

# BIOSTRATIGRAPHY AND PALEONTOLOGY

## REPORTS

Geological Survey of Western Australia (GSWA) paleontology reports consist of two types:

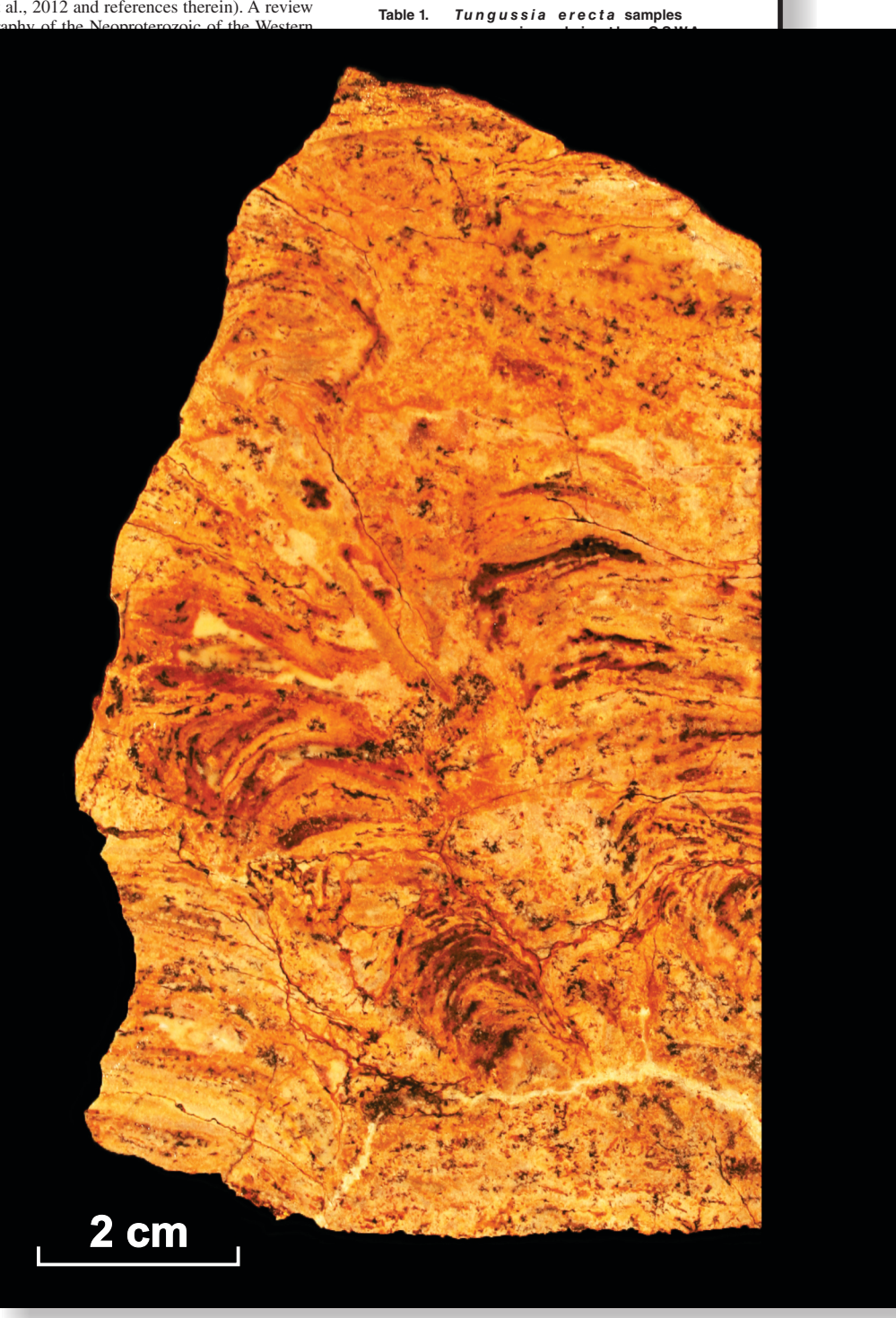
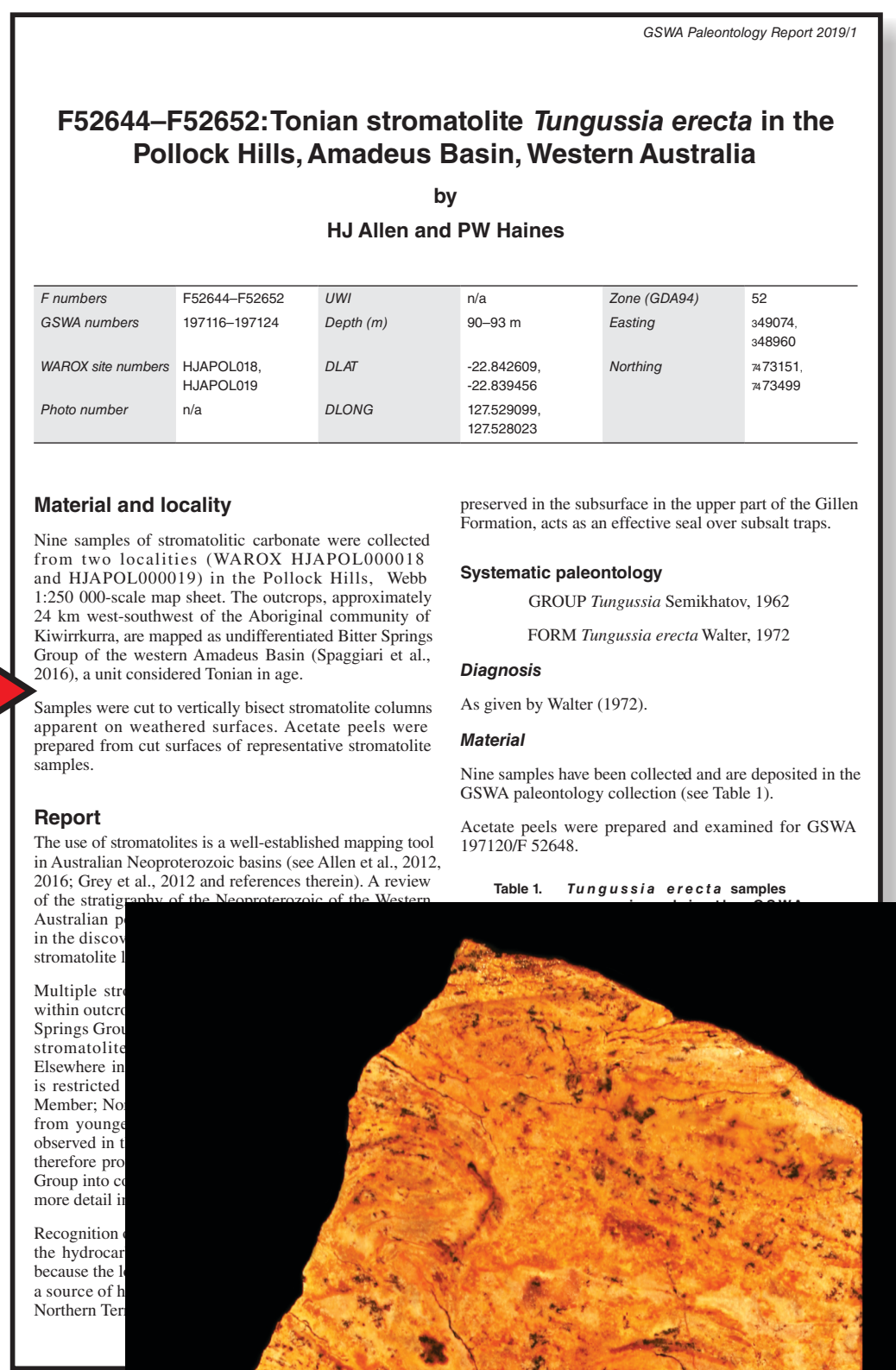
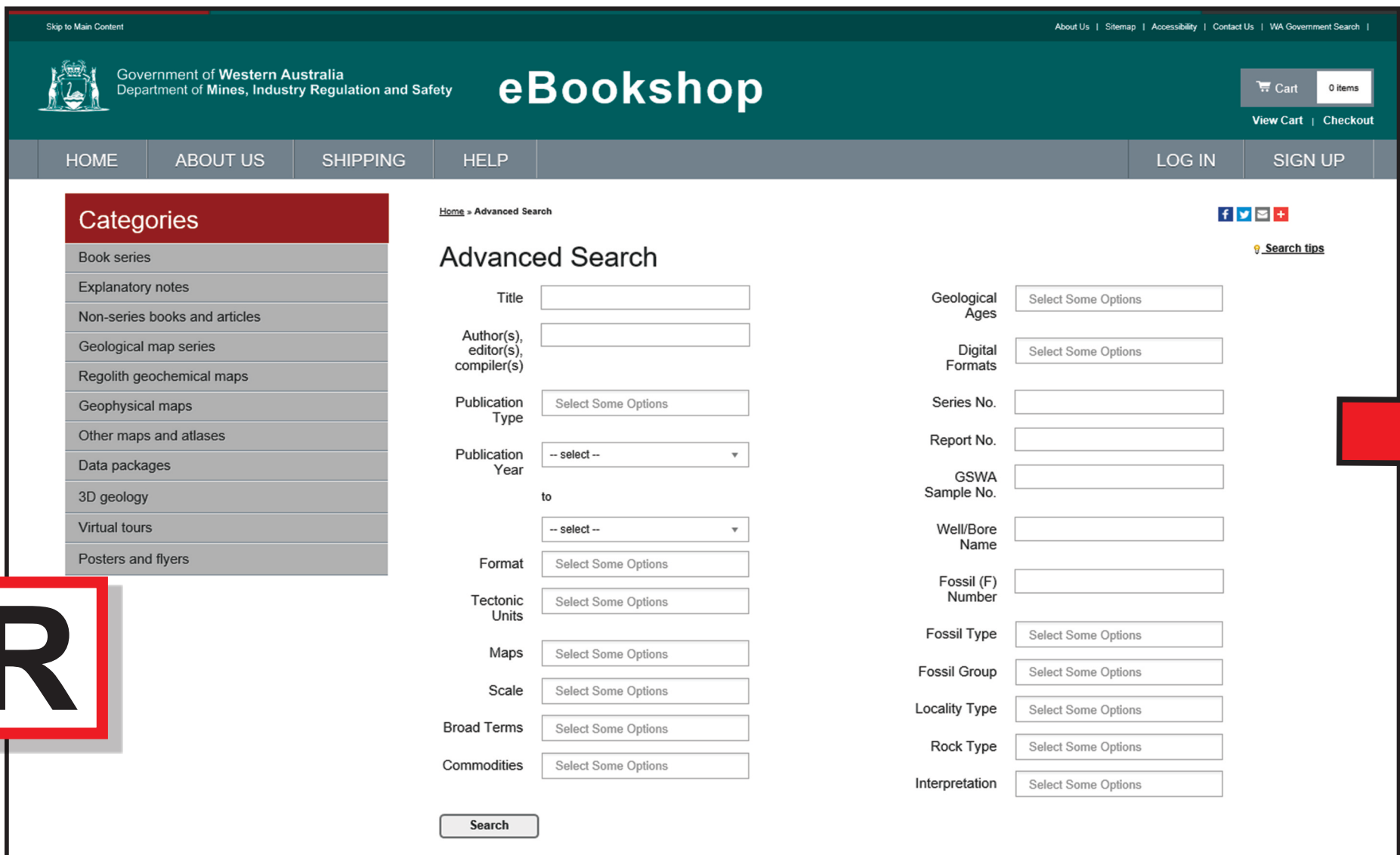
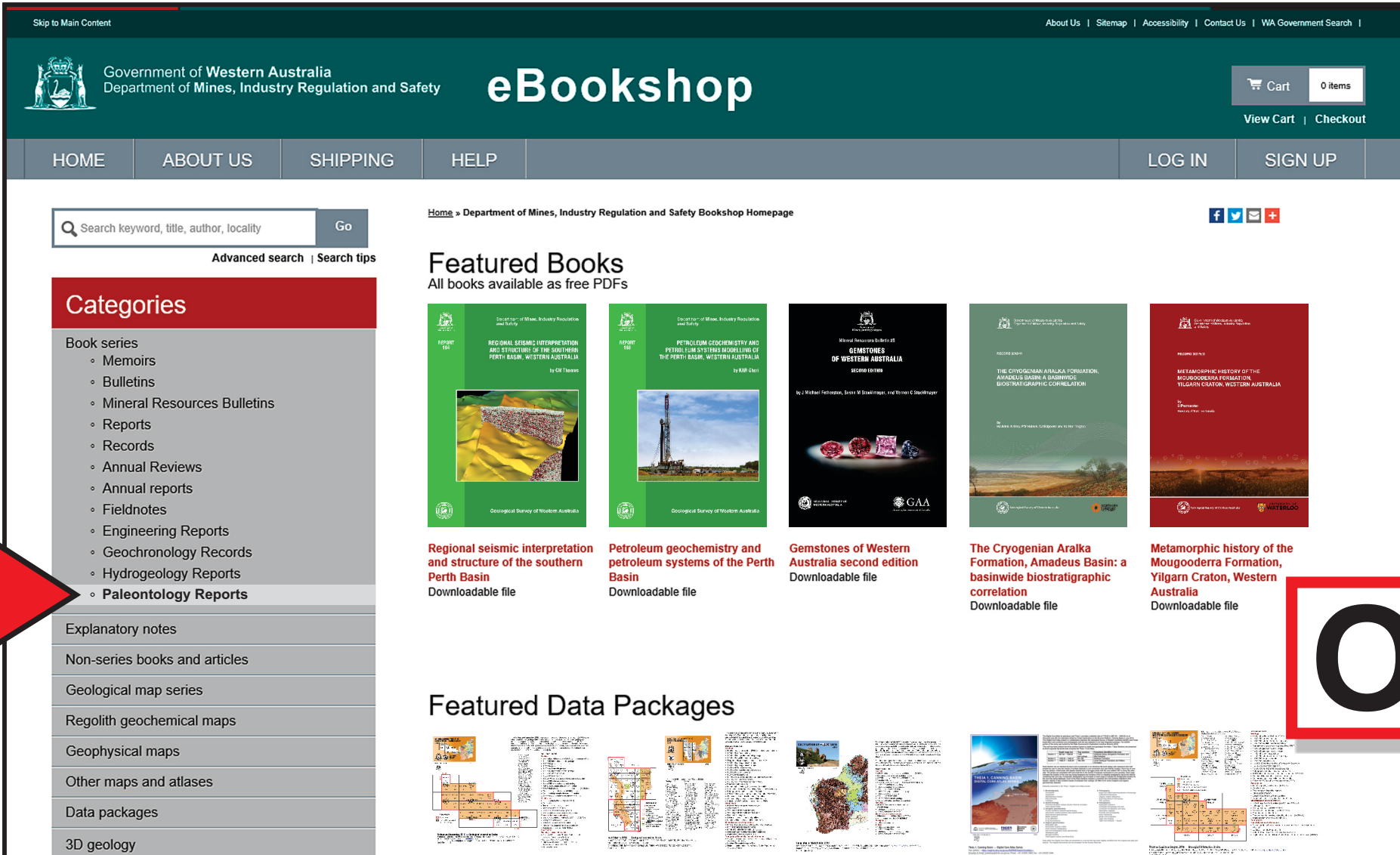
- Legacy (1962–2000)**
- recently rescanned and keyworded
  - kept as original, i.e. no corrections made
  - originally prepared as informal internal reports
  - contain much of the basic biostratigraphic and taxonomic data used in past GSWA mapping projects

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

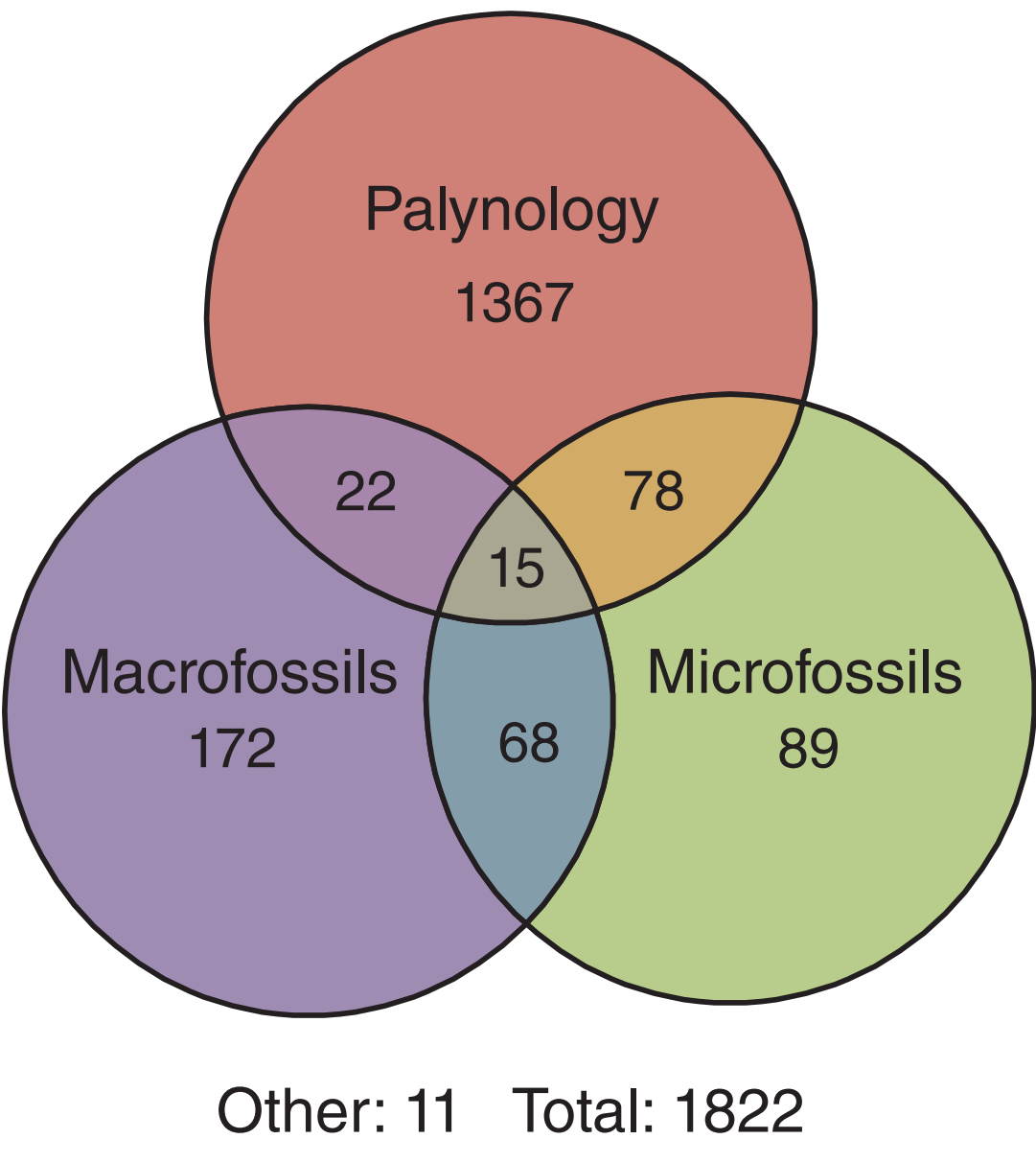
Fossil materials described in many reports are held within the GSWA Paleontology or Petroleum Relinquishment collections, allowing for further studies.

Spatial searchability will be available via **GeoVIEW.WA** in the near future.

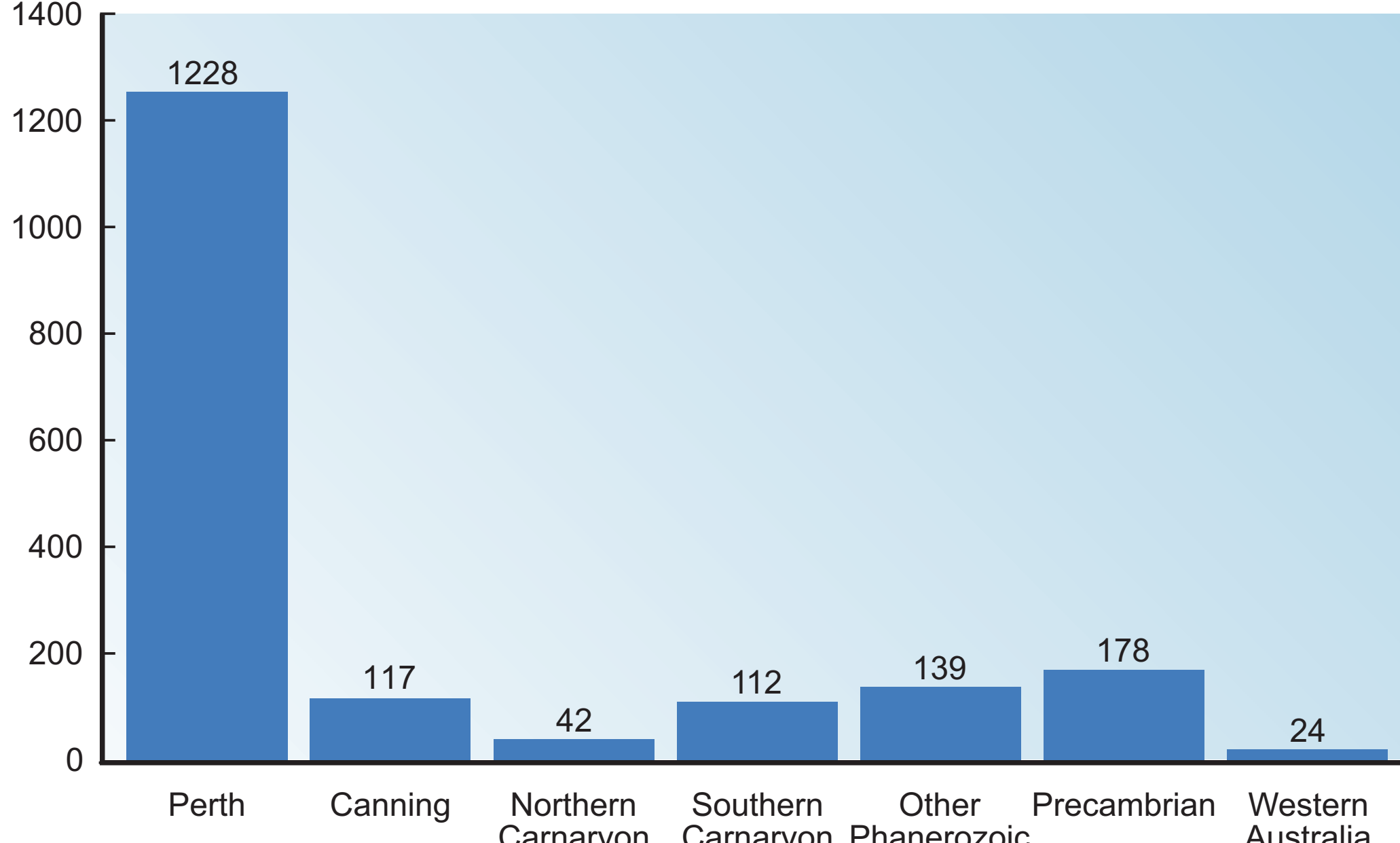


Both legacy and new series paleontology reports are available free at:  
**[www.dmp.wa.gov.au/ebookshop](http://www.dmp.wa.gov.au/ebookshop)**

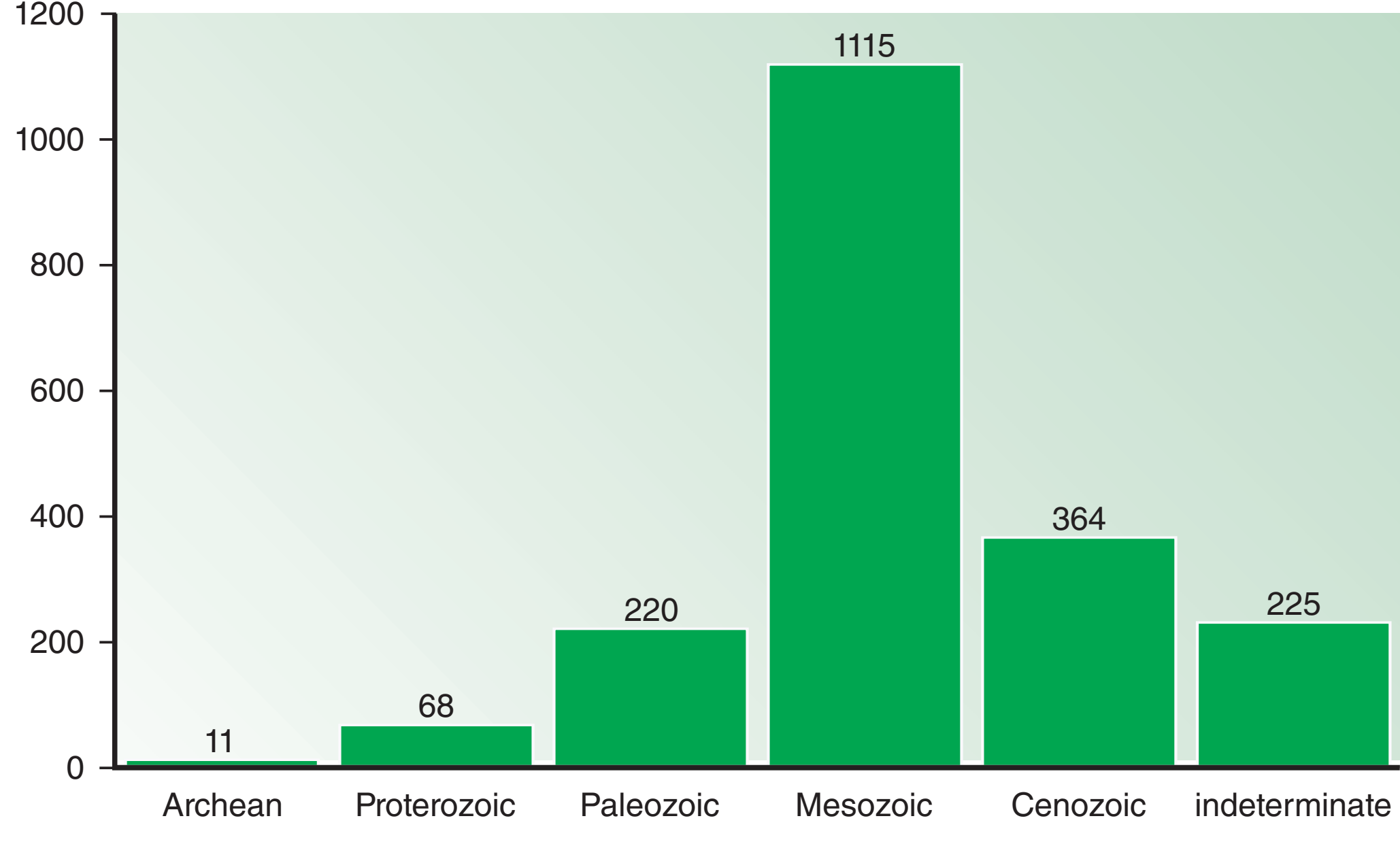
## BY FOSSIL TYPE



## BY BASIN



## BY AGE


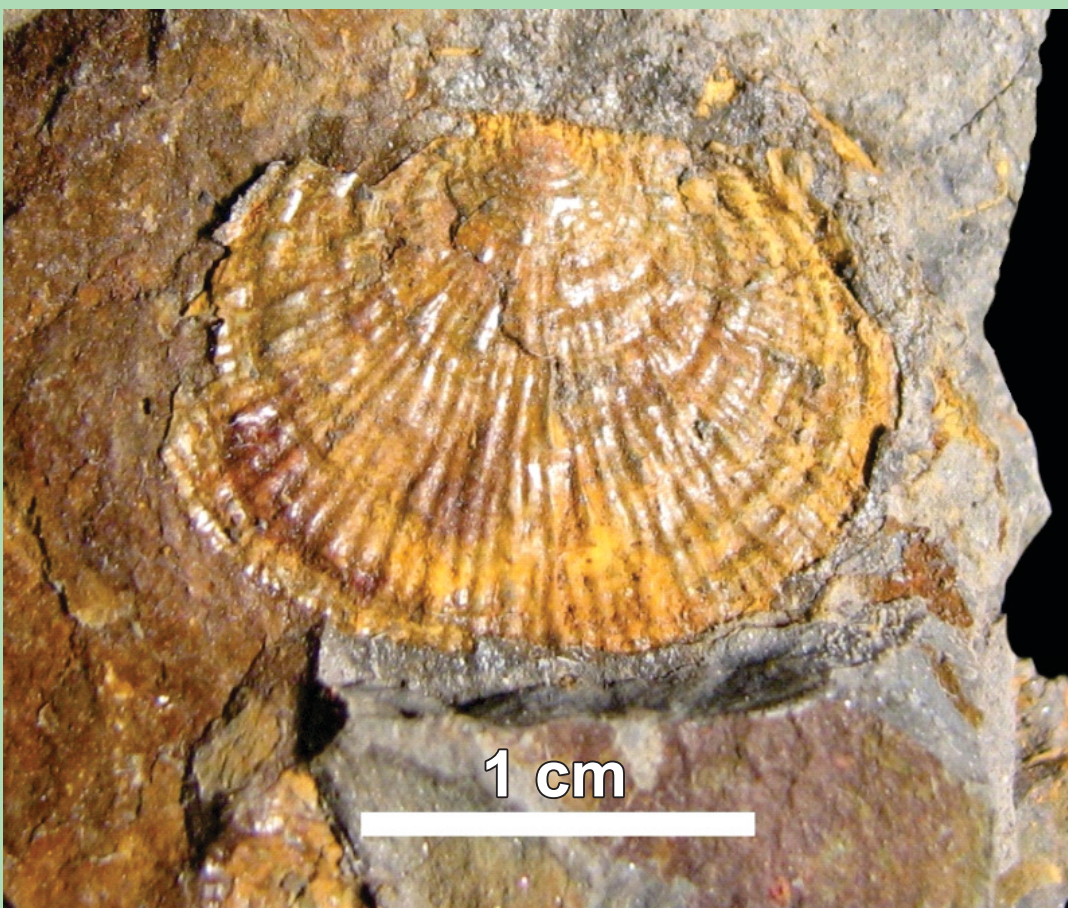


- Reports cover a wide range of:
- map sheets
  - basins
  - fossil groups
  - geological ages

## CURRENT RESEARCH PROJECTS

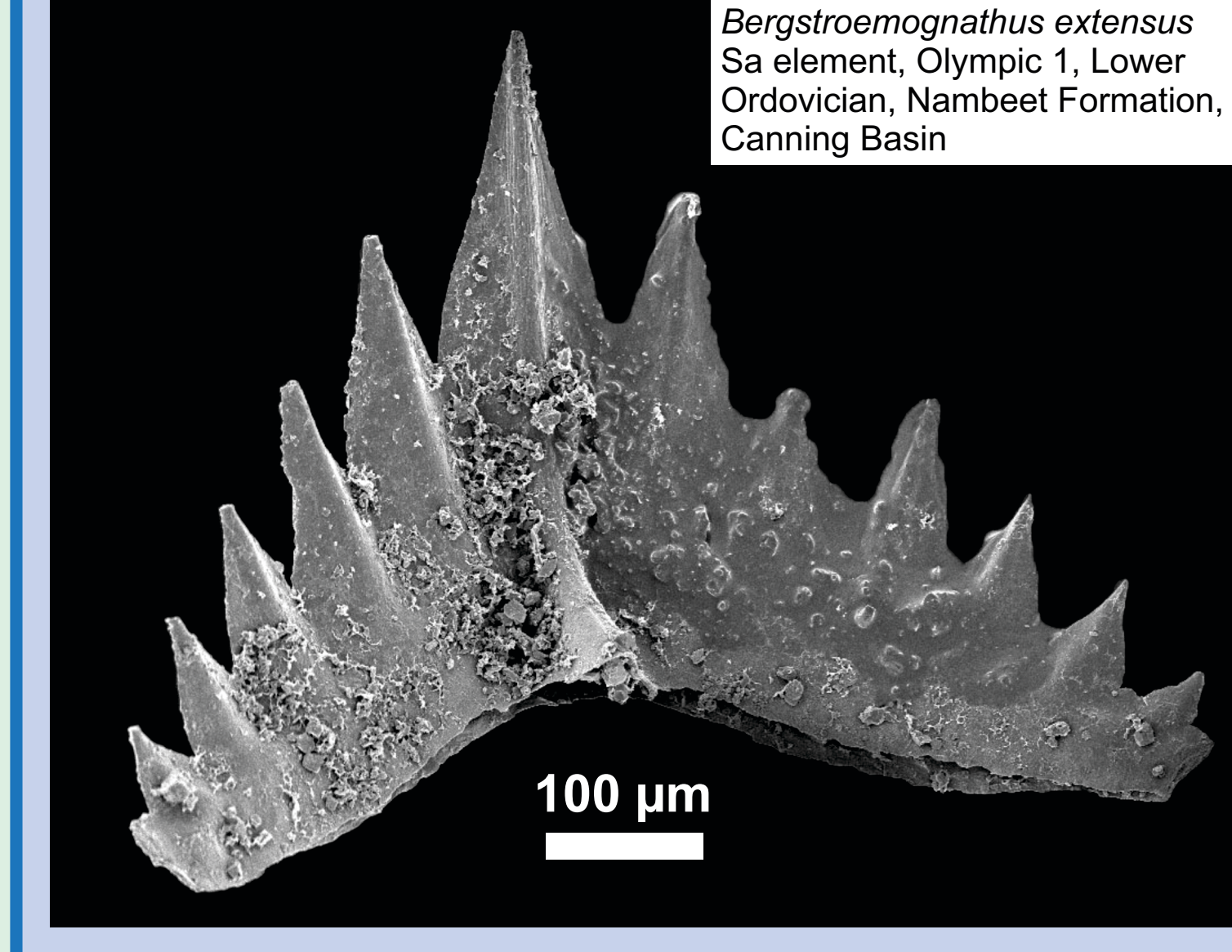
Paleontology forms an active part of GSWA's mapping and basin studies, providing biostratigraphic and paleoenvironmental data for sedimentary units across the state.

**Carnarvon Basin**  
Early Permian macrofossils and paleoenvironments (in conjunction with UWA)



Brachiopod (left) and Dimotopyge sp. (right), Bulgadoo Shale

**Canning Basin and embayments**  
Paleozoic macro- and micropaleontology and ichnology.


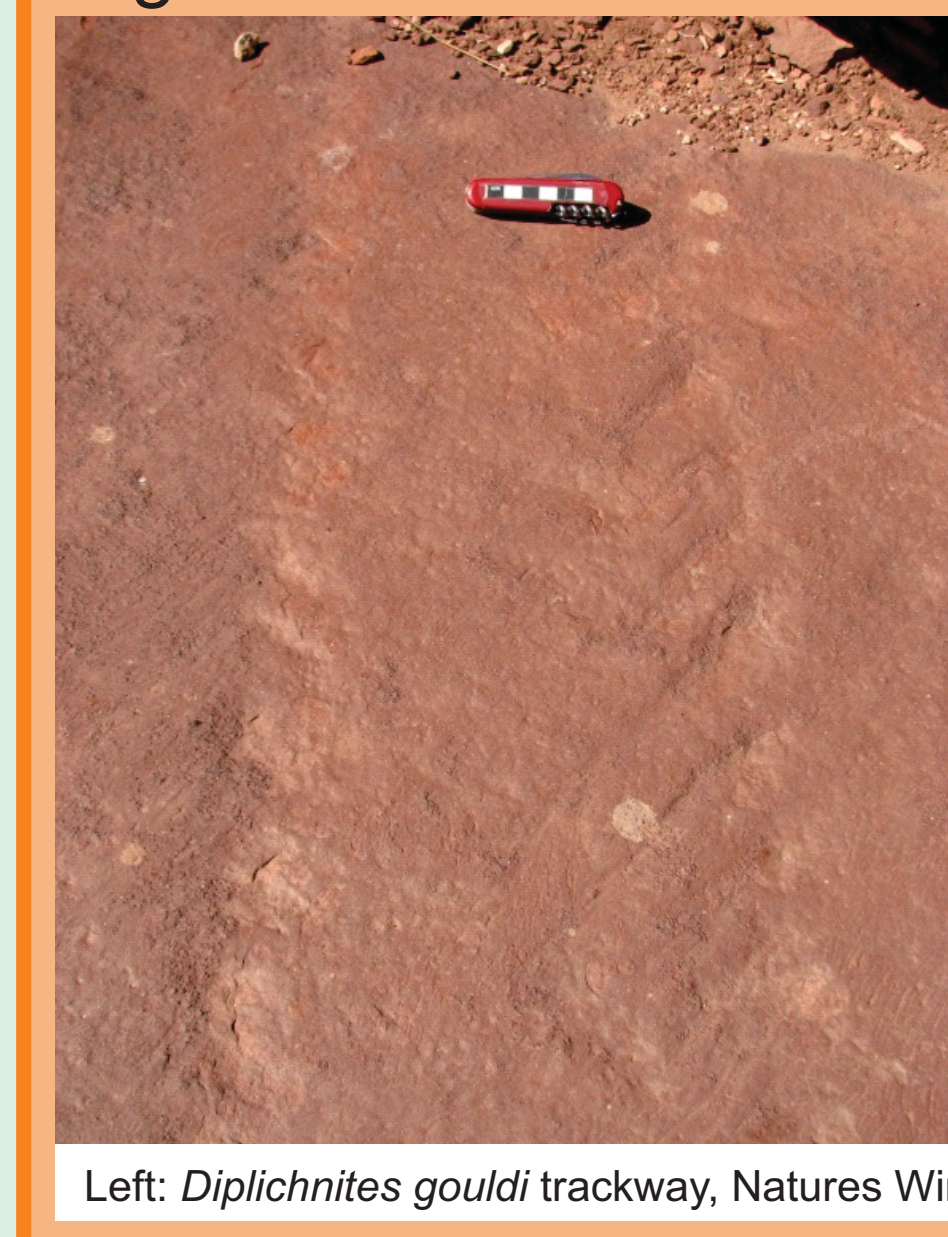


Bergstroemognathus extensus  
Sa element, Olympic 1, Lower Ordovician, Nambheet Formation, Canning Basin




Cruziana rugosa, in association with fish macrofossils, Cobb Embayment, Canning Basin

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




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)




Spinicaudatan, Lower Triassic, Kockatea Shale

**Southern Perth Basin**  
Reassessment of historic palynological data. GSWA Report 174 on the data between Mandurah and Bunbury is available now. Data from Bunbury south to follow in 2020.

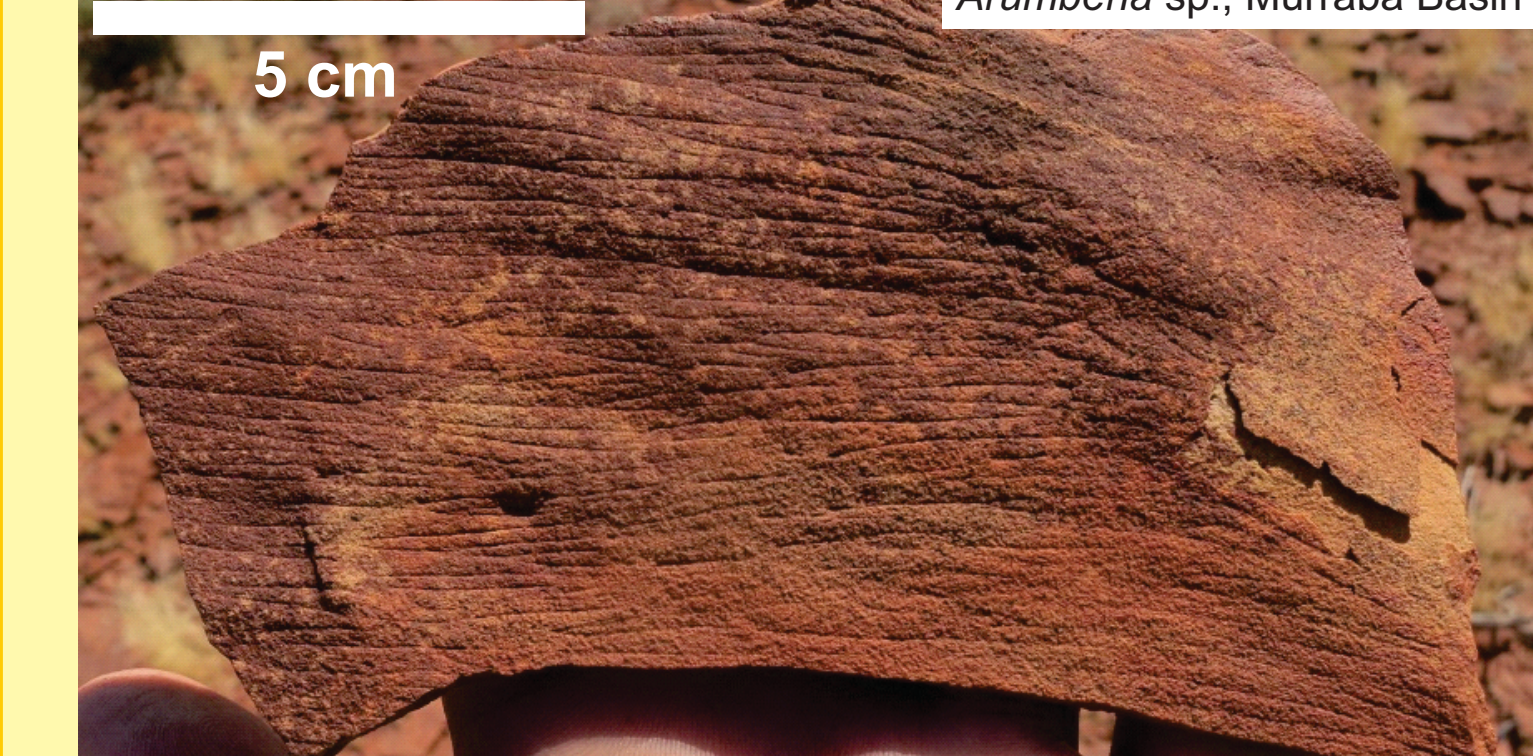


*Dirigodinium cerviculum*, F12421/1, HS41, southern Perth Basin


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




*Linella avis*, Amadeus Basin



*Anumberia* sp., Murrumba Basin



*Anumberia* sp., Murrumba Basin



'coral' pseudofossils, Moora Group

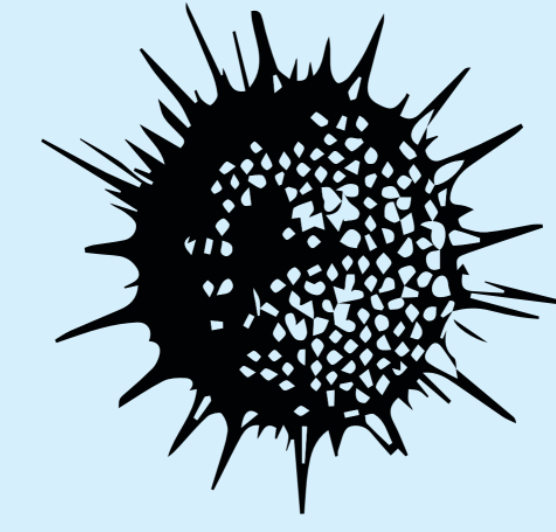
**Precambrian paleontology**  
Field reassessment of potentially biogenic features

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

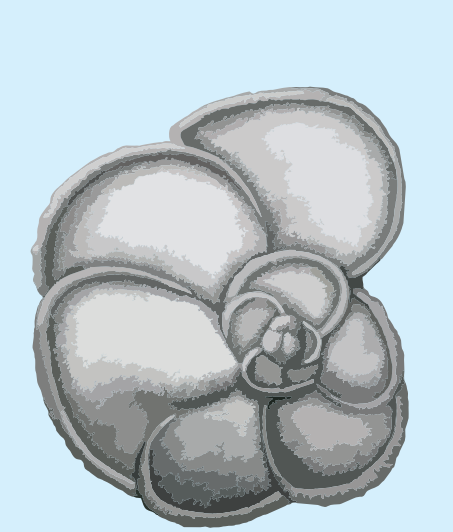
GSWA maintains a range of historical and modern paleontological materials, stored in two separate collections:

- 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.

For more information, contact:  
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[paleontology@dmirs.wa.gov.au](mailto:paleontology@dmirs.wa.gov.au)

### Loans

Loan of non-type materials is permitted to most geoscientific organizations, 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.



Abbreviations: NTGS, Northern Territory Geological Survey; UWA, University of Western Australia