

in spite of the importance of temperature as a factor in distribution it is illogical to take it as the sole criterion for the limits of distributional regions, especially when the rôle of soil and atmospheric moisture is so obviously of vital importance and is so potent in determining the areas of the principal vegetational regions of the globe.

## SHORT NOTES

A YEAR or so ago F. L. Sargent published a helpful little book on applied botany, entitled "Plants and Their Uses" (Holt), and now he adds a helpful 80-page pamphlet of directions to students ("Student's Handbook") to accompany it, and to serve as a laboratory guide.

SOMEWHAT similar in design is Dr. Pool's little book, "Suggestions for Experiments in Plant Physiology" (Univ. Nebr.), consisting of 100 pages. Fifteen illustrations, mostly diagrammatic, supplement the text of very explicit directions.

THE Nature Study Society of Rockford, Ill., has issued a catalogue of "The Trees of Rockford and Vicinity," including 160 species and varieties of native and cultivated trees. Counting the starred names we find that 50 species are natives.

R. A. GORTNER and A. F. Blakeslee show<sup>4</sup> that this very common black mold contains a powerful water-soluble toxin, which is very harmful when injected into different parts of the body of rabbits and guinea-pigs, but apparently not harmful when fed to the animals. This paper is presented by the authors as a report of progress.

G. D. FULLER's "Evaporation and Soil Moisture in Relation to the Succession of Plant Associations"<sup>5</sup> gives some of the results of his studies in the Chicago region. The stations included cottonwood dunes, pine dunes, oak dunes, oak-hickory forests, beech-maple forests and prairies. By graphs and diagrams the results are made evident to the eye.

"A PROVISIONAL List of Parasitic Fungi in

<sup>4</sup> "Observations on the Toxin of *Rhizopus nigricans*," *Am. Jour. Physiol.*, July, 1914.

<sup>5</sup> *Bot. Gaz.*, September, 1914.

Wisconsin,"<sup>6</sup> by J. J. Davis, is a revision of previous lists by Dr. Trelease and J. J. Davis, and brings our knowledge of the parasites of Wisconsin down to date. The list is in two parts, the first being systematic as to the fungi, and the second being an alphabetical list of hosts. In the first there are 61 Phycomycetes; 89 Ascomycetes; 418 Fungi Imperfecti; 339 Uredinales (+ 19 isolated and undetermined forms); 7 Hymenomycetes. The list includes therefore, somewhat more than nine hundred fungi (914 + 19).

OTHER recent short papers are J. F. Clevenger's "Effect of the Soot in Smoke on Vegetation";<sup>7</sup> R. M. Harper's "Coniferous Forests of Eastern North America";<sup>8</sup> J. E. Weaver's "Evaporation and Plant Succession in South Eastern Washington and Adjacent Idaho";<sup>9</sup> Darsie, Elliott and Peirce's "Study of the Germinating Power of Seeds";<sup>10</sup> Babcock's "Studies in Juglans," II.;<sup>11</sup> H. S. Jackson's "New Pomaceous Rust of Economic Importance, *Gymnosporangium blasdaleanum*";<sup>12</sup> Michael Levine's "Origin and Development of the lamellae in *Coprinus micaceous*";<sup>13</sup> and W. A. Cannon's "Specialization in Vegetation and in Environment in California."<sup>14</sup>

CHARLES E. BESSEY

THE UNIVERSITY OF NEBRASKA

## SPECIAL ARTICLES

## HADROPTERUS PELTATUS IN THE DELAWARE

SEVERAL interesting local fishes have come to my notice during the past season, the principal of which was a fine large shielded darter, *Hadropterus peltatus*. It was secured in a small pool of rapid water in the course of Skippack Creek, a tributary of the Perkiomen Creek in Montgomery County, on October 24,

<sup>6</sup> *Trans. Wis. Acad. Sci.*, October, 1914.

<sup>7</sup> *Bull. 7*, Mellon Institute.

<sup>8</sup> *Pop. Sci. Mo.*, October, 1914.

<sup>9</sup> *Plant World*, October, 1914.

<sup>10</sup> *Bot. Gaz.*, August, 1914.

<sup>11</sup> *Univ. Calif. Pub.*, October, 1914.

<sup>12</sup> *Phytopathology*, August, 1914.

<sup>13</sup> *Am. Jour. Bot.*, July, 1914.

<sup>14</sup> *Plant World*, August, 1914.

1914. This is, therefore, the first instance of its occurrence in the basin of the Delaware River, as well as the most eastern and northern locality at which the species has been obtained. The species is of further interest in not having been secured in Pennsylvania since its discovery in the Conestoga in 1864, by Jacob Stauffer. The type, Stauffer's specimen, has been compared in this connection, and agrees in most all respects. It is, however, over three inches in length, though in various works the species is given as of smaller size. Recently Messrs. Radcliffe and Welsh have described a darter from Swan Creek, Maryland, as new, under the name *H. sellaris*. My example differs in having the spinous dorsal more conspicuously lower than the rayed dorsal, one more dorsal spine, naked cheeks and coloration. The additional dorsal spine would appear an intermediate character. *H. sellaris* is shown with the spinous dorsal marked with three dark blotches to each spine, whereas in my example, at present, the dark blotches are only on the membranes. The dark blotches on the back are such as may easily admit of change with age, the Swan Creek specimens being small. Besides the crustaceans *Asellus communis* and *Gammarus fasciatus*, other fishes found in Skippack Creek were *Notropis procne*, *N. whippelii analostanus*, *N. cornutus*, *Rhinichthys atronasmus*, *Fundulus diaphanus* and *Boleosoma nigrum olmstedii*. In the brook near Rahn, another Perkiomen tributary, *Semotilus atromaculatus*, *Catostomus commersonnii* and *Micropterus dolomieu* were found, and in Landis Brook near Grater's Ford, besides *Fundulus* and *Rhinichthys*, *Notropis whippelii analostanus* and *Lepomis auritus*.

In the Delaware and its tributaries in Bucks County I met with several species of local interest. One was the *Exoglossum maxillingua* in the river at Morrisville, on July 22, with *Notropis hudsonius amarus*, *N. whippelii analostanus*, *Fundulus heteroclitus macrolepidotus*, *F. diaphanus*, *Lepomis* and *Boleosoma*, showing its association with upper tidal species. In a small tributary above Yardley, *Notropis bifrenatus*, *N. whippelii analostanus*, *N. cornutus*, *Rhinichthys*, *Catostomus* and *Boleosoma*

were common. In Taylorville, Knowles and Pidcock's Creeks, *Semotilus atromaculatus*, *Notropis bifrenatus*, *N. whippelii analostanus*, *N. cornutus*, *Rhinichthys*, *Fundulus diaphanus*, *Lepomis* and *Boleosoma* were about equally abundant. *Pimephales notatus* and *Semotilus bullaris* were peculiar to Taylorville Creek, while *Hybognathus nuchalis regius* and *Esox americanus* were only found in Knowles, and *Catostomus* occurred in both. This is the first instance of *Pimephales* in this section, though I have it from further west, or the Schuylkill. *Rhinichthys* was the only fish found in Cuta-loosa Creek. In Brock Creek near Roelofs, *Esox americanus*, *Notropis cornutus*, *Erimyzon sucetta oblongus* and *Boleosoma* were found, the last two also occurring in isolated pools in the course of Common Creek near Fallsington, associated with *Notropis bifrenatus*, *Aphredoderus sayanus* and *Enneacanthus gloriosus*. The last species was also met with in the creek near the village of Penn's Manor, with *Abramis crysoleucas*, *Ameiurus nebulosus*, *Schilbeodes gyrrinus*, *Fundulus diaphanus*, *Apeltes quadracus*, *Lepomis auritus* and *Eupomotis gibbosus*. In Chester County, in the various headwaters of the White Clay Creek, near Londongrove, only *Salvelinus fontinalis*, *Rhinichthys* and *Boleosoma* were met with abundantly.

HENRY W. FOWLER

ACADEMY OF NATURAL SCIENCES  
OF PHILADELPHIA,  
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#### THE CONVOCATION WEEK MEETING OF SCIENTIFIC SOCIETIES

THE American Association for the Advancement of Science and the national scientific societies named below will meet at Philadelphia, during convocation week, beginning on December 28, 1914:

*American Association for the Advancement of Science*.—President, Dr. Charles W. Eliot, Harvard University; retiring president, Professor Edmund B. Wilson, Columbia University; permanent secretary, Dr. L. O. Howard, Smithsonian Institution, Washington, D. C.; general secretary,