

she now shows that aërial flowers, when buried at any period before fertilization, produce the underground kind of fruit, and not the kind they would have produced in their normal position, from which the author draws conclusions as to the very powerful action of the environment upon seed production and structure in this species.

21. *On the Formation of Cork Tissue in Roots of the Rosaceæ.* DR. MARTHA BUNTING, Philadelphia High School.

THE author showed that intercellular spaces exist between the cork cells in all herbaceous and shrubby species of Rosaceæ examined by her, but these are absent in arborescent species; protoplasm, nuclei and starch grains exist in cork zones four to five layers removed from the phellogen.

22. *The Structure and Development of Internal Phloem in Gelsemium sempervirens, Ait.* MISS CAROLINE THOMPSON, University of Pennsylvania.

THE mode of formation of the internal phloem in the pith of this species, and the way in which it crowds out the pith in its growth, together with a remarkable arrangement of the bundles in the petiole, are fully described.

The officers for the ensuing year are: President, W. G. Farlow; Vice-Presidents, J. M. Macfarlane, G. F. Atkinson; Secretary-Treasurer, W. F. Ganong.

The next meeting of this Society will be held in December, 1898, in conjunction with the American Society of Naturalists and the Affiliated Societies.

W. F. GANONG,
Secretary.

REPORT OF THE COMMITTEE ON ANTARCTIC EXPLORATION.

AT the Philadelphia meeting of the American Society of Naturalists, held in December, 1895, a committee was appointed to inquire into the practicability and feasibility of the exploration of the Antarctic Conti-

nent. This committee made a report to the Society, which was published in the 'Records' of the meeting of 1896, and the committee was continued, with power to add to its number. The following report was received by the Secretary too late to be presented at the recent Ithaca meeting.

H. C. BUMPUS,
Secretary.

Your Committee on Antarctic Exploration respectfully report that they have further considered the subject-matter which was referred to them, but regret that they are still not in a position to give assuring indications as a result of their inquiries. The seeming impossibility of obtaining a suitable vessel and sailing crew in any of the southern South American ports, and the non-willingness of the Newfoundland fishing and whaling interests to associate themselves with so distant enterprises as would be involved in any form of Antarctic exploration, complicate the problem very materially, or, at least, set so high an estimate upon general costs as to make the realization of an expedition at a period of financial depression somewhat of an uncertainty. It has been found impossible to ascertain what form of assistance might be obtained from the Australian whaling fleets, but the letter which was addressed to your Committee by the late Baron Ferdinand von Müller intimates that little assistance of any kind should be relied upon to come from that quarter.

Your Committee have been in correspondence with Civil Engineer Robert E. Peary, relative to the subject of the inquiry, and have obtained through him valuable data bearing upon general costs and possibilities, notably in a series of estimates that were submitted to him by Mr. H. J. Bull, of Christiania, Norway, intended to cover one or more joint commercial (whaling) and scientific enterprises, and to yield a

profit to those undertaking the burden of schemes suggested. Mr. Bull is virtually the organizer of the cruise of the 'Antarctic' in the years 1894-95, when a landing was effected on the assumed Antarctic Continent at Cape Adare, and his opinions and estimates are deserving of respectful consideration. He confidently assumes that a joint commercial and scientific expedition could be arranged so as to render its outcome largely profitable to investors, even to the extent of £500 or more, and yet so directed as to place it mainly to the purposes of scientific investigation. In his various estimates, however, which cover the purchase of one or more suitable steamers, the absolute hiring of full officers and crews, the amount of capital required is so large, £9,000 to £14,000, as to render an association in this form of combined enterprise doubtfully desirable. Your Committee believe that an expenditure of \$40,000 to \$50,000, or perhaps even less, would suffice to construct an independent scientific expedition of its own, which would be in every way, if we may judge by past experience and results, to be preferred to an expedition whose associations must be largely commercial. Your Committee believe that independent subscriptions to the extent of \$40,000 or \$50,000 could be obtained at this time only with great and united effort, and yet it is by no means impossible that patrons of exploration may be found who would generously contribute to the fund of a properly organizing expedition. And it is almost certain that Arctic and Antarctic enterprises, despite the generous criticisms which are meted out to them in various quarters, will, for a long time, receive the favor of American good-will and protection. It seems very probable, also, that a selected number of scientific associations and institutions of general learning, such as universities and colleges, might be induced to coöperate to a common end, sending repre-

sentatives to an expedition proportional to amounts of cash subscriptions.

Your Committee, if so desired, will be pleased to still further prosecute their inquiry. It is with satisfaction that they report the departure of the Belgian Antarctic Expedition under command of Lieutenant Gerlache, and with it the association of the American explorer, Dr. F. A. Cook, a prominent member of the Peary Expedition of 1891-92.

Respectfully submitted,

ANGELO HEILPRIN.

Chairman Committee on Antarctic Exploration.

ELIZABETH THOMPSON SCIENCE FUND.

At a meeting of the Board of Trustees, held at Boston January 13, 1898, reports were read from the recipients of previous grants, and the record of the following grants was closed, the authors having published their investigations:

No. 54. Samuel H. Scudder, Esq., of Cambridge, Mass., \$250, granted June 29, 1894, for a monograph on the caliptenoid series of North American Acridians. The publication is: 'Revision of the Orthopteran group Melanopli (Acridiidae) with special reference to North American Forms.' *Proceedings U. S. National Museum*, Vol. XX., p. 1-421, Pl. I.-XXVI.

No. 64. Dr. Julius Elster and Dr. H. Geitel, Wolfenbüttel, Germany, \$185, granted April 8, 1895, for photo-electric investigations with polarized light. The publication is: 'Ueber die Abhängigkeit des Photoelectrischen Stromes vom Einfallswinkel und der Schwingungsrichtung des erregenden Lichtes und seine Beziehung zu der Absorption des Lichtes an der Cathode.' *Annalen der Phys. u. Chem.* N. F., Bd. 61, p. 445-465.

The following new grants were made:

No. 72, \$150 to Professor J. McK. Cattell, Garrison-on-Hudson, New York, for the Study of fatigue in relation to mental conditions. Application 737.