

## CORRESPONDENCE.

THE GENERA *APATOKEPHALUS* (BRÖGGER) AND *TRAMORIA*  
(REED).

SIR,—With reference to the fauna of the Waterford Ordovician beds, it will be of interest to the readers of the GEOLOGICAL MAGAZINE to learn that Professor Brögger informs me that the trilobite which I have recently described (Q.J.G.S., vol. lv, 1899, p. 758, pl. xlix, figs. 14–16) as *Tramoria punctata*, gen. et sp. nov., belongs without any doubt to the genus *Apatokephalus*, which was established by him in 1896 (“Ueber die Verbreitung der Euloma-Niobe Fauna [der Ceratopygenkalkfauna] in Europa,” *Nyt Magazin fur Naturvidenskaberne*, Bd. xxxv, 1896, pp. 179–185, 200) for a group of species related to *Dikellokephalus* occurring in the widely distributed Euloma-Niobe fauna. In this country this fauna is contained by the Shineton Shales and the Tremadoc of North Wales. The form named by Salter *Conocoryphe invita* belongs to this new genus *Apatokephalus*, and the following species from Europe and America are also mentioned by Brögger as occurring in beds with this Euloma-Niobe fauna:—*Apatokephalus serratus*, Boeck; *A. angusticauda*, Ang.; *A. finalis*, Walcott; *A. Schlotheimi*, Billings; *A. magnificus*, Billings. We have now to add *Apatokephalus punctatus* to the above list, and the generic name *Tramoria* must be dropped.

Professor Brögger adds that this identification lends important support to my view that the fauna of the Waterford beds has a facies resembling that of the homotaxial Scandinavian beds, especially of the Asaphus Stage (Ét. 3, Brögger). The occurrence of genera characteristic of the Euloma-Niobe fauna in beds of a higher stratigraphical horizon in Wales, and their association with a later fauna of a different character in shallow-water deposits, are facts also noticed by Brögger in the paper referred to. With regard to the wide geographical distribution of this fauna and the presence of its most characteristic genera of trilobites in distant areas, Brögger shows that it extended from 65° N. lat. to 43° N. lat., and is represented not only in Sweden but at Hof in Bavaria, St. Chinian in Languedoc, Shropshire, North Wales, and America, wherever the bionomical conditions were favourable. No barrier, therefore, between the Baltic and British provinces can have existed at this time, and it is shown that the supposed distinct characters of the trilobitic faunas are based upon an erroneous separation of genera and species owing to a want of acquaintance with foreign specimens.

F. R. COWPER REED.

WOODWARDIAN MUSEUM, CAMBRIDGE.  
November 29, 1899.

## THE GEOLOGICAL SURVEY OF EGYPT.

SIR,—Since the commencement of this Survey in October, 1896, the officers attached have carried out a geological and topographical reconnaissance over a large portion of the country, besides a certain amount of more detailed work in some areas. During this time many new facts have been brought to light, in numerous cases

necessitating entirely different conclusions to those arrived at by earlier observers in the same field.

Unfortunately, up to the present, the Egyptian Government has not been able to publish any maps or descriptions of the regions surveyed, and even if, as proposed, publication is undertaken in the coming year, a considerable time must necessarily elapse before the accumulated results of three years can be brought out.

In an abstract report in the *Zeitschrift für praktische Geologie* for November, 1899, of a paper entitled "Neues zur Geologie und Paläontologie Aegyptens," by Dr. Max Blanckenhorn, the following statement occurs:—"Den von v. Zittel beschriebenen Cenomanvorkommen reihen sich zwei neue im eigentlichen Aegypten gelegene und von Blanckenhorn gefundene an. Das erste liegt im O. des Nils am Gebel Chebrewet; das zweite, westlich des Nils gelegene, ist das der Oase Baharia mitten im Eocänplateau der Libyschen Wüste. Das letztere weist auch in Limonit umgewandeltes Holz (*Palmoxyton*) und gut erhaltene Abdrücke von Dicotyledonenblättern in demselben Versteinerungsmittel auf, ein vielversprechender Aufschluss über die Kreideflora Aegyptens."<sup>1</sup>

As the copy of this abstract report was sent to this Survey by Dr. Blanckenhorn himself, I am forced to conclude that he claims to have himself discovered the existence of rocks of Cenomanian age in Baharia Oasis, which as far as I know he has never visited, and can only have derived his geological information from an examination of my own specimens.

In view of this, it is advisable to put on record some of the more important conclusions at which I have arrived. They are briefly as follows:—In 1897 the discovery of the existence of extensive faults along the west margin of the Nile Valley, and the absence of high fluviatile deposits, pointed to the conclusion that the Nile gorge is not a "valley of erosion," but probably a line of rift and faulting. In 1899 similar faults were again found along the east side between Assiut and Kena.

A thick and extensive series of limestones, tufas, clays, sandstones, and pebble-beds has been shown to occur throughout the Nile Valley, from Esna to the Fayoum on the west side and from Kena to Minia on the east, during work carried on between 1896 and 1899. Although they are generally of fresh-water origin, Mr. Barron and I, by the discovery of marine foraminifera in these beds near Luxor in January, 1897, showed that marine conditions existed far up the Nile Valley in comparatively recent times, these beds being probably of Pliocene age. In 1897 an extensive series of fossiliferous Cretaceous beds of Cenomanian to Danian age was discovered and mapped in Baharia Oasis, and the junction of the Cretaceous and

<sup>1</sup> To the occurrences of Cenomanian rocks described by Zittel are added two new ones, situated in Egypt proper. The first lies on the east of the Nile at Gebel Chebrewet; the second, situated on the west of the Nile, is that of the Oasis of Baharia in the midst of the Eocene plateau of the Libyan Desert. The latter also shows wood (*Palmoxyton*) converted into limonite, and well-preserved impressions of Dicotyledonous leaves in the same matrix. This exposure promises to afford valuable information as to the Chalk-flora of Egypt.

Eocene in this area was found to be marked by a strong unconformity and overlap. This had never been previously recognized in Egypt. In 1898 the existence of thick bone-beds, probably of considerable commercial value, was discovered in the Oasis of Dakhla. Again, in 1897, in the Abu Roasch district, near the Pyramids of Giza, the junction of the Cretaceous and Eocene was again found to be unconformable, instead of being marked by lines of fault, as formerly supposed. In the Western desert, and in one case in the Eastern desert also, igneous intrusions have been discovered at isolated spots in the sedimentary areas.

This brief statement of a few of my own results is rendered still more necessary in view of the fact that there are at the present time several observers about to visit the same regions. The details connected with these questions will probably be dealt with in the Survey Memoirs.

HUGH J. L. BEADNELL.

CAIRO, 7th December, 1899.

#### ORGANIC REMAINS FROM CAMBRIAN ROCKS OF BRAY.

SIR,—The question of the age of the ancient beds of Bray and Howth has recently attracted some attention in connection with the additions to our knowledge of Cambrian and Pre-Cambrian rocks in other places. The true nature of the real or supposed fossils in these Irish beds is therefore an urgent one. *Oldhamia* has been obliged to submit to a verdict of Not proven, at the best. It is naturally asked whether *Histioderma* is to meet with a similar fate. Unfortunately, inquiries from various workers elicited the fact that the type-specimen was missing from the Irish Survey Collection.

Recently, however, in rearranging the mineral collection of the Royal College of Science for Ireland, we were fortunate enough to find four specimens of *Histioderma*, with their original tablet; these have now been restored to the Survey Collection, and will be exhibited in the Museum of Science and Art, Dublin. Two of the specimens are the internal and external casts of the same object, the former being the actual specimen figured as *Histioderma Hibernicum* by Dr. J. R. Kinahan in his paper "On the Organic Relations of the Cambrian Rocks of Bray and Howth; with Notices of the most remarkable Fossils": Journ. Geol. Soc. Dublin, vol. viii (1858), pp. 68-72, pl. vi, fig. 2.

A moment's examination of the actual specimens is enough to remove all doubt of the organic nature of *Histioderma*. It consists of a cup-shaped expansion, with two sets of approximately parallel ridges which intersect each other obliquely, and a conical root-like continuation below. Without denying the possibility of the correctness of Kinahan's explanation that the ridges represent the tentacles of an annelid, we cannot help thinking that the general appearance rather suggests that they are lines of thickening in a continuous muscular envelope.

GRENVILLE A. J. COLE.

JOHN W. EVANS.

ROYAL COLLEGE OF SCIENCE FOR IRELAND.

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