found by him near Perth. Intimation was given that the first number of the *Scottish Naturalist*, a quarterly magazine of natural history, published under the auspices of the Society, and supported by most of the leading Scottish naturalists, would appear early in January.—Mr. J. Sadler, F.R.P.S.E. (of Edinburgh), read a paper "On the Geographical Distribution of Plants in Perthshire." He traced the range of various characteristic plants from the sea-level up to the summit of Ben Lawers, the highest mountain in the county, and pointed out the distribution of the rarer species in other parts of Britain. In reference to *Saxifraga cernua*, which in Britain has only been found on the summit of Ben Lawers, Mr. Sadler said that in the opinion of some botanists the Ben Lawers plant was only an Alpine form of *Saxifraga granulata*, but in his opinion it was a good species. The paper was illustrated by an interesting series of diagrams, formed of dried specimens of the plants. One of these diagrams showed the altitude attained by the various plants found on Ben Lawers from its base to its summit.—The President read a paper upon "A Naturalist's Work in Winter." He divided his subject into two divisions, "Out-door Work" and "In-door Work," and pointed out what could be and should be done in the various branches of natural history during the winter months.

PHILADELPHIA

Natural Sciences Society, July 5.—The president, Dr. Ruschenberger, in the chair. Mr. Meehan exhibited some specimens of *Rumex obtusifolius*, a naturalised dock from Europe. He said that so far as he could ascertain from European specimens, and the descriptions of Babington, Bromfield, and other English botanists, the plant was there hermaphrodite; but here, as correctly stated by Dr. Asa Gray, it was monœciously polygamous. He thought the fact that plants hermaphrodite in one country becoming unisexual in another, was worthy of more attention by those engaged in the study of the laws of sex than had been given to it. This *Rumex* did not stand alone; *R. crispus* and *R. patienta* exhibited the same thing. *Fragaria* was another instance well known to horticulturists, although the fact scientifically had not received due weight. The average tendency of the strawberry in Europe was to hermaphrodism—here to produce pistillate forms. He also called attention to the fact that in these American specimens unisexuality was in proportion to axial vigour. This law he had already explained in times past to the Academy, and new instances were scarcely necessary. Here, however, the moderately weak plant had more hermaphrodite flowers than the strong one; and in both classes of specimens the number of male flowers gradually increased with the weakening of the axis, until the ends of the raceme were almost wholly of male flowers. The first flowers on the strong verticels were usually wholly pistillate. Prof. Leidy remarked that the interesting communication of Mr. Meehan had recalled to his mind a result of his experience, which he thought would accord with that of others, viz., that species viewed as common to both Europe and America frequently exhibit slight peculiarities, which are distinctive of those of the two countries. It is what might be inferred even if we admit the evolution of existing species from a common remote ancestry. A wide separation, with a considerable lapse of time and a modification of circumstances, are sufficient to account for the slight and acquired differences. Even where differences are not observed in form and structure, they may exist in the habit of the species. Thus the common wolf of Europe and America, viewed by many naturalists as of the same species, differs strikingly in character in the two countries. In the former it is a more fearless animal, not hesitating to attack man; in the latter, it is said never to attack man. At an early period observers saw, or thought they saw, many of the same species of plants and animals indigenous to America that occur in Europe, and hence the common names of European species were applied to those of America. Gradually the list of species common to the two countries was much reduced, and now is comparatively small.

August 2.—Mr. Vaux, Vice-president, in the chair. Mr. Thomas Meehan called attention to the arrangements of some plants for preventing fertilisation through any other than insect agency, as discovered by Darwin. The *Salvia* family of plants had the most elaborate arrangements for insect agency, but it had been objected to Darwin's theory that insects made no use of them. Bees bore holes through the tube from the outside for the honey, and do not enter by the mouth of the flower, as they ought. In the same way, in the *Petunia*, bees bore for honey from the outside. He had discovered that in these cases, where day insects failed to make use of these apparatuses, fertilisation was carried on by night moths, so that the objections to Darwinism were removed. He also referred to the common sweet chestnut, as bearing two classes of male flowers, only one of which probably aided in fertilisation. The first class appeared ten days before the other, and are those which give whiteness to the trees. They appear in the axils of the weak shoots. The female flowers appear on the apices of strong shoots, according to his theory of the laws of sex. The second class of male flowers appears at the ends of the vigorous shoots bearing the female flowers. Whatever affects the vigour of the tree interferes with the production of female but not of male flowers, and this was the reason why some seasons had short crops.

BOOKS RECEIVED

ENGLISH.—Text-books of Science; Inorganic Chemistry: W. A. Miller, M.D. (Longmans and Co.).—Method and Medicine, an Essay: B. W. Foster (Churchill).—Science, Creeds, and Scripture, and the Mystery of God: (Blackwood and Sons)—A Laboratory Text-book of Practical Chemistry: W. G. Valentin (Churchill).

FOREIGN.—(Through Williams and Norgate)—Theoretische Astronomie: Dr. W. Klinkerfues.—Handbuch der allgemeinen Himmelsbeschreibung: H. J. Klein.

PAMPHLETS RECEIVED

The Education and Status of Civil Engineers (published by the Institution).—Spectrum Analysis: a Lecture by W. Huggins—Spectrum Analysis: a Lecture by Prof. Roscoe.—Coral and Coral-reefs: a Lecture by Prof. Huxley.—Proceedings of the Annual Meeting of the Natural History Society of Montreal.—Proceedings of the Cleveland Institution of Engineers.—Science Education abroad: a Lecture by Principal Dawson.—Description of New Fossil Shells of the Upper Amazon: T. A. Conrad.—On the Heat developed in the combination of Acids and Bases: Dr. Thomas Andrews.—New Remedies: Dr. M'Elroy.—Provisional Catalogue of Transactions of Societies, Periodicals, and Memoirs in the Radcliffe Library.—Essay on the Comparative Efficiency of Spectroscopic Prisms of different Angles: E. C. Pickering.—Abstracts relating to the Preservation of Food: W. H. Archer.—Experiments on the Transpiration of Watery Fluid by Leaves: W. R. McNab, M.D.—Applicazione della teoria Darwiniana ai fiori ed agli insetti visitatori dei fiori: F. Delpino.

DIARY

THURSDAY, DECEMBER 22.

ROYAL, at 8.30.—Actinometrical Observations made at Dehra Doon and Mussooree, in India: Lieut. Hennessey.—On the Constitution of the Solid Crust of the Earth: Archdeacon Pratt, F.R.S.—On the Extension of the Coalfields of England beneath the Newer Formations, and the Successive Physical Changes whereby they have been reduced to their present Dimensions: E. Hull, F.R.S.

FRIDAY, DECEMBER 23.

QUEKETT MICROSCOPICAL SOCIETY, at 8.

TUESDAY, DECEMBER 27.

ROYAL INSTITUTION, at 3.—Burning and Unburning: Prof. Odling (Juvenile lectures).

THURSDAY, DECEMBER 29.

ROYAL INSTITUTION, at 3.—Burning and Unburning: Prof. Odling.

CONTENTS

ERRATUM.—Page 94, first column, line 2 from bottom, for "*aquetocus*" read "*aquaticus*."