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COMMONWEALTH OF AUSTRALIA.

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DEPARTMENT OF SUPPLY AND DEVELOPMENT.  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS.

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~~REPORT No.~~  
RECORDS 1950/28

REPORT ON AN EXAMINATION OF FOSSILS FROM  
THE PORTLAND AREA, SOUTHWESTERN VICTORIA  
COLLECTED BY DR. BOUTAKOFF

by

I. Crespin

REPORT ON AN EXAMINATION OF FOSSILS FROM THE PORTLAND  
AREA, SOUTHWESTERN VICTORIA, COLLECTED BY  
DR. BOUTAKOFF

RECORDS 1950/28

This collection of fossils from the Portland area consists chiefly of mollusca, but where a small portion of sediment was attached to the fossils, it was removed and washed down for micro-examination. The numbers given to each sample refers to the registered number in the Victorian Geological Survey Collection.

The fossils came from two localities;

- A. Dutton Way, Section No. 2, Level No. 6.
- B. Dutton Way, Section No. 2 Level No. 8.

A. Dutton Way, Section No. 2, Level No. 6

- 50819. cf. Lironoba
- 50820. Nuculana crassa (Hinds)
- 50821. Aloidia (Notocorbula) coxi Pilsbury
- 50822. Bankivia fasciata Menke
- 50823. Nuculana crassa (Hinds)
- 50824. Venericardia sp.

The following foraminifera were present in the washed material:

- Amphistegina lessonii d'Orb.
- Cassidulina subglobosa Brady
- Cibicides ungerianus (d'Orb.)
- Discorbis australis Parr
- Elphidium adalaidense Howchin and Parr
- Elphidium imperatrix (Brady)
- Elphidium pseudonodosum Cushman
- Elphidium vermiculatum (Brady)
- Elphidium sp.
- Eponides haidingeri (d'Orb.)
- Guttulina sp.
- Lenticulina cf. cultrata (Montf.)
- Notoretalia clathrata (Brady)
- Operculina ammonoides (Gron.)
- Pyralina fusiformis (Roemer)
- Quinculoculina australis Parr
- Sismoidella kazaensis Cushman and Ozawa
- Textularia abbreviata d'Orb.
- 50825. Katella sp.
- Myodora sp.
- 50826. Bankivia fasciata Menke

The following foraminifera were present in the washed material:

- Anomalina sp.
- Bolivina sp.
- Cassidulina subglobosa Brady
- Cibicides lobatulus (W. and J.)
- Cibicides refulgens (Montf.)
- Cibicides ungerianus (d'Orb.)
- Discorbinella biconcava (P. and J.)
- Discorbis turbe (d'Orb.)
- Elphidium cf. adalaidense Howchin and Parr
- Elphidium advenum (Cushman) var. margaritaceum Cushman
- Elphidium pseudonodosum Cushman
- Elphidium crispum (Linne)
- Elphidium cf. sculpturatum Cushman
- Globigerina bulloides d'Orb.
- Globigerinoides trilobus (d'Orb.)
- Lagena sulcata W. and J.

	<u>Notorotalia clathrata</u> (Brady)
	<u>Pullenia</u> sp.
	<u>Rotalia beccarii</u> Linne
50827.	<u>Nuculana crassa</u> (Hinds)
50828.	?
50829.	cf. <u>Kellyia micans</u> Tate
50830.	cf. <u>Zenationis</u>
50831.	<u>Myodora ovata</u> Reeve
50832.	?
50833.	<u>Nuculana crassa</u> (Hinds)
50834.	<u>Passina</u> sp.
50835.	<u>Nassarius semigraneus</u> (Dunker)
50836.	<u>Cancellaria wannonensis</u> Tate
50837.	<u>Eyrasus diemeniensis</u> Quoy and Gaimard
50838.	<u>Nuculana crassa</u> (Hinds)
50839.	<u>Dosinia</u> cf. <u>histris</u> Gmelin var.
50840.	<u>Nuculana crassa</u> (Hinds)
50841.	<u>Bankivia fasciata</u> Menke
50842.	<u>Calliostoma</u> sp.
50843.	cf. <u>Cancellaria</u>
50844.	<u>Marginella</u> cf. <u>turbinata</u> Sow.
50845.	<u>Volutilithes</u> cf. <u>antiscleris</u> (McCoy)
50846.	<u>Liotella</u> sp.
50847.	<u>Natica</u> cf. <u>hamiltonensis</u> Tate
50848.	<u>Terebra</u> sp.
50849.	<u>Eyrasus diemeniensis</u> Quoy and Gaimard
50850.	<u>Turritella</u> sp.
50851.	?
50852.	<u>Natica</u> spp.
50853.	?
50854.	?
50855.	Pelecypod indeterminate
50856.	<u>Melania</u> sp.
50857.	<u>Glycymeris striatula</u> (Lam.)

The following foraminifera were present in the washed material:

Anguloxerina cf. baszi Galloway and Wiessner  
Anomalina ammonoides Reuss  
Anomalina nonionoides Parr  
Bolivina amygdalaeformis (Brady)  
Bolivina cf. nobilis Hantken  
Bolivina robusta Brady  
Bulimina elegans d'Orb.  
Cibicides lobatulus (W. and J.)  
Cibicides ungerianus (d'Orb.)  
Dentalina consobrina d'Orb.  
Discorbinaella biconcava (P. and J.)  
Discorbis australis Parr  
Discorbis globularis (d'Orb.) var. angelica Cushman  
Discorbis cf. rareacens (Brady)  
Discorbis sp.  
Elphidium adelaidense Howchin and Parr  
Elphidium crispum (Linne)  
Elphidium imperatrix (Brady)  
Elphidium rotatum Howchin and Parr  
Elphidium striatopunctatum (Chapman)  
Elphidium pseudonodosum Cushman  
Eponides haidingeri (d'Orb.)  
Eponides cf. pauperata (P. and J.)  
Eponides cf. punctulata (d'Orb.)  
Globigerina bulloides d'Orb.  
Globigerinoides trilobus (d'Orb.)  
Globorotalia menardii (d'Orb.)  
Globorotalia crassa (d'Orb.)  
Globorotalites sp.  
Guttulina lactea (W. and J.)  
Guttulina problema (d'Orb.)  
Heronallenia lingulata (B. and N.)

- Lenticulina rotulata (Lam.)  
Notorotalia clathrata (Brady)  
Operculina ammonoides (Gron.)  
Polymorphina cf. howchini Cushman and Ozawa  
Pullenia quinqueloba d'Orb.  
Rectobolivina striata (Schwager)  
Spirillina denticulogranulata Chapman  
Textularia abbreviata d'Orb.  
Uvigerina probosoides Schwager  
Uvigerina cf. pigmea d'Orb.  
Uvigerina cf. rutila Cushman and Todd  
  
50858. Pelecypoda indeterminate  
50859. Aloidia (Notocorbula) scaphoides (Hinds)  
50860. Dosinia sp.  
50861. Glycymeris (Veletuceta) pseudaustralis Singleton  
50862. Clausinella subroborata (Tate)  
50863. Pyrazus diemeniensis Quoy and Gaimard  
Terebra sp.  
50864. Cancellaria cf. wannonensis Tate  
50865. Cancellaria wannonensis Tate  
50866. Cominella eburnea Reeve  
50867. Ancilla papillata (Tate)  
50868. Natica sp.  
50869. Sigaretus sp.  
50870. Ancilla papillata (Tate)  
50871. Natica sp.  
50872. Olivella nymphaea (Tate)  
50873. Natica hamiltonensis Tate  
50874. Ostrea sinuata (Lam.) var. glenelgensis Singleton  
50875. Anomia tatei Chapman and Singleton  
50876. Ostrea sp.  
50877. Anomia tatei Chapman and Singleton  
50878. Ostrea sinuata (Lam.) var. glenelgensis Singleton  
50879. Anomia tatei Chapman and Singleton  
50880. Ostrea sp.  
50882. Indeterminate pelecypoda.

The following foraminifera were present in the washed material :

Rotalia beccarii Linne

B. Dutton Way, Section 2, Level No. 8

50881. Ostrea sinuata (Lam) var. glenelgensis Singleton

The following foraminifera and ostracoda were present in the washed material :

Foraminifera:

- Anomalina sp.  
Bolivina dilatata Brady  
Cassidulina subglobosa Brady  
Cibicides lobatulus (W. and J.)  
Cibicides cf. mundulus (P. and J.)  
Discorbis sp.  
Elphidium adelaidense Howchin and Parr  
Elphidium pseudonodosum Cushman  
Elphidium rotatum Howchin and Parr  
Elphidium cf. sculpturatum Cushman  
Elphidium sp.  
Guttulina problems (d'Orb.)  
Notorotalia clathrata (Brady)  
Operculina ammonoides (Gron.)  
Planulina sp.  
Rotalia beccarii Linne  
Sigmollina schlumbergeri Silvestri  
Sigmoidella sp.

Ostracoda:

Bythocypris cf. reniformis G.S. Brady  
Cythereis scutigeris G.S. Brady  
Cythereis canaliculata G.S. Brady  
Cythereis sp.  
Hemicythere cf. gouletti G.S. Brady  
Loxocochea australis G.S. Brady  
Paradoxostoma cf. abbreviatum Sars

Notes on the Fossil Assemblages

All fossil assemblages from Dutton Way, Portland are Upper Pliocene in age and belong to the Werrikooian Stage. The mollusca represent species characteristic of the Werrikooian assemblage in southwestern Victoria. Included in that assemblage are some species such as Cancellaria wannonensis and Anomia tatei which were originally described from the Lower Pliocene (Kallimian Stage). All species represent a littoral fauna. However, there is some variation in ecological conditions. Forms such as Ostrea sinuata var. glensideensis (one of the characteristic species of the Werrikooian) enjoyed tidal and quiet conditions while others such as Clausinella subreborata, Glycymeris (Veluticeta) pseudaustralis (another typical Werrikooian species) and Cancellaria wannonensis liked more open sea conditions.

This ecological variation is also illustrated by the foraminifera. The assemblages are all characteristic of shallow water conditions and the majority of species have been described from Recent deposits. In Nos. 50826, 50827 and 50881, the assemblage is dominated by the littoral to moderately shallow, temperate water genus Elphidium. The most interesting species are E. adalaidense and E. rotatum. The former was described by Howchin and Parr (1938) from the Adalaidean beds (Lower Pliocene) in the Metropolitan Abbatoirs Bore, Adelaide and it has since been recorded from beds high in the Miocene in the vicinity of Adelaide. So far it has not been recorded above the Upper Pliocene. The latter species E. rotatum was described by Howchin and Parr at the same time as E. adalaidense but on account of the persistent broken periphery of the specimens from the bore, they chose one from the Recent sands on the beach at Kingston, South Australia. However, it is typical of the Adalaidean assemblage. E. pseudonodosum was described by Cushman from the Lower Pliocene deposits at Forsyth's, Hamilton, Victoria and the same author described E. sculpturatum from dredgings off Black Rock near Melbourne.

Other species indicate slight variation in bathymetric conditions. Rotalia beccarii, which is common in No. 50826, and which is the only species present in No. 50882, is most characteristic of water that has a tendency to be brackish while Operculina and Amphistegina, which are common in No. 50824, are shallow water genera which thrive in rather warmer conditions, and more open seas.

The small assemblage of ostracoda in No. 50881, is a shallow water one and all species have been described from Recent seas. The commonest species is Hemicythere cf. gouletti. H. gouletti was originally described by G.S. Brady from dredgings between 2 to 10 feet in Port Jackson, New South Wales.

It is suggested that the Werrikooian deposits at Dutton Way, Portland, were laid down in temperate waters between the depths of one foot and 125 feet.

J. Crespin  
(I. Crespin)  
Commonwealth Palaeontologist.