Elmer R. Hoskins, assistant demonstrators in anatomy. Alois F. Kovarik, of the department of physics, and Herbert H. Woodrow, of the department of philosophy and psychology, have been advanced to the rank of assistant professor. In the agricultural college numerous changes in titles and promotions include J. P. Wentling, from assistant to associate professor of forestry; A. R. Kohler, from instructor to assistant professor of horticulture; J. L. Mowry, from instructor to assistant professor of agricultural engineering; H. B. Roe, in mathematics, W. H. Frazier, in soils, W. L. Oswald, in agricultural botany, Rodney M. West, in agricultural chemistry, A. C. Arny, in agronomy, were all advanced from rank of instructor to assistant professor. A. M. Bull was advanced from instructor in engineering to engineer in charge of buildings with rank of assistant professor. In the college of medicine and surgery the following promotions and changes in title were made: W. P. Larson, bacteriology and pathology, H. P. Ritchie, surgery, F. L. Adair, obstetrics and gynecology, A. S. Hamilton, mental and nervous diseases, E. S. Strout, ophthalmology and otology, Henry L. Williams, gynecology, Wm. A. Hilton, histology and embryology, were all advanced to the rank of assistant professor from that of instructor.

DISCUSSION AND CORRESPONDENCE

GYROCOCCUS FLACCIDIFEX AND THE "FLACHERIE"

IN SCIENCE, August 16, Mr. R. W. Glaser and Mr. J. W. Chapman report the discovery of the specific organism which causes "Flacherie" in the gypsy moth caterpillar, and have named it *Gyrococcus flaccidifex*. The communication which pays a handsome and well-deserved compliment to similar work done in Germany on closely related forms, has complacently pronounced "some of the attempts made in this country" to be unscientific. In this very generalized criticism direct reference is made to my paper of 1911.[1] Since a number of statements and their general tone are misleading, a brief correction is not out of place.

In my paper of 1911, the following contentions were made:

1. That the epidemic flacherie can be induced by special methods in feeding healthy gypsy moth caterpillars.

2. That, having obtained material thus diseased, it is possible to spread the epidemic flacherie by hanging bags of this dry, dead material in healthy caterpillar colonies.

3. That by obtaining diseased material early and hanging it soon after the caterpillars have hatched in the field we have a very efficient means of preventing serious damage, because the disease destroys the greater number of larvæ at early stages.

The authors in their study of the flacherie decide that:

1. This work is unscientific.

2. That it seems very improbable that any such methods as are at present utilized for the artificial spread of flacherie will be of any avail.

It is hardly conceivable that two entomologists should insist that another entomologist must work on the bacteriological side of this problem in order to be scientific. Competent bacteriologists, such as Dr. H. N. Jones, working under the direction of Dr. Theobald Smith, of the Harvard Medical School, have already attacked the bacteriological side of this problem, and report negative results in seeking the specific organism.[2] Of course, it is possible that an organism which can be seen with simple staining methods or with no stains at all might have been overlooked by the bacteriologists. The authors admit that *Gyrococcus flaccidifex* can be obtained in great numbers. When a healthy caterpillar is inoculated with a pure culture of *Gyrococcus* and dies in a limp or flaccid state, how can any one be sure that this is the same as

[1] Reiff, William, "The Wilt Disease, or Flacherie, of the Gypsy Moth. How to aid the Spread of this Disease." Boston, 1911. Wright & Potter Printing Company.

[2] Jones, Dr. J. N., "Further Studies on the Nature of the Wilt Disease of the Gypsy Moth Larvæ," in *The State Forester of Massachusetts*, Seventh Annual Report, 1910.

death from the organism which causes the epidemic flacherie? There are undoubtedly many organisms which might cause the death of a caterpillar and a subsequent limp condition.

I do not wish to dictate or discuss what makes a piece of work scientific or unscientific, for that is out of my sphere; but I have previously stated my own incompetency to work on bacteriology in relation to the problem of the epidemic flacherie.[3]

The authors state that they have no experimental evidence that the disease may be air-borne but do not wish to exclude such a possibility. Bolle,[4] Prowazek[5] and Wahl[6] have used methods involving dry infection, working on the flacherie of either the silk worm, or nun moth or both. All of these investigators have also used dry cultures at least a year old with positive results. This would give some reason to believe that dry infection may be possible in the flacherie of the gypsy moth. Wahl used methods in combating the nun moth, showing that the disease was air-borne. Glaser's and Chapman's experiments as given in their table deal only with wet infection and no inferences involving the various phases of dry infection can be legitimately drawn. From my own paper of 1911 and later work, as yet unpublished, it is apparently evident that the epidemic flacherie (very possibly different from the disease which Glaser and Chapman induced) is also air-borne. In this disease it is entirely unnecessary to feed the caterpillars with my culture or inoculate individuals with large numbers of *Gyrococcus flaccidifex* or some organism that is unknown in order to produce an epidemic of flacherie and death. Whatever the organism may be which causes epidemic flacherie, it is certainly spread with ease and kills young larvæ after the first instar, no matter what the weather or food conditions may be. Glaser and Chapman have not considered secondary hosts, other stages of their bacteria or virulent strains.

Unfortunately the term "flacherie" is very indefinite, but it has long been suspected that a number of different diseases are included in this term. That disease which expresses itself as an epidemic of flacherie may be due to one or a number of organisms or stages of organisms. More work by the bacteriologists will be heartily welcomed.

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[3] Reiff, William, "Some Experiments on Flacherie in the Gypsy Moth," *Psyche*, Vol. XVI., No. 5, Boston, 1909.

[4] Bolle, J., "Vorläufige Mitteilungen über die Gelbsucht der Seidenraupe," *Atti e Memoire dell' i. r. Società agraria*, Görz, 1894.

[5] Prowazek, Dr. S., "Chlamydozoa," *Archiv für Protistenkunde*, 10. Band, Jena, 1907.

[6] Wahl, Dr. Bruno, "Uber die Polyederkrankheit der Nonne (*Lymantria monacha* L.)," *Centralblatt für das gesamte Forstwesen*, Heft 6, Wien, 1911.

A NEW FLY TRAP

To the Editor of Science: In these days of general campaigning against the house fly, it may be of passing interest to the readers of Science to know that we have constructed at this station a fly trap which catches flies in such wholesale numbers that its merits are apparent to any one. So successful have we been that we have ventured to call it "The Minnesota Fly Trap."

The trap is twenty-four inches long, twelve inches high and eighteen inches across, the material consisting of a very little lumber and wire mosquito screen, costing 41 cents. A good carpenter can make one in one to three hours.

The director of this station felt the need of locating on the campus some fly traps which would capture flies in large numbers and as a result of his expressing the desire, this trap was constructed.

We find bread and milk (if more attractive food is not exposed) frequently renewed, to form the best bait. The following record shows how useful this contrivance is. In one day in the dairy barn, it caught 1,700 flies; rear of dining hall, two days, 3,000 flies; same place, five days, 13,000 flies; same place, one day, 4,200 flies; on the back porch of a dwelling house not far from a stable containing a