saria modicella, has been demonstrated experimentally to be a satisfactory intermediate host for this fluke. The time required for the completion of the intramolluscan phase of the life cycle of the fluke was 58 days. In addition to the above snail hosts, laboratory-raised *Galba bulimoides techella* have been infected with miracidia of *F. magna,* and the development of the larval forms has been studied. The time required for the complete intramolluscan development was 60 days. This report validates that of Sinitsin (1930),[1] which was based upon incomplete studies.

The known intermediate hosts of *F. magna* have the following distribution, according to Baker (1911–1928):[2] *Fossaria modicella*—Eastern Quebec, Nova Scotia, and New Jersey west to Vancouver Island; Manitoba south to southern California, Arizona, Texas and Alabama; *F. m. rustica*—New York west to Utah, Nebraska south to New Mexico; *Pseudosuccinea columella*—Nova Scotia west to Minnesota, eastern Kansas and central Texas; Manitoba and Quebec south to Texas and Florida; and *Galba bulimoides techella*—Southern United States from Kansas, Missouri and Colorado to southern Texas; Alabama west to southern California and northern Mexico. The distribution of these snails corresponds to the known distribution of *F. magna,* which has been reported in North America from Arkansas, California, Illinois, Iowa, Kansas, Michigan, Minnesota, Montana, New York, Oklahoma, Texas, Wisconsin and the provinces of British Columbia and Alberta, Canada. At least one snail host is known to occur in each area from which the fluke has been reported. Since the distribution of known intermediate hosts provides a factor favorable for a wide range of distribution of the parasite, the appearance of *F. magna* in localities other than those mentioned above would not be surprising.

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WATERMELON SUSCEPTIBLE TO TEXAS ROOT ROT

ALTHOUGH the watermelon, *Citrullus vulgaris* Schrad, has been listed as completely resistant[1] and as immune or resistant[2] to the Texas root-rot disease caused by *Phymatotrichum omnivorum,* the plant has been repeatedly attacked, sometimes extensively so, in Arizona. Only a few weeks ago the writer observed a field of watermelons near Tucson which was badly spotted with the disease.

Recently Mr. Karl D. Butler, a graduate student in this department working under the direction of Dr. R. B. Streets, has proved susceptible the watermelon varieties, Klondyke, Iowa King, Iowa Belle and Pride of Muscatine, when they are planted in root-rot infested soil as well as when they are inoculated in field and laboratory. Butler used pure cultures in his inoculation studies. He found that single hyphae of the fungus may penetrate single cortical root cells, between two root cells, or that massed hyphae may be involved in the act of penetrating into the root of the watermelon. The parasite used both wedging action and softening of the wall in initial penetration.

Once inside the cells of watermelon roots, the fungus proceeded to destroy and absorb the contents. No indication of any protective substance, such as Moore believes to be present in immune monocotyledons and Turk's cap hibiscus,[3] was found. The nuclei of invaded cells were less than half the size of nuclei in adjacent, uninvaded cells.

Butler also noted the effect resulting from mixing cultures. Certain fungi and bacteria, grown in cultures with the root-rot fungus, were inhibitory in their action on the parasite. In cultures with *Trichoderma lignorum* hyphae of Phymatotrichum were checked or killed by direct attack of the former.

The paper here briefly abstracted is to be published.

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QUOTATIONS

MAYOR-ELECT LAGUARDIA ON RESEARCH

THE election of Major LaGuardia as mayor of New York City gives interest to his record in support of scientific research. As a member of the seventy-second Congress, speaking on December 28, 1932, in opposition to an attempt to eliminate an item of approximately $39,000 from the agricultural appropriation bill, he said in part:

Mr. Chairman: Science knows no politics. Are we in

[1] D. F. Sinitsin, "A Note on the Life History of the Large American Fluke, *Fasciola magna* (Bassi)," SCIENCE, n. s., 72: 1863, pp. 273–274, September 12, 1930.

[2] F. C. Baker, "The Lymnaeidae of North and Middle America Recent and Fossil," *Chicago Acad. Sciences Special Publ.,* No. 3, 539 pp., 58 pls., 1911; "The Fresh Water Mollusca of Wisconsin," *Wis. Geol. and Nat. Hist. Survey Bull.,* 70, Pt. 1, pp. 1–507, 28 pls., 202 text figs., 1928.

[1] J. J. Taubenhaus and D. T. Killough, "Texas Root Rot of Cotton and Methods of Its Control," *Texas Agr. Exp. Sta. Bul.* 307, 1923.

[2] J. J. Taubenhaus, B. F. Dana and S. E. Wolff, "Plants Susceptible or Resistant to Cotton Root Rot and Their Relation to Control," *Texas Agr. Exp. Sta. Bul.* 393, 1929.

[3] E. J. Moore, "Growth Relations in Culture of the Cotton Root Rot Organism, *Phymatotrichum omnivorum,*" *Phytopath.,* 23: 525–537, 1933.

this frenzy of economy, brought about by those who control the wealth of this country, seeking to put a barrier on science and research for the paltry sum of $39,113 out of an appropriation of $100,000,000? Science will go on when existing political parties will long have been forgotten.

I am sorry that the distinguished leader of the Republican Party in the House states that he is not versed in botany and publicly admits that he does not know anything of these terms or what it is all about; but, Mr. Chairman, it is indeed a sad day for the people of this country when we must close the doors of the laboratories doing research work for the people of the United States. The gentleman from New York says it is all foolish.

Yes; it was foolish when Burbank was experimenting with wild cactus. It was foolish when the Wright boys went down to Kitty Hawk and had a contraption there that they were going to fly like birds. It was foolish when Robert Fulton tried to put a boiler into a sail boat and steam it up the Hudson. It was foolish when one of my ancestors thought the world was round and discovered this country so that the gentleman from New York could become a Congressman. (Laughter.) . . . Do not seek to stop progress; do not seek to put the hand of politics on these scientific men who are doing a great work. As the gentleman from Texas points out, it is not the discharge of these particular employees that is at stake, it is all the work of investigation, of research, of experimentation that has been going on for years that will be stopped and lost.

The next day, when another item in the same bill was under consideration and the point was made that research in agriculture might well be curtailed because of current overproduction, Major LaGuardia said further:

I want to say to my colleague, the gentleman from New York, that I believe he is confusing the purpose of experimentation and research work of this kind with the immediate question of production. Surely we can not delay scientific research until the time comes when this country will need greater production. That indeed would be lack of vision. The very purpose of this kind of investigation and study is to have the information complete and ready when it is wanted, for it can not be developed overnight. . . .

Momentary overproduction is not the important question. The important question is the continuing of study to correct the defects of nature. The most fascinating part of human activity is its constant combat with nature in fighting the elements and in correcting the defects of nature. This has engaged the attention of mankind from the earliest times of which we have record. Assuming, if you please, that we now have overproduction and production of more commodities than the people of the country have ability to purchase, that is no justification for closing the doors of these laboratories, closing the doors to scientific research and stopping it. We must continue it. The population is constantly increasing. Some day the legislative branch of government will keep abreast of science. Why, Mr. Chairman, the most humble research scientist in the Department of Agriculture is at this time contributing more to his country than the most useful Member of Congress. The most humble engineer in the General Electric Laboratory or the Radio Corporation of America Laboratory is more useful to humanity than the most brilliant orator of this House. The trouble is that the legislative branch of government has not kept abreast with science. Government has lagged, science has advanced. We have permitted an unbalanced system of distribution to continue while science has increased production. We are living in the paradoxical state where there is great overproduction on the one hand and want and misery on the other. This is not the fault of science. This is the fault of government. This is the fault of men who have control of the governmental affairs of the country.

I want to plead with my colleague, the gentleman from New York (Mr. Taber), in his eagerness—and he is sincere and works hard on these bills—not to be too hasty in cutting down these appropriations to continue this scientific work, so that when the time does come we will have the information available. I repeat, if the science of government had only advanced along with the progress made in electricity, chemistry, mechanics, transportation and agriculture, we should not to-day find ourselves in the midst of a ruinous financial crisis. While science and the arts and mechanics were progressing, government was struggling along with laws and economics founded on principles accepted centuries ago. To-day we are still endeavoring to struggle along under construction and limitations of a constitution drafted and accepted at a time when steam had not yet been applied, before the railroads, before the telegraph, when electricity was entirely unknown, and in the days of hand production. Yes, gentlemen, science has forged ahead, and nothing that ignorance, petty politics, lack of vision, or hope to continue the old system may try to do can stop the onward march of science. So let not Congress seek to mitigate its shortcomings by attempting to adjust the universe with its own snail-like pace.

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SIMPLE DEVICE FOR WASHING MICROSCOPIC MATERIAL IN RUNNING WATER

SOME special techniques, for example, those for the study of the Golgi apparatus, require a thorough washing of small pieces of tissue for the removal of fixing reagents. This has always been connected with difficulties when more than one group of such objects (usually 3 to 4 millimeters in diameter) were washed in running water at the same time. Any device to this effect should require a minimum of manipulations, prevent air bubbles from coming in contact with the tissue and assure a constant gentle flow of water.

All that is necessary for the method recommended