

most heartily passed and was responded to by Professor W. B. Clark in behalf of the Baltimoreans concerned.

The society adjourned shortly before 5:00 P.M., on Thursday, December 31.

The following officers were elected by the society for the year 1909:

President—Grove K. Gilbert, Washington, D. C.

First Vice-President—Frank D. Adams, Montreal, Canada.

Second Vice-President—John M. Clarke, Albany, N. Y.

Secretary—Edmund Otis Hovey, New York City.

Treasurer—William Bullock Clark, Baltimore, Md.

Editor—Joseph Stanley-Brown, Cold Spring Harbor, N. Y.

Librarian—H. P. Cushing, Cleveland, Ohio.

Councilors (1909-1911)—George Otis Smith, Washington, D. C., and Henry S. Washington, Locust, N. J.

The following were elected as fellows of the society: Elliot Blackwelder, Madison, Wis.; William Phipps Blake, Tucson, Ariz.; Charles Wilson Brown, Providence, R. I.; Frank Carney, Granville, Ohio; Edward Salisbury Dana, New Haven, Conn.; Cassius Asa Fisher, Washington, D. C.; Albert Johannsen, Washington, D. C.; Geo. Frederick Kay, Iowa City, Iowa; Henry Landes, Seattle, Wash.; George Burr Richardson, Washington, D. C.; Joaquim Candido da Costa Sena, Ouro Preto, Minas, Brazil; Earle Sloan, Charleston, S. C.; George Willis Stose, Washington, D. C.; Charles Kephart Swartz, Baltimore, Md.

One hundred thirty-five fellows were in attendance, making this second Baltimore meeting the largest in the history of the society. The council voted to hold the next winter meeting in Boston and Cambridge.

EDMUND OTIS HOVEY,
Secretary

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

THE 455th meeting was held February 20, 1909, with President Palmer in the chair. Dr. M. W. Lyon, Jr., exhibited the skins of two weasels from the vicinity of Washington, D. C. One was taken in the middle of the relatively mild winter of 1906-7 and showed the light brown pelage of long fur, characteristic of the winter pelage of weasels in this latitude. The other was taken in the latter part of March, 1904, and was mainly in the white winter pelage characteristic of weasels in higher latitudes. The middle line of the back

showed the dark brown shorter summer pelage coming in. The winter of 1903-4 was colder than that of 1906-7. Whether that had anything to do with causing a white pelage instead of a light brown one could not be said.

The following communications were presented:

Some Japanese Entomologists and their Laboratories, with Notes on the Introduction of Parasites of the Gypsy Moth: L. O. HOWARD.

Dr. Howard spoke of some Japanese entomologists and their laboratories, and of the recent work in importing parasites of the gypsy moth and the brown-tail moth. He described some of the recent innovations in the large-scale experiment which has been carried on for three years by the Bureau of Entomology of the U. S. Department of Agriculture in the importation of parasites from Europe and from Japan, most of which have been mentioned in the annual report of the Chief of the Bureau of Entomology for 1908. He spoke especially of a trip to Japan taken during the summer of 1908 by Professor Trevor Kincaid, of the University of Washington (Seattle), as an agent of the bureau, to collect and send to the United States the Japanese parasites of the gypsy moth. This expedition was highly successful, and Mr. Kincaid met with the most gracious courtesy and the most hearty cooperation on the part of the Japanese entomologists. The talk was illustrated by lantern slides showing groups of Japanese entomologists at different agricultural colleges and experiment stations, as well as at private stations, and also of the experiment station buildings and laboratories.

Some Remarkable Phenomena Occurring in the Breeding of Varieties of Dianthus: J. B. NORTON.

Since 1904 several hundred seedling carnations have been grown each year by Mr. E. M. Byrnes, of the Bureau of Plant Industry, in the greenhouses of the Department of Agriculture. From the notes and records kept of these seedlings by the speaker, it was found that about 23 per cent. of the seedlings were typical single flowered, the remainder being double. The double flowers could be divided into two groups—standard doubles, *i. e.*, like the parent varieties, and full doubles, or "bull-heads"; the latter class averaging about 25 per cent. of the total number of seedlings. The close agreement of these percentages was that of a second generation of a Mendelian hybrid, which led to the prediction that the commercial carnation was a hybrid type and that the single and bull-head types were the extracted pure parent

forms. Experiments were carried on to determine this point by crossing single-flowered plants with the pollen of the full doubles. Out of three hundred seedlings in 1906 from crosses of this kind only two singles were found, the remainder being standard, or hybrid doubles. These two singles could have been from accidental pollination with pollen from other singles, since the flowers were not covered. Singles crossed with singles gave nothing but single-flowered seedlings. The full doubles failed to set seed on account of their defective ovaries, which were often changed into collections of petal-like organs. This work has since been repeated by other breeders with perfect results under control conditions. The double flowers are interesting in that doubling is accomplished in the same flower by increase in the number of whorls of petals, by change of stamens into petals, and by basal branching of large petals into a number of smaller ones. These three methods seem to be associated as one character. In the intermediate hybrid the three methods of doubling all appear, but in reduced form.

For many generations the parents of the American carnation varieties have been uniformly of the hybrid type, but as yet we have no instance of it reproducing true to type by seed, the two parent types constantly reappearing in about their normal proportions. Other characters, such as dwarf habit, short calyx, clove scent, color, variegated petals, etc., seem to follow the same law of heredity. Since *Dianthus caryophyllus* is normally strongly proterandrous and carnation breeders in the past have uniformly practised wide cross breeding, so that, if anything, the vigor of the type is constantly increasing, it is interesting to note the occurrence of Mendelism in this group, as recent unsupported theories have claimed that such should not be the case.

M. C. MARSH,
Recording Secretary

THE TORREY BOTANICAL CLUB

THE meeting of February 24 was held at the Museum of the New York Botanical Garden at 3:30 P.M. In the absence of the president and both vice-presidents, Mr. Fred J. Seaver was called to the chair.

The following scientific program was presented: *Collecting Fungi in Jamaica*: Dr. W. A. MURRILL.

This paper has been published in the February *Journal of the New York Botanical Garden*.

Cypripedium in the Light of its Segregates: Mr. G. V. NASH.

Mr. Nash exhibited living plants and herbarium specimens illustrating the four segregates now recognized by orchidologists, and formally considered as parts of the genus *Cypripedium*. These segregates are *Cypripedium*, *Selenipedium*, *Paphiopedilum* and *Phragmipedium*. These divide themselves into two groups. In the first group are *Cypripedium* and *Selenipedium*, characterized by the usually long, leafy stem and broad, flat, thin, many-nerved leaves which are convolute in venation, and the withering perianth persistent on the ovary. In *Cypripedium* the ovary is one-celled, and the seeds elongate with a thin testa. This genus is of north temperate distribution, its representatives, about thirty in number, being found in North America, Europe and Asia.

The other genus of this group, *Selenipedium*, has a three-celled ovary, and the seeds nearly globose with a crustaceous testa. This is found from Panama to northern South America and is rare. It contains only three species, which are seldom seen in cultivation.

The second group is at once recognized by the conduplicate venation of its long, narrow, fleshy, strap-shaped leaves and the deciduous perianth. The flowers are borne on scapes, which are rarely somewhat leafy below. To this group belong the remaining two genera, *Paphiopedilum* and *Phragmipedium*. In the former the ovary is one-celled and the sepals imbricate in the bud. The most evident character, however, differentiating this at once from *Phragmipedium*, is in the lip which has the margin of the opening straight, not infolded. The scape is also commonly one-flowered, the exception being with more than one. There are some fifty species known in this genus, which is entirely old world, being generally distributed in tropical Asia and the Malay region.

The genus *Phragmipedium* is entirely new world, occurring in northern South America and Panama. It contains in the neighborhood of a dozen species, and is at once separated from *Paphiopedilum* by the character of the lip in which the margin of the opening is marked by a broad infolded portion. In addition to this the ovary is three-celled and the sepals valvate in the bud; the scape, moreover, bears several, sometimes many, flowers.

We have then in the new world three of the genera, two—*Phragmipedium* and *Selenipedium*—not known elsewhere, and *Cypripedium*, which it shares in distribution with the old world. The only strictly old world genus is *Paphiopedilum*.

PERCY WILSON,
Secretary