

DEPARTMENT OF MINES

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MATERIAL FROM THE WESTERN PORTION
OF THE FUGLA BASIN

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MATERIAL FROM THE WESTERN PORTION
OF THE EUCLA BASIN.

ABSTRACT

Samples collected by J. O. Galloway, consultant for Oil Drilling and Exploration consist of Pleistocene fossiliferous sandy limestone and weathered mollusca from the Eyre Plain, Wilson Bluff Limestone from Wilson Bluff and Nallarbor Limestone from the Hampton Scarp. The material supports the writer's conclusion that the Pleistocene rests directly on the Eocene Wilson Bluff Limestone on the Eyre Plain, and that the Hampton scarp is an erosion feature.

1. INTRODUCTION

A suite of samples submitted by J. O. Galloway, consultant geologist for Oil Drilling and Exploration, in the vicinity of Madura, Western Australia and at Wilson Bluff were examined. The main purpose of identification of the rock specimens mollusca was to provide evidence that the Hampton Scarp is an erosion feature. The collection has not been examined exhaustively.

2. F40/59 J.O.G. SAMPLE A.

Collected 5½ miles south and a little east of Madura at limestone cave. Fossils weathering out of red loam on surface. The following molluscan species are represented:

Limopsis tenisoni T. Woods

Glycymeris (Veletuceta) striatularis (Lamarck)

Glycymeris (Veletuceta) radians (Lamarck)

Brachidontes erosus (Lamarck)

Kateleya scalarina (Lamarck)

Pseudarcopagia sp.

Anapella pinguis (Grosse & Fischer)

Phasianella sp.

Semivermetus cf. capillatus Tate

Campanile symbolica Iredale

Notocypraea sp.

Pterynotus triformis (Reeve)

Cassia (Hypocassia) cf. fimbriata Quoy & Gaimard

These are living species, and the material is of Pleistocene age.

3. F41/59 J.O.G. SAMPLE B

Collection of fossil mollusca taken from Eyre Plain K33181 near

beach:

Limopsis tenisoni T. Woods

Glycymeris (Veletuceta) radians (Lamarck)

Glycymeris (Veletuceta) striatularis (Lamarck)

"Venericardia" guoyi Deshayes

Nonitilora lacteola (Tate)

Thaletia conica Gray

Phasianella sp. aneroulus

Gazameda iredalei Finlay

Neodilastema melanoides (Reeve)

Hipponix (Sabia) conicus (Schumacher)

Campanile symbolicus Iredale

Cominella eburnea Reeve

Nassarina (Tavaniotha) munitrana (Crosse)

Pterynotus sp.

Conus (Floraconus) compressus Sowerby

The foraminifer Marginopora vertebralis is also present

4. F42/59 J.O.G. SAMPLE C

From water bore about 30+ feet deep 6.6 miles due south west of Madura. Sample consists of fossil mollusca in sandy limestone (which underlies lean carrying weathered out mollusca):

Glycymeris striatularis

Chlamys sp.

Brachidontes exilis

Venericardia guoyi

Nonitilora lacteola

Gazameda iredalei

Phasianella sp.

Salinator fragilis (Lamarck)

The species are living and the material of Pleistocene age.

There is also a specimen of Salenia tertiaria Tate, an echinoid from the underlying Wilson Bluff Limestone.

5. F43/59 J.O.G. SAMPLE D

Near road from Madura to Burnside, 43.3 miles south west of Madura.

Fossils mollusca from hand dug water well 10 feet below surface.

Glyceria radians

Brachidontes crossei

Ostrea sp.

Katelysia scalarina

Gastropoda iredalei

Modiolostoma melanoides

Semivertagus cf. capillatus

Polinices conicus

Caminella sp.

Baryspira lineolata (Kiener)

6. F44/59 J.O.G. SAMPLE E

From wall of cave on top of Hampton Scarp about 1 mile north of road and about 9 miles due east of road which crosses scarp, leading to Madura and Eucla.

The specimen is of Nullarbor Limestone (Lower Miocene).

7. SAMPLES FROM WILSON BLUFF

F45/59 120 feet below surface level, top of Bluff

Wilson Bluff Limestone with abundant

Magellania subcarnea (Tate) Topotypes

F46/59 150 feet below top of Bluff.

Wilson Bluff Limestone with Anstranthus longianus Gregory

Spondylus gaderopoides (McCoy). Magellania subcarnea Tate

and cidaroid spines, probably of Stereocidaris australiae

Duncan.

F47/59 180 feet below top of Bluff

Wilson Bluff Limestone, with Spondylus gaderopoides, Eupatagus sp.

8. COMMENT ON THE SAMPLES

This collection has been most useful in confirming the writer's view (1958, p.110) that the Nullarbor Limestone has been removed from the Eyre Plain and the Pleistocene rests directly on the Wilson Bluff Limestone. There are apparently two Pleistocene deposits - the older a sandy limestone

overlying Wilson Bluff Limestone and a younger represented by a red loam with abundant weathered out mollusca in turn overlying the sandy limestone.

Pleistocene sediments are about 30 feet thick.

The only Hallarhor Limestone was collected on the Hampton Scarp.

9. REFERENCE

LIDBROOK, N.H. 1958. The Stratigraphic sequence in the western portion of the Eucla Basin. Journ. Roy. Soc. W. Aust. 41 (4). pp 103-114.

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