experience every day. If I look at the wheels of an automobile which is passing me at moderate speed, perhaps of ten to fifteen miles per hour, they will seem to stop stock still about once per second while the car is within 45 degrees of my straight-ahead direction. The phenomenon is much clearer with wooden spokes than with wire ones. I can see all the wooden spokes perfectly distinctly.

I have never been able to get an oculist interested enough in the thing *facere aliquid experimentum in corpore vili,* and I have never taken the time to experiment myself with a rotating disk. I have been inclined to attribute the phenomenon to retinal fatigue.

There is a peculiarity in my vision which may have something to do with it. Presbyopia has hardened my lenses asymmetrically, and each eye has one fairly distinct false focus and several quite indistinct ones. At the proper distance from an electric sign at night I can read about half the letters at the false focus. With the reverse illumination, as with black print on white paper, it doesn't bother me, as the spurious images merge in the white background and are too faint to see. On a dark day, when my pupils are wide open, I can just see them. The trouble is in the periphery of the lenses. A two or three millimeter pinhole obviates most of the trouble.

R. M. PACKARD

BOSTON, MASSACHUSETTS

NOTE UPON THE OCCURRENCE OF OTOMESOSTOMA AUDITIVUM (PLESS.) IN THE UNITED STATES

IN Ward and Whipple's "Fresh-water Biology" (18) the statement occurs that no fresh-water representative of the suborder *Alloeocoela* has been definitely established for the United States (page 354). Higley (18) records new species of rhabdocoeles for the Mississippi Valley but does not mention any genus or species of the suborder *Alloeocoela.* Nor have I been able to find any reference to this suborder which would indicate that it occurred in the United States. I would like to record, therefore, that I have found and definitely identified *Otomesostoma auditivum* in the streams and pools near the University of Virginia. I have found only five specimens so far, three in April, one in May and one in July. Of those I found in April two were sexually mature and produced eggs which later developed. The young ate heartily of tadpole's brain and were developing in fine fashion until the culture was accidentally destroyed.

I have found specimens of two other species which, from the general characteristics ascribed to this suborder by von Graff, I am convinced belong to the suborder *Alloeocoela.* These species have not been identified definitely as yet.

It seems, from these instances, that members of this suborder do exist in the United States, and that by careful observation and study they will be found to be somewhat abundant.

J. S. CARTER

UNIVERSITY OF VIRGINIA

SALMONELLA COLUMBENSIS

SALMONELLA COLUMBENSIS was first described by Castellani in 1905 under the name of *Bacterium columbense.* He isolated it from cases clinically similar to typhoid fever of medium severity. The microorganism was motile, Gram negative and did not produce spores. It produced acid and gas in dextrose, maltose, dulcite, mannite, dextrin (slight amount), arabinose, sorbite, galactose, levulose, salicin, rhamnose and gylcerine no acid or gas was produced in saccharose, raffinose, adonite, inulin, inosite or amygdalin. Acid and gas production in lactose was variable. It liquefied neither gelatin nor serum. Tests with typhoid serum, paratyphoid A serum and paratyphoid B serum, were distinctly negative.

The writer recently isolated a microorganism similar to the above from the stool of a non-febrile patient. This microorganism did not produce acid or gas from either lactose or dextrin. In addition to the carbohydrates used by Castellani, acid and gas were produced in xylose and trehalose. There was no agglutination with typhoid, paratyphoid A or paratyphoid B serums. Agglutination with *Salmonella columbensis* serum was complete in full titre.

Judging from the available literature, it would appear that *Salmonella columbensis* infections and carriers are quite rare in this country, there being no report in the literature reviewed.

FREDERICK W. SHAW

MEDICAL COLLEGE OF VIRGINIA

INHALATION THE CHIEF FACTOR IN ONION OR GARLIC CONTAMINATION OF MILK

IN sections where wild onion and garlic flourish agricultural experiment stations, dairymen and consumers of dairy products have long been interested in measures to prevent contamination of the milk of cows on pasture during the spring and fall seasons of growth of these weeds. The desirability of accomplishing the result by supplementary feeding has suggested many experiments which have failed to solve the problem and has encouraged the sale of numerous proprietary feeds which have not fulfilled their guarantees.

Due to the volatile nature of the essential oils of onion and garlic, the constituents may enter the blood from the respiratory as well as from the digestive tract. A rapid transfer of these substances from the blood to the fat of the milk takes place in the udder. Ordinary ingestion of the plants permits the acquisition of the onion or garlic substances by the blood through both channels.

In recent experiments at the University of Tennessee, the administration of fresh wild garlic tops was limited to inhalation of the volatile substances. Under these conditions, strong garlic flavor and odor were detected in the blood and milk in a very short time. When, however, the administration was so arranged as to eliminate as far as possible the inhalation factor, the time required for the acquisition of the garlic flavor and odor by the milk was greatly increased and the intensity markedly diminished.

It is evident from the results obtained in these experiments that of the two modes of entrance of garlic into the blood, inhalation is many times more effective. Under ordinary conditions this factor can not be eliminated nor can it be controlled by feeding.

MARGARET B. MACDONALD
M. JACOB
AGRICULTURAL EXPERIMENT STATION,
KNOXVILLE, TENN.

QUOTATIONS

THE CONTROL OF MALARIA

AN important development in the control of malaria is announced by the Ross Institute and Hospital for Tropical Diseases. A new organization of the Ross Institute Industrial Anti-Malarial Advisory Committee has been set up to assist tropical industries in combating the disease. One of the technical members of the committee will be Sir Malcolm Watson, who, after many years of active malarial control work in the Malay States, has joined the Ross Institute as principal of its malarial control department. The others will be the three directors of the institute—Sir Ronald Ross, Sir William Simpson and Sir Aldo Castellani. The lay members of the committee will represent the Indian Tea Association, the Rubber Growers' Association and other Indian and African iron, mining, jute and cotton companies. The antimalarial staff at the institute will be at the disposal of these companies for advice, and will study their medical reports and receive and advise their physicians. It is intended that Sir Malcolm Watson himself shall visit some part of the tropics every year for a short period. The past twenty-eight years' work in Malaya has shown that research has been benefited so much by malaria control and the work so much from research that it is considered advisable to associate research and active malaria control work as closely as possible in the future. The study of malaria in Malaya has shown how it varies with the physical features of the land and the species of anopheles inhabiting it. Even in a country so small as the Malay Peninsula malaria is associated with various zones of land (*e.g.*, salt water, mangrove swamps, fresh-water coastal swamps, the ravines of coastal hills, the inland plains, the inland hills) in certain definite ways, depending on whether or not the virgin jungle is intact or destroyed. That gave ten types of land which had to be studied. In addition, rice fields of three types were discovered, giving a total of thirteen different types of land. Some twenty-one different species of anopheles had to be classified in the laboratory and studied in the fields. It was found that probably only four or five were associated with the spread of malaria on any considerable scale and therefore expenditure on the control of others was unnecessary. The methods devised for the control of malaria had to vary widely; in some places there was strict preservation of jungle, and in others elaborate engineering schemes, the application of larvicides, drainage or flooding. In India, malaria is associated with other types of land, *e.g.*, the tanks surrounding villages in the great plains, the rivers and hills of the Assam valleys, and the wells in large cities. Enormous sums of money have been saved to the governments and industrial undertakings in Malaya by the control of malaria. It is certain that there will be an increasing demand for control by both the governments and industrial undertakings in other countries. Without trained research medical officers and expert engineers, the attempt to control malaria will be unduly expensive, and in many cases will fail. The lesson was a dearly bought one in Malaya. The Ross Institute Industrial Anti-Malarial Advisory Committee, with local branches in various countries, is Sir Ronald Ross's solution of this problem.—*The Journal of the American Medical Association.*

PROTOCHLOROPHYLL

PRINGSHEIM[1] assumed alcohol extracts of etiolated seedlings to have a yellow pigment which he called *etiolin*. The spectrum of etiolin showed in addition to the absorption bands characteristic of chlorophyll, a band between $\lambda = 640$ and 620 $\mu\mu$. Monteverde[2] made an exhaustive study of alcohol extracts of etiolated seedlings and found the absorption band observed by

1 Monatsber. d. kgl. Akad. d. Wiss. zu Berlin, Okt. 1847, Sep. p. 6.

2 Acta Horti Petropolitani 13, Nr. 11, p. 210, 1894.