

# BIOSTRATIGRAPHY AND PALEONTOLOGY

## REPORTS

GSWA paleontology reports consist of two types:

### Legacy (1962–2000)

- recently rescanned and keyworded
- kept as original, i.e. no corrections made
- originally prepared as informal internal reports
- contain much of the basic biostratigraphic and taxonomic data used in past GSWA mapping projects

The reports are a great resource for regional studies across Western Australia.

### New series (2016 onwards)

- fully edited in line with other GSWA publications
- rapid communication of new discoveries, basic data, and brief reports unrelated to larger projects
- will be written on an ad hoc basis

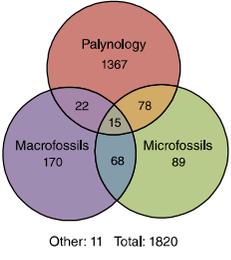
Fossil materials described in many reports are held within the GSWA Paleontology or Petroleum Relinquishment collections, allowing for further studies.

Spatial searchability will be available via [GeoVIEW.WA](#) in the near future.

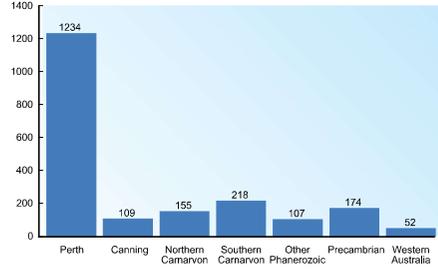
The image shows a collage of screenshots from the GSWA website. It includes the 'Geological Survey of Western Australia (GSWA)' header, navigation menus, and a 'Paleontology Report Series' page. Red circles and arrows highlight specific sections like 'Geology and Geophysics', 'Palaeontology', and 'Palaeontology Report Series'.

Both legacy and new series paleontology reports are available free at:  
[www.dmp.wa.gov.au/Paleontology](http://www.dmp.wa.gov.au/Paleontology)

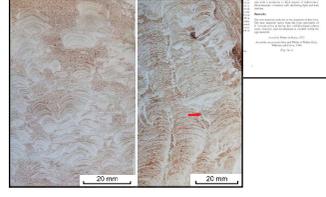
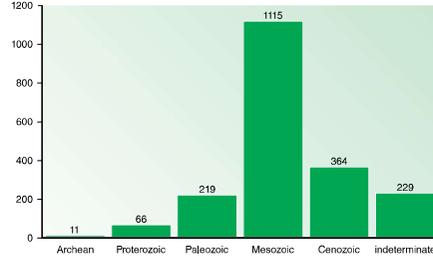
### BY FOSSIL TYPE



### BY BASIN



### BY AGE



- Reports cover a wide range of:
- map sheets
  - basins
  - fossil groups
  - geological ages.

## CURRENT RESEARCH PROJECTS

Paleontology forms an active part of GSWA's mapping and basin studies, providing biostratigraphic and paleoenvironmental data for sedimentary units across the state.

### Carnarvon Basin

Early Permian macrofossils and paleoenvironments (in conjunction with UWA)

Two photomicrographs showing fossiliferous rock sections. The left image shows a large, circular fossil. The right image shows a smaller, more complex fossil structure. Scale bars of 1 cm are provided.

Brachiopod (left) and *Dinmotrypa* sp. (right), Silagadoo Shale

### Canning Basin and embayments

Paleozoic macro- and micropaleontology and ichnology.

Two photomicrographs showing fossiliferous rock sections. The left image shows a large, circular fossil. The right image shows a smaller, more complex fossil structure. Scale bars of 100 micrometers and 2 cm are provided.

*Bergstroemognathus eximius*, Sa element, Olympic 1, Lower Ordovician, Nambour Formation, Canning Basin

*Cruziana rugosa*, in association with fish microfossils, Cobb Embayment, Canning Basin

### Amadeus, Officer and Murraba Basins

Neoproterozoic biostratigraphy. GSWA Record on the Aralka Formation (in conjunction with NTGS) released in 2018; GSWA Report documenting a biostratigraphic scheme for the latest Neoproterozoic – early Cambrian of the western Centralian Superbasin (including the Amadeus, Officer and Murraba Basins) due 2020.

Two photomicrographs showing fossiliferous rock sections. The left image shows a large, circular fossil. The right image shows a smaller, more complex fossil structure. Scale bars of 5 cm and 2 cm are provided.

*Linella aris*, Amadeus Basin

*Arumbona* sp., Murraba Basin

### Precambrian paleontology

Field reassessment of potentially biogenic features

A photomicrograph showing a fossiliferous rock section. Scale bar of 2 cm is provided.

coral pseudofossils, Moora Group

### Tumblagooda Sandstone

Reassessments of biostratigraphy, ichnology and regional correlation. External publication due end 2019.

A photomicrograph showing a fossiliferous rock section. Scale bar of 1 cm is provided.

Left: *Diplichnites gouldi* trackway, Natures Window. Right: *Daedalus* burrows, Kalbarri

### Perth Basin

Macro- and micropaleontology studies. Includes ongoing research into unusual depositional environments of the Kockatea Shale (in conjunction with UWA)

Two photomicrographs showing fossiliferous rock sections. The left image shows a large, circular fossil. The right image shows a smaller, more complex fossil structure. Scale bars of 2 cm and 1 cm are provided.

Spinicaudatan, Lower Triassic, Kockatea Shale

*Diplogodius carvicolium*, F12421/1, H541, southern Perth Basin

Contact us for fossil identification and expert advice. We can also provide a point of contact for Western Australian, Australian, or worldwide paleontological specialists.

## COLLECTIONS

GSWA maintains a range of historical and modern paleontological materials, stored in two separate collections:

- GSWA Paleontology Collection
- Petroleum Relinquishment (including the Core Library)

### Palynology and microfossils

- Outcrop samples, and non petroleum (mineral, water, engineering) boreholes (Paleontology Collection); petroleum well samples (Relinquishment and Core Library collections, searchable through WAPIMS)
- Slides and residues
- Non petroleum material has an emphasis on biostratigraphy of the Perth Basin Mesozoic and the Canning Basin Devonian

### Macrofossils and stromatolites

- Trace and body fossils
- Hand samples, SEM stubs, section slides, acetate peels
- Emphasis on Proterozoic biostratigraphy, Devonian of the Canning Basin, Permian of the Carnarvon Basin

The Paleontology Collection also contains type and figured specimens of both macrofossils and microfossils, extending back to the 1890s.

### Loans

Loan of non type materials is permitted to most geoscientific organisations, including researchers and consultants.

Type material cannot be loaned, but may be viewed upon request. Microscopes and photographic equipment are available at the Carlisle Core Library site for use in examination.



For more information, contact:  
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