Herpetofauna of the Onslow Region,
Western Australia

G.M. Storr* and G. Harold†

Abstract

Twelve families, 49 genera and 96 species of amphibians and reptiles have been recorded for this region on the arid north-west coast of Western Australia. This poverty, compared to the adjacent Exmouth region (114 species), is due mainly to the absence of a summer-cool, winter-wet coastal strip and to the paucity and inadequacy of rocky habitats. Brief notes are given on the local distribution, abundance and habitat of each species.

Introduction

The Onslow region extends from lat. 20°15' to 23°00'S and from long. 114°45' to 115°45'E. It largely consists of plains; only in the far east and south-east are there low hills, mesas and outcropping Precambrian rocks. Mean annual rainfall ranges from 40 cm on the northern islands to 25 cm in the south-west, 83-89% of it falling from January to June. On the islands and mainland coasts winter showers are more frequent than in the interior, and summer heat is not so excessive (mean daily maximum temperature averaging 34.1°C on Barrow Island, 35.2°C at Onslow and 41.7°C at Nyang) (Bureau of Meteorology 1978).

The prevailing soils on coasts and islands are white aeolian sands, sparsely covered with the coarse perennial grass Spinifex longifolius and low shrubs, especially Acacia coriacea. On the larger islands there are extensive areas of limestone dominated by Triodia wiseana. Most of the interior is a mosaic of red sandy, loamy and clayey plains carrying Triodia with or without scattered shrubs, especially acacias (A. pyrifolia predominating on the lighter soils, A. xiphophylla on the heavier), and low eucalypts. In the south-west the red sandridges of the Exmouth region reach nearly to the Yannarie River. In the south-east and far east low outliers of the Hamersley Range provide shelter for rock-inhabiting lizards.

A few intermittent watercourses cross the plains, the largest (Ashburton and Cane Rivers) reaching the sea; they are lined with low woodlands of river gum Eucalyptus camaldulensis. For a detailed account of the climate, geology, soils and vegetation see Beard (1975).

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* Western Australian Museum, Francis Street, Perth, Western Australia 6000.
† 18 Scalby Street, Scarborough, Western Australia 6019.
Herpetofauna of the Onslow Region

Figure 1  Map of the Onslow region.
Until now readily accessible information on the herpetofauna has been confined to the larger islands, viz. the Montebellos (Hill 1955, Montague 1915), the Lowendals (Butler and Butler 1985) and Barrow (Butler 1970, Heatwole and Butler 1981, Smith 1976). The only information on other islands and the mainland was that attached to the few specimens collected by passing naturalists and the residents of Onslow. In August 1981, thanks to a grant from Mr and Mrs W.H. Butler, G. Harold was able to collect in most parts of the mainland. Additional field work was carried out in September-October 1982 and August 1983. All registered numbers refer to specimens in the Western Australian Museum.

Annotated List

Leptodactylidae

*Limnodynastes spenceri* Parker, 1940

One record: a specimen (85178) collected on Rous Creek, 10 km NNW Uaroo.

Hylidae

*Cyclorana maini* Tyler and Martin, 1977

Common on Barrow Is. and presumably also the mainland (but only collected at Koordarrie).

*Litoria rubella* (Gray, 1842)

Common about watercourses and homesteads.

Cheloniidae

*Caretta caretta* (Linnaeus, 1758)

Two records: two specimens (56723-4) collected on Barrow Is. and a dead specimen found by Butler and Butler (1985) on a beach on Varanus Is. (Lowendal Is).

*Chelonia depressa* Garman, 1880

Two records: a specimen (61344) from Barrow Is. and one (89957) from Boomerang Is.

*Chelonia mydas* (Linnaeus, 1758)

Common off Montebello, Lowendal and Barrow Is. On 7 September 1966 six eggs (28462-7) were taken from a nest of about 50 eggs on Barrow Is. Laying on Lowendal Is (Abutilon, Varanus, Bridled, Parakeelya, ‘N’) in March 1985 (Butler and Butler 1985).
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_Erethmochelys imbricata_ (Linnaeus, 1766)

Gekkonidae

*Diplodactylus conspicillatus* Lucas and Frost, 1897
Interior, west to Peedamulla, Koordarrie and 12 km WSW Barradale. Common. Red soils (sandy loams, loams and stony clays) with *Triodia* and often low open *Acacia*.

*Diplodactylus elderi* Stirling and Zietz, 1893
One record from interior: a specimen (81905) collected on stony red loam with *Triodia* and low shrubs, 1 km SW Nannutarra.

*Diplodactylus stenodactylus* Boulenger, 1896
Greater part of region but not immediate vicinity of mainland coast. Common. A wide variety of soils, mainly with *Triodia*, occasionally with low open *Acacia*; one specimen taken from a lycosid spider burrow. Also on Barrow I., where evidently rare.

*Diplodactylus strophurus* (Duméril and Bibron, 1836)
Moderately common on coastal dunes and near-coastal sandplains in wattles (*Acacia* spp.) and other shrubs over *Spinifex longifolius*, *Triodia* and *Plectrachne* on pinkish and red sands. One record from interior: a specimen in low open *Acacia* on red loam at Koordarrie.

*Diplodactylus taeniatus* (Lönnberg and Andersson, 1913)
Moderately common on Barrow I. and in mainland coastal and near-coastal dunes; scarce in interior (one collected at 10 km N Barradale). Low shrubs and *Spinifex longifolius* on pinkish and red sands and sandy loams.

*Gehyra pilbara* Mitchell, 1965
Common on Hermite and Barrow Is and in immediate hinterland of Onslow (from 11 km S to 18 km SSE and 17 km ESE of town); scarce elsewhere on mainland. Mostly in and on termitaria in open *Triodia* and *Plectrachne*.

*Gehyra punctata* (Fry, 1914)
Common in interior, west to the Tanpool Hills (11 km NNW Peedamulla) and 17 km NE Barradale; also one specimen (37450) from Trimouille I. Among rocks (quartzite, granite, shale) on hills, ridges, breakaways and outcrops. [Records from Barrow I. were based on _G. pilbara._]
Gehyra variegata (Duméril and Bibron, 1836)
Throughout the mainland; also Barrow (including Boodie), Airlie, Thevenard and Direction Is. Very common in all kinds of country, including treeless Plectrachne grassland.

Heteronotia binoei (Gray, 1845)
Throughout the mainland; also Trimouille, Hermite, Lowendal (Abutilon, Varanus, Bridled, Parakeelya), Barrow (including south Double), North Sandy and Bessieres Is. Very common in a wide variety of habitats.

Heteronotia spelea (Kluge, 1963)
Two records from interior: two specimens (80198-9) collected on rocks in talus slope of mesa 15 km WNW Uaroo, and one (81906) on nearby shale outcrop.

Nephrurus levis occidentalis Storr, 1963
Greater part of region but not hilly south-eastern interior. Moderately common. Red sands and sandy loams, mainly with Triodia or Plectrachne.

Nephrurus wheeleri cinctus Storr, 1963
One record: a specimen (89954) collected on stony plain with Triodia 8 km N Cane River HS.

Oedura marmorata Gray, 1842
Hilly south-eastern interior, north to Mt Murray and west to 15 km WNW Uaroo. Moderately common. Among rocks.

Rhynchoedura ornata Günther, 1867
South-eastern interior, in the Nanutarra, Uaroo and Barradale districts. Moderately common. Red loams and sandy loams with Triodia. One specimen taken from a lycosid spider burrow.

Pygopodidae
Aprasia rostrata rostrata Parker, 1956
Only known from two specimens in the British Museum (Natural History) collected by F.L. Hill on Hermite I. in 1952.

Delma borea Kluge, 1974
Widely but sparsely distributed on mainland; also Barrow I. Uncommon.

Delma nasuta Kluge, 1974
Common on Barrow and Hermite Is, but on mainland only collected near the Cane River. Mainly in Triodia.
Delma tincta De Vis, 1888
Moderately common on Barrow I., but on mainland only collected in Cane River, Uaroo and Barradale districts. Triodia on heavier soils.

Lialis burtonis Gray, 1835
Widespread on mainland; also Montebello, Lowendal (Abutilon, Bridled) and Barrow Is. Mainly Triodia and Plectrachne on red sands and loams.

Pygopus nigriceps nigriceps (Fischer, 1882)
Two records: a specimen (48558) collected in Triodia on Barrow I. and one from Barradale in a private collection.

Agamidae
Ctenophorus caudicinctus caudicinctus (Günther, 1875)
Hilly interior, west to the Parry Range, Jundelaya Hill and Barradale; also Barrow I. (including north and south Double I.). Common. Among rocks and on stony soils.

Ctenophorus femoralis (Storr, 1965)
Western three-quarters, east to the Cane River and Parry Range. Common. Mainly crests of red sandridges with Triodia and low shrubs; also coastal white dunes and pinkish sands with Spinifex longifolius.

Ctenophorus inermis (De Vis, 1888)
Throughout the mainland. Very common. Lightly wooded sands, loams and occasionally stony soils.

Ctenophorus isolepis isolepis (Fischer, 1881)
Eastern half, west to 18 km SSE Onslow, The Range and Uaroo. Very common. Mainly red sands and sandy loams with Triodia and low sparse shrubbery; also clays, stony soils and white coastal dunes.

Ctenophorus reticulatus (Gray, 1845)
Interior, west to Peedamulla and Koordarrie. Moderately common. Lightly wooded red soils (mainly clays and stony loams, occasionally sandy loams).

Ctenophorus rubens (Storr, 1965)
Western half, east to Onslow, Minderoo, Koordarrie and Uaroo (15 km WNW of homestead). Very common. Mainly red sands with Triodia; also red loams and clays with Plectrachne, soft grasses and low open shrubbery.
Diporiphora winneckei Lucas and Frost, 1896

Western third, east to 19 km SE Onslow and 13 km W Barradale. Uncommon on coastal dunes and near-coastal plains; rare in interior. Perennial grasses (*Spinifex longifolius*, *Plectrachne*, *Triodia*) on pinkish or red sands and loams.

Gemmatophora gilberti gilberti (Gray, 1842)

No mainland records, but many from islands: Hermite (and other islands in the Montebello group, *fide* Montague 1915: 640), Lowendal (Abutilon, Varanus, Bridled, ‘G/H’, Parakeelya, ‘N’), Barrow (including Boodie), North Sandy and Thevenard. Uncommon to moderately common on islands; probably scarce and patchily distributed on mainland coast. On Barrow I. it favours mangroves.

Gemmatophora longirostris (Boulenger, 1883)

Seldom collected but probably locally common. Mainly river gum woodlands fringing larger watercourses (Ashburton and Yannarie Rivers and Rous Creek).

Pogona minor minor (Sternfeld, 1919)

Widespread but scarce on mainland; moderately common on Barrow I. Mainly sands and sandy loams with open shrubbery and *Triodia*.

Scincidae

Carlia triacantha (Mitchell, 1953)

Regionally known only from Barrow I., where two specimens have been collected.

Cryptoblepharus carnabyi Storr, 1976

Certainly known only from Barrow I., where it is widespread and moderately common in habitats that provide vertical surfaces, e.g. mangroves, eucalypts, walls of buildings and sides of sink-holes (Smith 1976). A *Cryptoblepharus* (29115) collected in *Acacia* scrub 25 km S Koordarrie could not be found for checking; it possibly belonged to *C. plagiocephalus* (Cocteau, 1836).

Ctenotus colletti rufescens Storr, 1979

Two records: one observed by G. Harold among *Triodia* on red sand 10 km NE Urala, and on red sandridge with open shrubbery and *Triodia* 20.5 km NW Barradale.

Ctenotus duricola Storr, 1975

Two records: two specimens from a rocky area on Barrow I., and one from red sandy loam 19 km WNW Uaroo.
**Ctenotus grandis titan** Storr, 1980
Two specimens have been taken near Nanutarra and three on Barrow I. Sandplains with *Triodia*.

**Ctenotus hanloni** Storr, 1980
Widespread but patchily distributed on mainland; also Barrow I. Moderately common. Mainly red sandy or stony loams with low open shrubbery and usually *Triodia*.

**Ctenotus helenae** Storr, 1969
Regionally known only from southern interior (Nanutarra, Uaroo and Barradale districts). Uncommon. Red or brown sands and loams with low open shrubbery and usually *Triodia*.

**Ctenotus iapetus** Storr, 1975
Western half, east to 18 km SE Onslow and Barradale. Scarce. Red sandy loams with *Triodia* and low open shrubbery.

**Ctenotus pantherinus acripes** Storr, 1975
Regionally confined to Barrow I. Common. Rocky areas with *Triodia wiseana* (Smith, 1976).

**Ctenotus pantherinus ocellifer** (Boulenger, 1896)
Throughout the mainland. Common. Mainly red sands, sandy loams and stony loams with *Triodia* and scattered shrubs and low trees.

**Ctenotus saxatilis** Storr, 1970

**Ctenotus serventyi** Storr, 1975
One record: a specimen (45414) from Barrow I.

**Ctenotus uber uber** Storr, 1969
Two records: two specimens (30334, 81301) from Koordarrie. The second was collected on red clay with low open *Acacia*.

**Egernia depressa** (Günther, 1875)
One record: a specimen (81303) from crevice in quartzite outcrop 8 km SW Nanutarra.

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_Eremiascincus fasciolatus_ (Günther, 1867)
Two records: two specimens (80344, 80627) from river gum woodland at Carraweela Well, and one (80473) from red sandridge 18 km NE Mt Murray.

_Eremiascincus richardsonii_ (Gray, 1845)
Regionally known from seven specimens collected on five occasions on Barrow I. ‘Confined (at least during the day) to caves and deep crevices where it burrows in soft, moist, karst soils’ (Smith 1976).

*Lerista bipes* (Fischer, 1882)
Widespread on mainland; also Trimouille, Hermite, Lowendal (Abutilon, Varanus, Bridled, Parakeelya) and Barrow Is. Common. Mainly red sandplains and sandridges with *Triodia* and open shrubbery; also red or brown loams with river gum woodlands, and white coastal sands with *Spinifex longifolius*.

*Lerista elegans* (Gray, 1845)
Apparently confined to coastal areas (collected on Barrow I. and at Onslow and Urala). Moderately common. Red sands with *Triodia*.

*Lerista muelleri* (Fischer, 1881)
Widespread on mainland; also Montebello (presumably Hermite), Lowendal (Abutilon, Bridled), Barrow, North Sandy and Thevenard Is. Common. Mainly in leaf litter beneath shrubs and low trees; also in *Triodia* and under logs and rubbish.

*Lerista nichollsi petersoni* Storr, 1976
Confined to far south-west around Barradale. Uncommon. Litter beneath open shrubbery on red sandy and stony loams.

*Lerista onsloviana* Storr, 1984
Widely but patchily distributed. Common. *Acacia* litter on white coastal dunes with *Spinifex longifolius*, near-coastal red sands with *Acacia, Plectrachne* or soft grasses, and litter beneath shrubs on red sandridges with *Triodia*.

*Menetia greyii* Gray, 1845
Greater part of region, including Barrow I. but not eastern interior north of Nanutarra. Moderately common on mainland, but only one specimen (56721) collected on Barrow I.

*Morethia lineoocellata* (Duméril and Bibron, 1839)
Two records: one specimen (37464) from Trimouille I. and one (28674) from Barrow I.
Morethia ruficauda exquisita Storr, 1973
Widespread but patchily distributed on mainland, where it favours vicinity of watercourses; also Hermite, Lowendal (Abutilon, Varanus, Bridled) and Barrow Is. Common on Barrow I., uncommon elsewhere. Sheltering under logs, flood debris, leaf litter and grader spoil in a wide variety of habitats. Smith (1976) describes its luring of prey with the brilliant red tail.

Notoscincus ornatus (Broom, 1896)
Greater part of mainland but not eastern interior north of the Ashburton; also Barrow I. Moderately common on Barrow I., uncommon on mainland. Litter, mainly on red sands and sandy loams with Triodia but also on red clays with Acacia.

Omolepida branchialis (Günther, 1867)
Widespread but patchily distributed on mainland; also Barrow I. Very common on Barrow I., moderately common on mainland. Mainly in Triodia; also in grader spoil and under leaf litter.

Proablepharus reginae (Glaeuert, 1960)

Sphenomorphus isolepis (Boulenger, 1887)
No mainland records but many from islands: Trimouille, Barrow (including Boodie) and North Sandy. Very common on islands; probably scarce and patchily distributed on mainland coast. On Barrow I. confined to sand with Spinifex longifolius (Smith, 1976).

Tiliqua multifasciata Sternfeld, 1919
Two records: an observation in low open acacia at 17 km SSW Onslow and a specimen (30369) from Koordarrie.

Varanidae
Varanus acanthurus Boulenger, 1885
Moderately common on islands: Hermite, Lowendal (Varanus), Barrow, Thevenard. Only one record from mainland: a specimen from 15 km N Mt Murray.

Varanus brevicauda Boulenger, 1898
Western third (collected at Urala and Koordarrie). Scarce.

Varanus eremius Lucas and Frost, 1895
Western third (collected at Old Onslow and Barradale). Scarce.
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**Varanus giganteus** (Gray, 1845)

On Barrow I. ‘every rock shelter, whether a cave or a simple overhang, showed evidence of this species’ presence’ (Smith 1976). On the mainland only one record: one seen at 10 km N Cane River HS among *Triodia* on rocky soil.

**Varanus gouldii** (Gray, 1838)

Widespread on mainland; also the Montebello Is (North West, Trimouille, Alpha and South East, *fide* Hill, 1955). Moderately common. Sands and sandy loams with *Triodia* or *Plectrachne*; also heavier soils with *Acacia*.

**Varanus panoptes rubidus** Storr, 1980

One record: a specimen (51614) from Peedamulla.

**Typhlopidae**

**Ramphotyphlops diversus ammodytes** (Montague, 1914)

Probably widespread, but only collected at Nanutarra and Barradale and on Hermite and Barrow Is.

**Ramphotyphlops grypus** (Waite, 1918)

Two records: a specimen (73082) from 18 km SW Onslow and one from Cane River (56105).

**Boidae**

**Liasis olivaceus barroni** L.A. Smith, 1981

One record: a specimen (24920) from 16 km SW Nanutarra.

**Liasis stimsoni stimsoni** L.A. Smith, 1985

Common on Barrow I., where it shelters in termitaria (Smith 1976). Two specimens have been collected on Hermite I. and one at Onslow, and a road-kill was examined at 9 km W Mt Minnie HS.

**Elapidae**

**Acanthophis pyrrhus** Boulenger, 1898

Patchily distributed. Common on the *Triodia*-dominated plains about the Cane River; scarce elsewhere.

**Demansia reticulata cupreiceps** Storr, 1978

Locally common, e.g. around Onslow, but generally scarce.

**Demansia rufescens** Storr, 1978

Regionally known from two specimens (28070, 51634) collected on Barrow I. and one (81835) from 50 km N Nanutarra. The ‘*Demansia psammophis*’ collected
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on the Montebello Is by Hill (1955: 119) could have belonged to this species. *D. rufescens* was formerly treated as a subspecies of *D. olivacea*.

*Denisonia fasciata* Rosén, 1905
Regionally known only from far east: stony country with *Triodia* S and SE of Peedamulla.

*Furina ornata* (Gray, 1842)
Collected on the Montebello Is (presumably Hermite), Barrow I. and Peedamulla and The Range Stations and at 20 and 40 km N Nanutarra. Uncommon to moderately common.

*Pseudechis australis* (Gray, 1842)
Widespread on mainland; also Barrow I. Moderately common. Mainly red sandy or stony loams with *Triodia*.

*Pseudonaja modesta* (Günther, 1872)
Western, east to Onslow, Koordarrie and Uaroo. Uncommon. Red sandy and clayey loams with open shrubbery (especially *Acacia*).

*Pseudonaja nuchalis* Günther, 1858
Western third, east to Onslow, 20 km N Koordarrie and 10 km WSW Barradale. Moderately common on coastal plains, uncommon in interior. Red sands and sandy loams, mainly with *Triodia*.

*Rhinoplocephalus punctatus* (Boulenger, 1896)
One record: a specimen (81304) from Minderoo.

*Vermicella anomala* (Sternfeld, 1919)
Coastal and near-coastal plains, west to Urala. Moderately common. Red sands with *Triodia*, and white coastal dunes with *Acacia* and *Spinifex longifolius*.

*Vermicella approximans* (Glauert, 1954)
One record: a specimen (47348) from Barrow I. A snake collected at Onslow in 1941 was registered (8269) by L. Glauert as *'Rhynchelaps fasciolatus'* but not retained; it possibly belonged to the present species, then undescribed.

Hydrophiidae

*Acalyptophis peronii* (Duméril, 1853)
One record: a specimen (29585) from Barrow I.
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*Aipysurus duboisi* Bavay, 1869
   One record: a specimen (48957) from Barrow I.

*Aipysurus eydouxii* (Gray, 1849)
   One record: a specimen (28469) from Barrow I.

*Aipysurus laevis* Lacépède, 1804
   Moderately common. Collected off Onslow and Montebello, Barrow and Locker Is.

*Astrotia stokesii* (Gray, 1846)
   Collected off Onslow and Montebello and Barrow Is.

*Emydocephalus annulatus* Krefft, 1869
   One record: a specimen (47852) from Barrow I.

*Hydrophis elegans* (Gray, 1842)
   One record: a specimen from Montebello Is collected by F.L. Hill (1955: 119) for the British Museum (Natural History).

*Hydrophis kingii* Boulenger, 1896
   One record: a specimen (29170) collected off Barrow I.

*Hydrophis major* (Shaw, 1802)
   One record: a specimen (29928) from Onslow.

*Hydrophis ocellatus* Gray, 1849
   Collected off Onslow and Montebello and Barrow Is.

**Discussion**

The 49 genera and 96 species recorded from the region are distributed among 12 families:

- Leptodactylidae: 1 genus, 1 species
- Hylidae: 2 genera, 2 species
- Cheloniidae: 3 genera, 4 species
- Gekkonidae: 6 genera, 14 species
- Pygopodidae: 4 genera, 6 species
- Agamidae: 4 genera, 10 species
- Scincidae: 13 genera, 28 species
- Varanidae: 1 genus, 6 species
- Typhlopidae: 1 genus, 2 species
- Boidae: 1 genus, 2 species
- Elapidae: 8 genera, 11 species
- Hydrophiidae: 5 genera, 10 species

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Eighteen fewer species are recorded than from the neighbouring, smaller Exmouth region (Storr and Hanlon 1980). The disparity could be reduced by additional field work, especially at claypans and river pools after summer and autumn rain when one could expect to find *Chelodina steindachneri* and certain frogs. More work among the desert sandridges of the far south-west might reveal the presence of *Moloch horridus*, *Ctenotus calurus* and *C. piankai*.

Nevertheless, we believe that the region will always be faunally poorer than the Exmouth region for two main reasons. First, the south-west Australian element characteristic of the west coast of the Exmouth region, e.g. *Diplodactylus ornatus*, *Tympanocryptis parviceps*, *Ctenotus fallens*, *Lerista lineopunctulata*, *L. praepedita* and *Vermicella littoralis*, largely ceases at or before North West Cape. Second, the Cape Range, even though isolated from the Hamersley Range by extensive lowlands, harbours four rock-inhabiting species that are apparently absent from the hilly south-east of the Onslow region, viz. *Pseudophryne douglasi*, *Diplodactylus mitchelli*, *D. pax* and *Varanus tristis*.

In partial compensation, five northern reptiles reach the Onslow region but not the Exmouth region, namely *Heteronotia spelea*, *Nephrurus wheeleri cinctus*, *Liiasis olivaceus barroni*, *Demansia rufescens* and *Vermicella anomala*. The last two, however, are represented in the Exmouth region by the closely related *Demansia calodera* and *Vermicella bertholdi*.

The only endemic taxon is *Aprasia r. rostrata* of the Montebello Islands. Another species, *Lerista onslouiana*, would be endemic but for its slight extension into the Exmouth region. *Ctenotus pantherinus acripes* of Barrow Island occurs nowhere else in Western Australia but reappears in the north-east of the Northern Territory and northern interior of Queensland.

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**References**

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