

1
FORAMINIFERA FROM THE UPPER SEPIK RIVER,
WESTERN NEW GUINEA.

by

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Rock samples chiefly in the form of pebbles were submitted for palaeontological examination by W.J. Perry who collected them during his survey with the geologist of Enterprise of New Guinea Gold and Petroleum Development N.L. of the Company's Permit 21 along the Sepik River in Western New Guinea. This area is close to the border of Dutch New Guinea and no previous palaeontological work has been carried out on the rocks in that region. The majority of samples were pebbles taken from the streams flowing into the Sepik but some of the siltstones were taken from outcrops along the river banks. A tentative correlation of the specimens containing Tertiary foraminifera has been made with the stratigraphical stages used by Australasian Petroleum Co. Ltd. in Papua and New Guinea. All samples examined are shown on the locality map which will accompany W.J. Perry's report on the area.

A detailed description of the samples is given below.

On West River near Junction with Sepik River

- AA.1 - Dark grey siltstone with numerous arenaceous foraminifera. (In situ). (Registered No. MF.3208)

Ammodiscus cf. incertus d'Orb
Bathysiphon cf. irregularis LeRoy
Haplophragmoides cf. subglobosum Sars

- AA.2 - Grey siltstone with patches of carbonaceous material and foraminifera. (In situ). (Registered No. MF.3209)

Bolivina cf. costata d'orb.
Cassidulina murrhyna Schwager
Globigerinoides trilobus (d'Orb.) (c)
Globorotalia menardii (d'Orb.)
Haplophragmoides cf. subglobosum Sars
cf. Hormosina
Nodosaria arundinea Schw.
Nonion sp.
Orbulina universa d'Orb.
Pullenia bulloides d'Orb.
Sphaeroidinella seminulum
Verneuilina sp.

The feature of samples AA.1 and AA.2 is the dominance of arenaceous tests. The assemblage as a whole is rather indefinite. Although the arenaceous forms, Bathysiphon, Haplophragmoides and Hormosina (recorded in Australasian Petroleum Company reports as "arenaceous indet.") occur more commonly in the Aure facies of the Ivorian which is equivalent of "f-3" stage of Indo-Pacific stratigraphy, they are not conclusive.

- AA.3 - Grey greywacke with foraminifera scarce. (In situ) (Registered No. MF.3210)

Amphistegina sp.
Globigerina conglobata Brady
Sigmoilina sp.

It is impossible to suggest an age or correlation for this sample.

Yapsiei River, north of Tai Creek

AA.8 - Limestone pebbles.

(a) - Coral limestone with foraminifera. (Registered No. MF.3211)

Some thin sections of Miogypsina are present in a groundmass which is composed almost entirely of small pelagic foraminifera. The rock most probably belongs to the lower part of "f" stage..

(b) - Dense grey limestone with limestone inclusions outlined with black mineral, also with calcareous algae (Halimeda), foraminifera and sponge spicules. (Registered No. MF.3212).

Bolivina sp.

Elphidium sp.

Globigerinoides trilobus (d'Orb.)

Lepidocyclina sp.

Miogypsina sp.

From the small pebble available for study, it is difficult to give an exact age for the rock but it would appear that it is an "f" stage rock and probably "f₁" or "f₂".

(c) - Pebbles of black limestone containing macrofossils of Mesozoic age.

Yapsiei Creek immediately south of junction with
Waganabei Creek.

ENG. 15 - Pebbles of igneous rocks and dense black limestone containing macrofossils of Mesozoic age.

ENG. 17 - Limestone pebbles.

(a)(-) Dense cream crystalline limestone with Lepidocyclina (Registered No. MF.3213)

Amphistegina sp.

Cycloclypeus sp.

Bolivina sp.

Globigerina spp.

Gypsina globulus Reuss

Heterostegina sp.

Lepidocyclina (Nephrolepidina) bornensis (Provale)

Lepidocyclina (Nephrolepidina) verbecki N. & H.

Lepidocyclina (Eulepidina) insulac-natalis Jones & Chapman

Lepidocyclina (Eulepidina) cf. manduensis Crespin

Lepidocyclina (Eulepidina) sp. nov.

Miogypsina bifida Rutton

Miogypsina sp.

Sorites martini Verbeck

This limestone contains some well preserved Lepidocyclina on the weathered surface and in thin section. Unfortunately all sections were in the vertical direction and it has been impossible to obtain any horizontal sections which are important in the subgeneric determination. However, typical vertical sections have been recognised of the species listed above. An interesting and common form which has exceedingly strong pillars is most probably a new species, and all available features suggest that it is a Eulepidina. The rock is referable to "c" stage (= Kereruan Stage of the Australasian Petroleum Company's classification).

(b) - Grey crystalline limestone with abundant small foraminifera including Orbulina universa and species of Globigerina. (Registered No. MF 3214)/

This rock may be compared with the so-called Puri Limestone of the Australasian Petroleum Company's classification which may be "c" or lower "f" stage.

ENG. 22. Dense black crystalline limestone with macrofossils of Mesozoic age. A thin section of the rock did not show any microfossils. (Registered No. MF.3216)

Dio Village, West of Faringa River, tributary of
Sepik River

ENG. 24 - Greenish grey siltstone containing abundant small foraminifera, especially pelagic species. (Registered No. MF. 3215)

<u>Allomorphina trigonula</u> Reuss	<u>Nodosaria tosta</u> Schw.
<u>Amphistegina lessonii</u> d'Orb.	<u>Nodosaria aff. perversa</u>
<u>Bolivina</u> sp.	Schl
<u>Bolivinita quadrilatera</u> (Schw.)	<u>Nodosaria hispida</u> d'Orb.
<u>Bulimina ovata</u> d'Orb.	<u>Nonion</u> sp.
<u>Bulimina striata</u> d'Orb.	<u>Orbulina universa</u> d'Orb.
<u>Cassidulina pacifica</u> Cushman	<u>Plectofrondicularia</u>
<u>Cassidulina subglobosa</u> Brady	<u>interrupta</u> (Karrer)
<u>Cibicides mundulus</u> (B.P.&J.)	<u>Pullenia bulloides</u> (d'Orb).
<u>Cibicides ungerianus</u> (d'Orb.)	<u>Pulleniatina obliquiloc-</u>
<u>Clavulinoides tricarinatus</u> LeRoy	<u>lata</u> (P. & J.)
<u>Dentalina cf. japonica</u> Cushman	<u>Pleurostmella alternans</u>
<u>Dentalina caterula</u> Reuss	Schw.
<u>Dentalina consobrina</u> d'Orb.	<u>Siphonodosaria insecta</u>
<u>Dorothia</u> sp.	(Schw.)
<u>Enantiodontalina communis</u> (d'Orb.)	<u>Siphonodosaria lepidula</u>
<u>Eggerella bradyi</u> Cushman	(Schw.)
<u>Epistomina elegans</u> (d'Orb.)	<u>Siphonodosaria subterten-</u>
<u>Fissurina orbignyana</u> (Seg.)	<u>uata</u>
<u>Fissurina marginata</u> (W. & J.)	<u>Siphogenerina striata</u>
<u>Globigerina bulloides</u> d'Orb.	(Schw.)
<u>Globigerina conglobata</u> Brady	<u>Sigmoilina schlumbergeri</u>
<u>Globigerinella squilateralis</u>	Silv.
(Brady)	<u>Schnekiella cf. novaeze-</u>
<u>Globigerinoides trilobus</u> (d'Orb.)	<u>alanica</u> Cushman
<u>Globigerinoides sacculiferus</u>	<u>Sphaeroidina bulloides</u>
(Brady)	d'Orb.
<u>Globorotalia monardii</u> (d'Orb.)	<u>Textularia fistulosa</u>
<u>Globorotalia scitula</u> (Brady)	Brady
<u>Gyroldina broeckhiana</u> (Karrer)	<u>Uvigerina crassicostata</u>
<u>Gyroldina soldanii</u> (d'Orb.)	Schw.
<u>Goessella</u> sp.	<u>Uvigerina hispida</u> Schw.
<u>Lagena hispida</u> Reuss	<u>Uvigerina gemmaciformis</u>
<u>Martinotiella communis</u> (d'Orb.)	Schw.
<u>Nodosaria arundinea</u> Schw.	<u>Uvigerina peregrina</u> Cush.
<u>Nodosaria acuminata</u> Hantken	<u>Uvigerina proboscidea</u>
var. <u>uniforminata</u> LeRoy	Schw.
<u>Nodosaria hochstetteri</u> Schl.	

The assemblage of small foraminifera listed above, which is dominated by pelagic species, is a characteristic one in the Tertiary rocks of Papua and New Guinea. Comparison of this assemblage with that recorded by the Australasian Petroleum Company from the Purari-Vailala area of Papua suggests that it is the equivalent of the Muruan Stage or "g" stage of Indo-Pacific Tertiary stratigraphy.