# V REPTILES AND FROGS OF DONGOLOCKING NATURE RESERVE

A. CHAPMAN & JOHN DELL

## INTRODUCTION

Reptiles and frogs were collected in Dongolocking Nature Reserve between 15-25 October 1974 and 7-17 April 1975.

All main vegetation formations were examined, and specimens were collected by shooting with 0.22 calibre dust shot, searching hollow logs, leaf litter, etc. and digging out burrows. Some geckos and frogs were collected at night while head-torching.

**Table 1** presents numbers of each species collected each season and, where recorded, the vegetation location number in which they were collected. These numbers are directly referable to the vegetation descriptions of Muir (this publication). An annotated list presents additional data on habitat, breeding and diet.

All undamaged specimens were dissected and sexed, except some juveniles too small to sex. Snout-vent length (SVL) and size of eggs were measured. Stomach contents were examined and if possible identified. All specimens are in the Western Australian Museum with registration numbers R 49723 to 49814 and R 49568 to 49653.

TABLE 1

| | October 1974 | | April 1975 | |
|---|---|---|---|---|
| **Species collected** | **Number collected** | **Vegetation locations** | **Number collected** | **Vegetation locations** |
| LEPTODACTYLIDAE | | | | |
| *Heleioporus albopunctatus* | 5 | 1.14 | 6 | 4.2, 4.12 |
| *Heleioporus psammophilus* | | | 5 | 1.5, 4.10 |
| *Heleioporus* sp. | 1 | | | |
| *Limnodynastes dorsalis* | 2 | | 8 | 4.2, 4.21 |
| *Myobatrachus gouldii* | | | 3 | 4.16, 4.15 |
| *Neobatrachus centralis* | | | 1 | 4.10 |
| *Pseudophyrne guentheri* | | | 2 | 4.21 |

Table 1 (continued)

| | | | | |
|---|---|---|---|---|
| GEKKONIDAE | | | | |
| *Crenadactylus ocellatus* | 13 | | 12 | 4.24, 1.54, 3.1, 4.23 |
| *Diplodactylus maini* | | | 3 | 1.10 |
| *Diplodactylus spinigerus* | | | 2 | 4.16 |
| *Diplodactylus granariensis* | 9 | 1.16 | 2 | 1.20, 1.31 |
| *Oedura reticulata* | 3 | | 4 | 1.33, 1.18 |
| *Phyllodactylus marmoratus* | 8 | 1.16 | 2 | 4.25, 1.29 |
| PYGOPODIDAE | | | | |
| *Delma australis* | 3 | | | |
| *Delma fraseri* | 5 | 4.15, 4.4, 1.30 | 4 | 4.4, 4.23 |
| *Delma grayii* | 1 | 4.21 | | |
| *Lialis burtonis* | 2 | 1.33 | | |
| AGAMIDAE | | | | |
| *Amphibolurus cristatus* | 1 | | 1 | 1.54 |
| *Amphibolurus minor* | 4 | 3.4, 3.1 | 2 | 3.1 |
| SCINCIDAE | | | | |
| *Cryptoblepharus plagiocephalus* | 3 | | 6 | 1.33 |
| *Ctenotus impar* | 2 | 4.21, 4.23, 4.4 | 1 | 4.21 |
| *Lerista distinguenda* | 3 | 4.15 | 2 | 4.21 |
| *Menetia greyii* | 2 | | 4 | 1.33, 4.25 |
| *Morethia obscura* | 5 | | 14 | 4.10, 4.18, 4.21, 3.1 |
| *Tiliqua occipitalis* | 3 | 2.7, 2.8, 4.24 | 1 | |
| *Tiliqua rugosa* | 1 | 2.8 | 2 | 1.2, 3.1 |
| VARANIDAE | | | | |
| *Varanus gouldii* | 1 (seen) | | | |
| TYPHLOPIDAE | | | | |
| *Typhlina australis* | 1 | 1.13 | | |
| ELAPIDAE | | | | |
| *Demansia affinis* | 1 | | 1 | 4.21 |
| *Denisonia gouldii* | 10 | 4.21, 3.1 | 1 | |

## ANNOTATED LIST

Note: Clutch size is described as, for example, 2,3 eggs. This means 2 and 3 eggs were present in the left and right oviducts respectively.

### LEPTODACTYLIDAE

*Heleioporus albopunctatus*

The most commonly seen frog in the Reserve; many more seen than collected. Collected at night in the open in nearly all vegetation types examined.

*Heleioporus psammophilus*

Collected at night in heath and woodland formations on sandy soil. One was pit-trapped.

*Heleioporus* sp.

Collected in pit trap in heath formation on sandy soil.

*Limnodynastes dorsalis*

Collected at night, in open heath formations.

*Myobatrachus gouldii*

Collected in pit traps in heath formations on sandy soil following rain during the previous 24-hour period in April.

*Neobatrachus centralis*

Collected in heath formation on sandy/laterite soil.

*Pseudophyrne guentheri*

Collected in pit traps in heath formation on sandy soil.

### GEKKONIDAE

*Crenadactylus ocellatus*

Collected in and under dead timber in heath, shrubland and woodland formations.

*Diplodactylus maini*

Collected at night on ground in open in woodland and in heath formations.

*Diplodactylus spinigerus*

Collected at night in shrub *ca* 0.5 m above ground level in heath formation on sandy soil.

*Diplodactylus granariensis*

Collected at night on ground in open in woodland formations.

*Oedura reticulata*

Collected at night on trunks of Wandoo (*Eucalyptus wandoo*) and Mallet (*E. gardneri* or *E. astringens*) trees.

*Phyllodactylus marmoratus*

Collected in woodland and heath formations. One specimen had an Orthopteran nymph in its stomach.

PYGOPODIDAE

*Delma australis*

Collected in dry leaf litter in roadside spoil, and in *Lambertia inermis* shrubland.

*Delma fraseri*

Collected in ant nests of dry plant material and sand forming small mounds in heaths, henceforth referred to as 'stick nest ant nests'. In dead Blackboys (*Xanthorrhoea reflexa*) in heath, and in roadside spoil with dry leaf litter in woodland. One October female with snout-vent length (SVL) 120 mm had 1,1 eggs with mean length 8 mm.

*Delma grayii*

An October female collected in 'stick nest ant nest' with snout-vent length (SVL) 105 mm had 1,1 eggs with mean length 15 mm.

*Lialis burtonis*

Collected in woodland formation. An October female with SVL 220 mm had 1,0 eggs 5 mm long.

AGAMIDAE

*Amphibolurus cristatus*

Collected in woodland formation. An October female with SVL 85 mm had 2,0 eggs with mean length 4 mm. This specimen had cockroach and other insect remains in its stomach.

*Amphibolurus minor*

Collected in shrubland and in woodland formations. All females collected in October were gravid:

| SVL (mm) | Number of eggs | Mean length of eggs (mm) |
|---|---|---|
| 103 | 5,4 | *ca* 7 |
| 108 | 4,3 | *ca* 4 |
| 103 | 3,3 | *ca* 23 |

In April two juvenile specimens with SVL 45 and 42 mm were too small to be sexed. One October specimen had 8 whole geometrid caterpillars in its stomach. Another had one geometrid, two centipedes and numerous unidentifiable insect remains. Both these specimens were heavily infested with nematode worms.

SCINCIDAE

*Cryptoblepharus plagiocephalus*

Collected while active on dead standing or fallen timber in woodland formations.

*Ctenotus impar*

Collected while active in leaf litter in heath and woodland formations on sandy soil.

*Lerista distinguenda*

Collected in 'stick nest ant nests' in heath formations on sandy soil, and in woodland formation.

*Menetia greyii*

Collected while active on the ground in heath formation and in clumps of *Borya nitida* in woodland formation.

*Morethia obscura*

Collected while active on the ground and under leaf litter and dead shrubs in heath, mallee and shrubland formations.

*Tiliqua occipitalis*

Collected in mallee and heath formations.

*Tiliqua rugosa*

Collected in shrubland and woodland formations. Others caught in cage traps in mallee and woodland formations were released.

VARANIDAE

*Varanus gouldii*

One seen *ca* 1 km east of Nature Reserve.

TYPHLOPIDAE

*Typhlina australis*

One male collected in woodland formation. It was *ca* 4 cm beneath the soil surface in damp peaty soil.

ELAPIDAE

*Demansia affinis*

Collected in dead Blackboy (*Xanthorrhoea reflexa*) in heath formation.

*Denisonia gouldii*

Collected in dead Blackboys in heath formations, and in roadside spoil in mallee formations. One specimen had a *Crenadactylus ocellatus* in its stomach, another a *Ctenotus impar*, and another a *Morethia obscura*. One specimen was unusual as it had a dark band along its dorsal surface.

Three females collected in October were gravid:

| SVL (mm) | Number of eggs | Mean length of eggs (mm) |
|---|---|---|
| 27 | 2,3 | 3 |
| 33 | 3,1 | 5 |
| 31 | 3,3 | 6 |

## DISCUSSION

This survey records 7 species of frogs and 23 of reptiles. Most species are distributed throughout the wheatbelt generally. However, *Heleioporus psammophilus* has not previously been recorded by us from the wheatbelt; it could be considered a Darling Scarp and coastal plain species at the eastern limit of its range at Dongolocking, see Main (1965). *Phyllodactylus marmoratus* seems restricted to the southern end of the wheatbelt, not having been recorded on a reserve north of Dongolocking.

With 7 species of frogs the amphibian fauna of Dongolocking Nature Reserve is as diverse as that of any wheatbelt reserve so far examined. *Limnodynastes dorsalis* is generally confined to reserves with temporary free

water in dams or with seepages present or nearby. The other species are often recorded on wheatbelt reserves.

The presence of three species of *Delma* in the Reserve is particularly interesting. We have previously recorded *Delma grayii* or *D. fraseri* together with *D. australis* on the same wheatbelt reserve, but not all three species. The Dongolocking record for *D. grayii* is an extension of range of about 150 km to the southeast according to the distribution map of Kluge (1974). However, Kluge doubted the provenance of a South Australian Museum (R3889) specimen of *D. grayii* from Kukerin, which is only 40 km southeast of Dongolocking. We suggest Kluge's conclusion was premature and a result of insufficient collecting effort in the area. At this stage there are no obvious differences in habitat utilisation between *Delma* species. Unlike other pygopodids, e.g. *Pygopus lepidopodus*, they are not found in the open, but invariably in dense dry leaf litter and mould or under tin, wood, etc.

The Dongolocking record for *Diplodactylus maini* is the closest known to the forest block and a minor extension of range. The closest record is from Bendering *ca* 80 km northeast. *D. maini* is widespread in the more arid parts of the South West. We have collected this species on five other wheatbelt reserves on sandy, sandy loam, and loam soils. It occupies lycosid spider burrows; it can be seen at night with its head protruding from these burrows.

Females of *Denisonia gouldii*, *Delma fraseri*, *Delma grayii*, *Lialis burtonis*, *Amphibolurus cristatus* and *A. minor* were gravid during the October survey. Other species might have been breeding but went unnoticed because of the difficulty in assessing breeding condition in males and recently fertilised females. Other surveys indicate that October is the earliest month in which gravid reptiles are recorded in the wheatbelt.

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# VII REFERENCES


ANON. (undated)—Climatic survey. Region II. Great Southern Western Australia. Melbourne: Bureau of Meteorology.

ANON. (1975)—Climatic averages. Melbourne: Bureau of Meteorology.

BEADLE, N.C.W. & COSTIN, A.B. (1952)—Ecological classification and nomenclature *Proc. Linn. Soc. N.S.W.* 77: 61-82.

CHAPMAN, A. & KITCHENER, D.J. (1977)—Mammals of Cockleshell Gully Reserve and adjacent areas. *In:* A vertebrate survey of Cockleshell Gully Reserve, Western Australia. *Rec. West. Aust. Mus.* Suppl. no. 4: 15-35.

DELL, J. (1976)—Birds of Lake Magenta Wildlife Sanctuary, Western Australia. *Rec. West. Aust. Mus.* 4: 117-132.

DELL, J. (1977)—Birds of Bendering and West Bendering Nature Reserves. *In:* Biological survey of the Western Australian wheatbelt, Part 3. *Rec. West. Aust. Mus.* Suppl. no. 5: 31-46.

DELL, J. & JOHNSTONE, R.E. (1976)—Birds of Tarin Rock and North Tarin Rock Reserves. *In:* Biological survey of the Western Australian wheatbelt, Part 1. *Rec. West. Aust. Mus.* Suppl. no. 2: 69-84.

GARDNER, C.A. & BENNETTS, H.W. (1956)—*The toxic plants of Western Australia.* Perth: West Australian Newspapers.

GENTILLI, J. (1961)—The survival of natural environment in Western Australia. *West. Aust. Nat.* 7: 179-189.

KITCHENER, D.J. (1976)—Preface to the biological survey of the Western Australian wheatbelt. *Rec. West. Aust. Mus.* Suppl. no. 2: 3-10.

KITCHENER, D.J. & CHAPMAN, A. (1976)—Mammals of Tarin Rock and North Tarin Rock Reserves. *In:* Biological survey of the Western Australian wheatbelt. Part 1. *Rec. West. Aust. Mus.* Suppl. no. 2: 61-67.

KITCHENER, D.J. & CHAPMAN, A. (1977)—Mammals of Bendering and West Bendering Nature Reserves. *In:* Biological survey of the Western Australian wheatbelt. Part 3. *Rec. West. Aust. Mus.* Suppl. no. 5: 17-29.

KITCHENER, D.J. & HALSE, S. (1977)—Reproduction in female little brown bat, *Eptesicus regulus* (Thomas 1906). (Vespertilionidae) in Western Australia. [In press.]

KLEMM, T.C. (1969)—*A history of Dumbleyung.* Teachers' Higher Certificate Thesis. Perth, Education Department. [Unpublished.]

KLUGE, A.G. (1974)—A taxonomic revision of the lizard family Pygopodidae. *Misc. Publs Mus. Zool. Univ. Mich.* no. 147.

LEAKE, B.W. (1962)—*Eastern wheatbelt wildlife. Experiences of a W.A. naturalist.* [Privately published.]

MAIN, A.R. (1965)—*Frogs of Southern Western Australia.* Handbook no. 8. Western Australian Naturalists' Club, Perth.

MUIR, B. (1976)—Vegetation: Tarin Rock and North Tarin Rock Reserves. *In:* Biological survey of the Western Australian wheatbelt. Part 1. *Rec. West. Aust. Mus.* Suppl. no. 2: 21-59.

MUIR, B.G. (1977a)—Vegetation and habitat of Bendering Reserve. *In:* Biological survey of the Western Australian wheatbelt. Part 2. *Rec. West. Aust. Mus.* Suppl. no. 3: 3-142.

MUIR, B.G. (1977b)—Vegetation: West Bendering Reserve. *In:* Biological survey of the Western Australian wheatbelt. Part 4. *Rec. West. Aust. Mus.* Suppl. no. 5: 5-31.

POLUNIN, N. (1960)—*Introduction to plant geography*. London: Longmans.