# STUDIES ON SOME TERTIARY CORALS FROM EGYPT

*by*

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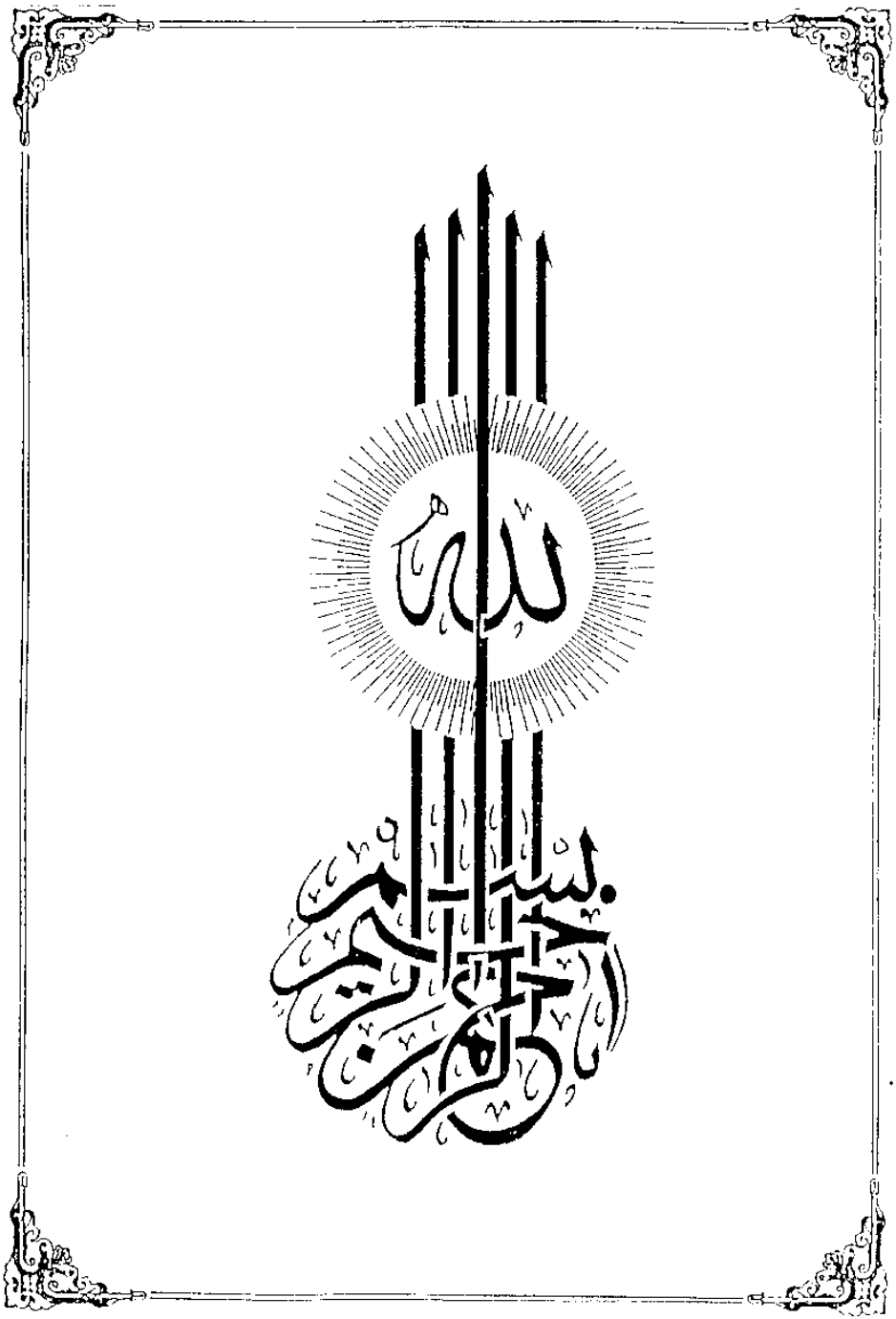

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# INTRODUCTION

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## a- Material

The Paleocene "paper shales" and "snow-white chalk" of Southern Egypt are famous for their rich and varied fauna. However, no major study on the coral fauna of these Paleocene strata was made since the beginning of this century except for that by Johannes Wanner (1902). Though this work is not specific, yet it includes among the treatment of a varied fauna the description of 15 coral species belonging to 13 genera from the "paper shales = Blätterthone" and "snow white chalk = Schnee-weissen Kreide" in different localities in the South Western Oases. His work remained until the present the standard reference on the subject.

In the last few years, the author launched a new study on the fossil coral fauna of some localities in Southern Egypt. Particular attention has been paid to selected faunas from the Paleocene of the Western Desert and Nile Valley, which are treated in detail concerning stratigraphic occurrences, distribution, systematic palaeontology and some paleoecological considerations.

Appended to the principal work is a mainly tabular chapter which is intended to be a check list on the fossil

corals known in the different Tertiary rocks of Egypt. It includes emended tables containing the geographical and stratigraphical distribution of Paleocene, Eocene, and Miocene corals.

The total number of specimens on which the present study of paleocene corals of Egypt is built, is approximately 800. This large collection was obtained from a number of sources. The largest part of the material studied was collected by Prof. M.Y. Hassan from the lower paper shales (Kharga Shale Member) and the snow-white chalk (Taraswan Chalk Member) of Kharga Oasis, and from the upper paper shales (Esna Shale Member) of Luxor area, Nile Valley. The rest has come from secondary collections. Specimens from the Esna Shale of Farafra Oasis were procured by Mr. W. Abdel Aziz. Another collection was obtained from Gebel Um El-Ghanayem, Kharga Oasis by Mr. M. El Gamal and presented to the author.

Mr. A.M. Strougu provided the author with a valuable specimen of a Cycloliten species recorded here for the first time from the Upper Eocene of Western Desert in the Qasr-el-Sagha Formation of Fayum. Dr. M.G. Abed kindly offered the author four calcareous specimens collected from south

Gebel Garra, Kumkwr Oasis. Finally, from the Nile Valley (Esna region) Miss Masek F. Gewad of the Geological Museum of Cairo provided the author with a collection from the lower paper shales.

These collections are all from Paleocene rocks except for that of Mr. Strougu which is collected from the Upper Eocene of Fayum.

Thirty - eight species are dealt with in the systematic section. All are described and figured. Comparison with related species is undertaken. An attempt for collecting evidence which this coral fauna can provide towards understanding the Palaeoenvironmental conditions of deposition of the containing sediments is also made.

b- Stratigraphic position :

The Paleocene paper shales of southern Egypt can generally be described as a thick series of homogenous dark grey and greenish, easily fissile shales interrupted at about the middle by a snow-white chalky band of variable thickness in different localities. In certain places in the west of the country, the chalk member continues to the top and changes gradually through a finely laminated marl into the Lower

Eocene limestone (Thebes Formation, Said 1962).

Generally, the lower shales are the more interesting because they contain special, rich and well preserved limonitic dwarf fauna, while the upper shales provided only micro-fauna except in rare occurrences : Oppenheim (1902) in Thebes ; Faris (1947) in Tukh-Taramsa area (both localities in the Nile Valley); the present work in Farafra Oasis and Thebes; and Youssef (1957) in Kosseir area, Eastern Desert.

The lower shales are dark in colour and more homogeneous throughout considerable thicknesses and area. They are fine-grained, contain an abundance of limonitic concretions and carry much gypsum and other veins of saline minerals. There is some difference in opinion as regards the stratigraphic position and age of these shales and the associating chalk. The first name given to the lower shales was due to Zittel (1883) "Ashgrau Blatterthone". He considered it together with the overlying chalk as the top of the Danian which he regarded as the youngest stage of the Cretaceous System. Quaas (1902) & Wanner (1902) studied the Fauna collected by Zittel from the "Blatterthone" and the "Schnee-weissen Kreide" of the Western Desert and referred it to the Danian.

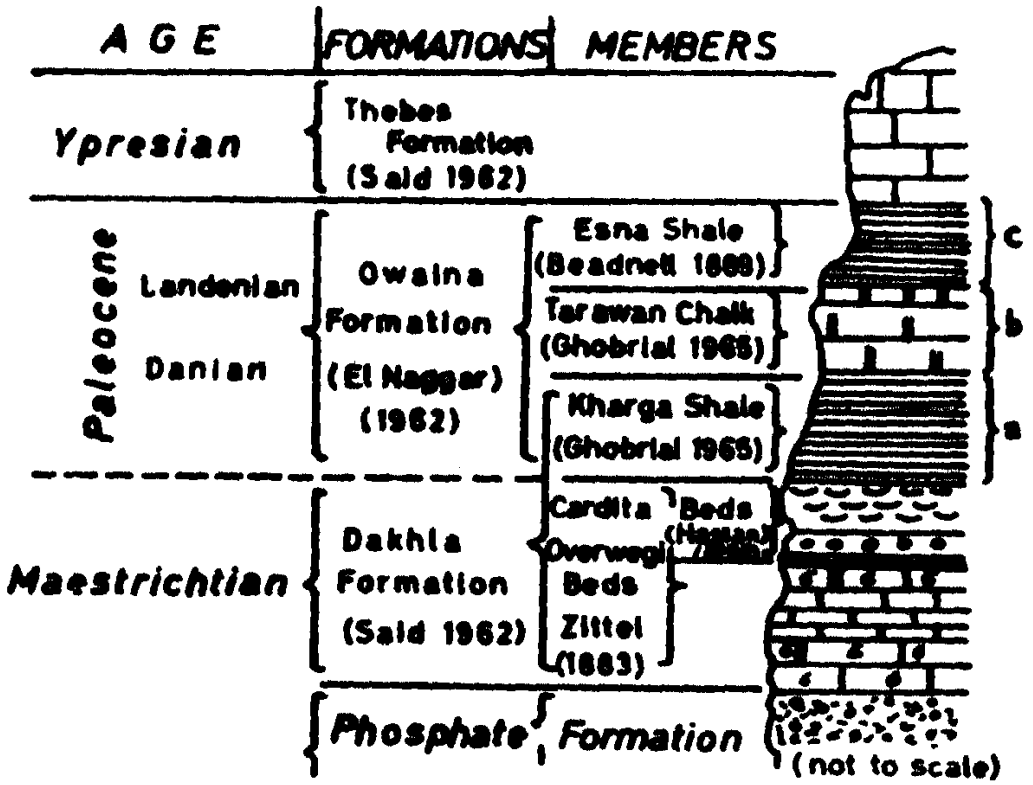


Fig.(1) Schematic representation of the different classifications of the paleocene succession in Southern Egypt to show the stratigraphic horizons of the rocks that yielded the studied coral faunas ( a & b & c ).

age (Equivalent to what is designated here as Kharga Shale Member), "Middle Owaina Chalk Member" of early late Paleocene (Equivalent to what is designated here as Taraswan Chalk Member), and "Upper Owaina Shale Member" of late Paleocene age (Equivalent to what is designated here as Esna Shale Member).

The result of the foregoing discussion and correlation can be summarized in the accompanying table (Figure 1) which shows the stratigraphic position of the horizons from which the material of the present study was collected.

# PROCEDURE OF MORPHOLOGICAL DESCRIPTION AND ANATOMICAL TERMINOLOGY