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PROGRESS IN HORTICULTURAL SCIENCE[1]

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THE American Society for Horticultural Science was organized some thirty-four years ago "more fully to establish horticulture on a scientific basis." At that time, the importance of scientific features in our profession was not so generally recognized, and there existed a definite need for stimulating activity in scientific research in the field of horticulture. The founders of our society entertained the hope that the technical papers presented at the meetings would be subject to close scrutiny, and they suggested, diplomatically, that this "would doubtless lead to a more complete investigation of some points imperfectly developed."

All of us will agree, I am sure, that some progress has been made during the third of a century of our existence, in realizing at least in part these objectives of our organization. The records of our annual proceedings give abundant evidence of this. There you will also find periodic summaries of the accomplishments in special phases of horticulture.

By focusing attention on the scientific features of problems in our field, the American Society for Horticultural Science has undoubtedly helped to bring about a general and sympathetic understanding of the need for more complete and well-rounded investigation in all phases of plant science. We especially welcome the attention given by the botanical and physiological societies to our field. Naturally, we hope that they will continue to help us in our endeavor "more fully to establish horticulture on a scientific basis" by using horticultural material whenever it proves suitable in the study of fundamental problems. But above all, we must continue to look to them for the painstaking and diligent research needed for the discovery of an increasing number of fundamental facts of plant life in general. No one realizes more than does the horticulturist, who must deal intimately and effectively with

[1] Presidential address, American Society for Horticultural Science, Indianapolis, Ind., December 29, 1937.

on New Species and Localities of Microscopical Organisms," published in February, 1854. It is illustrated by a plate printed on highly surfaced paper. This plate, in all the copies examined, had become so discolored that many of the figures could not be observed in any detail. Figures of diatoms are of great importance, especially in the case of new species. In an effort to clear up one of these plates, I tried the following treatment. Several sheets of newsprint were placed below the plate to absorb excess moisture. A small piece of absorbent cotton was dipped in hydrogen peroxide and with this the surface of the plate was gently swabbed, using no pressure. The swabbing was continued until no trace of the discoloration remained, after which the remaining moisture was removed with a clean white blotter. The plate was allowed to dry thoroughly and no alteration has taken place in three months since it was treated. The figures are restored to their original clarity.

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PRESENCE OF HOST KEEPS PARASITES ALIVE IN CAPTIVITY

FOR the past two years the Division of Entomology of the Agricultural Experiment Station at Rio Piedras, Puerto Rico, has been engaged in attempting to introduce and establish in Puerto Rico a parasitic wasp, *Larra americana* Saussure, which attacks the "changa" or Puerto Rican mole-cricket, *Scapteriscus vicinus* Scudder. The wasp occurs in considerable abundance at Belem, Pará, Brazil, at some seasons of the year, and because the adults could be collected so easily and by airplane transportation arrive in San Juan by the second morning, the attempt at introduction has up to the present been concentrated on the adults. Most unfortunately, however, the mortality of the wasps in captivity has been rather considerable, so that, under the best methods of shipment that could be devised, the bulk of them arrived at destination dead. To obviate this distressing mortality, the collector at Belem this year, Mr. Luis F. Martorell, has been inducing parasitism in the laboratory on collected mole-crickets and shipping parasitized changas in a screened container inside the larger box containing the wasps.

The difference in mortality is most striking. In the first two shipments made without changas, only one wasp arrived alive. In three succeeding shipments immediately following, accompanied by parasitized mole-crickets, nearly two thirds of the wasps were alive in the first, only one was dead in the second and two had been crushed under the box of soil and changas in the third. So far as one could judge, all conditions were the same for all shipments, except that two were without and three were with a screened cage containing parasitized mole-crickets. The presence of clean, moist soil, uncontaminated with changa feces, apparently is of no importance in this connection, as had been indicated in shipments containing much larger quantities of soil in preceding years. It should be especially noted that the wasps could not come into actual physical contact with the changas because of the screen covering the box or can containing the earth inhabited by the mole-crickets; thus they could derive no satisfaction in again attempting to parasitize them, and the wasps do not feed upon the changa, for it is the egg and the larva of the wasp which is parasitic, not the adult. The excrement of the mole-crickets is a black, foul-smelling liquid, and when many of them are crowded close together, its odor is powerful. The crickets also chirp and sing, this being another possible comfort to the wasps in captivity, besides being an obvious proof of their hosts still being alive. No attempt will be made to determine whether the smell of or hearing their host is the more powerful in inducing *Larra* wasps to endure the discomforts of captivity, because the value of each shipment is too great to permit of experimentation once a successful method of shipment has been found. But this appears to be the first instance of the mere presence of the host serving to keep introduced parasites alive while en route between the point of collection and that of release. A more detailed account of the entire project is to be published in the *Journal of Agriculture* of the University of Puerto Rico.

GEORGE N. WOLCOTT

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RIO PIEDRAS, P. R.

BOOKS RECEIVED

American Philosophical Society—Transactions Held at Philadelphia; New Series, Vol. XXIX, Part II, March, 1938. Article II, *The Variation in the Silicate Content of the Water in Monterey Bay, California, During 1932, 1933 and 1934;* Article III, *The Old Stone Age in European Russia.* Pp. 153 + 468. Illustrated. University of Pennsylvania Press. $3.00.

BRIDGMAN, P. W. *The Intelligent Individual and Society.* Pp. vi + 305. Macmillan. $2.50.

Carnegie Foundation for the Advancement of Teaching. *The Student and His Knowledge.* Bulletin No. 29, 1938. Pp. xx + 406. The Foundation, New York.

HOBBS, DOUGLAS B. *Aluminum; Its History, Metallurgy, and Uses, with Projects for the School and Home Shop.* Pp. viii + 295. Illustrated. Bruce. $3.00.

NELSON, NELS A. and GLADYS L. CRAIN. *Syphilis, Gonorrhea and the Public Health.* Pp. xvii + 359. 8 figures. Macmillan. $3.00.

South African Institute for Medical Research. Vol. VII, Publication No. XL, *Entomological Studies; Studies on Insects of Medical Importance from Southern Africa and Adjacent Territories. (Part IV.)* Pp. 305–411. 31 plates. No. XLI, *Typhoid Fever on the Witwatersrand: Bacteriological Aspects, Seriological Diagnosis, Specific Prophylaxis and Specific Treatment.* Pp. 413–550. 25 figures. The Institute, Johannesburg.