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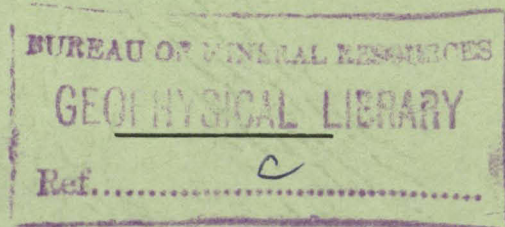
COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Report No. 71

CATALOGUE OF FOSSIL TYPE AND FIGURED
SPECIMENS IN WESTERN AUSTRALIA

BY

IRENE CRESPIN



Issued under the Authority of the Hon. D. E. Fairbairn,
Minister for National Development
1964

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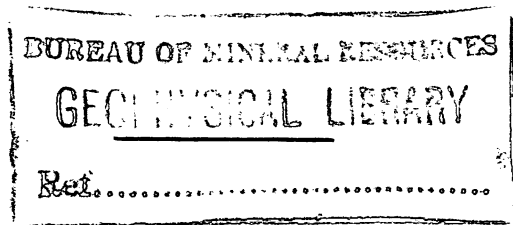
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COMMONWEALTH OF AUSTRALIA
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Minister: THE HON. D. E. FAIRBAIRN, D.F.C., M.P.

Secretary: SIR HAROLD RAGGATT, C.B.E.

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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ABSTRACT

This Catalogue contains the record of 1437 primary and secondary types and figured specimens in the collections at the Geology Department, University of Western Australia, the Geological Survey of Western Australia, and the Western Australian Museum. It is complete, as far as possible, to June, 1963. The species are listed and arranged in alphabetical order in their appropriate larger biological groups. The publication in which the descriptions of these specimens occur, the appropriate prefixes to the registered numbers, the character of the type, the locality, the sedimentary basin, the geological age, and the repository of the specimens, are given.

CATALOGUE OF FOSSIL TYPE AND FIGURED SPECIMENS IN WESTERN AUSTRALIA

INTRODUCTION

Collections of fossils of Palaeozoic, Mesozoic, Tertiary and Quarternary ages, are housed in three institutions in Perth, Western Australia.

1. Geology Department, University of Western Australia.
2. Geological Survey of Western Australia.
3. Western Australian Museum.

This Catalogue contains 1437 primary and secondary type and figured specimens described between 1890 and June, 1963, and known to be present in these collections. Some important specimens, previously thought to be missing, were found by the writer in the Geological Survey Collection which was housed, until recently, in the Western Australian Museum. These included the type specimen of *Spirifera kimberleyensis* described by Foord (1890, pl. 5, fig. 1), one of the specimens of *Spirifera hardmani* described and figured by Foord (1890, pl. 7, fig. 1), and the specimen of *Rhynchonella cuboides* Sowerby, figured by Foord (1890, pl. 5, fig. 3); this species is now placed in the synonymy of *Hypothyridina margarita* Veevers (1959). The type specimen of *Camarotoechia pleurodon* (Phillips) var. *tripla* Prendergast (1935), now in the synonymy of *Camarotoechia eganensis* Veevers (1959a), and reported to be missing (see Veevers, 1959a, p. 10), was discovered in the collection at the Geology Department, University of Western Australia.

However, species described and figured by Hardman (1884), Woodward (1886), and Crick (1894) were not discovered. Some of these specimens are in the British Museum (Natural History), London. Many specimens described and figured by R. Etheridge Jnr in Geological Survey Bulletins (Nos. 10, 27, 36, 58, 72) were located, and others may be found when the Geological Survey Collection is re-organized in the newly established palaeontological section. Only two of the Cretaceous fossils described by Etheridge in Bulletin No. 55 (1913), from the Gingin Chalk, were found.

The specimens from the Erskine Range, Fitzroy Basin, described by Chapman & Parr (1937), as fusulines, are not foraminifera but fragments of fish remains (Brunnschweiler, 1954; Crespín, 1958).

The Catalogue is arranged according to phyla and the fossils within each phylum are listed in alphabetical sequence. As far as possible the geological formation is given under the description of the occurrence of the specimen; but this has not been attempted for specimens from early collections, as many of the localities are insufficiently described.

A sketch map of Western Australia is included to show the geographical extent of the sedimentary basins referred to in the following lists.

TYPE AND FIGURED SPECIMENS IN INSTITUTIONS OUTSIDE WESTERN AUSTRALIA

Many type and figured specimens described in recent years are housed in institutions outside Western Australia. The majority of these are in the Commonwealth Palaeontological Collection, Bureau of Mineral Resources, Geology and Geophysics,

Canberra (see Crespin, 1960); a large proportion of this material was collected by geologists and palaeontologists of the Bureau during extensive geological mapping in the Carnarvon and Fitzroy Basins.

Type and figured specimens from Western Australia in the Commonwealth Palaeontological Collection are to be found in the following publications:—Plants, White & Condon (1959); foraminifera, Chapman (1917, 1927), Chapman & Crespin (1935), Crespin (1953, 1958a, 1958b, 1961, 1963), Crespin & Belford (1957), Belford (1960, 1961), Edgell (1954, 1957, 1962); hydrozoans, Sprigg (1949); echinoids, Crespin (1943); corals, Hill (1954); bryozoa, Crockford (1944, 1957), Ross (1961); brachiopods, Glenister (1955), Coleman (1957), Thomas (1958), Veevers (1959, 1959a); pelecypods and gastropods, Chapman (1937), Brunnschweiler (1960), Dickins (1956, 1957, 1963); cephalopods, Miller & Crespin (1939), Glenister (1958), Brunnschweiler (1959), Teichert & Glenister (1954), Glenister, Miller, & Furnish (1956); ostracoda, Jones (1962); *Rhizocorallium* (burrows), Veevers (1962); problematica (trails), Öpik (1959).

Type and figured specimens in the National Museum, Melbourne, include the following: Foraminifera and ostracoda, Chapman (1904); microplankton, Cookson & Eisenack (1958, 1960, 1961), Deflandre & Cookson (1955), Eisenack & Cookson (1960). Specimens in the Geology Department, University of Melbourne, include: pelecypods, Brunnschweiler (1960), and cephalopods, Brunnschweiler (1960).

Type and figured specimens in the Australian Museum, Sydney, include: plants, Walkom (1921), Bretnall (1926); crinoids (sections of *Calceolispongia*), Etheridge (1914); brachiopods, Coleman (1957), Prendergast (1943); pelecypods, Dickins (1956).

Described specimens, including types, in the British Museum (Natural History), London, are: sponge spicules, Hinde (1910); corals, Hudleston (1883), Hinde (1890), Hill (1936); cephalopods, Crick (1894); Heterodonta, Woodward (1886). Some of the types of Upper Cretaceous foraminifera described by Edgell (1954) are in the Stanford University Collection, California; and those described by Cushman (1936) are in the Cushman Collection, United States National Museum, Washington. The hypotype of *Metalegoceras jacksoni* (Etheridge Jnr) figured by Miller (1932) is in the palaeontological collection at the Peabody Museum of Natural History, Yale University.

METHODS OF REGISTRATION OF SPECIMENS

No distinctive method for the registration of type and figured specimens exists in any of the three institutions in Perth in which these specimens are housed. The numbers of all specimens refer to the general fossil or geological collections.

1. *Geology Department, University of Western Australia*

All registered numbers are prefixed with the letters 'UWA'. Two sets of numbers are used, one for macroscopic specimens and a second one for specimens mounted on slides. All spore specimens described by Balme, and Balme & Hassell, are in the slide collection, as well as bryozoa described by Crockford and corals by Hill.

With the recent transference of the Geology Department to well-appointed headquarters, the General Geological Collection is now housed in the new E. de C. Clarke Museum. The fossil collection is well arranged and is gradually being re-organized. All type and figured specimens have been separated out from the general collections and with the microslides are being placed in special steel cabinets in a strongroom.

2. *Geological Survey of Western Australia*

All registered numbers are now prefixed with the letters 'GSA'. For many years the Geological Survey of Western Australia had its headquarters in a section of the Western Australian Museum, and the early fossil collections were housed in that

institution. More recently collected and described material was housed in a store-room attached to the present headquarters of the Survey. When the writer visited Perth in 1962, most of the early collections were found mixed with the collections of the Western Australian Museum, and it was only after considerable work and reference to literature that it was possible to separate out many of the type and figured specimens described in the early Geological Survey Bulletins and in overseas publications. Many specimens in the same collection were given the same registered number. With the co-operation of the Director and his staff, the writer has been able to present, in this Catalogue, new registered numbers for many of the early described specimens, which conform to present usage by the Geological Survey; the prefix 'GSWA' will now be used followed by the letter 'F', denoting fossil collections. All specimens are now housed in that institution and will be under the care of the palaeontologist, Dr H. S. Edgell.

3. *Western Australian Museum*

The registration number is prefixed with the letters 'WAM'. Type and figured specimens in this collection are few, but they are suitably housed. The Director of the Museum hopes to list, when necessary, any newly described material in the official journal of the institution.

METHOD OF PROCEDURE USED IN THE CATALOGUE

In the compilation of this Catalogue, an attempt has been made to give all available information concerning the type and figured specimens listed herein, with the hope that such information will be of greatest assistance to palaeontologists. All specimens which have been figured have been checked against the illustrations; unfigured paratypes have been examined.

1. The following abbreviations prefix the registered numbers:
UWA. Geology Department, University of Western Australia
GSWA. Geological Survey of Western Australia
WAM. Western Australian Museum
2. Some descriptions of new species in the early collections were based on single specimens. When such specimens were discovered, they have been regarded as possible holotypes, the word holotype being prefixed with the symbol (?).
3. Cross references have been given in instances where the original nomenclature has been altered.
4. The synonymy of each species is given. The registered number, with the appropriate prefix, is followed by the nature of the specimen, whether holotype, paratype, hypotype or figured specimen, together with the plate and number of figure of the original specimen.
5. The locality from which the specimen was collected is given as completely as possible, together with the sedimentary basin and the stratigraphical formation. The age of the specimen, and the name of the institution in which it is housed, follow.
6. Where only one figure is given in the original description, an asterisk (*) follows the figure number instead of repeating it after the registered number and nature of specimen.

HOLOTYPES AND LECTOTYPES IN WESTERN AUSTRALIAN COLLECTIONS

ALGAE

Parachaetetes megalocytus Pia, 1941.

THALLOPHYTA

Palaeachyla gigas Etheridge Jnr, 1914.

SPORES

Apiculatisporis morbosus Balme & Hassell, 1962.

Archaeotriletes porrectus Balme & Hassell, 1962.

Convolutispora fromensis Balme & Hassell, 1962.

Diaphanospora perplexa Balme & Hassell, 1962.

Diaphanospora riciniata Balme & Hassell, 1962.

Granulatisporites frustulentus Balme & Hassell, 1962.

Hymenozonotriletes scorpius Balme & Hassell, 1962.

Kraeuselisporites cuspidus Balme, 1963.

Kraeuselisporites saeptatus Balme, 1963.

Leiotriletes pulvereus Balme & Hassell, 1962.

Leiozonotriletes laurelensis Balme & Hassell, 1962.

Leiozonotriletes naumovae Balme & Hassell, 1962.

Lundbladispora brevicula Balme, 1963.

Lundbladispora playfordi Balme, 1963.

Lundbladispora willmotti Balme, 1963.

Lycopodiacidites pelagus Balme, 1963.

Osmundacidites senectus Balme, 1963.

Planisporites furfuris Balme & Hassell, 1962.

Pulvinispora depressa Balme & Hassell, 1962.

Punctatisporites fungosus Balme, 1963.

Punctatisporites iterabilis Balme & Hassell, 1962.

Reticulatisporites ancoralis Balme & Hassell, 1962.

Reticulatisporites textilis Balme & Hassell, 1962.

Spinozonotriletes carnarvonensis Balme, 1960.

Stenozonotriletes forticulus Balme & Hassell, 1962.

Taeniaesporites obex Balme, 1963.

FORAMINIFERA

Ammodiscus nitidus Parr, 1942.

Ammodiscus wandageeensis Parr, 1942.

Angulogenerina subangularis Parr, 1938.

Anomalina perthensis Parr, 1938.

Anomalina westraliensis Parr, 1938.

Bolivinopsis crespinae Parr, 1938.

Buliminella westraliensis Parr, 1938.

Ceratobulimina westraliensis Parr, 1938.

Cibicides pseudoconvexus Parr, 1938.

Cibicides umbonifer Parr, 1938.

Crithionina teichertii Parr, 1942.

Globorotalia chapmani Parr, 1938.

Glomospira adhaerens Parr, 1942.

Gumbelina venezuelana Nuttall var. *rugosa*, Parr, 1938.

Heronallenia pusilla Parr, 1938.

Hyperammina coleyi Parr, 1942.

Hyperammina? rudis Parr, 1942.

Hyperamminoides acicula Parr, 1942.

Lagena luciae Parr, 1938.

Lagena perthensis Parr, 1938.

Lepidocyclina (Trybliolepidina?) *choiseulensis* Coleman, 1963.

Psammospaera pusilla Parr, 1942.

Pseudoglandulina clarkei Parr, 1938.

Pulvinulinella obtusa (Burrows & Holland) var. *westraliensis* Parr, 1938.

Reophax subasper Parr, 1942.

Reophax tricameratus Parr, 1942.

Tolypammina undulata Parr, 1942.

Trochammina subobtusa Parr, 1942.

Vaginulina subplumoides Parr, 1938.

SPONGIDA

Aucolopoides patulum Howell, 1952.

Aucolopoides teichertii Howell, 1952.

Australospongia cylindrica Howell, 1952.

Australospongia turbinata Howell, 1952.

Caminus nitidus Chapman & Crespin, 1934.

Caminus parvistoma Chapman & Crespin, 1943.

Corallistes australis Laubenfels, 1953.

Cydonium ramuliferum Chapman & Crespin, 1934.

Discodermia retepora Chapman & Crespin, 1934.

Discodermia tabelliformis Chapman & Crespin, 1934.
Discodermia tumulosa Chapman & Crespin, 1934.
Ecionema glauerti Chapman & Crespin, 1934.
Laubenfelsia australiensis Howell, 1956.
Nedlandsia clarkei Laubenfels, 1953.
Neosiphonia fungiformis Chapman & Crespin, 1934.
Neosiphonia glauerti Chapman & Crespin, 1934.
Paramelonella etheridgei Howell, 1956.
Paramelonella lata Howell, 1956.
Paramorphospongia globosa Howell, 1956.
Phymaplectia sterea Laubenfels, 1953.
Platychnonia tertiaria Chapman & Crespin, 1934.
Pleromax miocenea Laubenfels, 1953.
Ragadinia placentiiformis Chapman & Crespin, 1934.
Sphaerospongia teichertii Howell, 1956.
Striataspongia cylindrica Howell, 1957.
Stylopegma incertae Howell, 1956.
Stylopegma singularis Howell, 1956.
Thamnospongia neoclavellata Chapman & Crespin, 1934.
Thamnospongia subglabra Chapman & Crespin, 1934.
Thecosiphonia lobosa Chapman & Crespin, 1934.
Tragalimus amechanus Laubenfels, 1953.
Verruculina albanyensis Chapman & Crespin, 1934.
Zosterospongia thaumasta Laubenfels, 1953.

ANNELIDA

Amphicene permiana Parr, 1942.
Conchotrema tenuis Teichert, 1945.
Conchotrema tubulosa Teichert, 1945.

ANTHOZOA

**Barrandeophyllum rubrum* Hill, 1939.
 **Catactotoechus irregularis* Hill, 1954.
 **Catactotoechus obliquus* Hill, 1954.
Catactotoechus tenuis Hill, 1954.
Cladochonus striatus Hill, 1943.
Clisiophyllum talboti Hosking, 1931 (Lectotype, figs. 1a, b, I.C.).
 **Disphyllum curtum* Hill, 1954.
 **Disphyllum intertextum* Hill, 1954.
Euryphyllum minutum Hill, 1937.
Euryphyllum trizonatum Hill, 1937.
Favosites marmionensis Etheridge Jnr 1914 (lectotype, pl. 1, fig. 1, proposed by I.C.).

Monilopora nicholsoni Etheridge Jnr, 1914 (lectotype pl. 1, fig. 2, I.C.).
 **Peneckiella teichertii* Hill, 1954.
 **Phillipsastraea delicatula* Hill, 1936.
Plerophyllum sulcatum Hinde, 1890 (by monotypy, I.C.).
Prismatophyllum breviamellatum Hill, 1936.
Syringopora patula Hinde (lectotype, Hill, 1936).
 **Tachylasma densum* Hill, 1937.
Thamnopora immensa Hill, 1937 (sections taken from holotype, which is at present missing).
Thamnopora insculpta Hill, 1943.
 **Verbeekiella mersa* Hill, 1943.
 **Zaphrentis iocosa* Hill, 1954.

CRINOIDEA

Calceolispongia abundans Teichert, 1949.
Calceolispongia acuminata Teichert, 1949.
Calceolispongia barrabiddienis Teichert, 1949.
Calceolispongia digitata Teichert, 1949.
Calceolispongia multiformis Teichert, 1949.
Calceolispongia robusta Teichert, 1949.
Calceolispongia rotundata Teichert, 1949.
Calceolispongia rubra Teichert, 1949.
Calceolispongia spectabilis Teichert, 1949.
Calceolispongia spinosa Teichert, 1949.
Calceolispongia truncata Teichert, 1949.

ECHINOIDEA

Cidaris comptoni Glauert, 1923.

BRYOZOA

Aetomocladia ambrosoides Bretnall, 1926 (Lectotype designated by Crockford, 1944).
Coscinium (?) *australe* Bretnall, 1926.
Fenestella hindei Crockford, 1957.
Fenestella affluensa Bretnall, 1926 (Lectotype, Crockford, 1944).
Fenestella horologia Bretnall, 1926 (Lectotype, designated by Crockford, 1944).
Fenestrellina cacuminatus Crockford, 1944.
Fenestrellina columnaris Crockford, 1944.
Fenestrellina disjecta Crockford, 1944.
Fenestrellina lennardi Crockford, 1944.
Fenestrellina ruidacarinata Crockford, 1944.
Fenestrellina valentis Crockford, 1944.
 **Fistulipora compacta* Crockford, 1944.
 **Fistulipora conica* Crockford, 1944.
 **Fistulipora crescens* Crockford, 1944.
 **Fistulipora gigantea* Crockford, 1944.
 **Fistulipora vacuolata* Crockford, 1944.
 **Fistulipora wadei* Crockford, 1944.

• Only sections of holotype figured.

**Hexagonella bifida* Crockford, 1944.
Hexagonella densa Crockford, 1944.
 **Hexagonella nalbia* Crockford, 1944.
 **Hexagonella plana* Crockford, 1944.
 **Hexagonella undulata* Crockford, 1944.
Lyropora erkosoides Etheridge Jnr., 1944 (?
 Lectotype designated by Crockford, 1944).
Minilya duplaris Crockford, 1944.
Minilya princeps Crockford, 1944.
Polypora australis Hinde, 1890 (Monotypy,
 I.C.).
Polypora fovea Crockford, 1944.
Polypora retificis Crockford, 1944.
Rhabdomeson bispinosa Crockford, 1944.
Rhambopora mammillata Bretnall, 1926 (Lec-
 totype designated by Crockford, 1944).
Rhambopora multigranulata Bretnall, 1926.
Synocladia spinosa Crockford, 1944.

BRACHIOPODA

Atrypa aspera prideri Coleman, 1951.
Atrypa desquamata kimberleyensis Coleman,
 1951.
Atrypa multimoda Coleman, 1951.
Atrypa parva Coleman, 1951.
Atrypa reticularis teichertii Coleman, 1951.
Aulosteges fairbridgei Coleman, 1957.
Aulosteges ingens Hosking, 1931 (Lectotype
 designated by Coleman, 1957).
Aulosteges reclinis Coleman, 1957.
Aulosteges spinosus Hosking, 1931.
Camarotoechia pleurodon (Phillips) var. *tripla*
 Prendergast, 1935.
Cleiothyridina roysii (l'Ev.) var. *penta* Pren-
 dergast, 1935.
Cleiothyris macleayana (Etheridge Jnr) var.
baracoodensis Etheridge Jnr, 1903 (desig-
 nated type of var. I.C.).
Dictyoclostus callytharrensii Prendergast,
 1943 (Lectotype designated by Coleman,
 1957).
Dictyoclostus callytharrensii var. *wadei* Pren-
 dergast, 1943.
Dielasma nobilis Etheridge Jnr, 1907 (Lecto-
 type, I.C.).
Dielasma trigonopsis Hosking, 1933 (Lecto-
 type designated by K. S. Campbell).
Pustula micracantha Hosking, 1933 (Lectotype
 designated Coleman, 1957).
Pustula senticosa Hosking, 1933 (Lectotype
 designated Coleman, 1957).
Meristella (?) *caprina* Veevers, 1959.
Permorthotetes teichertii Thomas, 1958.

Productus tenuistriatus de Verneuil, var. *foordi*
 Etheridge Jnr, 1903.
Rhipidomella incompta Veevers, 1959.
Schizophoria pierrensis Veevers, 1959.
Seminula callytharrensii Hosking, 1933.
Spanodonta hoskingiae Prendergast (Lectotype,
 designated by I.C.).
Spirifer rosalinus Hosking, 1931 (Prendergast,
 1936).
Spirifer rosalinus var. *auritus* Hosking, 1931
 (see Prendergast, 1936).
Spirifer rosalinus var. *tumidus* Hosking, 1931
 (see Prendergast, 1936).
Spirifera byroensis Glauert, 1912 (Holotype
 designated Glauert 24/8/62).
Spirifera kimberleyensis Foord, 1890 (Holo-
 type by monotypy, I.C.).
Spirifera musakhleyensis Davidson var. *austra-*
lis Foord, 1890 (Lectotype chosen, I.C.).
Spiriferina cristata (Schlotheim) var. *decipiens*
 Hosking, 1933 (holotype by monotypy,
 I.C.).
Spiriferina papilionata Hosking (holotype by
 monotypy, I.C.).
Streptorhynchus luluigui Hosking, 1933 (Lec-
 totype designated by G. A. Thomas, 1958).
Streptorhynchus plicatilis Hosking, 1933 (holo-
 type by monotypy, I.C.).
Stringocephalus fontanus Veevers, 1959.
Strophalosia etheridgei Prendergast, 1943 (Lec-
 totype designated by Coleman, 1957).
Strophalosia kimberleyensis Prendergast, 1943.
Strophalosia multispinifera Prendergast, 1943.
Strophalosia (Heteralosia) irwinensis, Cole-
 man, 1957.
Strophalosia (Heteralosia) prendergastae,
 Coleman, 1957.
Taeniothaerus coolkiliensis Coleman, 1957.
Taeniothaerus irwinensis Coleman, 1957.
Taeniothaerus miniliensis Coleman, 1957.
Trigonosemus acanthodes Etheridge Jnr, 1913
 (Lectotype designated I.C.).
Waagenoconcha imperfecta Prendergast, 1935.

PELECYPODA

Astartella obliqua Dickens, 1963.
Astartilla? tumida Dickens, 1963.
Cardiomorpha blatchfordi Hosking, 1931.
Cardium arcaeiformis Chapman & Crespin,
 1934.
Chlamys clarkei Feldtmann, 1951.
Chlamys curvicosta Feldtmann, 1951.
Chlamys fairbridgei Feldtmann, 1951.

* Only sections of holotype figured.

Chlamys ginginensis Feldtmann, 1951.
Chlamys subtilis Feldtmann, 1951.
Chlamys? teichert Feldtmann, 1951.
Conocardium gogoense Fletcher, 1943.
Cypricardinia? elegantula Dickins, 1963.
Edmondia pritchardi Dickins, 1963.
Girtypecten ovalis Dickins, 1963.
Glyptoleda coleyi Fletcher, 1945.
Modiola maitlandi Etheridge Jnr, 1910
 (Holotype by monotypy, I.C.).
Modiolus koneckii Dickins, 1963.
Nuculana undulostriata Fletcher, 1945.
Nuculopsis (Nuculanella) bangarraensis
 Dickins, 1963.
Ostrea tholiformis Etheridge Jnr, 1910.
Palaeocosmomya aplatium Fletcher, 1946.
Palaeocosmomya teichert Fletcher, 1946.
Parallelodon bimodoliratus Dickins, 1963.
Praeundulomya subelongata Dickins, 1963.
Pseudoamussium candidus Feldtmann, 1951.
Schizodus sandimanensis Dickins, 1963.
'Solemya' holmwoodensis Dickins, 1963.
Stutchburia hoskingae Dickins, 1963.
Syncyclonema (Cteniopleurium) perspinosus
 Feldtmann, 1951.
Syncyclonema (Cteniopleurium) subserratus
 Feldtmann, 1951.
Syncyclonema (Cteniopleurium) subreticu-
latus Feldtmann, 1951.
Undulomya pleiopuleura Fletcher, 1946.
Undulomya rugulata Fletcher, 1946.

GASTROPODA

Baylea perthensis Dickins, 1963.
Mourlonia (Woolnoughia) angulata Dickins,
 1963.
Macrochilina winensis Dickins, 1963.
Ptychomphalina maitlandi Etheridge Jnr, 1903
 (Lectotype chosen, I.C.).
Retispira irwinensis Dickins, 1943.
Warthia? carinata Dickins, 1963.

CEPHALOPODA

Agathiceras applanatum Teichert, 1944.
Anthoceras decorum Teichert & Glenister,
 1954.
Aturia clarkei Teichert, 1944.
Eothinoceras maitlandi Teichert & Glenister,
 1954.
Fontannesia fairbridgei Arkell, 1954.
Gastrioceras jacksoni Etheridge Jnr, 1907.
Hoeninghausia pons Glenister, 1958.
Kyminoceras forresti Teichert & Glenister,
 1954.
Loxochoanella warburtoni Teichert & Glenister,
 1954.
Manticoceras lindneri Glenister, 1958.
Metalegoceras clarkei Miller, 1936.
Metalegoceras striatum Teichert, 1942.
Otoites antipodus Arkell, 1954.
Paragastrioceras wandageense Teichert, 1942.
Propinacoceras australe Teichert, 1942.
Pseudogastrioceras goochi Teichert, 1942.
Pseudoschistoceras simile Teichert, 1944.
Pseudotoites emilioides Arkell, 1954.
Pseudotoites fasciculatus Arkell, 1954.
Pseudotoites spitiiformis Arkell, 1954.
Sonninia playfordi Arkell, 1954.
Stereoplasmoceras inequiseptatum Teichert,
 1939.
Thalassoceras wadei Miller, 1936 (?Lectotype).
Thylacoceras teretilobatum Teichert &
 Glenister, 1954.
Uraloceras irwinense Teichert & Glenister,
 1952.

TRILOBITA

Ditomopyge meridionalis Teichert, 1944.

BRADYODONTI

Crassidonta subcrenulata Teichert, 1943.

MONOTREMATA

Zaglossus hacketti Glauert, 1914.

MARSUPALIA

Phascolomys hacketti Glauert, 1910.
Sthenurus occidentalis Glauert, 1910.

ACKNOWLEDGEMENTS

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PLANTAE

ALGAE

1. RHODOPHYCOPHYTA

PARACHAETETES MEGALOCYTUS Pia, 1941.

Parachaetetes megalocytus Pia, 1941, p. 32, pl. 1, figs. 1, 2; pl. 2, figs. 3, 4, 5; pl. 3, figs. 6-8.

UWA 19220 Holotype (pl. 1, figs. 1, 2).

UWA 40934 Transverse section (pl. 2, fig. 5; pl. 3, figs. 6, 7).

UWA 40935 Longitudinal section (pl. 2, fig. 3; pl. 3, fig. 8).

UWA 40936 Cross-section, transverse cell wall (pl. 2, fig. 4).

600 metres SE. of Curdamurda Well, near Minilya R., Wandagee Stn, Carnarvon Basin; Curdamurda Sandstone.

Lower Permian.

Univ. W. Aust.

STENOPHYCUS TEICHERTHII Fenton, 1943.

Stenophycus teichertii Fenton, 1943, p. 112, text figs. 1A, B.

UWA 22320 Paratype (text fig. 1B).

Flat near foot of isolated hill about 2 miles W. of Mt Pierre, Fitzroy Basin; Upper Goniatite Bed.

Upper Devonian.

Univ. W. Aust.

2. SCHIZOPHYTA

(Spongiostromata-Stromatolites.)

COLLENIA UNDOSA Walcott, 1914; Logan & Chase, 1961.

Collenia undosa Walcott, Logan & Chase, 1961, p. 29, pl. 2, Fig. 1*.

UWA 50265 Hypotype.

Gunyidi, N. of Watheroo, Perth Basin; Coomberdale Chert.

Precambrian.

Univ. W. Aust.

CRYPTOZOON FREQUENS (Walcott), 1914; Logan & Chase, 1961.

Cryptozoon frequens (Walcott), Logan & Chase, 1961, p. 29, pl. 2, Fig. 3*.

UWA 50266 Hypotype.

Gunyidi, N. of Watheroo, Perth Basin; Coomberdale Chert.

Precambrian.

Univ. W. Aust.

THALLOPHYTA

PALAEACHYLA GIGAS Etheridge Jnr, 1914.

Palaeachyla gigas Etheridge Jnr, 1914, p. 8, pl. 2, fig. 1*.

GSWA F 491 Holotype.

Mount Marmion, Fitzroy Basin.

Lower to Upper Permian.

Geol. Surv. W. Aust.

LEAVES AND WOOD

ELATOCLADUS PLANA (Feistmantel), Walkom, 1944.

Elatocladus plana (Feistmantel), Walkom, 1944, p. 204, pl. 2, fig. 7*.

UWA 16703 Hypotype.

Chereton Creek, Gingin, Perth Basin; Strathalbyn Sandstone.

Jurassic.

Univ. W. Aust.

GANGAMOPTERIS CYCLOPTEROIDES Feistmantel, Teichert, 1942b.

Gangamopteris cyclopteroides Feistmantel, Teichert, 1942b, p. 321, pl. 14, figs. 1, 2.

UWA 21098 Hypotype (figs. 1, 2).

1.6 miles S. of 4th fence on route from Merlingleigh to Moogoorie, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

ISOETITES ELEGANS Walkom, 1944.

Isoetites elegans Walkom, 1944, p. 202, pl. 1, figs. 1-5.

UWA 16687 Holotype (fig. 1).

UWA 16711 Paratype (fig. 4).

Chereton Creek, Gingin, Perth Basin; Strathalbyn Sandstone.

UWA 16682 (fig. 3), **UWA 16683** (fig. 2)
Paratypes.

Gooch's Gully, Gingin, Perth Basin; Strathalbyn Sandstone.

Jurassic.

Univ. W. Aust.

cf. **LYCOPODIOPSIS PEDROANUS** Carr;
White, 1959.

cf. *Lycopodiopsis pedroanus* Carr, White, 1959,
p. 53, fig. 1*.

UWA 38163 Figured specimen.

Near Harris Well, 2½ miles W. of Williambury
Stn, Carnarvon Basin; Harris Sandstone.

Lower Permian.

Univ. W. Aust.

PTILOPHYLLUM PECTEN (Phillips); Wal-
kom, 1944.

Ptilophyllum pecten (Phillips), Walkom, 1944,
p. 204, pl. 2, fig. 7*.

UWA 16684 Hypotype.

Gooch's Gully, Gingin, Perth Basin; Strathalbyn Sandstone.

Jurassic.

Univ. W. Aust.

TAENIOPTERIS SPATULATA McClelland;
Walkom, 1944.

Taeniopteris spatulata McClelland, Walkom,
1944, p. 203, pl. 2, fig. 9*.

UWA 16685 Hypotype.

Chereton Creek, Gingin, Perth Basin; Strathalbyn Sandstone.

Jurassic.

Univ. W. Aust.

THINNFELDIA TALBRAGARENSIS
Walkom, 1921, 1944.

Thinnfeldia talbragarensis Walkom, Walkom,
1944, p. 203, pl. 2, fig. 8*.

UWA 16690 Hypotype.

Chereton Creek, Gingin, Perth Basin; Strathalbyn Sandstone.

Jurassic.

Univ. W. Aust.

SPORES

ACANTHOTRILETES sp. cf. **ACANTHOTRILETES ECHINATUS** Hoffmeister, Staplin & Malloy, 1955; Balme & Hassell, 1962.

Acanthotriletes sp. cf. *A. echinatus*, Balme & Hassell, 1962, p. 8, pl. 1, figs. 10, 11.

UWA 45082 (fig. 10), **UWA 45086** (fig. 11)
Figured specimens.

Stumpy's Soak No. 2 Bore, Fitzroy Basin, at
84 feet.

Upper Devonian.

Univ. W. Aust.

AMOSOPOLLIS CRUCIFORMIS Cookson
& Balme, 1962.

Amosopollis cruciformis Cookson & Balme,
1962, p. 99, pl. 1, figs. 1-6

UWA 47764 Paratype (fig. 2)

WAPET Seismic Shot Hole B1, 4 miles N. of
Gingin, Perth Basin, at 190-220 feet.

?Lower-Upper Cretaceous.

Univ. W. Aust.

APICULATISPORIS MORBOSUS Balme &
Hassell, 1962.

Apiculatisporis morbosus Balme & Hassell,
1962, p. 7, pl. 1, figs. 17, 18.

UWA 45120 Holotype (fig. 17), Paratype
(fig. 18), mounted on one slide.

BMR No. 2 Laurel Downs, Fitzroy Basin, at
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

APICULATISPORIS sp., Balme, 1960.

Apiculatisporis sp., Balme, 1960, p. 4, pl. 1,
fig. 4*.

UWA 42322 Figured specimen.

Pelican Hill Bore, 10 miles N. of Carnarvon,
Carnarvon Basin, at 1446-1496 feet;
Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

ARCHAEOTRILETES PORRECTUS Balme & Hassell, 1962.

Archaeotriletes porrectus Balme & Hassell, 1962, p. 10, pl. 5, figs. 1-4.

UWA 45132 Holotype (fig. 3).

UWA 45133 Paratype (fig. 1).

UWA 45104 Figured specimens (figs. 2, 4).

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CALAMOSPORA sp. cf. **CALAMOSPORA MICRORUGOSA** (Ibrahim); Schopf, Wilson, & Bentall, 1944; Balme & Hassell, 1962.

Calamospora sp. cf. *Calamospora microrugosa*, Balme & Hassell, 1962, p. 6, pl. 1, figs. 5-7.

UWA 45101 (fig. 5), **UWA 45100** (fig. 6), **UWA 45098** (fig. 7) Figured specimens.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 2207-2217 feet.

Upper Devonian.

Univ. W. Aust.

CAMPTOTRILETES sp., Balme & Hassell, 1962.

Camptotriletes sp., Balme & Hassell, 1962, p. 9, pl. 2, figs. 6, 7.

UWA 45053 (fig. 6), **UWA 45135** (fig. 7) Figured specimens.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CHOMOTRILETES VEDUGENSIS Naumova 1953; Balme, 1960.

Chomotriletes vedugensis Naumova, Balme, 1960, p. 6, pl. 2, fig. 15*.

UWA 42335 Figured specimen.

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin, 1446-1496 feet; ?Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

CINCTURASPORITES sp. cf. **CINCTURASPORITES LITERATUS** (Waltz), Hacquebard & Barss, 1957; Balme & Hassell, 1962. *Cincturasporites* sp. cf. *C. literatus* (Waltz), Balme & Hassell, 1962, p. 11, pl. 3, figs. 1, 2.

UWA 45069 (fig. 2), **UWA 45067** (fig. 1) Figured specimens.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CINCTURASPORITES sp. Balme & Hassell, 1962.

Cincturasporites sp., Balme & Hassell, 1962, p. 11, pl. 3, fig. 14*.

UWA 45068 Figured specimen.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CIRRATRIRADITES ? sp., Balme & Hassell, 1962.

Cirrattriradites ? sp., Balme & Hassell, 1962, p. 14, pl. 4, fig. 16*.

UWA 45129 Figured specimen.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CONVOLUTISPOA FROMENSIS Balme & Hassell, 1962.

Convolutispora fromensis Balme & Hassell, 1962, p. 8, pl. 1, figs. 14-16.

UWA 45113 Holotype (fig. 14).

UWA 45114 (fig. 15), **UWA 45117** (fig. 16) Paratypes.

WAPET Frome Rocks No. 2 Well, Fitzroy Basin, at 4300-4305 feet.

Upper Devonian.

Univ. W. Aust.

CONVOLUTISPOA sp., Balme & Hassell, 1962.

Convolutispora sp., Balme & Hassell, 1962, p. 8, pl. 1, fig. 22*.

UWA 45084 Figured specimen.

BMR No. 2 Laurel Downs, Fitzroy Basin, 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

CRUSTAESPORITES sp., Balme, 1963.

Crustaesporites sp., Balme, 1963, p. 30, pl. 6, fig. 11*.

UWA 47525 Figured specimen.

No. 19 Bore Kockatea Creek, Perth Basin, at 139-190 feet.

Triassic.

Univ. W. Aust.

DIAPHANOSPORA PERPLEXA Balme & Hassell, 1962.

Diaphanospora perplexa Balme & Hassell, 1962, p. 22, pl. 4, figs. 5-7.

UWA 45128 Holotype (fig. 5).

UWA 45127 Paratype (fig. 6).

UWA 45125 Figures specimen (fig. 7).

BMR No. 2 Laurel Downs, Fitzroy Basin, at 2207-2217 feet.

Upper Devonian.

Univ. W. Aust.

DIAPHANOSPORA RICINIATA Balme & Hassell, 1962.

Diaphanospora riciniata Balme & Hassell, 1962, p. 22, pl. 4, figs. 1-4 text-fig. 5.

UWA 45102 Holotype (fig. 2) (slide coll.).

UWA 45097 (fig. 3), **UWA 45112** (fig. 1),

UWA 45095 text-fig. 5) Paratypes.

Kimberley Downs 67 mile Bore (Artesian), Fitzroy Basin, at 1055-1059 feet.

UWA 45126 (fig. 4) Paratype (figured but not in text).

BMR No. 2 Laurel Downs, Fitzroy Basin, at 2207-2217 feet.

Upper Devonian.

Univ. W. Aust.

DIAPHANOSPORA sp., Balme & Hassell, 1962.

Diaphanospora sp., Balme & Hassell, 1962, p. 22, pl. 2, figs. 8, 9.

UWA 45111 (fig. 8), **UWA 45135** (fig. 9) Figured specimens.

BMR No. 2 Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

ENDOSPORITES sp., Balme, 1960.

Endosporites sp., Balme, 1960, p. 8, pl. 2, fig. 16*.

UWA 42317 Figured specimen.

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin, at 2174-2186 feet; ?Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

ENDOSPORITES sp., Balme & Hassell, 1962.

Endosporites sp., Balme & Hassell, 1962, p. 23, pl. 5, fig. 5*.

UWA 45043 Figured specimen.

BMR No. 2 Laurel Downs, Fitzroy Basin, at 697-707 feet.

Upper Devonian.

Univ. W. Aust.

GEMINOSPORA LEMURATA Balme, 1960.

Geminospora lemurata Balme, 1960, p. 5, pl. 1, figs. 5-10.

UWA 42314 Holotype (figs. 5, 6).

UWA 42315 (fig. 7), **UWA 42320** (fig. 8) Paratypes.

UWA 42313 Figured specimen (figs. 9, 10).

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin, at 1446-1496 feet; ?Gneudna Formation.

Upper Devonian.

Univ. W. Aust.

GRANDISPORA sp., Balme, 1960.

Grandispora sp. Balme, 1960, p. 5, pl. 2, fig. 20*.

UWA 42330 Figured specimen.

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin at 1446-1448 feet; ?Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

GRANULATISPORITES FRUSTULENTUS

Balme & Hassell, 1962.

Granulatisporites frustulentus Balme & Hassell, 1962, p. 6, pl. 1, figs. 8, 9.

UWA 45119 Holotype (fig. 8).

UWA 45124 Paratype (fig. 9).

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

HYMENOZONOTRILETES SCORPIUS

Balme & Hassell, 1962.

Hymenozonotriletes scorpius Balme & Hassell, 1962, p. 16, pl. 3, figs. 8-11.

UWA 45044 Holotype (fig. 9).

UWA 45045 (fig. 11), **UWA 45046** (fig. 10)
Paratypes.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

KNOXISPORITES? sp., Balme & Hassell, 1962

Knoxisporites? sp., Balme & Hassell, 1962, p. 12, pl. 3, figs. 12, 13.

UWA 45065 (fig. 13), **UWA 45093** (fig. 12)
Figured specimens.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

KRAEUSELISPORITES CUSPIDUS Balme, 1963.

Kraeuselisporites cuspidus Balme, 1963, p. 19, pl. 5, figs. 9, 10, 11.

UWA 47552 Holotype (fig. 9).

UWA 47553 (fig. 10), **UWA 47554** (not figured)
Paratypes.

No. 19 Bore, Kockatea Creek, Upper Greenough R. area, Perth Basin, at 139-190 feet; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

KRAEUSELISPORITES SAEPTATUS Balme, 1963.

Kraeuselisporites saeptatus Balme, 1963, p. 20, pl. 6, figs. 8, 9, 10.

UWA 47549 Holotype (fig. 8).

UWA 37555 (fig. 9), **UWA 47556** and **UWA 47561** (not figured)
Paratypes.

Geraldton Racecourse Bore, Perth Basin, at 1456 feet; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

LEIOTRILETES PULVEREUS Balme & Hassell, 1962.

Leiotriletes pulvereus Balme & Hassell, 1962, p. 5, pl. 1, figs. 1-2

UWA 45061 Holotype (fig. 1).

UWA 45115 Paratype (fig. 2).

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

LEIOTRILETES cf. **L. SIMPLEX** Naumova 1953, Balme, 1960.

Leiotriletes cf. *L. simplex* Naumova, Balme, 1960, p. 3, pl. 1, figs. 1, 2

UWA 42319 Figured specimen (figs. 1, 2).

Pelican Hill Bore, Carnarvon Basin, core at 2174-2184 feet.

Upper Devonian.

Univ. W. Aust.

LEIOZONOTRILETES LAURELANSIS Balme & Hassell, 1962.

Leiozonotriletes laurelensis Balme & Hassell, 1962, p. 16, pl. 4, figs. 13-15.

UWA 45106 Holotype (fig. 13).

UWA 45134 Paratype (fig. 14) (not *Hymenozonotriletes scorpius*, pl. 3, fig. 8).

UWA 45105 Paratype (fig. 15) (not in text).

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

LEIOZONOTRILETES NAUMOVAE Balme & Hassel, 1962.

Leiozonotriletes naumovae Balme & Hassell, 1962, p. 18, pl. 4, figs. 10-12, text-fig. 4.

UWA 45040 Holotype (fig. 11).

UWA 45037 (fig. 10), **UWA 45039** (fig. 12) Paratypes.

Stumpy's Soak No. 2 Bore, Fitzroy Basin, at 84 feet.

Upper Devonian.

Univ. W. Aust.

LUNDBLADISPORA BREVICULA Balme, 1963.

Lundbladispora brevicula Balme, 1963, p. 23, pl. 4, figs. 8, 9.

UWA 47546 Holotype (fig. 9).

UWA 47547 (fig. 9), **UWA 46548** (not figured) Paratypes.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

LUNDBLADISPORA PLAYFORDI Balme, 1963.

Lundbladispora playfordi Balme, 1963, p. 23, pl. 5, figs. 4-8; text-fig. 29b.

UWA 47537 Holotype (fig. 4)

UWA 47536 (fig. 6), **UWA 47538** (fig. 5), **UWA 47539** (fig. 8) Paratypes.

UWA 47540 Figured specimen (fig. 7).

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

LUNDBLADISPORA WILLMOTTI Balme, 1963.

Lundbladispora willmotti Balme 1963, p. 22, pl. 5, figs. 1, 2, 3.

UWA 47532 Holotype (figs. 1, 2).

UWA 47533 (fig. 3), **UWA 47534** (not figured) Paratypes.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 11° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

LYCOPODIACIDITES PELAGUS Balme, 1963.

Lycopodiacidites pelagus Balme, 1963, p. 17, pl. 4, fig. 6*.

UWA 47551 Holotype.

UWA 47550 Paratype (not figured).

Well at Pt. 217, Upper Greenough R. Area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

LYCOPODIACIDITES sp., Balme, 1963.

Lycopodiacidites sp., Balme, 1963, p. 18, pl. 4, fig. 7*.

UWA 47557 Figured specimen.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

OSMUNDACIDITES SENECTUS Balme, 1963.

Osmundacidites senectus Balme, 1963, p. 17, pl. 4, figs. 1, 2.

UWA 47541 Holotype (fig. 1).

UWA 47543 (fig. 2); **UWA 47543** (not figured) Paratypes.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

PLANISPORITES FURFURIS Balme & Hassell, 1962.

Planisporites furfuris Balme & Hassell, 1962, p. 6, pl. 1, figs. 19-21.

UWA 45054 Holotype (fig. 19).

UWA 45131 (fig. 21), **UWA 45134** (fig. 20) Paratypes.

BMR No. 2 Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

PLATYSACCUS sp. cf. **P. PAPILIONIS**
Potonie & Klaus 1954, Balme, 1963.

Platysaccus sp. cf. *P. papilionis* Potonie &
Klaus, Balme, 1963, p. 25, pl. 6, fig. 12*.

UWA 47527 Figured specimen.

No. 19 Bore, Kockatea Creek, Perth Basin, at
139-150 feet.

Lower Triassic.

Univ. W. Aust.

PULVINISPORA DEPRESSA Balme &
Hassell, 1962.

Pulvinispora depressa Balme & Hassell, 1962,
p. 11, pl. 2, figs. 1-3, text-fig. 3.

UWA 45050 **Holotype** (fig. 1).

UWA 45047 (fig. 2), (not 45057 as in text
and plate), UWA 45049 (fig. 3) Paratypes.

BMR No. 2 Laurel Downs, Fitzroy Basin, at
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

PULVINISPORA sp. cf. **P. DEPRESSA**
Balme & Hassell, 1962.

Pulvinispora sp. cf. *P. depressa* Balme &
Hassell, 1962, pl. 2, fig. 4*.

UWA 45048 Figured specimen.

BMR No. 2 Laurel Downs, Fitzroy Basin, at
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

PUNCTATISPORITES FUNGOSUS Balme,
1963.

Punctatisporites fungosus Balme, 1963, p. 16,
pl. 4 figs. 10, 11.

UWA 47544 **Holotype** (fig. 10).

UWA 47545 **Paratype** (fig. 11).

Well at Pt. 217 Upper Greenough R. area,
Perth Basin, 28° 35' 10" S., 115° 7' 10" E.;
Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

PUNCTATISPORITES ITERABILIS Balme
& Hassell, 1962.

Punctatisporites iterabilis Balme & Hassell,
1962, p. 5, pl. 1, fig. 3*.

UWA 45083 Holotype.

BMR No. 2, Laurel Downs, Fitzroy Basin,
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

PUNCTATISPORITES sp. cf. **P. SOLIDUS**
Hacquebard, 1957; Balme & Hassell, 1962.

Punctatisporites sp. cf. *P. solidus* Hacquebard,
Balme & Hassell, 1962, p. 5, pl. 1, fig. 4*.

UWA 45081 Figured specimen.

BMR No. 2 Laurel Downs, Fitzroy Basin, at
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

RADIASPORA sp., Balme, 1960.

Radiaspora sp., Balme, 1960, p. 6, pl. 1,
fig. 13*.

UWA 42334 Figured specimen.

Pelican Hill Bore, 10 miles N. of Carnarvon,
Carnarvon Basin, at 1446-1496 feet;
?Gneuda Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

RADIASPORA sp. A., Balme, 1960.

Radiaspora sp. A., Balme, 1960, p. 6, pl. 1,
figs. 11, 12.

UWA 42329 (fig. 11), UWA 42342 (fig. 12)
Figured specimens.

Pelican Hill Bore, 10 miles N. of Carnarvon,
Carnarvon Basin, at 2174-2186 feet;
?Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

RETICULATISPORITES ANCORALIS Balme
& Hassell, 1962.

Reticulatisporites ancoralis Balme & Hassell,
1962, p. 9, pl. 2, figs. 8-10.

UWA 45090 **Holotype** (fig. 8).

UWA 45092 **Paratype** (fig. 9).

UWA 45091 Figured specimen (fig. 10).

BMR No. 2 Laurel Downs, Fitzroy Basin at
1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

RETICULATISPORITES TEXTILIS Balme & Hassell, 1962.

Reticulatisporites textilis Balme & Hassell, 1962, p. 9, pl. 2, figs. 11, 12.

UWA 45087 Holotype (fig. 11).

UWA 45088 Paratype (fig. 12).

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

RETUSOTRILETES sp. c.f. **R. FAMENENSIS** Naumova, 1933; Balme & Hassell, 1962.

Retusotriletes sp. cf. *R. famenensis* Naumova, Balme & Hassell 1962, p. 7, pl. 1, fig. 12*.

UWA 45057 Figured specimen.

BMR No. 2, Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

RETUSOTRILETES cf. **R. PYCHOVII** Naumova, 1953; Balme, 1960.

Retusotriletes cf. *R. pychovii* Naumova, Balme, 1960, p. 4, pl. 1, figs. 3, 4.

UWA 42310 (fig. 3), **UWA 42328** (fig. 4)
Figured specimens.

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin, at 1446-1496 feet; ?Gneudna Formation.

Upper Devonian.

Univ. W. Aust.

RETUSOTRILETES sp. cf. **R. PYCHOVII** Naumova var. **MAJOR** Naumova, 1953; Balme & Hassell, 1962.

Retusotriletes sp. cf. *R. pychovii* Naumova var. *major* Naumova, Balme & Hassell, 1962, p. 7, pl. 1, fig. 13*.

UWA 45071 Figured specimen.

Stumpy's Soak No. 2 Bore, Fitzroy Basin, at 84 feet.

Upper Devonian.

Univ. W. Aust.

cf. **SCHIZOSPORIS** sp., Balme, 1963.

cf. *Schizosporis* sp., Balme, 1963, p. 30, pl. 4, fig. 4, 5.

UWA 47530 Figured specimen.

Geraldton Racecourse Bore, Perth Basin, at 1465 feet.

Lower Triassic.

Univ. W. Aust.

SPINOZONOTRILETES CARNARVONENSIS Balme, 1960.

Spinozonotriletes carnarvonensis Balme, 1960, p. 7, pl. 2, figs. 17-19 text-fig. 2.

UWA 42325 Holotype (fig. 19).

UWA 42326 (fig. 17), **UWA 42327** (fig. 18)
Paratypes.

Pelican Hill Bore, 10 miles N. of Carnarvon, Carnarvon Basin, at 1446-1496 feet; Gneudna Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

STENOZONOTRILETES FORTICULUS Balme & Hassell, 1962.

Stenozonotriletes forticulus Balme & Hassell, 1962, p. 14, pl. 3, figs. 5-7.

UWA 45123 Holotype (fig. 7).

UWA 45121 (fig. 6), **UWA 45122** (fig. 5)
Paratypes.

Kimberley Downs 67-mile Bore (Artesian), Fitzroy Basin, at 1055-1059 feet.

Upper Devonian.

Univ. W. Aust.

STENOZONOTRILETES sp. cf. **S. RECOGNITUS** Naumova f. **RECOGNITUS** Naumova, 1953; Balme & Hassell, 1962.

Stenozonotriletes sp. cf. *S. recognitus* Naumova f. *recognitus* Naumova, Balme & Hassell, 1962, p. 14, pl. 3, figs. 3, 4.

UWA 45052 (fig. 3), **UWA 45118** (fig. 4)
Figured specimens.

BMR No. 2 Laurel Downs, Fitzroy Basin, at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

STRIATITES sp. cf. **TAENIAESPORITES ANTIQUUM** Leschik, 1956; Balme, 1963.

Striatites sp. cf. *Taeniaesporites antiquum* Leschik, Balme, 1963, p. 26, pl. 6, fig. 13*.

UWA 47536 Figured specimen.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

ANIMALIA

FORAMINIFERA

ALVEOLINELLA QUOII (d'Orbigny); Coleman, 1963.

Alveolinella quoii (d'Orbigny), Coleman, 1963, p. 10, pl. 1, fig. 1*.

UWA 46344 Median section.

Conglomerate on N. slopes of Mount Vatu-puchau, eastern Guadalcanal, British Solomon Islands; upper part of Berande beds.

Pliocene.

Univ. W. Aust.

AMMOBACULITES WOOLNOUGH Crespín & Parr, 1941; Parr, 1942; Crespín, 1958b.

Ammobaculites woolnoughi Crespín & Parr, 1941, p. 304, pl. 12, figs. 2, 3.

Ammobaculites woolnoughi Crespín & Parr, Parr, 1942, p. 108, pl. 1, fig. 11.

Ammobaculites woolnoughi Crespín & Parr, Crespín, 1958b, p. 75, pl. 14, figs. 10, 11.

UWA 20669 Hypotype (Parr, pl. 1, fig. 11).

S. side, Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

AMMODISCUS NITIDUS Parr, 1942, Crespín, 1958b.

Ammodiscus nitidus Parr, 1942, p. 103, pl. 1, figs. 1a, b.

UWA 20670 Holotype (pl. 1, figs. 1a, b).

S. side, Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

AMMODISCUS WANDAGEEENSIS Parr, 1942; Crespín, 1958b.

Ammodiscus wandageeensis Parr, 1942, p. 102, pl. 2, fig. 1*.

Ammodiscus wandageeensis Parr, Crespín, 1958b., p. 69, pl. 12, fig. 12.

UWA 20671 Holotype (pl. 2, fig. 1).

S. side, Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

ANGULOGENERINA SUBANGULARIS Parr, 1938.

Angulogenerina subangularis, Parr, 1938, p. 80, pl. 2, figs. 6a* b*.

UWA 18911 Holotype.

King's Park, Perth, Bore No. 1, at 770 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

ANOMALINA PERTHENSIS Parr, 1938.

Anomalina perthensis Parr, 1938, p. 85, pl. 3, figs. 3a*, b*, c*.

UWA 18902 Holotype.

King's Park, Perth, Bore No. 2, at 728 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

ANOMALINA WESTRALIENSIS Parr, 1938.

Anomalina westraliensis Parr, 1938, p. 85, pl. 3, figs. 4a*, c*.

UWA 18901 Holotype.

King's Park, Perth, Bore No. 1, at 770 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

BACULOGYPSINA SPHAERULATA

(Parker & Jones); Coleman, 1963.

Baculogypsina sphaerulata (Parker & Jones),
Coleman, 1963, p. 11, pl. 1, figs. 11-12.

UWA 46345 Oblique section (fig. 11).

UWA 46346 Median section (fig. 12).

Foraminiferal calcarenite, Kilokaka-kolokare,
S. coast, Santa Ysabel, British Solomon
Islands, Tanakau Group.

Pleistocene.

Univ. W. Aust.

BATHYSIPHON sp., Parr, 1938.

Bathysiphon sp., Parr, 1938, p. 88 (pl. 3, fig.
10*.

UWA 18914U Figured specimen.

King's Park, Perth, Bore No. 1, at 563-573
feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

BOLIVINOPSIS CRESPINAE Parr, 1938.

Bolivinopsis crespinae Parr, 1938, p. 81, pl. 3,
figs. 11a*, b*.

UWA 18899 Holotype.

King's Park, Perth, Bore No. 2, at 728 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

BULIMINELLA WESTRALIENSIS Parr,
1938.

Buliminella westraliensis Parr, 1938, p. 80,
pl. 2, figs. 3* 4*.

UWA 18912 Holotype.

King's Park, Perth, Bore No. 1 at 755 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CALCARINA SPENGLERI (Gmelin);

Colcarina spengleri (Gmelin), Coleman, 1963,
p. 11, pl. 1, fig. 13*.

UWA 64347 Sections.

Reef Beds, near Kilokaka-kolokare, Santa
Ysabel, British Solomon Islands.

Pleistocene.

Univ. W. Aust.

CALCITORNELLA STEPHENSI (Howchin),
1894; (Chapman & Howchin) 1905;
Chapman, Howchin, & Parr, 1934; Crespin,
1945; Crespin 1958b.

Nubecularia lucifuga DeFrance var. *stephensi*
Howchin, 1894 (1893), p. 245, pls. 9a, 10a.

Calcitornella stephensi, Chapman, Howchin, &
Parr, 1934, p. 187.

Calcitornella stephensi (Howchin), Crespin,
1958b, p. 84, pl. 17, figs. 4-8; pl. 32, figs. 1,
2, 4, 9.

UWA 27687 Figured section, Crespin (pl.
32, fig. 1), Hypotype D.

Middalya Stn, Half-way between K.55 Trig.
and Mongie Well, 1 mile ENE. of K.55,
Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

CASSIDULINA sp., Parr, 1938.

Cassidulina sp., Parr, 1938, p. 81, pl. 2, fig. 7*.

UWA 18914N Figured specimen.

King's Park, Perth, Bore No. 1, at 755 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CERATOBULIMINA WESTRALIENSIS

Parr, 1938.

Ceratobulimina westraliensis Parr, 1938, p. 83,
pl. 2, figs. 12a*-c*.

UWA 18898 Holotype.

King's Park, Perth, Bore No. 2, at 230 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CIBICIDES PSEUDOCONVEXUS Parr,
1938.

Cibicides pseudoconvexus Parr, 1938, p. 86,
pl. 3, figs. 5a*-c*.

UWA 18900 Holotype.

King's Park, Perth, Bore No. 1, at 770 feet.
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CIBICIDES UMBONIFER Parr, 1938.
Cibicides umbonifer Parr, 1938, p. 86, pl. 3,
figs. 6a*-c*.

UWA 18905 Holotype.
King's Park, Perth, Bore No. 2, at 728 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CRITHIONINA TEICHERTI Parr, 1942.
See **THURAMMINOIDES TEICHERTI**
(Parr), Crespin, 1958b.

Crithionina teichertii Parr, 1942, p. 107, pl. 1,
figs. 9*, 10*.

UWA 20674 Holotype.

S. side of Minilya R., near Coolkilya Pool,
Wandagee Stn, Carnarvon Basin; Wandagee
Formation.

Lower Permian.

Univ. W. Aust.

CYCLAMMINA INCISA (Stache); Parr,
1938.

Cyclammina incisa (Stache), Parr, 1938, p.
89, text-fig. 1*.

UWA 18914W Hypotype.

King's Park, Perth, Bore No. 1, at 530 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

CYCLOCYPEUS (CYCLOCYPEUS)
CARPENTERI Brady; Coleman, 1963.

*Cyclocypeus (Cyclocypeus) carpen-
terii* Brady, Coleman, 1963, p. 32, pl. 9, figs. 14-15.

UWA 46477 Vertical section (fig. 14).

UWA 46476 Median section (fig. 15).

Top of Mering Hill, Gizo Island, British
Solomon Islands; New Georgia group.

Pleistocene.

Univ. W. Aust.

CYCLOCYPEUS EIDAE Tan, 1932; Cole-
man, 1963.

Cyclocypeus eidae Tan, 1932, Coleman, 1963,
p. 34, pl. 9, fig. 12*.

UWA 47348 Median section.

1000 yds. due N. of eastern extremity of
Loguhitu Bay, SE. San Jorge, British
Solomon Islands; lower part of Tanakau
Group.

Lower Miocene ('e'-stage).

Univ. W. Aust.

CYCLOCYPEUS POSTEIDAE Tan, 1932;
Coleman, 1963.

Cyclocypeus posteidae Tan, 1932, Coleman,
1963, p. 36, pl. 9, figs. 9-11.

UWA 46552 Oblique section (fig. 9).

UWA 46343 Median section (fig. 11).

UWA 46354 Median section (fig. 10).

1½ miles W. of Mt Vasu, in small stream, part
of headwaters of prominent tributary, flow-
ing W. into Kolumbangara R., SW. coast,
Choiseul, British Solomon Islands; Mt Vasu
Limestone.

Lower Miocene ('f₁-f₂' stage)

Univ. W. Aust.

CYCLOCYPEUS sp. cf. **C. INDOPACI-
FICUS** Tan, 1932; Coleman, 1963.

Cyclocypeus sp. cf. *C. indopacificus* Tan,
Coleman, 1963, p. 34, pl. 9, figs. 1-3, 5, 7.

UWA 46349 Median section (fig. 1).

UWA 46350 Vertical section (fig. 2).

Middle reaches of Bonege R., 7 miles 1250
yds in direct line from river mouth, W.
Guadalcanal, British Solomon Islands;
Bonege Limestone.

Lower Miocene ('f₁-f₂' stage)

Univ. W. Aust.

**CYCLOCYPEUS (KATACYCLOCY-
PEUS) MARTINI** Van der Vlerk, 1923;
Coleman, 1963.

Cyclocypeus (Katacyclocypeus) martini Van
der Vlerk, Coleman, 1963, p. 36, pl. 9, figs.
4, 6, 8.

UWA 46358 Median section (fig. 4).

UWA 46475 Hypotype (fig. 6).

UWA 46359 Vertical section (fig. 8).

500 yds. upstream from junction of Ckarikange
Ck and middle reaches of Tangaraisu R.,
central Guadalcanal, British Solomon
Islands; Tangaraisu Shale.

Lower Miocene ('f₁-f₂' stage)

Univ. W. Aust.

TAENIAESPORITES OBEX Balme, 1963.

Taeniaesporites obex Balme, 1963, p. 2, pl. 6, figs. 1-3.

UWA 47531 Holotype (figs. 1, 2).

UWA 47558 Paratype (fig. 3).

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

TAENIAESPORITES sp. cf. **T. NOVIAULENSIS** Leschik, 1956; Balme, 1963.

Taeniaesporites sp. cf. *T. noviaulensis* Leschik, Balme, 1963, p. 28, pl. 22, figs. 1, 2.

Taeniaesporites sp. cf. *T. noviaulensis* Leschik, Balme, 1963, p. 28, pl. 6, figs. 4-6.

UWA 47522 (fig. 4), **UWA 47523** (fig. 5), **UWA 48524** (fig. 6) Figured specimens.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

TETREPORINA sp. cf. **AZONOTETRAPORINA? HOROLOGIA** Staplin, 1960; Balme, 1963.

Tetreporina sp. cf. *Azonotetraporina? horologia* Staplin, Balme, 1963, p. 31, pl. 4, fig. 3*.

UWA 47528 Figured specimen.

Geraldton Racecourse Bore, Perth Basin, at 1465 feet; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

VERRUCOSISPORITES sp., Balme & Hassell, 1962.

Verrucosisporites sp., Balme & Hassell, 1962, p. 9, pl. 2, fig. 5*.

UWA 45051 Figured specimen.

BMR. No. 2 Laurel Downs, Fitzroy Basin at 1697-1707 feet.

Upper Devonian.

Univ. W. Aust.

VITREISPORITES PALLIDUS (Reissinger), Nilsson, 1958; Balme, 1963.

Vitreisporites pallidus (Reissinger), Balme, 1963, p. 24, pl. 6, fig. 7*.

UWA 47529 Hypotype.

Well at Pt. 217, Upper Greenough R. area, Perth Basin, 28° 35' 10" S., 115° 7' 10" E.; Kockatea Shale.

Lower Triassic.

Univ. W. Aust.

DENTALINA COLEI Cushman & Dusenbury, 1934; Parr, 1938.

Dentalina colei Cushman & Dusenbury, Parr, 1938, p. 76, pl. 1, fig. 8.

UWA 18914G Hypotype.

King's Park, Perth, Bore No. 1, at 120 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

DENTALINA SPINULOSA (Montagu), 1808; Parr, 1938.

Dentalina spinulosa (Montagu), Parr, 1938, p. 76, pl. 1, fig. 5*.

UWA 18914H Hypotype.

King's Park, Perth, Bore No. 1, at 770 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

DISCORBIS ASSULATUS Cushman, 1933; Parr, 1938.

Discorbis assulatus Cushman, Parr, 1938, p. 82, pl. 2, figs. 9a*-c*.

UWA 189140 Hypotype.

King's Park, Perth, Bore No. 2, at 555 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

FRONDICULARIA MUCRONATA Reuss, 1845; Parr, 1938.

Frondicularia mucronata Reuss, Parr, 1938, p. 77, pl. 1, fig. 12*.

UWA 18914J Hypotype.

King's Park, Perth, Bore No. 2, at 430 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GLOBIGERINA ORBIFORMIS Cole, 1927; Parr, 1938.

Globigerina orbiformis Cole, Parr, 1938, p. 87, pl. 3, figs. 7a*-c*.

UWA 18914T Hypotype.

King's Park, Perth, Bore No. 1, at 755 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GLOBOROTALIA CHAPMANI Parr, 1938.

Globorotalia chapmani Parr, 1938, p. 87, pl. 3, figs. 8, 9a*, b*.

UWA 18897 **Holotype.**

King's Park, Perth, Bore No. 1, at 755 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GLOMOSPIRA ADHAERENS Parr, 1942.

Glomospira adhaerens Parr, 1942, p. 103, pl. 1, fig. 2*.

UWA 20675 **Holotype.**

S. side, Minieya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

GLOBULINA ROTUNDATA (Bornemann), 1855; Parr, 1938.

Globulina rotundata (Bornemann), Parr, 1938, p. 80, pl. 2, figs. 2a*, b*.

UWA 18914L Hypotype.

King's Park, Perth, Bore No. 1, at 120 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GUMBELINA VENEZUELANA Nuttall 1935 var. **RUGOSA** Parr, 1938.

Gümbelina venezuelana Nuttall var. *rugosa* Parr, 1938, p. 82, pl. 2, figs. 8a*, b*.

UWA 18910 **Holotype of var.**

King's Park, Perth, Bore No. 1, at 770 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GUTTULINA IRREGULARIS (d'Orbigny) 1846; Parr, 1938.

Guttulina irregularis (d'Orbigny), Parr, 1938, p. 79, pl. 2, figs. 1a*, b*.

UWA 18914K Hypotype.

King's Park, Perth, Bore No. 2, at 230 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GYPSINA GLOBULUS (Reuss); Coleman, 1963.

Gypsina globulus (Reuss), Coleman, 1963, p. 10, pl. 1, fig. 2*.

UWA 46360 Tangential section.

Middle reaches of Bonege River, 7 miles 1250 yds in a direct line from river mouth, W., Guadalcanal, British Solomon Islands; Bonege Limestone.

Lower Miocene ('f₁-f₂' stage)

Univ. W. Aust.

GYPSINA VESICULARIS (Parker & Jones); Coleman, 1963.

Gypsina vesicularis (Parker & Jones), Coleman, 1963, p. 10, pl. 1, figs. 3, 4.

UWA 46361 Median section (fig. 3).

Upper reaches of Mavo R. 7 miles 550 yds in direct line from river mouth, W. Guadalcanal, British Solomon Islands; Bonege Limestone.

Lower Miocene ('f₁-f₂' stage)

Univ. W. Aust.

GYROIDINA SOLDANII d'Orbigny, 1926; Parr, 1938.

Gyroidina soldanii d'Orbigny, Parr, 1938, p. 83, pl. 2, figs. 13a*, b*.

UWA 18914Q Hypotype.

King's Park, Perth, Bore No. 2 at 230 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

GYROIDINA SOLDANII d'Orbigny var. **OCTOCAMERATA** Cushman & Hanna, 1927; Parr, 1938.

Gyroidina soldanii d'Orbigny var. *octocamerata* Cushman & Hanna, Parr, 1938, p. 83, pl. 2, figs. 14a*-c*.

UWA 18914R Hypotype.

King's Park, Bore No. 1 at 755 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

HAPLOPHRAGMOIDES INCISUM Stache, 1864. See **CYCLAMMINA INCISA** (Stache), Parr, 1938.

HERONALLENIA PUSILLA Parr, 1938.

Heronallenia pusilla Parr, 1938, p. 82, pl. 2, figs. 11a*-c*.

UWA 18904 Holotype.

King's Park, Perth, Bore No. 2, at 728 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

HETEROSTEGINA BORNEENSIS Van der Vlerk, 1929; Coleman, 1963.

Heterostegina borneensis Van der Vlerk, Coleman, 1963, p. 28, pl. 8, figs. 3, 4.

UWA 46364 Oblique section (fig. 3).

UWA 46363 Median section (fig. 4).

Small bay 2½ miles E. of Kamanga R., just W. of Kapika village, central N. coast, Choiseul, British Solomon Islands; Kamanga Grit.

Lower Miocene ('e' stage).

Univ. W. Aust.

HYPERAMMINA ACICULA (Parr), Crespin, 1958b. See **HYPERAMMINOIDES ACICULA** Parr, 1943.

Hyperammina acicula (Parr), Crespin, 1958b, p. 44, pl. 5, fig. 11; pl. 6, fig. 7.

HYPERAMMINA COLEYI Parr, 1942; Crespin, 1958b.

Hyperammina coleyi Parr, 1942, p. 104, pl. 2, fig. 3*.

Hyperammina coleyi Parr, Crespin, 1958b, p. 46, pl. 6, figs. 5, 6; pl. 7, figs. 3-5; pl. 33, figs. 1, 2.

UWA 20676 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

HYPERAMMINA? RUDIS Parr, 1943. See **HYPERAMMINITA RUDIS** (Parr), Crespin, 1958b.

Hyperammina? rudis Parr, 1942, pl. 1, fig. 3*.

UWA 20677 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

HYPERAMMINITA RUDIS (Parr), Crespin, 1958b. See **HYPERAMMINA ? RUDIS** Parr, 1942.

Hyperamminita rudis (Parr), Crespin, 1958b, p. 54, pl. 6, fig. 13; pl. 7, figs. 1, 2.

HYPERAMMINOIDES ACICULA Parr, 1942. See **HYPERAMMINA ACICULA** (Parr), Crespin, 1958b.

Hyperamminoides acicula Parr, 1942, p. 105, pl. 1, figs. 4, 5; pl. 2, fig. 4.

UWA 20678 Holotype (Pl. 2, fig. 4).

UWA 20679 Paratype (Pl. 1, figs. 4, 5).

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

LAGENA LUCIAE Parr, 1938.

Lagena luciae Parr, 1938, p. 78, pl. 1, fig. 13*.

UWA 18908 Holotype.

King's Park, Perth, Bore No. 2, at 555 feet, King's Park Shale.

Upper Eocene.

Univ. W. Aust.

LAGENA PERTHENSIS Parr, 1938.

Lagena perthensis Parr, 1938, p. 78, pl. 1, fig. 14*.

UWA 18909 Holotype.

King's Park, Perth, Bore No. 2, at 430 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

LENTICULINA (ROBULUS) WARMANI (Barbat & von Estorff), 1933; Parr, 1938.

Lenticulina (Robulus) warmani (B. & E.) Parr, 1938, p. 74, pl. 1, figs. 2a*, b*.

UWA 18914B Hypotype.

King's Park, Perth, Bore No. 2, at 230 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

LENTICULINA sp. Parr, 1938.

Lenticulina sp., Parr, 1938, p. 74, pl. 1, figs. 1a*, b*.

UWA 1894A Figured specimen.

King's Park, Perth, Bore No. 1, at 120 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

LEPIDOCYCLINA MARTINI (Schlumberger), 1900; Coleman, 1963.

Lepidocyclus martini (Schlumberger), Coleman, 1963, p. 14, pl. 3, figs. 7-14.

UWA 46371 (figs. 7, 8) Equatorial sections.

1½ miles W. of Mt Vasu, in small stream, part of headwaters of prominent tributary flowing W. into Kolombangara R., SW. coast, Choiseul, British Solomon Islands; Mount Vasu Limestone.

UWA 46367 (fig. 9), **UWA 46366** (fig. 10) Equatorial sections.

UWA 46368 (fig. 11), **UWA 46370** (fig. 14) Oblique vertical sections.

UWA 46365 (fig. 12), **UWA 46369** (fig. 13) Vertical sections.

Vura syncline, Anuha Island, off N. coast of Big Nggela, Florida Group, British Solomon Islands; basal part of Mbolli Group.

Lower Miocene ('f₁-f₂' stage).

Univ. W. Aust.

LEPIDOCYCLINA SUVAENSIS Whipple, 1934; Coleman, 1963.

Lepidocyclus suvaensis Whipple, Coleman, 1963, p. 15, pl. 3, figs. 15-17; pl. 4, figs. 1-5.

UWA 46375 (pl. 3, fig. 15), **UWA 46376** (fig. 16), **UWA 46377** (fig. 17) Vertical sections.

UWA 46378 (pl. 4, fig. 1), **UWA 46372** (fig. 2), **UWA 46373** (fig. 3) Equatorial sections.

UWA 46374 (pl. 4, fig. 4) Embryonic apparatus.

500 yds. upstream from junction of Chari-kange Ck and middle reaches of Tangaraisu R., central Guadalcanal, British Solomon Islands; 600 feet above base of Tangaraisu Shale.

Lower Miocene ('f₁-f₂' stage).

Univ. W. Aust.

**LEPIDOCYCLINA (EULEPIDINA) EPHIP-
PIOIDES** (Jones & Chapman), 1900;
Coleman, 1963.

Lepidocyclus (*Eulepida*) *ephippioides*
(Jones & Chapman), 1900, Coleman, 1963,
p. 15, pl. 4, figs. 6-12; pl. 5, figs. 1-3.

UWA 46383 (pl. 4, figs. 6, 7), UWA 46385
(fig. 8) Vertical sections.

UWA 46388 (pl. 4, figs. 11, 12) Equatorial
sections.

Small bay 2½ miles E. of Kamanga R., just W.
of Kapika village, central north coast,
Choiseul, British Solomon Islands; Kamanga
Grit.

UWA 46389 (pl. 4, fig. 9), UWA 46391 (fig.
10) Vertical sections.

UWA 46387 (pl. 5, fig. 1), UWA 46386 (fig.
2), UWA 46390 (fig. 3) Equatorial
sections.

1000 yds due N. of eastern extremity of
Loguhitu Bay, SE. San Jorge, British
Solomon Islands; base of Santa Jorge group.

Lower Miocene ('e' stage).

Univ. W. Aust.

**LEPIDOCYCLINA (NEPHROLEPIDINA)
FERREROI** Provale, 1909; Coleman, 1963.

Lepidocyclus (*Nephrolepida*) *ferreroi*
Provale, Coleman, 1963, p. 17, pl. 5, figs.
8-14.

UWA 47421 (fig. 8) Equatorial section.

Vura syncline, Anuha Island, off N. coast of
Big Nggela, Florida Group, British Solomon
Islands; basal Mboli Group.

UWA 46420 (fig. 9) Embryonic apparatus.

UWA 46418 (fig. 10), UWA 46419 (fig. 12),
UWA 46424 (fig. 14) Vertical sections.

UWA 46423 (fig. 13) Oblique section.

Middle reaches of Bonege R., 7 miles 1250
yds from river mouth, W. Guadalcanal,
British Solomon Islands; Bonege Limestone.

UWA 46422 (fig. 11) Equatorial section.

Lower Bonege R., 3 miles 300 yds from river
mouth, W. Guadalcanal.

Lower Miocene ('f₁-f₂') stage.

Univ. W. Aust.

**LEPIDOCYCLINA (NEPHROLEPIDINA)
JAPONICA** (Yabe), 1906; Coleman, 1963.

Lepidocyclus (*Nephrolepida*) *japonica*
(Yabe), Coleman, 1963, p. 17, pl. 6, figs.
1-6.

UWA 46425 (fig. 1), UWA 46426 (fig. 2),
UWA 46429 (fig. 3) Vertical sections.

UWA 46427 (fig. 5) Equatorial section.

In Vuralosa R., tributary of Tina R., 500 yds
downstream from junction of Vuralosa R.
and Korakoramangadedi Ck, central
Guadalcanal, British Solomon Islands;
Betilonga Limestone.

UWA 46428 (fig. 4) Equatorial section.

500 yds upstream from junction of Chari-
kange Ck and middle reaches of Tangaraisu
R., central Guadalcanal; lowest part of
Tangaraisu Shale.

UWA 46430 (fig. 6) Equatorial section

SW. branch of extreme headwaters of Chipa-
kalau Ck, 1 mile 1550 yds. W. of Betilonga
Cave, central Guadalcanal; Betilonga Lime-
stone.

Lower Miocene ('e' stage to 'f₁-f₂' stage).

Univ. W. Aust.

**LEPIDOCYCLINA (NEPHROLEPIDINA)
PARVA** Oppenorth, 1918; Coleman, 1963.

Lepidocyclus (*Nephrolepida*) *parva*
Oppenorth, Coleman, 1963, p. 18, pl. 6,
figs. 7-11.

UWA 46435 (fig. 7), UWA 46431 (fig. 8)
Equatorial sections.

UWA 46432 (fig. 10) Vertical section

Small bay 2½ miles E. of Kamanga R., just W.
of Kapika village, central north coast,
Choiseul, British Solomon Islands; Kamanga
Grit.

UWA 46434 (fig. 9) Equatorial section.

UWA 46433 (fig. 11) Vertical section.

1000 yds due W of eastern extremity of
Loguhitu Bay, SE. San Jorge, British
Solomon Islands; base of Tanakau Group.

Lower Miocene.

Univ. W. Aust.

LEPIDOCYCLINA (NEPHROLEPIDINA)
SUMATRENSIS (Brady) 1875; Coleman,
1963.

Lepidocyclus (*Nephrolepidina*) *sumatrensis*
(Brady), Coleman, 1963, p. 20, pl. 7, figs.
3-10.

UWA 46437 (fig. 3) Equatorial section.
1000 yds due N. of eastern extremity of
Loguhitu Bay, San Jorge, British Solomon
Islands; base of Tanakau Group.

UWA 46436 (fig. 4) Equatorial section.

UWA 46438 (fig. 5) Oblique section.

UWA 46440 (fig. 6), UWA 46465 (fig. 7)
Vertical sections.

In Vuralosa R., tributary of Tina R., 500 yds
downstream from junction of Vuralosa R.
and Korakoramangadedi Ck, central
Guadalcanal; Betilonga Limestone.

UWA 46439 (fig. 8) Oblique section.
60 feet inside entrance to Betilonga Cave, just
W. of Betilonga village, central Guadal-
canal; Betilonga Limestone.

UWA 46441 (fig. 9) Equatorial section.
Wanderer Bay area, SW. Guadalcanal, in
middle reaches of Marasa R., 4 miles 800
yds from mouth of river; central Guadal-
canal; Betilonga Limestone.

Lower Miocene.

Univ. W. Aust.

LEPIDOCYCLINA (NEPHROLEPIDINA)
sp. cf. **L. VERBEEKI** (Newton & Holland),
1899; Coleman, 1963.

Lepidocyclus (*Nephrolepidina*) sp. cf. *L.*
verbeeki (Newton & Holland), Coleman,
1963, p. 24, pl. 7, figs. 11-13.

UWA 46466 (fig. 11) Equatorial section.

UWA 46467 (fig. 12), UWA 46468 (fig. 13)
Vertical sections.

1000 yds due N. of eastern extremity of
Loguhitu Bay, SW. San Jorge, British Solo-
mon Islands; base of Tanakau Group.

Lower Miocene ('e' stage).

Univ. W. Aust.

LEPIDOCYCLINA (NEPHROLEPIDINA)
sp., Coleman, 1963.

Lepidocyclus (*Nephrolepidina*) sp., Coleman,
1963, p. 24, pl. 6, figs. 12, 14; pl. 7, figs.
1, 2.

UWA 46379 (pl. 6, fig. 12), UWA 46463 (pl.
7, fig. 1) Oblique sections.

UWA 46461 (pl. 6, fig. 13), UWA 46464
(pl. 7, fig. 2) Vertical sections.

UWA 46463 (pl. 6, fig. 14) Near equa-
torial section.

60 feet inside entrance to Betilonga Cave, cen-
tral Guadalcanal, British Solomon Islands;
Betilonga Limestone.

Lower Miocene ('e' stage).

Univ. W. Aust.

LEPIDOCYCLINA ('TRYBLIOLEPIDINA?')
CHOISEULENSIS Coleman, 1963.

Lepidocyclus (*'Trybliolepidina'?*) *choiseulen-*
sis Coleman, 1963, p. 16, pl. 5, figs. 4-7.

UWA 46381 Equatorial sections of holo-
type (figs. 4, 5).

UWA 46380 (fig. 6) Vertical section of
paratype.

UWA 46382 (fig. 7) Equatorial section of
paratype.

Small bay 2½ miles E. of Kamanga River, just
W. of Kapika village, central north coast,
Choiseul, British Solomon Islands; Kamanga
Grit.

Lower Miocene.

Univ. W. Aust.

MARGINULINA GLADIUS Philippi, 1843;
Parr, 1938.

Marginulina gladius Philippi, Parr, 1938, p. 74,
pl. 1, fig. 5*.

UWA 18914E Hypotype.

King's Park, Perth, Bore No. 1, at 120 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

MARGINULINA SUBBULLATA Hantken,
1876; Parr, 1938.

Marginulina subbullata Hantken, Parr, 1938,
p. 75, pl. 1, fig. 6*.

UWA 18914F Hypotype.

King's Park, Perth, Bore No. 1, at 120 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

MARGINULINA sp., Parr, 1938.

Marginulina sp., Parr, 1938, p. 74, pl. 1, fig 3*.

UWA 18914C Figured specimen.

King's Park, Perth, Bore No. 2, at 230 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

MIOGYPSINA INDONESIAENSIS Tan, 1936;
Coleman, 1963.

Miogypsina indonesiaensis Tan, Coleman, 1963,
p. 11, pl. 1, figs. 14-17.

UWA 46443 (fig. 14) Equatorial section.
Near Vuralosa Creek, Betilonga area, Central
Guadalcanal, British Solomon Islands, pre-
cise locality unknown; Betilonga Limestone.

UWA 46444 (fig. 15) Equatorial section.
UWA 46445 (fig. 16) Oblique vertical
section.

SW. branch of extreme headwaters of Chipa-
kalau Ck, 1 mile 1550 yds W. of Betilonga
Cave, central Guadalcanal; Betilonga Lime-
stone.

UWA 46445 (fig. 17) Oblique vertical
section.

At place where track from Betilonga to Lunga
R. crosses Tenaru R., abt. 1½ miles down-
stream from northern exit to Betilonga Cave
system; Betilonga Limestone.

Lower Miocene (upper 'e' stage).

Univ. W. Aust.

MIOGYPSINA POLYMORPHA (Rutten),
1911; Coleman, 1963.

Miogypsina polymorpha (Rutten), Coleman,
1963, p. 12, pl. 2, figs. 1-6.

UWA 46446 (fig. 1), UWA 46451 (fig. 2),
UWA 46448 (fig. 5) Equatorial sections.
UWA 46449 (fig. 4) Vertical section.
UWA 46447 (fig. 6) Digitate form.

500 yds upstream from junction of Charikange
Ck and middle reaches of Tangaraisu R.,
central Guadalcanal, British Solomon
Islands; lower part of Tangaraisu Shale.

UWA 46450 (fig. 3) Vertical section.

Lower Bonege R., 3 miles 300 yds from river
mouth, western Guadalcanal; Bonege Lime-
stone.

Lower Miocene ('f₁-f₂' stage).

Univ. W. Aust.

MIOGYPSINA THECIDAIFORMIS

(Rutten), 1911; Coleman, 1963.

Miogypsina thecidaeformis (Rutten), Cole-
man, 1963, p. 12, pl. 2, figs. 7-12.

UWA 46458 (fig. 7) Transverse section.
UWA 46452 (fig. 8), UWA 46453 (fig. 12)
Equatorial sections.
UWA 46454 (fig. 9), UWA 46457 (fig. 11)
Vertical sections.

UWA 46455 (fig. 10) Oblique section.

60 feet inside entrance to Betilonga Cave, just
W. of Betilonga village, central Guadalcanal,
British Solomon Islands; Betilonga Lime-
stone.

Lower Miocene (upper 'e' stage).

Univ. W. Aust.

MIOGYPSINOIDES DEHAARTII (Van der
Vlerk), 1924; Coleman, 1963.

Miogypsinoides dehaartii (Van der Vlerk),
Coleman, 1963, p. 13, pl. 2, figs. 13-20.

UWA 46394 (fig. 13), UWA 46395 (fig. 15),
UWA 46392 (fig. 16) Vertical sections.
UWA 46397 (fig. 20) Equatorial section.

60 feet inside entrance to Betilonga Cave, just
W. of Betilonga village, central Guadalcanal,
British Solomon Islands; Betilonga Lime-
stone.

UWA 46459 (fig. 14), UWA 46398 (fig. 18)
Vertical sections.

UWA 46393 (fig. 19) Oblique section.

UWA 46396 (fig. 17) Equatorial section.

1000 yds due N. of eastern extremity of Logu-
hitu Bay, SE. San Jorge, British Solomon
Islands; base of Tabakau Group.

Lower Miocene ('e' stage).

Univ. W. Aust.

MIOGYPSINOIDES n. sp., Coleman, 1963.

Miogypsinoides n. sp., Coleman, 1963, p. 22,
pl. 3, figs. 1-6.

UWA 46460 (fig. 1) Equatorial section.

1000 yds due N. of eastern extremity of Logu-
hitu Bay, SE. San Jorge, British Solomon
Islands; base of Tanakau Group.

UWA 46413 (fig. 2) Equatorial section.

UWA 46415 (fig. 3), UWA 46415 (fig. 4),
UWA 46412 (fig. 5), UWA 46411 (fig. 6)
Vertical and Transverse sections.

60 feet inside entrance to Betilonga Cave, just W. of Betilonga village; central Guadalcanal; Betilonga Limestone.

Lower Miocene ('e' stage).

Univ. W. Aust.

NODOSARIA RADICULA (Linné) 1767, 1788; Parr, 1938.

Nodosaria radicularia (Linné), Parr, 1938, p. 77, pl. 1, fig. 10*.

UWA 18914 I Hypotype.

King's Park, Perth, Bore No. 1, at 120 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

OPERCULINA COMPLANATA (Defrance) subsp. **JAPONICA** Hanzawa, 1935; Coleman, 1963.

Operculina complanata (Defrance) subsp. *japonica* Hanzawa, Coleman, 1963, p. 26, pl. 7, figs. 14-16; pl. 9, fig. 13.

UWA 46471 (pl. 7, fig. 16) Hypotype.

UWA 46406 (pl. 7, fig. 14), UWA 46480 (pl. 9, fig. 13) Median sections.

UWA 46470 (pl. 7, fig. 15) Vertical section.

500 yds upstream from junction of Charikange Ck and middle reaches of Tangaraisu R., central Guadalcanal, British Solomon Islands; lower part of Tangaraisu Shale.

Lower Miocene ('f₁-f₂' stage).

Univ. W. Aust.

OPERCULINA VENOSA (Fichtel & Moll), Coleman, 1963.

Operculina venosa (Fichtel & Moll), Coleman, 1963, p. 28, pl. 8, figs. 1-2.

UWA 46472 (fig. 1) Oblique section.

UWA 46473 (fig. 2) Vertical section.

Pinnacle limestone 2 miles N. of Nukiki village, SW. coast, Choiseul, British Solomon Islands; Nukiki Limestone.

?Pleistocene.

Univ. W. Aust.

PLANORBULINELLA sp. cf. **P. LARVATA** (Parker & Jones), 1865; Coleman, 1963.

Planorbulinella sp. cf. *P. larvata* (Parker & Jones), Coleman, 1963, p. 10, pl. 1, figs. 7-10.

UWA 46408 (fig. 7) Horizontal section.

Middle reaches of Bonege R., 8 miles 1000 yds from river mouth, western Guadalcanal, British Solomon Islands; Bonege Limestone.

UWA 46407 (fig. 8) Horizontal section.

Middle reaches of Bonege R., 7 miles 1250 yds from river mouth, western Guadalcanal; Bonege Limestone.

UWA 46409 (fig. 9) Transverse section.

Upper Mavo R., 2000 yds upstream from locality P. 277, in small south-flowing tributary about 200 yds from main stream; western Guadalcanal; Bonege Limestone.

UWA 46410 (fig. 10) Transverse section.

Upper reaches of Mavo R., 7 miles 550 yds. from river mouth, western Guadalcanal; Bonege Limestone.

Lower Miocene ('f₁-f₂' stage).

Univ. W. Aust.

PSAMMOSPHERA PUSILLA Parr, 1942; Cressin, 1958b.

Psammospheera pusilla Parr, 1942, p. 106, pl. 1, figs. 6*, 7*.

UWA 20680 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

PSEUDOGLANDULINA CLARKEI Parr, 1938.

Pseudoglandulina clarkei Parr, 1938, p. 77, pl. 1, fig. 11*.

UWA 18906 Holotype.

King's Park, Perth, Bore No. 2, at 606 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

PULVINULINELLA OBTUSA (Burrows & Holland) var. **WESTRALIENSIS** Parr, 1938.

Pulvinulinella obtusa (B. & H.) var. *westraliensis* Parr, 1938, p. 84, pl. 3, figs. 1a*-c*.

UWA 18903 Holotype of var.

King's Park, Perth, Bore No. 2, at 728 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

REOPHAX SUBASPER Parr, 1942; Crespín, 1958b.

Reophax subasper Parr, 1942, p. 108, pl. 1, fig. 12*.

UWA 20685 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

REOPHAX TRICAMERATUS Parr, 1942; Crespín, 1958b.

Reophax tricameratus Parr, 1942, p. 109, pl. 1, fig. 13*.

UWA 20684 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

ROBERTINA sp., Parr, 1938.

Robertina sp., 1938, p. 80, pl. 2, fig. 5*.

UWA 18914M Figured specimen.

King's Park, Perth, Bore No. 1, at 755 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

SIPHONIA sp., Parr, 1938.

Siphonia sp., Parr, 1938, p. 85, pl. 3, fig. 2*.

UWA 18914S Figured specimen.

King's Park, Perth, Bore No. 1, at 492 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

SPIROCLYPEUS HIGGINSI Cole, 1939; Coleman, 1963.

Spiroclypeus higginsi Cole, Coleman, 1963, p. 30, pl. 8, figs. 5-8.

UWA 46403 (fig. 5) Median section.

UWA 46405 (fig. 7) Vertical section

Small bay, 2½ miles E. of Kamanga R., W. of Kapika village central north coast, Choiseul, British Solomon Islands: Kamanga Grit

UWA 46402 (fig. 8) Median section.

UWA 46404 (fig. 6) Vertical section.

1000 yds due N. of eastern extremity of Loguhitu Bay, SE. San Jorge, British Solomon Islands: base of Tanakau Group.

Lower Miocene.

Univ. W. Aust.

SPIROCLYPEUS LEUPOLDI Van der Vlerk, 1925; Coleman, 1963.

Spiroclypeus leupoldi Van der Vlerk, Coleman, 1963, p. 30, pl. 8, figs. 9-12.

UWA 46400 (fig. 9), **UWA 46399** (fig. 11) Vertical sections.

UWA 46474 (fig. 10) Oblique section.

UWA 46401 (fig. 12) Equatorial section.

In Vuralosa R., tributary of Tina R., 500 yds downstream from junction of Vuralosa R. and Korakoramangadedi Ck, central Guadalcanal, British Solomon Islands; base of Betilonga Limestone.

Lower Miocene ('e' stage).

Univ. W. Aust.

SPIROPLECTAMMINA sp., Parr, 1938.

Spiroplectammina sp., Parr, 1938, p. 90, pl. 3, figs. 12a*, b*.

UWA 18914V Figured specimen.

King's Park, Perth, Bore No. 2, at 728 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

SPORADOTREMA CYLINDRICUM (Carter), Coleman, 1963.

Sporadotrema cylindricum (Carter), Coleman, 1963, p. 11, pl. 1, figs. 5, 6.

UWA 46416 (fig. 5) Horizontal section.

Point where track from Betilonga to Lunga R. crosses Tenaru R., about 1½ miles downstream from N. exit to Betilonga Cave system, central Guadalcanal; British Solomon Islands; Betilonga Limestone.

UWA 46417 (fig. 6) Vertical section.

60 feet inside entrance to Betilonga Cave, just W. of Betilonga village, Betilonga Limestone.

Lower Miocene.

Univ. W. Aust.

STREBLOSPIRA AUSTRALAE Crespín & Belford, 1957; Crespín, 1958b.

Streblospira australae Crespín & Belford, 1957, p. 75, pl. 12, figs. 10-13.

Streblospira australae Crespín & Belford, Crespín, 1958b, p. 88, pl. 20, figs. 10-13; pl. 32, fig. 1*.

UWA 37687 Hypotype A (transverse section, Crespín, pl. 32, fig. 1).

Middalya Stn, half-way between K.55 and Mongie Well, 1 mile ENE. of K.55, Carnarvon Basin, Callytharra Formation.

Lower Permian.

Univ. W. Aust.

THURAMMINA PAPILLATA Brady, 1879; Parr, 1942. See **THURAMMINA PHIALAEFORMIS** Crespín, 1958b.

Thurammina papillata Brady, Parr, 1942, p. 107, pl. 1, fig. 8*.

UWA 20681 Hypotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Quinannie Shale.

Lower Permian.

Univ. W. Aust.

THURAMMINA PHIALAEFORMIS Crespín, 1958b. See **THURAMMINA PAPILLATA** Brady, Parr, 1942.

Thurammina papillata Parr (*non* Brady), 1942, p. 107, pl. 1, fig. 8.

Thurammina phialaeformis Crespín, 1958b, p. 39, pl. 3, figs. 6-8.

THURAMMINOIDES TEICHERTI (Parr), Crespín, 1958b. See **CRITHIONINA TEICHERTI** Parr, 1942.

Thuramminoides teichertii (Parr), Crespín, 1958b, p. 41, pl. 3, figs. 12, 13.

TOLYPAMMINA UNDULATA Parr, 1942; Crespín, 1958b.

Tolypammina undulata Parr, 1942, p. 104, pl. 2, fig. 2*.

Tolypammina undulata Parr, Crespín, 1958b, p. 72, pl. 19, figs. 7, 8.

UWA 20682 Holotype.

S. side of Minilya R., near Coolkilya Pool, Carnarvon Basin; Quinannie Shale.

Lower Permian.

Univ. W. Aust.

TREPEILOPSIS AUSTRALIENSIS Crespín, 1958b.

Trepeilopsis australiensis Crespín, 1958b, p. 86, pl. 18, figs. 1-4; pl. 32, figs. 3, 5-8.

UWA 38423 Paratypes F and G (vertical sections, pl. 32, figs. 3, 8).

Middalya Stn, half-way between K.55 Trig. and Mongie Well, 1 mile ENE. of K.55, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

TROCHAMMINA SUBOBTUSA Parr, 1942, Crespín, 1958b.

Trochammina subobtusa Parr, 1942, p. 109, pl. 1, figs. 14a*-c*.

Trochammina subobtusa Parr, Crespín, 1958b, p. 92, pl. 21, figs. 5-6.

UWA 20683 Holotype.

S. side of Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Quinannie Shale.

Lower Permian.

Univ. W. Aust.

VAGINULINA SUBPLUMOIDES Parr, 1938.

Vaginulina subplumoides Parr, 1938, p. 75, pl. 1, fig. 7*.

UWA 18906 Holotype.

King's Park, Perth, Bore No. 2, at 385 feet; King's Park Shale.

Upper Eocene.

Univ. W. Aust.

VAGINULINA sp., Parr, 1938.

Vaginulina sp., Parr, 1938, p. 75, pl. 1, fig. 4*.

UWA 18914D Figured specimen.

King's Park, Perth, Bore No. 2, at 385 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

VALVULINERIA SCULPTURATA Cushman, 1935; Parr, 1938.

Valvulineria sculpturata Cushman, Parr, 1938, p. 83, pl. 11, figs. 10a*-c*.

UWA 18914P Hypotype.

King's Park, Perth, Bore No. 2, at 728 feet;
King's Park Shale.

Upper Eocene.

Univ. W. Aust.

SPONGIDA

AULOCOPOIDES PATULUM Howell, 1952.

Aulocopoides patulum Howell, 1952, p. 2, pl. 2, figs. 1*, 2*.

UWA 22383 **Holotype.**

Saddle on E. side of Mt Pierre, Fitzroy Basin,
28 feet above plain; Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

AULOCOPOIDES TEICHERTI Howell, 1952.

Aulocopoides teichertii Howell, 1952, p. 2, pl. 3, figs. 1-5.

UWA 22384 **Holotype** (figs. 3, 4).

Saddle on E. side of Mt Pierre, Fitzroy Basin,
about 50 yards from foot; Virgin Hills
Formation.

Upper Devonian.

Univ. W. Aust.

AUSTRALOSPONGIA CYLINDRICA Howell, 1952.

Australospongia cylindrica Howell, 1952, p. 2, pl. 1, figs. 1*, 2*.

UWA 22383 **Holotype.**

Saddle on E. side of Mt Pierre, Fitzroy Basin
28 feet above plain; Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

AUSTRALOSPONGIA TURBINATA Howell, 1952.

Australospongia turbinata Howell, 1952, p. 1, pl. 1, figs. 3*, 4*.

UWA 22381 **Holotype.**

On flat about 50 yards from foot of N. slope
of Mt Pierre, Fitzroy Basin; Virgin Hills
Formation.

Upper Devonian.

Univ. W. Aust.

CAMINUS NITIDUS Chapman & Crespin, 1934.

Caminus nitidus Chapman & Crespin, 1934, p. 112, pl. 6, fig. 4*.

GSWA 1/3988 **Holotype.**

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

CAMINUS PARVISTOMA Chapman & Crespin, 1934.

Caminus parvistoma Chapman & Crespin, 1934, p. 111, pl. 6, fig. 3*.

GSWA 1/3967 **Holotype.**

Hamersley River District, E. of Albany;
Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

CORALLISTES AUSTRALIS Laubenfels, 1953.

Corallistes australis Laubenfels, 1953, p. 106, text fig. 1*, A-C.

UWA 23735 **Holotype.**

Phillips River area, 20 miles S. of Ravens-
thorpe, W. of Eyre Range; Plantagenet Beds.

Eocene.

Univ. W. Aust.

CYDONIUM RAMULIFERUM Chapman & Crespin, 1934.

Cydonium ramuliferum Chapman & Crespin, 1934, p. 112, pl. 6, fig. 5*.

GSWA 1/3973 **Holotype.**

Hamersley River District, E. of Albany;
Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

DACTYLOCALYX CALLODISCUS Carter, 1871; Laubenfels, 1953.

Dactylocalyx callodiscus Carter, Laubenfels, 1953, p. 111, text fig. 6*.

UWA 23843 Hypotype.

Phillips River area, 20 miles S. of Ravens-thorpe, W. of Eyre Range; Plantagenet Beds.

Eocene.

Univ. W. Aust.

DISCODERMIA RETEPIORA Chapman & Crespin, 1934.

Discodermia retepora Chapman & Crespin, 1934, p. 113, pl. 7, fig. 10*.

GSWA 1/3904 Holotype.

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

DISCODERMIA TABELLIFORMIS Chap-man & Crespin, 1934.

Discodermia tabelliformis Chapman & Crespin, 1934, p. 113, pl. 7, figs. 7*, 8*.

GSWA 1/3966 Holotype.

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

DISCODERMIA TUMULOSA Chapman & Crespin, 1934.

Discodermia tumulosa Chapman and Crespin, 1934, p. 114, pl. 8, fig. 10*.

GSWA 1/3903 Holotype.

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

ECIONEMA GLAUERTI Chapman & Crespin, 1934.

Ecionema glauerti Chapman & Crespin, 1934, p. 111, pl. 6, fig. 2*.

GSWA H5 Holotype.

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

LAUBENFELSIA AUSTRALIENSIS Howell, 1956a.

Laubenfelsia australiensis Howell, 1956a, p. 33, pl. 3, figs. 1*, 2*.

UWA 36401 Holotype.

UWA 36402 Paratype (not figured).

$\frac{1}{2}$ mile E. of Bogadi Outcamp, Byro Stn, Wooramel R. District, Carnarvon Basin; ?Byro Group.

Lower Permian.

Univ. W. Aust.

NEDLANDSIA CLARKEI Laubenfels, 1953.

Nedlandsia clarkei Laubenfels, 1953, p. 113, text-fig. 8*, A, B.

UWA 23846B Holotype.

Phillips R. area, 20 miles S. of Ravensthorpe, W. of Eyre Range; Plantagenet Beds.

Eocene.

Univ. W. Aust.

NEOSIPHONIA FUNGIFORMIS Chapman & Crespin, 1934.

Neosiphonia fungiformis Chapman & Crespin, 1934, p. 114, pl. 8, figs. 11, 12; pl. 9, fig. 13.

GSWA F510 Holotype (Simpson Coll.) (pl. 8, figs. 11, 12).

Clay pit near racecourse, Albany; Plantagenet Beds.

GSWA. 1/3984 Paratype (pl. 9, fig. 13).

Hamersley River District, E. of Albany; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

NEOSIPHONIA GLAUERTI Chapman & Crespin, 1934.

Neosiphonia glauerti Chapman & Crespin, 1934, p. 115, pl. 9, fig. 14*.

GSWA 1/3991 Holotype.

Hamersley River District, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

PARAMELONELLA ETHERIDGEI Howell, 1956a.

Paramelonella etheridgei Howell, 1956a, p. 30, pl. 2, figs. 1*, 2*.

UWA 36595 Holotype.

N. bank, Minilya R., E. limb of syncline, W. of Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

PARAMELONELLA LATA Howell, 1956a.

Paramelonella lata Howell, 1956a, p. 31, pl. 2, figs. 3*, 4*.

UWA 36396 Holotype.

UWA 36397, 36398 Paratypes (not figured).

N. bank, Minilya R., E. limb of syncline W. of Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

PARAMORPHOSPONGIA GLOBOSA Howell, 1956a.

Paramorphospongia globosa Howell, 1956a, p. 34, pl. 2, fig. 11*.

UWA 21183 Holotype.

SE. corner, Mt. Marmion, Kimberley Downs Stn, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

PHYMAPLECTIA STEREA Laubenfels, 1953.

Phymaplectia sterea Laubenfels, 1953, p. 111, text-figs. 5, A*-C*.

UWA 23848 Holotype.

Phillips R. area, 20 miles S. of Ravensthorpe W. of Eyre Range; Plantagenet Beds.

Eocene.

Univ. W. Aust.

PLATYCHONIA TERTIARIA Chapman & Crespín, 1934.

Platychonia tertiaria Chapman & Crespín, 1934, p. 117, pl. 10, fig. 21*.

GSWA 1/3990 Holotype.

Hamersley River District, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

PLEROMA MIOCENEA Laubenfels, 1953.

Pleroma miocenea Laubenfels, 1953, p. 110, text-figs. 4A*, B*.

UWA 23846A Holotype.

Phillips River area, 20 miles S. of Ravensthorpe, W. of Eyre Range; Plantagenet Beds.

Eocene.

Univ. W. Aust.

RAGADINIA PLACENTIFORMIS Chapman & Crespín, 1934.

Ragadinia placentifformis Chapman & Crespín, 1934, p. 116, pl. 10, fig. 20*.

GSWA 1/3981 Holotype.

Hamersley River District, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

SPHAEROSPONGIA TEICHERTI Howell, 1956.

Sphaerospongia teichertii Howell, 1956, p. 2, pl. 1, figs. 1-4.

UWA 36391 Holotype (Figs. 2, 3).

UWA 36389, 36390 Paratypes (Figs. 1, 4).

In Napier Range, W. Kimberley District, lat. 17° 04' 54" S., long. 124° 35' 48" E. near northern edge of Desert Basin; Napier Formation.

Middle-Upper Devonian.

Univ. W. Aust.

STACHYSPONGIA NEOCLAVELLATA (Chapman & Crespín), Laubenfels, 1953.

See **THAMNOSPONGIA NEOCLAVELLATA** Chapman & Crespín, 1934; **THAMNOSPONGIA SUBGLABRA** Chapman & Crespín, 1934.

Thamnospongia neoclavellata Chapman & Crespín, 1934, p. 115, pl. 9, fig. 16.

Thamnospongia subglabra Chapman & Crespín, 1934, p. 116, pl. 9, figs. 17, 18, pl. 10, fig. 19.

Stachyspongia neoclavellata (Chapman & Crespín), Laubenfels, 1953, p. 108, text-figs. 2A*, B*.

UWA 23732 Hypotype.

Phillips River area, 20 miles S. of Ravensthorpe, W. of Eyre Range, South Coast Area; Plantagenet Beds.

Eocene.

Univ. W. Aust.

STRIATASPONGIA CYLINDRICA Howell, 1957.

Striataspongia cylindrica Howell, 1957, p. 1, figs. 1-3.

UWA 36392 Holotype (Fig. 1).

UWA 36393, 36394 Paratypes (Figs. 2, 3).

In Napier Range, W. Kimberley District, near N. edge of Desert Basin, at lat. 17° 04' 54" S., long. 124° 35' 48" E.; Napier Formation.

Middle-Upper Devonian.

Univ. W. Aust.

STYLOPEGMA INCERTAE Howell, 1956a.

Stylopegma incertae Howell, 1956a, p. 33, pl. 2, figs. 5*-7*.

UWA 36400 Holotype (Figs. 5, 6, 7).

S. bank, Minilya R., W. limb of syncline, W. of Coolkilya Pool, Carnarvon Basin; Quinlanie Shale.

Lower Permian.

Univ. W. Aust.

STYLOPEGMA SINGULARIS Howell, 1956a.

Stylopegma singularis Howell, 1956a, p. 32, pl. 3, figs. 8*, 9*, 10*.

UWA 36399 Holotype.

N. bank, Minilya R., E. limb of syncline, W. of Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

THAMNOSPONGIA NEOCLAVELLATA Chapman & Crespin 1934. See **STACHYSPONGIA NEOCLAVELLATA** (Chapman & Crespin), Laubenfels, 1953.

Thamnospongia neoclavellata Chapman & Crespin, 1934, p. 115, pl. 9, fig. 16*.

GSWA H19 Holotype.

Hamersley River area, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

THAMNOSPONGIA SUBGLABRA Chapman & Crespin, 1934. See **STACHYSPONGIA NEOCLAVELLATA** (Chapman & Crespin), Laubenfels, 1953.

Thamnospongia subglabra Chapman & Crespin, 1934, p. 116, pl. 9, figs. 17, 18; pl. 10, fig. 19.

GSWA H1 Holotype (fig. 17).

GSWA H17 Paratype (fig. 18).

Hamersley River area, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

THECOSIPHONIA LOBOSA Chapman & Crespin, 1934.

Thecosiphonia lobosa Chapman & Crespin, 1934, p. 115, pl. 9, fig. 15*.

GSWA 1/3969 Holotype.

Hamersley River District, E. of Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

TRAGALIMUS AMECHANUS Laubenfels, 1953.

Tragalimus amechanus Laubenfels, 1953, p. 112, text-fig. 7*.

UWA 23840 Holotype.

Phillips River area, 20 miles S. of Ravens-thorpe, W. of Eyre Range, South Coast Area; Plantagenet Beds.

Eocene.

Univ. W. Aust.

VERRUCULINA ALBANYENSIS Chapman & Crespin, 1934.

Verruculina albanyensis Chapman & Crespin, 1934, p. 117, pl. 11, fig. 22*.

GSWA 1/4134 Holotype.

Hill, 1 mile from Waring Hstd, Albany, South Coast Area; Plantagenet Beds.

Eocene.

Geol. Surv. W. Aust.

ZOSTEROSPONGIA THAUMASTA Laubenfels, 1953.

Zosterospongia thaumasta Laubenfels, 1953, p. 109, text-figs. 3A, B.

UWA 2341B Holotype (text-fig. 3A).

Phillips River area, 20 miles S. of Ravens-thorpe, W. of Eyre Range, South Coast Area; Plantagenet Beds.

Eocene.

Univ. W. Aust.

ANNELIDA

AMPHICTENE? PERMIANA Parr, 1942.

Amphictene? permiana Parr, 1942, p. 109, pl. 2, fig. 5*.

UWA 20672 Holotype.

S. side, Minilya R., near Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Quinnanite Shale.

Lower Permian.

Univ. W. Aust.

CONCHOTREMA TENUIS Teichert, 1945.

Conchotrema tenuis Teichert, 1945, p. 207, pl. 2, fig. 3*.

UWA 21321 Holotype.

Syncline W. of Coolkilya Pool, Minilya R., Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CONCHOTREMA TUBULOSA Teichert, 1945.

Conchotrema tubulosa Teichert, 1945, p. 204, pl. 1, figs. 1, 2; pl. 2, fig. 1; pl. 3, figs. 2-4.

UWA 21319 Holotype (pl. 1, fig. 1) (not 21318 as shown in text p. 204).

Scarp, 2 miles E. of Christmas Creek Hstd, Fitzroy Basin, Noonkanbah Formation

UWA 21320 Paratype (pl. 3, fig. 4) (fig. 1 on plate).

N. of Hill C., Grant Range, Fitzroy Basin; Liveringa Formation.

UWA 21323 Paratype (pl. 2, fig. 1) (No. 8483 on plate).

2 miles ESE. of Survey Stn R. 20, Wooramel R., Byro Stn, Carnarvon Basin; Byro Group.

UWA 21325 (pl. 3, fig. 3), UWA 21441 (pl. 1, fig. 2); UWA 21330 (pl. 3, fig. 1); Paratypes. Syncline W. of Coolkilya Pool, S. bank, Minilya R., Wandagee Stn, Carnarvon Basin; Wandagee Formation.

UWA 21324 Paratype (pl. 3, fig. 3).

Wooramel R. area, near Bogadi Outcamp, Byro Stn, Carnarvon Basin; ?Byro Group.

Lower Permian.

Univ. W. Aust.

SPIRORBIS AMBIGUUS Fleming, 1825; Etheridge Jnr, 1903.

Spirorbis ambiguus Fleming, Etheridge Jnr, 1903, p. 10, pl. 3, fig. 2*.

GSWA F159 Hypotype.

Fossil Hill, Wyndham R., Gascoyne District, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

STROMATOPOROIDEA

AMPHIPORA RAMOSA (Phillips), 1841; Ripper, 1937.

Amphipora ramosa (Phillips), Ripper, 1937, p. 38, pl. 1, text-figs. 1-3.

UWA 19984 Hypotype (pl. 1, fig. 1).

UWA 40309 (text-fig. 3), transverse section.

Near Little Mt Pierre, Kimberleys, Fitzroy Basin (Wade Coll. A.422).

UWA 40307 (text-fig. 1), **UWA 40308** (text-fig. 2), longitudinal and transverse sections.

Mountain Home Spring Valley, Kimberleys, Fitzroy Basin (Wade Coll. A.412).

Upper Devonian.

Univ. W. Aust.

ANTHOZOA

ALLOTROPIOPHYLLUM sp., Hill, 1943.

Allotropiophyllum sp., Hill, 1943, p. 60, pl. 1, fig. 2.

UWA 41072 Transverse section.

Near Coolkilya Pool, Minilya Stn, Carnarvon Basin; upper part of Kennedy Group.

Lower Permian.

Univ. W. Aust.

ALVEOLITES SUBORBICULARIS Lamarck, 1801; Hill, 1939.

Alveolites suborbicularis Lamarck, Hill, 1939, p. 145, pl. 1, figs. 4a-c.

UWA 19968 Hypotype (fig. 4a).

UWA 40950 (fig. 4b), transverse section;

UWA 40951 (fig. 4c), tangential section.

10 chains E. of Trig. Stn K, Rough Range, Kimberleys, Fitzroy Basin; Pillara Formation (Wade Coll. B.94a).

Upper Devonian.

Univ. W. Aust.

AMPLEXUS PUSTULOSUS Hudleston, 1883. See **AMPLEXUS? PUSTULOSUS** Hudleston, Hill, 1937: '**AMPLEXUS**' **PUSTULOSUS** Hudleston, Hill, 1943.

AMPLEXUS? PUSTULOSUS Hudleston, Hill, 1937. See '**AMPLEXUS**' **PUSTULOSUS** Hudleston, Hill, 1943.

'AMPLEXUS' PUSTULOSUS Hudleston, Hill, 1943.

Amplexus pustulosus Hudleston, 1883, p. 591, pl. 23, figs. 1a-c.

Amplexus? pustulosus Hudleston, Hill, 1937, p. 45, pl. 1, fig. 1, text-fig. 1.

'Amplexus' pustulosus Hudleston, Hill, 1943, p. 59, pl. 1, fig. 1.

UWA 41071 Transverse section (Hill, 1943, pl. 1, fig. 1).

Near Trig. Stn K. 52, Kennedy Range, near Williambury-Middalya road, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

'AMPLEXUS' sp., Hill, 1943.

'Amplexus' sp., Hill, 1943, p. 59, pl. 2, fig. 1*.

UWA 20212 Figured specimen.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

BARRANDEOPHYLLUM CAVUM Hill, 1954.

Barrandeophyllum cavum Hill, 1954, p. 8, pl. 3, figs. 3-9.

UWA 33544 (fig. 9), transverse section.

Grey limestone with stromatoporoid reef about 150 yds. W. of Little Goniatile Hill, SE. of Rough Range, Kimberleys, Fitzroy Basin; (of Teichert, i.e. probably a hill on S. side of Virgin Hills).

Upper Devonian.

Univ. W. Aust.

BARRANDEOPHYLLUM RUBRUM Hill, 1939.

Barrandeophyllum rubrum Hill, 1939, p. 142, pl. 1, figs. 1, 2.

UWA 40953 (fig. 1a) transverse section; UWA 40954 (fig. 1b) vertical (sections of **holotype**, UWA 19970, not otherwise figured).

SE. entrance of Mountain Range Spring Valley, Rough Range, Kimberleys, Fitzroy Basin (Wade Coll. 408a); Napier Formation.

UWA 40955 (fig. 2) oblique section. (Section of paratype UWA 19971, not otherwise figured.)

Napier Range, Fitzroy Basin (Wade Coll. A.581); Napier Formation.

Upper Devonian.

Univ. W. Aust.

BARRANDEOPHYLLUM sp., Hill, 1954.

Barrandeophyllum sp., Hill, 1954, p. 9, pl. 3, fig. 11*.

UWA 33541 Transverse section.

Grey limestone with stromatoporoid reef about 150 yds. W. of Little Goniatile Hill, SE. of Rough Range, Kimberleys, Fitzroy Basin (Teichert loc.: probably a hill on S. side of the Virgin Hills); Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

CATACTOTOECHUS IRREGULARIS Hill, 1954

Catactotoechus irregularis Hill, 1954, p. 10, pl. 3, figs. 31-36.

UWA 33535 **Holotype** (not figured); sections of holotype—fig. 31a, transverse, fig. 31b, vertical.

UWA 33531 fig. 33a, transverse; fig. 33b, vertical.

UWA 33537 (fig. 34a), transverse, (fig. 34b) vertical—sections of paratype otherwise not figured).

UWA 33534 (fig. 36), transverse section;

UWA 33533 (fig. 35), transverse section: Oscar Hill, 1 mile S. of Oscar Hstd., W. Kimberleys, Fitzroy Basin; Bugle Gap Limestone.

Upper Devonian.

Univ. W. Aust.

CATACTOTOECHUS OBLIQUUS Hill, 1954.

Catactotoechus obliquus Hill, 1954, p. 11, pl. 2, figs. 30-33.

UWA 33520 **Holotype** (not figured); sections of holotype—fig. 32a, transverse, fig. 32b, vertical.

N. side of Emanuel Range, E. of Gap Creek Gap, West Kimberleys, Fitzroy Basin; Emanuel Limestone.

UWA 33524 (fig. 31); **UUWA 33527** (fig. 30), paratypes.

UWA 33526 (fig. 33a) transverse section; fig. 33b, vertical section.

Bet. Emanuel and Virgin Hill, $\frac{1}{2}$ mile from junction of fire plough road and No. 10 bore road towards Long's Well, Fitzroy Basin; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

CATACTOTOECHUS TENUIS Hill, 1954.

Catactotoechus tenuis Hill, 1954, p. 12, pl. 3, figs. 37, 38.

UWA 33529 **Holotype** (fig. 37a); sections of holotype fig. 37b, transverse, fig. 37c, vertical.

UWA 33530 Sections of unfigured paratype, fig. 38a, transverse; fig. 38b, vertical. Hill, 1 mile S. of Oscar Hstd, Fitzroy Basin; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

CLADOCHONUS STRIATUS Hill, 1943. See **MONILOPORA (?) NICHOLSONI** Etheridge Jnr, 1914, Hill, 1937.

Monilopora (?) nicholsoni Etheridge Jnr, Hill, 1937, p. 59, pl. 1, figs. 23, 24, text-figs. 10, 11.

Gladochonus striatus Hill, 1943, p. 70, pl. 2, fig. 11.

UWA 19982 **Holotype** (text-fig. 10, Hill, 1937).

UWA 19981 Paratype (text-fig. 11, Hill, 1937).

UWA 20220 Hypotype (fig. 11, Hill, 1943).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

CLISIOPHYLLUM TALBOTI Hosking, 1931.

See **VERBEEKIA TALBOTI** (Hosking), Hill, 1937; **VERBEEKIELLA TALBOTI** (Hosking), Hill, 1943.

Clisiophyllum talboti Hosking, 1931, p. 10, pl. 3, figs. 1-3.

GSWA 1/4962A **Lectotype** (figs. 1a, b) (herein proposed by I.C., June, 1963).

GSWA 1/4660 Paralectotype (figs. 3a, b, c) (herein proposed by I.C., June, 1963).

GSWA 1/4962B Paralectotype (fig. 2) (herein proposed by I.C., June, 1963).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

CYATHOPHYLLUM VIRGATUM Hinde,

1890. See **DISPHYLLUM VIRGATUM** (Hinde) Hill, 1936, 1954.

Cyathophyllum virgatum Hinde, 1890, p. 194, pl. 8, figs. 1, 2.

GSWA 4 Paralectotype (fig. 2), (herein proposed by I.C. June 1963), specimen from which Hill (1936) cut sections (pl. 1, figs. 2, 3).

Opposite Mt Krauss, Fitzroy Basin.

Upper Devonian.

Geol. Surv. W. Aust.

DISPHYLLUM CURTUM Hill, 1954.

Disphyllum curtum Hill, 1954, p. 22, pl. 2, fig. 8.

UWA 33518 **Holotype** (unfigured); Sections of holotype, fig. 8a, transverse, fig. 8b, vertical.

Section S. of Mt Wilson, W. Kimberleys, Fitzroy Basin; lower part of Pillara Formation.

Upper Devonian.

Univ. W. Aust.

DISPHYLLUM DEPRESSUM (Hinde), 1890, Hill, 1936.

Cyathophyllum depressum Hinde, 1890, p. 195, pl. 8, figs. 2a, b.

Disphyllum depressum (Hinde), Hill, 1936, p. 28, pl. 1, figs. 4-8.

UWA 40318 Median vertical section (fig. 8).

Price's Creek, N. of bore, Rough Range, Kimberleys, Fitzroy Basin; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

DISPHYLLUM GOLDFUSSI (Geinitz), Hill, 1954.

Disphyllum goldfussi (Geinitz), Hill, 1954, p. 18, pl. 2, figs. 11, 12, 28.

UWA 33523 Transverse section (fig. 28).

Between Emanuel Range and Virgin Hills, W. Kimberleys, Fitzroy Basin, $\frac{1}{4}$ mile from junction of fire plough road and No. 10 Bore road towards Long's Well; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

DISPHYLLUM INTERTEXTUM Hill, 1954.

Disphyllum intertextum Hill, 1954, p. 22, pl. 3, fig. 1.

UWA 33517 **Holotype** (not figured); sections of holotype, fig. 1a, transverse; fig. 1b, vertical.

Paddy's Spring, N. side, Emanuel Range, W. Kimberleys, Fitzroy Basin; Mt Pierre Group.

Upper Devonian.

Univ. W. Aust.

DISPHYLLUM VIRGATUM (Hinde), Hill, 1936, 1954. See **CYATHOPHYLLUM VIRGATUM** Hinde, 1890.

Cyathophyllum virgatum Hinde, 1890, p. 194, pl. 8, figs. 1, 2.

Disphyllum virgatum (Hinde), Hill, 1936, p. 288, pl. 1, figs. 1-3.

Disphyllum virgatum (Hinde), Hill, 1954, p. 19, pl. 2, figs. 3-5.

GSWA 4 Sections (Hill, 1936).

Opposite Mt. Krauss, Fitzroy Basin.

Upper Devonian.

Geol. Surv. W. Aust.

DISPHYLLUM sp. (**D. VIRGATUM** var.?) Hill, 1954.

Disphyllum sp. (*D. virgatum* var.?) Hill, 1954, p. 20, pl. 2, fig. 27.

UWA 33521 Transverse section (fig. 27a); vertical section (fig. 27b).

N. side of Emanuel Range, E. of Gap Creek Gap, W. Kimberleys, Fitzroy Basin; *Atrypa* beds.

Upper Devonian.

Univ. W. Aust.

EURYPHYLLUM MINUTUM Hill, 1937

Euryphyllum minutum Hill, 1937, p. 52, pl. 1, figs. 8-11, text-fig. 5.

UWA 19983 **Holotype** (text-fig. 5).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R. district, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

EURYPHYLLUM REIDI Hill, 1937; 1943.

Euryphyllum reidi Hill, 1937, p. 50.

Euryphyllum reidi Hill, Hill, 1943, p. 61, pl. 1 fig. 3, pl. 2, fig. 2.

UWA 20213 Hypotype (pl. 2, fig. 2).

UWA 41073 Section (pl. 1, fig. 3).

N. side, Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

EURYPHYLLUM TRIZONATUM Hill, 1937.
Euryphyllum trizonatum Hill, 1937, p. 51, pl. 1, fig. 7; text-fig. 4.

UWA 199743 **Holotype** (text-fig. 4).

UWA 40958 Transverse section (pl. 1, fig. 7).

Fossil Cliff, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

?EURYPHYLLUM sp., Hill, 1943.

?Euryphyllum sp., Hill, 1943, p. 62, pl. 1, fig. 4*.

UWA 41074. Transverse section.

E. limb of syncline, W. of Coolkilya Pool, Minilya R., Carnarvon Basin; Quinlanie Shale.

Lower Permian.

Univ. W. Aust.

FAVOSITES MARMIONENSIS Etheridge Jnr, 1914. See **THAMNOPORA MARMIONENSIS** (Etheridge Jnr.), Hill, 1937.

Favosites marmionensis Etheridge Jnr 1914, p. 13, pl. 1; pl. 2, figs. 2-4; pl. 8, fig. 2.

GSA F492 **Lectotype** (pl. 1, fig. 1) (herein proposed, I.C., June, 1963).

GSA F493 Paralectotype (pl. 2, figs. 2, 3) (herein proposed, I.C., June, 1963).

GSA F494 Paralectotype (pl. 2, fig. 4) (herein proposed, I.C., June, 1963).

Mt Marmion, Kimberley District, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

FAVOSITES sp., Hill, 1943.

Favosites sp., Hill, 1943, p. 65, pl. 2, fig. 5*.

UWA 20216 Figured specimen.

12 chns from Stn F., N. of Minilya R., Wandagee Stn, Carnarvon Basin; Wandagee Formation

Lower Permian.

Univ. W. Aust.

HEXAGONARIA BREVILAMELLATA (Hill), Hill 1954. See **PRISMATOPHYLLUM BREVILAMELLATUM** Hill, 1936.

Prismatophyllum brevilmellatum Hill, 1936, p. 3, text-fig. 6-8.

Hexagonaria brevilmellata (Hill), Hill, 1954, p. 15, pl. 1, figs. 12, 13; pl. 2, fig. 1.

UWA 40313 (pl. 2, fig. 1b) Vertical section of **Holotype**.

UWA 40315 (pl. 2, fig. 1a) Transverse section.

Price's Creek, Emanuel (Rough) Range, Fitzroy Basin; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

METRIOPHYLLUM sp., Hill, 1939.

Metriophyllum sp., Hill, 1939, p. 144, pl. 1, fig. 3*.

UWA 40952 Transverse section.

SE. entrance to Mountain Home Spring Valley, Rough Range, Kimberleys, Fitzroy Basin (Wade Coll. A.408b).

Upper Devonian.

Univ. W. Aust.

MONILOPORA NICHOLSONI Etheridge Jnr, 1914.

Monilopora nicholsoni Etheridge Jnr, 1914, p. 14, pl. 1, figs. 2-4; pl. 7, fig. 4.

GSA F506 **Lectotype** (pl. 1, fig. 2) (herein proposed, I.C., June, 1963).

GSA F507 Paralectotype (pl. 1, fig. 3) (herein proposed, I.C., June, 1963).

GSA F508 Paralectotype (pl. 1, fig. 4) (herein proposed, I.C., June, 1963).

Mt Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

MONILOPORA ?NICHOLSONI Etheridge Jnr, Hill, 1937. See **CLADOCHONUS STRIATUS** Hill, 1943.

Monilopora ?nicholsoni Etheridge Jnr, Hill, 1937, p. 59, pl. 1, figs. 23, 24; text-figs. 10, 11.

UWA 19982 Figured specimen (text-figs. 10, 11).

UWA 40966 (pl. 1, fig. 23) Vertical section.

UWA 40961 (pl. 1, fig. 24) Transverse section.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

PENECKIELLA TEICHERTI Hill, 1954.

Peneckiella teichertii Hill, 1954, p. 25, pl. 2, fig. 29.

UWA 33515 Sections of **holotype**, fig. 29a, transverse; fig. 29b, vertical.

Reef about 6.6 miles from Mt Pierre Well, on Old Bohemia Road, W. Kimberley, Fitzroy Basin; Sadler Formation.

Upper Devonian.

Univ. W. Aust.

PHILLIPSASTRAEA DELICATULA Hill, 1936.

Phillipsastraea delicatula Hill, 1936, p. 30, text-figs. 4, 5.

GSWA 6924 Transverse section of **holotype**, text-fig. 4.

WAM 4435 Median vertical section, text-fig. 5.

Barker Gorge, Napier Range Crossing, Fitzroy Basin.

Upper Devonian.

Geol. Surv. W. Aust.; W. Aust. Mus.

PLEROPHYLLUM AUSTRALE Hinde, 1890; Etheridge Jnr, 1907b; Hosking, 1931; Hill, 1937.

Plerophyllum australe Hinde, 1890, p. 96, pl. 8A, figs. 1a-f.

Plerophyllum australe Hinde, Etheridge Jnr, 1907b, p. 27, pl. 7, fig. 1; pl. 8, fig. 10.

Plerophyllum australe Hinde, Hosking, 1931, p. 11, pl. 3, figs. 4-6.

Plerophyllum australe Hinde, Hill, 1937, p. 49, pl. 1, figs. 3-6, text-fig. 3.

GSWA F267A Hypotypes. Etheridge Jnr, pl. 7, fig. 1.

GSWA F267B, pl. 8, fig. 10.

UWA 40963 Vertical section (Hill, pl. 1, fig. 4) of hypotype UWA 19977.

UWA 40964 Transverse section (pl. 1, fig. 5) of hypotype UWA 19978.

UWA 40965 Transverse section (pl. 1, fig. 3) of hypotype UWA 19979.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

GSWA 1/4700 (Hosking, pl. 3, fig. 4) Hypotype.

UWA 8501 (Hosking, pl. 3, fig. 5) Hypotype.

S. bank, Wooramel R., below Callytharra Springs, Carnarvon Basin; Callytharra Formation.

UWA 8491 (Hosking, pl. 3, fig. 6) Hypotype.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

PLEROPHYLLUM SULCATUM Hinde, 1890.

Plerophyllum sulcatum Hinde, 1890, p. 197, pl. 8A, figs. 2*, 2a*.

GSWA 41 **Holotype** (by monotypy).

Fossil Cliff, Irwin, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust.

PLEROPHYLLUM sp., Hill, 1943.

Plerophyllum sp., Hill, p. 62, pl. 2, fig. 3*.

UWA 20214 Figured specimen.

Fossiliferous horizon E. of Coolkilya Pool, Minilya R., Carnarvon Basin; upper part of Byro Group.

Lower Permian.

Univ. W. Aust.

PRISMATOPHYLLUM BREVILAMELLATUM Hill, 1936. See **HEXAGONARIA BREVILAMELLATA** (Hill) Hill, 1954.

Prismatophyllum brevilamellatum Hill, 1936, p. 32, text-figs. 6-8.

UWA 2515 **Holotype** (text-fig. 6, transverse section; text-figs. 7, 8 median vertical sections).

Price's Creek, Rough Range, Kimberleys, Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

SYRINGOPORA RETICULATA var.
PATULA Hinde 1890. See **SYRINGOPORA**
PATULA Hinde, Hill, 1936.

SYRINGOPORA PATULA Hinde, Hill, 1936.
Syringopora reticulata var. *patula* Hinde, 1890,
p. 198, pl. 8, fig. 4.
Syringopora patula Hinde, Hill, 1936, p. 36,
pl. 1, figs. 15, 16.

GSWA 10054 **Lectotype** (Hill, 1936), figs.
15, 16, transverse section of holotype; fig.
16, vertical section.

?Mt Krauss, Fitzroy Basin.

Upper Devonian.

Geol. Surv. W. Aust.

TACHYLASMA DENSUM Hill, 1937.
Tachylasma densum Hill, 1937, p. 53, text-
fig. 12*.

UWA 19975 **Holotype** (unfigured).
UWA 40961 text-fig. 12; section of Holo-
type.

Third band, Liveringa Beds, N. of Hill
C., Freney Oil area, Fitzroy Basin (Wade
Coll. B. 126a).

Lower Permian.

Univ. W. Aust.

TACHYLASMA sp., Hill, 1937.
Tachylasma sp., Hill, 1937, p. 53, pl. 1,
fig. 12*.

GSWA 1/4978 Figured specimen.
Creek, $\frac{1}{2}$ mile W. of Callytharra Springs,
Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

THAMNOPORA ANGUSTA Lecompte, 1939;
Hill, 1954.

Thamnopora angusta Lecompte, Hill, 1954,
p. 30, pl. 2, fig. 15*.

UWA 33502 Hypotype.

First escarpment S. of No. 10 Bore, about $\frac{1}{3}$
mile N. of main reef limestone, E. of Gap
Creek Gap, Fitzroy Basin; Pillara Formation.

Upper Devonian.

Univ. W. Aust.

THAMNOPORA BOLONIENSIS (Gosselet),
Hill, 1954. See **THAMNOPORA** cf.
DUBIA (Blainville), Hill, 1939.

Thamnopora cf. *dubia* (Blainville) Hill, 1939,
p. 146, pl. 1, figs. 5a-d.

Thamnopora boloniensis (Gosselet), Hill, 1954,
p. 30, pl. 2, figs. 16-18.

UWA 33500 Hypotype (fig. 16).

Between small hills near Long's Well and reef
limestone, W. Kimberleys, Fitzroy Basin;
Pillara Formation.

Upper Devonian.

Univ. W. Aust.

THAMNOPORA IMMENSA Hill, 1937;
1943.

Thamnopora immensa Hill, 1937, p. 58, pl. 1,
figs. 21, 22; text-fig. 9.

Thamnopora immensa Hill, Hill, 1943, p. 65,
pl. 1, fig. 8; pl. 2, fig. 9.

GSWA H25A Horizontal section (pl., fig.
21); vertical section (fig. 22).

Sections taken from **holotype** (Hill, 1937), at
present missing.

2 miles E. of Selection Hstd, S. of Rough
Range, Kimberleys, Fitzroy Basin;

UWA 41069 (Hill, 1943, pl. 2, fig. 6)
Hypotype; pl. 1, fig. 8, vertical section of
hypotype.

Bulgadoo Pool, Minilya R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

THAMNOPORA INSCULPTA Hill, 1943.

Thamnopora insculpta Hill, 1943, p. 67, pl. 1,
figs. 9a-d; pl. 2, figs. 8, 9.

UWA 20218 **Holotype** (pl. 2, fig. 8).

UWA 20219 Paratype (pl. 2, fig. 9).

UWA 41078 Transverse, tangential,
medium vertical sections (pl. 1, fig. 9a-d).

Callytharra Springs, Wooramel R., Carnarvon
Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

THAMNOPORA MARMIONENSIS

(Etheridge Jnr), Hill, 1937. See **FAVOSITES MARMIONENSIS** Etheridge Jnr, 1914.

Favosites marmionensis Etheridge Jnr, 1914, p. 13, pl. 1, fig. 1; pl. 2, figs. 2-4; pl. 8, fig. 2.

Thamnopora marmionensis (Etheridge Jnr), Hill, 1937, p. 57, pl. 1, figs. 18-20; text-fig. 8.

GSWA F511 Hypotype (Hill, text-fig. 8).

GSWA F511a (pl. 1, fig. 18) transverse section.

GSWA F511b (pl. 1, fig. 19), vertical section.

GSWA F511c (pl. 1, fig. 20), tangential section.

Mt. Marmion, Kimberleys, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

THAMNOPORA aff. **MARMIONENSIS**

(Etheridge), Hill, 1943.

Thamnopora aff. *marmionensis* (Etheridge), Hill, 1943, p. 66.

UWA 20217 Figured specimen.

N.W. of Stn 23, Minilya R., Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

THAMNOPORA cf. **DUBIA** (Blainville); Hill, 1939. See **THAMNOPORA BOLONIENSIS**.

Thamnopora cf. *dubia* (Blainville), Hill, 1939, p. 146, pl. 1, figs. 5a-d.

UWA 19972 Figured specimen (fig. 5).

UWA 40956 Transverse section (fig. 5b).

UWA 40956a Vertical section (fig. 5c).

UWA 40957 (fig. 5d), vertical section.

B. 92 Trig. Stn, Rough Range, Kimberleys, Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

?THAMNOPORA sp., Hill, 1943.

? *Thamnopora* sp., Hill, 1943, p. 68, pl. 1, fig. 10; pl. 2, fig. 10.

UWA 20211 Figured specimen (pl. 2, fig. 10).

UWA 41079 section (pl. 1, fig. 10).

Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

VERBEEKIA TALBOTI (Hosking) Hill, 1937.

See **CLISIOPHYLLUM TALBOTI** Hosking, 1931, and **VERBEEKIELLA TALBOTI** (Hosking).

Clisiophyllum talboti Hosking, 1931, p. 10, pl. 3, figs. 1-3.

Verbeekia talboti (Hosking), Hill, 1937, p. 55, pl. 1, figs. 13-17; text-figs. 6, 7.

UWA 9670B Hypotype.

UWA 40959 Transverse section (fig. 14).

UWA 40960 Vertical section (fig. 15) (sections prepared from UWA 9670B).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

VERBEEKIELLA MERSA Hill, 1943.

Verbeekiella mersa Hill, 1943, p. 63, pl. 1, figs. 5, 6; pl. 2, fig. 4.

UWA 20208 **Holotype** (complete specimen not figured).

UWA 41075 Transverse section of **holotype** (pl. 1, fig. 5).

UWA 41076 Vertical section of paratype (pl. 1, fig. 6).

UWA 20215 Specimen split vertically (pl. 2, fig. 4).

N. side of Minilya R., W. of Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

VERBEEKIELLA TALBOTI (Hosking), Hill, 1943. See **CLISIOPHYLLUM TALBOTI** Hosking, 1931.

Clisiophyllum talboti Hosking, 1931, p. 10, pl. 2, figs. 1-3.

Verbeekia talboti (Hosking), Hill, 1937, pl. 55, pl. 1, figs. 13-17; text-figs. 6, 7.

Verbeekiella talboti (Hosking), Hill, 1943, p. 64, pl. 1, fig. 7.

UWA 41077 Transverse section (fig. 7).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

ZAPHRENTIS IOCOSA Hill, 1954.

Zaphrentis iocosa Hill, 1954, p. 13, pl. 2, figs. 27-30.

UWA 33509 **Holotype** (unfigured complete); vertical section of holotype, fig. 27; transverse section, fig. 27a.

UWA 33507 ?Paratype (fig. 28).

UWA 33506 Transverse sections (figs. 29a, b).

UWA 33516 Transverse section (fig. 30a), Vertical section (fig. 30b).

Tennis Court, Fossil Downs Hstd, Fitzroy Basin; Bugle Gap Limestone.

Upper Devonian.

Univ. W. Aust.

CONULARIAE

CONULARIA cf. **C. WARTHI** Waagen, 1889; Hosking, 1931; see **CONULARIA** sp. nov., Glauert, 1912b.

Conularia sp. nov., Glauert, 1912, p. 76.

Conularia cf. *C. warthi* Waagen, Hosking, 1931, p. 36, pl. 11, figs. 3-6.

GSWA 1/4645 (figs. 4, 5); GSWA 1/4695 (fig. 6) Figured specimens.

UWA 8478 Figured specimen (fig. 3).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

CONULARIA sp. nov., Glauert, 1912b.

Conularia sp. nov., Glauert, 1912b, p. 76.

WAM 1660 Specimen described, not figured.

Byro Station, Murchison R. area, Carnarvon Basin.

Lower Permian.

W. Aust. Mus.

CRINOIDEA

CALCEOLISPONGIA ABUNDANS Teichert, 1949.

Calceolispongia abundans Teichert, 1949, p. 54, pl. 1, figs. 2, 7, 12, 21; pl. 6, figs. 21, 22; pl. 8, fig. 2; pl. 9, figs. 1-6; pl. 10, figs. 1-10, 13-38; pl. 11, figs. 1, 2; pl. 12, figs. 1-42.

WAM G8501 **Holotype** (pl. 9, figs. 3-5).

UWA 22224 (pl. 9, fig. 2); UWA 22235 (pl. 12, figs. 1-42); UWA 22236 (pl. 10, figs. 5, 6); UWA 22239 (pl. 1, fig. 12); UWA 22242 (pl. 1, figs. 21, 22); UWA 22247 (pl. 6, figs. 21, 22); UWA 22262 (pl. 10, 25-30); UWA 22263 (pl. 10, 31-38); UWA 22289 (pl. 1, fig. 3); UWA 22291 (pl. 1, fig. 7); UWA 22293 (pl. 11, fig. 2). Topotypes (several figured specimens not listed but figured; others not found).

Syncline W. of Coolkilya Pool, Minilya R., Carnarvon Basin, at levels between 100 feet and 135 feet above base of *Calceolispongia* bed; Quinlanie Shale.

Lower Permian.

W. Aust. Mus.; Univ. W. Aust.

CALCEOLISPONGIA ACUMINATA

Teichert, 1949.

Calceolispongia acuminata Teichert, 1949, p. 59, pl. 3, figs. 8-35.

UWA 21538 **Holotype** (pl. 3, figs. 8-10).

UWA 21539 (pl. 3, figs. 11-35); UWA 21540 (pl. 3, figs. 26, 27); UWA 21541 (pl. 3, figs. 28, 29) Topotypes.

S. bank, Minilya R., Wandagee Stn, Carnarvon Basin, near Bulgadoo Pool. 3380 yards on bearing 250° from Boolbawardoo Windmill; probably Bulgadoo Shale.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA BARRABIDDIENSIS

Teichert, 1949.

Calceolispongia barrabiddiensis Teichert, 1949, p. 60, pl. 3, figs. 1-7.

UWA 21523 **Holotype** (pl. 3, figs. 2-4).

UWA 21521 (p. 3, fig. 1), UWA 21524 (pl. 3, figs. 5-7) Paratypes.

Bottom of shale series, E. flank, Barrabiddy Anticline, Carnarvon Basin, from fossiliferous outcrop on mud flats $\frac{1}{4}$ to $\frac{1}{2}$ mile S. of Barrabiddy Dam.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA DIGITATA Teichert, 1949.

Calceolispongia digitata Teichert, 1949, p. 61, pl. 2, figs. 1-45.

UWA 21526 Holotype (pl. 2, fig. 7).

UWA 21527 (pl. 2, figs. 1-6); UWA 21529 (pl. 2, figs. 22-30); UWA 21530 (pl. 2, figs. 31-36); UWA 21531 (pl. 2, figs. 37-45) Topotypes.

½ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA ELEGANTULA Teichert, 1949.

Calceolispongia elegantula Teichert, p. 63, pl. 1, figs. 1, 8, 13, 25; pl. 5, figs. 14-16; pl. 6, figs. 1-20, 23-80; pl. 7, figs. 1-71; pl. 8, fig. 1.

UWA 22060 Holotype (pl. 5, fig. 14).

UWA 22060a Vertical view of holotype (pl. 5, fig. 15).

UWA 22060b (pl. 5, fig. 16); UWA 22063 (pl. 6, figs. 27-80; pl. 7, figs. 1-36); UWA 22067 (pl. 7, figs. 52, 53); UWA 22068 (pl. 7, figs. 37-51); UWA 22069 (pl. 7, figs. 54-61); UWA 22072 (pl. 6, figs. 2-4); UWA 22108 (pl. 6, figs. 23-26); UWA 22238 (pl. 1, fig. 13); UWA 22240 (pl. 1, fig. 25); UWA 22288 (pl. 1, figs. 1-3); UWA 22290 (pl. 1, fig. 8) Topotypes.

WAM G8430 Topotype (pl. 6, fig. 5).

Syncline W. of Coolkilya Pool, Minilya R., Carnarvon Basin, in lowermost 80 feet of *Calceolispongia* bed. Holotype and many other specimens from horizon 10 feet above base. (Some specimens figured by Teichert not mentioned in text; some listed specimens not found.)

Lower Permian.

Univ. W. Aust.; W. Aust. Mus.

CALCEOLISPONGIA HINDEI Etheridge Jnr, 1914; Teichert, 1949.

Calceolispongia hindei Etheridge Jnr, 1914, p. 9, pl. 4, figs. 1-9; pl. 7, figs. 5, 6.

Calceolispongia hindei Etheridge Jnr, Teichert, 1949, p. 71, pl. 21, figs. 1-33; pl. 22, figs. 1-20; pl. 23, figs. 1-12, 22-31.

GSWA 10930-1 Lectotype (designated Teichert, 1949, pl. 22, figs. 7-9), Etheridge (1914, pl. 4, figs. 3, 9).

GSWA 10930-2-5 Paratypes (Etheridge, pl. 4, figs. 1, 2, 4, 5, 6, 7, 8).

GSWA 9422 Paratype (Teichert, pl. 21, figs. 25-27).

UWA 20773 (pl. 21, figs. 1-24, 28-33, pl. 22, figs. 1-6, 10-20); UWA 20774 (pl. 23, figs. 7-12); UWA 21465 (pl. 23, figs. 22-31) Topotypes.

SE. corner, Mt Marmion, close to foot of slope, Kimberley Downs Stn, Fitzroy Basin; Noonkanbah Formation.

UWA 21466 Hypotypes (pl. 23, figs. 5, 6).

About 1200 yds. N. of 50-60° E. of where road from Wandagee Woolshed to Middalya Hstd passes through fence between Mun-gadan and Nalbija Paddocks, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

CALCEOLISPONGIA MULTIFORMIS Teichert, 1949.

Calceolispongia multiformis Teichert, 1949, p. 75, pl. 1, figs. 3, 5, 10, 11, 14, 15, 17, 18, 23, 24; pl. 13, figs. 1-69; pl. 14, figs. 1-30; pl. 15, figs. 1-39; pl. 16, figs. 1-33.

UWA 22143 Holotype (pl. 15, figs. 31-33).

UWA 22145 (pl. 16, fig. 33); UWA 22147 (pl. 13, figs. 28-69; pl. 14, figs. 1-30; pl. 15, figs. 1-15); UWA 22166 (pl. 16, figs. 3-12); UWA 22197 (pl. 16, figs. 13-22); UWA 22199 (pl. 16, figs. 23-32); UWA 22201 (pl. 15, figs. 34-39); UWA 22242a,b (pl. 15, figs. 16-21); UWA 22242c,d (pl. 15, figs. 22-27) Topotypes.

W. limb of syncline W. of Coolkilya Pool, on N. bank of Minilya R., Wandagee Stn, Carnarvon Basin; Wandagee Formation.

UWA 22149 (pl. 13, figs. 1-21); UWA 22150 (pl. 13, figs. 22-27); UWA 22167 (pl. 16, figs. 1, 2) Hypotypes.

E. limb of syncline, W. of Coolkilya Pool, N. bank, Minilya R., 165 feet above base of *Calceolispongia* bed, Carnarvon Basin.

UWA 22154 (pl. 1, fig. 14); UWA 22162 (pl. 1, figs. 23, 24); UWA 22198 (pl. 1, fig. 15); UWA 22203 (pl. 1, figs. 10, 11); UWA 22237 (pl. 1, fig. 1 (3)); UWA 22241 (pl. 1, figs. 17, 18); UWA 22292 (pl. 1, figs. 5, 6) Hypotypes.

Exact position, in syncline W. of Coolkilya Pool, not stated.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA ROBUSTA Teichert, 1949.

Calceolispongia robusta Teichert, 1949, p. 80, pl. 24, figs. 1, 2.

UWA 21476 Holotype.

Near SW. corner of Wandagee Hill, in Mungadan Hill, in Mungadan Paddock, $\frac{1}{2}$ mile N. 145° E. of the SW. corner of Shed Paddock, Carnarvon Basin; Wandagee Formation.

UWA 21469 Paratype (not figured).

Near fence dividing Shed Paddock from northern part of Mungadan Paddock, 1175 yds N. of SE corner of Shed Paddock, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA ROTUNDATA Teichert, 1949.

Calceolispongia rotundata Teichert, 1949, p. 83, pl. 4, figs. 25-42; pl. 5, figs. 1-13.

UWA 21504 Holotype (pl. 4, figs. 25, 26).

UWA 21505 Paratype (not figured).

UWA 21510 (pl. 4, fig. 38; pl. 5, figs. 7-10); **UWA 21510a** (pl. 4, figs. 27-29); **UWA 21510b** (pl. 4, figs. 30-35); **UWA 21513** (pl. 4, fig. 42) Topotypes.

W. limb of syncline, W. of Coolkilya Pool, N. bank, Minilya R., Carnarvon Basin; Wandagee Formation.

UWA 21206 (pl. 4, fig. 37; pl. 5, figs. 1-6); **UWA 21507** (pl. 5, figs. 11, 12); **UWA 21515a** (pl. 4, fig. 36); **UWA 21515b** (pl. 4, fig. 41); **UWA 21515c** (pl. 4, figs. 39, 40) Hypotypes.

E. limb of syncline, W. of Coolkilya Pool, N. bank, Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA RUBRA Teichert, 1949.

Calceolispongia rubra Teichert, 1949, p. 85, pl. 10, figs. 11, 12; pl. 17, figs. 1-48; pl. 18, figs. 1-36, 44-47.

UWA 22206 Holotype (pl. 18, figs. 13-15).

UWA 22207 (pl. 18, figs. 1-12; pl. 17, figs. 1-48); **UWA 22208** (pl. 17, figs. 4-9); **UWA 22209** (pl. 18, figs. 44-47); **UWA 22210** (pl. 18, figs. 30-35); **UWA 22211** (pl. 18, figs. 11-29); **UWA 22212** (pl. 10, figs. 11, 12) Topotypes.

In ferruginous sandstone outcrops of a small E-W striking syncline approximately $\frac{1}{2}$ mile E. of Garden Outcamp, Wandagee Stn, S. of Minilya R., Carnarvon Basin; Wandagee Formation.

UWA 22214 (pl. 17, figs. 1-3); **UWA 22215** (pl. 18, fig. 36) Hypotypes.

Nalbia Paddock, 1 $\frac{1}{2}$ miles NE. of place where road from Wandagee Woolshed to Middalya goes through fence between Mungadan and Nalbia Paddocks, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA SPECTABILIS Teichert, 1949.

Calceolispongia spectabilis Teichert, 1949, p. 89, pl. 1, figs. 4, 9; pl. 18, figs. 37-43; pl. 19, figs. 1-21; pl. 20, figs. 1-2.

UWA 21519 Holotype (pl. 20, figs. 1-3).

UWA 22141a-e Paratypes (not figured).

UWA 22135 (pl. 19, figs. 1-21; pl. 20, figs. 4-12); **UWA 22137** (pl. 18, figs. 48); **UWA 22138** (pl. 1, fig. 9; pl. 18, fig. 37); **UWA 22139** (pl. 18, figs. 41-43); **UWA 22140** (pl. 18, figs. 38-40) Topotypes.

E. limb of syncline, W. of Coolkilya Pool, N. bank of Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA SPINOSA Teichert, 1949.

Calceolispongia spinosa Teichert, 1949, p. 92, pl. 2, figs. 46-72.

UWA 21533 Holotype (pl. 2, figs. 46-48).

UWA 21534 (pl. 2, figs. 51-60); UWA 21536, (pl. 2, figs. 49, 50); UWA 21535 (pl. 2, figs. 61-69); UWA 22287 (pl. 2, 70-72) Paratypes and Topotypes.

About $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA TRUNCATA Teichert, 1949.

Calceolispongia truncata Teichert, 1949, p. 93, pl. 3, figs. 36-56; pl. 4, figs. 1-21.

UWA 21545 Holotype (pl. 4, figs. 19-21).

UWA 21546 Topotype (pl. 4, figs. 1-18; pl. 3, figs. 39-50).

1100 yds SE. of Coolkilya Pool, S. side of Minilya R., Carnarvon Basin; in sandstone about 400 feet below top of Cundlego Formation.

UWA 21544 Hypotype (pl. 3, figs. 36-38).

Nalbia Paddock about 50 yards from S. side of Whitfield's Creek, a small tributary of Minilya River, $1\frac{1}{2}$ miles upstream from S. bank of Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA sp. indet. A, Teichert, 1949.

Calceolispongia sp. indet. A, Teichert, 1949, p. 95, pl. 1, figs. 19, 20; pl. 23, figs. 13-16.

UWA 21475 Figured specimen (pl. 1, figs. 19, 20).

Fault block, Coolkilya Flat, just E. of Syncline, in beds above 'Fenestella' beds, Carnarvon Basin.

UWA 21500 Figured specimen (pl. 23, fig. 16).

'Fenestella' beds, centre of syncline, W. of Coolkilya Pool, N. bank of Minilya R., Wandagee Stn.

UWA 21501 Figured specimen (pl. 23, figs. 13-15).

Near axis of syncline, W. of Coolkilya Pool, N. bank, Minilya River.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA sp. indet. B., Teichert, 1949.

Calceolispongia sp. indet. B, Teichert, 1949, p. 96, pl. 23, figs. 17, 18.

UWA 21498 Figured specimen.

300 yards E. of mouth of SE. gully of Wandagee Hill, Mungadan Paddock, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA sp. indet. C, Teichert, 1949.

Calceolispongia sp. indet. C., Teichert, 1949, p. 96, pl. 23, figs. 19, 29, 21.

UWA 21499 Figured specimen.

300 yards E. of mouth of SE. gully of Wandagee Hill, Mungadan Paddock, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA sp. indet. E., Teichert, 1949.

Calceolispongia sp. indet. E, Teichert, 1949, p. 97, pl. 4, figs. 22, 23, 24.

UWA 21520 Figured specimen.

Nalbia Paddock, $1\frac{1}{2}$ miles due E. of NE. corner of Mungadan Paddock, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

CALCEOLISPONGIA sp. indet. F., Teichert, 1949.

Calceolispongia sp. indet. F, Teichert, 1949, p. 97, pl. 2, figs. 73-76.

UWA 21522a (pl. 1, figs. 74-76); **UWA 21522b** (pl. 2, fig. 73) Figured specimens. E. flank, Barrabiddy Anticline, in fossiliferous outcrop on mud flat, $\frac{1}{4}$ to $\frac{1}{2}$ mile S. of Barrabiddy Dam, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

CRINOID STEMS, Etheridge Jnr, 1903.

Crinoid stems, Etheridge Jnr, 1903, p. 30, pl. 4, figs. 1-9.

GSWA F63A (fig. 1); GSWA F63C (fig. 3); GSWA F63D (fig. 4); GSWA F63E (fig. 5); GSWA F63F (fig. 6) Figured specimens (fig. 2 missing).

Williambury Stn, Minilya R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

MARSUPITES TESTUDINARIUS (Schlotheim); Withers, 1926.

Marsupites testudinarius (Schlotheim), Withers, 1926, p. 98, pl. 11, figs. 7-11.

WAM 3935 Hypotype (pl. 11, figs. 7, 8). Compton's Chalk, near Gingin, Perth Basin.

WAM 3939a Hypotype (plate) (pl. 11, fig. 10).

Mole Cap Hill, Gingin, Perth Basin.

WAM 4208 Hypotype (probably basal) (pl. 11, fig. 11).

Round Hill, Dandarragan, Perth Basin.

Upper Cretaceous.

W. Aust. Mus.

UINTACRINUS sp., Withers, 1924.

Uintacrinus sp., Withers, 1924, p. 15, pl. 3, figs. 8, 10.

WAM 62, 198 (pl. 3, fig. 8); WAM 62, 199 (pl. 3, fig. 10) Figured specimens.

Gingin, Perth Basin.

Upper Cretaceous.

W. Aust. Mus.

ECHINOIDEA

CIDARIS COMPTONI Glauert, 1923.

Cidaris comptoni Glauert, 1923, p. 48, pl. 3.

WAM G3775 Holotype.

Gingin, Perth Basin.

Upper Cretaceous.

W. Aust. Mus.

ECHINOID SPINES indet., Etheridge Jnr, 1913

Echinoid spines indet., Etheridge Jnr, 1913, p. 11, pl. 1, figs. 9-15.

GSWA F497 (figs. 9, 9a); GSWA F498 (figs. 10, 10a); GSWA F499 (figs. 12, 12a); GSWA F500 (13, 13a); GSWA F501 (figs. 14, 14a) Figured specimens (figs. 11, 15 missing).

One Tree Hill, Gingin, Perth Basin.

Upper Cretaceous.

Geol. Surv. W. Aust.

BRYOZOA

AETOMOCLADIA AMBROSOIDES Bretnall, 1926, Hosking 1931. See **RAMIPORA AMBROSOIDES** (Bretnall), Crockford, 1944a.

Aetomocladia ambrosoides Bretnall, 1926, p. 21, pl. 1, fig. 4; on specimen pl. 3.

Aetomocladia ambrosoides Bretnall, Hosking, 1931, p. 12, pl. 4, fig. 4.

GSWA 2/2405B Lectotype (designated Crockford: Bretnall, 1926 on specimen pl. 3).

Gascoyne R. District, Carnarvon Basin; between top of Lyons Series and top of Byro Series.

UWA 8499D Hypotype (Hosking, pl. 4, fig. 4).

Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

COSCINIUM (?) AUSTRALE Bretnall, 1926. See **HEXAGONELLA AUSTRALIS** (Bretnall) Crockford, 1944b.

Coscinium (?) australe Bretnall, 1926, p. 25, pl. 1, fig. 5; pl. 2, fig. 2.

GSWA 2/2405 Holotype.

Fossil Hill, Wyndham R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

COSCINIUM? sp. Hosking, 1931.

Coscinium? sp. Hosking, 1931, p. 12, pl. 4, fig. 5*.

UWA 8493 Figured specimen.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

EVACTINOPORA CRUCIALIS Hudleston, 1883, Etheridge Jnr, 1914. See **HEXAGONELLA (?) CRUCIALIS** (Hudleston) Etheridge Jnr, 1903; **EVACTINOSTELLA CRUCIALIS** (Hudleston) Crockford, 1957.

Evactinopora crucialis Hudleston, 1883, p. 593, pl. 23, figs. 2a-c.

Evactinopora crucialis Hudleston, Etheridge Jnr, 1914, p. 18, pl. 2, fig. 7; pl. 5, figs. 1-2.

GSWA F464 (pl. 5, fig. 1); GSWA F465 (pl. 5, fig. 2; pl. 2, fig. 7) Hypotypes (Etheridge Jnr, 1914).

Mt Marmion, Lennard R., Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

EVACTINOSTELLA CRUCIALIS (Hudleston), Crockford, 1957. See **EVACTINOPORA CRUCIALIS** Hudleston, 1883.

Evactinopora crucialis Hudleston, 1883, p. 593, pl. 23, figs. 2a-c.

Evactinostella crucialis (Hudleston), Crockford, 1957, p. 28, pl. 7, figs. 1-5.

UWA 22339B Hypotypes (pl. 7, figs. 1, 2); longitudinal section (fig. 5).

UWA 22339A Tangential section (fig. 3); section parallel to mesotheca (fig. 4).

Base of Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FENESTELLA AFFLUENZA Bretnall, 1926; Hosking, 1931. See **FENESTRELLINA AFFLUENZA** (Bretnall), Crockford, 1944a, b.

Fenestella affluenza Bretnall, 1926, p. 16, pl. 1, fig. 8; pl. 3 (pars).

Fenestella affluenza Bretnall, Hosking, 1931, p. 12.

GSWA 2/2405E pl. 3, pars.

Gascoyne River district, Carnarvon Basin; between top of Lyons Series and top of Byro Series.

Lower Permian.

Geol. Surv. W. Aust.

FENESTELLA HINDEI Crockford, 1957.

Fenestella hindei Crockford, 1957, p. 59, pl. 16, fig. 1; text-fig. 10.

UWA 2792 Holotype (text-fig. 10).

9 miles ENE. from Trig. Stn G2, St George's Range, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FENESTELLA HOROLOGIA Bretnall, 1926; Hosking, 1931. See **FENESTRELLINA HOROLOGIA** (Bretnall), Crockford, 1944a, 1944b, and **MINILYA DUPLARIS** Crockford, 1944.

Fenestella horologia Bretnall, 1926, p. 15, pl. 1, fig. 6

Fenestella horologia Bretnall, Hosking, 1931, p. 13, pl. 4, fig. 3.

GSWA 2/2450C pl. 3 (pars).

Gascoyne River district, Carnarvon Basin; between top of Lyons Series and top of Byro series.

GSWA 1/4688E Hypotype (Hosking, 1931, pl. 3, fig. 3).

Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

FENESTRELLINA AFFLUENSA (Bretnall), Crockford, 1944a, 1944b. See **FENESTRELLA AFFLUENSA** Bretnall, 1926.

Fenestella affluensa Bretnall, 1926, p. 16, pl. 1, fig. 8; pl. 3 (pars).

Fenestrellina affluensa (Bretnall), Crockford, 1944a, p. 188, pl. 1, fig. 6.

Fenestrellina affluensa (Bretnall), Crockford, 1944b, p. 158, pl. 4, fig. 10.

GSWA 2/2405E **Lectotype** (designated Crockford, 1944a, on specimen figured by Bretnall, 1926, pl. 3 (pars).

Gascoyne River District, Carnarvon Basin; between top of Lyons Series and top of Byro Series.

Lower Permian.

Geol. Surv. W. Aust.

FENESTRELLINA CACUMINATIS Crockford, 1944.

Fenestrellina cacuminatis Crockford, 1944, p. 171, text-fig. 1B*.

UWA 20944a **Holotype.**

Keevie's Well, 8 miles N. of Mt Anderson, Fitzroy Basin; Noonkanbah Formation (Coll. A. Wade).

Lower Permian.

Univ. W. Aust.

FENESTRELLINA COLUMNARIS Crockford, 1944.

Fenestrellina columnaris Crockford, 1944, p. 170, pl. 2, fig. 3; text-fig. 1, F, G.

UWA 20949 **Holotype** (pl. 2, fig. 3; text-fig. 1F, G).

Syncline on Minilya R., $\frac{1}{2}$ mile W. of Coolkilya Pool, Carnarvon Basin, Wandagee Formation.

Lower Permian.

Univ. W. Aust.

FENESTRELLINA DISJECTA Crockford, 1944.

Fenestrellina disjecta Crockford, 1944, p. 168, pl. 1, fig. 2; text-fig. 1E.

UWA 2793a **Holotype** (pl. 1, fig. 2).

UWA 2793b ?paratype (text fig. 1E).

$6\frac{1}{2}$ miles N. of Mt Anderson, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FENESTRELLINA HOROLOGIA (Bretnall) Crockford, 1944, 1944a. See **FENESTRELLA HOROLOGIA** Bretnall, 1926.

Fenestella horologia Bretnall, 1926, p. 15, pl. 1, fig. 6.

Fenestella horologia Hosking, 1931 (*non* Bretnall), p. 13, pl. 4, fig. 3.

Fenestrellina horologia (Bretnall), Crockford, 1944, p. 167, pl. 1, figs. 3, 5.

Fenestrellina horologia (Bretnall), Crockford, 1944a, p. 189, pl. 1, fig. 1; pl. 2, fig. A.

GSWA 2/2405C ? **Lectotype** (designated Crockford, 1944a, on specimen figured by Bretnall, 1926, pl. 3).

Gascoyne River district, Carnarvon Basin; between top of Lyons Series and top of Byro Series.

UWA 20942 Hypotype (Crockford, 1944, pl. 1, figs. 3, 6).

Keevie's Well, 8 miles N. of Mt Anderson, Fitzroy Basin, Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

FENESTRELLINA LENNARDI Crockford, 1944.

Fenestrellina lennardi Crockford, 1944, p. 171, text-fig. 1A*.

UWA 20948a **Holotype.**

S. side of Mt Marmion, Kimberleys, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FENESTRELLINA RUIDACARINATA Crockford, 1944.

Fenestrellina ruidacarinata Crockford, 1944, p. 169, pl. 2, figs. 1*, 2*.

UWA 2757a **Holotype.**

9 miles ENE. from Trig. Stn G2, St George's Range, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FENESTRELLINA VALENTIS Crockford, 1944.

Fenestrellina valentis Crockford, pl. 1, fig. 4*.

UWA 2793c Holotype.

6½ miles N. of Mt Anderson, Fitzroy Basin;
Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FISTULAMINA LATA Crockford, 1957.

Fistulina lata Crockford, 1957, p. 21, pl. 4,
figs. 6, 7; text-fig. 3*.

UWA 22337 Longitudinal section.

0.65 miles from Trig. Stn 248, Meeda Stn,
Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FISTULIPORA COMPACTA Crockford, 1944b.

Fistulipora compacta Crockford, 1944b, p. 145, text-figs. 3, 4.

UWA 22129 Holotype (external not figured).

UWA 41190 Text-fig. 3, tangential section of **holotype**.

UWA 41191 Text-fig. 4, vertical section.
Syncline W. of Coolkilya Pool, Minilya R.,
Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

FISTULIPORA CONICA Crockford, 1944b.

Fistulipora conica Crockford, 1944b, p. 147,
text-figs. 9, 10.

UWA 22130 Holotype (external not figured).

UWA 41192 Text-fig. 9, tangential section of **holotype**.

UWA 41193 Text-fig. 10, vertical section.
E. limb of syncline, W. of Coolkilya Pool,
Minilya R., Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

FISTULIPORA CRESCENS Crockford, 1944b.

Fistulipora crescens Crockford, 1944b, p. 143,
pl. 4, fig. 1; text-figs. 7, 8.

UWA 22123a Holotype (external not figured).

UWA 41177 Text-fig. 7, tangential section of **holotype**.

UWA 41178 Text-fig. 8, vertical section.

UWA 22123b Hypotype (pl. 4, fig. 1).

SE. side of Mt Marmion, near foot of slope,
Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FISTULIPORA GIGANTEA Crockford, 1944b.

Fistulipora gigantea Crockford, 1944b, p. 147, text-figs. 11, 12.

UWA 22127 Holotype (external not figured).

UWA 41186 Text-fig. 11, tangential section of **holotype**.

UWA 41187 Text-fig. 12, vertical section.

About 8 chains E. of foot of Wandagee Hill,
NE. of South-Western Gully, Carnarvon
Basin; Coolkilya Greywacke.

Lower Permian.

Univ. W. Aust.

FISTULIPORA VACUOLATA Crockford, 1944b.

Fistulipora vacuolata Crockford, 1944b, p. 143, text-figs. 1, 2.

UWA 22126 Holotype (external not figured).

UWA 41184 Text-fig. 1, tangential section of **holotype**.

UWA 41185 Text-fig. 2, vertical section.

E. side of Mt Marmion, near gully from
saddle, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

FISTULIPORA WADEI Crockford, 1944b.

Fistulipora wadei Crockford, 1944b, p. 145, text-figs. 5, 6.

UWA 22124 Holotype (external not figured).

UWA 41180 Text-fig. 6, tangential section of **holotype**.

UWA 41179 Text-fig. 5, vertical section.

SE. side of Mt. Marmion, near foot of slope, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

GONIOCLADIA TIMORENSIS Bassler, 1929; Crockford, 1944b.

Goniocladia timorensis Bassler, Crockford, 1944b, p. 157, pl. 5, fig. 8.

UWA 2757e Hypotype (Crockford, fig. 8).

9 miles ENE. from Trig. Stn G.2, St George's Range, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA AUSTRALIS (Bretnall), Crockford, 1944b. See **COSCINIUM (?) AUSTRALE** Bretnall, 1926.

Coscinium (?) australe Bretnall, 1926, p. 25, pl. 1, fig. 5; pl. 2, fig. 2.

Hexagonella australis (Bretnall), Crockford, 1944b, p. 149, pl. 4, fig. 3; text-figs. 13-16.

GSWA 2/2405 Holotype (Bretnall, 1926; refigured Crockford, pl. 4, fig. 3).

GSWA F512a, b Text-figs. 13, 15 (Crockford) transverse sections.

GSWA F512c Text-fig. 14 (Crockford), tangential section.

GSWA F512d Text-fig. 16 (Crockford), vertical section. (All sections from **holotype**.)

Fossil Hill, Wyndham R., Carnarvon Basin, Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

HEXAGONELLA BIFIDA Crockford, 1944b.

Hexagonella bifida Crockford, 1944b, p. 154, text-figs. 19-20a.

UWA 22132 Holotype (external not figured).

UWA 41194 Text-fig. 19, vertical section of **holotype**.

UWA 41195 Text-fig. 20, tangential section.

UWA 41196 Text-fig. 20a, tangential section near centre.

Just N. of Hill C., Grant Range, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA Densa Crockford, 1944b.

Hexagonella densa Crockford, 1944b, p. 151, pl. 4, fig. 2; text-figs. 21-22a.

UWA 22131 Holotype (pl. 4, fig. 2).

UWA 41199 Text-fig. 21, transverse section of **holotype**.

UWA 41200 Text-fig. 22, tangential section outer part of zoarium.

UWA 41201 Text-fig. 22a, tangential section near centre.

Lowest fossil horizon, Barrabiddy Anticline, 3500 feet, below base of Wandagee Beds, 20 chns, S. of Barrabiddy Dam, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA NALBIA Crockford, 1944b.

Hexagonella nalbia Crockford, 1944b, p. 153, text-figs. 27, 28.

UWA 22133 Holotype (external not figured).

UWA 41197 Text-fig. 27, transverse section of **holotype**.

UWA 41198 Text-fig. 28, tangential section.

Nalbia Paddock, about 4 mile E. of where road from Wandagee Woolshed to Middalya passes through the fence between Mungadan and Nalbia paddocks, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA PLANA Crockford, 1944b.

Hexagonella plana Crockford, 1944b, p. 155, text-figs. 17-18a.

UWA 22125 Holotype (external not figured).

UWA 41181 Text-fig. 17, vertical section of **holotype**.

UWA 41182 Text-fig. 18, tangential section, outer part of zoarium.

UWA 41183 Text-fig. 18a, tangential section near centre.

SE. side of Mt Marmion, near foot of slope, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA UNDULATA Crockford,

Hexagonella undulata Crockford, 1944b, p. 154, text-figs. 25, 26.

UWA 22128 Holotype (external not figured).

UWA 41188 Text-fig. 25, transverse section of **holotype**.

UWA 41189 Text-fig. 26, tangential section.

Coolkilya Paddock, 6 chns N. of a point 96 chns W. (along fence) of the SE. corner ('Quinnanie Corner') of Paddock, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

HEXAGONELLA (?) CRUCIALIS

(Hudleston), Etheridge Jnr, 1903. See **EVACTINOPORA CRUCIALIS** Hudleston, 1883.

Evactinopora crucialis Hudleston, 1883, p. 593, pl. 23, figs. a-c.

Hexagonella (?) crucialis (Hudleston), Etheridge Jnr, 1903, p. 19, pl. 3, fig. 1.

LYROPORA (?) ERKOSOIDES Etheridge Jnr MS., in Bretnall, 1926. See **LYROPORA ERKOSOIDES** (Etheridge Jnr), Crockford, 1944a.

LYROPORA ERKOSOIDES (Etheridge Jnr), Crockford, 1944a.

Lyropora (?) erkosoides Etheridge Jnr MS., in Bretnall, 1926, p. 11, pl. 2 figs. 1, 4.

Lyropora erkosoides (Etheridge Jnr), Crockford, 1944a, p. 191, pl. 1, fig. 2; pl. 2, fig. B.

GSWA 2/2404 ?Lectotype (designated Crockford, pl. 1, fig. 2; Bretnall, pl. 2, figs. 1, 4).

Well 20, Daurie Creek, Gascoyne R. district, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

MINILYA DUPLARIS Crockford, 1944.

non *Fenestella horologia* Bretnall, 1926, p. 15, pl. 1, fig. 6.

'*Fenestella horologia* Bretnall', Hosking, 1931, p. 13, pl. 4, fig. 3.

Minilya duplaris Crockford, 1944, p. 173, pl. 1, figs. 5, 7; text-figs. 1C, D.

UWA 2793d Holotype (Crockford, pl. 1, figs. 5, 7).

6½ miles N. of Mt Anderson, Fitzroy Basin, Noonkanbah Formation.

UWA 41214 Text-fig. 1, C, D, sections of hypotype.

Calceolispongia bed, (H.4), Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

MINILYA PRINCEPS Crockford, 1944.

Minilya princeps Crockford, 1944, p. 174, pl. 1, fig. 1*.

UWA 20945 Holotype.

Keevie's Well, 8 miles N. of Mt Anderson Hstd, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

POLYPORA AUSTRALIS Hinde 1890.

Polypora australis Hinde, 1890, p. 199, pl. 8a, figs. 3*, 3a*.

GSWA 59 Holotype (by monotypy).

Gascoyne River area, Carnarvon Basin.

Lower Permian.

W. Aust. Mus.

POLYPORA FOVEA Crockford, 1944.

Polypora fovea Crockford, 1944, p. 175, pl. 3, figs. 1, 3.

UWA 20947 **Holotype** (fig. 1).

UWA 20946 Paratype (fig. 3).

Keevie's Well, 8 miles N. of Mt Anderson, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

POLYPORA RETIFICIS Crockford, 1944.

Polypora retificis Crockford, 1944, p. 176, pl. 2, fig. 4*.

UWA 20951 **Holotype.**

Syncline on Minilya R., $\frac{1}{2}$ mile W. of Coolkilya Pool, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

POLYPORA WOODSI (Etheridge Jnr), 1892; Crockford 1941; 1944.

Polypora woodsi (Etheridge Jnr), Crockford, 1941, p. 414, pl. 18, fig. 1.

Polypora woodsi (Etheridge Jnr), Crockford, 1944, p. 177, pl. 3, fig. 2.

UWA 20943 Hypotype (Crockford, 1944, pl. 3, fig. 2).

Keevie's Well, 8 miles N. of Mt Anderson Hstd, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

POLYPORA sp. nov. indet., Crockford, 1944.

Polypora sp. nov. indet., Crockford, 1944, p. 178, pl. 2, fig. 5*.

UWA 2095a Figured specimen.

Scarp 2 miles E. of Christmas Creek Hstd, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

RAMIPORA AMBROSOIDES (Bretnall), Crockford, 1944a. See **AETOMOCLADIA AMBROSOIDES** Bretnall, 1926.

Aetomocladia ambrosoides Bretnall, 1926, p. 21, pl. 1, fig. 4; on specimen pl. 3.

Ramipora ambrosoides (Bretnall), Crockford, 1944a, p. 193, pl. 1, figs. 3-5; pl. 2, figs. C-F.

GSWA 2/2405 **Lectotype** (designated Crockford, pl. 1, fig. 4; Bretnall, on specimen pl. 3 (pars)).

Gascoyne R. district, Carnarvon Basin; between top of Lyons Series and top of Byro Series.

UWA 2793e Hypotype (pl. 1, fig. 5).

UWA 2793e (slide coll. 41208), pl. 2, fig. E.

UWA 2793f (slide coll. 41209) pl. 2, fig. F, vertical sections.

UWA 2793g (slide coll. 41210) pl. 2, fig. C, longitudinal section—Camera lucida drawings.

6 $\frac{1}{2}$ miles N. of Mt Anderson, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

RHABDOMESON BISPINOSA Crockford, 1944b.

Rhabdomeson bispinosa Crockford, 1944b, p. 167, text-fig. 47.

GSWA 2/2405F **Holotype** on specimen.

Text-fig. 47, oblique section of **holotype**.

Fossil Hill, Wyndham R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

RHABDOMESON MAMMILLATUM (Bretnall), Crockford, 1944b, 1957. See **RHOMBOPORA MAMMILLATA** Bretnall, 1926.

Rhombopora mammillata Bretnall, 1926, p. 24, pl. 1, fig. 2.

Rhabdomeson mammillata (Bretnall), Crockford, 1944b, p. 166, pl. 5, fig. 14; text-figs. 39-41.

GSWA: Specimen 2 on 10930c. **Lectotype** (Crockford, 1944b, pl. 5, fig. 14).

UWA 41202 Text-fig. 39, transverse section of hypotype.

UWA 41204 text-fig. 30, vertical section.

UWA 41204, tangential section.

Mt. Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

RHABDOMESON MAMMILLATUM (Bretnall), var. nov.? Crockford, 1957.

Rhabdomeson mammillatum (Bretnall), var. nov.? Crockford, 1957, p. 74, pl. 20, figs. 1-3.

UWA 22336D Figured specimen (fig. 3).

UWA 22336E Figured specimen (fig. 2).

$\frac{1}{2}$ mile E. of fence, Duchess Ridge, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Univ. W. Aust.

RHOMBOPORA MAMMILLATA Bretnall, 1926. See **RHABDOMESON MAMMILLATUM** (Bretnall), Crockford, 1944b, 1957.

Rhombopora mammillata Bretnall, 1926, p. 24, pl. 1, fig. 2.

GSWA Specimen 2 on 10930c **Lectotype**
(see Crockford, 1944b).

Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.

RHOMBOPORA MULTIGRANULATA Bretnall, 1926; Hosking, 1931, Crockford, 1944b. See **SAFFORDOTAXIS MULTIGRANULATA** (Bretnall), Crockford, 1957.

Rhombopora multigranulata Bretnall, p. 25, pl. 1, fig. 3.

non *Rhombopora multigranulata* Bretnall, Crockford, 1944b, p. 167, pl. 5, figs. 13, text-figs. 35-36.

GSWA Specimen 3 on 10930c **Holotype**
(Bretnall, pl. 1, fig. 3); confirmed by Crockford, 1944b, pl. 5, fig. 13, text-fig. 35).

GSWA Specimen 3 on 10930a **Paratype**
(Crockford, 1944b, text-fig. 36).

Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

GSWA Specimen B on 1/4688 **Hypotype**
(Hosking, 1931) (see Crockford, 1944b).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

SAFFORDOTAXIS MULTIGRANULATA (Bretnall), Crockford, 1957. See **RHOMBOPORA MULTIGRANULATA** Bretnall, 1926.

Saffordotaxis multigranulata (Bretnall)
Crockford, 1957, p. 76.

STENOPORA sp.A., Etheridge Jnr, 1914.

Stenopora sp.A., Etheridge Jnr, 1914, p. 20, pl. 2, figs. 5, 6; pl. 8, figs. 3, 4.

GSWA F466 Figured specimen (pl. 2, figs. 5, 6)

Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.

STENOPORA sp.B., Etheridge Jnr, 1914.

Stenopora sp.B., Etheridge Jnr, 1914, p. 21, pl. 3, fig. 1; pl. 8, fig. 5.

GSWA F467 Figured specimen (pl. 3, fig. 1).

20 miles N. of Barrabiddy, Minilya R., Carnarvon Basin.

Permian.

Geol. Surv. W. Aust.

STREBLASCOPEPORIA MARMIONENSIS (Etheridge Jnr) Crockford, 1957. See **STREBLOTRYPA MARMIONENSIS** Etheridge Jnr (in Bretnall), 1926.

Streblotrypa marmionensis Etheridge Jnr (in Bretnall), 1926, p. 22, pl. 2, fig. 3; pl. 1, fig. 7, non fig. 1.

Streblascopora marmionensis (Etheridge Jnr), Crockford, 1957, p. 80.

STREBLOTRYPA MARMIONENSIS

Etheridge Jnr (in Bretnall), 1926 Hosking, 1931; Crockford, 1944b. See **STREBLAS-COPORA MARMIONENSIS** (Etheridge Jnr), Crockford, 1957.

Streblotrypa marmionensis Etheridge Jnr MS. (in Bretnall), 1926, p. 22, pl. 2, fig. 3; pl. 1, fig. 7, *non* fig. 1.

Streblotrypa marmionensis Etheridge Jnr, Hosking, 1931, p. 14, pl. 4, fig. 1, text-fig. 1.

Streblotrypa marmionensis Etheridge Jnr, Crockford, 1944b, p. 168, pl. 5, figs. 10, 11, Text-figs. 31-34.

UWA 41205 Text-fig. 31, vertical section.

UWA 41206 Text-fig. 33, transverse section.

UWA 41207 Text-fig. 34, tangential section (Crockford, 1944b).

GSWA 10930 Text-fig. 32, surface of specimen. (Crockford, 1944b.)

Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

SULCORETEPORA (?) MERIDIANUS

Etheridge Jnr (in Bretnall), 1926; Hosking, 1931. See '**SULCORETEPORA**' **MERIDIANUS** Etheridge Jnr, Crockford, 1944b.

'SULCORETEPORA' MERIDIANUS
(Etheridge Jnr), Crockford, 1944b.

Sulcoretepora (?) *meridianus* Etheridge Jnr MS. (in Bretnall), 1926, p. 19, pl. 1, fig. 9.

'*Sulcoretepora*' *meridianus* (Etheridge Jnr), Crockford, 1944b, p. 156, pl. 4, fig. 6; text-figs. 29, 30.

GSWA Specimen 15 on 10930a. Holotype
(Bretnall, pl. 1, fig. 9) (refigured Crockford, pl. 4, fig. 6).

Text-figs. 29-30, sections of **holotype**.

Mt Marmion, Fitzroy Basin; Noonkanbah Formation.

Lower Permian.

Geol. Surv. W. Aust.

SYNOCLADIA SPINOSA Crockford, 1944b.

Synocladia spinosa Crockford, 1944b, p. 165, pl. 5, figs. 1*, 2*.

UWA 22134a Holotype.

UWA 22321 Paratype (not figured).

8 ch from Stn H.5, towards H.12, on traverse along S. bank of Whitfield's Ck, (a side branch of Minilya R.), Washpool Paddock, Wandagee Stn, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

BRACHIOPODA

ATHYRIS MACLEAYANA Etheridge Jnr, 1889; Foord, 1890. See **CLEIOTHYRIS MACLEAYANA** (Etheridge Jnr), Etheridge Jnr, 1903, 1914; Hosking, 1931.

Athyris macleayana Etheridge Jnr, 1889, p. 208, pl. 17, figs. 1-5.

Athyris macleayana Etheridge Jnr, Foord, 1890, p. 149, pl. 7, fig. 3 and wood cuts B, C, (*non* A).

GSWA 18a Hypotypes (Foord, wood-cuts B, C).

Gascoyne R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

ATRYPA ASPERA (Schlotheim); Hosking, 1933c. See **ATRYPA ASPERA PRIDERI** Coleman, 1951, 1952; **SPINATRYPA ASPERA PRIDERI** (Coleman), Veevers, 1959.

Atrypa aspera (Schlotheim), Hosking, 1933c, p. 71, pl. 7, figs. 1a-c, 2

GSWA 1/5207 Hypotype (figs. 1a-c).

Menyou Gap, Rough Range, Fitzroy Basin, long. 135° 31', lat. 18° 24'; Pillara Limestone.

Upper Devonian.

Geol. Surv. W. Aust.

ATRYPA ASPERA PRIDERI Coleman, 1951, 1952. See **SPINATRYPA ASPERA PRIDERI** (Coleman) Veevers, 1959.

Atrypa aspera Hosking, 1933 (*non* Schlotheim), p. 71, pl. 7, figs. 1a-c, 2

Atrypa aspera prideri Coleman, 1951, p. 684, pl. 102, figs. 1-17.

Atrypa aspera prideri Coleman, 1952, p. 861.

UWA 261261 **Holotype** (pl. 102, figs. 1-5).

UWA 26126k Paratype (not figured).

E. side of N. entrance to Menyau Gap, Rough Range, Fitzroy Basin; *Atrypa* Limestone.

UWA 26261a Paratype (pl. 102, fig. 6).

UWA 26261c Paratype (pl. 102, figs. 9, 10).

Between small hills near Long's Well and reef limestone, Fitzroy Basin; Sadler Formation.

UWA 43292 a-g Hypotypes (pl. 102, figs. 11-17).

Upper part of Minilya R., Williambury Stn, near eastern margin of Carnarvon Basin; Gneudna Formation.

Upper Devonian.

Univ. W. Aust.

ATRYPA DESQUAMATA Sowerby; Hosking, 1933c. See **ATRYPA DESQUAMATA KIMBERLEYENSIS** Coleman, 1951, 1952; Veevers, 1959.

Atrypa desquamata Sowerby, Hosking, 1933c, p. 72, pl. 7, figs. 3a-c, 4a-b.

GSWA 1/5209 (figs. 3a, c); **GSWA 10032** (figs. 4a, b) Hypotypes.

Menyau Gap, Rough Range, Fitzroy Basin, long. 135° 31', lat. 18° 25'; Pillara Limestone.

Upper Devonian

Geol. Surv. W. Aust.

ATRYPA DESQUAMATA KIMBERLEYENSIS Coleman, 1951, 1952; Veevers, 1959. See **ATRYPA DESQUAMATA** Sowerby, Hosking, 1933c; **ATRYPA MULTIMODA** Coleman 1951; **ATRYPA PARVA** Coleman, 1951, 1952 (pars).

Atrypa desquamata Sowerby, Hosking, 1933c, p. 72, pl. 7, figs. 3a-c, 4a-b.

Atrypa desquamata kimberleyensis Coleman, 1951, p. 683, pl. 101, figs. 9-19.

Atrypa desquamata kimberleyensis Coleman, 1952, p. 861.

Atrypa desquamata kimberleyensis Coleman, Veevers, 1959, p. 119, pl. 15, fig. 3, text-fig. 73.

UWA 26247a **Holotype** (Coleman, 1951, pl. 101, figs. 7-11).

UWA 26553b (Coleman, 1951, figs. 12-16);

UWA 26550c (fig. 18); **UWA 26553n** (fig. 19) Paratypes.

Outcrops at No. 10 Bore, Rough Range area, Kimberleys, Fitzroy Basin.

UWA 26247d Paratype (Coleman, 1951, pl. 101, fig. 17).

Long's Well area, Fitzroy Basin; Sadler Formation.

Upper Devonian.

Univ. W. Aust.

ATRYPA MULTIMODA Coleman, 1951, 1952. See **ATRYPA DESQUAMATA KIMBERLEYENSIS** Coleman, 1952; Veevers, 1959.

Atrypa multimoda Coleman, p. 682, pl. 100, figs. 11-18; pl. 101, figs. 1-6.

Atrypa multimoda Coleman, Coleman, 1952, p. 861.

UWA 26645d **Holotype** (Coleman, 1951, pl. 100, figs. 11-15).

UWA 26645f Paratype (Coleman, 1951, pl. 100, figs. 16-18).

N. end of Menyau Gap, Rough Range area, Fitzroy Basin; *Atrypa* Limestone.

UWA 26553a Paratype (Coleman, 1951, pl. 101, figs. 16-18).

Locality 2 miles ENE. of Gap Creek Gap, South-East Rough Range, Fitzroy Basin; *Atrypa* Limestone.

UWA 26645b Paratype (Coleman, 1951, pl. 101, fig. 6).

Outcrop at No. 10 Bore, Rough Range area, Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

ATRYPA PARVA Coleman, 1951, 1952. See **ATRYPA DESQUAMATA KIMBERLEY-ENSIS** Coleman, 1951, 1952; Veevers, 1959. **SPINATRYPA ASPERA PRIDERI** (Coleman), Veevers, 1959.

Atrypa parva Coleman, 1951, p. 685, pl. 102, figs. 18-29.

Atrypa parva Coleman, 1952, p. 861.

UWA 29294a **Holotype** (Coleman, 1951, pl. 102, figs. 18-22).

UWA 26294c **Paratype** (Coleman, pl. 102, figs. 25-27).

UWA 26292d **Paratype**: UWA 26293a, b, d, e **Paratypes** (not figured).

Low hill of yellow limestone, 1½ miles SW. of Long's Well, Fitzroy Basin; *Atrypa* Limestone.

Upper Devonian.

Univ. W. Aust.

ATRYPA RETICULARIS TEICHERTI Coleman, 1951, 1952; Veevers, 1959.

Atrypa reticularis Linnaeus, Foord, 1890, p. 100, a, b.

Atrypa reticularis teichertii Coleman, 1951, p. 681, pl. 100, figs. 1-10.

Atrypa reticularis teichertii Coleman, Coleman, 1952, p. 681.

UWA 26273c **Holotype** of subspecies (Coleman, 1951, pl. 100, figs. 1-5).

UWA 26893a **Paratype** of subspecies (Coleman, pl. 100, figs. 6-10).

2 miles E. of No. 10 Bore, Rough Range area, Kimberleys, Fitzroy Basin; base of *Atrypa* Limestone.

Upper Devonian.

Univ. W. Aust.

ATRYPA sp., Hosking, 1933c.

Atrypa sp., Hosking, 1933c, p. 73, pl. 7, fig. 5*.

GSWA 1/5210 **Figured specimen.**
Menyou Gap, Rough Range, Fitzroy Basin,
long. 135° 31', lat. 18° 25'.

Upper Devonian.

Geol. Surv. W. Aust.

ATRYPA n. sp., Coleman, 1951.

Atrypa n. sp., Coleman, 1951, p. 687, pl. 102, figs. 30-32.

UWA 26123c **Figured specimen** (pl. 102, fig. 30, 31, ?32).

W. side of N. entrance to Menyau Gap, Fitzroy Basin; *Atrypa* Limestone.

Upper Middle Devonian.

Univ. W. Aust.

AULOSTEGES BARACOODENSIS Etheridge Jnr, 1903, 1914; Hosking, 1933, Coleman, 1957.

Aulosteges baracoodensis Etheridge Jnr, 1903, p. 22, pl. 2, figs. 1-2a.

Aulosteges baracoodensis Etheridge Jnr, Etheridge, 1914, p. 33, pl. 4, figs. 11, 12, 13.

Aulosteges baracoodensis Etheridge Jnr, Hosking, 1933, pl. 33, pl. 1, figs. 1a-c; pl. 2, figs. a, b.

Aulosteges baracoodensis Etheridge Jnr, Coleman, 1957, p. 36, pl. 1, figs. 1, 3, 4, 6.

GSWA F473 **Hypotype** (Etheridge Jnr, 1914, pl. 4, figs. 11, 13); **GSWA F474** **Hypotype** (Etheridge Jnr, 1914, pl. 4, fig. 12).

Baracooda Pool, Arthur R., Carnarvon Basin.

UWA 10496 **Hypotype** (Coleman, pl. 1, fig. 1, 3).

Fossil Cliff, Irwin River, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

AULOSTEGES FAIRBRIDGEI Coleman, 1957.

Aulosteges fairbridgei Coleman, 1957, p. 40, pl. 2, figs. 5-12.

UWA 29438f **Holotype** (pl. 2, figs. 7-10).

UWA 29438b **Paratype** (pl. 2, figs. 5, 6); **Paratypes** UWA 29438a, e (not figured).

Near Tutu windmill, Nerrima Ck, Luluigui-Myrooda area, Fitzroy Basin; Liveringa Formation, Hardman Member.

UWA 29201 **Paratype** (not figured).

W. side of Mt Cedric, Fitzroy Basin; Liveringa Formation, Hardman Member.

Upper Permian.

Univ. W. Aust.

AULOSTEGES INGENS Hosking, 1931; Coleman, 1957.

Aulosteges ingens Hosking, 1931, p. 17, pl. 5, figs. 1a-c; pl. 6, figs. 2a-c.

Aulosteges ingens Hosking, Coleman, 1957, p. 43, pl. 3, figs. 1-10.

GSWA 1/5000 Lectotype (designated Coleman, 1957, pl. 3, figs. 1-4; Hosking, pl. 5, figs. 1a-c).

GSWA 1/4955 Lectoparatype (Coleman, 1957, pl. 3, figs. 6, 8; Hosking, pl. 6, figs. 2a-c).

Bed in bank of Mooramel R., 3 miles abv. R.20, Carnarvon Basin; lower part of Byro Group, above Callytharra Formation.

UWA 32027 Figured specimen (latex cast) (Coleman, pl. 3, fig. 9).

S. flank of ridge just E. of Mt Cedric, Fitzroy Basin; Liveringa Formation, Hardman Member.

Lower to Upper Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

AULOSTEGES LYNDONENSIS Coleman, 1957.

Aulosteges lyndonensis Coleman, 1957, p. 46, pl. 4, figs. 1-10.

UWA 34431, 34432 Paratypes (not figured).

N. bank of Lydon R., No. of Round Hill, 8½ miles E. of Mia Mia Hstd, Carnarvon Basin; recorded as base of Bulgadoo Shale but probably Coyrie Formation.

Lower Permian.

Univ. W. Aust.

AULOSTEGES RECLINIS Coleman, 1957.

Aulosteges reclinis Coleman, 1957, p. 38, pl. 1, figs. 2, 5, 7, 8, 10; pl. 2, figs. 1-4; pl. 6, fig. 1.

UWA 31190 Holotype (pl. 1, figs. 5, 7, 8, 10).

4 miles N. of Mt James on boundary fence between Nerrima and Kalyeeda Stations, Fitzroy Basin; Liveringa Formation, Hardman Member.

UWA 31191 Paratype (not figured).

1 mile S. of Terrigan Hole, Nerrima Creek, Fitzroy Basin; Liveringa Formation, Hardman Member.

UWA 32025a Figured specimen (limonitic cast) (pl. 6, fig. 1).

S. flank of ridge just E. of Mt Cedric, Fitzroy Basin; Liveringa Formation, Hardman Member.

Upper Permian.

Univ. W. Aust.

AULOSTEGES SPINOSUS Hosking, 1931, Prendergast, 1943, Coleman, 1957.

Aulosteges spinosus Hosking, 1931, p. 17, pl. 3, figs. 7a-d.

Aulosteges spinosus Hosking, Prendergast, 1943, p. 28, pl. 4, figs. 7-10.

Aulosteges spinosus Hosking, Coleman, 1957, p. 49, pl. 5, figs. 1-9, 11, 12.

GSWA 1/4687 Holotype (Hosking, pl. 3, figs. 7a-d).

S. bank, Wooramel R. below Callytharra Springs, Carnarvon Basin; Callytharra Formation.

UWA 27288 Hypotype (Coleman, pl. 5, figs. 11, 12).

W. side of syncline, S. of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; lower part of Wandagee Formation.

UWA 34433 Hypotype (Coleman, pl. 5, figs. 1-3).

Glendevon Hstd, Woolaga Ck E. of Mingenew, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust; Univ. W. Aust.

AULOSTEGES sp., Hosking, 1933a

Aulosteges sp., Hosking, 1933a, p. 37, pl. 1, figs. 2a*, b*.

UWA 10492 Figured specimen.

Luluigui Stn, Fitzroy Basin; high in Liveringa Formation.

Upper Permian.

Univ. W. Aust.

AULOSTEGES sp. indet. A., Coleman, 1957.
Aulosteges sp. indet. A., Coleman, 1957, p. 51,
pl. 5, figs. 19*, 20*, 21*.

UWA 28114A Figured specimen.

9 chains W. of red sandstone *Calceolispongia*
horizon, SW. of Wandagee Hill, Minilya R.
area, Carnarvon Basin; Coolkilya
Greywacke.

Lower Permian.

Univ. W. Aust.

BOUCHARDIELLA CRETACEA (Etheridge
Jnr); Elliott, 1952. See **MAGASELLA**
CRETACEA Etheridge Jnr, 1913.

Magasella cretacea Etheridge Jnr, 1913, p. 16,
pl. 2, figs. 9-12.

Bouchardiella cretacea (Etheridge Jnr), Elliott,
1952, p. 9, pl. 2, figs. 14*-21*.

UWA 42084 Hypotypes.

Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CAMAROTOECHIA EGANENSIS Veevers,
1959a. See **CAMAROTOECHIA PLEURO-**
RODON (Phillips) var. **TRIPLA** Prender-
gast, 1935.

Camarotoechia eganensis Veevers, 1959a, p. 9,
pl. 3, figs. 4-7, text-fig. 4.

CAMAROTOECHIA LUCIDA Veevers,
1959. See **CAMAROTOECHIA PLEURO-**
RODON (Phillips) Prendergast, 1935.

Camarotoechia pleurodon (Phillips) Prender-
gast, 1935, p. 19, text-fig. 4.

Camarotoechia lucida Veevers, 1959, p. 88, pl.
10, figs. 1-11, text-figs. 49-54

CAMAROTOECHIA PLEURODON
(Phillips), 1836; Prendergast, 1935. See
CAMAROTOECHIA LUCIDA Veevers,
1959.

Camarotoechia pleurodon (Phillips), Prender-
gast, 1935, p. 19, text-fig. 4.

UWA 2771 Hypotypes (text-fig. 4).

Fossil Downs Stn, Margaret R., Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

CAMAROTOECHIA PLEURODON
(Phillips) var. **TRIPLA** Prendergast, 1935.
See **CAMAROTOECHIA EGANENSIS**
Veevers, 1959a.

Camarotoechia pleurodon (Phillips) var.
tripla Prendergast, 1935, p. 20, pl. 2, figs.
1-6.

Camarotoechia eganensis Veevers, 1959a, p. 9,
pl. 3, figs. 4-7; text-fig. 4.

UWA 2515 Type specimen of var.
(Prendergast, pl. 2, figs. 1-6) (reported miss-
ing by Veevers, 1959a).

12 miles SW. of Oscar Range Hstd, 120 miles
ESE. of Derby, Fitzroy Basin; Laurel For-
mation.

Lower Carboniferous.

Univ. W. Aust.

CAMAROTOECHIA sp. indet. 1, Veevers,
1959.

Camarotoechia sp. indet. 1, Veevers, 1959, p.
94, pl. 10, figs. 12-21, text-fig. 55.

UWA 26712a (pl. 10, figs. 12-16); UWA
26712b (pl. 10, figs. 17-21) Figured
specimens.

S. of van Emmerick Range, Teichert's loc.
F.33, 17° 04' S., 124° 36' E., Fitzroy
Basin; Napier Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

CHONETES PRATTI Davidson, 1859;
Etheridge Jnr, 1907.

Chonetes pratti Davidson, Etheridge Jnr,
1907b, p. 31, pl. 8, fig. 2; pl. 9, fig. 7; pl. 10,
fig. 2.

GSWA F266 Hypotype (pl. 9, fig. 7)
Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

CLEIOTHYRIDINA ROYSII l'Ev. var.
PENTA Prendergast, 1935.

Cleiothyridina roysii l'Ev. var. *penta* Prender-
gast, 1935, p. 24, pl. 2, figs. 13-15.

UWA 3039 Holotype of var. (by mono-
typy) (pl. 2, figs. 13-15).

Luluigui Stn, Fitzroy Basin; Liveringa Forma-
tion.

Lower to Upper Permian.

Univ. W. Aust.

CLEIOTHYRIS MACLEAYANA (Etheridge Jnr), Etheridge Jnr, 1903, 1914; Hosking, 1931. See **ATHYRIS MACLEAYANA** Etheridge Jnr; Foord, 1890.

Cleiothyris macleayana (Etheridge Jnr), Etheridge Jnr, 1903, p. 16, pl. 3, figs. 10-20.

Cleiothyris macleayana (Etheridge Jnr), Etheridge Jnr, 1914, p. 23, pl. 1, fig. 7.

GSWA F165A (fig. 11) GSWA F165B (figs. 13, 14), GSWA F165C (figs. 15-15a), GSWA F165D (fig. 18), GSWA F165E (fig. 19).

Hypotype (Etheridge, 1903, specimens found). W. boundary Williambury Stn, Carnarvon Basin.

GSWA F505 Hypotype (Etheridge, 1914, pl. 1, fig. 7), Mt Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

CLEIOTHYRIS MACLEAYANA (Etheridge Jnr), var. **BARACOODENSIS** Etheridge Jnr, 1903.

?*Athyris macleayana* Etheridge Jnr, Foord, 1890, p. 150, Fig. A (*non* B, C).

Cleiothyris macleayana var. *baracoodensis* Etheridge Jnr, 1903, p. 17, pl. 3, fig. 5-9.

GSWA F179A (figs. 5, 8, 9) herein proposed as **type specimen** of var. (I.C., 1963).

GSWA F179B (fig. 6), GSWA F179C (fig. 7), Hypotypes Baracooda Pool, Arthur R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

COMPOSITA SUBTILITA (Hall); Prendergast, 1935.

Composita subtilita (Hall), Prendergast, 1935, p. 18, pl. 3, figs. 4*, 5*.

UWA 2507 Hypotype.

12 miles W. of Oscar Range Hstd, about 120 miles ESE. of Derby, Kimberleys, Fitzroy Basin.

Lower Permian.

Upiv. W. Aust.

CYRTOSPIRIFER sp., Thomas & Dickins, 1954.

Cyrtospirifer sp., Thomas & Dickins, p. 48, fig. 2.

GSWA 4693 Figured specimens from core. Fig. 2A, B, C, views of pedicle valve of incomplete specimen. Fig. 2D, E, another specimen.

Pelican Hill (Carnarvon) Bore, 9 miles W. of Carnarvon, Carnarvon Basin, at 1446-1496 feet.

Upper Devonian.

Geol. Surv. W. Aust.

DERBYIA sp. Etheridge Jnr, 1914. See **DERBYIA** cf. **B. SENILIS** Phillips, Hosking, 1933 = **PERMORTHOTETES GUPPYI** Thomas, 1958.

Derbyia sp., Etheridge Jnr, 1914, p. 35, pl. 7, figs. 1, 2.

GSWA F475 Figured specimen (fig. 1).

GSWA F476 Figured specimen (fig. 2), Mt. Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

DERBYIA cf. **DERBYIA SENILIS** Phillips, Hosking, 1933b. See **DERBYIA** sp. Etheridge Jnr 1914 = **PERMORTHOTETES GUPPYI** Thomas, 1958.

Derbyia sp., Etheridge Jnr, 1914, p. 35, pl. 7, figs. 1, 2.

Derbyia cf. *D. senilis* Phillips, Hosking, 1933b, p. 44, pl. 5, figs. 6, 7.

GSWA F475 Figured specimen (fig. 6), see Etheridge, fig. 1 Mt Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

DICTYOCLOSTUS CALLYTHARRENSIS Prendergast, 1943; **DICTYOCLOSTUS (?ANTIQUATONIA) CALLYTHARRENSIS** Prendergast, Coleman, 1957.

Productus semireticulatus Martin, Etheridge Jnr, 1903, p. 18, pl. 2, figs. 3-5.

Dictyoclostus callytharrensensis Prendergast, 1944, pl. 13, pl. 1, figs. 1*-7; pl. 2, fig. 1.

Dictyoclostus (?*Antiquatonia*) *callytharrens*
Prendergast, Coleman, 1957, p. 54, pl. 6,
figs. 3-14.

GSWA 1/4967b Lectotype (designated
Coleman, 1957, pl. 6, figs. 9, 10) Prender-
gast, pl. 1, figs. 1, 3).

GSWA 1/4967a Lectoparatype (designated
Coleman, 1957, pl. 6, figs. 4-7, 8, 11, 13)
Prendergast, pl. 1, fig. 6.

½ mile W. of Callytharra Springs, Wooramel
R., Carnarvon Basin; Callytharra Formation.

GSWA 1/4654 Hypotype (Prendergast, pl.
1, figs. 2, 5) S. bank of Wooramel R., ½ mile
above Callytharra Springs; Callytharra
Formation.

UWA 12400 Hypotype (Prendergast, pl.
1, figs. 4, 7).

Fossil Cliff, Irwin R., Perth Basin, Fossil Cliff
Formation.

UWA 2945a Latex cast (Coleman, pl. 6,
fig. 12)

1.4 miles S. of gate in 4th fence on road from
Merlinleigh to Moogooree Stn, Carnarvon
Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

DICTYOCLOSTUS CALLYTHARRENSIS
var. **WADEI** Prendergast, 1943; **DICTYO-**
CLOSTUS WADEI Prendergast, Coleman,
1957.

Dictyoclostus callytharrens var. *wadei*
Prendergast, 1943, p. 16, pl. 2, figs. 2, 3, 4.

Dictyoclostus wadei Prendergast, Coleman,
1957, p. 59, pl. 7, figs. 7-10.

UWA 20453 Holotype (Prendergast, pl. 1,
figs. 2-4); Coleman, pl. 7, figs. 7, 10.

2 miles E. 10° S. of Mt Nicholson, Fitzroy
Basin; Noonkanbah Formation.

UWA 28696a Hypotype (Coleman, pl. 7,
fig. 8).

UWA 28696b Hypotype (Coleman, pl. 7,
fig. 9).

Just S. of Trig. Stn 243, Fitzroy Basin; Noon-
kanbah Formation.

Lower Permian.

Univ. W. Aust.

DICTYOCLOSTUS GRATIOSUS (Waagen),
1884; Prendergast, 1943. See **MAR-**
GINIFERA GRATIODENTALIS (Grabau),
1934; Coleman, 1957.

DICTYOCLOSTUS SPIRALIS (Waagen),
Prendergast, 1943. See **DICTYOCLOSTUS**
(?ANTIQUATONIA) MAGNUS Coleman,
1957.

DICTYOCLOSTUS WADEI Prendergast
Coleman, 1957. See **DICTYOCLOSTUS**
CALLYTHARRENSIS var. **WADEI**
Prendergast, 1943.

DICTYOCLOSTUS (?ANTIQUATONIA)
CALLYTHARRENSIS Prendergast, Cole-
man, 1957. See **DICTYOCLOSTUS**
CALLYTHARRENSIS Prendergast, 1943.

DICTYOCLOSTUS (?ANTIQUATONIA)
MAGNUS Coleman, 1957.

Dictyoclostus spiralis (Waagen), Prendergast,
1943, p. 18, pl. 2.

Dictyoclostus (?Antiquatonia) magnus Cole-
man, 1957, p. 57, pl. 7, figs. 1-6.

UWA 32021 Paratype (Coleman, pl. 7,
fig. 1).

4 miles SSE. of junction of S. branch and
main Minilya R., Williambury Stn, Carnar-
von Basin; Callytharra Formation.

UWA 32022 Paratype (Coleman, pl. 7,
figs. 4, 5, 6).

Just S. of Trig. K.52, Half-way along road
between Middalya and Williambury Stns,
Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

DIELASMA CYMBAEFORMIS (Morris),
1845; Hosking, 1931.

Dielasma cymbaeformis (Morris), Hosking,
1931, p. 21, pl. 6, figs. 1a-d.

GSWA 1/4644 Hypotype (Hosking, pl. 6,
fig. 1a-d).

2 miles ESE. of Survey Stn R.20, Wooramel
R., Carnarvon Basin; Byro Group.

Lower Permian.

Geol. Surv. W. Aust.

DIELASMA NOBILIS Etheridge Jnr, 1907a.
Dielasma nobilis Etheridge Jnr, 1907a, p. 16,
pl. 4, figs. 2-4; pl. 6, figs. 1, 2.

GSWA F229A Lectotype (herein chosen,
I.C. 1963), pl. 4, figs. 2, 3, 4.

GSWA F229B Figured specimen, pl. 6,
figs. 1, 2).

Mingenew, Irwin R. area, Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

DIELASMA TRIGONOPSIS Hosking, 1933b.
Dielasma trigonopsis Hosking, 1933b, p. 44,
pl. 3, figs. 1a-c; pl. 4, figs. 1a-b, 2.

GSWA 1/4950 Lectotype (Hosking, pl. 3,
figs. 1a-c) chosen by K. S. W. Campbell
(9/7/63), who is revising the genus
Dielasma.

GSWA 1/4950A (Hosking, pl. 4, figs. 1a, b)
Paratype.

2 miles almost due E. of Survey R.20,
Wooramel R., Carnarvon Basin; Madeline
Formation.

GSWA 1/5241 (Hosking, pl. 4, fig. 2), Para-
type.

Between Callytharra road and No. 2 Bore
road about 5 miles from Bogadi, Wooramel
R.; Upper Madeline Formation or base of
Bogadi Formation.

GSWA 1/5232 (Hosking, text-fig. 1). Sec-
tions of specimen.

2 miles SE. of Madeline Hill, Wooramel R.;
Madeline Formation.

Lower Permian.

Geol. Surv. W. Aust.

ETHERIDGINA MUIRWOODAE Prender-
gast, 1943. See **ETHERIDGINA? MUIR-
WOODAE** Coleman, 1957; **STROPHA-
LOSIA** sp., Etheridge Jnr, 1914.

ETHERIDGINA (?) MUIRWOODAE
Prendergast, Coleman, 1957.

Strophalosia sp. Etheridge Jnr, 1914, p. 34,
pl. 5, figs. 16-18.

Etheridgina muirwoodae Prendergast, 1943,
p. 54, pl. 6, figs. 14, 15.

Etheridgina (?) muirwoodae Prendergast, Cole-
man, 1957, p. 109, pl. 17, figs. 6-11.

UWA 27469 Hypotype (Coleman, pl. 17,
fig. 6).

NE. side of syncline N. of Minilya R., just
W. of Coolkilya Pool, Wandagee Stn, Car-
narvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

HYPOTHYRIDINA MARGARITA Veevers,
1959. See **RHYNCHONELLA CUBOIDES**
Sow., Foord, 1890.

Rhynchonella cuboides Sowerby, Foord, 1890,
p. 102, pl. 5, fig. 3.

Hypothyridina margarita Veevers, 1959, p.
100, pl. 10, figs. 22-35; text-figs. 61, 62.

UWA 26712c Paratype (Veevers, pl. 10,
figs. 17-21).

SW. of Van Emmerick Range, Fitzroy Basin
(Teichert's loc. F 33, 17° 04.7' S., 124° 36'
E.; Napier Formation.

Upper Devonian (Frasnian).

Univ. W. Aust.

INOPINATARCULA ACANTHODES
(Etheridge Jnr), Elliott, 1952. See **TRIGO-
NOSEMUS ACANTHODES** Etheridge Jnr,
1913.

Trigonosemus acanthodes Etheridge Jnr, 1913,
p. 15, pl. 2, figs. 1-4.

Inopinatarcula acanthodes (Etheridge Jnr),
Elliott, 1952, p. 2, pl. 2, figs. 22-27.

UWA 42068 (Elliott, pl. 2, fig. 23); **UWA**
42069 (figs. 25, 27) Hypotypes.

Junnawa Hill, 4 miles W. of Mt Curious, Lr
Murchison R., Carnarvon Basin; Toolonga
Calcilutite.

Upper Cretaceous.

Univ. W. Aust.

KINGENA MESEMBRINA (Etheridge Jnr),
Elliott, 1952. See **MAGAS MESEM-
BRINUS** Etheridge Jnr, 1913.

Magas mesembrinus Etheridge Jnr, 1913, p. 15,
pl. 2, figs. 2-8.

Kingena mesembrina (Etheridge Jnr), Elliott,
1952, p. 4, pl. 1, figs. 1-13.

UWA 42079 (Elliott, pl. 1, figs. 11, 12, 13)
UWA 42081 (fig. 8); **UWA 42082** (fig-
1-4, 6) Hypotypes.

Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

KROTOVIA MICRACANTHA (Hosking), Prendergast, 1943, Coleman, 1957. See **PUSTULA MICRACANTHA** Hosking, 1933b.

Pustula micracantha Hosking, 1933b, p. 49, pl. 4, figs. 4a, b.

Krotovia micracantha (Hosking), Prendergast, 1943, p. 28.

Krotovia micracantha (Hosking), Coleman, 1957, pl. 7, figs. 16-18; pl. 9, figs. 20, 21.

GSWA 1/4970b **Lectotype** (designated Coleman, 1957); (Hosking, 1933, pl. 4, figs. 4a-b; Coleman, 1957, pl. 7, figs. 16, 17, 18). Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

KROTOVIA SENTICOSA (Hosking), Prendergast, 1943, Coleman, 1957. See **PUSTULA SENTICOSA** Hosking, 1933b.

Pustula senticosa Hosking, 1933b, p. 47, pl. 3, figs. 2, 3.

Krotovia senticosa (Hosking), Prendergast, 1943, p. 30.

Krotovia senticosa (Hosking), Coleman, 1957, p. 63, pl. 7, figs. 11-15.

GSWA 1/4970a **Lectotype** (designated Coleman, 1957) (Hosking, 1933, pl. 3, figs. 2a, b) Coleman, 1957, pl. 7, figs. 11, 12).

GSWA 1/4970a Hypotypes (Coleman, pl. 7, fig. 13; figs. 14, 15).

Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

LEPTAENA sp. indet., Veevers, 1959.

Leptaena sp. indet., Veevers, 1959, p. 57, pl. 5, figs. 22-28, text-figs. 29-31.

UWA 26095a (pl. 5, figs. 26-28); UWA 26095b (pl. 5, fig. 25).

UWA 26095c (pl. 5, figs. 22-24); UWA 26095d (text-fig. 31), Figured specimens.

156 feet above red beds, SE. part of S. Hill (Teichert's loc. T. 27) Fitzroy Basin; Fairfield Beds.

Upper Devonian.

Univ. W. Aust.

LINOPRODUCTUS CANCRINIFORMIS (Tschern.), 1880; Prendergast 1935, 1943; Coleman, 1957.

Linoproductus cancriniformis (Tschern.), Prendergast, 1935, p. 14, pl. 2, figs. 7-12.

Linoproductus cancriniformis (Tschern.), Coleman, 1957, p. 69, pl. 8, figs. 1-9.

UWA 10822a (Prendergast, pl. 2, figs. 7, 8); UWA 10822b (fig. 9); UWA 10822c (fig. 10); UWA 10822d (fig. 11) Hypotypes.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

UWA 27165a Hypotype (Coleman, pl. 8, fig. 1).

E. of Wandagee Hill, Nalbia Paddock, Wandagee area, Carnarvon Basin; Coolkilya Greywacke.

UWA 27127 (Coleman, pl. 8, figs. 2, 3, 4); UWA 29364 (figs. 5, 6) Hypotypes.

W. side of syncline, S. of Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

LINOPRODUCTUS CANCRINIFORMIS var. **LYONI** Prendergast, 1943. See **LINOPRODUCTUS LYONI** Coleman, 1957.

LINOPRODUCTUS CORA (d'Orbigny) var. **FOORDI** (Etheridge Jnr), Prendergast 1943; Coleman, 1937. See **PRODUCTUS TENUISTRIATUS** de Verneuil, 1845, Foord, 1890; **PRODUCTUS TENUISTRIATUS** var. **FOORDI** Etheridge Jnr, 1903.

Productus tenuistriatus de Verneuil, Foord, 1890, p. 151, pl. 7, figs. 4, 4a.

Productus tenuistriatus var. *foordi* Etheridge Jnr, 1903, p. 19, pl. 1, fig. 22.

Linoproductus cora var. *foordi* (Etheridge Jnr), Prendergast, 1943, p. 22, pl. 3, figs. 3-5.

Linoproductus cora foordi (Etheridge Jnr), Coleman, 1957, p. 74, pl. 8, figs. 10-15.

GSWA 5708b Hypotype (Prendergast, 1943, pl. 3, figs. 3-5).

UWA 23438a (Coleman) (pl. 8, fig. 14); UWA 32391 (pl. 8, figs. 10, 11); UWA 3239a (pl. 8, figs. 12, 13, 15) Hypotypes.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

LINOPRODUCTUS LYONI Coleman, 1957.
See **LINOPRODUCTUS CANCRINIFORMIS** var. **LYONI** Prendergast, 1943.

Linoproductus cancriniformis var. *lyoni* Prendergast, 1943, p. 28, pl. 3, figs. 1, 2.

Linoproductus lyoni Prendergast, Coleman, p. 76, 1957, pl. 8, figs. 16-22.

UWA 32025 (pl. 8, figs. 16-18, 22), UWA 32028 (pl. 8, fig. 19) Hypotypes (Coleman, 1957).

Glendevon Hstd, Woolaga Ck, E. of Mingenew, Perth Basin.

Lower Permian.

Univ. W. Aust.

LINOPRODUCTUS cf. **LINOPRODUCTUS TENUISTRIATUS** (de Verneuil), var **FOORDI** Etheridge Jnr, 1903; Hosking 1933b.

Linoproductus cf. *Linoproductus tenuistriatus* de Verneuil var. *foordi* Etheridge, Hosking, 1933b, p. 47, pl. 4, fig. 3*.

GSWA 1/4969 Figured specimen.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

MAGAS MESEMBRINUS Etheridge Jnr, 1913. See **KINGENA MESEMBRINA**, Elliott, 1952.

Magas mesembrinus Etheridge Jnr, 1913, p. 15, pl. 2, figs. 5-8.

MAGASELLA CRETACEA Etheridge Jnr, 1913. See **BOUCHARDIELLA CRETACEA**, Elliott, 1952.

Magasella cretacea Etheridge Jnr, 1913, p. 16, pl. 2, figs. 9-12.

MARGINIFERA GRATIODENTALIS (Grabau); Coleman, 1957. See **DICTYOCLOSTUS GRATIOSUS** (Waagen), Prendergast, 1943.

Dictyoclostus graciosus (Waagen), Prendergast, 1943, p. 17, pl. 2, figs. 5-7.

Marginifera gratiodentalis (Grabau), Coleman, 1957, p. 79, pl. 9, figs. 1-14.

UWA 28453a (Coleman, pl. 9, figs. 5, 6); UWA 28453b (fig. 4) Hypotypes.

350 yds. E. of place on fence between Barrabiddy and Weer Paddocks, 2200 yds. S. of gate in that fence near Barrabiddy Ck, S. of Wandagee Stn, Carnarvon Basin; Cundlego Formation.

UWA 27185 (Coleman, pl. 9, figs. 13, 14); UWA 27185b (fig. 12); UWA 27185c (fig. 8); UWA 27185d (fig. 9); UWA 27185e (figs. 7, 10, 11) Hypotypes.

NE. side of syncline, N. bank, Minilya R. W. of Coolkilya Pool, Carnarvon Basin; Cundlego Formation.

Lower Permian.

Univ. W. Aust.

MERISTELLA (?) CAPRINA Veevers, 1959.
Meristella (?) caprina Veevers, 1959, p. 145, pl. 14, figs. 14-21; text-figs. 99, 100.

UWA 26779a Holotype (pl. 14, figs. 18-21).

UWA 26779b Paratype (pl. 14, figs. 14-17).

3 miles N. of Mt Percy (Teichert's KP. 181), Fitzroy Basin; Fairfield Beds.

Upper Devonian.

Univ. W. Aust.

NERVOSTROPHIA BUNAPICA Veevers, 1959.

Nervostrophia bunapica Veevers, 1959, p. 65, pl. 7, figs. 1-8; text-figs. 36-37.

UWA 26271a (pl. 7, figs. 1a, b); **UWA 26271b** (pl. 7, figs. 2a, b) Paratypes.

Between small hills near Long's Well and reef limestone approx. S. of Long's Well (Teichert's loc. T.53), Fitzroy Basin; Sadler Formation.

Upper Devonian.

Univ. W. Aust.

ORTHOTETES CRENISTRIA Phillips; Etheridge Jnr, 1914.

Orthotetes crenistria Phillips, Etheridge Jnr, 1914, p. 36, pl. 1, fig. 10*.

GSWA F478 Hypotype.

Mt Marmion, Fitzroy Basin; Liveringa Formation.

Lower to Upper Permian.

Geol. Surv. W. Aust.

PERMORTHOTETES TEICHERTI Thomas, 1958.

Permorthotetes teichertii Thomas, 1958, p. 101, pl. 8, figs. 6, 7, 8; pl. 22, figs. 3a-d.

UWA 28045A Holotype (pl. 8, fig. 7).

UWA 28045B (pl. 8, fig. 6); **UWA 28036** (pl. 8, figs. 8a, b) Paratypes.

WF. 9.6, Wandagee Stn, Carnarvon Basin (exact loc. uncertain); ? Baker Sandstone.

Lower Permian.

Univ. W. Aust.

PRODUCTUS SEMIRETICULATUS (Martin), Davidson, 1861; Etheridge, 1903. See **DICTYOCLOSTUS CALLYTHARENENSIS**.

Productus semireticulatus (Martin), Etheridge Jnr, 1903, p. 18, pl. 2, figs. 3-5.

GSWA 4740 Hypotype (pl. 2, figs. 3-5).

Williambury Stn, Minilya R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

PRODUCTUS SUBQUADRATUS Morris 1845; Etheridge Jnr, 1907a, 1907b; Prendergast, 1935. See **TAENIOTHAERUS SUBQUADRATUS** (Morris), Prendergast, 1943; **TAENIOTHAERUS IRWINENSIS** Coleman 1957.

Productus subquadratus Morris, Etheridge Jnr, 1907a, p. 21, pl. 3, figs. 6, 7 (on plate, fig. 1 should read fig. 7).

Productus subquadratus Morris, Etheridge Jnr, 1907b, p. 30, pl. 7, figs. 2, 4; pl. 8, fig. 1.

Productus subquadratus Morris, Prendergast, 1935, p. 17, pl. 4, fig. 4.

GSWA F224 Hypotype (Etheridge Jnr, 1907a, pl. 3, figs. 6, 7).

GSWA F273 Hypotype (Etheridge Jnr, 1907b, pl. 8, fig. 1).

Mingenew, Irwin R., Perth Basin.

UWA 10931 Hypotype (Prendergast, pl. 4, fig. 4).

2 miles N. of Ballythanna Hill, Wooramel R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

PRODUCTUS TENUISTRIATUS de Verneuil, 1845; Foord, 1890. See **PRODUCTUS TENUISTRIATUS** de Verneuil, var. **FOORDI**, Etheridge Jnr, 1903; **LINOPRODUCTUS CORA** var. **FOORDI** Prendergast, 1943; Coleman, 1957.

Productus tenuistriatus de Verneuil, Foord, 1890, p. 151, pl. 7, figs. 4, 4a.

GSWA 59 Hypotype (Foord, figs. 4, 4a).

Gascoyne R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

PRODUCTUS TENUISTRIATUS de Verneuil, var. **FOORDI**, Etheridge Jnr, 1903, 1907b. See **PRODUCTUS TENUISTRIATUS** de Verneuil, Foord, 1890; **LINOPRODUCTUS CORA** var. **FOORDI** Prendergast, 1943, Coleman, 1957.

Productus tenuistriatus de Verneuil, Foord, 1890, p. 151, pl. 7, figs. 4, 4a.

Productus tenuistriatus de Verneuil, var. *foordi* Etheridge Jnr, 1903, p. 19, pl. 1, figs. 3, 4; pl. 3, fig. 22.

Productus tenuistriatus de Verneuil, var. *foordi* Etheridge Jnr, 1907b, p. 30, pl. 9, figs. 4-6.

GSWA F156B (Etheridge Jnr, 1903, pl. 1, fig. 4) holotype of var.

GSWA F156A (fig. 3); **GSWA F156C** (pl. 3, fig. 22) ? paratypes.

Fossil Hill, Wyndham R., Gascoyne district, Carnarvon Basin.

GSWA F272 (Etheridge Jnr, 1907b, pl. 9, figs. 4, 5, 6) Hypotype

Irwin R., Perth Basin

Lower Permian.

Geol. Surv. W. Aust.

PRODUCTUS UNDATUS DeFrance; Foord, 1890.

Productus undatus, DeFrance, Foord, 1890, p. 152, pl. 7, fig. 5*.

GSWA 60 Hypotype.

Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

PRODUCTUS spp., Etheridge Jnr, 1914.

Productus spp., Etheridge Jnr, 1914, p. 36, pl. 1, fig. 11; pl. 5, figs. 14, 15.

GSWA F488 (pl. 5, figs. 14, 15); GSWA F489 (pl. 1, fig. 11) Figured specimens. Mt Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

PUGNAX sp. cf. **P. ACUMINATUS** (Sowerby); Veevers, 1959.

Pugnax sp. cf. *P. acuminatus* (Sowerby), Veevers, 1959, p. 113, pl. 11, figs. 20*, 21*.

UWA 26878a Figured specimen.

Near Leopold Downs Hstd (Teichert's KP. 152), Fitzroy Basin; Napier Formation.

Upper Devonian.

Univ. W. Aust.

PUSTULA MICRACANTHA Hosking, 1933b.

See **KROTOVIA MICRACANTHA** (Hosking), Prendergast, 1943; Coleman, 1957.

Pustula micracantha Hosking, 1933b, p. 49, pl. 4, figs. 4a*, b*.

GSWA 1/4970b Lectotype (designated Coleman, 1957) (Hosking, 1933a, pl. 4, figs. 4a, b).

Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

PUSTULA SENTICOSA Hosking 1933b. See

KROTOVIA SENTICOSA (Hosking), Prendergast, 1943; Coleman, 1957.

Pustula senticosa Hosking, 1933b, p. 47, pl. 3, figs. 2, 3.

GSWA 1/4970a Lectotype (designated Coleman, 1957) (Hosking, 1933a, pl. 3, figs. 2a, b).

Creek $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

RHIPIDOMELLA INCOMPTA Veevers, 1959.

Rhipidomella incompta Veevers, 1959, p. 43, pl. 2, figs. 22-29; text-figs. 13-16.

UWA 26016a Holotype (pl. 2, figs. 22-25).

UWA 26016b Paratype (Veevers, personal communication, 1963, pl. 2, figs. 26-29).

UWA 26016f Sections (text-fig. 15).

E. side of Mt Pierre (Teichert's loc. 25), Fitzroy Basin; Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

RHYNCHONELLA CUBOIDES Sow.; Foord, 1890. See **HYPOTHYRIDINA MARGARITA** Veevers, 1959.

Rhynchonella cuboides Sow., Foord, 1890, p. 102, pl. 5, fig. 2.

GSWA 18 Hypotype (found in Geol. Surv. Coll. by I.C., 1962; regarded as missing, Veevers, 1959).

Rough Range, Kimberleys, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

RHYNCHONELLA VARIABILIS Schlotheim, Etheridge Jnr, 1910.

Rhynchonella variabilis Schlotheim, Etheridge Jnr, 1910, p. 30, pl. 9, figs. 3-6.

GSWA F77A (figs. 3, 4, 5); GSWA F77B (fig. 6) Hypotypes.

Snake Farm, Greenough R., Perth Basin.

Jurassic.

Geol. Surv. W. Aust.

SCHIZOPHORIA PIERRENSIS Veevers, 1959.

Schizophoria pierrensis Veevers, 1959, p. 50, pl. 3, figs. 14-17.

UWA 26044c Holotype (pl. 3, figs. 14-17)

UWA 26044d Paratype (Veevers, personal communication 1963, pl. 3, figs. 18-22).

Mt Pierre (Teichert's loc. 25), Fitzroy Basin; Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

SEMINULA CALLYTHARRENSIS Hosking, 1933b.

Seminula callytharrensensis Hosking, 1933b, p. 50, pl. 5, figs. 2-5.

GSWA 1/4979 Holotype (pl. 5, figs. 2a-e).

Creek $\frac{1}{2}$ mile W. of Callytharra Spring, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

SEMINULA GLOBULINA (Phillips), 1836: Prendergast, 1935.

Seminula globulina (Phillips), Prendergast, 1935, p. 17, pl. 2, figs. 16-18.

UWA 10370a, b, c Hypotypes (Prendergast, pl. 2, figs. 16-18).

Holmwood, Irwin R., Perth Basin.

Lower Permian.

Univ. W. Aust.

SEMINULA sp. indet., Etheridge Jnr, 1903.

Seminula sp. indet., Etheridge Jnr, 1903, p. 17, pl. 1, fig. 6; pl. 3, fig. 21.

GSWA F180 Figured specimen (pl. 1, fig. 5; pl. 3, fig. 21).

Baracooda Pool, Arthur R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPANODONTA HOSKINGIAE Prendergast, 1935.

"*Productus* sp." Chapman, 1924a, p. 35.

Spanodonta hoskingiae Prendergast, 1935, p. 13, pl. 3, figs. 1-3.

UWA 2530 pl. 3, figs. 2, 3 herein chosen as lectotype, I.C., 1963.

UWA 3052, pl. 3, fig. 1, herein chosen as lectoparatype, I.C., 1963.

UWA 2750 not figured.

2.5 miles NNE. of bore at Price's Creek, Fitzroy Basin.

Ordovician.

Univ. W. Aust.

SPINATRYPA ASPERA PRIDERI (Coleman), Veevers, 1959, 1959a. See **ATRYPA ASPERA PRIDERI** Coleman, 1951, 1952.

Spinatrypa aspera prideri (Coleman), Veevers, 1959, p. 121, text-figs. 74, 75.

Spinatrypa aspera prideri (Coleman), Veevers, 1959a, p. 30, pl. 2, figs. 1-10; text fig. 11.

SPIRIFER ROSTALINUS Hosking, 1931, revised Prendergast, 1936.

Spirifer rostalinus Hosking, 1931, p. 24, pl. 8, figs. 1-3; pl. 8a, figs. 4-8.

Spirifer rostalinus Hosking, Prendergast, 1936, p. 129.

GSWA 1/4949x Holotype (Hosking pl. 8, fig. 3; see Prendergast, 1936).

Callytharra Springs area, Wooramel R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFER ROSTALINUS var. **AURITUS** Hosking, 1931, revised Prendergast, 1936.

Spirifer rostalinus var. *auritus* Hosking, 1931, p. 24, pl. 10, figs. 1a-c; pl. 8A, figs. 7a-c.

Spirifer rostalinus var. *auritus* Hosking, Prendergast, 1936, p. 129.

GSWA 1/4949y Holotype of var. (Hosking, pl. 8A, figs. 7a-c, see Prendergast 1936).

Callytharra Springs area, Wooramel R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFER ROSTALINUS var. **CRASSUS** Hosking, 1931. See **SPIRIFER ROSTALINUS** var. **TUMIDUS** Hosking, Prendergast, 1936.

SPIRIFER ROSTALINUS var. **TUMIDUS** Hosking, 1931. Revised Prendergast, 1936.

Spirifer rostalinus var. *crassus* Hosking, 1931, pl. 24, pl. 8A, fig. 8; pl. 9, figs. 1a-d; pl. 11, figs. 1, 2 (non *S. crassus* de Kon., 1842).

Spirifer rostalinus var. *tumidus* Hosking, Prendergast, 1936, pl. 129.

GSWA 1/4949z Holotype of var. (Hosking, pl. 8, fig. 2; pl. 9, figs. 1a-d; see Prendergast, 1936).

UWA 8477a, 8477b Paratypes of var. (Hosking, pl. 8, fig. 1; pl. 8A, fig. 8; pl. 11, figs. 1, 2; Prendergast, 1936).

Callytharra Springs area, Wooramel R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

SPIRIFER sp., Hosking, 1933b.

Spirifer sp., Hosking, 1933b, p. 52, pl. 5, fig. 1*.

GSWA 1/5231 Figured specimen.

2 miles SE. of Madeline Hill, Wooramel District, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA AVICULA Sowerby; Etheridge, 1907a. See **SPIRIFERA** sp., Etheridge, 1914.

Spirifera avicula Sowerby, Etheridge, 1907a, pl. 3, figs. 1*, 2* (not 7 as on plate).

GSWA F502 Figured specimen.

Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA BYROENSIS Glauert, 1912b; Etheridge Jnr, 1914. See **SPIRIFERA LATA** (McCoy?), Etheridge Jnr, 1903.

Spirifera lata (McCoy?) Etheridge Jnr, 1903, p. 15, pl. 1, fig. 8.

Spirifera byroensis Glauert, 1912b, p. 75.

Spirifera byroensis Glauert, Etheridge Jnr, 1914, p. 25, pl. 4, fig. 10; pl. 5, fig. 5; pl. 6, figs. 1-5.

WAM 1650 **Holotype** (designated by L. Glauert, 24/8/62, pl. 6, figs. 1, 2, Etheridge Jnr, 1914).

GSWA F482 (Etheridge Jnr, 1914, pl. 4, fig. 10; pl. 5, fig. 5); GSWA F483 (pl. 6, fig. 3); GSWA F484 (pl. 6, fig. 4); GSWA F485 (pl. 6, fig. 5) Hypotypes.

Byro Station, Murchison R., Carnarvon Basin.

Lower Permian.

W. Aust. Mus.; Geol. Surv. W. Aust.

SPIRIFERA HARDMANI Foord, 1890; Etheridge Jnr, 1903.

Spirifer hardmani Foord, 1890, p. 146, pl. 7, figs. 1, 1a.

Spirifer hardmani Foord, Etheridge Jnr, 1903, p. 14, pl. 1, figs. 6, 7; pl. 2, figs. 7-9.

GSWA 78 (Lectoparatype here chosen I.C. 1963: most suitable specimen for lectotype not found.)

Gascoyne R., Carnarvon Basin.

GSWA F154a (Etheridge Jnr, 1903, pl. 1, fig. 7); GSWA F154b (pl. 1, fig. 6); GSWA F154c (pl. 2, fig. 9) Hypotypes.

Fossil Hill, Wyndham R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA KIMBERLEYENSIS Foord, 1890.

Spirifera kimberleyensis Foord, 1890, p. 105, pl. 5, fig. 1*.

GSWA 77 **Holotype** (by Monotypy, I.C., 1962).

Gascoyne R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA LATA McCoy?, 1847; Foord, 1890; Etheridge Jnr, 1903. See **SPIRIFERA BYROENSIS** Glauert, 1912b.

Spirifera lata McCoy, Foord, 1890, p. 145, pl. 6.

Spirifera lata McCoy?, Etheridge Jnr, 1903, p. 15, pl. 1, fig. 8.

GSWA 76 Hypotype (Foord, pl. 6).

GSWA F504 (Etheridge Jnr, 1903, pl. 1, fig. 8) Hypotype.

Lyons R., tributary of Gascoyne R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA MARCOUI (Waagen), 1883; Etheridge Jnr, 1914.

Spirifera marcoui (Waagen), Etheridge Jnr, 1914, p. 23, pl. 1, figs. 5, 6; pl. 2, figs. 8, 9.

GSWA F479 (pl. 1, fig. 5, pl. 2, figs. 8, 9); GSWA F480 (pl. 1, fig. 6) Hypotypes.

Mt Marmion, Fitzroy Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA MUSAKHLEYENSIS Davidson
var. **AUSTRALIS** Foord, 1890; Etheridge,
1903; Hosking, 1931.

Spirifera musakhleyensis Davidson var.
australis, Foord, 1890, p. 147, pl. 7, fig. 2;
?pl. 5, fig. 12.

Spirifera musakhleyensis var. *australis* Foord,
Hosking, 1931, p. 23, pl. 7, figs. 1-3.

GSWA 78 Lectotype (herein chosen, I.C.,
1962), Foord, pl. 7, fig. 2.

Gascoyne R., Carnarvon Basin.

GSWA 1/4963A (Hosking, pl. 7, fig. 1);
GSWA 1/4963B (pl. 7, fig. 2) Figured
specimens.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Car-
narvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA sp., Etheridge Jnr, 1914. See
SPIRIFERA AVICULA Sow., Etheridge
Jnr, 1907.

Spirifera avicula Sow., Etheridge Jnr, 1907a;
pl. 3, figs. 1, 2 (not 7 as on plate).

Spirifera sp., Etheridge Jnr, 1914, p. 29, pl. 6,
figs. 6, 7, 8.

GSWA F502 Figured specimen (same
specimen figured, 1907a).

Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA indet., Etheridge Jnr, 1903.

Spirifera indet., Etheridge Jnr, 1903, pl. 1,
fig. 9*.

GSWA F503 Figured specimen.

Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERA, internal casts, Etheridge Jnr,
1914

Spirifera, internal casts, Etheridge Jnr, 1914,
p. 28, pl. 3, figs. 2-5; pl. 5, figs. 3, 4; pl. 6,
figs. 6-8 (**GSWA F502**, above).

GSWA F486 (pl. 3, figs. 4, 5); **GSWA F487**
(pl. 3, fig. 3; pl. 5, fig. 4) Figured
specimens.

Byro Station, Murchison R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERELLA (?) **AUSTRALASICA**
(Etheridge Jnr), 1889, 1914. = **SPIRI-
FERELLA AUSTRALASICA** Hosking,
1931; Prendergast, 1935.

Cyrtina carbonica McCoy var. *australasica*
Etheridge Jnr, 1889, p. 210.

Spiriferella (?) *australasica* (Etheridge Jnr),
Etheridge, 1914, p. 30, pl. 5, figs. 6-13.

Spiriferella australasica (Etheridge Jnr),
Hosking, 1931, p. 20.

Spiriferella australasica (Etheridge Jnr),
Prendergast, 1935, p. 22, text-fig. 6.

GSWA F468 (Etheridge, 1914, pl. 5, fig. 6);
GSWA F469 (pl. 5, figs. 7-8); **GSWA**
F470 (pl. 5, fig. 9); **GSWA F471** (pl. 5,
figs. 10-13) Hypotypes.

Mt Marmion, Fitzroy Basin.

Lower to Upper Permian.

Geol. Surv. W. Aust.

SPIRIFERINA CRISTATA (Schlotheim),
Waagen, 1883; Hosking, 1933b.

Spiriferina cristata (Schlotheim), Hosking,
1933b, p. 52, pl. 4, fig. 5*.

GSWA 1/4971a Hypotype (Hosking, pl.
4, fig. 5).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs,
Wooramel R., Carnarvon Basin; Callytharra
Formation.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERINA CRISTATA (Schlotheim), var.
DECIPIENS Hoskins, 1933b.

Spiriferina cristata (Schlotheim), var. *decipiens*
Hosking, 1933b, p. 53, pl. 4, figs. 6-7.

GSWA 1/4971c Holotype of var. (pl. 4,
figs. 6, 7).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs,
Wooramel R., Carnarvon Basin; Callytharra
Formation.

Lower Permian.

Geol. Surv. W. Aust.

SPIRIFERINA PAPILIONATA Hosking, 1933b.

Spiriferina papilionata Hosking, 1933b, p. 54, pl. 6, figs. 1*, 2*.

GSWA 1/4971b **Holotype.**

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

STREPTORHYNCHUS HOSKINGAE

Thomas, 1958.

Streptorhynchus hoskingae Thomas, 1958, p. 52, pl. 12, figs. 6, 7, 8; pl. 13, figs. 1-6, text-fig. 11a, b.

UWA 3359/1 (pl. 13, figs. 6a, b); UWA 33360 (pl. 13, figs. 5a, b); UWA 33360/2 (pl. 12, figs. 7a, b) Paratypes.

3 $\frac{1}{2}$ miles W. of Bintahooka Ck., 5 $\frac{1}{2}$ miles W. of Lyons R. Hstd, Carnarvon Basin, low in Wandagee Formation.

UWA 28185 Paratype (pl. 13, figs. 4a-c). 'Horizon 37, loc. 1, Field No. C37, 14'. Carnarvon Basin; Cundlego Formation.

Lower Permian.

Univ. W. Aust.

STREPTORHYNCHUS JOHNSTONEI

Thomas 1958.

Streptorhynchus johnstonei Thomas, 1958, p. 55, pl. 14, figs. 1-6.

UWA WH7 Paratype (fig. 6a, b).

Wandagee Hill 'just N. of Cairn C., *Chronetes-Streptorhynchus* band, Cairn A to Flag 6; Wandagee Hill Series' of Teichert, Carnarvon Basin; Coolkilya Greywacke.

Lower Permian.

Univ. W. Aust.

STREPTORHYNCHUS LULUIGUI Hosking, 1933, Thomas, 1958.

Streptorhynchus luluigui Hosking, 1933, p. 45, pl. 4, figs. 1-7; pl. 5, figs. 1-4.

Streptorhynchus luluigui Hosking, Thomas, 1958, p. 62, pl. 8, figs. 9-10; pl. 17, figs. 1-5; pl. 19, figs. 3, 6.

UWA 3040L **Lectotype** (designated Thomas, 1958, p. 62; Hosking, 1933, pl. 4, figs. 1a-c).

GSWA 1/5106B (Hosking, 1933, pl. 4, figs. 2a-d) Hypotypes.

UWA 2773G (Hosking, pl. 4, fig. 5; pl. 5, fig. 1); UWA 2773H (pl. 5, fig. 3); UWA 2773N (pl. 4, fig. 6); UWA 3040M (pl. 5, fig. 2); UWA 3040N (pl. 5, fig. 4); UWA 3041 (pl. 4, fig. 7) Hypotypes.

Near Luluigui Hstd, Fitzroy Basin, lat. 18° 10' S., long. 124° 1' E.; high in Liveringa Formation.

Upper Permian.

Univ. W. Aust.; Geol. Surv. W. Aust.

STREPTORHYNCHUS PLICATILIS

Hosking, 1933, Thomas, 1958.

Streptorhynchus plicatilis Hosking, 1933, p. 48, pl. 5, figs. 5a, b.

Streptorhynchus plicatilis Hosking, Thomas, 1958, p. 41, pl. 11, figs. 1-6, pl. 18, fig. 7; text-fig. 11f.

GSWA 1/4972 **Holotype** (Hosking, pl. 5, figs. 5a, b).

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

Lower Permian.

Geol. Surv. W. Aust.

STRINGOCEPHALUS FONTANUS Veevers, 1959.

Stringocephalus fontanus Veevers, 1959, p. 148, pl. 17, figs. 1-3, 4-7; pl. 18, figs. 1a-d; 2-4; text figs. 101, 102.

UWA 39403 **Holotype** (pl. 14, figs. 4-7).

UWA 39404 (pl. 18, fig. 4); UWA 39405 (pl. 18, fig. 3) Paratypes.

Loc. K438 1 mile SE. of Mountain Home Springs, where a north-running fence crosses the Home Range, Fitzroy Basin; base of Pillara Formation.

Middle Devonian.

Univ. W. Aust.

STROPHALOSIA CLARKEI Etheridge, Foord, 1890. See **STROPHALOSIA KIMBERLEYENSIS** Prendergast, 1943; **STROPHALOSIA (HETERALOSIA) KIMBERLEYENSIS** Prendergast, Coleman, 1957.

STROPHALOSIA ETHERIDGEI Prendergast, 1943. = **STROPHALOSIA (HETERALOSIA) ETHERIDGEI** Prendergast, Coleman, 1957.

Strophalosia etheridgei Prendergast, 1943, p. 43, pl. 5, figs. 5-11 (not 12).

Strophalosia sp. indet. A., Prendergast, 1943, p. 51, pl. 6, figs. 10-12.

Strophalosia (Heteralosia) etheridgei Prendergast, Coleman, 1957, p. 120, pl. 19, figs. 20-32.

GSWA 1/5242a Lectotype (designated Coleman, 1957, p. 120; Prendergast, 1943, pl. 5, figs. 6, 7).

GSWA 1/5242a ?paratypes (I.C., 1963, Prendergast, pl. 5, figs. 8, 9, 10).

UWA 37127b (Coleman, pl. 19, fig. 31); **UWA 27127e** (figs. 20-23, 29, 32).

UWA 27127f, g, h (figs. 24, 25, 26) **UWA 27127k** (fig. 30) Hypotypes.

Creek, $\frac{1}{2}$ mile W. of Callytharra Springs, Wooramel R., Carnarvon Basin; Callytharra Formation.

UWA 20247a (Prendergast, pl. 5, fig. 5); **UWA 20247c** (fig. 11); **UWA 20267** (fig. 12) Typotypes.

UWA 20448 (Coleman, pl. 19, figs. 27, 28) Hypotype.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

STROPHALOSIA JUKESEI Etheridge Jnr, 1880; Prendergast, 1943. See **STROPHALOSIA PRIDERI** Coleman, 1957.

Strophalosia jukesii Etheridge Jnr, Prendergast, 1943, p. 47, pl. 5, figs. 18-20.

UWA 20264 (Prendergast, pl. 5, figs. 19, 20); **UWA 20266** (pl. 5, fig. 18) Hypotypes.

Talbots Cairn, Wooramel R. district, Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA KIMBERLEYENSIS Prendergast, 1943. See **STROPHALOSIA CLARKEI** Etheridge, Foord, 1890, **STROPHALOSIA (HETERALOSIA) KIMBERLEYENSIS** Prendergast, Coleman, 1957.

Strophalosia clarkei Etheridge, Foord, 1890, p. 103, pl. 5, figs. 7, 8, text-fig. 6.

Strophalosia sp. indet., Etheridge Jnr, 1903, p. 20, pl. 1, figs. 10-12.

Strophalosia kimberleyensis Prendergast, 1943, p. 47, pl. 6, figs. 1-5.

Strophalosia (Heteralosia) kimberleyensis Prendergast, Coleman, 1957, p. 124, pl. 20, figs. 7-19.

UWA 20452 Holotype (Prendergast, pl. 6, figs. 1-3; Coleman, 1957, pl. 20, figs. 15, 18, 19).

UWA 20460 Paratype (Prendergast, pl. 6, fig. 5, Coleman, pl. 20, fig. 16).

N. of Hill C., S. side of Grant Range, Fitzroy Basin; Noonkanbah Formation.

UWA 20455 Paratype (Prendergast, pl. 6, fig. 4; Coleman, pl. 20, figs. 12, 13, 17)

Noonkanbah Hstd, Fitzroy Basin; Noonkanbah Formation.

UWA 2758a Hypotype (Coleman, pl. 20, figs. 7, 8).

E. side of syncline, S. of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Wandagee Formation.

UWA 27797 (Coleman, pl. 20, figs. 9, 10, 11); **UWA 27797b** (pl. 20, fig. 14) Hypotypes.

Nalbia Paddock, Wandagee area, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA MULTISPINIFERA Prendergast, 1943, Coleman, 1957.

Strophalosia multispinifera Prendergast, 1943, p. 50, pl. 6, figs. 6-8.

Strophalosia multispinifera Prendergast, Coleman, 1957, p. 114, pl. 8, figs. 3-14.

UWA 20458 Holotype (Prendergast, pl. 6-8; Coleman, pl. 18, figs. 3, 4).

Scarp, 2 miles E. of Christmas Creek Hstd., Fitzroy Basin; Noonkanbah Formation.

UWA 2745a (Coleman, pl. 18, figs. 8, 9, 10);
UWA 2745b (fig. 5) Hypotypes.
NE. side of syncline N. bank of Minilya R.,
just W. of Coolkilya Pool, Carnarvon Basin:
Lr. Wandagee Formation.

UWA 34454 (Coleman, fig. 11); UWA 34455
(figs. 12, 14); UWA 34456 (figs. 6, 7)
Hypotypes.

8 miles SW. of Lyons R. Hstd., Carnarvon
Basin, W. of shearing shed on E-W fence
paralleling main tributary into Bintahooka
Ck., at intersection of that fence and minor
tributary; Cundlego Formation.

UWA 26057 (Coleman, pl. 18, fig. 13)
Hypotype.
Ellendale Stn., 1½ miles NW. of Boal Bore,
Fitzroy Basin; ?Liveringa Formation.

Lower to Upper Permian.

Univ. W. Aust.

STROPHALOSIA PRIDERI Coleman, 1957.
See **STROPHALOSIA JUKESEI** Etheridge
Jnr, Prendergast, 1943.

Strophalosia jukesii Etheridge Jnr, Prendergast,
1943, p. 47, pl. 5, figs. 18-20.

Strophalosia prideri Coleman, 1957, p. 116, pl.
18, figs. 15, 16; pl. 19, figs. 1-19.

UWA 34458 Paratypes (Coleman, pl. 19,
fig. 5); UWA 34459 (pl. 19, fig. 16)

UWA 34460, 34461, 34462 Paratypes (pl.
1, figs. 17, 18, 19, growth series).

Right bank of Lyndon R., 9 miles E. of Mia
Mia Hstd, Carnarvon Basin; recorded as
Bulgadoo Shale but probably Coyrie Forma-
tion.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA TENUISPINA Waagen,
1884; Prendergast, 1943. See **STROPHA-
LOSIA (HETERALOSIA) TENUISPINA**
Waagen, Coleman, 1957.

Strophalosia tenuispina Waagen, Prendergast,
1943, p. 52, pl. 6, fig. 9.

Strophalosia (Heteralosia) tenuispinosa
Waagen, Coleman, 1957, p. 130, pl. 20, figs.
36, 37.

UWA 20451 Hypotype (Prendergast, pl.
6, fig. 9; Coleman, pl. 20, figs. 36, 37).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA sp. cf. **STROPHALOSIA
BEECHERI** Rowley, 1893; Prendergast,
1943. See **STROPHALOSIA (HETERA-
LOSIA) PRENDERGASTAE** Coleman,
1957.

Strophalosia sp. cf. *Strophalosia beecheri*
Rowley, Prendergast, 1943, p. 41, pl. 5, figs.
1*-3*.

UWA 20449 Figured specimen (= para-
type, *Strophalosia (Heteralosia) prender-
gastae* Coleman, 1957, pl. 20, figs. 25-28).
Waltharrie Pools, Wooramel E. district,
Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA sp. cf. **STROPHALOSIA
GERARDI** King, Prendergast, 1943. See
**STROPHALOSIA (HETERALOSIA)
IRWINENSIS** Coleman, 1957.

Strophalosia sp. cf. *Strophalosia gerardi* King,
Prendergast, 1943, p. 46, pl. 5, figs. 14*,
15*.

UWA 12399 Figured specimen (= para-
type, *Strophalosia (Heteralosia) irwinensis*
Coleman, 1957, pl. 20, figs. 2, 4).

Fossil Cliff, Irwin R., Perth Basin, Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA sp., Etheridge Jnr, 1914.
See **ETHERIDGINA MUIRWOODAE**
Prendergast, 1943.

Strophalosia sp., Etheridge Jnr, 1914, p. 34, pl.
5, figs. 16, 17, 18.

GSWA F481 Figured specimen (fig. 16).
Mt Marmion, Fitzroy Basin.

Lower to Upper Permian.

Geol. Surv. W. Aust.

**STROPHALOSIA (HETERALOSIA) ETHE-
RIDGII** Prendergast, Coleman, 1957. See
STROPHALOSIA ETHERIDGII, Prender-
gast, 1943.

STROPHALOSIA (HETERALOSIA) IRWINENSIS Coleman, 1957. See **STROPHALOSIA** sp. cf. **STROPHALOSIA GERARDI** King, Prendergast, 1943.

Strophalosia sp. cf. *gerardi* King, Prendergast, 1943, p. 46, pl. 5, figs. 14, 15.

Strophalosia (Heteralosia) irwinensis Coleman, 1957, p. 122, pl. 20, figs. 1-6.

UWA 23441a Holotype (Coleman, pl. 20, figs. 1, 2).

UWA 12399 (pl. 20, figs. 3, 4); **UWA 23341b** (pl. 20, fig. 5); **UWA 34463** (pl. 20, fig. 6) Paratypes.

UWA 34464, 34465, 34466, 34466a Paratypes (unfigured).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

STROPHALOSIA (HETERALOSIA) KIMBERLEYENSIS Prendergast, Coleman, 1957. See **STROPHALOSIA KIMBERLEYENSIS** Prendergast, 1943

STROPHALOSIA (HETERALOSIA) PRENDERGASTAE Coleman, 1957. See **STROPHALOSIA** sp. cf. **STROPHALOSIA BEECHERI** Rowley, Prendergast, 1943.

Strophalosia cf. *S. beecheri* Rowley, Prendergast, 1943, p. 41, pl. 5, figs. 1-3.

Strophalosia (Heteralosia) predergastae Coleman, 1957, p. 127, pl. 20, figs. 20-35.

UWA 28444a Holotype (pl. 20, figs. 20-24).

UWA 28444b Paratype (not figured).

350 yards W. of fence between Barabiddy and Weér Paddocks, 2220 yards S. of gate in that fence near Barabiddy Ck, S. of Wandagee Hstd, Carnarvon Basin; Cundlego Formation.

UWA 20449 Paratype (pl. 20, figs. 25-28). Walthourie Pool, Wooramel R., Carnarvon Basin; Callytharra Formation.

UWA 34468 (pl. 20, figs. 29-31); **UWA 34469** (pl. 20, figs. 33-35); **UWA 34470** (pl. 20, fig. 32) Paratypes.

Base of Mt Hardman, Fitzroy Basin; Liveringa Formation.

Lower and Upper Permian.

Univ. W. Aust.

STROPHALOSIA (HETERALOSIA) TENUISPINA Waagen, Coleman, 1957. See **STROPHALOSIA TENUISPINA** Waagen, Prendergast, 1944.

TAENIOTHAERUS COOLKILIENSIS Coleman, 1957.

Taeniothaerus coolkiliensis Coleman, 1957, p. 89, pl. 11, figs. 7-12.

UWA 27444 Holotype (pl. 11, figs. 7-10).

UWA 34430 Paratype (not figured).

NE. side of syncline, N. of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Wandagee Formation.

UWA 32042 (fig. 11); **UWA 32043** (fig. 12) Paratypes.

Glendevon Hstd, Woolaga Ck, E. of Mingenew, Perth Basin.

Lower Permian.

Univ. W. Aust.

TAEIOTHAERUS IRWINENSIS Coleman, 1957. See **TAENIOTHAERUS SUBQUADRATUS** (Morris), Prendergast, 1944.

Taeniothaerus subquadratus (Morris), Prendergast, 1944, p. 27, pl. 4, figs. 1-6.

Taeniothaerus irwinensis Coleman, 1957, p. 93, pl. 11, figs. 13, 14; pl. 12, figs. 1-6.

UWA 32044 Holotype (Coleman, pl. 12, figs. 4, 5).

UWA 4786 (Prendergast, pl. 4, fig. 3); **UWA 10932** (Coleman, pl. 12, figs. 1-3); **UWA 12396** (Prendergast, pl. 4, fig. 1; Coleman, pl. 11, fig. 14); **UWA 12398** (Coleman, pl. 11, fig. 13); **UWA 23437** (Coleman, pl. 12, fig. 6) Paratypes.

UWA 32375 Paratype (unfigured).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

TAENIOTHAERUS MINILIENSIS Coleman, 1957.

Taeniothaerus miniliensis Coleman, 1957, p. 96, pl. 1, 2, figs. 7-11; pl. 13, figs. 1-9; pl. 14, figs. 1-8.

UWA 344434 Holotype (pl. 12, figs. 9-11).

UWA 27254a (pl. 13, figs. 1-3); UWA 27254c (pl. 14, fig. 7); UWA 27358 (pl. 14, fig. 1); UWA 27545 (pl. 2, fig. 7); UWA 27254 (pl. 13, figs. 8, 9) Paratypes.

UWA 33023 Paratype (unfigured).

W. side of syncline, S. bank of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Lr. Wandagee Formation.

UWA 27116 (pl. 14, fig. 3) UWA 27134 (pl. 14, fig. 2); UWA 27406 (pl. 14, fig. 8; pl. 12, fig. 8); UWA 27454 (pl. 14, fig. 6; pl. 13, fig. 4) Paratypes.

UWA 27384 Paratype (unfigured).

NE. side of syncline, N. bank of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Lr. Wandagee Formation.

UWA 27600 (pl. 14, fig. 5) Paratype.

E. side of syncline, S. bank of Minilya R., W. of Coolkilya Pool.

UWA 22712 (pl. 14, fig. 4) Paratype.

From same syncline, but exact locality doubtful.

Lower Permian.

Univ. W. Aust.

TAENIOTHAERUS SUBQUADRATUS

(Morris), 1845; Prendergast, 1944. See **PRODUCTUS SUBQUADRATUS** Morris, Etheridge Jnr, 1907; Prendergast, 1935.

TAENIOTHAERUS IRWINENSIS Coleman, 1957.

Taeniothaerus subquadratus (Morris), Prendergast, 1944, p. 27, pl. 4, figs. 1-6 text-fig. 3).

UWA 4768 (pl. 4, fig. 3); UWA 12396 (pl. 4, fig. 1); UWA 21247 (pl. 4, fig. 2) Hypotypes (Prendergast) : (paratypes, *T. irwinensis* Coleman, 1957).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

UWA 20447 Hypotype (pl. 4, figs. 4, 5).

Below Coolkilya Pool, Minilya R., Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

TAENIOTHAERUS TEICHERTI Coleman, 1957.

Taeniothaerus teichertii Coleman, 1957, p. 104, pl. 6, figs. 1-8; pl. 17, figs. 1-5.

UWA 34447, 34448, 34449 Paratypes (unfigured).

$\frac{1}{2}$ mile E. of Calvary Springs (or Calvary Gap Well), 7 miles SE. of Mooka Station Hstd, Wandagee area, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

TAENIOTHAERUS (?) FLETCHERI Coleman, 1957

Taeniothaerus (?) fletcheri Coleman, 1957, p. 91, pl. 9, figs. 15-19; pl. 10, figs. 1-7.

UWA 29427b (pl. 9, figs. 15, 17); UWA 34444 (pl. 9, fig. 18) Paratypes.

Bells Hstd, Ellendale area, Fitzroy Basin; Liveringa Formation.

UWA 29438 (pl. 10, figs. 4-6); UWA 29440 (pl. 10, fig. 7); UWA 32024 (pl. 10, fig. 3, latex cast) Paratypes.

Tutu Windmill, Nerrima Ck, Fitzroy Basin; Hardman Member, Liveringa Formation.

UWA 31194 (pl. 9, fig. 16) (not UWA 29427 as on plate) Paratype.

N. flank, Mt Cedric, Fitzroy Basin; Hardman Member, Liveringa Formation.

Upper Permian.

Univ. W. Aust.

TAENIOTHAERUS sp. aff. **MINILIENSIS** Coleman, 1957.

Taeniothaerus sp. aff. *miniliensis* Coleman, 1957, p. 101, pl. 14, figs. 9-11.

UWA 34446 Figured specimen (pl. 14, figs. 9, 10).

E. limb of syncline, Minilya R., Carnarvon Basin, Wandagee Formation.

UWA 27406 Figured specimen (pl. 14, fig. 11).

NE. side of syncline, N. of Minilya R., W. of Coolkilya Pool, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

TAENIOTHAERUS sp. cf. **SUBQUADRATUS** (Morris), Coleman, 1957.

Taeniothaerus sp. cf. *subquadratus* (Morris), Coleman, 1957, p. 102, pl. 15, figs. 8-12.

UWA 32316a Figured specimen (pl. 15, figs. 9, 10, 12).

UWA 34451 Figured specimen (pl. 15, figs. 8, 11).

About 100 feet W. of Glendevon Hstd, near Woolaga Ck, E. of Mingewew, Perth Basin.

Lower Permian.

Univ. W. Aust.

TEREBRATULACEA gen. et sp. indet. II Veevers, 1959.

Terebratulacea gen. et sp. indet. II, Veevers, 1959, p. 150, pl. 15, figs. 11, 12.

UWA 25978 Figured specimen.

"10-21 ft. below base of LS. conglomerate, S.E. corner Needle Eye Rocks", Teichert's loc. T.18, Fitzroy Basin, Virgin Hills Formation.

Upper Devonian.

Univ. W. Aust.

TRIGONOSEMUS ACANTHODES Etheridge Jnr, 1913. See **INOPINATARCULA ACANTHODES** (Etheridge Jnr), Elliott, 1952.

Trigonosemus acanthodes Etheridge Jnr, 1913, p. 15, pl. 2, figs. 1-4.

GSWA F495 Lectotype (pl. 2, figs. 1-3) (I.C., 1963).

GSWA F496 ? Paratype (pl. 2, fig. 4). Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Geol. Surv. W. Aust.

UNCINULUS WOLMERICUS Veevers, 1959.

Uncinulus wolmericus Veevers, 1959, p. 96, pl. 10, figs. 36-50; pl. 15, figs. 14-17; text-figs. 56-58.

UWA 26275 Paratype (pl. 10, figs. 46-50). Low hill of yellow limestone, N. of reef limestone, approx. 1.5 miles SW. of Long's Well, Fitzroy Basin (Teichert's loc. T.54); Sadler Formation.

Upper Devonian.

Univ. W. Aust.

WAAGENOCHONCHA IMPERFECTA Prendergast, 1935, 1943; Coleman, 1957.

Waagenochoncha imperfecta Prendergast, 1935, p. 15, pl. 4, figs. 1-3.

Waagenochoncha vagans Reed, Prendergast, 1943, p. 26, pl. 3, fig. 6.

Waagenochoncha imperfecta Prendergast, Coleman, 1957, p. 82, pl. 10, figs. 8-14; pl. 11, figs. 1-6.

UWA 3044 Holotype (Prendergast, 1935, pl. 4, fig. 2; Coleman, pl. 10, figs. 8, 9, 10).

UWA 2777 (Prendergast, 1935, pl. 4, fig. 1); UWA 2768 (pl. 4, fig. 3) Paratypes.

UWA 2775 (Coleman, pl. 10, fig. 13) Paratype.

Luluigui Stn, Fitzroy Basin; Liveringa Formation.

UWA 20454 (Prendergast, 1943; pl. 3, figs. 7, 8); UWA 20457 (pl. 3, fig. 9); UWA 20459 (Coleman, p. 10, fig. 12, not UWA 20454 as on plate) Hypotypes.

N. flank of Mt Cedric, Fitzroy Basin; Hardman Member, Liveringa Formation.

UWA 29016a (Coleman, pl. 11, figs. 2-4); UWA 29016b (pl. 10, fig. 14; pl. 11, fig. 1); UWA 29016c (pl. 11, figs. 5, 6) Hypotypes.

Outcrop, $\frac{3}{4}$ mile W. of Luluigui Hstd, Fitzroy Basin; Hardman Member, Liveringa Formation.

UWA 32029 (Coleman, pl. 10, fig. 11) Hypotype.

Limestone at base of Mt Hardman, Fitzroy Basin; Hardman Member, Liveringa Formation.

Upper Permian.

Univ. W. Aust.

PELECYPODA

ACANTHOPECTEN ? sp., Dickins, 1963.

Acanthopecten? sp., Dickins, 1963, p. 86, pl. 13, figs. 5-9.

UWA 45399 Figured specimen A (figs. 7, 8).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

UWA 45400 Figured specimen C (fig. 9).
Small creek 200-300 yds, N. of Fossil Cliff;
Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

ALECTRYONIA MARSHII Sowerby;
Etheridge Jnr, 1910.

Alectryonia marshii Sowerby, Etheridge Jnr,
1910, p. 31, pl. 6, figs. 5-7; pl. 8, fig. 4.

GSWA F66A (pl. 6, fig. 5); GSWA F66B (pl.
8, fig. 4) Hypotypes.

Tibbradden Stn, Greenough R. area, Perth
Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

ANTHRACONEILO sp. nov., Dickins, 1963.

Anthraconeilo sp. nov., Dickins, 1963, p. 35,
pl. 1, figs. 25-29; text-fig. 7.

UWA 45349 Figured specimen A (figs.
28, 29).

Beckett's Gully, Irwin R. area, Perth Basin;
Fossil Cliff Formation.

UWA 45350 Figured specimen B (figs.
25-27).

Fossil Ridge, Irwin R., Perth Basin; Fossil
Cliff Formation.

Lower Permian.

Univ. W. Aust.

ASTARTE CLIFTONI Moore; Etheridge Jnr,
1910.

Astarte cliftoni Moore, Etheridge Jnr, 1910,
p. 37, pl. 5, figs. 5-8; pl. 6, fig. 3.

GSWA F68A (pl. 5, figs. 5-7); UWA F68B
(pl. 6, fig. 3) Hypotypes.

Tibbradden Stn, Greenough R., Perth Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

ASTARTELLA OBLIQUA Dickins, 1963.

Astartella obliqua Dickins, 1963, p. 104, pl.
16, figs. 2-9; text-fig. 13.

UWA 45419 **Holotype** (figs. 3-6).

2.2 miles S. of Mt Sandiman Woolshed, Car-
narvon Basin, Callytharra Formation.

Lower Permian.

Univ. W. Aust.

ASTARTILA BLATCHFORDI (Hosking)
Dickins, 1956. See **CARDIOMORPHA**
BLATCHFORDI Hosking, 1931, 1933b.

Cardiomorpha blatchfordi Hosking, 1931, p.
30, pl. 7, figs. 4a, b; 5.

Cardiomorpha blatchfordi Hosking, Hosking,
1933b, p. 55, pl. 6, fig. 3.

Astartila blatchfordi (Hosking), Dickins,
1956, p. 19, pl. 2, figs. 10, 12.

UWA 29345 (Dickins, pl. 2, figs. 10-12)
Hypotype.

1 mile downstream from Coolkilya Pool,
Minilya R., Wandagee Stn, Carnarvon
Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

ASTARTILA? TUMIDA Dickins, 1963.

Astartila? tumida Dickins, 1963, p. 46, pl. 4,
figs. 4-10.

UWA 45367 **Holotype** (figs. 4-7).

Near Holmwood, Irwin R. area, Perth Basin,
probably from hard limestone in Becketts
Gully or from Fossil Ridge; Fossil Cliff
Formation.

UWA 45367 Paratype A (fig. 8); UWA 45369
Paratype B (fig. 10); UWA 45370 Paratype
C (fig. 9).

Fossil Cliff, Irwin R. area; Fossil Cliff For-
mation.

Lower Permian.

Univ. W. Aust.

ASTARTILA? sp., Dickins, 1963.

Astartila? sp., Dickins, 1963, p. 47, pl. 4,
figs. 11-14.

UWA 45371, Figured specimen A (fig. 14);
UWA 45372, Figured specimen B (figs. 12,
13); UWA 45373, Figured specimen C
(fig. 11).

Woolaga Ck, Irwin R. area, Perth Basin; basal
part of High Cliff Sandstone.

Lower Permian.

Univ. W. Aust.

AVICULOPECTEN TENUICOLLIS (Dana);
Dickins, 1963.

Aviculopecten tenuicollis (Dana), Dickins,
1963, p. 82, pl. 11, fig. 5; pl. 13, figs. 12-17;
pl. 14, fig. 1.

UWA 45393, Hypotype B (pl. 13, fig. 17);
UWA 45394, Hypotype C (fig. 15); UWA
45395, Hypotype D (fig. 16); UWA 45396,
Hypotype E (pl. 11, fig. 5).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

AVICULOPECTEN sp. indet. A., Etheridge
Jnr, 1907a.

Aviculopecten sp. indet. A., Etheridge Jnr,
1907a, pl. 4, fig. 1*.

GSWA F218 Figured specimen.

W. side of low hills $\frac{1}{2}$ mile due E. of railway
stn, Mingenev, Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

AVICULOPECTEN sp., Etheridge Jnr,
1907b.

Aviculopecten sp., Etheridge Jnr, 1907b, p.
33, pl. 10, fig. 3*.

GSWA F270 Figured specimen.

Irwin R., Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

BUCHIA SUBPALLASI (Krumbeck), 1934;
Teichert, 1941.

Buchia subpallasi (Krumbeck), Teichert,
1941, p. 12, pl. 1, figs. 8-12.

GSWA 2/1908 (pl. 1, fig. 10); GSWA 2/1909
(pl. 1, fig. 12); GSWA 2/1910 (pl. 1, figs.
8, 9, 11) Hypotypes (Teichert, 1940).

Broome No. 3 Bore, Fitzroy Basin, at 1253-
1270 feet; Jarlemai Siltstone (McWhae et al.
1958).

Jurassic.

Geol. Surv. W. Aust.

BUCHIA SUBSPITIENSIS (Krumbeck),
1934; Teichert, 1940.

Buchia subspitiensis (Krumbeck), Teichert,
1940, p. 112, pl. 1, figs. 1-7.

GSWA 2/1912a (pl. 1, figs. 1, 2, 7); GSWA
2/1912b (pl. 1, figs. 3, 4, 5); GSWA
2/1913 (pl. 1, fig. 6) Hypotypes
(Teichert, 1940).

Broome No. 3 Bore, Fitzroy Basin, at 1253-
1270 feet; Jarlemai Siltstone (McWhae et al.
1958).

Jurassic.

Geol. Surv. W. Aust.

CARDIOMORPHA BLATCHFORDI
Hosking, 1931, 1933b. See **?PACHYDO-**
MUS, Etheridge Jnr, 1914; **ASTARTILA**
BLATCHFORDI, Dickins, 1956.

Pachydomus ?, Etheridge Jnr., 1914, p. 36,
pl. 7, fig. 3.

Cardiomorpha blatchfordi Hosking, 1931, p.
30, pl. 7, figs. 4a, b; 5.

Cardiomorpha blatchfordi Hosking, Hosking,
1933b, p. 55, pl. 6, fig. 3.

GSWA 1/4999 Hosking, 1931, pl. 7, figs. 4a,
b, chosen herein as **lectotype**, I.C., 1963.

GSWA 1/4951 ? Lectoparatype (I.C.),
Hosking, 1931, pl. 7, fig. 5; 1933, pl. 6,
fig. 3.

2 miles almost E. of Survey Stn R. 20, S. bank,
Wooramel R., Carnarvon Basin; Byro Group.

Lower Permian.

Geol. Surv. W. Aust.

CARDIOMORPHA sp. nov., Hosking, 1931.

Cardiomorpha sp. nov., Hosking, 1931, p. 31,
pl. 7, fig. 6*.

GSWA 1/4701 Figured specimen.

S. bank of Wooramel R., 1 mile abv. Cally-
tharra Springs, Carnarvon Basin; Callytharra
Formation.

Lower Permian.

Geol. Surv. W. Aust.

CARDIUM ARCAEFORMIS Chapman & Crespin, 1934.

Cardium arcaeformis Chapman & Crespin, 1934, p. 121, pl. 11, figs. 25*, 26*, 27*.

WAM 6048 Holotype.

Brick pit, 3 miles NW. of Albany, South-western Area; Plantagenet Beds.

Eocene.

W. Aust. Mus.

CHAENOMYA sp., Dickins, 1963.

Chaenomya sp., Dickins, 1963, p. 51, pl. 8, figs. 12-16.

UWA 45374 Figured specimen A (figs. 12, 13).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

CHLAMYS CLARKEI Feldtmann, 1951.

Chlamys clarkei Feldtmann, 1951, p. 19, pl. 21, figs. 7, 8.

UWA 37534 **Holotype** (pl. 2, fig. 7).

UWA 37535 Paratype (pl. 2, fig. 8).

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CHLAMYS CURVICOSTA Feldtmann, 1951.

Chlamys curvicosta Feldtmann, 1951, p. 21, pl. 2, figs. 9, 10.

UWA 17199 **Holotype** (a) (pl. 2, fig. 9).

UWA 17199a ? Paratype (b) (pl. 2, fig. 10).

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CHLAMYS FAIRBRIDGEI Feldtmann, 1951.

Chlamys fairbridgei Feldtmann, 1951, p. 24, pl. 2, fig. 12*.

UWA 37537 **Holotype.**

McIntyre Gully, 10 ft below base of Gingin Chalk; Perth Basin.

Upper Cretaceous.

Univ. W. Aust.

CHLAMYS GINGINENSIS Feldtmann, 1951.

Chlamys ginginensis Feldtmann, 1951, p. 17, pl. 2, figs. 4, 5, 6.

UWA 37532 **Holotype** (pl. 2, fig. 4).

UWA 37533 (pl. 2, figs. 5, 5a); UWA 17920b (pl. 2, figs. 6, 6a) Paratypes.

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CHLAMYS SUBTILIS Feldtmann, 1951.

Chlamys subtilis Feldtmann, 1951, p. 15, pl. 2, figs. 1-3.

UWA 17291a **Holotype** (fig. 1).

UWA 17291b (fig. 2); UWA 17291c (fig. 3) Paratypes.

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CHLAMYS (?) TEICHERTI Feldtmann, 1951.

Chlamys (?) teichertii Feldtmann, 1951, p. 22, pl. 2, fig. 11*.

UWA 37536 **Holotype.**

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

CONOCARDIUM GOGOENSE Fletcher, 1943.

Conocardium gogoense Fletcher, 1943, p. 238, pl. 31, figs. 14-16.

UWA 22321 **Holotype** (figs. 14-16).

UWA 22970 Paratype (unfigured).

Gogo Stn, Fitzroy Basin, SSW. of No. 10 Bore, 1/3 mile off limestone escarpment; Sadler Formation.

Upper Devonian.

Univ. W. Aust.

CONOCARDIUM sp., Dickins, 1963.

Conocardium sp., Dickins, 1963, p. 105, pl. 16, fig. 1*.

UWA 45420 Figured specimen.

Becketts Gully, Irwin R. area, Perth Basin;
Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

CUCULLAEA SEMISTRIATA Moore;
Etheridge Jnr, 1910.

Cucullaea semistriata Moore, Etheridge Jnr.
1910, p. 34, pl. 6, figs. 1, 2; pl. 8, fig. 3.

GSWA F64 Hypotype (pl. 6, figs. 1, 2).

Tibradden Stn, Greenough R. area, Perth
Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

CUCULLAEA sp., Etheridge Jnr, 1910.

Cucullaea sp., Etheridge Jnr, 1910, p. 35, pl. 7,
fig. 1; pl. 8, figs. 1, 2.

GSWA F81A (pl. 7, fig. 1); GSWA F81B (pl.
8, figs. 1, 2) Figured specimens.

Tibradden Stn, Greenough R. area, Perth
Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

CYPRICARDINIA? ELEGANTULA
Dickins, 1963.

Cypricardinia? elegantula Dickins, 1963, p. 98,
pl. 16, figs. 10-19.

UWA 45411 Holotype (figs. 17, 18).

UWA 45412, Paratype A (figs. 10-12); UWA
45413, Paratype B (fig. 19); UWA 45414,
Paratype C (fig. 13); UWA 45415, Paratype
D (fig. 16); UWA 45416, Paratype E (figs.
14, 15).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

DELTOPECTEN ILLAWARENSIS (Morris),
Etheridge & Dun, 1906; Hosking, 1933b.

Deltopecten illawarensis (Morris), Hosking,
1933b, p. 55, pl. 6, fig. 4.

GSWA 1/5085 (Hosking, pl. 6, fig. 4)
Hypotype.

S. bank, Wooramel R., 3 miles E. from Top
Camp, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

DELTOPECTEN SUBQUINQUELINEATUS
(McCoy); Etheridge Jnr, 1907a, 1914.

Deltopecten subquiquelineatus (McCoy),
Etheridge Jnr, 1907a, p. 22, pl. 5, figs. 1-3.

Deltopecten subquiquelineatus (McCoy),
Etheridge Jnr, 1914, p. 36, pl. 8, fig. 1.

GSWA F217A (Etheridge Jnr, 1907, pl. 5,
fig. 1); GSWA F219 (fig. 2); GSWA
F217B (fig. 3) Hypotypes.

W. side of low hill, 1 mile due E. of Railway
Stn, Mingnew, Perth Basin.

GSWA F472 (Etheridge, 1914, pl. 8, fig. 1)
Hypotype.

Byro Stn, Byro Plains, S. of Carrandibby
Range (well sinking, 60 feet from surface),
Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

DELTOPECTEN SUBQUINQUELINEATUS
(McCoy) var. **COMPTUS** Dana; Hosking,
1931.

Deltopecten subquiquelineatus var. *comptus*
Dana, Hosking, 1931, p. 32, pl. 12, figs.
1-3; pl. 13, figs. 1-5.

GSWA 1/4943 (Hosking, pl. 12, figs. 1-3);
GSWA 1/4643 (pl. 13, fig. 2); UWA
8482a (pl. 12, fig. 2; pl. 15, fig. 5); UWA
8482b (pl. 13, fig. 1); UWA 8482c (pl. 13,
fig. 3) Hypotypes.

2 miles ESE. of Survey Stn R.20, Wooramel
R., Carnarvon Basin.

UWA 8476a (pl. 13, fig. 6) Hypotype.

Bogadi Outcamp, Wooramel R., 7 miles S. of
Survey Stn R.18, Carnarvon Basin; Byro
Group.

Lower Permian.

Geol. Surv. W. Aust.; Univ. W. Aust.

DELTOPECTEN sp., Dickins, 1963.

Deltopecten sp., Dickins, 1963, p. 81, pl. 12, fig. 4*.

UWA 45392 Figured specimen.

Fossil Cliff, Irwin R., Perth Basin, Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

ECHINOTIS SINUATA Teichert, 1941a. See **MELEAGRINELLA SINUATA** (Teichert), Teichert, 1952.

Echinotis sinuata Teichert, 1941a, p. 22, pl. 1, figs. 1-10, text-figs. 3, 4.

UWA 19211 **Holotype** (pl. 1, figs. 1-3).

UWA 19212 (text-fig. 3); UWA 19213 (fig. 4); UWA 19214 (fig. 5); UWA 19215 (text-fig. 4); UWA 19216 (figs. 6, 7); UWA 19217 (fig. 8) Paratypes.

Bringo railway cutting, 19½ miles E. of Geraldton, Perth Basin; Newmarracarra Limestone.

UWA 19218 (fig. 9); UWA 19219 (fig. 10) Paratypes (missing at present).

20 ch. SE. of Curdamuda Well, Minilya R., Wandagee Stn, Carnarvon Basin.

Middle Jurassic.

Univ. W. Aust.

EDMONDIA PRITCHARDI Dickins, 1963.

Edmondia pritchardi Dickins, 1963, p. 43, pl. 3, figs. 15-23; pl. 4, figs. 15, 16.

UWA 45361 **Holotype** (pl. 3, figs. 19-21; pl. 4, fig. 15).

UWA 45362 Paratype A (pl. 3, fig. 22);

UWA 45363 Paratype B (pl. 4, fig. 16).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

UWA 45364 Paratype C (pl. 3, fig. 15);

UWA 45365 Paratype D (pl. 3, fig. 17).

Becketts Gully, Irwin R. area; Fossil Cliff Formation.

UWA 45366 Paratype E (pl. 3, fig. 16).

2.2 miles S. of Mt Sandiman Woolshed, Mt Sandiman Stn, Carnarvon Basin; Callytharra Formation.

Lower Permian.

Univ. W. Aust.

GIRTYPECTEN OVALIS Dickins, 1963.

Girtypecten ovalis Dickins, 1963, p. 85, pl. 13, figs. 1-4.

UWA 45397 **Holotype** (figs. 1, 2).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

UWA 45398 Paratype B (fig. 3).

Fossil Ridge, Irwin R. area; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

GLYPTOLEDA COLEYI Fletcher, 1945.

Glyptoleda coleyi Fletcher, 1945, p. 301, pl. 19, figs. 7-9.

UWA 42060 **Holotype** (fig. 7).

Barabiddy Creek, 19 ch. upstream from fence between Weér and Barabiddy Paddocks, Wandagee, Carnarvon Basin; Cundlego Formation.

UWA 42061 (fig. 9); UWA 42062 (fig. 8) Paratypes.

About 10 ch. from S. bank of Whitfields Ck, 110 ch. from its junction with Minilya R., Wandagee Stn, Carnarvon Basin; Cundlego Formation.

Lower Permian.

Univ. W. Aust.

MELEAGRINELLA SINUATA (Teichert), Teichert, 1952. See **ECHINOTIS SINUATA** Teichert, 1941a.

Meleagrinnella sinuata (Teichert), Teichert, 1952, p. 131.

MODIOLA MAITLANDI Etheridge Jnr, 1910.

Modiola maitlandi Etheridge Jnr, 1910, p. 33, pl. 5, figs. 1*, 2*.

GSWA F75 **Holotype** (by monotypy, I.C. 1963).

Fossil Hill, 2 miles E. of Moonyoonooka. Greenough R. area, Perth Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

MODIOLA (?) sp. indet., Etheridge Jnr, 1907a.
Modiola (?) sp. indet., Etheridge Jnr, 1907a,
p. 23, pl. 5, fig. 5; pl. 6, fig. 5.

GSWA F222 Figured specimen (pl. 6,
fig. 5).

W. side of low hill, 1 mile due E. of Railway
Stn, Mingenew, Perth Basin.

Lower Permian.

Geol. Surv. W. Aust.

MODIOLUS KONECKII Dickins, 1963.

Modiolus koneckii Dickins, 1963, p. 61, pl. 8,
figs. 6-11; text-fig. 9.

UWA 45388 Holotype (figs. 10, 11).

Becketts Gully, Irwin R. area, Perth Basin;
Fossil Cliff Formation.

UWA 45389 Paratype A (fig. 8).

Fossil Ridge, Irwin R. area; Fossil Cliff Forma-
tion.

UWA 45390 Paratype B (fig. 7).

Fossil Cliff, Irwin R.; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

MYALINA sp. Hosking, 1933b.

Myalina sp., Hosking, 1933b, p. 56, pl. 5, figs.
6a*, b*.

GSWA 1/4954 Figured specimen.

2 miles E. of Survey Stn R.20, Wooramel R.,
Carnarvon Basin; Byro Group.

Lower Permian.

Geol. Surv. W. Aust.

MYONIA sp. nov., Dickins, 1963.

Myonia sp. nov., Dickins, 1963, p. 50, pl. 5,
figs. 13-19.

UWA 45373 Figured specimen A (figs.
15-17); **UWA 45376**, Figured specimen B
(fig. 13); **UWA 45377**, Figured specimen C
(fig. 19).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil
Cliff Formation.

UWA 45378, Figured specimen D (fig. 14).
Fossil Cliff, Irwin R.; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

NUCULANA BASEDOWI Etheridge Jnr,
1907c; Fletcher, 1946.

Nuculana basedowi Etheridge Jnr, 1907c, p. 8,
pl. 6, fig. 6.

Nuculana basedowi Etheridge Jnr, Fletcher.
1946, p. 310, pl. 22, figs. 6, 7.

UWA 42064 (Fletcher, fig. 6), UWA
42065 (fig. 7).

S. bank, Minilya R., near Bulgadoo Pool,
Wandagee Stn, 3380 yds. N.110°, W. of
Bulbawardoo Windmill, Carnarvon Basin;
Bulgadoo Shale.

Lower Permian.

Univ. W. Aust.

NUCULANA DARWINI. See **PHESTIA**
DARWINI.

NUCULANA UNDULOSTRIATA Fletcher,
1945 = **NUCULANA WATERHOUSEI**
Etheridge Jnr ?var., 1907.

Nuculana waterhousei Etheridge Jnr ?var.,
1907, p. 6, pl. 5, figs. 10-11.

Nuculana undulostriata Fletcher, 1945, p. 309.

UWA 42063 Holotype (not figured but
described).

S. bank of Minilya R., near Bulgadoo Pool,
2280 yds. N.110° W. of Bulbawardoo Wind-
mill; Carnarvon Basin; Bulgadoo Shale.

Lower Permian.

Univ. W. Aust.

NUCULOPSIS (NUCULANELLA) BAN-
GARRAENSIS Dickins, 1963.

Nuculopsis (Nuculanella) bangarraensis
Dickins, 1963, pl. 31, pl. 1, figs. 7-12.

UWA 45348 Holotype (figs. 8, 9).

UWA 45380 Paratype A (figs. 10-12).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil
Cliff Formation.

Lower Permian.

Univ. W. Aust.

ORIOCRASSATELLA STOKESI Etheridge Jnr, 1907c; Prendergast, 1935; Dickins, 1956; Newell, 1958.

Oriocrassatella stokesi Etheridge Jnr, 1907c, p. 9, pl. 6, figs. 2-5.

Oriocrassatella stokesi Etheridge Jnr, Prendergast, 1935, p. 25, pl. 2, figs. 19, 20.

Oriocrassatella stokesi Etheridge Jnr, Dickins, 1956, p. 33, pl. 6, figs. 8-14.

Oriocrassatella stokesi Etheridge Jnr, Newell, 1958, fig. 2.

UWA 10665 (Prendergast, figs. 19, 20) Hypotype.

St. George's Range, Fitzroy Basin, 9 miles ENE. by E. from Trig. Stn G2.; ?Noonkanbah Formation.

UWA 33922 (Dickins, figs. 11, 12) Hypotype C; UWA 33923 (figs. 13, 14) Hypotype D.

?On Wandagee-Carnarvon road, 2 miles N. of Wandagee Hill, and abt. 6½ miles SSW. of Wandagee Hstd, Wandagee Stn, Carnarvon Basin, Teichert's loc. 4; Nalbia Greywacke.

UWA 33924 (Dickins, pl. 6, fig. 8) Hypotype A; UWA 33925 (fig. 9), Hypotype B
?Wandagee-Carnarvon road, 7½ miles WSW. of Wandagee Hstd, Wandagee Stn, Carnarvon Basin (Teichert's loc. 5); Nalbia Greywacke.

UWA 28740 (Newell, fig. 2) Hypotype.

NW. of Mt Marmion, Fitzroy Basin; lower Liveringa Formation.

Lower Permian.

Univ. W. Aust.

OSTREA THOLIFORMIS Etheridge Jnr, 1910.

Ostrea tholiformis Etheridge Jnr, 1910, p. 30, pl. 7, figs. 2-7.

GSWA F70B Lectotype (figs. 2, 3, herein chosen, I.C. 1963).

GSWA F70C Paratype (fig. 4).

Tibradden Stn, Greenough R. area, Perth Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

OSTREA sp., Etheridge Jnr, 1910.

Ostrea sp. Etheridge Jnr, 1910, p. 30, pl. 9, fig. 2*.

GSWA F70A Figured specimen.

Tibradden Stn., Greenough R. area, Perth Basin

Middle Jurassic.

Geol. Surv. W. Aust.

?PACHYDOMUS, Etheridge Jnr., 1914. See **CARDIOMORPHA BLATCHFORDI** Hosking, 1931.

?*Pachydomus*, Etheridge Jnr, 1914, p. 36, pl. 7, fig. 3*.

GSWA F490 Figured specimen.

Byro Stn, Byro Plains, S. of Carrandibby Range (well sinking, 60 feet from surface), Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

PACHYMYONIA cf. **OCCIDENTALIS** Dickins, 1963.

Pachymyonia occidentalis Dickins, 1957, p. 28, pl. 4, figs. 5-9.

Pachymyonia cf. *occidentalis* Dickins, 1963, p. 50, pl. 5, figs. 20*, 21*.

UWA 45379 Figured specimen.

Near Holmwood, Irwin R. area, Perth Basin, probably from hard limestone bands on Fossil Ridge or in Becketts Gully; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

PALAEOCOSMOMYA APLATUM Fletcher, 1946.

Palaeocosmomya aplatum Fletcher, 1946, p. 403, pl. 34, figs. 7*, 8*.

UWA 42059 Holotype.

E. limb of syncline, W. of Coolkilya Pool, Wandagee Stn, N. bank of Minilya R., Carnarvon Basin.

Lower Permian.

Univ. W. Aust.

PALAEOCOSMOMYA TEICHERTI Fletcher, 1946.

Palaeocosmomya teichertii Fletcher, 1946, p. 402, pl. 34, figs. 4-6; pl. 35, figs. 7, 8.

UWA 42056 Holotype (pl. 34, fig. 6; pl. 35, fig. 8).

E. limb of syncline, W. of Coolkilya Pool, Wandagee Stn, near mouth of north-western gully of Wandagee Hill, N. bank of Minilya R., Carnarvon Basin.

UWA 42057 Paratype (pl. 34, fig. 4).

On road from Wandagee Hstd to Garden Outcamp, Coolkilya Flat, Wandagee Stn.

Lower Permian.

Univ. W. Aust.

PALAEOCOSMOMYA sp. nov., Dickins, 1963.

Palaeocosmomya sp. nov., Dickins, 1963, p. 56, pl. 6, figs. 21, 22.

UWA 45383 Figured specimen A (fig. 21).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

PALAEOLIMA sp. nov., Dickins, 1963.

Palaeolima sp. nov., Dickins, 1963, p. 92, pl. 14, figs. 13-16.

UWA 45404 Figured specimen B (figs. 13-15).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

PARALLELODON BIMODOLIRATUS Dickins, 1963.

Parallelodon bimodoliratus Dickins, 1963, p. 40, pl. 3, figs. 6-14.

UWA 45352 Holotype (figs. 6-8).

UWA 45453 Paratype A (fig. 12); **UWA 45354** Paratype B (fig. 13); **UWA 45355** Paratype C (fig. 9).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

UWA 45356 Paratype D (fig. 14).

Below Round Hill, Irwin R. area; Fossil Cliff Formation.

UWA 45357 Paratype E (fig. 11).

Near Holmwood, Irwin R. area; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

PECTEN ILLAWARENSIS Morris, 1845.

See **DELTOPECTEN ILLAWARENSIS** (Morris) Etheridge Jnr, 1906; Hosking, 1933a.

PHESTIA DARWINI (de Koninck) 1877; Dickins 1957, 1963.

Nuculana darwini (de Koninck), Dickins, 1957, p. 18, pl. 2, figs. 1-6.

Phestia darwini (de Koninck), Dickins, 1963, p. 38, pl. 2, figs. 4-11.

UWA 45351 Hypotype D (fig. 4).

Mt Wynne, Fitzroy Basin, 1.3 miles E. of Nura Nura Ridge; beds overlying limestones of Nura Nura Member.

Lower Permian.

Univ. W. Aust.

PRAEUNDULOMYA SUBELONGATA Dickins, 1963.

Praeundulomya subelongata Dickins, 1963, p. 54, pl. 6, figs. 15-20; text-fig. 8.

UWA 45381 Holotype (figs. 15-18).

Fossil Cliff, Irwin R. area, Perth Basin; Fossil Cliff Formation.

UWA 45382 Paratype A (fig. 19).

Fossil Ridge, Irwin R. area; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

PSEUDAMUSSIUM CANDIDUS Feldtmann, 1951.

Pseudamussium candidus Feldtmann, 1951, p. 23, pl. 1, fig. 9; pl. 2, figs. 13, 14.

UWA 37531 Holotype (pl. 2, fig. 13).

UWA 17202a (pl. 1, fig. 9); **UWA 17202** (pl. 2, fig. 14) Paratypes.

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

PSEUDOMYALINA sp., Dickins, 1963.

Pseudomyalina sp., Dickins, 1963, p. 60, pl. 10, figs. 10-15.

UWA 45391 Figured specimen C (figs. 14, 15).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

RADULA DUPLICATA (Sowerby) 1827; Etheridge Jnr, 1910.

Radula duplicata (Sowerby), Etheridge Jnr, 1910, pl. 8, figs. 7*, 8*.

GSWA F78 Hypotype.

4 miles S. of Tibradden Stn, Greenough R. area, Perth Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

SCHIZODUS SANDIMANENSIS Dickins, 1963.

Schizodus sandimanensis Dickins, 1963, p. 101, pl. 17, figs. 1-9; text-fig. 12B.

UWA 45417 **Holotype** (figs. 3-5).

2.2 miles S. of Mt Sandiman Woolshed, Carnarvon Basin; Callytharra Formation.

UWA 45418 Paratype E (figs. 7, 8).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

'SOLEMYA' HOLMWOODENSIS Dickins, 1963.

'Solemya' holmwoodensis Dickins, 1963, p. 59, pl. 7, figs. 1-9; pl. 8, figs. 17, 18.

UWA 45384 **Holotype** (pl. 7, figs. 1-4; pl. 8, figs. 17, 18).

UWA 45385 Paratype A (pl. 7, figs. 8, 9);

UWA 45386 Paratype B (pl. 7, fig. 5);

UWA 45387 Paratype C (pl. 7, figs. 6, 7).

Woolaga Ck, Irwin R. area, Perth Basin; top part of Holmwood Shale.

Lower Permian.

Univ. W. Aust.

STREBLOPTERIA sp., Dickins, 1963.

Streblopteria sp., Dickins, 1963, p. 88, pl. 14, figs. 9-12.

UWA 45401 Figured specimen B (fig. 10).
Woolaga Ck, Irwin R. area, Perth Basin; basal part of High Cliff Sandstone.

UWA 45402 Figured specimen D (fig. 11).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

STREBLOPTERIA? sp., Dickins, 1963.

Streblopteria? sp., Dickins, 1963, p. 88, pl. 14, fig. 17*.

UWA 45403 Figured specimen.

Becketts Gully, Irwin R. area, Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

STUTCHBURIA HOSKINGAE Dickins, 1963.

Stutchburia hoskingae, Dickins, 1963, p. 96, pl. 15, figs. 16-23.

UWA 45405 **Holotype** (fig. 23).

UWA 45406 Paratype A (figs. 20-22).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

UWA 45407 Paratype C (fig. 18).

Fossil Cliff, Irwin R., Fossil Cliff Formation.

UWA 45408 Paratype D (fig. 16); UWA 45409 Paratype E (fig. 19).

Fossil Cliff, Irwin R., Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

STUTCHBURIA VARIABILIS Dickins, 1957, 1963.

Stutchburia variabilis Dickins, 1957, p. 21, pl. 2, figs. 7-14.

Stutchburia variabilis Dickins, 1963, p. 96, pl. 15, fig. 24*.

UWA 45410 Hypotype.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

STUTCHBURIA? Hosking, 1933b.

Stutchburia?, Hosking, 1933b, p. 57, pl. 5, fig. 7*.

GSWA 1/4957 Figured specimen.

2 miles almost due E. of Survey Stn R.20, Wooramel R., Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

SYNCYCLONEMA (CTENIOPLEURIUM)

PERSPINOSUS Feldtmann, 1951.

Syncyclonema (Cteniopleurium) perspinosus Feldtmann, 1951, p. 13, pl. 1, figs. 6-8.

UWA 37527 Holotype (pl. 1, fig. 6).

UWA 37528 (fig. 7); **UWA 37529** (fig. 8); **UWA 37539** (not figured) Paratypes.

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

SYNCYCLONEMA (CTENIOPLEURIUM)

SUBSERRATUS Feldtmann, 1951.

Syncyclonema (Cteniopleurium) subserratus Feldtmann, 1951, p. 10, pl. 1, figs. 1-3.

UWA 37522 Holotype (pl. 1, fig. 1).

UWA 37523 (pl. 1, fig. 2); **UWA 27534** (pl. 1, fig. 3) Paratypes.

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

SYNCYCLONEMA (CTENIOPLEURIUM)

SUBRETICULATUS Feldtmann, 1951.

Syncyclonema (Cteniopleurium) subreticulatus Feldtmann, 1951, p. 12, pl. 1, figs. 4, 5.

UWA 37525 Holotype (pl. 1, fig. 4).

McIntyre Gully, Gingin, Perth Basin, Gingin Chalk.

UWA 37526 Paratype (pl. 1, fig. 5).

Molecap Hill, Gingin, Perth Basin; Gingin Chalk.

Upper Cretaceous.

Univ. W. Aust.

TRIGONIA MOOREI Lycett, 1870; Etheridge Jnr, 1910.

Trigonia moorei Lycett, Etheridge Jnr, 1910, p. 36, pl. 4, figs. 1-8.

Trigonia moorei Lycett, Whitehouse, 1924, text-fig. 2.

GSWA F62 Hypotype (Etheridge, pl. 4, fig. 3).

Tibradden Stn, Greenough R. area, Perth Basin.

Middle Jurassic.

Geol. Surv. W. Aust.

UNDULOMYA PLEIOPLEURA Fletcher, 1946.

Undulomya pleiopleura Fletcher, 1946, p. 388, pl. 34, fig. 1; pl. 35, figs. 1-5.

UWA 42084 Holotype (pl. 35, fig. 1).

UWA 42049 (pl. 35, fig. 2, not pl. 34, fig. 2 as in explanation of plates); **UWA 42050** (pl. 34, fig. 1); **U.W.A. 42051** (pl. 35, figs. 3, 4, not pl. 34, figs. 3, 4 as in explanation of plates) Paratypes.

Uppermost beds in centre of syncline, 1 mile W. of Coolkilya Pool, N. bank Minilya R., Wandagee Stn, Carnarvon Basin; Coolkilya Greywacke.

UWA 42052 (pl. 35, fig. 5) Paratype.

W. limb of syncline, on Coolkilya Flat, W. of Wandagee Hill, Wandagee Stn, Carnarvon Basin; Coolkilya Greywacke.

Lower Permian.

Univ. W. Aust.

UNDULOMYA RUGULATA Fletcher, 1946.

Undulomya rugulata Fletcher, 1946, p. 400, pl. 34, figs. 2, 3; pl. 35, fig. 6.

UWA 42055 Holotype (pl. 34, figs. 2, 3).

E. limb of syncline, W. of Coolkilya Pool, N. bank, Minilya R., Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

GASTROPODA

BAYLEA PERTHENSIS Dickins, 1963.

Baylea perthensis Dickins, 1963, p. 127, pl. 26, figs. 10-16.

UWA 45446 Holotype (figs. 10-13).

UWA 45447 Paratype A (figs. 15, 16);
UWA 45448 Paratype B (fig. 14).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

BELLEROPHON COSTATUS Sowerby; Etheridge Jnr., 1907b.

Bellerophon costatus Sowerby, Etheridge Jnr, 1907b, p. 27, pl. 7, figs. 11-14.

GSWA F437A (figs. 11, 12, 13); **GSWA F437B** (fig. 14) Hypotypes

Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Geol. Surv. W. Aust.

BELLEROPHON cf. **FORMANI** Dickins, 1963.

Bellerophon formani Dickins, 1963, p. 111, pl. 19, figs. 14-22.

Bellerophon cf. *formani* Dickins, 1963, p. 112, pl. 19, figs. 5-13.

UWA 45422 Figured specimen A (fig. 13);
UWA 45423 Figured specimen B (figs. 11, 12).

Old Glendevon Hstd on Woolaga Ck, Irwin R. area, Perth Basin; High Cliff Sandstone

UWA 45424 Figured specimen C (figs. 8-10); **UWA 45425** Figured specimen D (fig. 5); **UWA 45426** Figured specimen E (figs. 6, 7).

Fossil Cliff, Irwin R.; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

BELLEROPHON sp. nov., Dickins, 1963.

Bellerophon sp. nov., Dickins, 1963, p. 113, pl. 19, figs. 1-4.

UWA 45427 Figured specimen A (figs. 1-3); **UWA 45428** Figured specimen B (fig. 4).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

MOURLONIA (WOOLNOUGHIA) ANGULATA Dickins, 1963.

Mourlonia (Woolnoughia) angulata Dickins, 1963, p. 123, pl. 23, figs. 12-17.

UWA 45436 Holotype (figs. 12, 13).

UWA 45437 Paratype A (figs. 15, 16);
UWA 45438 Paratype B (fig. 17); **UWA 45439** Paratype C (fig. 14).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

MACROCHILINA WINENSIS Dickins, 1963.

Macrochilina winensis Dickins, 1963, p. 134, pl. 26, figs. 1-7.

UWA 45455 Holotype (figs. 6, 7).

UWA 45456 Paratype A (fig. 1).

Fossil Ridge, Irwin R. area, Perth Basin; Fossil Cliff Formation.

UWA 45457 Paratype B (figs. 4, 5).
Fossil Cliff, Irwin R., Fossil Cliff Formation.

UWA 45458 Paratype C (figs. 2, 3).
Becketts Gully, Irwin R. area; labelled Holmwood Shale, but probably Fossil Cliff Formation.

Lower Permian.

Univ. W. Aust.

NATICOPSIS? sp. nov., Dickins, 1963.

Naticopsis? sp. nov. Dickins, 1963, p. 135, pl. 26, figs. 8, 9.

UWA 45459 Figured specimen A (fig. 9).
Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

UWA 45460 Figured specimen B (fig. 8).
Old Glendevon Hstd, Woolaga Ck, Irwin R. area; basal part of High Cliff Sandstone.

Lower Permian.

Univ. W. Aust.

PLATYCERAS cf. **ABUNDANS** (Wanner),
Dickins, 1963.

Platyceras cf. *abundans* (Wanner), Dickins,
1963, p. 131, pl. 25, figs. 7-18.

UWA 45450 Figured specimen A (figs. 7,
8); UWA 45451 Figured specimen B (figs.
10-12); UWA 45452 Figured specimen C
(figs. 13-15); UWA 45453 Figured specimen
D (fig. 9); UWA 45454 Figured specimen E
(figs. 16-18).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

PLATYTEICHUM JOHNSTONEI Dickins,
1961.

Platyteichum johnstonei Dickins, 1961, p. 134,
pl. 17, figs. 9-12.

UWA 42115 (fig. 12) Paratype.

2 miles NNE. of Trig. K56, in fault block S.
of Barrabiddy Ck, Carnarvon Basin; top
part of Bulgadoo Shale or more likely bot-
tom part of Cundlego Formation.

UWA 42116 (figs. 10, 11) Paratype B;
UWA 42117, Paratype C, not figured.

W. side of Minilya syncline, S. of Minilya R.,
W. of Coolkilya Pool, Carnarvon Basin;
lower part of Wandagee Formation.

Lower Permian.

Univ. W. Aust.

PTYCHOMPHALINA MAITLANDI
Etheridge Jnr, 1903.

Ptychomphalina maitlandi Etheridge Jnr, 1903,
p. 24, pl. 1, figs. 13, 14, 15.

GSW9 F169A Lectotype herein chosen (I.C.
1963) pl. 1, figs. 13, 15.

GSWA F169B Figured specimen, pl. 1,
fig. 14.

Minilya R., Wandagee Stn, Carnarvon Basin.

Lower Permian.

Geol. Surv. W. Aust.

PTYCHOMPHALINA TALBOTI Dickins,
1963.

Ptychomphalina talboti Dickins, 1963, p. 125,
pl. 24, figs. 12-19.

UWA 45440 Paratype A (figs. 17, 18);
UWA 45441 Paratype B (figs. 14, 15); UWA
45442 Paratype C (fig. 19).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

RETISPIRA IRWINENSIS Dickins, 1963.

Retispira irwinensis Dickins, 1963, p. 114, pl.
20, figs. 20-24.

UWA 54529 Holotype (figs. 23, 24).

UWA 45430 Paratype A (fig. 20).

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

UWA 45431 Paratype B (figs. 21, 22).

Becketts Gully, Irwin R. area; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

STRAPAROLUS (LEPTOMPHALUS) sp.
nov., Dickins, 1963.

Straparolus (Leptomphalus) sp. nov., Dickins,
1963, p. 130, pl. 25, figs. 1*-3*.

UWA 45449 Figured specimen.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff
Formation.

Lower Permian.

Univ. W. Aust.

WARTHIA? CARINATA Dickins, 1963.

Warthia? carinata Dickins, 1963, p. 110, pl. 22,
figs. 1-8.

UWA 45432 Holotype (figs. 2-4).

UWA 45433 Paratype A (fig. 1); UWA
45434, Paratype B (figs. 7, 8); UWA 45435
Paratype C (figs. 5, 6).

Mt Wynne, 1.3 miles E. of Nura Nura Ridge,
Fitzroy Basin; Nura Nura Member

Lower Permian.

Univ. W. Aust.

GASTEROPOD TRAIL, Teichert, 1941.

Gasteropod trail, Teichert, 1941, p. 384, text-
fig. 3*.

UWA 37248 Figured specimen.

1st ridge N. of Moulamen Hill, W. Kimberleys,
Fitzroy Basin; Liveringa Group.

Permian.

Univ. W. Aust.

CEPHALOPODA

AGATHICERAS APPLANATUM Teichert, 1944a.

Agathiceras applanatum Teichert, 1944a, p. 85, pl. 17, figs. 6, 7; text-fig. 1.

UWA 21451 Holotype (pl. 17, figs. 6, 7).

300 yds. E. of mouth of SE. gully of Wandagee Hill, Mungadon Paddock, Wandagee Stn, Carnarvon Basin; Coolkilya Greywacke.

Lower Permian.

Univ. of W. Aust.

AMMONITES (DORSETENSIA) CLARKEI

Crick, 1894. See **DORSETENSIA CLARKEI** (Crick) Etheridge, 1910, Spath, 1939; **FONTANNESIA CLARKEI** (Crick), Arkell, 1954.

AMMONITES (PERISPHINCTES) ROBINOSUS Crick, 1894. See **PSEUDOTOITES ROBINOSUS** (Crick), Arkell, 1954.

AMMONITES (PERISPHINCTES) CHAMPIONENSIS Crick, 1894. See **PSEUDOTOITES CHAMPIONENSIS** (Crick), Arkell, 1954.

AMMONITES (SPHAEROCERAS) WOODWARDI Crick, 1894. See **NORMANITES WOODWARDI** (Crick) Spath, 1940; **OTOITES WOODWARDI** (Crick), Arkell, 1954.

AMMONITES (STEPHANOCERAS) AUSTRALIS Crick, 1894. See ? **OTOITES AUSTRALIS** (Crick), Arkell, 1954.

ANTHOCERAS DECORUM Teichert & Glenister, 1954.

Anthoceras decorum Teichert & Glenister, 1954, p. 63, pl. 8, fig. 1*.

UWA 34129 (not 34128 as on plate) **Holotype**, represented by thin section Emanuel Ck, Kimberleys, Fitzroy Basin (loc. E. 10), 460-1065 feet above base of exposed section of Emanuel Limestone.

Early Ordovician.

Univ. W. Aust.

ATURIA CLARKEI Teichert, 1944.

Aturia cf. *A. ziczac* (Sow.), Miller & Crespin, 1939, p. 80, pl. 14, fig. 1.

Aturia clarkei Teichert 1944, p. 79, pl. 15, figs. 1-4; pl. 16, figs. 1, 2; text-fig. 2.

UWA 21406 Holotype (Teichert, pl. 15, fig. 2; text-fig. 2).

UWA 21407a (pl. 15, figs. 3, 4); UWA 21407b (pl. 16, fig. 2); UWA 21407d (not 21407e as on plate) (pl. 15, fig. 1) Paratypes.

UWA 21407c, e Paratypes unfigured.

Track following eastern scarp of Kennedy Range, 1.3 miles N. of breakway leading to Merlinleigh Hstd, on alluvial plains, Carnarvon Basin; Merlinleigh Sandstone.

Middle to Upper Eocene.

Univ. W. Aust.

BELEMNOPSIS cf. **B. ALFURICA** (Boehm), 1905; Teichert, 1941c.

Belemnopsis cf. *B. afurica* (Boehm), Teichert, 1941c, p. 114, pl. 1, figs. 14-21.

GSWA 2/1906 (pl. 1, figs. 17, 18); GSWA 2/1906a (pl. 1, figs. 19-21); Figured specimens.

Broome Bore No. 2, Fitzroy Basin at 1300-1305 feet; Jarlemai Siltstone (McWhae et al. 1958).

GSWA 2/1907 (pl. 1, figs. 14, 15, 16) Figured specimens.

Broome Bore No. 4, Fitzroy Basin, at 1250 feet; Jarlemai Siltstone.

Upper Jurassic.

Geol. Surv. W. Aust.

BELEMNOPSIS cf. **B. INCISA** Stolley, 1934; Teichert, 1941c.

Belemnopsis cf. *B. incisa* Stolley, Teichert, 1941c, p. 116, pl. 1, figs. 22*, 23*.

GSWA 2/1914 Figured specimen.

Broome Bore No. 3, Fitzroy Basin, at 1272 feet-1272 feet 9 inches; Jarlemai Siltstone (McWhae et al. 1958).

Upper Jurassic.

Geol. Surv. W. Aust.

BELOCERAS SAGITTARIUM (G. & F. Sandberger), 1851; Glenister, 1958.

Beloceras sagittarium (G. & F. Sandberger), Glenister, 1958, p. 85, pl. 5, fig. 12; pl. 10, fig. 7; pl. 13, figs. 1-5; pl. 14, fig. 18; text-figs. 13A, 14, 15A-E.

(For complete synonymy see Glenister, 1958.)

UWA 35773 (Glenister, pl. 13, figs. 4, 5; text-fig. 14) Hypotype.

NE. entrance to Bugle Gap, approx. 4 miles E. of Paddy's Spring, from 'fifth hill' (hills to W. of reef limestone, numbered from N. to S.) 120°05½'E., 18°38¼'S., Fitzroy Basin; Virgin Hills Formation (exact stratigraphic position unknown, Teichert's loc. 61, 1949).

Upper Devonian.

Univ. W. Aust.

CAYUTCERAS INQUISEPTATUM (Teichert), Teichert & Glenister, 1952. See **STEREOPLASMOCERAS INQUISEPTATUM** Teichert, 1939.

DIPLOMOCERAS sp., Spath, 1941.

Diplomoceras sp., Spath, 1941, p. 47.

UWA 23977 Specimen described but not figured.

W. side of Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous.

Univ. W. Aust.

DORSETENSIA CLARKEI (Crick), 1894; Etheridge Jnr, 1910; Spath, 1939. See **FONTANNESIA CLARKEI** (Crick), Arkell, 1954.

Ammonites (Dorsetensia) clarkei Crick, 1894, p. 388, pl. 12, figs. 2a-c.

Dorsetensia clarkei (Crick), Etheridge Jnr, 1910, p. 38, pl. 6, fig. 4; pl. 9, fig. 7.

Dorsetensia clarkei (Crick), Spath, 1939, pl. 1, fig. 2; pl. 2, figs. 1, 2 (fig. 1 type refigured, Brit. Mus.).

GSWA F.71 (Etheridge Jnr, pl. 6, fig. 4) Hypotype.

Tibradden Stn, Greenough R. area, Perth Basin.

UWA 5139 (Spath, pl. 1, fig. 2; text-fig. 1) Hypotype.

19 mile cutting, Bringo Siding, Geraldton district, Perth Basin; Newmarracarra Limestone.

UWA 5146 (Spath, pl. 2, figs. 2a, b) Hypotype.

Fossil Hill, 2 miles E. of Moonyoonooka Railway Stn, Perth Basin; Newmarracarra Limestone.

Middle to Upper Jurassic.

Univ. W. Aust.

EMILEIA (?) sp. nov, Spath, 1939. See **PSEUDOTOITES ROBIGINOSUS** (Crick), Arkell, 1954.

Emileia (?) sp. nov., Spath, 1939, p. 128, pl. 1, fig. 3*.

UWA 37514 Figured specimen.

Mount Hill, 30 miles SE. of Geraldton, Perth Basin; Newmarracarra Limestone.

Middle to Upper Jurassic.

Univ. W. Aust.

EOTHINOCERAS MAITLANDI Teichert & Glenister, 1954.

Eothinoceras maitlandi Teichert & Glenister, 1954, p. 49, pl. 3, figs. 5-13.

UWA 34123 **Holotype** (pl. 3, figs. 9, 11).

UWA 34124 (fig. 8); UWA 34125 (fig. 6);

UWA 34126 (fig. 7) Hypotypes.

Emanuel Creek, Fitzroy Basin, 355-460 feet above base of exposed section of Emanuel Limestone (loc. E.1, Teichert & Glenister, 1954).

Early Ordovician.

Univ. W. Aust.

ESTONIOCERAS sp. Teichert & Glenister, 1954.

Estonioceras sp., Teichert & Glenister, 1954, p. 83, pl. 10, fig. 9*, text-fig. 16*.

UWA 34130 Figured specimen.

Emanuel Ck, Fitzroy Basin, 460-1065 feet above base of exposed section of Emanuel Limestone (loc. E.10, Teichert & Glenister, 1954).

Early Ordovician.

Univ. W. Aust.

EUBACULITES OTACODENSIS (Stoliczka), Spath, 1940.

Eubaculites otacodensis (Stoliczka), Spath, 1940, p. 49, pl. 1, figs. 3a, b; text-fig. 1b.

UWA 20138 Hypotype (pl. 1, fig. 3a, b; text-fig. 1b).

SW. Remarkable Hill, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous (Maestrichtian).

Univ. W. Aust.

EUBACULITES sp. indet., Spath, 1940.

Eubaculites sp. indet., Spath, 1940, p. 49, text-fig. 10*.

UWA 20146 Figured specimen.

SW. Remarkable Hill, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous (Maestrichtian).

Univ. W. Aust.

FONTANNESIA CLARKEI (Crick), Arkell, 1954. See **DORSETENSIA CLARKEI** (Crick), Etheridge, 1910; Spath, 1939.

Ammonites (Dorsetensia) clarkei Crick, 1894, p. 388, pl. 12, figs. 2a-c.

Fontannesia etheridgei Whitehouse, 1924, p. 9.

Fontannesia clarkei (Crick), Arkell, 1954, p. 565, pl. 28, figs. 1-6; pl. 29, figs. 1, 2; pl. 30, figs. 1-4; fig. 3c.

UWA 35052 (Arkell, pl. 28, fig. 1); UWA 35053 (pl. 28, figs. 3a, 3b); UWA 35055 (pl. 28, fig. 5a, b); UWA 35058 (pl. 30, fig. 1); UWA 35060 (pl. 30, fig. 3); UWA 35061 (pl. 30, fig. 4) Hypotypes.

56 ch. at 139° from Bringo Siding, Geraldton district, Perth Basin; Newmarracarra Limestone.

UWA 35056 (pl. 28, fig. 6); UWA 35057 (pl. 28, figs. 2a, b, c); UWA 35059 (pl. 30, fig. 2) Hypotypes.

2 miles due S. of Kojarena Siding, Geraldton district, Perth Basin; Newmarracarra Limestone.

Middle Jurassic.

Univ. W. Aust.

FONTANNESIA FAIRBRIDGEI Arkell, 1954.

Fontannesia fairbridgei Arkell, 1954, p. 563, pl. 27, figs. 4-7.

UWA 35046 **Holotype** (pl. 27, figs. 7a-c).

UWA 35047 (pl. 27, figs. 4a, b); UWA 35048 (fig. 5); UWA 35049 (figs. 6a, b); UWA 35050 (fig. 2); UWA 35051 (fig. 3).

56 ch. at 139° from Bringo Siding, Geraldton District, Perth Basin; Newmarracarra Limestone.

Middle Jurassic

Univ. W. Aust.

FONTANNESIA WHITEHOUSEI Arkell, 1954.

Fontannesia whitehousei Arkell, 1954, p. 566, pl. 29, figs. 3-8; pl. 30, figs. 5, 6; fig. 3 (p. 560).

UWA 34064 (pl. 29, figs. 3a, b) Paratype.

105 ch. at 155° from Moonyoonooka Hstd, Geraldton District, Perth Basin; Newmarracarra Limestone.

UWA 35065 (pl. 29, figs. 7a, b); UWA 35066 (pl. 29, figs. 4a, b); UWA 35067 (pl. 29, figs. 5a, b; pl. 30, fig. 6) Paratypes.

75 ch. at 160° from Moonyoonooka Hstd.

UWA 35068 (pl. 30, figs. 5a, b) Paratypes.

90 ch. due S. from Moonyoonooka Hstd.

Middle Jurassic.

Univ. W. Aust.

GASTRIOCERAS JACKSONI Etheridge, 1907. See **METALEGOCERAS JACKSONI** Miller, 1932; **JURESANITES JACKSONI** Glenister & Furnish, 1961.

Gastrioceras jacksoni Etheridge, 1907b, p. 36, pl. 9, figs. 1*-3*.

UWA 11980 **Holotype** (refigured by Teichert & Glenister, 1952, pl. 3, figs. 3, 4).

1½ miles SW. of Gnoolwa Hill, Irwin R. area, Perth Basin.

Lower Permian.

Univ. W. Aust.

GLYPTOXOCERAS cf. **RUGATUM** (Forbes); Spath, 1941.

Glyptoxoceras cf. *rugatum* (Forbes), Spath, 1941, p. 47, pl. 1, fig. 1*.

UWA 20316 Figured specimen; UWA 20136b, d (described but not figured) W. side of Remarkable Hill, Bardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous.

Univ. W. Aust.

GLYPTOXOCERAS sp. cf. **SUBCOMPRESSUM** (Forbes); Spath, 1941.

Glyptoxoceras sp. cf. *subcompressum* (Forbes), Spath, 1941, p. 48.

UWA 20136a Described but not figured. W. side of Remarkable Hill, Cardabia Range, Carnarvon Basin; Miria Marl.

Upper Cretaceous.

Univ. W. Aust.

HARDMANOCERAS LOBATUM Teichert & Glenister, 1952; 1954.

Hardmanoceras lobatum Teichert & Glenister, 1952, p. 748, pl. 109, figs. 6-10.

Hardmanoceras lobatum Teichert & Glenister, 1954, p. 87, pl. 7, figs. 10-11.

UWA 34128 Hypotype (1954, pl. 7, figs. 10, 11).

Emanuel Creek, Fitzroy Basin, 1065-1170 feet above exposed base of section of Emanuel Limestone (Loc. E.11, Teichert & Glenister, 1954).

Early Ordovician.

Univ. W. Aust.

HAUERICERAS DURGA (Forbes); Spath, 1941.

Hauericeras durga (Forbes), Spath, 1941, p. 43, pl. 2, figs. 3a*, b*.

UWA 20141 Hypotype.

SW. side, Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous (Maestrichtian).

Univ. W. Aust.

HOENINGHAUSIA PONS Glenister, 1958.

Hoeninghausia pons Glenister, 1958, p. 77, pl. 5, figs. 4-6; pl. 12; figs. 5-8; text-figs. 8A-D.

UWA 35767 Holotype (pl. 12, figs. 5, 6; text-fig. 8C, D).

UWA 35768 (pl. 12, fig. 7); UWA 35769 (pl. 2, fig. 8); UWA 35770 (pl. 5, fig. 4); UWA 35775 (fig. ?6), text-fig. 8B. Paratypes.

Strata surrounding small isolated stromatoporoïd bioherm, immediately E. of Gap Creek Gap, and about 2 miles N. of main reef limestone approx. 125° 55½' E., 18° 35' S., Fitzroy Basin; Gogo Formation. Exact stratigraphic position unknown (Loc. 56, Teichert, 1949).

UWA 35771 (pl. 5, fig. 5, text-fig. 8A); UWA 35772 (pl. 5, fig. 6) Paratypes.

Fire-plough road from Salty Bore to Long's Well, 2 miles from Salty Bore, 125° 56' E., 18° 36' S., Fitzroy Basin, Loc. D.14; Gogo Formation. Exact stratigraphic position unknown. (Loc.47, Teichert, 1949).

Upper Devonian.

Univ. W. Aust.

JURESANITES CAMPBELLI (Teichert & Glenister), 1952, Glenister & Furnish, 1961. See **METALEGOCERAS CAMPBELLI** Teichert & Glenister, 1952.

Metalegoceras campbelli Teichert & Glenister 1952, p.18 , pl. 3, figs. 7-9, text-fig. 3E.

Juresanites campbelli (Teichert & Glenister), Glenister & Furnish, 1961, p. 704, pl. 79, figs. 1-3, text-fig. 8A.

UWA 32031 (text-fig. 8A; diagrammatic figure of suture from unfigured paratype, Teichert & Glenister, 1952).

1200 yds on bearing of 160° from junction of the north and south branches of Irwin R., Perth Basin; Holmwood Shale.

Lower Permian.

Univ. W. Aust.

JURESANITES JACKSONI (Etheridge Jnr).
Glenister & Furnish, 1961. See **GASTRIOCERAS JACKSONI** Etheridge Jnr, 1907; **METALEGOCERAS JACKSONI** (Etheridge Jnr), Miller, 1932; Teichert, 1942; Teichert & Glenister, 1952.

Juresanites jacksoni (Etheridge Jnr), Glenister & Furnish, 1961, p. 705, pl. 81, figs. 1, 2; text-fig. 8B.

UWA 35779 Hypotype (Glenister & Furnish, pl. 81, figs. 1, 2).

UWA 37512 Hypotype (Glenister & Furnish, text-fig. 8B).

Valley of Irwin R., approx. 15 miles N. of Mingenew, Perth Basin; Beckett Member, Holmwood Shale, 1220 feet below top of Holmwood Shale.

Lower Permian.

Univ. W. Aust.

KITCHINITES sp. indet., Spath, 1941.

Kitchinites sp. indet., Spath, 1941, p. 45, pl. 2, figs. 2a*, b*.

UWA 20140 Figured specimen.

SW. side, Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous (Maestrichtian).

Univ. W. Aust.

KOSSMATICERAS sp. nov.? aff. **AEMILIANUS** (Stoliczka); Spath, 1941.

Kossmaticeras sp. nov. ? aff. *aemilianus* (Stoliczka), Spath, 1941, p. 45, pl. 1, figs. 2a*, b*.

UWA 20137 Figured specimen.

SW. side Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous (Maestrichtian).

Univ. W. Aust.

KYMINOCERAS FORRESTI Teichert & Glenister, 1954.

Kyminoceras forresti Teichert & Glenister, 1954, p. 43, pl. 1, figs. 1-4, text-fig. 6.

UWA 34120 Holotype (pl. 1, figs. 2-4).

UWA 34121 Paratype (pl. 1, fig. 1; text-fig. 6, thin section).

Emanuel Creek, Fitzroy Basin, 355-460 feet above exposed base of section of Emanuel Limestone (Loc. E.1, Teichert & Glenister, 1954).

Early Ordovician.

Univ. W. Aust.

LOXOCHOANELLA **WARBURTONI**
Teichert & Glenister, 1954.

Loxochloanella warburtoni Teichert & Glenister, 1954, p. 37, pl. 2, figs. 1-4, text-fig. 5.

UWA 34122 Holotype (pl. 2, figs. 1, 3).

Emanuel Creek, Fitzroy Basin, 1065-1170 feet above base of exposed section of Emanuel Limestone (Loc. E.11, Teichert & Glenister, 1954).

Early Ordovician.

Univ. W. Aust.

MANTIOCERAS LINDNERI Glenister, 1958.

Manticoceras lindneri Glenister, 1958, p. 72, pl. 6, figs. 1, 2; pl. 7; fig. 2; pl. 9, figs. 1, 2; text-figs. 4, 5B, C.

UWA 35765 Holotype (pl. 9, figs. 1, 2; text-fig. 5c).

E. side of N. entrance to Bugle Gap, Fitzroy Basin, 4 miles E. of Paddy's Spring, from 'second hill' (hills to W. of reef limestone scarp, numbered N. to S.) 126° 05½' E., 18° 38½' S. (Loc. C.27), (Loc. 61, Teichert, 1949); Virgin Hills Formation (exact stratigraphic position unknown).

UWA 35766 (text-fig. 4); UWA 35774, 35775 (text-figs. 5B, C) Paratypes.

NE. entrance to Bugle Gap, Fitzroy Basin, 6½ miles from Mt Pierre Well on road to Old Bohemia road gap—approx. 126° 06'E., 18° 37½'S. (Loc. C.6-7); Virgin Hills Formation, exact stratigraphic position unknown (Loc. 61, Teichert, 1949).

Upper Devonian.

Univ. W. Aust.

METALEGOCERAS CAMPBELLI Teichert & Glenister, 1952. See **JURESANITES CAMPBELLI** (Teichert & Glenister), Glenister & Furnish, 1961.

Metalegoceras campbelli Teichert & Glenister, P. 18, pl. 3, figs. 7-9; text-fig. 3E.

UWA 32031 Paratype (UWA 32032-32035 unfigured paratypes).

1200 yds on a bearing of 160° from junction of the north and south branches of Irwin R., Perth Basin; Holmwood Shale.

Lower Permian.

Univ. W. Aust.

METALEGOCERAS CLARKEI Miller, 1936; Glenister & Furnish, 1961.

Metalegoceras clarkei Miller, 1936, p. 687, pl. 92, figs. 1-7.

Metalegoceras clarkei Miller, Glenister & Furnish, 1961, p. 707, pl. 79, figs. 4-7; pl. 80, figs. 1-5; text-fig. 8D.

UWA 19985 Holotype (Miller, pl. 92, figs. 1-5; Glenister & Furnish, pl. 80, figs. 1-3).

UWA 19986 Paratype (Miller, pl. 92, figs. 6, 7).

UWA 32776 Hypotype (Glenister & Furnish, pl. 79, figs. 4-7).

1.6 miles SW. of Paradise Homestead, Fitzroy Basin, at 124° 31'E., 18° 02'S.; Nura Nura Member, Poole Sandstone.

Lower Permian.

Univ. W. Aust.

METALEGOCERAS JACKSONI (Etheridge Jnr), Miller, 1932, Teichert, 1942a, Teichert & Glenister, 1952. See **JURESANITES JACKSONI** (Etheridge), Glenister & Furnish, 1961.

Gastrioceras jacksoni Etheridge Jnr, 1907, p. 36, pl. 9, figs. 1-3.

Metalegoceras jacksoni (Etheridge Jnr), Miller, 1932, p. 434, pl. 1, figs. 1, 2; text-figs. 2, 3.

Metalegoceras jacksoni (Etheridge Jnr), Teichert, 1942a, p. 229, text-fig. 6B.

Metalegoceras jacksoni (Etheridge Jnr), Teichert & Glenister, 1952, p. 16, pl. 3, figs. 1-6; pl. 4, fig. 1.

UWA 11980 Holotype (refigured by Teichert & Glenister, pl. 3, figs. 3, 4).

One and a quarter miles SW. of Gnoolwa Hill, Irwin R. area.

UWA 32030a (Teichert & Glenister, pl. 3, figs. 1, 2); UWA 32030b (pl. 3, figs. 5, 6); UWA 32030c (pl. 4, fig. 1) Hypotypes.

From single bed 930 feet, stratigraphically above base of Holmwood Shale, outcropping along several lines, repeated by strike faulting, Irwin River Basin', Perth Basin; Holmwood Shale.

Lower Permian.

Univ. W. Aust.

METALEGOCERAS STRIATUM Teichert, 1942a; Glenister & Furnish, 1961.

Metalegoceras striatum Teichert, 1942a, p. 230, pl. 35, fig. 1, text-fig.

Metalegoceras striatum Teichert, Glenister & Furnish, 1961, p. 707, pl. 79, figs. 8-11, text-fig. 8C.

UWA 20508 Holotype (Teichert, p. 35, fig. 1, text-fig. 6C; Glenister & Furnish, pl. 79, figs. 10, 11).

Nura Nura Ridge, Fitzroy Basin; Nura Nura Member, Poole Sandstone.

Lower Permian.

Univ. W. Aust.

NORMANITES WOODWARDI (Crick), Spath, 1941. See **OTOITES WOODWARDI** (Crick), Arkell, 1954.

Ammonites (Sphaeroceras) woodwardi Crick, 1894, p. 433, pl. 12, figs. 6a, b.

Normanites woodwardi (Crick), spath, 1940, p. 126, pl. 2, figs. 3a, b.

UWA 37516 Hypotype (pl. 2, figs. 3a, b). Mt Hill, SE. of Geraldton, Perth Basin; New-marracarra Limestone.

Middle Jurassic.

Univ. W. Aust.

OTOITES ANTIPODUS Arkell, 1954.

Otoites antipodus Arkell, 1954, p. 570, pl. 30, fig. 8; pl. 31, figs. 5, 6; pl. 32, fig. 1.

UWA 35082 **Holotype** (pl. 31, figs. 5a, b; pl. 30, fig. 8).

90 ch. at 180° from Moonyoonooka Hstd, Geraldton district, Perth Basin; Newmarra-carra Limestone.

UWA 35083 **Paratype** (pl. 31, fig. 5); same number, pl. 32, fig. 1 under *Otoites* aff. *antipodus* on plate.

Bringo (Nineteen Mile) railway cutting, ENE. of Geraldton.

Middle Jurassic.

Univ. W. Aust.

?OTOITES AUSTRALIS (Crick), Arkell, 1954.

Ammonites (Stephanoceras) australe Crick, 1894, p. 391, pl. 12, figs. 4a, b.

?*Otoites australis* (Crick), Arkell, 1954, p. 571, pl. 31, figs. 1-4.

UWA 35095 (pl. 31, fig. 3); **UWA 35096** (pl. 31, fig. 4) **Hypotypes.**

152 ch. at 212° from Moonyoonooka Hstd. Geraldton district, Perth Basin; Newmarra-carra Limestone.

Middle Jurassic.

Univ. W. Aust.

?OTOITES n. sp., Arkell, 1954.

?*Otoites* n. sp., Arkell, 1954, p. 570, pl. 30, fig. 13*.

UWA 35081 **Figured specimen.**

Exact locality unknown, Geraldton district, Perth Basin.

Middle Jurassic.

Univ. W. Aust.

PACHYDISCUS aff. **GOLLEVILLENSIS** (d'Orbigny); Spath, 1941.

Pachydiscus aff. *gollevillensis* (d'Orbigny), Spath, 1941, p. 50, pl. 2, figs. 1a*, b*.

UWA 20139 **Figured specimen.**

W. side Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin; Miria Marl.

Upper Cretaceous.

Univ. W. Aust.

PACHYDISCUS sp. nov.? Spath, 1941.

Pachydiscus sp. nov.? Spath, 1941.

UWA 23975a-e **Described specimens** (fitting pieces).

SW. side Remarkable Hill, Cardabia Range, Cardabia Stn, Carnarvon Basin, Miria Marl.

Upper Cretaceous.

Univ. W. Aust.

PARAGASTRIOCERAS WANDAGEENSE

Teichert, 1942a, Glenister & Furnish, 1961.

Paragastrioceras wandageense Teichert, 1942a, p. 226, pl. 35, figs. 9, 10; text-fig. 4A.

Paragastrioceras wandageense Teichert, Glenister & Furnish, 1961, p. 713, pl. 84, figs. 5-7, text-fig. 10A.

UWA 20142 **Holotype** (Teichert, pl. 35, figs. 9, 10); text-fig. 4A) (Glenister & Furnish, pl. 84, figs. 5-7; text-fig. 10A).

200 yds N. of Wandagee-Minilya road, W. side of syncline, N. of Wandagee Hill, Carnarvon Basin; Lower Beds of Coolkilya Greywacke, abt 100 feet above base of formation.

Lower Permian.

Univ. W. Aust.

PARALEGOCERAS GIGAS Smith, 1927. See **PSEUDOSCHISTOCERAS GIGAS** (Smith), Glenister & Furnish, 1961.

PROPINACOCERAS AUSTRALE Teichert, 1942a; Glenister & Furnish, 1961.

Propinacoceras australe Teichert, 1942a, p. 224, pl. 35, figs. 2-7, text-fig. 3C.

Propinacoceras australe Teichert, Glenister & Furnish, 1961, p. 691, pl. 78, figs. 6-13, text-fig. 3A.

UWA 20145 **Holotype** (Teichert, pl. 35; figs. 2, 3; text-fig. 3C; Glenister & Furnish, pl. 78, figs. 8, 9).

W. limb of syncline, N. of Wandagee Hill, 1475 yds N. of Wandagee-Minilya road, Coolkilya Paddock, Wandagee Stn, Carnarvon Basin; 100 feet above base of Coolkilya Greywacke.

UWA 20509 (Teichert, pl. 35, figs. 5, 6; Glenister & Furnish, pl. 78, fig. 10); **UWA 20510** (Teichert, text-fig. 3B) **Paratypes.**

Furnish, pl. 78, figs. 6, 7); **UWA 20144b** (Teichert, text-fig. 3B) **Paratypes.**

Section immediately S. of E-W fault, SW. of Coolkilya Pool, Wandagee Stn; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

PSEUDOGASTRIOCERAS GOOCHI

Teichert, 1942a; Glenister & Furnish, 1961.

Pseudogastrioceras goochi Teichert, 1942a, p. 227, pl. 35, figs. 12-16; text-fig. 5B.

Pseudogastrioceras sp., Teichert, 1942a, p. 229, pl. 35, fig. 8.

Pseudogastrioceras goochi Teichert, Glenister & Furnish, 1961, p. 719, pl. 84, figs. 1-4; pl. 85, figs. 1, 2, 5-7; text-figs. 14A-C.

UWA 20504 Holotype (Teichert, pl. 35, figs. 12, 13, text-fig. 5B; Glenister & Furnish, pl. 84, figs. 3, 4, text-fig. 14C).

Near mouth of northeastern gully of Wandagee Hill, Mungadan Paddock, Wandagee Stn, Carnarvon Basin; Coolkilya Greywacke.

UWA 20505 (Teichert, pl. 35, figs. 15, 16; Glenister & Furnish, pl. 85, figs. 1, 2); **UWA 20506** (Teichert, pl. 35, fig. 14) Paratypes.

300 yds E. of mouth of southeastern gully of Wandagee Hill, Mungadan Paddock, Wandagee Stn; Coolkilya Greywacke.

UWA 35777 (Glenister & Furnish, pl. 85, fig. 7) **Hypotype.**

From rubble, Wandagee Hill, from Coolkilya Greywacke.

Lower Permian.

Univ. W. Aust.

PSEUDOGASTRIOCERAS sp., Teichert, 1942a. See **PSEUDOGASTRIOCERAS GOOCHI** Teichert, 1942a; Glenister & Furnish, 1961.

Pseudogastrioceras sp., Teichert, 1942, p. 229, pl. 35, fig. 8*.

UWA 20507 Figured specimen.

E. limb of syncline, N. of Wandagee Hill, about 1 mile N. of Wandagee-Minilya road, Coolkilya Paddock, Wandagee Stn, Carnarvon Basin; Coolkilya Greywacke.

Lower Permian.

Univ. W. Aust.

PSEUDOSCHISTOCERAS GIGAS (Smith); Glenister & Furnish, 1961.

Pseudoschistoceras gigas (Smith), Glenister & Furnish, 1961, p. 711, pl. 82, figs. 1, 2; text-fig. 8E.

UWA 18105 (pl. 82, figs. 1, 2; text-fig. 8E) **Hypotype.**

Bitauini Beds, Timor (Baigendzhinian Sub-stage).

Lower Permian.

Univ. W. Aust.

PSEUDOSCHISTOCERAS SIMILE Teichert, 1944a; Glenister & Furnish, 1961.

Pseudoschistoceras simile Teichert, 1944a, p. 88, pl. 17, figs. 1-5, text-fig. 4.

Pseudoschistoceras simile Teichert, Glenister & Furnish, 1961, p. 711, pl. 83, figs. 1-6; text-fig. 8F.

UWA 21326 Holotype (Teichert, pl. 17, fig. 4; text-fig. 4; Glenister & Furnish, pl. 83, fig. 4).

UWA 21327 (Teichert, pl. 17, fig. 3); **UWA 21328** (Glenister & Furnish, pl. 83, fig. 5, 6, an unfigured paratype designated by Teichert); **UWA 21329** (Teichert, pl. 17, figs. 1, 2); **UWA 21400** (Teichert, pl. 17, fig. 5; Glenister & Furnish, pl. 83, figs. 1-3, text-fig. 8F) Paratypes.

Mudstone bands on mud flat $\frac{1}{4}$ mile S. of Barrabiddy Dam ($23^{\circ} 57'S.$, $114^{\circ} 31'E.$), Wandagee Stn, Carnarvon Basin; Bulgadoo Shale.

Lower Permian.

Univ. W. Aust.

PSEUDOTOITES BRUNNSCHWEILERI? Arkell, 1954.

Pseudotoites brunnschweileri Arkell, 1954, p. 576, pl. 36, fig. 4.

Pseudotoites brunnschweileri? Arkell, 1954, pl. 36, fig. 3a*, b.

UWA 35126 Figured specimen.

57 ch. at 170° Grant Siding, Geraldton District, Perth Basin; Newmarracarra Lime-stone.

Middle Jurassic (Bajocian).

Univ. W. Aust.

PSEUDOTOITES CHAMPIONENSIS (Crick), 1894; Arkell, 1954.

Ammonites (*Perisphinctes*) *championensis* Crick, 1894, p. 436, pl. 13, figs. 2a, b, c.

Pseudotoites championensis (Crick), Arkell, 1954, p. 574, pl. 33, figs. 1a, b.

UWA 35118 (Arkell, pl. 33, figs. 1a, b) Hypotype.

70 ch. at 47° from Moonyoonooka Hstd, Geraldton District, Perth Basin; Newmarracarra Limestone.

Middle Jurassic.
Univ. W. Aust.

PSEUDOTOITES EMILIOIDES Arkell, 1954.

Pseudotoites emilioides Arkell, 1954, p. 576, pl. 34, fig. 5; pl. 37, figs. 3, 4.

UWA 35127 **Holotype** (pl. 37, figs. 3a-c).

1 mile at 160° from Moonyoonooka Hstd, Geraldton District, Perth Basin; Newmarracarra Limestone.

UWA 35128 **Paratype** (pl. 34, figs. 5a, b).
75 ch. at 160° from Moonyoonooka Hstd.

UWA 34889 **Paratype** (unfigured).

Doust St, Hill R., 110 miles S. of Geraldton, Perth Basin; abt 24 feet above base of Cadda Formation.

Middle Jurassic.
Univ. W. Aust.

PSEUDOTOITES FASCICULATUS Arkell, 1954.

Pseudotoites fasciculatus Arkell, 1954, p. 373, pl. 36, figs. 1, 2; pl. 37, fig. 2.

UWA 35104 **Holotype** (pl. 36, fig. 1).

Fossil Hill, Moonyoonooka Stn, Geraldton District, Perth Basin; Newmarracarra Limestone.

UWA 35105 **Paratype** (pl. 37, fig. 2).
150 ch. at 212° from Moonyoonooka Hstd.

Middle Jurassic.
Univ. W. Aust.

PSEUDOTOITES LEICHERTI (Neumayr), Arkell, 1954.

Pseudotoites leichertii (Neumayr), Arkell, 1954, p. 573, pl. 32, figs. 2, 3; pl. 33, figs. 2-4.

UWA 35097 (Arkell, pl. 33, fig. 4) Hypotype.

152 ch. 212° from Moonyoonooka Hstd, Geraldton district, Perth Basin; Newmarracarra Limestone.

UWA 35098 (pl. 33, fig. 3); UWA 35099 (pl. 33, figs. 2a, b) Hypotypes.

Table Hill, near Moonyoonooka Hstd; Newmarracarra Limestone.

Middle Jurassic.
Univ. W. Aust.

PSEUDOTOITES ROBIGINOSUS (Crick), Arkell, 1954. See **EMILEIA?** sp. nov., Spath 1939.

Ammonites (*Perisphinctes*) *robiginosus* Crick, 1894, p. 438, pl. 13, fig. 3a, b.

Emileia? sp. nov., Spath, 1939, p. 128, pl. 1, fig. 3.

Pseudotoites robiginosus (Crick), Arkell 1954, p. 574, pl. 34, fig. 1-4; pl. 35, figs. 1, 2; pl. 37, fig. 5; text-fig. 6.

UWA 35119 (pl. 35, fig. 1) Hypotype.

1 mile at 192° from Grant Siding, Geraldton district, Perth Basin; Newmarracarra Limestone.

UWA 35120 (pl. 34, fig. 4) Hypotype.

51 ch. at 160° from Moonyoonooka Hstd, Geraldton district; Newmarracarra Limestone.

UWA 35121 (pl. 34, figs. 3a, b) Hypotype.

1½ miles at 135° from Bringo Siding, Geraldton district; Newmarracarra Limestone.

UWA 35122 (pl. 37, fig. 5) Hypotype.
150 ch. at 212° from Moonyoonooka Hstd; Newmarracarra Limestone.

Middle Jurassic.
Univ. W. Aust.

PSEUDOTOITES SEMIORNATUS (Crick);
Arkell, 1954.

Ammonites (Sphaeroceras) semiornatus Crick,
1894, p. 434, pl. 13, figs. 1a, b.

Pseudotoites semiornatus (Crick), Arkell,
1954, p. 577, pl. 38, figs. 1-6.

UWA 34888 (pl. 38, figs. 6a, b) Hypotype.
Doust Stn, Hill R., 110 miles S. of Geraldton,
Perth Basin; 24 feet above base of Cadda
Formation.

UWA 35107 (pl. 38, figs. 5a, b) Hypotype.
Ellendale, 18 miles SE. of Geraldton (from
well), Perth Basin; Newmarracarra Lime-
stone.

UWA 35109 (pl. 38, fig. 2) Hypotype.
? locality, probably Western Hill, Moonyoo-
nooka Stn, Perth Basin; Newmarracarra
Limestone.

UWA 35109 (pl. 38, fig. 3) Hypotype.
Bringo Siding, Geraldton district, Perth Basin.

UWA 35110 (pl. 38, figs. 4a, b) Hypo-
type.

Geraldton-Mullewa railway line, Perth Basin;
Newmarracarra Limestone.

Middle Jurassic.

Univ. W. Aust.

PSEUDOTOITES SPITIFORMIS Arkell, 1954.

Pseudotoites spitiformis Arkell, 1954, p. 577,
pl. 38, fig. 8*.

UWA 35106 Holotype.

155 ch. at 211° from Moonyoonooka Hstd,
Geraldton district, Perth Basin; Newmarra-
carra Limestone.

Middle Jurassic (Bajocian).

Univ. W. Aust.

PSEUDOTOITES sp. indt., Arkell, 1954.

Pseudotoites sp. indet., Arkell, 1954, p. 577,
pl. 37, fig. 1*.

UWA 33473 Figured specimen.

75 ch. at 160° from Moonyoonooka Hstd,
Geraldton district, Perth Basin; Newmarra-
carra Limestone.

Middle Jurassic (Bajocian).

Univ. W. Aust.

SONNINIA PLAYFORDI Arkell, 1954.

Sonninia playfordi Arkell, 1954, p. 560, pl. 27,
fig. 1; text-fig. 3d.

UWA 33869 (35041) Holotype (pl. 27,
fig. 1; text-fig. 3d).

Well near Ellensdale Hstd abt 15 miles SE. of
Bringo; Newmarracarra Limestone.

Middle Jurassic (Bajocian)

Univ. W. Aust.

SPHAEROCERAS SEMIORNATUS Crick?,
Etheridge Jnr., 1910.

Sphaeroceras semiornatus Crick?, Etheridge
Jnr., 1910, p. 39, pl. 9, fig. 8*.

GSWA F.73 Figured specimen Tidbradden
Stn, Greenough R. area, Perth Basin.

Jurassic.

Geol. Surv. W. Aust.

SPORADOCERAS CONTIGUUM (Münster);
Delepine, 1935.

Sporadoceras contiguum (Münster), Delepine,
1935, p. 209, pl. 12, figs. 1-3; pl. 13, figs.
13a, b.

UWA 11976 Hypotypes.

Mount Pierre, Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

STEPHANOCERAS LEICHERTI Neumayr,
1885. See **PSEUDOTOITES LEICHERTI**
(Neumayr), Arkell, 1954.

STEPHANOCERAS (STEMMATOCERAS)
cf. **SUBCORONATUM** (Oppel); Arkell,
1954.

Stephanoceras (Stemmatoceras) cf. *subco-
ronatum* (Oppel), 1856, Arkell, 1954, p.
582, pl. 38, fig. 7*.

UWA 35136 Figured specimen.

Railway well, near Bringo, Geraldton district;
Newmarracarra Limestone.

Middle Jurassic.

Univ. W. Aust.

STEPHANOCERAS (STEMMATOCERAS)
aff. **TRIPLOLEMUS** (Morris & Lycett),
1851; Arkell, 1954.

Stephanoceras (Stemmatoceras) aff. *triplolemus*
(Morris & Lycett), Arkell, 1954, p. 582, pl.
39, fig. 1*.

UWA 35137 Figured specimen.

79 ch. at 194° from Moonyoonooka Hstd,
Geraldton district; Newmarracarra Lime-
stone.

Middle Jurassic (Bajocian)

Univ. W. Aust.

**STEREOPLASMOCERAS INIQUESEP-
TATUM** Teichert, 1939. See **CAYUTO-
CERAS INIQUESEPTATUM** Teichert &
Glenister, 1952.

Stereoplasmoceras iniquiseptatum Teichert,
1939, p. 115, pl. 1, fig. 6*.

AWA 15702 **Holotype** (medially sec-
tioned).

Near Oscar Hstd, SE. end of Oscar Range,
Kimberleys, Fitzroy Basin; Fairfield Beds.

Upper Devonian.

Univ. W. Aust.

TEICHERTIA PRORA Glenister, Miller, &
Furnish, 1956; Glenister & Glover, 1958.

Teichertia prora Glenister, Miller, & Furnish,
1956, p. 497, pl. 54, figs. 1-8, text-figs. 3B,
4B, 4C.

Teichertia prora Glenister, Miller, & Furnish,
Glenister & Glover, 1958, p. 84, figs. 2A,
B, C.

AWA 39129 Hypotype (Glenister &
Glover, fig. 2A).

Fossil Cliff on S. Bank of Bremer R., near
N-S dog-proof fence and end of Swamp
Road track, 9 miles WSW of Wellsteads
Hstd, South East Area; Plantagenet Beds.

Eocene.

Univ. W. Aust.

THALASSOCERAS WADEI Miller, 1936;
Teichert, 1942a; Glenister & Furnish, 1961.
Thalassoceras wadei Miller, 1936, p. 685,
pl. 92, figs. 8-12.

Thalassoceras wadei Miller, Teichert, 1942a,
p. 231, pl. 35, fig. 11, text-fig. 7.

Thalassoceras wadei Miller, Glenister &
Furnish, 1961, p. 699, pl. 78, figs. 1-5;
text-figs. 6, 7.

UWA 19987 ?**Holotype** (Miller, pl. 92,
figs. 8, 9; Glenister & Furnish, pl. 78, figs.
4, 5, text-fig. 6).

UWA 19988 ?**Paratype** (Miller, pl. 35, fig.
11; Glenister & Furnish, pl. 78, fig. 2).

(UWA 19987 and 19988 were designated by
Miller as syntypes).

3 miles E. of Nura Nura Outcamp, Nura Nura
Ridge area, Fitzroy Basin; Nura Nura Mem-
ber, Poole Sandstone.

UWA 20143 Hypotype (Teichert, fig. 11,
text-fig. 7; Glenister & Furnish, pl. 78, fig.
3; text-fig. 7).

1½ miles E. of Nura Nura Outcamp, Fitzroy
Basin; Nura Nura Member.

Lower Permian.

Univ. W. Aust.

THYLACOCERAS TERETILOBATUM
Teichert & Glenister, 1954.

Thylacoceras teretilobatum Teichert &
Glenister, 1954, p. 53, pl. 7, figs. 5, 6, 7.

UWA 34127 **Holotype.**

Emanuel Creek, Fitzroy Basin, 1065-1170
feet above base of exposed section, Emanuel
Limestone (loc. E.11).

Early Ordovician.

Univ. W. Aust.

TORNO CERAS sp. nov.? Delepine, 1935.

Tornoceras sp. nov.? Delepine, 1935, p.
212, pl. 13, figs. 9*, 10*.

UWA 11978 Figured specimen.

Mt Pierre, Fitzroy Basin.

Upper Devonian.

Univ. W. Aust.

URALOCERAS IRWINENSE Teichert & Glenister, 1952; Glenister & Furnish, 1961.

Uraloceras irwinense Teichert & Glenister, 1952, p. 21, pl. 4, figs. 2-7.

Uraloceras irwinense Teichert & Glenister, Glenister & Furnish, 1961, p. 715, pl. 84, figs. 8-11, text-figs. 11A, 12.

UWA 32036 Holotype (Teichert & Glenister, pl. 4, fig. 4; Glenister & Furnish, pl. 84, fig. 10.)

UWA 32037 (Teichert & Glenister, pl. 4, figs. 2, 3; Glenister & Furnish, pl. 84, figs. 8, 9; text-fig. 11A); **UWA 32038** (T. & G., pl. 4, fig. 6); **UWA 32039** (T. & G., pl. 4, fig. 5; G. & F., text-fig. 12); **UWA 32040** (T. & G., pl. 4, fig. 7; G. & F., pl. 84, fig. 11) Paratypes.

200 yds W. of Nangetty-Holmwood boundary fence, 1 mile NW. of Prider's Lookout, Perth Basin, Holmwood Shale.

Lower Permian.

Univ. W. Aust.

Ammonitiform, family and gen. indet.
Glenister & Furnish, 1961.

Ammonitiform, family and gen. indet.,
Glenister & Furnish, 1961, p. 731, pl. 80, figs. 8, 9; text-fig. 17.

UWA 35778 Figured specimen (pl. 80, figs. 8, 9; text-fig. 17)

Nura Nura Ridge, Fitzroy Basin; Nura Nura Member, Poole Sandstone.

Lower Permian.

Univ. W. Aust.

TRILOBITA

DITOMOPYGE MERIDIONALIS Teichert, 1944b.

Ditomopyge meridionalis Teichert, 1944b, p. 460, pl. 77, figs. 1-5, 7-12.

UWA 21331 Holotype (fig. 5)

W. of NW. gully of Wandagee Hill on fence dividing Shed of Mungadan Paddocks, 770 yds S. of NW. corner of Shed Paddock, Carnarvon Basin; Wandagee Formation.

UWA 21332 (figs. 8, 9, pygidium); **UWA 21333** (figs. 10-12, pygidium); **UWA 21334** (figs. 1-4, cranium) Paratypes.

900-1000 yds N. 50-60° E. of junction of Wandagee Woolshed-Middalya road and fence, Mungadan and Nalbia Paddocks, in Nalbia Paddock; Wandagee Formation.

UWA 21335 Paratype (fig. 7, pygidium).

500 yds NE. of SE. gully of Wandagee Hill, in Mungadan Paddock, just below highest horizon with *Pseudogastrioceras goochi*, Wandagee Stn; Wandagee Formation.

Lower Permian.

Univ. W. Aust.

DITOMOPYGE sp., Teichert, 1944b.

Ditomopyge sp., Teichert, 1944b, p. 461, pl. 77, fig. 6*.

WAM 4860 Figured specimen.

Fossil Cliff, Irwin R., Perth Basin; Fossil Cliff Formation.

Lower Permian.

W. Aust. Mus.

CIRRIPEDIA

CALANTICA (SCILLAELEPAS) GINGINENSIS (Etheridge Jnr), Withers, 1923.

Pollicipes (?) *ginginensis* Etheridge Jnr, 1913, p. 13, pl. 3, figs. 4, 5.

Calantica (*Scillaelepas*) *ginginensis* (Etheridge Jnr), Withers, 1923, p. 64, pl. 1, figs. 1-8.

WAM 3749 (Withers, pl. 1, figs. 1-3, carina); **WAM 3750** (pl. 1, figs. 4, 5, tergum) Hypotypes.

Gingin, Perth Basin.

Upper Cretaceous.

W. Aust. Mus.

POLLICIPES (?) GINGINENSIS Etheridge Jnr, 1913. See **CALANTICA (SCILLAELEPAS) GINGINENSIS** (Etheridge Jnr), Withers, 1923.

SCALPELLUM (NEOSCALPELLUM)

GLAUERTII Withers, 1926

Scalpellum (Neoscalpellum) glauerti Withers, 1926, p. 102, pl. 11, figs. 1-6.

WAM 4194 **Holotype** (right terga) (pl. 11, figs. 3, 4).

Round Hill, Dandaragan, 50 miles N. of Gingin, Perth Basin.

WAM 4461 ?Figured specimen (pl. 11, figs. 1, 2).

One Tree Hill, Gingin, Perth Basin.

Upper Cretaceous.

W. Aust. Mus.

DECAPODA

SCYLLA SERRATA Forskal, Etheridge Jnr and McCulloch, 1916.

Scylla serrata Forskal, Etheridge Jnr and McCulloch, 1916, p. 9, pl. 2, figs. 1, 2.

GSWA F509 Hypotype.

Wharf at Derby, Fitzroy R., Kimberley area.

Sub-recent.

Geol. Surv. W. Aust.

HETERODONTEA

EDESTUS DAVISII Woodward, 1886. See **HELICOPRION DAVISII** (Woodward), Teichert, 1940.

HELICOPRION DAVISII (Woodward), Teichert, 1940.

Edestus davisii Woodward, 1886, p. 1, pl. 1, figs. 1a-b.

Helicoprion davisii (Woodward), Teichert, 1940, p. 145, pl. 22, figs. 1-4, pl. 23, figs. 1-4.

WAM 9080 Plaster cast of holotype (Teichert, pl. 22, fig. 1).

Arthur R., Carnarvon Basin.

WAM B8523 Hyotype (Teichert, pl. 22, figs. 2-4).

Minilya R., near Wandagee Hstd, Carnarvon Basin; Wandagee Formation.

UWA 19220a, b Hypotypes (Teichert, pl. 23, figs. 2, 4).

UWA 19221a, b Hypotype, external moulds (Teichert, pl. 23, figs. 1, 3).

200 yds N. of Wandagee-Minilya road, W. side of syncline, N. of Wandagee Hill, Carnarvon Basin; Wandagee Formation.

Lower Permian.

W. Aust. Mus.; Univ. W. Aust.

BRADYODONTI

CRASSIDONTA SUBCRENULATA Teichert, 1943

Crassidonta subcrenulata Teichert, 1943, p. 548, pl. 1, figs. 1-14; pl. 2, figs. 17, 18; pl. 3, figs. 19, 20.

UWA 21401a **Holotype** (pl. 1, figs. 5, 14).

UWA 21401b (fig. 1); **UWA 21401c** (figs. 6, 11); **UWA 21401d** (figs. 2, 10); **UWA 21401e** (fig. 7); **UWA 21401f** (figs. 3, 13); **UWA 21401g** (figs. 8, 12); **UWA 21401h** (fig. 4); **UWA 21301i** (fig. 9) Paratypes.

UWA 41175 Transverse section of tooth (pl. 2, figs. 17, 19).

UWA 41176 Longitudinal section (pl. 2, figs. 18, 20).

700 yds N. 150° E. from very conspicuous tree in S. half of Nalbia Paddock, Wandagee Stn, Carnarvon Basin, approx. 3320 yds in direction N. 63° E. from Trig. Stn on Wandagee Hill.

Lower Permian.

Univ. W. Aust.

HELODUS sp. indet., Teichert, 1943.

Helodus sp. indet., Teichert, 1943, p. 546, pl. 1, figs. 15*, 16*.

UWA 24100 Figured specimens.

300 yds E. of mouth of SE. gully of Wandagee Hill, Mungadan Paddock, Wandagee Stn, Carnarvon Basin; Wandagee Formation.

Lower Permian.

Univ. of W. Aust.

ICHTHYOSAURIA

Centrum of precaudal vertebra of an Ichthyosaurian, Teichert, 1943.

Centrum of precaudal vertebra of an Ichthyosaurian, Teichert, 1943, p. 169, figs. 1-3.

UWA 22042 Figured specimen.

Cook's Deposit, 1½ miles W. of Dandaragan, Perth Basin; Dandaragan Chalk.

Upper Cretaceous.

Univ. W. Aust.

MONOTREMATA

ZAGLOSSUS HACKETTI Glauert, 1914.

Zaglossus hacketti Glauert, 1914, p. 244, pl. 36, fig. 1; pl. 37, figs. 1-3.

WAM 60.10.1 Holotype (pl. 36, 37).

Mammoth Cave, Margaret Rd., Southwestern Area.

Pleistocene.

W. Aust. Mus.

MARSUPALIA

NOTOTHERIUM sp. A., Glauert, 1912.

Nototherium sp. A., Glauert, 1912, p. 39, pl. 6, figs. 8*, 9*.

WAM 62.8.24 Figured specimen (left upper molar).

Mammoth Cave, Margaret R., Southwestern Area.

Pleistocene.

W. Aust. Mus.

NOTOTHERIUM sp. B., Glauert, 1912.

Nototherium sp. B., Glauert, 1912, p. 39, fig. 10*.

WAM 62.8.25 Figured specimen (left upper premolar).

Mammoth Cave, Margaret R., Southwestern Area.

Pleistocene.

W. Aust. Mus.

PHASCOLARCTUS CINEREUS (Goldfuss); Glauert, 1910.

Phascolarctus cinereus (Goldfuss), Glauert, 1910, p. 29, pl. 4, fig. 5.

WAM 62.8.26 Figured specimen.

Mammoth Cave, Margaret R., Southwestern Area.

Pleistocene.

W. Aust. Mus.

PHASCOLOMYS HACKETTI Glauert, 1910.

Phascolomys hacketti Glauert, 1910, p. 15, pl. 2, figs. 1, 2; pl. 3, figs. 3, 4.

WAM 60.10.3 Holotype (pl. 2, pl. 1, pl. 3, fig. 3, 4).

Mammoth Cave, Margaret R., Southwestern Area.

Pleistocene.

W. Aust. Mus.

STHENURUS OCCIDENTALIS Glauert, 1910; 1910a.

Sthenurus occidentalis Glauert, 1910, p. 31, pl. 5, figs. 6*, 7*.

Sthenurus occidentalis Glauert, 1910a, p. 53.

WAM 60.10.2 Holotype.

Mammoth Cave, Margaret R., Southwestern Area.

Pleistocene.

W. Aust. Mus.

THYLACOLEO sp. A., Glauert, 1912.

Thylacoleo sp. A., Glauert, 1912, p. 47, pl. 7, figs. 1*, 2*.

WAM 61.7.35 Figured specimen (left upper incisor).

Balladonia, Eucla Basin.

Pleistocene.

W. Aust. Mus.

THYLACOLEO sp. B., Glauert, 1912.

Thylacoleo sp. B., Glauert, 1912, p. 47, pl. 7, fig. 3*.

WAM 61.7.36 Figured specimen (left upper premolar).

Balladonia, Eucla Basin.

Pleistocene.

W. Aust. Mus.

THYLACOLEO sp. C., Glauert, 1912.

Thylacoleo sp. C., Glauert, 1912, p. 47, pl. 8,
fig. 4*.

WAM 61.7.43 Figured specimen (right
lower incisor).

Balladonia, Eucla Basin.

Pleistocene.

W. Aust. Mus.

THYLACOLEO sp. D., Glauert, 1912.

Thylacoleo sp. D., Glauert, 1912, p. 47, pl. 8,
figs. 5*, 6*, 7*.

WAM 61.7.42 Figured specimen (left
lower incisor).

Balladonia, Eucla Basin.

?Pleistocene.

W. Aust. Mus.

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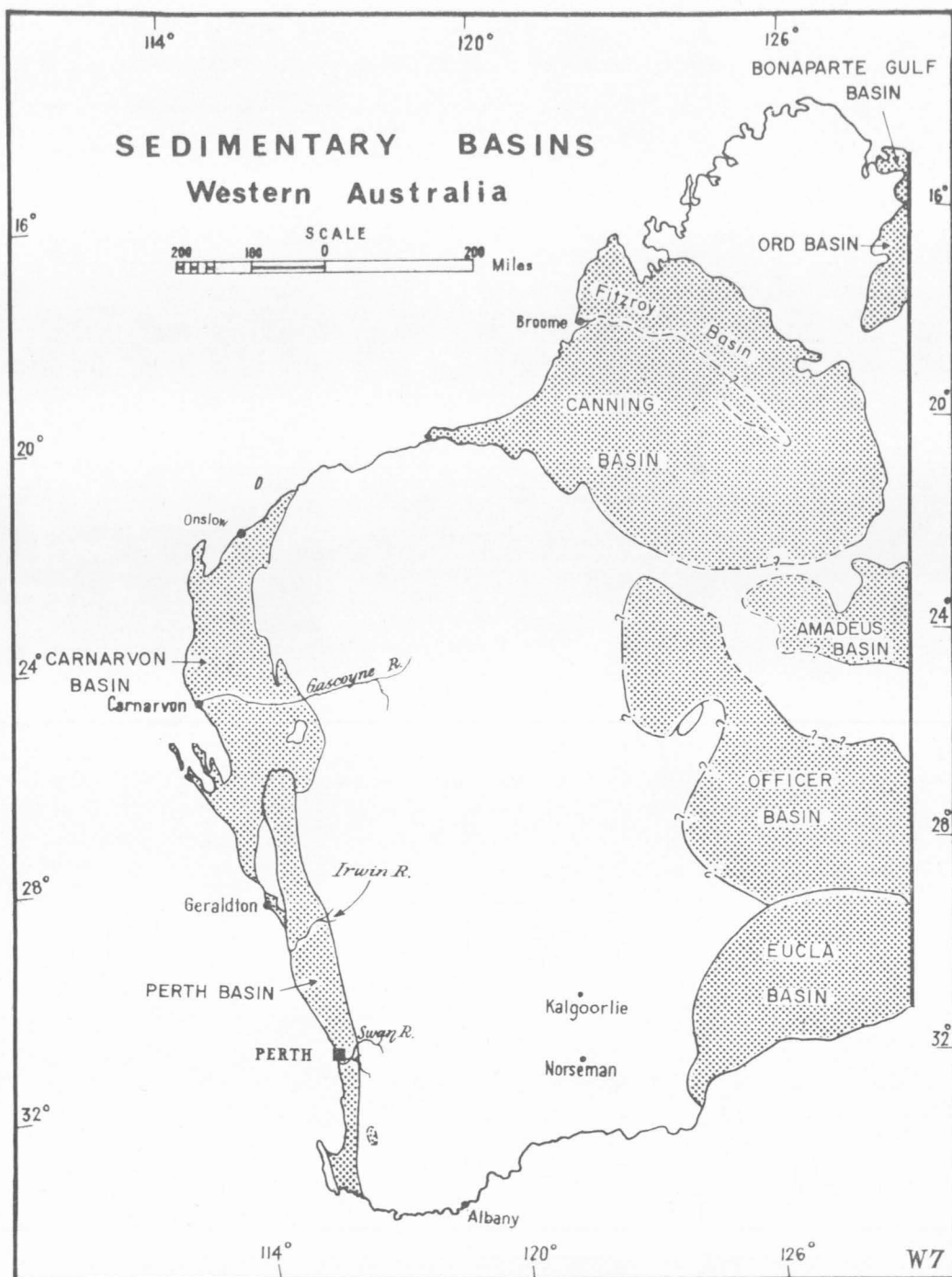
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