornatus* including the type specimen of *Hinulia inornata* Gray, the provenance of which is also reviewed.

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Keywords: Taxonomy, Australia, Scincidae, *Ctenotus*

Arnhem Land is a region of heavily dissected sandstone, fringed north and east by coastal plains through which run extensive river systems to the Arafura Sea and Gulf of Carpentaria respectively. It is extremely rugged country with limited access. Consequently most knowledge of the Arnhem Land herpetofauna comes from surveys carried out on the more accessible western edge of the escarpment where it rises abruptly from the surrounding floodplain and lowland woodland associated with East Alligator River (Cogger, 1974; Mitchell, 1955; Sadlier, 1985).

Cogger (1983) depicts the diversity of habitats and herpetofauna to be found in the Alligator Rivers region and draws special attention to the high level of endemism associated with certain habitats, such as the sandstone outliers represented by Mt Brockman, Cannon Hill and Djawamba massif. It is from certain of these sandstone outliers that a new species of *Ctenotus* is here described.

Ctenotus coggeri n.sp.

Figs 1, 2

Type material. HOLOTYPE. Australian Museum (AM) R88547 (Fig. 1) an adult male from Jabiluka uranium mining project area N.T., grid reference 741113 on sheet No.5472 (Edition 1) National Map Series, 'Cahill', 12°33'S x 132°56'E.

PARATYPES. Six paratypes collected by R.A. Sadlier on the Jabiluka uranium mining project area: AM R88505 (3 August 1979), AM R88548 (5 August 1979) locality as holotype; AM R88835 (5 September 1979), AM R88930 (22 September 1979), AM R88931-88932 (23 September 1979) grid reference 747139, 12°32'S x 132°56'E.

Six paratypes collected by H.G. Cogger and D.A. Lindner at Koongarra, Mt Brockman, 12°52'S x 132°54'E: AM R38801, AM R38804-38807 (22 February 1973), AM R38954 (4 March 1973).

Diagnosis. The following suite of size, scalation and colour characteristics will distinguish *Ctenotus coggeri* from all other species in the genus: moderately large size (maximum SVL 80 mm); subdigital lamellae with broad dark calli; frontal contacting first three of four supraoculars, second widest; usually 8 upper labials; auricular lobules obtuse tending to form nearly continuous posterior free edge, grey in colour with fine dark spotting; uniform brown dorsal surface; uniform black upper lateral surface between fore and hind limbs; white midlateral stripe broken at groin but continuous with longitudinal stripe on hindlimb.

The first four features are characteristic of the *C. lesueurii* species group, of Storr *et al.* (1981), of which most members also have a well developed pattern of bold dorsal stripes and pale lateral spots between the fore and hindlimbs. *Ctenotus coggeri*, *C. quinkan* (tentatively placed in the *C. lesueurii* species group), poorly patterned *C. inornatus* and *C. helenae* lack these dorsal and lateral features of coloration.

Description. Large robust species attaining maximum snout to vent length (SVL) of 80 mm. Distance from axilla to groin 58.2-62.2% of SVL ($\bar{x}$

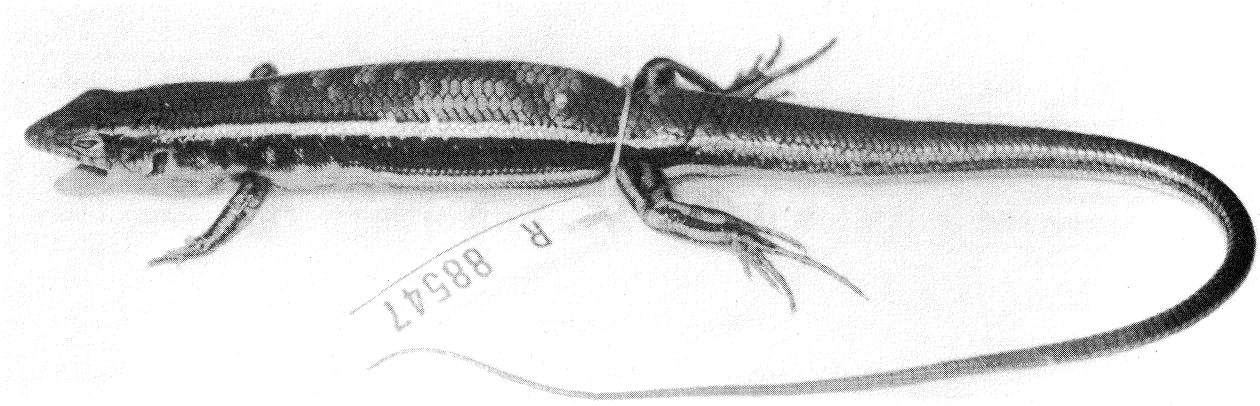

Fig. 1. Holotype of *Ctenotus coggeri* (AM R 88547).

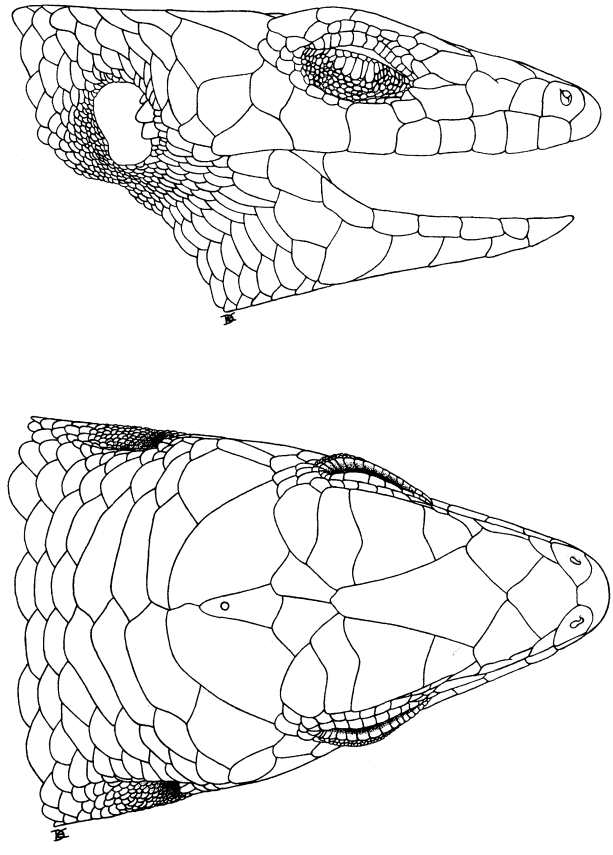

Fig. 2. Lateral and dorsal views of the head of the holotype of *Ctenotus coggeri* (AM R 88547).

= 59.9, N = 7); hindlimb length 42.9 - 48.5% of SVL ($\bar{x}$ = 46.0, N = 7); forelimb to snout length 33.3 - 35.8% of SVL ($\bar{x}$ = 34.5, N = 7); tail length 216.2 - 234.3% of SVL ($\bar{x}$ = 227.7, N = 4).

Head moderately broad and deep; nasals narrowly to moderately separated; prefrontals narrowly separated or in point to narrow contact; supraoculars 4, first three contacting frontal, second largest; supraciliaries 9 (92.3%, N = 7) or 8, first three largest, remainder much smaller and subequal; frontoparietals paired, distinct from interparietal; nuchals 2-3 either side ($\bar{x}$ = 2.9, SD = 0.4, N = 7); two loreals in horizontal series; single upper and lower preoculars, lower much larger; single anterior subocular; upper labials 8 (92.8%, N = 7) or 7; lower labials 6, postmental contacting first two labials each side; ear opening large and vertically elliptical with 4 (71.4%, N = 7) or 3 greyish, obtuse to squarish, enlarged lobules anteriorly, forming near continuous free edge.

Scales in 28-32 ($\bar{x}$ = 29.8, SD = 1.2, N = 7) rows at midbody. Dorsal scales smooth, only slightly larger than adjacent lateral scales; paravertebrals 53-55 ($\bar{x}$ = 53.5, SD = 1.0, N = 7), from first scale behind parietals to a point opposite preanal scales. Lamellae beneath fourth toe 24-28 ($\bar{x}$ = 25.6, SD = 1.0, N = 7), pale with moderate (distally) to broad (proximally) dark calli.

Colour and pattern in alcohol: dorsal surface immaculate brown. Broad white dorsolateral stripe from just above eye, posteriorly to just beyond hindlimbs, becoming duller down tail. White dorsolateral stripe bordered above by black laterodorsal stripe to level of hindlimbs, broadest anteriorly.

Upper lateral zone black with up to four pale spots medially situated in forelimb region, becoming grey-brown wash over face. White midlateral stripe from ear opening, posteriorly, to well down tail, most prominent between limbs and along basal part of tail, less well defined anterior to forelimb. Pale midlateral stripe continues along hindlimb but discontinuous with pale midlateral stripe on tail. Midlateral stripe on body bordered below by a dark suffusion giving way anteriorly to mottled grey and black. Hindlimbs with broad, longitudinally aligned, alternate dark and light stripes. Ventrally white.

Colour and pattern in life: as above but bright yellow ventrally from throat, adjacent to level of ear opening posteriorly, to basal part of tail; limbs paler yellow below.

Etymology. This species is named after Dr H.G. Cogger, Deputy Director of the Australian Museum, in recognition of his contributions to our knowledge of the

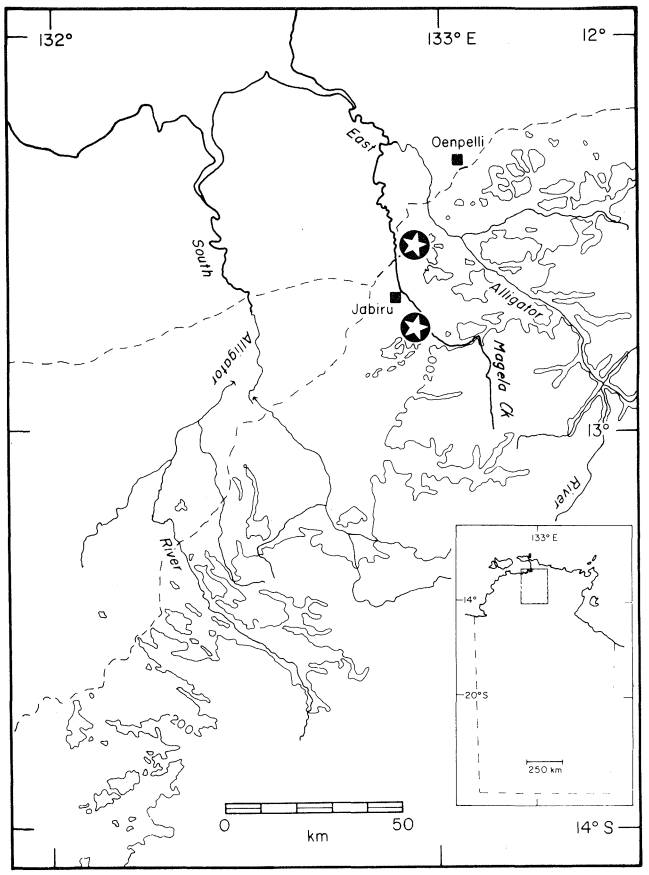

Fig. 3. Map showing the distribution of *Ctenotus coggeri* (light star in closed circle) in the Alligator Rivers region.

northern Australian herpetofauna, particulary in western Arnhem Land.

Distribution. *Ctenotus coggeri* is currently known from the sandstone outliers of Djawamba massif and Mt Brockman on Magela Creek, a tributary of East Alligator River (Fig. 3). I have also observed this species in sandstone woodland on the Mann River (12°31'S x 134°06'E) some 135 kilometres to the east of the type locality.

Habitat. The habitat in which specimens have been collected or observed is sandstone woodland. Detailed description of habitat types and distribution in the Jabiluka area are available in Burgman and Thompson (1982).

Sandstone woodland can broadly be described as communities restricted to rocky slopes, and bluffs of outcropping sandstone. On the bluffs, terrain is rugged with numerous large boulders. Dominant tree species are *Terminalia carpentariae* and *Eucalyptus kombolgiensis*, frequently with a well developed understory of grasses. On the slopes, boulders are smaller and rock piles frequent. Dominant tree species are *E. bleeseri* and *E. miniata* to 16 metres, *E. tetrodonta*, *Xanthostemon paradoxus* and *Terminalia carpentariae*. Shrub understory is frequently present and grass well developed but restricted to rock crevices.

Habits. *Ctenotus coggeri* was collected in pitfall or small mammal traps set overnight and collected in the first dawn hours; it was also observed active during the very early morning hours (0800–1000 hours) amongst sandstone boulders on the slopes of Djawamba massif. In this habitat of sandstone woodland *C. coggeri* is sympatric with *C. inornatus*.

Females from the type series collected August to September 1979 and late February to early March 1973 were reproductively inactive.

Comments. Previously, *C. coggeri* has been confused with *C. inornatus* (Cogger, 1979, Fig. 533), a highly variable species that occurs across northern Western Australia and Northern Territory. In Arnhem Land two distinct forms of *C. inornatus* are recognised, differing by the presence or absence of a prominent white edged dark vertebral stripe.

Only on Centre Island in the Sir Edward Pellew Islands do both forms of *C. inornatus* occur, although the pattern of local distribution on this island is unknown. Specimens from Groote Eylandt, Cape Arnhem, Black Craggy and Centre Islands (of the Sir Edward Pellew Islands) are weakly patterned with the dark vertebral stripe either absent, restricted to the nape or, if present, rarely pale edged, and the pale dorsolateral stripe poorly to strongly dark edged above. Specimens from the McArthur River drainage, East Alligator River drainage, and West and Centre Islands of the Sir Edward Pellew Islands, are strongly patterned with a prominent pale edged dark vertebral stripe and a well developed pale dorsolateral stripe dark edged above. Individuals from west Arnhem Land collected August - September 1978 variably showed a ventral colouration in life that was yellow posterior of the throat and pink anteriorly. A similar pink flush is also apparent in a colour transparency taken by H.G. Cogger (Australian Museum) of a specimen from Centre Island. Specimens showing this ventral coloration were only collected from sandstone escarpment or outcroppings.

In western Arnhem Land, *C. coggeri* occurs sympatrically with the strongly patterned form of *C. inornatus* in sandstone woodland habitats. Here *C. coggeri* can be most readily distinguished by a colour pattern featuring a uniform dorsal surface (vs presence of a dark, white edged vertebral stripe in *C. inornatus*) and a pale midlateral stripe continuous onto the hindlimb (vs pale midlateral stripe passing over the hindlimb and continuing along the tail in *C. inornatus*). A combination of scalation characteristics provided in the diagnosis further serve to distinguish *C. coggeri* from the strongly patterned form of *C. inornatus*.

The type of *Hinulia inornata* Gray (= *Ctenotus inornatus*) (Figs 4, 5) most closely resembles individuals of *C. inornatus*, from Cape Arnhem and Groote Eylandt, lacking a dark vertebral stripe. *Ctenotus coggeri* is distinguished in colouration from the type of *H. inornata* and the poorly patterned form of *C. inornatus* by the same features of the pale midlateral striping described above and by the features in scalation provided in the diagnosis.

The type of *Hinulia inornata* in the British Museum

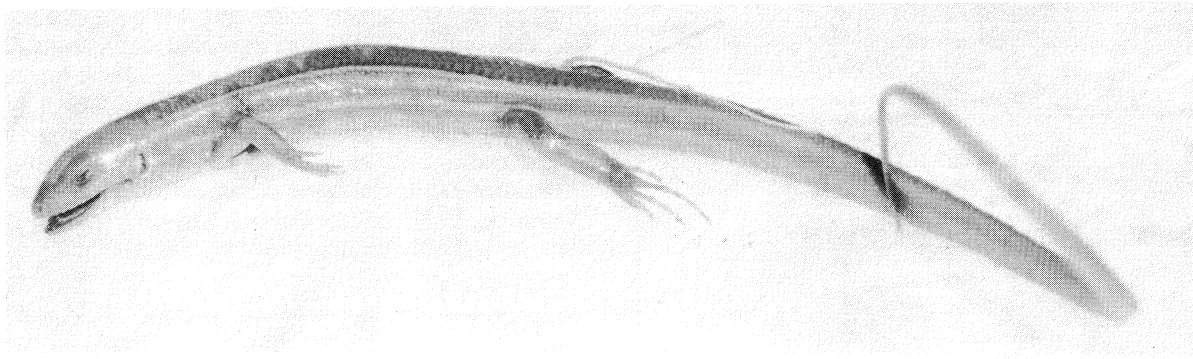

Fig. 4. Holotype of *Hinulia inornata* (BM.1946.8.15.45).

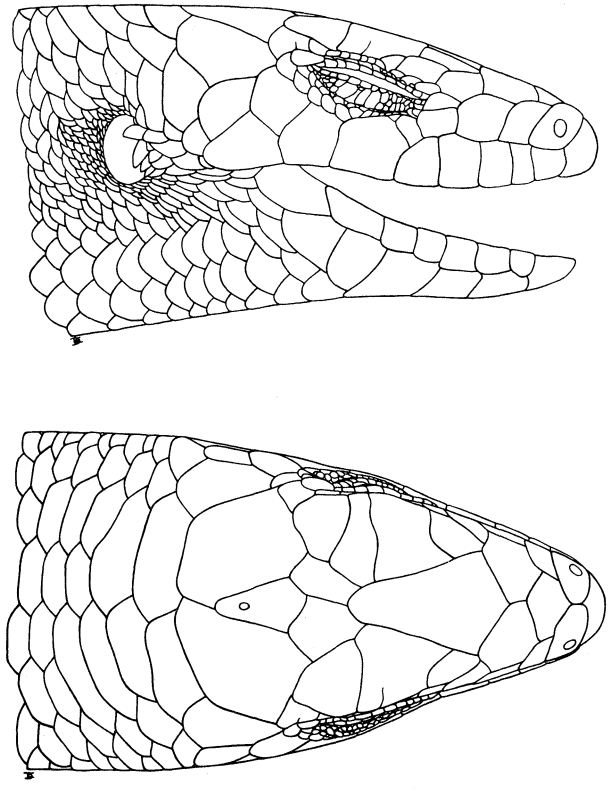

Fig. 5. Lateral and dorsal views of the head of the type of *Hinulia inornata* (BM.1946.8.15.45.).

(Natural History) (BMNH 1946.8.15.45) is erroneously listed in the catalogue as from 'Swan River'. Storr (1975) recognised the doubtful nature of the type locality and indicated it to probably be in error for Port Essington, Northern Terrirtory. However, survey work by Cogger & Lindner (1974) and subsequent years of collecting by Lindner on Coburg Peninsula, where Port Essington is located, have not produced specimens of *C. inornatus*.

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