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HERPETOFAUNA OF THE SHORES AND HINTERLAND OF THE GREAT AUSTRALIAN BIGHT, WESTERN AUSTRALIA

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ABSTRACT

This paper is essentially an annotated list of the 10 families, 35 genera and 71 species and subspecies of frogs, turtles, lizards and snakes inhabiting the far southeast of Western Australia. Most of the region is arid or semi-arid, and surface water is ordinarily confined to granite outcrops in the far west of the area. Regional endemism and patterns of distribution are briefly discussed.

INTRODUCTION

The area covered in this report lies entirely within the Eucla Land Division. It is bounded in the north by the vicinity of the Eyre Highway, and in the west by the road running south from the Balladonia Hotel towards Israelite Bay (see **Fig. 1**).

Environment

Mean annual rainfall ranges from 22 cm in the north to about 45 cm in the extreme southwest. In the latter area much the wettest season is winter; the amount and proportion of winter rainfall decreases rapidly northwards and eastwards.

Owing to the proximity of the Southern Ocean, temperatures are mild throughout the year except for a few days in summer when hot northerly winds may raise the temperature to over 45°C.

On climatic, physiographic and vegetational criteria the study area is divisible into four subregions.

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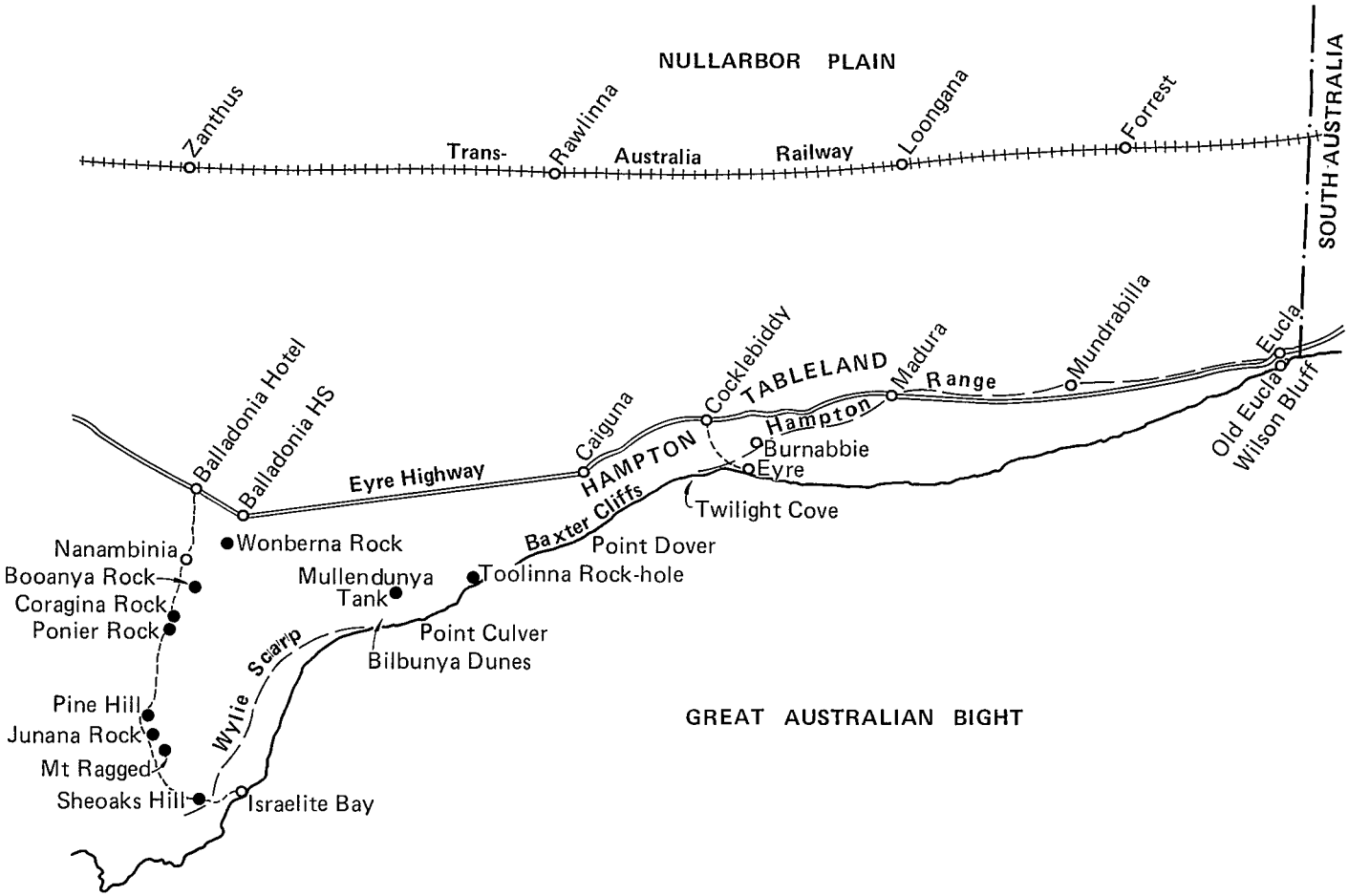

Fig. 1: Map of southeastern Western Australia.

Israelite Bay

The small area of white coastal dunes and sandplains in the extreme southwest of the region alone receives reliable winter rains. Its vegetation represents in depauperate form the south coast heaths and scrubs at their eastern limit. It is separated from the next subregion by the low Wylie Scarp.

Far western interior

This subregion is located on the eastern edge of the Western Australian Precambrian Shield. Apart from the herpetologically unexplored Russell Range, which culminates in Mt Ragged (585 m), the land slopes gently from about 50 m above sea-level in the south to 180 m in the north. The vegetation is dominated by open to moderately dense, semi-arid eucalypt woodlands and scrubs. Outcrops of granitic rocks provide some surface water. To the east it gradually merges with the next subregion.

Hampton Tableland

This, the southern fringe of the Nullarbor Plain, is a limestone plateau 50-140 m above the sea. Its southern boundary in the west is marked by the Baxter Cliffs and in the east by the escarpment known as the Hampton Range. The limestone is mostly covered with shallow clays and loams. Large areas carry a succulent steppe of bluebush (*Maireana sedifolia*), saltbush (*Atriplex* spp.) and other chenopods, with or without tussock grasses and scattered low trees, especially myall (*Acacia sowdenii*) and sugarwood (*Myoporum platycarpum*). Towards the south eucalypts and melaleucas become more plentiful. Mallee-*Triodia* grows on sandy areas southeast of Cocklebiddy.

Eastern coastal areas

East of Twilight Cove and south of the Hampton Range there is a large area of coastal plain. The vegetation is much the same as immediately above the escarpment, i.e. succulent steppe with scattered myall and copses of mallee on the heavier soils, and denser mallee and melaleuca on the lighter soils. Additionally there are extensive areas of dunes, some with little or no vegetation, others with thickets of mallee and wattle.

For a detailed account of the climate, geology, soils and vegetation of the region see Beard (1975). Much of the coastal strip is reserved in the Nuytsland Wildlife Sanctuary.

Herpetological exploration

Nothing was known of the herpetofauna until 1914 when the celebrated naturalist W.B. Alexander made small collections at Balladonia, Cardanumbi,

Madura and Eucla. The next 40 years yielded only odd specimens donated by the public to the Museum.

In December 1953 A.R. Main collected frogs between Balladonia and Israelite Bay. The same area was visited by G.M. Storr in December 1959 and December 1962. In October 1964 G.M. Storr and A.M. Douglas collected along Eyre Highway and the Cocklebiddy-Eyre track. In March 1968 A. Baynes and J.L. Bannister worked around Israelite Bay. In August-September 1969 A. Baynes and W.K. Youngson visited the country south of Madura and southeast of Cocklebiddy. In October 1973 M.G. Brooker collected at Twilight Cove, Point Culver, Toolinna Rock-hole and Mullendunya Tank.

In April 1976 G. Harold, G. Barron and M. Peterson collected along the Eyre Highway between Balladonia and Cocklebiddy and down the track towards Twilight Cove; their substantial collection contained no taxa new to the area, indicating that the regional list was close to being complete. This was confirmed in September-October 1979 when G. Harold and T.M.S. Hanlon visited most parts of the region and collected 672 specimens, among which only *Neobatrachus pelobatoides, Caretta caretta, Ctenotus impar, Lerista p. picturata* and *Ramphotyphlops australis* were new for the area.

Other people whose specimens have contributed to this report are N.T. Allen, M. Archer, A. Baesjou, W.H. Butler, J. Bywater, A.J. Carlisle, I.C. Carnaby, B.T. Clay, T. Cleland, A. Chapman, A.E. Cockbain, R.J. Congdon, M. DeGraaf, J. Douglas, J.R. Ford, P. Griffin, J. Hickman, M. Hutchinson, G.W. Kendrick, D. King, M. King, K. Lance, A.K. Lee, J.C. LeSouef, J. Lowry, J. Martindale, E.R. Pianka, H.L. Pianka, W.D.L. Ride, A.J. Saar, R.K. Saar, J.D. Sandow, V.N. Serventy, M. Thomas, J.C. Wombey and B. Wykes. We are grateful to P. Griffin for checking the identification of many specimens and to Mrs and Mr W.H. Butler, whose grant to the Western Australian Museum financed Harold and Hanlon's field work in spring 1979.

ANNOTATED LIST

In this list we briefly describe the local distribution, relative abundance and habitat preferences of each species and subspecies. Unless otherwise indicated, registered numbers are of specimens lodged in the R series of the Western Australian Museum.

Leptodactylidae

Limnodynastes dorsalis (Gray)

Restricted to far western interior from Nanambinia south to Pine Hill. Plentiful in dam at Emu Soak (6 km S of Nanambinia HS); less numerous at waterholes and small dams at granite outcrops (Coragina Rock, Juranda Rockhole and Pine Hill).

Neobatrachus centralis (Parker)

One record from far western interior: a specimen (19697) collected by G.M. Storr at Coragina Rock in evening of 5 December 1959.

Neobatrachus pelobatoides (Werner)

One record from far western interior: two specimens (66894-5) collected by G. Harold and T.M.S. Hanlon at Sheoaks Hill on 8 October 1979.

Pseudophryne guentheri Boulenger

One record from far western interior: a specimen (14497) collected by A.M. and J. Douglas at 28 km N of Mt Ragged on 25 April 1962.

Pseudophryne occidentalis Parker

Confined to far western interior from Booanya Rock south to Sheoaks Hill. Common in pools, rock-holes and small dams at granite outcrops, e.g. Coragina Rock, Ponier Rock, Juranda Rock-hole, Pine Hill and Junana Rock. Possibly occurring further north; W.B. Alexander collected a *Pseudophryne* at Balladonia in 1914, but the specimen (308) could not be found for specific identification.

Ranidella pseudinsignifera (Main)

Only recorded from Pine Hill in far western interior. Moderately common at small dam.

Hylidae

Litoria adelaidensis (Gray)

Only recorded from Pine Hill in far western interior. Common at small dam.

Litoria cyclorhynchus (Boulenger)

Confined to far west, north to Coragina Rock. Very plentiful in small dam at Pine Hill. Moderately common at granite outcrops (Coragina Rock, Juranda Rock-hole and Junana Rock). Also in slightly brackish water in holes dug by campers at inland foot of Israelite Bay sandhills.

Cheloniidae

Caretta caretta (Linnaeus)

One record: a recently dead juvenile (66505) found on beach at Twilight Cove by T.M.S. Hanlon and G. Harold on 30 September 1979.

Gekkonidae

Crenadactylus ocellatus ocellatus (Gray)

One record: a specimen collected at Israelite Bay by A.M. and J. Douglas on 25 April 1962.

Diplodactylus granariensis Storr

Northern and eastern, west to 7 km W of Balladonia HS and 11 km WSW of Toolinna Rock-hole. Very common. Mainly open eucalypt woodland (including mallee) over chenopods or *Triodia*.

Diplodactylus intermedius Ogilby

Evidently widespread but rare. Single specimens collected at Balladonia, Coragina Rock (in a bush), 37 km W of Caiguna (in a low shrub in sparse *Eucalyptus-Myoporum* woodland), and at Abrakurrie Cave (37 km W of Eucla).

Diplodactylus maini Kluge

Only certainly known from extreme northwest. G. Harold, G. Barron and M. Peterson collected seven specimens on evening of 22 April 1976 in open eucalypt woodland over chenopods at 7 km W of Balladonia HS. Kluge (1967) lists a specimen from between Balladonia and Cocklebiddy.

Diplodactylus spinigerus Gray

Single specimens collected at three western, near-coastal localities: 8 km W of Israelite Bay, 7 km NE of Toolinna Rock-hole, and 20 km W of Point Culver. Evidently rare in this the easternmost part of its range. Low shrubbery in or near coastal dunes.

Gehyra variegata (Duméril & Bibron)

Extreme north, south to Meelina Rock-hole (23 km S of Balladonia HS), 37 km W of Caiguna, Madura airstrip, and 7 km E of Wilson Bluff. Moderately common. Mainly under bark and leaf litter and in trees of open woodlands (*Eucalyptus, Myoporum* and *Acacia sowdenii*) over chenopods.

Heteronotia binoei (Gray)

Northern, south to Booanya Rock (12 km S of Nanambinia), Burnabbie and 23 km SE of Madura, and east to Mundrabilla. Moderately common about granite outcrops in northwest; further east mainly among stones of limestone escarpment (Hampton Range).

Phyllodactylus marmoratus (Gray)

Occurring in most of region but not the northwest corner, north and west of a line through Junana Rock, Mullendunya Tank (32°53'S, 124°35'E), and 70 km E of Balladonia HS (its absence from this area seems not to be due simply to distance from coast; further east it extends north across the Nullarbor Plain almost to the Trans-Australia Railway [23 km S of Reid]). Very common. Mainly in woodlands, scrubs and coastal heaths; also in sparsely wooded country where limestone rocks and holes provide shelter.

Phyllurus milii Bory

Northern and eastern, south and west to Balladonia HS and Toolinna Rock-hole; also at Israelite Bay. Common. Mainly beneath mallees and melaleucas and in holes and under rocks in limestone.

Pygopodidae

Aprasia inaurita Kluge

Only known from vicinity of Eyre. In 1935 A.J. Carlisle collected one (5280) at Eyre. A specimen in the Eyre Bird Observatory was found on 26 December 1978 dead on track through melaleuca woodland on grey sand 1 km E of Eyre. On 30 September 1979 G. Harold and T.M.S. Hanlon dug one (67474) from white beach sand in coastal dunes 13 km W of Eyre.

Delma australis Kluge

Only recorded from western half of region, viz. at Coragina Rock, Pine Hill, Toolinna Rock-hole, 11 km SSE of Cocklebiddy, 13 km W of Eyre, and Burnabbie. Moderately common. Eucalypt woodlands and open scrubs on sandy loam.

Delma fraseri Gray

Restricted to extreme southwest (Israelite Bay). One specimen was dug from an abandoned 'stick ant nest' in coastal dunes; the other five were found under sheets of iron at the ruins of the former telegraph station.

Lialis burtonis Gray

One record from extreme northwest: a specimen from Balladonia in the United States National Museum (Kluge 1974).

Pygopus lepidopodus (Lacépède)

Patchily distributed in near-coastal areas: recorded from Israelite Bay,

Junana Rock, 3 km WSW of Toolinna Rock-hole, Twilight Cove, *ca* 25 km SE of Cocklebiddy, and Eucla (it has been found much further inland on the Nullarbor Plain, viz. at 36 km S of Forrest). Uncommon. Recorded in a wide variety of habitats, e.g. in open tall eucalypt woodland with much leaf litter, on a samphire flat, in low mallee at top of sea-cliffs, and in an abandoned 'stick ant nest' in coastal dunes.

Agamidae

Amphibolurus adelaidensis chapmani Storr

Southern, north to 32 km WSW of Balladonia Hotel just west of our region, 25 km NW of Toolinna Rock-hole, 21 km S of Caiguna, 11 km SSE of Cocklebiddy, Madura and Eucla, but not far southwest (south of Pine Hill). Moderately common. Open to fairly dense woodlands and scrubs of *Eucalyptus, Melaleuca* and *Callitris.*

Amphibolurus cristatus Gray

One record from extreme northwest: a juvenile (17465) collected on 15 December 1962 by G.M. Storr in eucalypt woodland 7 km S of Balladonia Hotel.

Amphibolurus maculatus dualis Storr

Near-coastal areas, west certainly to the Bilbunya Dunes (32°53'S, 124°32'E) and north to 8 km NE of Point Culver, 7 km NE of Toolinna Rock-hole, 37 km S of Caiguna, 11 km SSE of Cocklebiddy, 44 km S of Madura, 33 km S of Mundrabilla, and Old Eucla. Common. Well-wooded country, especially mallee (with or without *Triodia*); also *Callitris, Hakea, Banksia* and other shrubbery. Copulation observed in late September and early October.

This or another subspecies of *A. maculatus* probably occurs in far southwest: small grey *Amphibolurus* have been observed along the track 9-12 km NW of Sheoaks Hill, and a badly damaged specimen (31101) apparently of *A. maculatus* has been collected at 8 km west of Israelite Bay.

Amphibolurus muricatus (Shaw)

Near-coastal areas from Israelite Bay to Eucla, inland to 5 km S of Mt Ragged, Toolinna Rock-hole, 21 km S of Caiguna, 11 km SSE of Cocklebiddy, 34 km S of Madura, and the Eyre Highway at South Australian border. Moderately common. Open to fairly dense mallee, with or without *Triodia* or *Melaleuca.*

Amphibolurus nullarbor Badham

Single specimens collected in eastern half at Cocklebiddy (open *Eucalyptus-Myoporum* woodland), Madura and 33 km NE (Mullamullang Cave), 40 km

SW of Eucla (among low shrubs on a consolidated dune) and Wilson Bluff.

Amphibolurus pictus Peters

Far north, west to 70 km E of Balladonia HS and south to Burnabbie, Mundrabilla and Old Eucla. Moderately common. Succulent steppe, with or without scattered trees.

Amphibolurus salinarum Storr

Two records from far northwest: a specimen collected by W.B. Alexander at Balladonia in 1914, and two collected by the Fisheries and Wildlife Department on Ponier Rock in February 1978.

Tympanocryptis lineata lineata Peters

Northern, south to Wonberna Rock (19 km SW of Balladonia HS), Toolinna Rock-hole, 41 km SW of Caiguna, Cocklebiddy, Madura, Mundrabilla, and 7 km NW of Eucla. Common. Usually among limestone slabs and rocks in open or sparsely wooded country.

Scincidae

Cryptoblepharus plagiocephalus (Cocteau)

Two records from far north: on 13 December 1962 G.M. Storr collected one running on granite at Wonberna Rock (19 km SW of Balladonia HS), and on 26 September 1979 G. Harold and T.M.S. Hanlon collected two on a log in open eucalypt woodland at top of Madura Pass.

Cryptoblepharus virgatus clarus (Storr)

Throughout the region. Common. Eucalypt woodland, granite outcrops and limestone cliffs. In far northwest it overlaps the closely related *C. plagiocephalus* with no apparent ecological differentiation, e.g. the latter was found on granite at Wonberna Rock, and *C. v. clarus* on granite at Balladonia Rock, 18 km to northeast.

Ctenotus brooksi euclae Storr

Coastal and near-coastal dunes and sandplains in eastern half, west to 17 km W of Eyre. Locally common. Mainly on consolidated sands with open mallee and low shrubs; also low unconsolidated white dunes beside sea.

Ctenotus gemmula Storr

Single specimens from three near-coastal localities in western half: 8 km W of Israelite Bay, 20 km W of Point Culver, and 7 km NE of Toolinna Rock-hole

(on greyish white sandy rise with low heath). Evidently rare in this the easternmost part of its range.

Ctenotus impar Storr

Only known from collections made by G. Harold and T.M.S. Hanlon in two near-coastal localities in western half: one specimen from an abandoned 'stick ant nest' in low open mallee-heath 12 km W of Israelite Bay, and two specimens from *Banksia* shrubland on greyish white sand 11 km WSW of Toolinna Rock-hole. Evidently rare in this the easternmost part of its range.

Ctenotus schomburgkii (Peters)

Single specimens from two western localities: Coragina Rock and 8 km N of Point Culver.

Egernia carinata H.M. Smith

Confined to extreme west, between Ponier Rock and Junana Rock. Uncommon. Open *Eucalyptus-Melaleuca* woodland, sheltering under logs and granite.

Egernia multiscutata bos Storr

Near-coastal sandplains and dunes in western half, east to 14 km W of Eyre and inland as far as 14 km SSE of Cocklebiddy. Common around Israelite Bay; moderately common in far east of range; only one record from intermediate area (a specimen from a sandy rise 7 km NE of Toolinna Rock-hole). Mainly in heath growing on whitish sand. (Provenance of specimen [29423] taken 'under limestone around rock-hole 32 km N of Madura' requires confirmation.)

Egernia napoleonis (Gray)

Confined to the Baxter Cliffs from Twilight Cove west to at least 3 km SW of Toolinna Rock-hole. Common. Among rocks at top of limestone cliffs, 50-75 m above sea. One specimen was taken from the mouth of a Death Adder (*Acanthophis antarcticus*).

Hemiergis initialis brookeri Storr

Widespread but absent from northwest (north of Coragina Rock and west of 40 km WSW of Caiguna) and apparently also from coastal plains, except at Old Eucla. Very common. Mainly in leaf litter beneath eucalypt woodlands on loamy soils; also under litter in *Banksia* shrubland on greyish white sand.

Hemiergis peronii peronii (Fitzinger)

Southwestern, north to Juranda Rock-hole (33 km N of Mt Ragged) and east to Toolinna Rock-hole. Moderately common. In leaf litter or under rocks at

granite and limestone outcrops. Generally seeming to prefer damper situations than *H. i. brookeri* in their zone of overlap, but both species found under one slab of limestone at Toolinna Rock-hole.

Leiolopisma baudini Greer

The unique specimen (44969) of this skink was collected on 28 October 1973 by M.G. Brooker in low wattle scrub in the Bilbunya Dunes, 20 km W of Point Culver.

Leiolopisma trilineatum (Gray)

One record from extreme southwest: a specimen (18165) collected on 7 December 1959 by G.M. Storr in leaf litter at Israelite Bay.

Lerista distinguenda (Werner)

Coastal and near-coastal dunes and sandplains in western half, east to 25 km ESE of Cocklebiddy. Uncommon. Usually in leaf litter beneath mallee, *Callitris* or *Banksia* on white or yellowish sands; one specimen was dug from an abandoned 'stick ant nest'.

Lerista frosti (Zietz)

Greater part of region but not far southwest (south of Junana Rock). Very common. Under leaf litter beneath *Acacia sowdenii, Melaleuca* and *Eucalyptus-Myoporum* woodlands and scrubs and succulent steppe, and under slabs of limestone.

Lerista microtis arenicola Storr

Coastal dunes in eastern half, west to 13 km W of Eyre. Apparently common at 13 km W of Eyre, where T.M.S. Hanlon and G. Harold dug ten from sandy hillocks beside the beach on 30 September 1979; otherwise only known from single specimens taken at Eyre and Old Eucla.

Lerista microtis microtis (Gray)

Confined to extreme southwest (Israelite Bay and 8 km NE). Three specimens were obtained under sheets of iron at the ruins of the former telegraph station; one was found on an outcrop of gneiss; and one was dug from an abandoned 'stick ant nest'.

Lerista muelleri (Fischer)

Only known from far northwest (single specimens collected at Balladonia HS and 2, 7 and 12 km S of Balladonia Hotel) and from a specimen collected at 11 km SSE of Cocklebiddy. In leaf litter and under exfoliating granite.

Lerista picturata baynesi Storr

Eastern half, west to Madura Pass, Burnabbie and Twilight Cove. Very common. In leaf litter and top-soil beneath mallee, acacias and other shrubs.

Lerista picturata picturata (Fry)

Confined to northwest. G. Harold and T.M.S. Hanlon collected it at two localities in September-October 1979: Coragina Rock (five specimens under litter at base of eucalypts) and 37 km W of Caiguna (two specimens under litter in sparse *Eucalyptus-Myoporum* woodland); and G. Harold, P. Griffin and G. Barron collected three specimens under litter beneath open *Eucalyptus-Acacia* woodland 2 km S of Balladonia Hotel on 4 April 1980.

Lerista terdigitata (Parker)

Confined to far northwest, south to Coragina Rock and east to Wonberna Rock (19 km SW of Balladonia HS). Rare. Under logs and rocks.

Menetia greyii Gray

Throughout the region. Very common. In leaf litter and under logs and rocks; one was dug from an abandoned 'stick ant nest'.

Morethia adelaidensis (Boulenger)

Extreme north, west to Wonberna Rock (19 km SW of Balladonia HS) and south to Meelina Outcamp (22 km S of Balladonia HS), 37 km W and 21 km ENE of Caiguna, 10 km SSE of Cocklebiddy, Madura, Mundrabilla and Old Eucla. Common. In leaf litter and under limestone in sparsely wooded country.

Morethia butleri (Storr)

Two records from northwest: a specimen (24673) collected on 9 October 1964 by G.M. Storr and A.M. Douglas under leaf litter at 40 km W of Caiguna, and a specimen (59789) collected by the Fisheries and Wildlife Department under exfoliating granite at Ponier Rock on 28 February 1978.

Morethia obscura Storr

Most of the region but not the northwest (north of Coragina Rock and west of 40 km W of Caiguna). Very common (the most numerous reptile in collections from the region). Mainly under leaf litter in relatively well-wooded country; occasionally under limestone and granite.

Omolepida branchialis (Günther)

Two records from extreme north: a specimen (36165) collected by M. Archer at Cave N59 (38 km NE of Madura Pass) in February 1970, and one (36719)

collected by J. Lowry at 13 km N of Madura on 17 October 1966. As mentioned in Storr (1976), this peculiar cave-inhabiting population could prove worthy of subspecific recognition.

Tiliqua occipitalis (Peters)

Two records from extreme southwest: A.M. and J. Douglas collected one (14173) at Israelite Bay on 25 April 1962, and A. Baynes and J.L. Bannister trapped one (31087) at 8 km W of Israelite Bay on 31 March 1968.

Tiliqua rugosa rugosa (Gray)

Extreme north, west to Balladonia HS. Judging from the number of regional specimens in the Museum (16) one would have to rate it as uncommon; however G.M. Storr and A.M. Douglas collected seven specimens on one day (8 October 1964) along an 85-kilometre stretch of the Eyre Highway between Madura and Cocklebiddy; this and other large species are probably undercollected. Mainly open or sparsely wooded country on the Hampton Tableland; only one record from coastal plain (a specimen collected on a consolidated dune 40 km SW of Eucla).

Varanidae

Varanus gouldii (Gray)

One record from northwest: an observation of a subadult by T.M.S. Hanlon and G. Harold at 58 km E of Balladonia HS on 6 October 1979; the lizard ran down a rabbit burrow in pale brown clay loam vegetated with succulent steppe and scattered eucalypts.

Varanus rosenbergi Mertens

Three widespread, near-coastal records: a specimen (17626) shot by G.M. Storr in *Banksia speciosa* sandplain 13 km SW of Israelite Bay on 19 December 1962; one observed by J. Martindale (pers. comm.) at Eyre on 27 December 1978; and one (18481) collected by A.M. Douglas at Eucla on 6 January 1963.

Typhlopidae

Ramphotyphlops australis (Gray)

Collected at four localities: Israelite Bay, Pine Hill, 20 km W of Point Culver and Madura. In coastal dunes at Israelite Bay two specimens were dug from beneath an old stump in mallee-heath, and one was dug from an abandoned 'stick ant nest'. Also found by G.W. Kendrick and V.A. Ryland under a log 5 km S of Balladonia Hotel (photograph identified by G.M. Storr).

Ramphotyphlops bituberculatus (Peters)

Two records from extreme north: a specimen (37048) collected by J. Bywater on surface near entrance to Cocklebiddy Cave on 3 January 1970; one in Eyre Bird Observatory collected at Eucla on 23 January 1979.

Elapidae

Acanthophis antarcticus (Shaw)

Northern and eastern, south and west to Booanya (11 km SSE of Nanambinia) and Toolinna Rock-hole. Scarce. Cliffs along the coast and the escarpment of the Hampton Tableland seem to be a favoured habitat.

Brachyaspis curta (Schlegel)

One record: a specimen (45351) collected by M.G. Brooker in a small hole in rock at top of cliff near Toolinna Rock-hole on 24 October 1973.

Denisonia coronata (Schlegel)

Known from three specimens collected in two western coastal localities: two specimens from Israelite Bay (14205, 67413) and one from 20 km W of Point Culver (44973). Evidently rare in this the easternmost part of its range.

Denisonia mastersii (Krefft)

Eastern coastal areas from Eyre east to Old Eucla, inland as far as the Eyre Highway at 33 km E of Cocklebiddy. Common. Mainly mallee-*Triodia;* also sparsely vegetated coastal dunes.

Denisonia nigriceps (Günther)

Two records: a specimen (45360) collected at Mullendunya Tank by M.G. Brooker on 27 October 1973, and one (66497) collected by T.M.S. Hanlon and G. Harold beneath rubbish on an open grassy flat with scattered eucalypts at Cocklebiddy on 29 September 1979.

Denisonia spectabilis nullarbor Storr

Three records from far east: a specimen from 10 km NNW of Eucla and two from Old Eucla, one of which had swallowed a *Morethia adelaidensis.*

Notechis scutatus occidentalis Glauert

One record from extreme southwest: a specimen (31090) collected by A. Baynes and J.L. Bannister at 16 km W of Israelite Bay on 27 March 1968.

Pseudonaja affinis Günther

Far north, west to Balladonia HS and south to 2 km NE of Toolinna Rockhole, 7 km SSE of Cocklebiddy, and 43 km S of Madura. Common. Mainly open myall or mallee over succulent steppe; also coastal heath.

Also one record from extreme southwest: a specimen (31115) collected by A. Baynes and J.L. Bannister at Israelite Bay on 29 March 1968.

These two apparently isolated populations possibly represent two subspecies: *P. a. affinis* in the southwest, and *P. a. inframacula* (Waite) or intergrades between it and *P. a. affinis* in the north. A revision of the species is planned.

DISCUSSION

The herpetofauna comprises 10 families, 35 genera and 69 species (two represented by two subspecies) distributed as follows.

Leptodactylidae: 4 genera, 6 species
Hylidae: 1 genus, 2 species
Cheloniidae: 1 genus, 1 species
Gekkonidae: 6 genera, 9 species
Pygopodidae: 4 genera, 5 species
Agamidae: 2 genera, 8 species
Scincidae: 10 genera, 28 species and subspecies
Varanidae: 1 genus, 2 species
Typhlopidae: 1 genus, 2 species
Elapidae: 5 genera, 8 species.

Compared to similar or even smaller areas on the west coast of Western Australia, e.g. Shark Bay (Storr & Harold 1978, 1980), the present region seems impoverished. However, compared with other regions in the south of the State its herpetofauna is seen to be moderately rich. In the region to our immediate north Brooker & Wombey (1978) list one frog and 27 reptiles. In the region immediately west of our western interior subregion N.L. McKenzie and his colleagues in the Department of Fisheries and Wildlife have collected six species of frogs and 43 reptiles. In the region immediately west of our Israelite Bay subregion, Chapman & Dell (1975) record six species of frogs and 36 reptiles.

None of the results of these comparisons are surprising. First, the west-coastal areas of Western Australia are extraordinarily rich in fossorial reptiles. In the country between Shark Bay and the lower Murchison, for instance, there occur five members of the *Lerista bipes* group and six of the genus *Vermicella;* neither of these taxa is represented in the present region, despite the abundance of sandy country.

On the other hand the present region is environmentally much more diversified than the country to north and west. In addition to extensive areas of succulent steppe (as on the Nullarbor Plain) and of semi-arid woodlands and scrubs (as in N.L. McKenzie's study area) the present region contains large tracts of coastal and near-coastal dunes and sandplains. Moreover these tracts are broadly interrupted by the Hampton Tableland and Baxter Cliffs, resulting in isolated southwestern and eastern coastal plains, each with distinctive elements.

Four southwest Australian reptiles reach their eastern limit in the Israelite Bay area: *Delma fraseri, Leiolopisma trilineatum, Lerista m. microtis* and *Notechis scutatus occidentalis.* A further six southwestern endemics, *Diplodactylus spinigerus, Ctenotus gemmula, C. impar, Egernia napoleonis* and *Denisonia coronata,* extend along the coast to the Baxter Cliffs or the Bilbunya Dunes. The latter area is also notable for the endemic skink *Leiolopisma baudini.*

Two lizards, *Ctenotus brooksi euclae* and *Lerista microtis arenicola,* are endemic to eastern coastal areas (and similar country in far western South Australia). A third lizard, *Lerista picturata baynesi,* is almost confined to this subregion.

Certain lizards characteristic of the semi-arid interior of southern Western Australia have their eastern limit in the western interior of the present region, namely *Diplodactylus maini, Amphibolurus salinarum* and *Lerista p. picturata.* The eastern limits of six southwest Australian frogs coincide with the eastern limit of granitic outcrops in this subregion: *Limnodynastes dorsalis, Neobatrachus pelobatoides, Pseudophryne guentheri, Ranidella pseudinsignifera, Litoria adelaidensis* and *L. cyclorhynchus.*

The Hampton Tableland contributes to the region what could be called a Nullarbor component, viz. *Amphibolurus nullarbor* and *Denisonia spectabilis nullarbor.* It and the Nullarbor Plain are also the stronghold in Western Australia of three lizards characteristic of east Australian succulent steppes, namely *Amphibolurus pictus, Tympanocryptis l. lineata* and *Morethia adelaidensis.*

Finally there are five lizards which are not confined to any one subregion but are endemic to the general vicinity of the Great Australian Bight. They are *Aprasia inaurita, Amphibolurus maculatus dualis, Hemiergis initialis brookeri, Lerista terdigitata* and *L. frosti* (apart from relict populations of the last-named in the mountains of northwestern and central Australia).

REFERENCES

BEARD, J.S. (1975)–Explanatory notes to Sheet 4, 1: 1 000 000 Vegetation Series. *Vegetation survey of Western Australia: Nullarbor.* Perth: University of Western Australia Press.

BROOKER, M.G. & WOMBEY, J.C. (1978)–Some notes on the herpetofauna of the western Nullarbor Plain, Western Australia. *West. Aust. Nat.* **14:** 36-41.

CHAPMAN, A. & DELL, J. (1975)–Reptiles, amphibians and fishes. *In* A biological survey of Cape LeGrand National Park. *Rec. West. Aust. Mus.* Suppl. 1: 34-38.

KLUGE, A.G. (1967)–Systematics, phylogeny, and zoogeography of the lizard genus *Diplodactylus* Gray (Gekkonidae). *Aust. J. Zool.* **15:** 1007-1108.

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

STORR, G.M. (1976)–The genus *Omolepida* (Lacertilia, Scincidae) in Western Australia. *Rec. West. Aust. Mus.* **4:** 163-170.

STORR, G.M. & HAROLD, G. (1978)–Herpetofauna of the Shark Bay region, Western Australia. *Rec. West. Aust. Mus.* **6:** 449-467.

STORR, G.M. & HAROLD, G. (1980)–Additions to the herpetofauna of the Shark Bay region, Western Australia. *West. Aust. Nat.* **14:** 240.

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