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A TAXONOMIC REVISION OF THE GENUS *MENETIA* (LACERTILIA, SCINCIDAE) IN THE NORTHERN TERRITORY

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ABSTRACT

The genus *Menetia* in the Northern Territory comprises three species: *M. alanae* sp. nov., *M. greyii* (Gray), and *M. maini* Storr. *M. zynja* Ingram, first described from Queensland is synonymized with *M. maini* Storr.

INTRODUCTION

Recently, the genus *Menetia* has come under scrutiny (Storr, 1976; Ingram, 1977) with the result that a previously monotypic genus now has five species allotted to it. The above studies dealt only with *Menetia* from Western Australia and Queensland. The present study examines *Menetia* from the Northern Territory in which there are representatives from both Western Australia and Queensland.

Storr (1976) provided a definition of the genus *Menetia* which was later amended by Ingram (1977), and all species considered here are within the genus as defined by Storr (1976). The term presuboculars is used in the present paper to refer to the scale or scales located in a diagonal line between the posterior loreal and the subocular labial (Fig. 1). Allometric changes in *Menetia* head shape are great, and in juveniles a presubocular scale may be confused with a loreal scale, giving the impression that three loreals are present, when in fact all *Menetia* have only two loreal scales on each side. The enlarged circumocular granule referred to by Storr (1976) and Ingram (1977) is also shown in Figure 1. (Although *Menetia surda* is not found in the Northern Territory, it is figured because it demonstrates well the variation in head shield configuration expressed in the genus.)

The specimens used in this study are lodged in the Australian Museum (AM); the Australian National Wildlife Collection (ANWC); the National Museum of Victoria (NMV); the collection held at the Arid Zone Research Institute, Alice Springs (NTM — A/S); the Northern Territory Museum, Darwin (NTM); the South Australian Museum (SAM); the Western Australian Museum (WAM); and Mr Harry Ehmann's personal collection, which will be lodged in the SAM (HFWE).

TAXONOMY

Key to the species in the genus *Menetia* occurring in the Northern Territory.

1. (a) Second supraciliary much larger than first, contacting prefrontal, thus precluding contact between first supraciliary and first supraocular 2

*Deceased, 2nd January, 1979.

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(b) Second supraciliary a little larger than first, not contacting prefrontal, thereby permitting contact between first supraciliary and first supraocular ..... *maini*

2. (a) Two presuboculars on each side, tail length 123-134% of SVL; pale midlateral stripe invariably absent ..... *alanae*

(b) One presubocular on each side, tail length 145-178% of SVL; pale midlateral stripe present, at least anteriorly ..... *greyii*

Menetia alanae sp. nov.
Figs. 1-3

HOLOTYPE: R52064 in the Australian Museum, Sydney. Collected by P. R. Rankin on 25 September 1975 on the alluvial plain immediately southeast of Mt. Carr, Adelaide River Township, Northern Territory, 13°15'S, 131°06'E.

PARATYPES (10): Tapa Bay, Cox Peninsula, N.T., 12°27'S, 130°36'E (ANWC R748); Berrimah, Darwin, N.T., 12°25'S, 130°55'E (AM R41503, ANWC R779-782); Nakara, Darwin, N.T. (NTM R4733); 32.5 km SE of Noonamah, N.T., 12°54'S, 131°12'E (NTM R2739); 45 mi. S. Darwin, N.T., 12°53'S, 131°07'E (WAM R37134); Adelaide River Township, N.T. 13°15'S, 131°06'E (AM R52065).

DIAGNOSIS: Second supraciliary contacts prefrontal; two presuboculars on each side. Most similar to *M. greyii* from which it is readily distinguished by total lack of pale midlateral stripe and much shorter tail (123-134% of SVL versus 145-178% of SVL).

DESCRIPTION OF HOLOTYPE: Snout-vent length: 29.0 mm; tail length (regenerated): 20.0 mm; axilla-groin length: 17.5 mm (60% of SVL); snout sharp; body form rounded, not depressed; ear opening distinct.

Nasals moderately separated; prefrontals in broad contact; supraciliaries 3/3, second contacting prefrontal; first supraocular slightly more than twice as long as wide; presuboculars 2/2; supralabials 6/6, the fourth in a subocular position on each side; upper circumocular granule no larger than other circumocular granules; interparietal not fused to frontoparietal; midbody scale rows 22; subdigital lamellae under fourth toe 19/19, smooth with broad pale calli.

Colour and pattern (in alcohol): Dorsally pale brown with a few darker flecks aligned longitudinally in two rows along the paravertebral scales, most prominent posteriorly. Upper lateral zone dark greyish brown, poorly defined from the dorsum, merging to grey on the lower lateral zone. No pale midlateral stripe. Upper labials white, speckled with brown. Limbs pale brown with sparse darker flecks above. Venter immaculate white except for underside of tail which is pale yellow.

VARIATION: Meristics and measurements of the paratypes are included in Table 1. In all but one paratype, the nasals are moderately separated — in WAM R37134, they are only narrowly separated. Among the paratypes, the prefrontals are in broad to moderate contact and in other respects the head shield configuration is as for the holotype.

Colour and pattern (in alcohol): In adults the colour and pattern is as for the holotype, but in juveniles, the upper lateral zone is black, sharply defined dorsolaterally from the pale cream or brown coloured dorsum. In juveniles (as with the adults) there is no pale midlateral stripe, and in life, the venter is pale grey and the tail grey-brown.

A juvenile specimen (NTM R2828) from 32 km NE of Oenpelli, N.T., is tentatively placed with *M. alanae* pending examination of adults from this population. In most respects, the specimen conforms to this species, but it differs from the type series in that the prefrontals are not in contact and in life it had a bright blue tail (Mr Brian Jukes, pers. comm.).

DISTRIBUTION: *M. alanae* occurs in the humid coastal and near coastal regions of the northwestern Northern Territory (Fig. 3).

HABITAT: The author's specimens of *M. alanae* from Adelaide River were collected in September 1975 in thick leaf litter beneath trees on the sandy alluvial river flat. The lizards were noted to be particularly active during late afternoon. The data with the series collected by Mr John Wombey at Berrimah in February to March 1972 state that they were "out in wet leaf litter". The Tapa Bay specimen, also collected by Mr Wombey, was stated to be in "sandy open coastal mixed forest".

It may be of interest to note that *M. alanae* shares the same habitat at *Ctenotus storri* (Rankin 1978), and the two species were taken in conjunction both by the author and Mr Wombey at all of the localities listed for *M. alanae* in the previous paragraph.

ETYMOLOGY: The species is named after Ms Alana Young of the Department of Herpetology, Australian Museum, in appreciation of assistance she has given the author in previous projects, particularly with the typing of manuscripts.

Menetia greyii
Figs. 1-3

Menetia greyii Gray 1854 "Catalogue of the Lizards in the Collection of the British Museum" p.66. Type locality: "Western Australia". (See Storr, 1976, for designation of lectotype.)

DIAGNOSIS: Second supraciliary contacts prefrontal; one presubocular on each side. Pale midlateral stripe distinct, at least anteriorly; lower lateral zone consists of several thin dark stripes.

DESCRIPTION AND VARIATION: Meristics and measurements are included in Table 1. Snout short; body depressed; ear opening distinct; nasals moderately to widely separated; prefrontals usually separated, rarely in point contact; supraciliaries 3, second contacting prefrontal; first supraocular more than twice as long as wide; presuboculars almost invariably 1/1; supralabials 6, fourth in a subocular position; nuchals 1/1; upper circumocular granule no larger than other circumocular granules; interparietal generally distinct from frontoparietal; subdigital lamellae broadly callose to slightly compressed.

Colour and pattern (in alcohol): Dorsum pale brown to grey with longitudinally aligned series of 2-4 dark brown or black spots on the mid-dorsal scales. Upper lateral zone darker than, and distinctly demarcated from dorsum, sometimes with a narrow, pale, indistinct dorsolateral stripe, especially anteriorly. A white midlateral stripe invariably present, but varying in intensity from almost indiscernible to distinct; always most distinct anteriorly. Lower lateral zone consists of several very narrow, irregular, black longitudinal stripes, especially posteriorly. Venter immaculate white, except for underside of tail which is flecked with darker spots.

A specimen (NTM R2885) from Cahills Crossing, East Alligator River (lat. 12°26'S, long. 132°58'E) is tentatively placed with this species, although it possibly represents an

unnamed taxon. It differs from typical *M. greyii* in having two presuboculars on each side, and a markedly different colour pattern. It has a very broad black upper lateral zone with a conspicuous white midlateral stripe, and the dorsum is pale cream. In addition, its body is more slender than in typical *M. greyii,* and it has only 20 midbody scale rows. Although the Groote Eylandt *M. greyii* (NTM — A/S 5320) has 20 midbody scale rows, the nearest mainland specimen having 20 is from Mt. Doreen Station (22°S). The nearest typical *M. greyii* to Cahills Crossing is from Muriella Park ruins (ANWC R408), only 60 km to the southwest.

Storr (1976) commented that midbody scale counts of 20 were as common as 22 for *M. greyii* in the Northern Territory. Of the 94 specimens examined in this study, only 8 (8.5%) had 20, the remainder 22.

DISTRIBUTION: *M. greyii* occurs continuously throughout the Northern Territory at least as far north as the Barkly Tableland. A population occurs on Groote Eylandt, and there is a specimen from the drainage of the Alligator Rivers (Fig. 3). The species is distributed extralimitally in W.A., S.A., Vic., N.S.W., and Qld. (see Cogger, 1975).

HABITAT: *M. greyii* inhabits flat to undulating country on a wide variety of soil types, from sandy to hard gibber plains and black soil downs, usually with a fairly stunted, open vegetation. In the author's experience, it is not found on rocky hillsides or in heavily wooded areas. Whether or not the species is as continuously distributed in the northernmost parts of its range as it is in the south remains to be determined. Dr G. Storr (in litt.) has commented that *Menetia* is replaced ecologically by *Proablepharus* in the Kimberley region of W.A. As well as this, at least two other species of *Menetia* already occur in the far northern parts of the Northern Territory, and these may largely exclude *M. greyii* from the region.

MATERIAL EXAMINED: During the course of this study, the entire series of *Menetia* in the Australian Museum was examined, but only localities in the Northern Territory are presented here.

ANWC (2): Muriella Park (ruins), 12°50'S, 132°44'E (R407); E of Old Andado Station (R747).

AM (19): 5 km N of Alice Springs (R12018); Frewena (R17420); 50 km W of Haast's Bluff (R21107); 30 km WNW of Mt. Olga (R26402); vicinity of Finke (R26504); near Andado Station (R26548-9); Simpson Desert, 25°35'S, 135°50'E (R26561); Simpson Desert, 25°30'S, 137°04'E (R26574); Alice Springs (R49285-6, R52061); 45 km from Andado on Charlotte Waters track (R49506); 6 km N of Alice Springs (R49539); Stuart Hwy, 72 km SW of Alice Springs (R52060); Roe Creek (R52062-3); Simpson Desert, 24°07'S, 135°20'E (R53172); ridge near Casey Bore (R53171); 24 km S of Anthony Lagoon (R60112).

NMV (5): Mt. Doreen Station (DT-D 0230); Glen Helen Camp (D2283); Palm Creek (D3320); Sanders Creek (D5583); Ayers Rock (D8045).

NTM (20): Alice Springs (R766); Napperby Creek crossing (R1389); Maryvale (R1602-3, R1647, R1874-9, R1886-7, R1982); Armstrong Creek, *ca* 100 km W of Ayers Rock (R1670, R1693-4); Curtin Springs (R1684); Mt. Gillen, Alice Springs (R1937); Brunette Downs Racecourse (R3648).

NTM – A/S (22): Standley Chasm (1053); Ooraminna (1543-4); Phillipson Stock Route, 24°25'S, 133°35'E (1545); Alice Springs (1563, 1565, 1567-73, 2855, 2897-8); Groote Eylandt (5320); Epenarra, 20°25'S, 135°18'E (5372); Thompsons Rock-hole, Tanami Sanctuary, 20°38'S, 130°59'E (5382); Connells Reserve, 18°48'S, 136°30'E (5384-5); 22 mi E of Ayers Rock (5514).

SAM (9): Tennant Creek (R5863, R5866); 2 km W of Yuendumu (R10319); 1 km E of Emily Gap (R11286); Alice Springs (R11289-92); Finke River (R13317).

HFWE (25): Charlotte Waters (0300-10); 14 km E of Charlotte Waters on New Crown Road (0312-3, 0358); 39 km N of Charlotte Waters (0328); North Alice Springs (0391-2); 78 km S of Alice Springs on Old South Road (0396); Brunette Downs Creek crossing on Borroloola road (0611-7).

Menetia maini

Figs. 1-3

Menetia maini Storr (1976) Rec. West. Aust. Mus., 1976, 4(2), p. 198. Type locality: 23 km SSE of Derby, W.A., 17°29'S, 123°43'E.

Menetia zynja Ingram (1977) Vict. Nat. 94, p. 186. Type locality: Mt. Unbunmaroo, 90 km NW of Boulia, Qld., 22°32'S, 140°18'E.

DIAGNOSIS: Second supraciliary does not contact prefrontal; presuboculars one or two. Pale midlateral stripe absent.

DESCRIPTION AND VARIATION: Meristics and measurements are included in Table 1. Snout short; body rounded but not depressed; ear opening distinct; nasals moderately to widely separated; prefrontals varying from moderate contact to narrowly separated; supraciliaries 3, second not contacting prefrontal; supraocular more than twice as long as wide; interparietal free from frontoparietal; nuchals 1/1; upper circumocular granule no larger than other circumocular scales; presuboculars 1 or 2 on each side; supralabials 6/6, fourth in a subocular position; subdigital lamellae smooth with broad, dark calli.

Colour and pattern (in alcohol): Dorsally dark greyish brown, liberally flecked with minute black spots especially on head. Lateral zone dark greyish brown (darker than dorsum), sometimes with a narrow pale indistinct dorsolateral stripe anteriorly. Sides of head (including upper and lower labials), grey, liberally flecked with darker spots. Tail brown above, with a few darker spots, often with a fairly well defined pale stripe separating dark grey lateral zone from dorsum. Limbs dark brown with distinct paler mottlings. Venter grey, darker beneath tail. Occasionally, a very short indistinct white midlateral stripe anteriorly.

The variability in the presubocular scales in this species is clearly shown by two specimens from south of the Gulf of Carpentaria. In AM R53307 from Caranbirini Waterhole in the McArthur River drainage there is one presubocular on one side, and two on the other. In the other specimen (HFWE 0569), from 249 km E of the Stuart Hwy, on the Carpentaria Hwy (close to the last locality), there is one presubocular on one side and an incompletely divided one on the other.

The number of midbody scale rows tends to be lower in specimens from the east than in those from the western part of the species' total known range; however, no evidence suggests a smooth clinal distribution in this character. In the Northern Territory, the distribution of midbody scale rows does not conform to any geographic pattern, and does not correlate with the number of presuboculars.

DISTRIBUTION: In the Northern Territory, *M. maini* is distributed mainly across the northern parts, south to Daly Waters and the McArthur River drainage, with probable isolated populations at Peko and Mt. Doreen. It also occurs on Centre Island in the Sir Edward Pellew Group (Fig. 3). The species is distributed extralimitally in the Kimberley region of W.A. (Storr, 1976) and in Queensland as far east as Normanton (AM R63421-3).

HABITAT: Most of the specimens for which the author has been able to ascertain habitat were from hard stony soils in hilly or undulating country. Mr Richard Wells (pers. comm.) reports that the specimens from Pine Creek were taken in leaf litter in tropical woodland on stony lateritic soil in undulating country.

COMMENTS: Considering the material available, there is no evidence to justify the maintenance of *M. zynja* as a taxon separate from *M. maini*. Ingram (1977) gave the number of supraciliaries and the number of presuboculars as the characters separating *M. zynja* from *M. maini*. However, all *M. maini,* including the type of *M. zynja* have 3 supraciliaries. The variability in the number of presuboculars in this species has been demonstrated above.

As almost all of the Northern Territory specimens of *M. maini* are single individuals from a given locality, the extent of local variability within the taxon cannot be determined at present.

MATERIAL EXAMINED: *AM* (5): Centre Island, Sir Edward Pellew Group (R57355); Caranbirini Waterhole, *ca* 21 km N of McArthur River Crossing, 16°16'S, 136°05'E (R53307); Bessie Spring, McArthur River Station, 16°40'S, 135°51'E (R55372); Glyde River, 10 km E of McArthur River Mining Camp (R53647); Mt. Doreen (R49546).

NTM (3): Ban Ban Spring, 13°22'S, 131°30'E (R3181); 5.5 km N of Pine Ck., 13°50'S, 131°48'E (R3100-1).

HFWE (3): 2 km S of Daly Waters (0455); 32 km S of Katherine (0526); 249 km E of Stuart Hwy on Carpentaria Hwy (0569).

WAM (1): Peko (R21474).

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Table 1

Meristics and measurements of Northern Territory *Menetia* species. Ranges are given on the top line, means below in brackets.

	Midbody Scale Rows	**Subdigital Lamellae (4th toe)**	**SVL**	**Tail Length** (% of SVL)	**Axilla-Groin** (% of SVL)
				(N=4)	
M. alanae	22-24	17-20	14.5-29.0	123-134	48-60
N=10	(22.2)	(18.5)	(23.0)	(130)	(53.1)
				(N=11)	
M. greyii	20-22	17-24	12.5-36.0	145-178	48-63
N=77	(21.7)	(20.7)	(29.7)	(161.6)	(57.1)
				(N=3)	
M. maini	18-26	18-20	15-28	118-128	50-63
N=12	(21.6)	(18.9)	(24.5)	(122.6)	(56.6)

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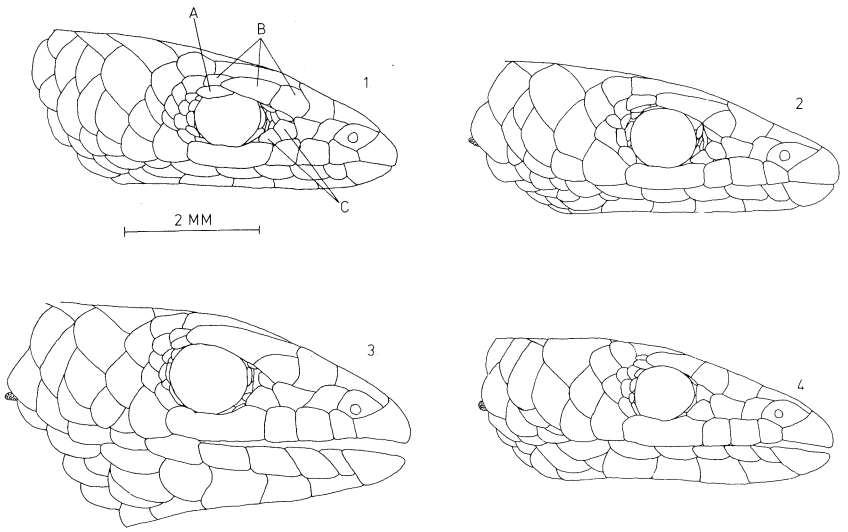


Fig. 1. Lateral aspects of the heads of *Menetia* species. (1) *M. surda,* a Western Australia species (WAM R 54573). A: Enlarged upper circumocular granule, B: Supraciliary scales, C: Presubocular scales; (2) *M. alanae* holotype (AM R 52064); (3) *M. greyii* (AM R 53171); (4) *M. maini* (NTM R 3100).

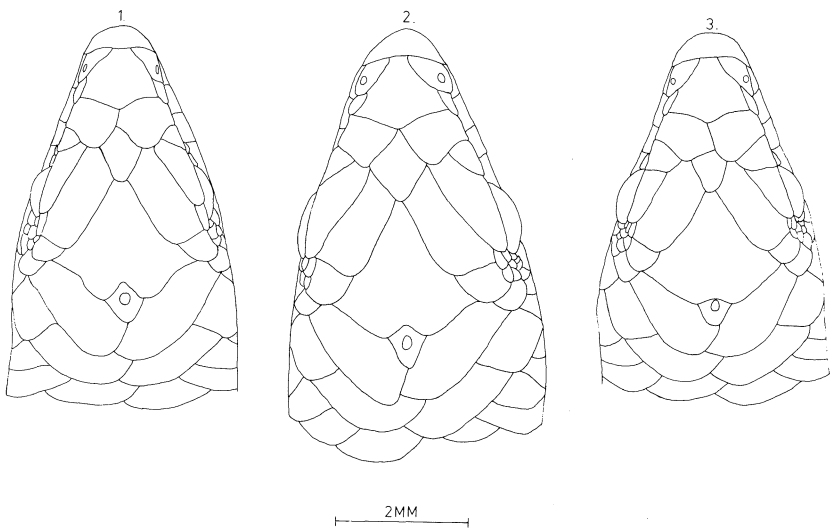
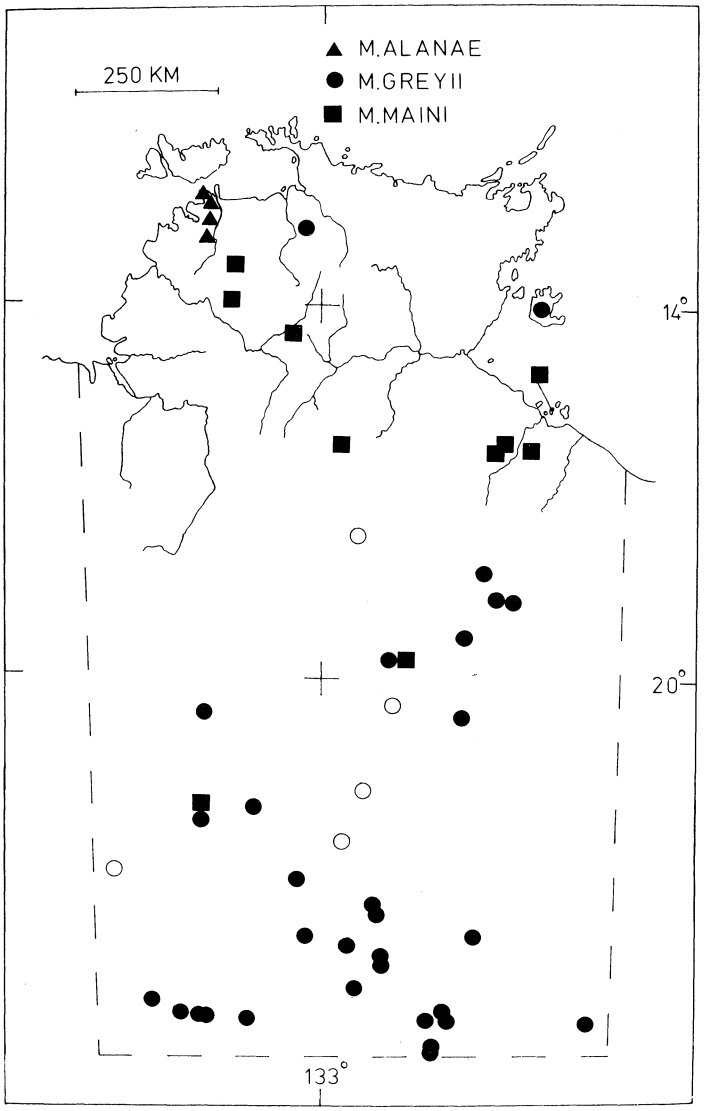


Fig. 2. Dorsal aspect of the heads of Northern Territory *Menetia* species. (1) *M. alanae* holotype (AM R 52064); (2) *M. greyii* (AM R 53171); (3) *M. maini* (NTM R 3100).



Figs. 3. Map showing locality records for *Menetia* species in the Northern Territory. Open symbols are literature records from Storr (1976). Records for specimens only tentatively allocated to species are not incuded. Some symbols represent more than one locality.

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