

1. Family:	Agamidae
2. Scientific Name:	<i>Ctenophorus yinnietharra</i> (Storr, 1981) [also appears in the literature as <i>Amphibolurus yinnietharra</i>]
3. English Name:	Yinnietharra Rock Dragon

4. **Intraspecific taxa:** None accurately?: No.
5. **Species survival status:** Vulnerable
- 13.1: Ground surveys need to be conducted to determine the full geographic range of the species, its habitat preferences, and the extent of its occurrence in existing reserves.
6. **Former distribution:** Not known to have differed from current distribution.
- 13.2: Research is needed into the basic biology and ecology of the species in the field; it should include long term monitoring of changes in population size, habitat use and geographic range.
7. **Current distribution:** Within an area of approximately 35 km² around the Gascoyne River on Yinnietharra Station, east of Carnarvon, Western Australia. Only recorded at two localities within this area.
- 13.3: Research is needed to determine if the species is declining and if so, to identify the major factors contributing to that decline.
8. **Habitat:** Tall open shrubland.
- Inhabits granite outcrops separated by stony flats supporting sparse *Acacia* shrubs. Appears to be restricted to rocks of one origin - Archaean gneissic biotite granites and granodiorite - whilst nearby outcrops of Early Proterozoic migmatite are inhabited by a different dragon species, *Ctenophorus caudicinctus*. Has been found beneath exfoliating granite, in burrows under granite boulders, and in a hollow *Acacia* log.
14. **Recovery Plan objectives:**
- 14.1: To obtain sufficient information on the species' biology, ecology and distribution to determine its current conservation status and formulate appropriate management strategies.
- 14.2: To ensure that secure, viable populations of the species are maintained within a reserve system.
- 14.3: To implement land management practices which promote the maintenance of secure, viable populations of the species outside reserves.
9. **Reasons for decline:** Not known to have declined, but the occurrence of this species in small, isolated populations makes it vulnerable to pressure from pastoral activities, especially grazing by cattle.
15. **Management actions already initiated:**
- 15.1: Listed on Schedule 1 of the Commonwealth's *Endangered Species Protection Act 1992* and listed as "endangered" on the 1990 Schedule of the *WA Wildlife Conservation Act 1950*.
10. **Conservation reserves on which species occurs:** None known.
16. **Management actions required:**
- 16.1: Survey known and potential habitat within the species' known range.
- 16.2: Develop and promote guidelines and provide incentives for landowners and users to reduce the impact of current land use practices on the species outside reserves.
- 10A. **Other conservation reserves where species might be expected to occur:** None.
11. **Other public land on which species occurs:** None known.
12. **Other land on which species occurs:** Yinnietharra Station.
13. **Is knowledge about species adequate for objectives and actions to be defined**

- 16.3: Establish appropriate reserves.
 16.4: Develop community awareness within the species' known range.

involved: Western Australian Department of Conservation and Land Management (Andrew Burbidge).

17. Organisations responsible for conservation of species and individuals

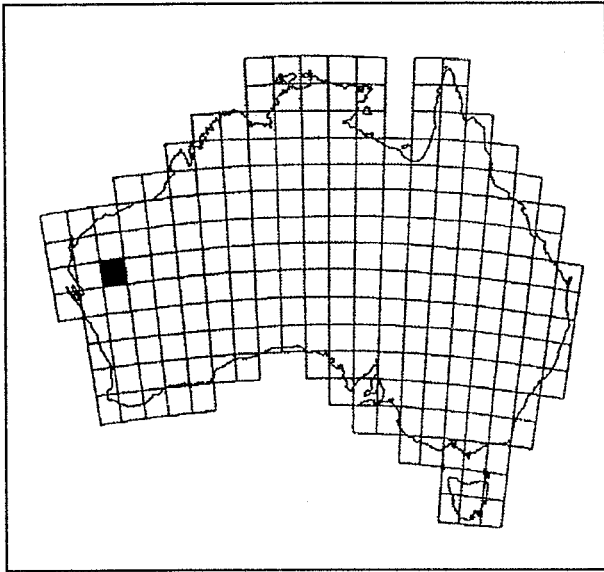
18. Other organisations and individuals involved: Magnus Peterson (Perth).

19.	Can recovery plan be carried out with existing resources?: No.	
1:	Survey of geographic range, habitat preferences and occurrence in reserves: 2 workers for 1 month each for 2 years - \$13,333 salary; \$10,000 expenses (1.5 x standard expenses for remote region).	\$23.333K
2:	Research into basic biology and ecology, including assessment of threatening processes: 1 worker for 6 months each year for 2 years - \$40,000 salary; \$30,000 expenses (1.5 x standard expenses for remote region).	\$70K
3:	Preparation of management strategies: 1 worker for 3 months - \$10,000 salary; \$2,000 expenses.	\$12K
4:	Purchase of land for the reserve system: uncosted.	
		Total \$105.3K

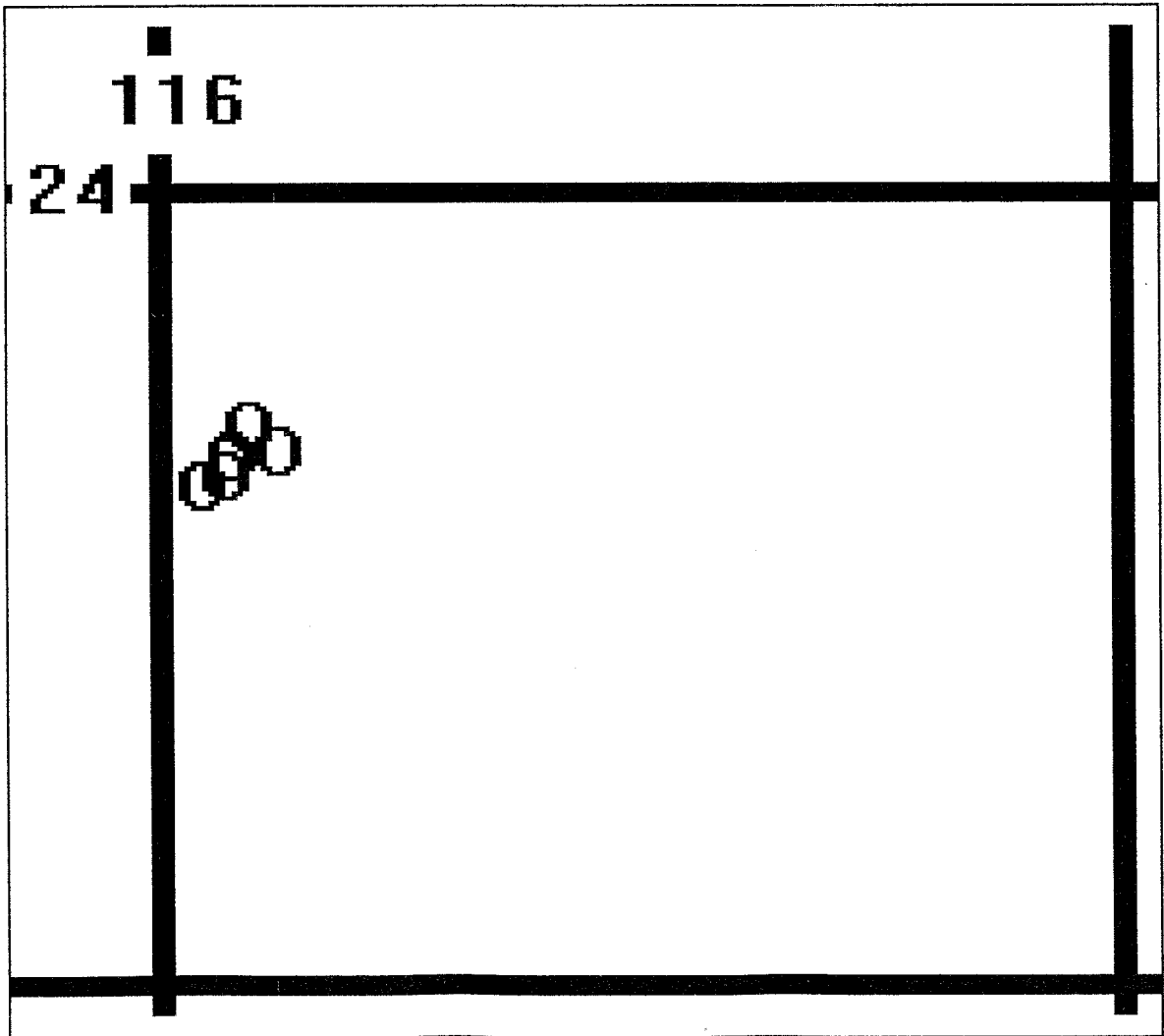
20. Remarks: 19 specimens documented in Australian museum collections, collected between 1974 and 1984. Based on the occurrence of suitable rock outcrops within the range of this species, the population may be no larger than 300 individuals (Magnus Peterson, pers. comm.).

References:

Storr, G.M. 1981. Three new agamid lizards from Western Australia. *Records of the Western Australian Museum* 8(4): 599-607.
 Wilson, S.K. and Knowles, D.G. 1988. *Australia's Reptiles; a photographic reference to the terrestrial reptiles of Australia*. Collins Publishers, Australia. 447 pp.



Distribution of
Ctenophorus yinnietharra



1. **Family:** Agamidae
2. **Scientific Name:** *Tympanocryptis lineata pinguicolla* Mitchell, 1948
3. **English Name:** South-eastern Lined Earless Dragon

4. **Intraspecific taxa:** Taxonomic status of most subspecies uncertain. *T. lineata centralis* (stony arid habitats with hummock grassland, in eastern WA, northern SA and NT), *T. lineata houstoni* (chenopod shrubland on limestone, Nullarbor Plain), *T. lineata lineata* (semi-arid shrublands of eastern SA, north-western VIC and the interior of NSW and QLD), *T. lineata macra* (black clay plains of southern and eastern Kimberley and western NT), *T. lineata pinguicolla* (basalt plains of southern VIC and the native grasslands of south-eastern NSW and ACT). "Preliminary examination of museum specimens indicates that the [last] subspecies probably should be elevated to species rank" (Osborne and Kukolic, 1992).

5. **Subspecies survival status:** Vulnerable.

6. **Former distribution:** In Victoria, once considered reasonably common on basalt plains north and west of Melbourne (Wilson and Knowles, 1988); a site at Bathurst NSW where it once occurred has been urbanised (Will Osborne, pers. comm.). Population in the ACT has apparently undergone severe decline in last 30 years; not recorded between 1963 and 1991, when it was again found, but only at four of 46 sites surveyed (Osborne and Kukolic, 1992).

7. **Current distribution:** Basalt plains of southern Victoria (the few recent records are all from localities just west of Melbourne *vide* Brereton and Backhouse, 1993), Southern Tablelands of NSW (including Jerrabomberra grasslands) and ACT. Occupies higher altitudes and regions with cooler temperatures than any of the other subspecies of *Tympanocryptis lineata* (Jenkins and Bartell, 1980).

8. **Habitat:** Tussock grassland.

Found in naturally treeless native tussock grassland on black clay, brown clay loams and podzolic soils. Appears to prefer grasslands composed of *Themeda*, *Danthonia* and *Stipa*

species, growing on gentle slopes or alluvial flats which have not been grazed, or grazed only lightly (Hogg, 1990; Osborne *et al.*, 1993; Brereton and Backhouse, 1993). In Victoria recent sightings have been in native tussock grassland on stony crests or rocky stream escarpment (Brereton and Backhouse, 1993) where the species has been found sheltering under surface rocks or in rocky outcrops; it "retreats into small holes, like those of the 'Trap-door Spider', in the ground when alarmed" (McCoy, 1889).

9. **Reasons for decline:** Probably a combination of factors, including habitat clearance, overgrazing by sheep and cattle and rabbits, cropping, pasture improvement, urban development, fragmentation of habitat, rock removal, irrigation, changed fire regimes (as a result of urban expansion) and invasion of weeds (Osborne and Kukolic, 1992; Brereton and Backhouse, 1993).

"Much [of the native grasslands of the ACT] has disappeared as a result of past pastoral activities and the conversion of native grasslands into improved pastures for sheep and cattle grazing. The remaining tracts ... are relatively restricted in area and discontinuously distributed throughout the lower altitudes of the Territory ... and coincide with areas earmarked for future urban development" (Anonymous, 1991).

"[Another reason for the] decline of this form from within southern Victoria at least, is the removal of the stones from the basalt plains as a specific method of pasture improvement" (John Coventry, *in litt.*). Only 1 per cent of the original grasslands of western Melbourne remain, and less than 2 km² of native grassland is in conservation reserves (Brereton and Backhouse, 1993).

10. **Conservation reserves on which subspecies occurs:**

Australian Capital Territory: none;

New South Wales: none known;
Victoria: Holden Flora Reserve.

10A. Other conservation reserves where subspecies might be expected to occur:

New South Wales: Kosciusko NP;
Victoria: Brisbane Ranges NP, Cathedral Range SP, Mount Ida FFR, You Yangs FP.

11. Other public land on which subspecies occurs: Aircraft navigation facility north of Canberra Airport.

12. Other land on which subspecies occurs: ACT: "Woden" pastoral property south-east of Canberra;

New South Wales: "The Poplars" grazing property near Queanbeyan;
Victoria: Little River Gorge west of Werribee and Merri Creek at Bald Hill north of Donnybrook. Potentially present in suitable habitat on private properties throughout the species' range.

13. Is knowledge about subspecies adequate for objectives and actions to be defined accurately?: No.

13.1: Ground surveys need to be conducted to determine the full geographic range of the subspecies, its habitat preferences, and the extent of its occurrence in existing reserves.

13.2: Research is needed into the basic biology and ecology of the subspecies in the field; it should include long term monitoring of changes in population size, habitat use and geographic range.

13.3: Research is needed to document the extent of the subspecies' decline and to identify the major factors contributing to that decline.

13.4: Genetic and morphological studies required to determine the taxonomic status of this subspecies and its relationship to *Tympanocryptis lineata lineata*; most recent study of the group was in 1948 by Mitchell, who examined the morphology of a small sample.

14. Recovery Plan objectives:

14.1: To obtain sufficient information on the subspecies' biology, ecology and distribution to determine its current conservation status and formulate appropriate management strategies.

14.2: To ensure that secure, viable

populations of the subspecies are maintained within a reserve system.

14.3: To implement land management practices which promote the maintenance of secure, viable populations of the subspecies outside reserves.

15. Management actions already initiated:

15.1: Listed as "threatened" on the 1993 Schedule 2 of the *Victorian Flora and Fauna Guarantee Act 1988*.

Australian Capital Territory:

15.2: ACT Parks and Conservation Service has conducted a survey of the subspecies in the ACT.

15.3: Populations in the Canberra district are being monitored; data has been collected on relative abundance, population structure and habitat use, and measures will be undertaken to ensure the long-term conservation of this area.

Victoria:

15.4: Action Statement prepared by the Victorian DCNR under the Flora and Fauna Guarantee, Victoria.

15.5: Field surveys have been conducted by DCNR.

16. Management actions required:

16.1: Survey known and potential habitat in reserves within the subspecies' known range in NSW and VIC.

16.2: Survey known habitat outside reserves within the subspecies' known range in NSW and VIC.

16.3: Develop and promote guidelines and provide incentives for landowners and users to reduce the impact of current land use practices on the subspecies outside reserves. For example, "activities such as ploughing, clearing, rock removal, cultivation, pasture improvement, excessive livestock grazing, topsoil removal and urban development should be prevented [in the lowland grasslands of the ACT]" (Osborne and Kukolic, 1992).

16.4: Establish appropriate reserves (including native grasslands on the Southern Tablelands of NSW).

16.5: Develop community awareness within the subspecies' known range.

17. Organisations responsible for conservation of subspecies and individuals involved: Victorian Department of Conservation and Natural Resources (Gary Backhouse, Peter Robertson), New South Wales National Parks and Wildlife Service, Australian Capital

Territory Parks and Conservation Service (Will Osborne and Kruno Kukolic).

18. Other organisations and individuals involved: John Coventry (Museum of Victoria), ACT Herpetological Association.

19.	Can recovery plan be carried out with existing resources?: No.	
1:	Survey of geographic range, habitat preferences and occurrence in reserves: 2 workers for 3 months each year for 2 years - \$40,000 salary; \$20,000 expenses.	\$60K
2:	Research into basic biology, systematics and ecology, including assessment of threatening processes: 1 worker for 4 months each year for 2 years - \$26,667 salary; \$13,333 expenses.	\$40K
3:	Preparation of management strategies: 1 worker for 3 months - \$10,000 salary; \$2,000 expenses.	\$12K
4:	Purchase of land for the reserve system: uncosted.	
		Total \$112K

20. Remarks: 19 specimens documented in Australian museum collections. A few individuals captured in the field in the Majura Valley, ACT, in 1991 and 1992.

References:

Anonymous 1991. Letter to the Chief Minister ACT ACT Herpetological Association Newsletter December 1991: 5.

Brereton, R. and Backhouse, G. 1993. Action Statement 35: Southern Lined Earless Dragon *Tympanocryptis lineata pinguicolla*. Victorian Department of Conservation and Environment, East Melbourne.

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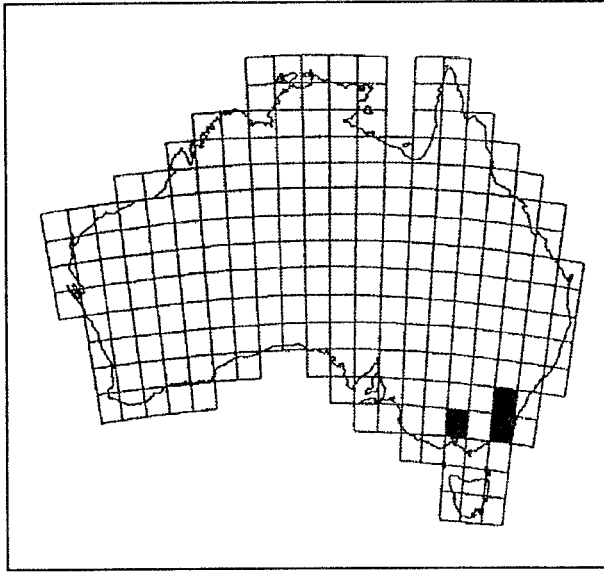
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Mitchell, F.J. 1948. A revision of the lacertilian genus *Tympanocryptis*. Records of the South Australian Museum 9(1): 57-86.

Osborne, W.S. and Kukolic, K. 1992. *Tympanocryptis lineata pinguicolla* (Southern Lined Earless Dragon). pp. 32-35 in Recovery Plan: lowland native grassland ecosystems in the Australian Capital Territory. Unpublished progress report to the Australian National Parks and Wildlife Service Endangered Species Unit. Wildlife Research Unit, ACT Parks & Conservation Service.

Osborne, W.S., Kukolic, K., Davis, M.S. and Blackburn, R. 1993. Recent records of the Earless Dragon *Tympanocryptis lineata pinguicolla* in the Canberra region and a description of its habitat. Herpetofauna 23(1): 16-25.

Wilson, S.K. and Knowles, D.G. 1988. Australia's Reptiles; a photographic reference to the terrestrial reptiles of Australia. Collins Publishers, Australia. 447 pp.



Distribution of
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