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NOTES ON A LEPIDOCYCLINA-BEARING ROCK FROM CEBU,
PHILIPPINES.

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CANBERRA, A.C.T.

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During a visit by the writer to the Philippines in November, 1953, specimens of a large Lepidocyclina of paper-like thinness from the island of Cebu were handed to her for comment. External characters immediately suggested Lepidocyclina (Eulepidina) badjirraensis Crespin, from Badjirrajirra Creek, Cape Range, Exmouth Gulf, North-West Australia. (Crespin, 1952). Thin sections prepared at the Bureau of Mines, Manila, confirmed this determination. A special visit was made by the writer to Cebu to collect specimens from the locality at Mantalongan. In company with Mr. Robert Grey and other members of the staff of the Bureau of Mines, she set out from Cebu City for the locality, but owing to heavy rains, which brought about a sudden rise in the height of the river to be crossed, it was not reached. However, it was promised that a collection would be made at the earliest opportunity and forwarded to Canberra. These samples were received from the Director of Mines, Manila on 28th July, 1954.

The collection was made at Barrio Magalambac, Mantalongan, and consisted of tests of both the megalospheric and microspheric generations (Forms A and B) of the species Lepidocyclina (Eulepidina) badjirraensis, flatly lying and closely matted together. The average diameter of the microspheric form measured 55 mm., the largest being 60 mm. The thickness at the peripheral edge was 0.5 mm. The megalospheric form showed an almost uniform diameter of 20 mm. This species is amongst the largest Lepidocyclinae known from the Indo-Pacific region. It is apparently the species referred to by Corby et al. (1951, p. 117) as Lepidocyclina cf. dilatata Michelotti. The writer has little doubt also that L.(E.) saipanensis Cole (Cole & Bridge 1953) is referable to this species. Professor Storrs Cole's specimens from Saipan were examined at Cornell University in 1951 and the suggestion was made to him that the species from Saipan and from the Cape Range, Western Australia, were identical.

Associated with this species in Cebu are species of foraminifera similar to those found in the Cape Range deposit. The "e" stage form Cycloclypeus eidge Tan is present, together with Lepidocyclina (Nephrolepidina) borneensis and large and small tests of Operculina which have been referred to O. victoriensis Chapman and Parr. It has also been possible to obtain a small but interesting assemblage of smaller foraminifera from the matrix attached to the large tests. Most of these forms were found associated with L.(E.) badjirraensis in the Cape Range material. The complete list of foraminifera recognised is as follows:

Amphistegina lessonii (d'Orb.)
Anomalina glabrata (Cushman)
Anomalina sp.
Anomalinella rostrata (Brady)
Bolivina cf. antiqua d'Orb
Cancris auriculus (F. and M.)
Cibicides dorsopustulosus Le Roy
Cibicides cf. fijiensis (Cushman)

Cibicides lobatulus (W. and J.)
Cibicides refulgens (Montf.)
Cornuspira crassisepta Brady
Cycloclypeus eidae Tan
Cyclococulina sp.
Dentalina insecta Schwager.
Dentalina spp.
Eponides cf. praecinctus (Karrer)
Globigerina cf. baroemoenensis Be Roy
Globigerina bulloides d'Orb
Globigerinoides trilocularis (d'Orb.)
Hemicristellaria sumatrica LeRoy.
Lagena sulcata (W.&B.) var. apiculata Cushman
Lagena sp.
Lepidocyclina (Eulepidina) badjirraensis Crespín
(Forms A & B)
Lepidocyclina (Nephrolepidina) borneensis (Provale)
Liebusella rudis (Costa)
Miocypsinia cf. kotoi Hanzawa
Nodosaria sp.
Operculina victoriensis Chapman and Parr (Forms A & B)
Patellina corrugata (Williamson)
Reophax cf. scorpiurus Montf.
Reussella decorata (Heron-Allen and Earland)
Saracenaria italica DeFr.
Spiroloculina canaliculata d'Orb.
Spiroplectammina arenacea LeRoy

There is little doubt that the stratigraphical horizon at which L. (E) badjirraensis is found in Cebu is equivalent to that in which it occurs in the Cape Range, North-West Australia, and the age of the bed is regarded as near the top of "e" stage. The occurrence in the field is apparently similar in both localities, where the tests of the two generations are flatly lying and are crowded together so as to give the bed a stratified appearance.

In Badjirrajirra Creek, Cape Range, the bed containing these crowded tests is only 2 feet thick and occurs in the type section of the Mandu Limestone (Condon et al 1953), 169 feet above the base of the exposed section of the Formation and 94 feet below the base of the overlying Tulki Formation in which Eulepidina is absent. The Tulki Limestone is overlain by the Trealla Limestone, the age of both these formations being low in "f" stage. The base of the Mandu Limestone is not exposed in the Cape Range, but the stratigraphy of the area suggests that it overlies limestones of Eocene age which in turn overlie the Cretaceous.

The limestone bed within the Malubog Formation which overlies the Cebu Limestone is also of interest. The writer collected a sample of this limestone on the Cebu-Toledo road about 15 kilometres from Toledo. This limestone has two outstanding characteristics:

1. The abundance of the species Austrotrillina howchini (Schlumberger).
2. The remarkable similarity of the lithology with the limestone in the lower part of the Trealla Formation in the Cape Range area.

Austrotrillina howchini was described by Schlumberger from a Lepidocyclina limestone at Clifton Bank, near Hamilton, Western Victoria, Australia, which is most probably equivalent to basal "f₂" and uppermost Lower Miocene. This form was not found associated with L. (E) badjirraensis at the type locality, but is present in the limestone of the Tulki Formation and common in the Trealla Limestone. It is noteworthy that "e" stage beds with Eulepidina have been found in Australia only

in North-west Australia.

The writer takes this opportunity to correct errors relating to the Tertiary stratigraphical (1951) sequence in Australia shown on Plate 48 of the Corby publication. Considerable work has been done in this country on the Tertiary sequence since Chapman and Singleton put forward their views in 1925, (not 1930 as quoted on the plate).

The term "Barwonian" has been abandoned, and the Balcombian Stage has been proved to overlie the Janjukian, not underlie as previously thought. The Balcombian is most probably the equivalent in age of basal "f₂" and the Janjukian is upper Eocene.

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