(dull, dirty blue, contrasted with the clearer blue of the cytoplasmic granules) with Delafield's haematoxylin in *Protoopalina,* is no sufficient indication of renal function of the vacuole system and its granules. These granules may, of course, be merely degenerate and not at all specialized for renal function. Experimentation with chemical indicators and the micropipette upon the contractile vacuole contents in *Amoeba,* some large ciliate, like *Paramecium,* and upon *Protoopalina* (with its peculiarly behaving granules) should be of interest.

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DIGESTION OF WOOD BY THE SHIPWORM

WHETHER the marine wood-boring mollusks of the family Teredinidae, commonly known as shipworms, bore in submerged timber for protection only, or also for the purpose of utilizing the wood as food, has been a subject of considerable debate. It has been shown by Dore and Miller[1] that about 80 per cent. of the cellulose, and from 15 to 56 per cent. of the hemicelluloses, in Douglas fir piling disappear from the wood during its passage through the digestive tract of *Teredo navalis.* The conclusion was drawn that the carbohydrates which disappear are utilized by the organism as food. This conclusion has lately been substantiated by a different method, in the case of another species of a related genus.

A number of specimens of the Northwest shipworm (*Bankia setacea* Tryon), from one to two feet in length, were removed from samples of Douglas fir timber submerged about one year at the Puget Sound Biological Station. On dissection, a sufficient quantity of wood-borings was obtained from the caeca of these organisms to test for reducing sugars. A similar test was made on a pulverized sample of the original wood. The reducing sugars were determined as glucose by the Benedict-Osterberg method, as modified by Thomas and Dutcher.[2] The following results were obtained:

Reducing sugars (as glucose) in original wood	0.92 per cent.
Reducing sugars (as glucose) in wood from caecum	3.86 per cent.

The amount of reducing sugars in the wood from the caecum is thus about four times as great as the amount found in the original wood. The data are not of quantitative significance in indicating the total amount of sugar formed, as the wood in the caecum is presumably still in process of digestion, while on the other hand a certain amount of sugar has doubtless already been lost by absorption through the walls and typhlosole of the caecum. The results do, however, indicate a decided increase in the quantity of reducing sugars while the wood is in the digestive tract, which is the logical reciprocal of the disappearance of the more stable carbohydrates that was noted in the case of wood-borings which had passed through the digestive tract of *Teredo navalis.*

Thus there is evidence of the digestion of wood in a representative species of each of the two principal genera of shipworms, and it is probably a justifiable assumption that carbohydrates from the wood play an important rôle in the nutrition of this interesting group of lamellibranchs.

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[1] Univ. Calif. Publ. Zool., *22,* 383–400. 1923.
[2] *Jour. Amer. Chem. Soc., 46,* 1662–69. 1924.

WOODPECKERS AND THE AUTOMOBILE

I HAVE read with interest the letter of Henry L. Baldwin in regard to woodpeckers and the automobile (SCIENCE, April 2, 1926, p. 358), and am inclined to agree with much that he says. I have reason, however, to object to the following statement, contained in the letter: "The red-headed woodpecker is practically non-existent in this region, having been seen in northern New York only once by the writer, and that many years ago." I do not question the validity of his observations: but his apparent reliance upon his own notes as the sole source of information is open to criticism. In this region, which is certainly a part of northern New York, a number of records of the red-headed woodpecker have been obtained during the past four years: cursory examination of my notes shows records for this species on April 7 and 21, 1923, and on March 8, 1925. These records were all taken within ten miles of this place. Although they can not be taken as an indication of distribution outside of this limited area or of particular abundance, they certainly show that the species is somewhat far from non-existent.

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ANNUAL EXHIBITION OF THE ROYAL PHOTOGRAPHY SOCIETY

THE Royal Photographic Society of Great Britain are holding their seventy-first annual exhibition in September and October of this year. This is the most representative exhibition of photographic work in the world, and the section sent by American scientific men heretofore has sufficiently demonstrated the place held by this country in applied photography. It is very desirable that American scientific photography should