PROCEEDINGS OF SOCIETIES.

PHILOSOPHICAL SOCIETY OF WASHINGTON, November 20, 1875. — Dr. Woodward, of the Army Medical Museum, gave an account, illustrated by photographs and illuminated photographic pictures thrown upon a screen, of spurious lines, noted by Dippel, and more lately in a British periodical, as genuine, seen on certain diatoms. The species *Frustularia Saxonica* has transverse lines of extreme fineness, and longitudinal lines had been described by Dippel and others, some asserting that the latter were coarser and others that they were finer than the transverse ones. Dr. Woodward showed very clearly by his illuminated slides, enlarged on the screen forty-five thousand diameters, that the longitudinal lines appeared not only on the diatom but also on the space external to it, and similar lines appeared about specks of dirt on the plate. These could be varied in coarseness by different illuminations of the object. Hence he concluded that they were spurious, and caused by diffraction of light from the midriff, or the edge of the diatom, or any other object in the field. He remarked that the existence of real lines could be determined by the fact that they did not vary in number under varying illuminations or focusing; they were either seen uniformly, or not seen at all.

December 4, 1875. Professor Henry read a short account of some peculiarities of partial loss of vision in circumscribed portions of the retina, which Dr. Woodward explained by a congestion of one, or a part of one, of the *tuberculæ quadrigeminæ* of the optic nerves.

Mr. J. K. Gilbert read a paper on ripple marks as observed by him in the Geological Survey of the Territories under Major Powell. He concluded that the sharper edges of the ripple marks were frequently, if not always, the upper edges, and suggested that the theory of ripple marks as uniformly connected with littoral action did not explain the facts sufficiently. He supposed that they might be formed in deep water by transmission of vibrations through the water acting on the material at the bottom. Professor Henry said, that while it was evident that ripple marks were of different kinds, yet that he considered it certain that their formation was always the result of motion, either of air or water. Major Powell contended for the formation of ripple marks at the bottom of comparatively deep water in which no current existed. Professor Abbe mentioned the observations of an Italian who had come to the conclusion that motion capable of producing ripple marks might be propagated even to the depth of over one hundred fathoms.

AMERICAN ACADEMY OF ARTS AND SCIENCES, Boston, November 9. — Mr. Sereno Watson presented a paper on a collection of plants recently made by Dr. E. Palmer, in Guadalupe Island, off Lower California. It was found to contain one hundred and nineteen species, in-

cluding twenty-one belonging to the higher cryptogamic orders, besides a dozen of probably recent introduction. The number of new species is twenty-two, with two new genera, almost all nearly allied to Californian species and genera. Of those before known, all are Californian, and most have a wide range through that State. The flora of Mexico is scarcely represented, but on the other hand some fresh indications are found of a connection between our western flora and that of South America.

Boston Society of Natural History. — November 17th. Mr. W. K. Brooks read a paper on the egg and bud development of *Salpa spinosa* (Otto). The life-history of *Salpa* may be stated in outline as follows: the solitary *Salpa* is the female, which produces a chain of males by budding, discharging an egg into each before birth. These eggs are impregnated while the zoöids of the chain are small and sexually immature, and develop into females, which give rise to other males by budding. After the embryo has been discharged from the body of the male, the latter grows up, becomes sexually mature, and discharges its seminal fluid into the water, by means of which it is carried to the eggs within the bodies of younger chains.

December 1st. Mr. S. H. Scudder gave an account of the geographical distribution of *Vanessa cardui* and *V. Atalanta*, two butterflies of wider range than any others known. He attempted to show by the facts at command, and by the distribution of the other species of the genus, that *V. cardui* originated in North America and *V. Atalanta* in Europe. Both the species are now found over either hemisphere, and *V. cardui* over nearly the entire globe. The communication will be given in full in a future number of the Naturalist.

Professor James D. Dana made a communication on metamorphism and pseudo-morphism in minerals, in reply to Dr. Hunt's strictures on the author's views regarding these phenomena. A Prodome of the Tabanidæ of the United States. Part II. The Genus Tabanus, by C. R. Osten Sacken, was read by title.

Natural History Society at Michigan Agricultural College. Notes of Remarks made at late Meetings. — Two roots of the asparagus were found of equal size, about one eighth of an inch in diameter, of which one had grown right through the centre of the other, or the one had grown about the other. They were not fastened to each other, *i. e.*, one was loose in the cavity where it had grown. Roots of basswood and beech were found grown firmly together like a net-work, united in many places. Some of these were over an inch in diameter.

The leaf-cutting bee is very common about Lansing, Mich. It is quite destructive to leaves and petals of roses, the petals of *Petunia*, *Pelargonium*, and many others. The beauty of some beds of flowers is often much injured by them. Their cells are frequently found made of bits of leaves and petals. Quite a number were found in a woolen stock-

ing, where they were placed during a few days. In one case there were twenty-seven pieces of leaves to make a cell, and thirteen round pieces at the ends.

A plant of *Portulaca olerarca* (common purslane) weighed one pound and thirteen ounces, and by careful estimate produced about 1,250,000 seeds.

A student brought in a horn about six inches long, and over two inches in diameter, slightly curved and blunt at the apex. The horn was suspended on the abdomen of a sheep, a little to one side. It could be easily slipped around. It was there a year or so before the sheep was killed.

A student had noticed that the dandelion opened and closed four times before the flowers were withered and seed began to appear. On fair days it closed earlier than on cloudy, varying from noon till four o'clock.

Buffalo Society of Natural Sciences. — November 5, 1875. The following paper was read: A List of the North American Syrphidæ, by C. R. Osten Sacken. Mr. Grote announced that his Check List of North American Noctuidæ was in the printer's hands, and would be issued by Reinecke and Zesch, 500 Main Street, Buffalo, during the present month. Mr. Grote exhibited a specimen of a new species of *Trigonophora* for which the name *Trigonophora V-brunneum* was proposed. It was synonymous with the var. A. of *periculosa* Guen.

December 3d. Dr. Rohlff, the African traveler, was the guest of the evening. The following paper was read: An Illustration of North American Agrotis, by Dr. Leon F. Harvey.

Cambridge Entomological Club. — November 12, 1875. Dr. Hagen exhibited queens of white ants (*Termes flavipes*) found by Mr. H. G. Hubbard in Florida. No queens of this species have ever been found before in this country, and but one anywhere. The females are undeveloped, being wingless, but sexually mature. Dr. Hagen dwelt upon the extreme importance of a popular knowledge of the danger to which all wooden buildings are subjected by the presence of these insects, which occur not uncommonly over the country.

Mr. S. H. Scudder spoke of the supposed relation of the "osmateria" of certain butterflies (*Equites*) with the transverse fissure and prehensile organ of the underside of the prothorax in other butterflies.

National Academy of Sciences. — Meeting held at Philadelphia, November 3d and 4th. Professor Pumpelly read a paper on the influence of marine life and currents in the formation of metalliferous deposits. As an instance of the presence of the heavy metals in marine animals, he remarked that Bischoff extracted an appreciable amount of silver from only $1\frac{1}{4}$ pounds of *Pocillopora alcicornis*, one of the commonest reef-building corals. Professor R. E. Rogers accounted for the action of the steam geysers of California by chemical processes at the surface. The heat is caused by the action of air and water upon iron pyrites,

generating oxide of iron and sulphuric acid, which readily form sulphate of iron.

NATURAL HISTORY SOCIETY OF MONTREAL. — November. A paper by Mr. H. G. Vennor, on the galena and plumbago deposits of Eastern Ontario, was read. Mr. Vennor believes that all the so-called Laurentian rocks which contain Eozoön and many metalliferous deposits (galena, apatite, etc.) are of Silurian or Cambrian age. These rocks are always associated with crystalline limestones. The Huronian group he believes to be next oldest, and lastly there is a great tract of Azoic gneisses, etc., which are truly Laurentian. The true Azoic Laurentian beds, in this view, do not contain metalliferous deposits, nor crystalline limestones.

SCIENTIFIC SERIALS.[1]

PROCEEDINGS OF THE ROYAL GEOGRAPHICAL SOCIETY, xix. 7. — Summary of recent Observations on Ocean Temperature, made in the Challenger and Tuscarora, in relation to the Doctrine of a general Oceanic Circulation sustained by Difference of Temperature.

PETERMANN'S MITTHEILUNGEN, xxi. 10. — The Russian Amu-Darja Expedition. A Natural History Journey to Patagonia, by Dr. K. Berg. Chinese Travelers of the Middle Ages to West Asia, by Dr. E. Bretschneider. Journey to Araguaya by Dr. Couto de Magalhaes in January, 1865. Notes on the Oasis El-Chargeh, by Dr. Schweinfurth. C. Weyprecht's Survey of the Northern Coast of Nowaja Semlja in September and October, 1872. October 18. Paul Solcillet's and Largean's Travels in the Sahara and to Soudan, by Gerhard Rohlfs. Pictures from the Far North, by Karl Weyprecht. The latest Travels in Australia, by E. Behm. The Spread of the Egyptian Power in the Upper Nile and its Geographical Results. Supplementary number, 34. Journey through North Africa from Kuka to Lagos, by G. Rohlfs. 35. The Population of the Earth, by Behm and Wagner. 36. Four Addresses on the Caucasus, by G. Radde. 37. Carl Mauch's Journey in the Interior of South Africa, 1865–72.

THE GEOGRAPHICAL MAGAZINE. — November, 1875. The Arctic Expedition, iii., iv. A Glance at the Results of the Expedition to Hassar by H. P. Lerch, by H. Yule. The Voyage of the Challenger, by J. E. Davis. Recent Journeys in Paraguay, by Keith Johnston.

BULLETIN DE LA SOCIÉTÉ DE GÉOGRAPHIE. — September, 1875. Rise and Fall of the Coast of France, by Jules Girard (records the discovery, between Vannes and Nantes, of Druidical monuments, under the water). Geography of the Athabaskaw-Mackenzie, by l'Abbé Petitot.

[1] The articles enumerated under this head will be for the most part selected, so that the entire contents of the journals are rarely given.