

NOTICES OF MEMOIRS, ETC.

I.—CRETACEOUS CEPHALOPODA FROM THE HOKKAIDŌ. Part I: *LYTOCERAS*, *GAUDRYCERAS*, AND *TETRAGONITES*. By HISAKATSU YABE, Geological Institute, Science College, Imperial University, Tōkyō. Journal of the College of Science, Imperial University, Tōkyō, Japan, vol. xviii, Art. 2. pp. 55; 7 plates. 1903 (published 8th June).

THE Hokkaidō forms part of the Japanese empire; it lies to the north of the mainland, and consists chiefly of the island of Yezo or Yesso, having an area about equal to that of Scotland and Wales combined. The occurrence of Cretaceous Ammonites in the island was first mentioned by B. S. Lyman in 1877, and his collection, comprising some fifteen species of Cephalopoda, was briefly described three years later by Naumann. In 1890, in his work on the fauna of the Japanese Cretaceous rocks, Professor Yokohama more fully described the Cretaceous Cephalopoda of the Hokkaidō; but it was not until the island had been geologically surveyed by Professor Jimbō and his assistants that the nature and extent of the Cretaceous deposits there were known.

The Cretaceous formation in the main island of the Hokkaidō rests upon Palæozoic rocks, and is overlain by coal-bearing rocks; it extends in a north-south direction on the west side of the main axis of the island; it is a purely marine deposit, its fauna being very rich in Mollusca, particularly in Cephalopoda. Although the author of the present memoir went to the Hokkaidō mainly for the purpose of ascertaining the relation of the Cretaceous Ammonite-bearing deposits to the coal-bearing series, he made a large collection of Cretaceous fossils and carefully examined the stratigraphy of the Cretaceous rocks. He proposes the following subdivisions, beginning from below:—

- I. The lower Ammonite-beds with *Orbitolina*-limestone.
- II. The *Trigonia*-sandstone.
 - a. Lower *Acanthoceras*-zone or *Trigonia longiloba*-zone.
 - b. *Thetis*-zone.
 - c. *Pectunculus*-zone.
- III. The upper Ammonite-beds.
 - a. Upper *Acanthoceras*-zone.
 - b. *Scaphites*-beds.
 - c. *Pachydiscus*-beds.

According to the author all the beds are quite conformable to each other, the upper ones passing gradually into the coal-bearing series.

Various opinions respecting the age of the Cretaceous rocks of the Hokkaidō have been expressed, but the author reserves the discussion of the nature of the fauna until the end of his memoir.

The whole of this part of the present memoir deals with the description of those Ammonites which were formerly included in

the genus *Lytoceras*, but which are now separated into *Lytoceras*, *Gaudryceras*, and *Tetragonites*. Upon Uhlig's group of *Lytoceras Sacya* A. de Grossouvre founded the genus *Gaudryceras*; from this Kossmat separated two other types which he named *Tetragonites* and *Pseudophyllites*, regarding all three forms as subgenera of *Lytoceras*.

Pseudophyllites, so far as at present known, is represented by only one species, *P. indra*. Naumann recorded from the Hokkaidō a new species allied to *P. indra*, but according to Professor Yokohama the specimen is much too fragmentary for specific determination, and unfortunately the collection made by the author did not include an example of the species.

Lytoceras, s. str., is represented by two species, both of which are new.

Gaudryceras can be divided into two well-marked sections, the one containing *G. Agassizianum* and *G. Marut*, the other being the group of *G. Sacya*. All the species of *Gaudryceras* are very imperfectly known. "This," says the author, "is partly due to the fact that, although they are very common especially in the Upper Cretaceous deposits of the Indo-Pacific region, the specimens usually belong to immature animals, and consequently closely resemble one another, so that the determination is not only very difficult, but often quite impossible. Moreover, the aspect of the shell of this genus is so different in its younger and older stages, that without a large series of specimens for comparison, the larger and smaller forms are often liable to be separated into distinct species." All the *Gaudryceras* from the Hokkaidō belong to the group of *G. Sacya*, which the author subdivides into six subgroups, based mainly upon the character of the full-grown shells; four new species and a number of new varieties are described.

In the genus *Tetragonites*, besides the species described by Jimbō as *Lytoceras glabrum* and recognized by Kossmat as belonging to this genus, the author places Professor Jimbō's *Lytoceras sphaeronotum* and *Lyt. crassum*.

Judging from the figures and the detailed observations which the author has been able to make on some of the species, it seems that, like the fossils from the Upper Cretaceous rocks of Southern India, the specimens are exceedingly well-preserved.

We most heartily congratulate the author upon his work, and hope ere long to have the pleasure of seeing a further portion of his memoir. G. C. C.

II.—REPORT OF THE STATE GEOLOGIST (GEORGE H. PERKINS) ON THE MINERAL INDUSTRIES AND GEOLOGY OF CERTAIN AREAS OF VERMONT. pp. 191, with 64 plates. Albany, New York, 1902.

THIS volume, for 1901-2, is the third of the series issued by the present State Geologist. It includes biographical sketches of two old Vermont geologists—Zadock Thompson (1796-1856) and Augustus Wing (1808-1876)—and gives a bibliography of the official and other publications relating to the geology of the State. The only mineral products of any economic importance are asbestos

and building and ornamental stones, and the report on the mineral industries extends to only 15 pages. The bulk of the volume is occupied by the following articles:—

“The Granite Area of Barre,” by G. I. Finlay.

“The Terranes of Orange County, Vermont,” by C. H. Richardson.

“The Geology of Grand Isle,” by G. H. Perkins.

“Petrographic Description of the Dikes of Grand Isle,” by H. W. Shimer.

III.—PLUMASITE, AN OLIGOCLEASE-CORUNDUM ROCK NEAR SPANISH PEAK, CALIFORNIA. By A. C. LAWSON. Bull. Dep. Geol. Univ. California, 1903, vol. iii, pp. 219–229.

IN 1898 Morozewicz proved experimentally that corundum is capable of crystallising from an igneous magma containing an excess of alumina; since then corundum-syenites have been described from India, the Urals, Ontario, and Montana. Previously, corundum had not been recognised as an essential constituent of igneous rocks.

The corundiferous igneous rock now described occurs as a dyke, 15 feet in width, intersecting amphibole-peridotite. It is composed of a coarse allotriomorphic granular aggregate of white oligoclase with embedded crystals (acute rhombohedra) of pale violet-blue corundum, the two minerals being present in the proportion of 84 to 16 respectively. To this new type of rock the name *Plumasite*, from the locality, Plumas County, is given. The rock of other portions of the same dyke consists only of white felspar without corundum.

IV.—PALACHEITE. By A. S. EAKLE. Bull. Dep. Geol. Univ. California, 1903, vol. iii, pp. 231–236.

THE mineral to which this new name is given occurs abundantly as a recent formation in the old workings of the Redington mercury mine, Knoxville, California. The brick-red crystals are monoclinic, and their chemical composition is expressed by the formula $\text{Fe}_2\text{O}_3 \cdot 2 \text{MgO} \cdot 4 \text{SO}_3 + 15 \text{H}_2\text{O}$. Although stated to be a new mineral, it is not proved to differ essentially from the imperfectly described rubrite.

REVIEWS.

I.—A GREAT CATALOGUE OF BOOKS ON THE NATURAL SCIENCES.

Catalogue of the Books, Manuscripts, Maps, and Drawings in the British Museum (Natural History). Vol. i, A–D (500 pp.). By BERNARD BARHAM WOODWARD. 4to. London: printed by order of the Trustees, 1903. Price £1.

WHEN the Departments of Zoology, Geology, Mineralogy, and Botany were housed at Bloomsbury, each had its own small library of working books, but obtained such other works as were required from the great library of the Printed Books Department. When these Departments were removed to Cromwell Road in