

ential coloring that will make mycelium stand out in contrast to the tissue of the host have been described.¹

The writers, in an attempt to obtain a stain which would reduce the time required for the examinations of a set of woods infected with molds by producing satisfactory differentiation both for visual examination and for photomicrography, have worked out the following method. The results, although the work is only in the preliminary stage, are so promising that they are given here in order that others may avail themselves of the method if they desire to do so.

Since there is a difference in chemical composition between wood substance and chitin or "fungal cellulose," the assumption was made that the fungal mycelium might possess characteristic mildly oxidizing or reducing properties. Then a solution of silver nitrate in distilled water was applied to thin sections of the infected wood. These were allowed to stand for periods of various lengths, overnight staining giving a very satisfactory result. The sections were then examined directly or dehydrated with alcohol, cleared with xylol, and mounted in Canada balsam. Drying the balsam mounts under weights in an oven overnight appeared, if anything, to improve the stain secured.

Both conifers and hardwoods were treated in this way. The mycelium of several molds and of two wood-destroying fungi has thus far been stained. In all cases the mycelium was differentiated by its blackish brown, purplish brown, or orange color. The wood tissue presented, if stained, a lighter shade of yellowish brown against which the mycelium was readily visible, often under relatively low magnifications.

Silver nitrate solution also gave interesting staining of the wood structures and cell contents which will be discussed at some future time.

Gold chloride solution, and the "Berlin Blue" stain, the latter as described by Dr. Sophia Eckerson in her course in microchem-

istry,² were also used with some success for the same purposes as the silver nitrate.

M. E. DIEMER,
Chemist,
ELOISE GERRY,
Microscopist

FOREST PRODUCTS LABORATORY,
U. S. DEPARTMENT OF AGRICULTURE,
MADISON, WISCONSIN

SHARKS AT SAN DIEGO

TO THE EDITOR OF SCIENCE: It has occurred to the writer that a very brief statement of some experiences in collecting shark material at San Diego, Cal., in 1920-21 might be of value to persons interested in research problems in elasmobranch morphology and embryology. Owing to the fact that the reduction plants in San Diego paid in 1920-21 a price for sharks high enough to make it worth while for the fishermen to bring in all such material caught incidentally, and since nearly all such material was brought to the fish-market pier, at the latter place it was possible in a very short time to collect a considerable range of species. The writer obtained twenty-six species of elasmobranchs at San Diego, and the embryos of fourteen of them. No other place along the Pacific coast, or probably on any other coast, offers such a wealth of material and such easy access to it. It was not uncommon to see fifteen species of elasmobranchs at one time on the pier at San Diego.

H. W. NORRIS

GRINNELL COLLEGE

MUNICIPAL OBSERVATORIES

TO THE EDITOR OF SCIENCE: In SCIENCE for August 5, the Municipal Observatory at Des Moines is "said to be the only municipal observatory in the world." The Cincinnati Observatory was incorporated in 1842, its corner stone being laid in 1843 by John Quincy Adams. Here Cleveland Abbe (director '68-'73) first issued daily weather reports and laid the foundation of the U. S. Weather Bureau. In 1872, the property was transferred to the University of Cincinnati (municipal) on condition that the city sup-

² Text-book now in preparation.

¹ Sinnott, E. W. and I. W. Bailey, *Phytopath.*, 4: 403, 1914. Vaughan, R. E., *Ann. Mo. Bot. Gard.*, 5: 241, 1914 and others.