PALAEONTOLOGICAL STUDIES ON MESOZOIC FAUNAS FROM SOME EGYPTIAN ROCKS.

« The Glauconitic Sandstone and Coquina Bed of Abu Roash. »

By

NAZIK FAHMY ABD EL GAWAD

B. Sc.

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Geology

Faculty of Science,

Ain Shams University

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GENERAL INTRODUCTION

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The area of Abu Roash lies on the eastern edge of the Egyptian Western Desert at about 18 kilometers N.N.W. of the Pyramids of Gizah and 15 kilometers to the west of Cairo. It is limited from the North by the latitude 30° 30`6" North and from the East by the longitude 31° 31`7" East (Text fig.1)

Walther and schweinfurth (1887) in their paper on the Cretaeeons Region of Abu Roash, described it as "an area of regular outline assuming more or less rhomboidal shape.Beadnell (1902) excluded the southern part of the area, forming the partly detached portion of Geran-El-Foul and described the area as of irregular boundaries. Thus the remainder of the area which includes the massifs of Gaà, Ghigiga and Gebel El Haggaf Together with the depression of sidr EL. Khamis and a part of wadi El-Qurn, forms a roughly triangular area, the eastern apex of which touches the village of Abu Roash.

The total area of exposed Cretaceous rocks is 48 square kilometers as determined by Beadnell (1902,p.9). The latest estimation of the thickness of all the deposits exposed in the Gaà massive is nearly 260m. (Jux 1954,p.171).

The rock units exposed in the area are those given by Said (1962,p.199) and recently studied by Ghorab and Ismail (1970) in sections taken in different parts of the area. These different rock units can be listed in Table I,

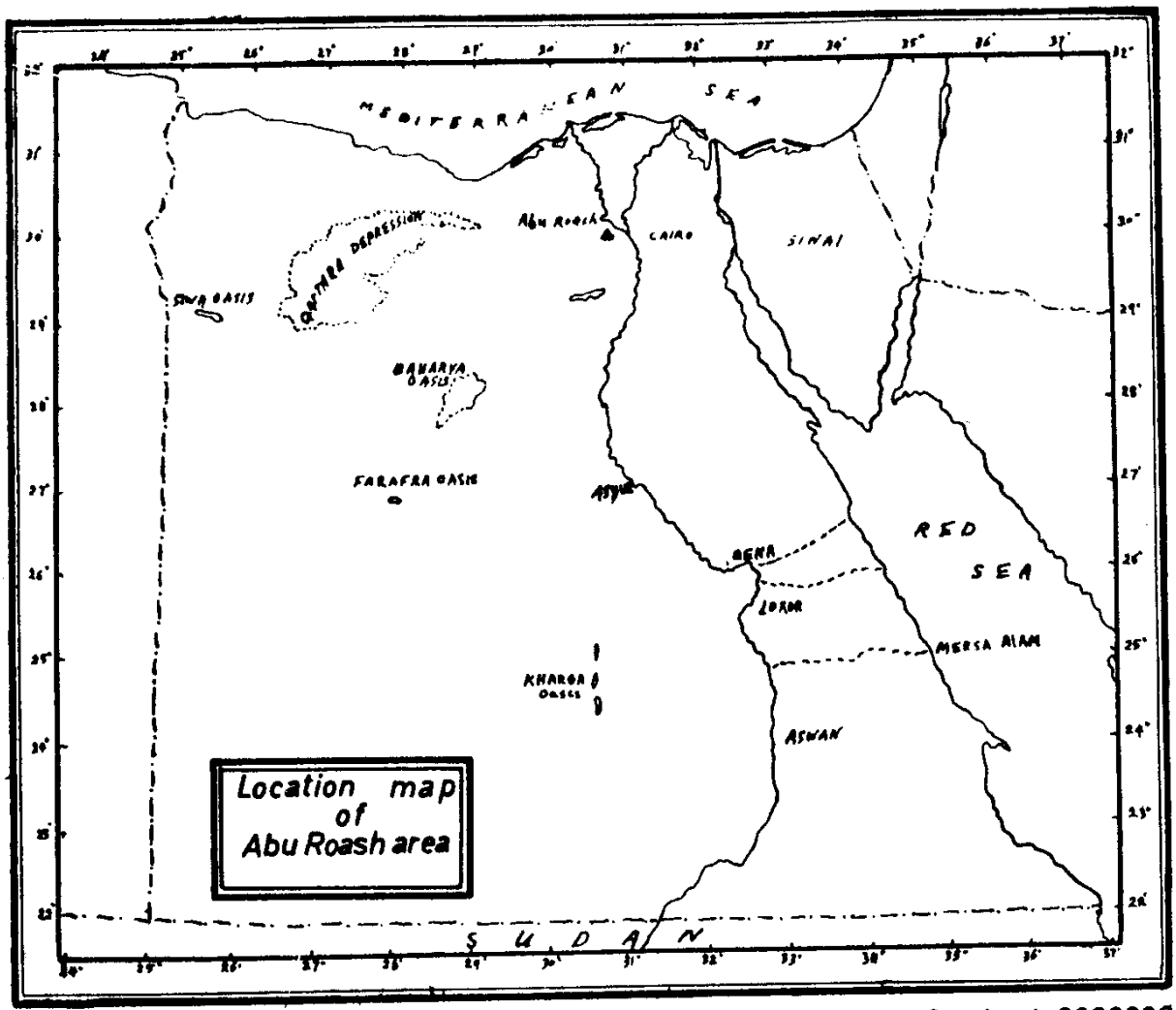

Fig. 1

Scale 0 80 160 240 Km

Table 1. Geological Units in the Abu Roash area.

Age	Thick. Area	Rock Unit	Lithology	Some important fossils.
			Blow sand.	
			Loose pebbles and gravels of quartz and flint with pebbles of igneous origin.	
			Sands, sandstone with occasional carbonaceous andferruginous clays.	Pectens
	28 m	Gebel Khashab Red beds Basalt flow.	White calcareous sandstone with a Conglomeratic marly layer at the base.	Basal beds Scutella remains in places with fresh water fossils.
Oligo-	40 m	Basalt.	Basaltic sheet with an upper clayey zone resulting from the alternation and weathering of Basalt.	
Oligocene	20 m		Varicoloured sandstone with flint nodules and silicified wood, variably altered by baking and silicification	Silicified wood.
Up. Eocene Mid. Eocene Campanian to Maastrichtian	19 m 35 m 170m	Unconformity	Sandy dolomitic limestone grit, sandstone. Marly limestone, dolomitic Chalk.	Cardia placunoides, Ostrea clot-beyi, Gisortia gigantica, Echinolampas crameri, Pycnodonta vesicularis.
Santonian Coniacian	50 m	Plicatula beds	Marls, limestones	Plicatula ferryi, Ostrea heinzi, Lopha dichotoma, Ostrea costei, Echinobrissus raynesi, Hemiaster blanckenhorni.
Turonian	245m	Flint band Actaeonella bed Limestone	White chalky limestone with flint concretions and bands of chert. Limestone, marl, shale. Hard limestone, dolomitized	Amorphospongia tumescens, Phyllocaenia roachensis, Cuculaea nigeriensis, Distefanella lombricalis. Actaeonella salomonis, Nerinaea requieniana, Durania cornu-pastoris, Millestroma nicholsoni. Arca (Barbatia) trigeri, Pterodonta defissei.
		Rudistae	Shale, marl, and limestone.	Koradiolites sp., Sphaerulites zitteli, Periaster roachensis, Cyphosoma abbatei. (The fauna desribed in this thesis).

compiled from different sources and completed by the author. The main sources of informations are: Beadnell (1902), Faris (1948), Faris & Soliman (1954), Jux (1954), Said (1962), Ghorab & Ismail (1970).

It is in the neighbourhood of the village of Abu Roash near the apex of the triangular Cretaceous area, that some of the oldest rocks in the whole region are exposed. These rocks form a small faulted and denuded domal structure.

No specific treatment of the age of the fossil content of these rocks was attempted although some questions were raised regarding the age of the Pre-Turonian formation in the Western Desert in general. None of the previous workers offered any exeplanation of the fact that the fossils from these rocks are unusually small in size. These fossils were not described in full detail and no adequate comparison with similar faunas in other localities was made.

Historical Review:-

The earliest legacy on the geology of Abu Roash was written during the thirties of the last century when a French naval officer lefebvre visited Egypt and examined geologically the neighbourhood of the village of Abu Roash. He published in 1839 a brief description of the strata in the area. The following is a cursory review of the previous literature on the area of Abu Roash.

Schweinfurth (1889) re-studied the area and referred the Mesozoic beds there to the Upper Cretaceous. He appended to his work a map of the area.

Mayer-Eymar is known to have visited the destrict, but he only made a brief reference to its geology in a paper published in 1886.

Bullen-Newton (1898) published a description of some fossils collected from the Upper Cretaceous rocks of Abu Roash and assigned them to the Turonian.

Blanckenhorn (1899) argued that the Cretaceous rocks in the locality belong to the Turonian and the Santonian.

Fourtau (1900) referred to the area in his work "Notes sur les Echinides Fossiles d'Egypte" which includes the descriptions of some of the most important fossiliferous beds in the succession. The following is a table of the lowermost five members given by him in a section and constituting his Turonian in Abu Roash.

The beds are [illegible] top:

5. Limestone with small Rudists ..... 6 ms

4. Laminated (schistose) Limestone without fossils..... 10 ms

3. Limestone with Cyphosoma abbatei and Periaster roashensis ..... 1 ms

2. Variegated gypseous marl..... 10 ms

Base 1. Yellowish unfossiliferous marl..... 5 ms

Blanckenhorn & Walther (1900) agreed with Schweinfurth on regarding the age of the lowermost beds in the Cretaceous succession as Cenomanian.

Blanckenhorn in the same year (1900) gave a compilation of a summarized description of the whole of the succession in the area recognised until 1900.

Beadnell (1902) was the first to present an adequate geological description of the whole area appended by an excellent detailed geological map. A part of this map illustrating the area in the neighbourhood of Abu Roash Village together with a section in the vicinity of the present site of fossil collecting (on which age determination was made) is reproduced in text figure No. 2. He subdivided the succession into well defined units which are still widely accepted. The following is the succession of the Cretaceous rocks in the area as recognized by Beadnell (1902).

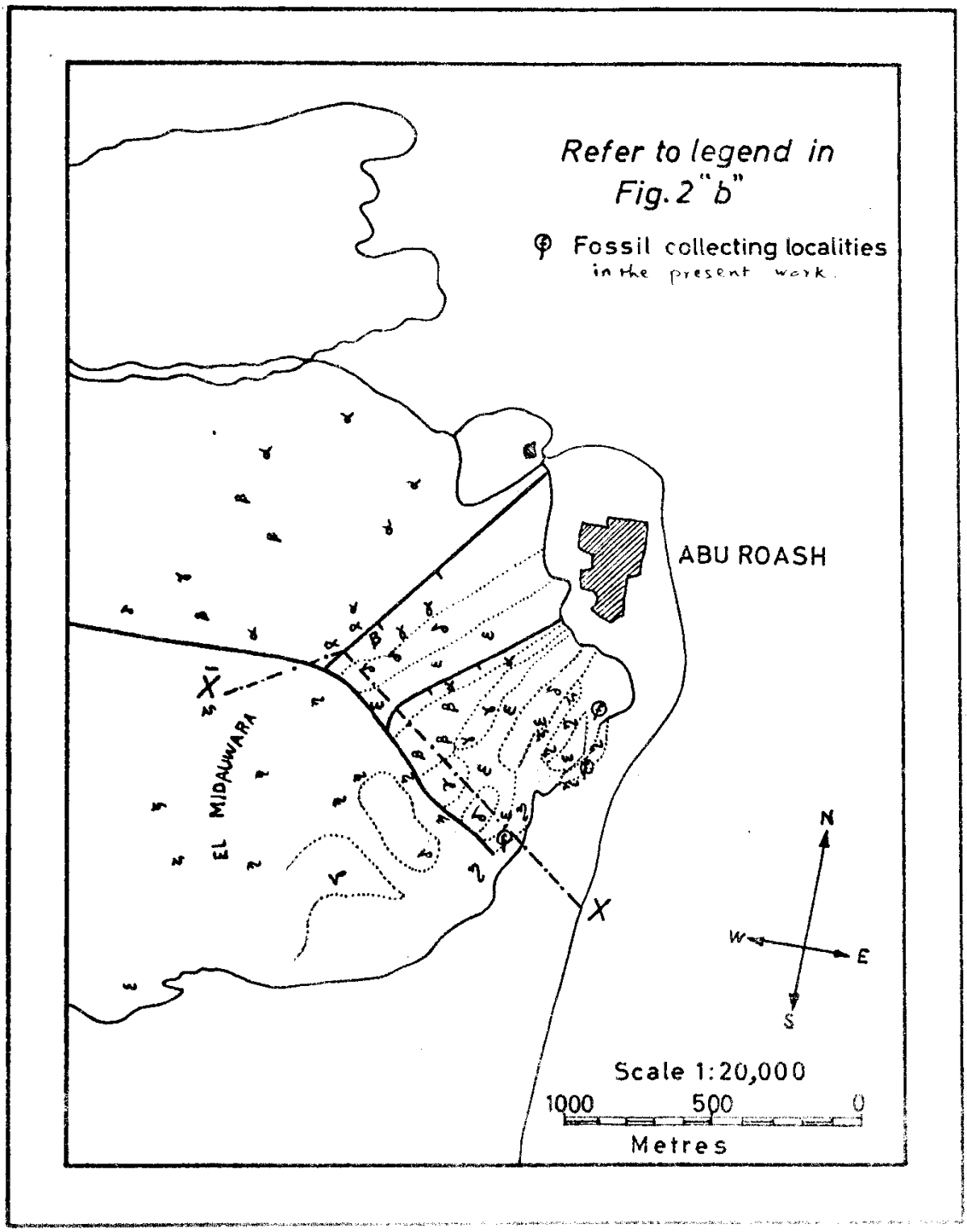

Fig. 2"a" Geological map of the Cretaceous
Near Abu Roash village

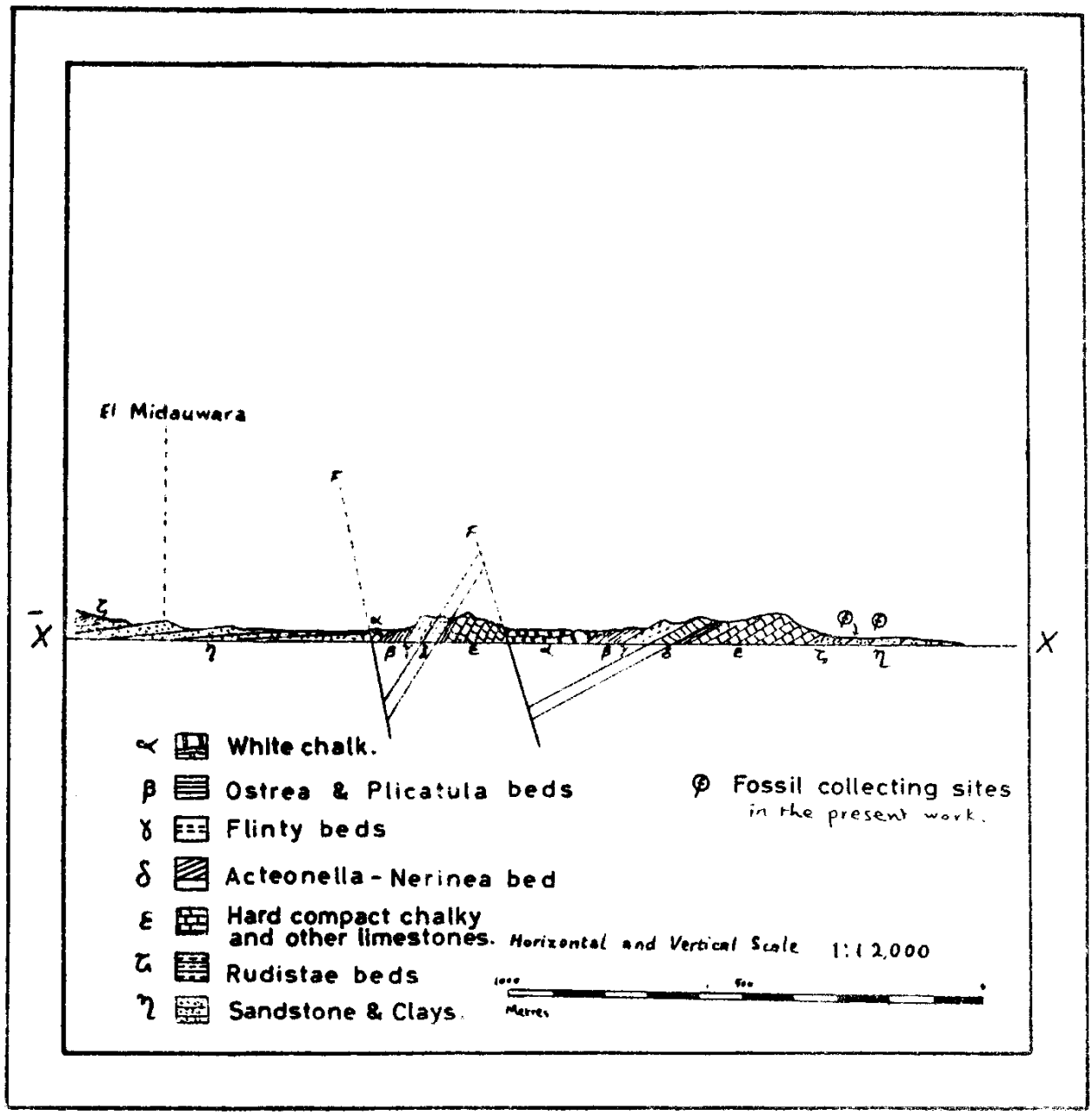

Fig.2 "b" Section through the Cretaceous formations extending from near Abu Roash and Gebel el Midauwara.

(After Beadnell, 1902)