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.