

MEDICINE

# Ants Are Suspected

Usually considered as a harmless pest of tropical regions, when they get into the sugar bowl or other food they probably spread dysentery, may endanger troops.

➤ ANTS that get into the sugar bowl or other food, usually considered a harmless pest of tropical regions, are now incriminated as villains that probably spread dysentery, one of the disease scourges of the tropics which are a special danger to Armies fighting in tropical regions.

Experiments in which ants actually did carry dysentery germs on their feet, leaving a 24-hour trail of the germs wherever they walked, are reported by Dr. Sophie Deller Griffiths, of the School of Tropical Medicine at San Juan, Puerto Rico (*Science*, Sept. 18).

The discovery of the probable role of the ant in spreading dysentery was made through one of those happy laboratory accidents. Ants had never before been incriminated as carriers of disease,

though flies and even cockroaches have been. As Dr. Griffiths points out, ants which abound in the tropics and semitropics are accepted as harmless invaders to be fought only on esthetic grounds.

"They are driven from sugar, candy or other foods which are then consumed with little thought of contamination," she observes.

In her laboratory, native food, rice and beans cooked together with onions and tomato sauce, was being investigated to see whether various strains of dysentery germs would grow in it and thus to learn whether or not the native food could be a source of the dysentery so common in Puerto Rico. Dysentery germs were inoculated into some of this food in flat, covered glass plates.

After 24-hour incubation, the plates were left inverted on the laboratory table until the next morning.

At that time Dr. Griffiths saw on the plates unusual colonies of germs growing "in a pattern similar to miniature rabbit tracks." A few ants were also seen on the table, leaving the plates.

More ants were then caught and in the course of experiments Dr. Griffiths found that the ants could carry dysentery germs on their feet at least 24 hours after walking across material containing the germs. They could thus spread the disease by carrying the germs to food which people eat.

The ants in the experiments were identified by M. R. Smith, of the U. S. Bureau of Entomology, as tropical fire ants, *Solenopsis geminata*, a species very common in Puerto Rico and found in practically every kind of environment.

These ants are found in the tropics, in the West Indies and in extreme southern United States but not as far north as the vicinity of Washington, D. C. Other species of ants such as those found in more northern regions may also be able to carry dysentery germs, although Dr. Griffiths does not report any experiments with other species.

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AGRICULTURE

## Help Chinese Fight Erosion And Grow More Food

➤ TO HELP unoccupied China grow more food for its millions, a scientific mission is setting forth from the U. S. Department of Agriculture at the request of the Chinese government.

Dr. W. C. Lowdermilk, veteran soil scientist who has studied soil problems in all parts of the world, heads the U. S. party that has just left Washington. Dr. T. Dykstra, plant breeder in corn and potatoes, is accompanying Dr. Lowdermilk and later an animal breeder and hydraulic engineers will join them in Chungking.

The need for food in China has been increased by the 60,000,000 refugees who fled inland as a result of the Japanese invasion. Cultivation was pushed up the slopes of the hills and mountains. Crops such as potatoes and corn were more generally grown.

Chinese farmers have been troubled with erosion on the slopes of the hills and this is one of the problems that the American scientists and their Chinese colleagues will attempt to solve.



A NEW GUN for parachute troopers is this Reising Submachine gun which has pistol grip and steel-frame stock that fold out of the way when not in use. This type deadly .45 calibre weapon was reportedly employed in the Solomon Islands attack. The photograph, which was taken in training at a Marine Corps Base, is an official photograph of the U. S. Marine Corps.

Dr. Lowdermilk and his colleagues will cooperate in setting up a soil conservation service which will be a permanent organization for the purposes of assuring ample food production in coming years.

The American scientists will work closely with Dr. D. Y. Lin of the Chinese Ministry of Agriculture in Chungking.

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## INVENTION

## Vitamin B<sub>1</sub> Obtained From Waste Yeast

► WE MAY need plenty of the morale vitamin B<sub>1</sub> these days, but if we have to give up meat, 40% of our usual supply will be taken away. However, a prolific source and a highly concentrated form of this vitamin, which is thiamin, the antineuritic and antiberiberi vitamin, are described in U. S. patent 2,295,036 issued to Henry J. Gorcica and Harold Levine of Milwaukee and assigned to the Pabst Brewing Company. (See *SNL*, Sept. 19 for another method).

A common source of the vitamin is yeast. Dried baker's yeast, the inventors state, has a vitamin B<sub>1</sub> potency of from 5 to 15 International units per gram. Dried brewer's yeast ranges from 20 to 65 International units. No method has been described for making a yeast with consistently higher potency than 100 units, and none for recovering the vitamin from waste yeast, they say. Large quantities of B<sub>1</sub> are therefore simply thrown away. (The International unit in this connection means 3 millionths of a gram of thiamin to 1 gram of the dried yeast. A gram is the 28th part of an ounce.

The inventors use this waste yeast, together with any other cheaply available substances rich in vitamin B<sub>1</sub>, such as rice or barley polish, alfalfa leaf meal, etc., as a culture medium on which to raise a crop of special yeasts particularly voracious of vitamin B<sub>1</sub>. Like so many little pigs the yeast cells gobble up the stuff, stimulated also by a plentiful helping of fermentable sugars, and fatten themselves until they contain up to 1,200 International units per gram of the dried yeast.

Another accomplishment of the invention is that by regulating the concentration of B<sub>1</sub> and of the sugars in the food, yeasts can be produced having a predetermined B<sub>1</sub> potency of anywhere from 100 to 1,200 units.

*Science News Letter, September 26, 1942*

## ASTRONOMY

# Nova Found in Cygnus

First exploding star to appear in heavens in many months was first observed at Mt. Palomar. Remarkable changes in spectrum will add to knowledge of stars.

► THE FIRST NOVA or exploding star to appear in the heavens in many months has been discovered in the constellation of Cygnus by Dr. Fritz Zwicky observing from Mt. Palomar, Calif. Observatories all over the world have begun observations upon the remarkable changes in this star's spectrum which will contribute to the knowledge of stellar structure and of atomic structure as well.

Not quite bright enough to be seen with the unaided eye, the nova now at eighth magnitude is probably as bright as it ever will get. Inspection of astronomical photographs at Harvard Observatory show that it had been photographed more than 50 times since June 8 when it was of about tenth magnitude.

"It is likely that the nova reached its explosive maximum in early spring when too near the sun for discovery," explained Dr. Harlow Shapley, director of Harvard Observatory. "During this summer it has been oscillating between the seventh and eleventh magnitudes. Ultimately it will fade away. Its distance is probably greater than a thousand light years."

Dr. Walter Adams, director of Mt. Wilson Observatory, reported the discovery to Harvard Observatory, American clearing house for astronomical information, whence the news was distributed by radio and telegraph to observatories both in the Americas and in Europe and Asia. Lund Observatory in Sweden relayed the information to observatories in both United Nations and Axis countries.

The spectrum of the nova shows bright bands with multiple absorption components. A complete curve of the light variations is being prepared from the Harvard photographs.

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## ASTRONOMY

## For Every Nova Discovered, Many Reports Are Checked

► ASTRONOMERS at the Harvard Observatory are kept busy from time to time checking enthusiastic reports

from astronomers, mostly amateur, who hopefully report objects in the sky which they believe to be new. Occasionally a discovery like the nova in Cygnus is reported, verified and announced to the astronomical world.

During the past month a photographic defect (that was not a comet) was telegraphed from Mexico. A rift in the western twilight (which was not a comet) has been telegraphed from Iowa; a faint star cluster that has been in operation probably ten thousand million years (and was not a comet) has been telegraphically reported from California; and from Oklahoma was telephoned excitedly a dazzling object in the far north (that was not a nova!). The Oklahoma observer telegraphed the next night in confirmation of what the Harvard astronomers had already determined, that "My Nova is Capella; excuse me for making an ass of myself."

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## MEDICINE

## Syphilis Is Non-Infectious After Brief Treatment

► REPORTS that the Army shortly will induct men suffering with venereal diseases and, according to one report, has already begun to do so, should not cause any fear that this step would spread the disease to uninfected men.

Within two or three days after proper treatment for syphilis is started, the patient is not infectious, that is, he is no longer capable of spreading the disease, so far as every day contacts are concerned, officials of the U. S. Public Health Service state. The length of time after treatment has started that a patient may spread the disease through sexual contact cannot be stated so definitely. Experts in syphilis treatment place the upper limit after treatment of infectiousness through sexual contact at five years.

Gonorrhea is very rarely acquired by adults except through sexual contact. Sulfathiazole cures this disease in a large percentage of patients with a few days of treatment.

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