BOOKS RECEIVED.

Photometric Measurements. WILBUR M. STONE. New York and London. The Macmillan Co. 1900. Pp. vii + 270. $1.60.

A Manual of Elementary Practical Physics for High Schools. JULIUS HORTVET. Minneapolis, H. W. Wilson. 1900. Pp. x + 255.

Comparative Anatomy of Animals. GILBERT C. BOWNE. London, George Bell & Sons. 1900. New York, The Macmillan Co. 1900. Pp. xvi + 269.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for June opens with an excellent account of 'The Neurone Theory in the Light of Recent Discoveries,' by G. H. Parker, originally given as a lecture before the Section of Biology, New York Academy of Sciences. 'Variation in the Venation of Trimerotropis,' is discussed by Jerome McNeil, with the rather surprising conclusion, among others, that variations in venation may be much greater within a species, than those difference which distinguish one genus from another. Robert T. Young presents some 'Notes on the Mammals of Prince Edward's Island,' and T. D. A. Cockerell notices 'The Cactus Bees, Genus *Lithurgus*' recorded from New Mexico. C. B. Davenport summarizes 'The Advance of Biology in 1897' as indicated by the contents of *L'Année biologique* for that year and F. W. Simonds has a paper, presented before the American Association last August, 'On the Interpretation of Unusual Events in Geologic Records, illustrated by Recent Examples.' Part X of the 'Synopses of North American Invertebrates' is by Mary J. Rathbun and is devoted to 'The Oxyrhynchous and Oxystomatous Crabs.'

The Popular Science Monthly for July has for its frontispiece a portrait of G. K. Gilbert. Simon Newcomb has some 'Chapters on Stars' and W. M. Haffkine gives the second and final part of his very interesting article on 'Preventive Inoculation.' James Collier presents the second of his papers on 'Colonies and the Mother Country' and G. F. Swain gives an account of 'Technical Education at the Massachusetts Institute of Technology,' which includes the history of the institution in brief and is illustrated by views of the laboratories and portraits of its various Presidents. G. T. W. Patrick discusses 'The Psychology of Crazes,' concluding that ethically and intellectually social or collective man is far behind individual man. Edward Renouf considers 'Some Phases of the Earth's Development in the Light of Recent Chemical Research,' and S. P. Langley contributes 'A Preliminary Account of the Solar Eclipse of May 28, 1900, as observed by the Smithsonian Expedition.' 'Malaria and the Malarial Parasite,' by Patrick Manson, gives a good resumé of the subject, and finally Henry Carrington Bolton briefly notices 'New Sources of Light and of Röntgen Rays.' Under Discussion and Correspondence, Charles D. Walcott tells of 'Washington as an Explorer and Surveyor,' while the thanks of the many are due to 'Physicist', who under the caption 'Science and Fiction' reviews Tesla's recent article in the *Century*.

The Osprey for May, rather belated, begins with part V of 'Birds of the Road,' by Paul Bartsch, followed by 'Notes on the Habits of the Blue Jay in Maine,' by J. Merton Swain. Theodore Gill gives the third instalment of 'William Swainson and his Times,' which contains some important information regarding his publications. M. A. Carpenter, Jr., describes 'The Chickadee (*Parus atricapillus*) in Eastern Nebraska' and some 'Remarks on Some of the Birds of the Cape of Good Hope,' by Phillip Lutley Sclater is reprinted from *the Ibis*.

SOCIETIES AND ACADEMIES.

TORREY BOTANICAL CLUB.

ON May 30, 1900, a meeting was held at Hazelwood, the residence of Vice-President Dr. T. F. Allen, near Litchfield, Conn., subsequent to a field excursion arranged by Dr. Allen in the vicinity of Litchfield, the Club being his guests from May 29th to 31st.

Professor Lloyd called attention to the occurrence of nectaries* on the leaves of *Pteris aquilina*. The glands are found on the rachis, one below the insertion of each pinna, and may be recognized as modified oval areas covered by a dark red epidermis. The color is due to the presence of matter dissolved in the sap, and is

*Described briefly by Francis Darwin in *Jour. Linn. Soc.*, 15 : 407. 1877.

found also in lines running up and sometimes down the rachis from the glands. These are very active during the rapid growth of the frond, their activity ceasing on the attainment of maturity. The secretion, which is very abundant, is formed independently of bleeding pressure, and the fluid is thick and syrupy. So rapidly does it accumulate that one may notice the increase in the size of the drops with a hand lens. The secretion escapes through modified stomata similar in form to the water-stomata of *Tropeolum*. The glandular tissue beneath extends deeply into the cortical mass of the petiole; its cells are small and contain chlorophyll.

Small ants, and one honey-gathering dipterous insect were noticed visiting the glands; none were seen to be gnawed by the insects. As F. Darwin observed, the plant has few natural enemies or none, and the teleological interpretation must be sought in the internal economy of the plant, probably in connection with nutrition. The abundant excretion of sugar may be a carrier of or an accompaniment to the excretion of some harmful substance. It is noteworthy that up to the present time no other Pteridophyte has been reported to be possessed of nectar-secreting organs. The plants on which the observations were made grew near Bantam Lake, Litchfield, Conn.

Dr. Britton remarked on a young tree of the Swamp Spruce, *Picea brevifolia* Peck, found during the day in a sphagnum bog near Litchfield, and stated that this was probably the most southern known station for this species in New England. The short glaucous leaves and nearly glabrous twigs readily distinguish this tree from the Black Spruce, *P. Mariana*.

Mrs. Britton exhibited specimens of the red-flowered Columbine of the Litchfield region, and remarked on its growth in open fields and the pubescent character of the plant, differing in these features from the plant of the vicinity of New York, which inhabits rocky ledges and is nearly or quite glabrous. She noted that the pubescent plant is also abundant in fields on the Pocono plateau of Pennsylvania.

A vote of thanks was tendered to Dr. Allen for his most generous and agreeable hospitality.

N. L. BRITTON,
Sec'y pro tem.

CURRENT NOTES ON METEOROLOGY.

CLIMATE AND THE ICE INDUSTRY.

THE practical use made of nocturnal radiation for the preparation of ice in certain parts of India has long been well known. The method pursued there is to expose shallow porous earthenware dishes filled with water and resting on rice straw, loosely laid in a small excavation on the surface of the ground. When the conditions are favorable, ice is formed in considerable quantities, even when the temperature of the air is 15° or 20° above freezing. A case of a somewhat similar kind is noted by O. H. Howarth, in a paper on 'The Cordillera of Mexico and its Inhabitants,' in the *Scottish Geographical Magazine* for June. In one of the highest valleys in Oaxaca, at an elevation of 8000–9000 feet, a flourishing ice industry was discovered. It is stated that the ground is covered with a large number of shallow wooden troughs, which are filled with water, and during the winter nights are covered with a film of ice of not more than one-eighth of an inch in thickness. This ice is removed in the morning, shovelled into holes in the ground, and covered with earth. Under these conditions the ice consolidates, and is then cut out in blocks and sent down by mules to the towns, where a ready market is found at all seasons.

FROST FIGHTING.

'Frost Fighting,' is the title of Bulletin No. 29 of the United States Weather Bureau, prepared by A. G. McAdie, local forecast official at San Francisco. The question of protection against frost has been very carefully studied by the Weather Bureau officials in California during the past four years, and every effort has been made to forecast coming frosts, and also to investigate the best methods of protection. Mr. McAdie says that "the experience of the past three years warrants the statement that the loss due to frosts in California, hitherto considered unavoidable, can be prevented, and that unless extreme conditions, by which is meant lower temperatures by 5° than have ever yet been experienced in this State, occur, the citrus fruits of California can be successfully carried through the period when frost is likely." The formation of frost is found to be very