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RECORDS.

1956/100

FOSSILIFEROUS ROCKS FROM CENTRAL HIGHLANDS.

NEW GUINEA

by

Irene Crespin and D.J. Belford.

FOSSILIFEROUS ROCKS FROM CENTRAL HIGHLANDS,

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This small collection of rocks was made by N.J.McMillan and J.E.Johnson in the Bundi, Wataung and Asaro areas, Central Highlands, New Guinea. Dr. Fisher collected one sample, (F.44) at Watabung during his recent visit to the region.

The samples contain interesting foraminiferal assemblages, the most important discovery being that of abundant tests of the larger Upper Cretaceous foraminiferal genus Pseudorbitoides in limestones from the Watabung area. This is the first record of the genus in collections from the Central Highlands made by geologists of the Bureau of Mineral Resources; M.F. Glaessner recorded it from the region in 1950.

Description and Age of the Rock Samples

BUNDI AREA

J.26e. 3 miles southward from Guebi on Baia River, from near top of a fossiliferous argillaceous limestone section.

Dark grey argillaceous limestone with foraminifera and fragments of indeterminate corals.

Foraminifera: Lepidocyclina cf. verbeeki Newton and Holland  
Lepidocyclina sp.indet.  
Spiroclypeus orbitoideus Douville

These two limestones are similar in lithology and foraminiferal content. The larger foraminifera are distorted but well preserved. The presence of Eulepidina and Spiroclypeus indicate that the rocks belong to lower "e" stage (Upper Oligocene to Lower Miocene) of Indo-Pacific Tertiary letter classification.

J.27a. 3 miles southward from Guebi on the Baia River; shales at top of limestone of Specimen 26e.

Dark grey calcareous shale with poorly preserved tests of foraminifera and radiolaria.

Foraminifera: cf. Orbulina  
cf. Globorotalia  
cf. Operculinoides

The age of this rock is indefinite. It possibly belongs to the upper part of "f" stage (Middle Miocene).

WATABUNG AREA

J.54b. Outcrop in creek, 1 mile north of Watabung.

Grey foraminiferal limestone with abundant tests of Pseudorbitoides.

Foraminifera: Globotruncana lapparenti Brotzen  
Globotruncana sp.  
Guembelina sp.  
Marssonella sp.  
Pseudorbitoides cf. israeliskii Vaughan  
and Cole  
Pseudorbitoides sp.

M.44a. 1/2 mile east of Watabung in Marifutica River.

Grey foraminiferal limestone with abundant tests of Pseudorbitoides.

Foraminifera: Globotruncana spp.  
Pseudorbitoides cf. israeliskii Vaughan  
and Cole  
Pseudorbitoides sp.

These two limestones contain abundant tests of Pseudorbitoides, a typical Upper Cretaceous genus of the larger foraminifera. Glaessner in 1950 recorded the genus from the Central Highlands, New Guinea and in 1952 from the Port Moresby area, Papua. Prior to these discoveries, the genus had been known only from localities in the Gulf of Mexico region, where it is confined to the Upper Senonian. Well preserved vertical sections of the Upper Cretaceous genus Globotruncana are also present, these sections being characteristic of the species G.lapparenti, which supports an Upper Senonian (Campanian) age for these Pseudorbitoides-bearing limestones from the Central Highlands.

J.67a. Chauve Road.

Dark grey calcareous greywacke with foraminifera.

Foraminifera: Operculinella venosa (F. & M.)  
Operculinoides sp.

J.68a. 3 miles south of Watabung in a stream section.

Dark grey calcareous greywacke with foraminifera.  
Rock similar to J.67a.

Foraminifera: Operculinella venosa (F. & M.)  
Elphidium cf. hispidulum Cushman

These two samples belong to "g" stage (Upper Miocene) or younger. Operculinella venosa is common in Indo-Pacific deposits from the top of the Miocene to Recent.

M.43a. 1 mile N.W. of Watabung, from a 10 feet thick conglomerate bed comprising 80% limestone cobbles.

Conglomerate with included fragments of Globigerina limestone, brown siltstone containing Globigerina and Guembelina and a fragment of a large Nummulites.

The Globigerina limestone contains planktonic forms which are very similar to the Eocene limestones of the Port Moresby area. The test of Nummulites is too fragmentary for specific determination. It shows no indication of being a reticulate form and consequently is of Eocene age. As no forms are present upon which age can be definitely fixed, it is



regarded as a post-Eocene conglomerate.

N.44. 1 mile up river above Watabung (Collected N.H.Fisher)

Dark grey sandy siltstone with small foraminifera and indeterminate radiolaria preserved as casts.

Foraminifera: Bulimina sp.  
Globotruncana contusa (Cushman)  
Globotruncana calciformis (de Lapparent)  
Globotruncana sp.  
Glomospira charoides  
Globorotalia sp.  
Globorotalia (Turborotalia) sp.  
Globigerina triloculinoides Plummer  
Globigerina spp.  
Pseudoguembelina sp.

This assemblage contains mixed and derived species of Upper Cretaceous and Lower Eocene age. No information is available to suggest the time of deposition of this rock. Derived tests of Globotruncana have been found in rocks in the Central Highlands (Rickwood, 1954) associated with large "f" stage (Lower to Middle Miocene) foraminifera. A rock containing a derived fauna similar to that in the present sample was found by W.J.Perry and S.J.Patterson from the Upper Sepik-August River area, the suggested age being Palaeocene (Crespin and Belford, 1956).

ASARO AREA

M45a. Half way between Asaro and the Lookout.

Sandy fragmental limestone with fragments of Operculinella cf. venosa.

This rock seems to be similar in age to Nos. J.67a and J.68b, which are probably "g" stage (Upper Miocene).

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