

are truly given off by the fibre, and are not merely coagula, I have not yet been able to determine.

In transverse sections a definite sheath to the fibre can be seen, although the fibre itself is not readily made out in these sections until a certain familiarity with its course has first been obtained from an examination of sagittal sections. In the one fibre measured, the diameter was a little more than $6\ \mu$.

I did not find in any of my preparations that the fibre curled up into the "tangle" or "snarl" as described by Sanders in Myxine, by Dendy in Geotria, and mentioned by Sargent as commonly occurring, but this may probably be attributed to the precaution that was taken in every case thoroughly to fix and harden the central nervous system before severing the spinal cord. (The brain and spinal cord of several of the smaller specimens were cut entire in sagittal sections.) In all cases the central nervous system was dissected out entire from the freshly killed animal, and, where practicable, under the actual preserving fluid. Zenker's fluid, which did not admit of this, gave less satisfactory results than Flemming's stronger fluid. The stain employed was a modification of Weigert's suggested by C. Judson Herrick.

I have compared the fibre seen in sections so prepared with that shown in sections of *Petromyzon fluviatilis* in the laboratory collection at King's College, and also with that shown in Prof. Dendy's Geotria sections, which were prepared by altogether different methods, and the comparison leaves no doubt in my mind that we have here to do with a perfectly normal structure, and one cannot but express wonder that an object so clearly defined should have for so long escaped notice in the frog.

GEORGE E. NICHOLLS.

King's College, London, February 6.

Rhynchobdella aculeata in Ceylon.

It seems worth while to make a special note of the occurrence of the above-named food-fish in the inland waters of Ceylon. Its near ally, *Mastacembelus armatus*, has long been known to occur here. The general Ceylonese term for fishes belonging to the family Rhynchobdellidæ, commonly known as "spined" or "thorny-backed eels," though not nearly related to the true eels, is "telliya," but the natives distinguish between the "Gang-telliya" (river-telliya), which is *Mastacembelus armatus*, and the "Batakola-telliya" (alluding to the lanceolate form of the body), which is *Rhynchobdella aculeata*. The latter is reputed to grow to a length of 15 inches, and I recently examined one of 12 inches. In the former, commoner species, the vertical fins are confluent and the dorsal spines are numerous (about thirty-eight); in the second species, which has not previously been recorded from Ceylon, the dorsal and anal fins are separated from the caudal by a notch above and below; the dorsal spines are less numerous (sixteen), and the long, fleshy snout, which gives these fishes such a remarkable, antiquated appearance, is transversely ribbed below. The identification is therefore not open to doubt.

The Rhynchobdellidæ, as a family, are "excellent as food," to quote the words of the late Dr. Francis Day, and the hitherto unsuspected presence of an important member of the family in Ceylon affords an illustration of the incompleteness of knowledge concerning the biological conditions of the local inland fisheries. The batakola-telliya is stated to be absent from Malabar, a peculiarity of distribution which ranges it roughly in the same category with *Channa orientalis*, *Polyacanthus signatus*, and perhaps a few other fresh-water fishes.

ARTHUR WILLEY.

Colombo Museum, January 20.

Poseidonius on the Originator of the Theory of Atoms.

In Strabo's "Geography," book xvi., chapter xi., § 24, in the description of Sidon, we find the following remark:—

"If we are to believe Poseidonius, the ancient opinion about atoms originated with Mochus, a native of Sidon, who lived before the Trojan times."

This tracing of the theory of atoms to an authority

NO. 1908, VOL. 77]

much more ancient than Democritus does not seem to be mentioned in any of the works on physics, but as it is from the usually accurate Strabo, and rests on the high authority of Poseidonius, it seems worthy of notice.

T. J. J. SEE.

Naval Observatory, Mare Island, California,
January 27.

AGRICULTURAL AND HORTICULTURAL RESEARCH.¹

NO better evidence can be adduced of the growing interest in agricultural education and research in this country than the support which has been given to them by the county councils of Surrey and Kent during the last few years. They have materially promoted the science of agriculture and horticulture by furnishing the necessary means for the annual publication of such valuable reports as the one which

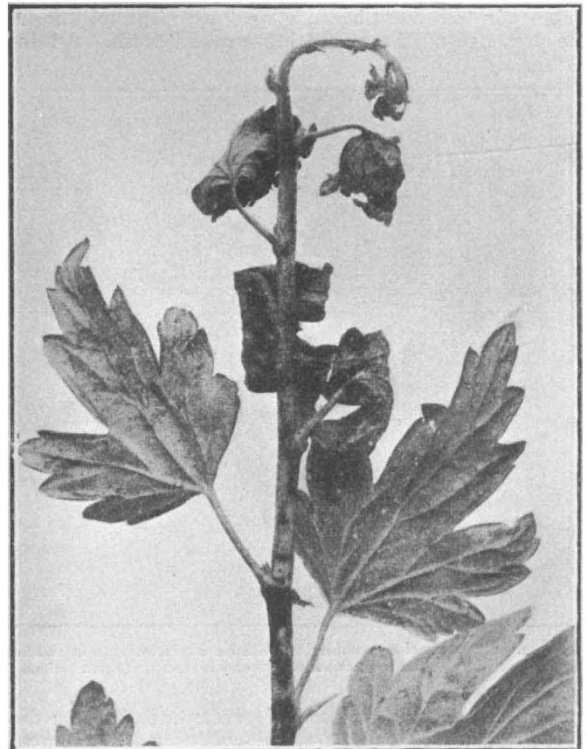


FIG. 1.—Gooseberry shoot attacked by the American Gooseberry-mildew. Numerous dark scurfy patches of the spawn of the mildew can be seen on the stem.

has recently been issued from the South-eastern Agricultural College at Wye, Kent.

The report gives the results of an immense amount of painstaking investigation, and the exhaustive way in which the subjects are treated will be appreciated when it is realised that a bulky volume of 438 pages has been produced by the combined labours of the various members of the staff. The work is well written, and the different subjects are presented with pleasing freshness. Altogether we feel that it will prove a veritable mine of immensely valuable information, enhanced in no small degree by some of the most beautiful half-tone illustrations which we have yet seen in a work of this kind.

¹ University of London. "The Journal of the South-eastern Agricultural College, Wye, Kent." No. 16. Pp. ix+428. (London and Ashford, Kent: Headley Brothers, 1907.) Price 6s.; for Residents in Kent and Surrey, 3s.