different, being only from 2 to 2.5 mm. in diameter, the bell provided with 16 to 24 long tentacles with basal bulbs. The American *Microhydra ryderi*[4] is only 0.4 mm. in diameter. It may be the young medusa of *Craspedacusta,* but shows some differences from young *C. sowerbyi. Limnocida tanganyicæ* Gunther, from Lake Tanganyika, Central Africa, has the gonads attached to the stomach, and differs otherwise.

Everything considered, it seems best for the present to regard the Kentucky medusæ as a form of *C. sowerbyi.*

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SCIENTIFIC BOOKS

With Scott: The Silver Lining. By Griffith Taylor, D.Sc. With nearly 200 illustrations and maps. New York: Dodd, Mead and Co. Pp. xiv + 454. $5.00 net.

Few volumes on polar exploration have been written so attractively as to the phases treated. The author has placed the reader in possession of the environment, wherein his own experiences are largely subordinated to the story, both of the incidents of antarctic research and also to the aspects of polar nature and its scanty fauna. The style is delightfully human, and is often brightened by humor. Indeed it admirably presents the silver lining of Scott's tragic expedition.

The biologist, the geologist and other scientists will find much information along lines usually ignored by polar authors, who are inclined to adhere closely to their specialties, and in technical fashion. These data are most welcome as the detailed memoirs, on the very extensive and most varied scientific researches of Scott's expedition, will not be completed for several years, though ample funds have been provided for their publication.

Botanists will be interested in the discovery of considerable patches of moss, on the east coast of Victoria Land, on which all the field work of Taylor was done—in two journeys. Taylor says:

> I was amazed to see a carpet of green moss, as flourishing as any in more temperate regions—three types of vegetation were present. One was the moss, to my unbotanical eyes, of universal distribution. The other two species may have been algæ, one resembled the sea-weed called *Ulva.* The patch of green was 60 feet long and about 15 wide—possibly the largest area of vegetation south of 77°.5.

Sea-kale planted in the open air sprouted but did not develop.

Insects were found, the antarctic *spring-tail,* of which the record says. They were found

> clustering among the whitish roots or hyphæ of the moss. They would be frozen stiff in a thin film of ice until one turned the stone into the sun. Then the ice would melt and they would move sluggishly about until the sun left them. I can not imagine a finer example of hibernation.

There were two species, one red and the other the millimeter-long blue, both unknown.

Of the antarctic sea—noted on the voyages to and fro—the author writes:

> Microscopic life simply swarms in these polar seas, to an infinitely greater extent than in the warmer waters of the tropics, though one would be inclined to the opposite belief. . . . There is almost as much protoplasm per acre of ocean as there is in a well-cultivated crop on land. The description of the cycle of life is interesting, to a layman at least—from plankton to whale-killers.

Meteorologists will find data as to blizzards, etc., which are much less violent on the shores of Ross Sea than those reported by Mawson from Adelie Land. The record with Scott was that of July 12, 1911, when the maximum wind was 70 miles per hour, with a maximum temperature of 8°. The comparative mean temperatures for the years 1902–03 and 1911, were respectively as follows: (approximately) January, 24° and 22°; February, 13° and 15°; March, 4° and 8°; April, —8° and —2°; May, —14° and —12°; June, —15° and —14°; July, —16° and —22°; August, —17° and —23°; September, —15° and —17°; October, —7° and —2°; November, 13° and 13°; December, —23° and —21°. The minimum temperature mentioned is that of —77° experienced by Cherry in his visit to

[4] Potts, Science, Vol. 5, 1885.

Cape Crozier for the purpose of obtaining eggs of the emperor penguin.

Naturally the most extensive data pertain to geological subjects relative to west Victoria Land, which was twice visited and explored by Taylor, under conditions of extreme hardship which tested the strength and endurance of the party to the utmost. Taylor's line of research specially pertained to the "effect of ice in carving out the features of the earth's surface." Near two great glaciers he noted:

> The grandest geological section I have ever seen. It was capped by yellowish rock, which represents the most eastern exposure of the Beacon sandstone in the valley. Beneath this were two *sills* of dolorite . . . which represented flows of lava wedged in between the granites and sandstones. . . . Above and below the lower of these black sills were layers of gray granite.

Considerable attention is given to descriptions of cwm, or arm-chair, valleys. At one point was discovered a huge deposit of mirabilite (sodium sulphate) about 10 by 50 feet in surface area.

The seaward movement of the antarctic glaciers engaged Taylor's attention, and careful measurements were made of several. During the ten coldest months one moved about twenty feet. The Tongue on the east coast of Victoria Land was moving seaward about a yard a day in January—midsummer.

The vitally important fossils of the expedition are those obtained by Scott at the head of Beardmore glacier—in my opinion elsewhere expressed, obtained and preserved at the cost of the lives of that heroic explorer and his sledge comrades—which are considered as epoch-making in antarctic geological history. Among these, it may be recalled, was a fern-like *Glossopteris,* a plant of the Permo-Carboniferous age. Other fossils of the Cambrian age had been brought back by Shackleton from the Beardmore glacier, in 84° S., among which were specimens of one fossil which united the character of the sponges and corals.

Taylor's party—Debenham, Gran and Taylor—contributed specimens of fossils of the armor-plate of a primitive fish. They are thought to pertain to the Devonian age, and so are intermediate between the antarctic fossils of the Cambrian limestones and the Permian coal-measures.

One must read the book itself to obtain any adequate idea of the hardships and privations endured by Taylor, Debenham and Gran in their geological researches on Victoria Land. They were accepted as part of the *game,* and with such a spirit of comradeship and solidarity as alleviated the inevitable miseries of field life in the polar regions. This fine spirit is indirectly exhibited by Taylor at the end of his story, where he says:

> Only in polar lands is to be found the joy of a *real return to the primitive,* in association with the best types of strenuous youth. There, if anywhere, is life worth while.

A. W. GREELY

Rhynchophora or Weevils of Northeastern America. By W. S. BLATCHLEY and C. W. LENG. The Nature Publishing Co., Indianapolis. Pp. 682. Price $4.00.

When, in 1910, the senior author, Mr. Blatchley, published his notable work on the Coleoptera of Indiana, the Rhynchophora were not included. We had, however, the assurance of the author that a further paper covering this group would be forthcoming. In the appearance of the present volume, the promise of six years ago is more than fulfilled, for we have here not merely a complement to the Coleoptera of Indiana, but a review of much wider usefulness, covering as it does the entire country east of the Mississippi River.

Although the Rhynchophora or Weevils—the latter term used in the entomological rather than in the popular sense—constitutes only about twelve or fifteen per cent. of the Coleopterous fauna of the country, still the number of species is very large—no less than 1,084 being recognized by the authors from the territory named, these being distributed among nearly 300 genera. The only previous work on North American Rhynchophora with which the present one can be compared is that published by Le Conte and Horn in 1876. This Coleopterological classic, although still of the greatest value as the basis of our modern classification, is altogether inadequate as a student's handbook, the number of species