

## PUBLIC HEALTH

## Discovery Regarding Snails Saves Many Human Lives

IT IS a long way from the nation's capital to Japan, and a long time from 1896 to the present day, but what was an obscure comment in a Washington scientist's notebook four decades ago has freed hundreds of thousands of rice workers in the Orient from the dangers of a baffling illness—schistosomiasis.

Forty years ago some 200,000,000 people in Oriental countries were afflicted with this disease. Often it was fatal. Always it lowered energy and efficiency. Today the number of victims has been cut in half and in areas outside of China the disease is under control.

Dr. Paul Bartsch, veteran curator of mollusks at the Smithsonian Institution, 40 years ago made the notebook comment when studying the snails living in the Potomac River and its small tributaries near Washington. He found that snails in the Potomac proper were quite different from those inhabiting its tributaries; and yet there was no physical barrier to prevent the intermingling of the varieties.

Dr. Bartsch finally found that the relative acidity of the water was the answer. The Potomac was slightly alkaline while its feeding streams were slightly acid. Some kinds of snails could live only in the acid water conditions and others only in the alkaline condition. There was a chemical wall of life and death between the two types.

## PHYSIOLOGY

## Identical Twins Have Same Patterns of Mental Activity

IDENTICAL twins not only have exactly similar features, coloring and size, they also have identical patterns of brain activity.

This has been discovered by study of brain electrograms, the so-called brain waves which give scientists information about brain activity much as the electrocardiogram gives information about heart activity. The study and its far-reaching implications were presented by Dr. Hallowell Davis and Dr. Pauline A. Davis of Harvard Medical School at the meeting of the American Medical Association in Kansas City.

What had that to do with the Orient and schistosomiasis? The Oriental disease was found to be caused by an organism which was carried in snails as a secondary host. These snails lived in an acid type water. Rice workers, particularly, were stricken with the affliction as they waded in the pools of water with bare feet and legs.

Control was finally achieved by the Japanese by the simple matter of making the water alkaline with the presence of crushed limestone along the banks. The problem was much easier than the control of malaria by preventing the growth of mosquitoes.

This dramatic incident in man's conquest of disease is recalled by the new publication of the Smithsonian Institution on Dr. Bartsch's further extension of his early studies. He has, for years, been systematically studying snails and mollusks and arranging them into their various genera and species.

In his twenty-year study Dr. Bartsch has freed several varieties of snails from possible stigma of being carriers, indirectly, of disease organisms. Others, formerly unsuspected, are now on the "dangerous" list. With such a compilation before him, a health officer can now easily determine the organism which may be responsible for trouble in his vicinity.

*Science News Letter, May 30, 1936*

epilepsy was reported at the same session by Drs. F. A. Gibbs, William G. Lennox and Erna L. Gibbs, also of Harvard Medical School. The frontal lobe of the brain is most concerned in epilepsy, these investigators have found, and they predict that it is only a matter of time until scientists will locate the exact spot in the brain where epileptic seizures start.

## New Vitamin D

A new vitamin D with rickets-preventing power has been obtained from plants, Dr. Charles E. Bills of Evansville, Ind., reported at a special session on vitamins. This vitamin D was obtained by irradiating a provitamin from sitosterol, the substance in plants which corresponds to cholesterol in animals. Hitherto vitamin D has been obtained from irradiation of cholesterol and ergosterol of animals, particularly fish. Dr. Bills said today that there are now eight forms of vitamin D. Some are more active rickets-preventives in human children, while others are more effective for chickens.

*Science News Letter, May 30, 1936*

## ENTOMOLOGY

## Chinchbug and Hessian Fly Menacing, Hoppers Fewer

CHINCHBUGS, which have hung like a menacing cloud over the American grain belt ever since the drought began, continue their threat as spring small-grain crops rise well above ground and corn planting is completed.

Reports received by the U. S. Department of Agriculture show that the insects overwintered in large numbers in Illinois, Iowa, Missouri and eastern Kansas, and to a lesser extent in Ohio and Indiana. They are now migrating from their winter quarters in fieldside grasses to the growing spring grain.

Whether they will become a major scourge this year will depend partly on the weather from now on. Chinchbugs are favored by warm, dry weather, and suffer defeat when chill rains come.

Hessian fly is also a menace through a wide zone across the southern part of the great central grain belt, from Ohio to eastern Kansas. Grasshoppers, on the other hand, are for the present a pest collapsed. Only in a limited area in Montana is the infestation severe, though local campaigns are being conducted against them in Montana and North Dakota, and to a less extent in Minnesota.

*Science News Letter, May 30, 1936*