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# FORAMINIFERA OF THE OLIGOCENE OF BELGIUM

BY

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(WITH 13 PLATES)

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## INTRODUCTION

The present paper is the second one in a series of micropaleontological studies on the Eocene and Oligocene of Belgium by a team of the Paleontological Department of the Mineralogical-Geological Institute of the State University at Utrecht. The first paper, dealing with the Ostracoda of both Eocene and Oligocene was published by Dr. A. J. KEIJ (1957). The results of the third study, that of Mr. J. P. H. KAASSCHIETER on the Eocene Foraminifera of Belgium will be published in the near future.

The Oligocene of Belgium has special importance for general stratigraphy since it includes the type deposits of the Tongrian and the Rupelian. The deposits of both these units had been included in BEYRICH's original description of the Oligocene.

For our micropaleontological investigation over three hundred samples were taken from numerous pits, smaller outcrops or from auger cores. They cover the various units of the Lower and Middle Oligocene (Tongeren and Rupel formations). The sampling was carried out during altogether three months in Belgium in 1953 and 1954.

In addition to the above mentioned samples collected in the field, some fifty more samples were investigated from borings and mine shafts. They were needed mainly for the foraminiferal associations of the Belgian Upper Oligocene, the so-called sand of Voort, which is unknown from outcrops. For comparison the contents of some Miocene samples were investigated. They were derived from the sand of Antwerp (Anversian) and from the horizon of Houthalen.

Another important series of samples, derived from shaft IV of the coal-mine Hendrik in Dutch South-Limburg, enabled a more detailed study of the microfauna of the Lower Tongeren beds.

For further comparison the foraminiferal contents of some samples from the classic localities of the German Middle and Upper Oligocene, Hermsdorf, Pietzpuhl, Astrup near Osnabrück and Kassel, and of the German Miocene of Dingden are dealt with. In this connection we also incorporated the microfauna of material from two localities of the Middle Oligocene in the eastern Netherlands (Winterswijk and the Kuiperberg near Ootmarsum).

Apart from the results of our investigation of the Foraminifera, remarks are added on the stratigraphy of the Belgian Oligocene. For this purpose several weeks were spent in Brussels among the archives of the Geological Survey of Belgium. The data from many borings enabled the construction of six stratigraphic maps of the Belgian Oligocene deposits. The lack of a sufficient number of reliable data prevented the drawing of definite stratigraphic conclusions; only a number of suggestions can be given.

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