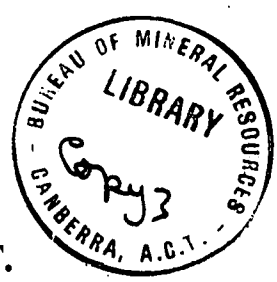


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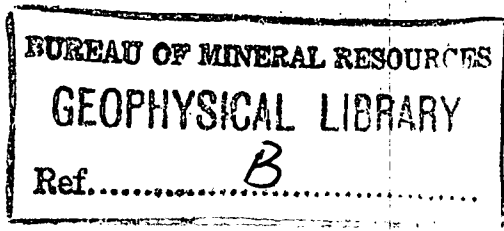
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NETHERLANDS NEW GUINEA .

by

Irene Crespin.

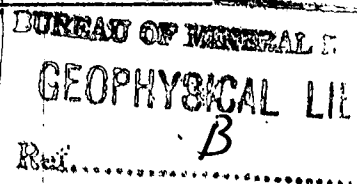
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FORAMINIFERAL ROCKS FROM THE NASSAU RANGE,  
NETHERLANDS NEW GUINEA

by

Irene Crespin

RECORDS 1961/104



A small collection of fossiliferous rocks from the Nassau Range, Netherlands New Guinea, was submitted by D.B.Dow for micropalaeontological examination. The rocks which contained excellent suites of larger and small foraminifera, came from the Meleri Beds, the Carstensz Group and the Ilaga Volcanics. Some of them were Eocene in age; the majority were Lower Miocene, some of them containing derived Eocene larger foraminifera. The microfauna of four samples from the Ilaga Volcanics consisted entirely of small planktonic and benthonic foraminifera, most probably of basal Lower Miocene age.

Rutton (1927) recorded Eocene Lacazinella (=Lacazina)--bearing rocks from Wilheminatop and Miocene Lepidocyclina-bearing ones from Carstensztoppen, Netherlands New Guinea.

DETAILED DESCRIPTION OF SAMPLES

C.1 : Meleri River near Tiom. Merleri Beds.

Limestone containing calcareous algae, and numerous larger foraminifera, both Eocene and Miocene forms.

Plantae: Lithothamnium cf. marianae Johnson.

Foraminifera:

Lower Miocene forms -

Amphistegina sp.  
Heterostegina sp.  
Lepidocyclina (Eulepidina) insulaenatalis  
(Jones and Chapman)  
L.(E.) papuaensis (Chapman)  
L.(E.) sp. (fragments)  
L.(Nephrolepidina) angulosa (Provale)  
L.(N.) sp.  
Spiroclypeus margaritatus (Schlumberger)  
S. cf. orbitoideus Douville  
S. sp. nov.

Eocene forms (derived) -

Biplanispira mirabilis (Hanzawa)  
Asterocyclina cf. matanzensis Cole  
Discocyclina cf. douvillei (Schlumberger)  
Nummulites bagelensis Martin  
Pellatispira sp.

Remarks: This rock is Lower Miocene ("e" stage) in age. Associated with typical "e" stage species of Spiroclypeus and Eulepidina of the Indo-Pacific region are typical Upper Eocene foraminifera such as Biplanispira mirabilis and Nummulites bagelensis.

Carstensz Group

West Baliem River, Boulders shedding from Carstensz Group

C.3: Limestone with calcareous algae, larger foraminifera, small forms including Globigerina and numerous small angular quartz grains.

Foraminifera:

Asterocyclina cf. aster Woodring  
A. cf. matanzensis Cole  
Halkyardia cf. bikiensis Cole  
Lacazinella wichmanni (Schlumberger) (common)  
Nummulites bagelensis Martin  
Operculina sp.

Remarks: This rock is Upper Eocene in age. Several sections were cut but there was no indication that the rock was younger than this age. The record of the Eocene genus Halkyardia appears to be the first of this form from Netherlands New Guinea.

C.4: (a) Limestone with abundant Operculina, some fragments of Eupelidina and derived tests of Nummulites; some tests filled with brown glauconite.

Foraminifera:

Amphistegina sp.  
Elphidium sp.  
Lepidocyclina (Eulepidina) cf. murrayana  
(Jones and Chapman) (probably derived)  
Nummulites bagelensis Martin (derived)  
Operculina cf. victoriensis Chapman and Parr  
(abundant)

Remarks: This rock is Lower Miocene (f<sub>1</sub>-f<sub>2</sub> stage) with derived Eocene and Lower Miocene ("e" stage) forms. Miocene limestones containing abundant Operculina are known from many localities in New Guinea.

(b) Crystalline limestone with numerous small fragments of calcareous algae, larger foraminifera and some bryozoa.

Foraminifera:

Asterocyclina cf. matanzensis Cole  
Carpenteria sp.  
Discocyclina cf. douvillei (Schlumberger)  
Gypsina globulus Reuss  
Lacazinella wichmanni (Schlumberger)  
cf. Lockhartia sp.  
Operculina sp.  
Spiroclypeus vermicularis Tan

Remarks: The age of this rock is Upper Eocene.

(c) Limestone with numerous tests of Nummulites and Discocyclina also small angular quartz grains and some brown and green glauconite infillings of foraminifera.

Foraminifera:

Asterocyclina cf. matanzensis Cole  
Discocyclina cf. douvillei (Schlumberger)  
Nummulites bagelensis Martin  
Lockhartia sp.  
Spiroclypeus vermicularis Tan

Remarks: The age of this rock is Upper Eocene. Rocks of this type are widely distributed in New Guinea.

C.8. Head of Kemabu Valley.

Limestone with large foraminifera common and a few small forms in the matrix.

Foraminifera:

Alveolina sp.  
Asterocyclina cf. matanzensis Cole  
Discocyclina sp. (fragments of large tests,  
Microspheric form)  
Lacazinella wichmanni (Schlumberger)  
Nummulites bagelensis Martin  
Operculina sp.  
Small rotalines and other forms.

Remarks: The age of this rock is Upper Eocene. Many vertical sections near the periphery of large Discocyclina are present.

C.10. Hakaijogu Lakes, Kemabu Valley.

Lepidocyclina limestone with small foraminifera chiefly Globigerina common in matrix.

Foraminifera:

Austrotillina howchini (Schlumberger)  
Amphistegina sp.  
Cycloclypeus indopacificus Tan (common)  
Lepidocyclina/martini (Schlumberger)  
(Nephrolepidina)  
L.(N.) verbeeki (N. and H.), (common)  
Miogypsina thecidaeformis Rutten  
Operculina cf. victoriensis Chapman and Parr.

Remarks: The age of this rock is Lower Miocene (f<sub>1</sub>-f<sub>2</sub> stage). Both microspheric and megalospheric tests of L.(N.) verbeeki are present.

C.11. Geberi Lake, Carstensz Mountains.

Limestone with calcareous algae, larger foraminifera, Miocene species with derived Eocene.

Plantae: Lithothamnium sp.  
Lithophyllum sp.

Foraminifera:

Amphistegina sp.  
Discocyclina sp. (derived)  
Lepidocyclina (Nephrolepidina) angulosa (Provale)  
L. (Eulepdina) sp.  
Operculina sp.  
Sakesaria sp. (derived)

Remarks: The age of this rock is Lower Miocene probably "c" stage. The fronds of calcareous algae are similar to two indeterminate species figured by Johnson (1957) from the Upper Eocene of Saipan. Sections of a most striking form are referred to the Lower Eocene genus Sakesaria described by Davies (1937) from the Lower Eocene Laki Beds of India and recognised by Smout (1953) from the Lower Eocene of Qatar Peninsular of Arabia.

C.12. Geberi Lake, Carstensz Mountains

(a) Limestone with calcareous algae, foraminifera including small Lepidocyclus and corals.

Plantae: cf. Cyrtolites  
Halimeda sp.  
Lithoporella sp.  
Lithothamnium sp.

Foraminifera:  
Ammonitina sp.  
Acervulina inhaerens (Schultz)  
Carpentaria cf. proteiformis Goes  
Elphidium sp.  
cf. Floresculina  
Gypsina globulus Reuss  
Lepidocyclus (Nephrolepida) angulosa (Provale)  
L. cf. robusta Scheffer  
L. spp.  
Operculina cf. venosa (F. and M.)  
cf. Sakaria sp. (derived)

Remarks: The age of this limestone is Lower Miocene (f<sub>1</sub>-f<sub>2</sub> stage). Calcareous algae are common but specific determination is not possible. Sections of well preserved tests of the derived Lower Eocene genus Sakaria are present.

(b) Crystalline limestone with calcareous algae and foraminifera.

Plantae: Archaeolithothamnium sp.  
Lithophyllum cf. prelichenoides Lemoine.  
Lithoporella melobesoides (Foslie)

Foraminifera:  
Ammonitina sp.  
Cycloclypeus sp.  
Discocyclus sp. (derived)  
Lepidocyclus spp. (small and common)  
Miogyssinoides sp. nov.  
Pellatispira sp. (derived)  
Operculina sp.  
Numerous small rotalines.

Remarks: This rock is Lower Miocene, probably f<sub>1</sub>-f<sub>2</sub> stage, with derived Eocene genera. Well preserved calcareous algae are present and are referable to Lower Miocene species (Johnson, 1957).

C.15. Solstice Pass. Zengilorong River.

Foraminiferal limestone with abundant tests of Discocyclus.

Foraminifera:  
Asterocyclus matanzensis Cole.  
Discocyclus cf. omphala (Fritsch).  
Discocyclus sp. (small tests)  
Lacazinella wichmanni (Schlumberger)  
Nannulites bagelensis Martin  
Operculina sp. nov. (very large)

Remarks: The age of this rock is Upper Eocene. Tests of a large and coarse walled species of Operculina are common.

Ilaga Valley, Ilaga Volcanics.

C. 16. Hardened marl with abundant planktonic foraminifera especially Globigerina.

C. 17. Friable grey marl with abundant small foraminifera, both planktonic and benthonic forms.

C. 18. Friable grey marl with abundant planktonic foraminifera with benthonic forms common.

C. 7. Grey marl with abundant Globigerinidae, many poorly preserved.

Remarks: Samples, C.7, C.16, C.17, and C.18 are referred to basal Lower Miocene. D.J.Belford states that, as far as he knows, the assemblage of planktonic species contains several species not before recorded from the Tertiary of New Guinea. With the absence of Hantkenina in this rich planktonic assemblage, the rocks are considered to be younger than Eocene, and with the absence of Orbulina, they are probably older than the upper part of the Lower Miocene. On available evidence, the age is considered to be basal Lower Miocene and equivalent of the lower Aquitanian.

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