

son 1250-7 (TYPE in EAP, DUPLICATE in Chicago Natural History Museum, Chicago).

This is another of those species, of which there are several in Mexico, that are difficult to place generically. The present species seems to belong better in the genus *Odontoglossum* than in *Oncidium* because of the relatively long, unwinged column. No closely allied species are known to me.

It is with pleasure that this species is named for Florence B. and John M. Johnson who have a fine collection of Mexican orchids in their home in San Miguel de Allende.

## CAPULIN CHERRY

### A HOST FOR *TRANZSCHELIA PRUNI-SPINOSAE*

JOHN C. DUNEGAN<sup>1</sup>

THE VERY PRODUCTIVE, large-fruit capulin cherry has long been held in high esteem in the highlands of tropical America<sup>2</sup>. As early as 1575, Francisco Hernandez wrote of its excellence; and an Aztec hieroglyph indicates that it was grown before the arrival of Columbus. The tree has at different times been named *Prunus capuli*, *P. salicifolia*, *Cerasus longifolia* and *P. serotina* var. *salicifolia*. Recently McVaugh<sup>3</sup> proposed to call it *P. serotina* subsp. *capuli* and stated that the capulin tree is apparently "never found truly wild".

This statement particularly interested me because in 1935 I had studied a rust, clearly a species of *Tranzschelia*, on capulin cherry leaves from Guapulo, Ecuador. No teliospores were found on this collection, made by F. L. Stevens

<sup>1</sup> Principal pathologist, Horticultural Crops Research Branch, U. S. Department of Agriculture, Beltsville, Md.

<sup>2</sup> Popenoe, W. and A. Pachano. The capulin cherry. *Jour. Heredity* 13: 51-62, illus. 1922.

<sup>3</sup> McVaugh, R. A revision of the North American black cherries (*Prunus serotina* Ehrh., and relatives). *Brittonia* 7: 279-315. 1951.

in 1924, and therefore the fungus could not be determined either as *T. pruni-spinosae* (Pers.) Diet. or as *T. discolor* (Fckl.) Tranz. & Litv. Ordinarily it would be expected that a subspecies of *Prunus serotina* would be susceptible to the wild black cherry rust (*T. pruni-spinosae*) and not to the peach rust (*T. discolor*). However, I had found<sup>4</sup> that plants of *P. besseyi*, *P. hortulana* and *P. mexicana*, normally hosts of *T. pruni-spinosae* in their native habitat, became susceptible to *T. discolor* when cultivated for only a few years at Fort Valley, Georgia. It is well known that *T. discolor* is prevalent on peaches (*P. persica*) in the highland regions where the capulin cherry has been grown for centuries. Hence the question arose whether the rust on capulin cherry leaves was *T. pruni-spinosae* or whether centuries of cultivation of this cherry had made it susceptible to the peach rust (*T. discolor*). During the past year, it has been possible to settle this question.

G. M. Darrow collected rust-infected capulin cherry leaves near Quito, Ecuador, on March 1, 1952. When the specimens were examined at Beltsville, Maryland, on March 20, no teliospores were found but the urediospores were viable. Subsequent laboratory inoculation experiments with detached leaves in petri dishes showed that this fungus from Ecuador would infect leaves of wild black cherry but would not infect leaves of peach. The technique of using detached leaves floating on sugar solution in petri dishes was used as a safeguard against possible introduction into the United States of new forms of the rust. All inoculated material was either preserved as herbarium specimens or destroyed.

It seemed desirable to repeat these inoculation experiments. Accordingly, permission to import living material was obtained from the Division of Foreign Plant Quarantines, Bureau of Entomology and Plant Quarantine, and additional rust specimens on capulin cherry leaves were sent from Ecuador through the kindness of H. E. Christie and H. Yust of the Servicio Cooperativo Inter-Americano de Agricultura. These specimens were collected on October 3, 1952, in the Pelileo area of Tungurahua Province and were received at Beltsville on October 16, 1952.

<sup>4</sup> Dunegan, J. C. The rust of stone fruits. *Phytopath.* 28: 411-427, illus. 1938.

Examination of the specimens again showed that teliospores had not formed on the leaves. The urediospores, however, were viable, and in a repetition of the laboratory experiments readily infected wild black cherry leaves but not peach leaves: Finally in 1953 rust-infected leaves of introduced capulin cherry trees collected at Fort Valley, Georgia, showed numerous masses of *T. pruni-spinosae* teliospores.

Therefore, even though no teliospores have been found on the collections from Ecuador, the results of inoculation experiments plus the observations in Georgia prove that the rust attacking the capulin cherry is *T. pruni-spinosae*, and not *T. discolor*.

## CARLOS ALBERTO O'DONELL

EL 14 DE FEBRERO DE 1954 falleció en la ciudad de Tucumán, Argentina, el Profesor Dr. Carlos Alberto O'Donell, Curador del herbario del Instituto Miguel Lillo.

El Dr. O'Donell había nacido en Buenos Aires el 11 de octubre de 1912; realizó sus estudios en la Facultad de Ciencias Médicas de la Universidad de Buenos Aires, egresando con el diploma de farmacéutico en el año 1937.

Fué ayudante de la Cátedra de Botánica en la Escuela de Farmacia y también del Museo de Botánica y Farmacología del profesor Juan A. Domínguez. En 1937 se incorporó al Instituto Miguel Lillo de la Universidad Nacional de Tucumán, habiendo ocupado distintas posiciones, desde ayudante hasta profesor y vicedirector.

En 1939 fué becado para estudiar en la Universidad de Harvard con el profesor Merrill, donde realizó estudios de anatomía vegetal y de sistemática de Convolvuláceas. Sus trabajos científicos se inician con estudios anatómicos según las directivas del profesor Samuel Record, con numerosas contribuciones, especialmente sobre anatomía de maderas y estudios sobre plantas medicinales.

Después de su viaje a Estados Unidos se dedicó especialmente a las Convolvuláceas, habiendo realizado trabajos especialmente austro-americanos, aparecidos en distintas revistas, como *Lilloa*, el *Boletín de la Sociedad Argentina de Botánica* y *Dusenía*.

Fué delegado del Instituto Miguel Lillo al primer Congreso Sudamericano de Botánica, en Río de Janeiro en 1938; actuó en el Congreso de Farmacia de La Habana, en 1938; en el Primero Symposium Americano de Botánica Farmacéutica en Santiago de Chile, en 1950 ya era considerado en el Sur de Sudamérica, por su especial competencia en nomenclatura botánica.

En distintas oportunidades realizó estudios en los museos de Santiago de Chile, Montevideo, Río de Janeiro, Lima, Bogotá, La Habana, en el Gray Herbarium, el Field Museum, el Smithsonian y en el Jardín Botánico de Nueva York.

Fué autor de numerosas publicaciones sobre planes de estudio y traductor al castellano de distintos trabajos de interés científico. Fué Miembro Correspondiente del Instituto Ecuatoriano de Ciencias Naturales y Miembro Honorario de la Sociedad Cubana de Botánica y de la Unión Farmacéutica de El Salvador.—*Horacio R. Descole.*

## LITERATURE

PLANTS, MAN AND LIFE. Edgar Anderson. 245 pp., 16 figs. Little Brown & Co., Boston, 1952.—This little book is well written and is recommended reading not only to the general public but also to all of those who are interested in the natural sciences, particularly theoretical biologists, ethnologists, geneticists, the modern geographers and, incidentally, all bureaucrats. The author is a keen observer, and included here and there in the text are some pointed barbs directed to individuals, including myself. It is, however, refreshing to find a professional geneticist actually supporting and applying the taxonomic method to problems of genetics. Incidentally the long quotation on page 71, author and reference not given, is from a paper which I published in *Ceiba* in 1950 which was basically directed to the diffusionists (perhaps I should have further clarified this at the time), for no matter what one may wish to believe, of perhaps 400 different species of cultivated food plants and other economic plant species, there is still only one, the

common gourd, that we can prove to have been in the temperate and tropical parts of both hemispheres several thousand years ago. The great dispersal of the cultivated plants and weed took place, as between the two hemispheres, following the voyages of Columbus and Magellan at the close of the fifteenth century.

One valid criticism is that some theorists who believe in the early transmission of plants forget to consider the real significance of geologic history in relation to plant distribution. Others have ignored the real significance of the long continued Manila-Acapulco galleon line, over a matter of 250 years, and that of the Portuguese route from about 1500 to Goa, Malacca, Amboina, Macao and elsewhere via eastern Brazil. These old routes explain the presence of certain Mexican and eastern Brazilian weeds and economic plants in the old world when botanical classification was in its infancy. I amplify the "pantropic weed" statement on page 35 slightly. I have discarded thousands of specimens, but before discarding them the names were always entered on the identification lists and reported. Variable species were generally retained but the clearly "fixed" ones like *Asclepias curassavica*, certain species of *Hyptis*, *Heliotropium* and other ruderals were waste basket stuff, once a fair number of specimens had been incorporated in the reference collections. I could refer to individual collections of as many as 1500 individual numbers from a still not too well known part of China where from 50 to 75 percent of the lots were consigned to that convenient receptacle, the waste basket. And yet I have always been keenly interested in the problems associated with pantropic weeds, where they originated, when, how, and by whom they were distributed because, like the cultigens, they are commensals as far as man is concerned

The average reader will, of course, find certain chapters of Dr. Anderson's book more interesting than others. The chapter heading "Sunflowers,— the one native American crop" is unfortunately worded in view of the infinitely greater importance of the potato, the sweet potato, mandiocca, tomato, squash, pumpkin, tobacco, to mention a few, for these were all strictly American crops. "The one United States Crop" would be true. Most citizens of the United

States would naturally see no objection to the title as given, for to them the United States is America. One might also criticize the dogmatic statements in the list of 80 crop plants but these points are minor

This well written book is unreservedly recommended to all who wish to get some insight into the actual basis of ancient and modern civilizations, for the real significance of plants has been rather significantly overlooked or minimized by a curiously large number of ethnologists and anthropologists, practically none of whom were trained in biology.—*E. D. Merrill.*

THE ORCHIDS OF PANAMA, Annotated Check List of Genera and Species. Paul H. Allen. Reprinted from the *Orchid Journal*, but with 41 full page illustrations by Dorothy O. Allen added.—A very useful check list of Panamanian orchids by the man who knows Panamanian orchids best. Forty one excellent plates, of some of the more showy or interesting orchids of the country, drawn by Mrs. Allen, have been added to the text. These plates increase the value of the work considerably.—*L. Wms.*

DIE NATÜRLICHEN PFLANZENFAMILIEN, Band 20D: pp. 398, ff. 104. Reihe Rhamnales by K. Suessenguth.—Dunker & Humblot, Berlin, 1953. US\$22.50.—This small volume covers the Rhamnaceae, the Vitaceae and the Leeaceae. The cost price, as in many modern German publications, is excessive.—*L. Wms.*

ENSEÑANDO AL AGRICULTOR. Anacleto G. Apodaca. Privately published by the author. 138 pages and many illustrations. Mexico, 1954. Net US\$3.00.—A fine small volume in Spanish about agricultural extension service, based on the author's experience in Honduras. The volume is intended for use in Latin America and might very well serve as a text book for a short course in agricultural extension or as a source book of ideas for someone in the extension service in Latin America.—*L. Wms.*

PLANT DISEASE PROBLEMS IN CENTRAL AMERICA. Albert S. Muller. *Plant Protection Bulletin* 1: 136-138. 1953.

—Calls attention to some of the crop disease problems in Central America, and their causative agents.—*L. Wms.*

SO NOBLE A CAPTAIN.—The life and times of Ferdinand Magellan. Charles McKew Parr. xv plus 423 pages, many illustrations. Thomas Y. Crowell Company, New York, 1953. List \$6.00.—A well written and readable volume of the age of discovery.

WESTERN FRUIT GARDENING. Reed M. Brooks and Claron O. Hesse —University of California Press, Berkeley and Los Angeles, 1953. US\$4.50.— The title of this book does not adequately indicate its value to those of us fruit gardeners by inclination — who live in the tropics. The authors state in their preface that the work was prepared “to help Western (United States) gardeners — with or without experience — to secure the greatest pleasure with fruit trees and plants in their gardens”. I venture the assertion that they little realised they had brought together so much fundamental information which would be just about as useful to the fruit gardener in Oaxaca, Mexico, as to his brother in Oxnard, California.

But such is the case. Let us run through the pages of this excellent book in an attempt to show the tropical reader what he may be able to expect from it: *Varieties — What Are They?* Not everybody can answer this question accurately, but the authors do and the answer is worth reading. *Climatic Limitations:* They tell us about the chilling requirement, the factor which, in connection with the cultivation of temperate zone fruits in the tropics, keeps us guessing, largely because we do not have adequate records of temperature in many places. *Soil Texture and Water?* They give us a good summary. And beginning in this part of the book, neat little sketches which illustrate admirably the points discussed. *Fertilizers?* Good modern information, particularly with regard to the minor elements, about which we still don't know too much in the tropics. *Pruning?* A good discussion of the techniques necessary in California, of which some may not be applicable in the tropics. In fact, I am inclined to think that we know very little about pruning temperate zone fruit trees in tropical Amer-

ica; and as for pruning tropical fruit trees, there doesn't seem very much to learn in most cases — just cut out the dead wood, the water suckers, and an occasional crooked branch. Who ever saw a mango tree that needed much pruning?

After their excellent discussion of fundamentals, the authors come down to a discussion, one by one, of those fruits which can be grown in home gardens of the Western United States. From Almonds to White Sapotes. The intelligent reader can draw no end of inferences, useful inferences, from the chapters on individual fruits. Pollination requirements — often not understood in the tropics; varieties suitable for mild climates (in the case of the rosaceous fruits); and so on.

There is a descriptive list of the principal avocado varieties cultivated in California. As regards pruning, they say: "There are no definite rules for pruning avocado trees. In general, pruning may follow the wishes of the gardener." It is to be hoped that the gardener does not have too many wishes.

The cherimoya, another fruit well known in tropical America, comes in for adequate attention. The discussion of grapes, naturally enough, is based mainly on European sorts, but there is a good treatment of the pruning of American grapes — which are the kinds giving us best results in tropical America.

The sections on citrus fruits are some of the most important, and the information contained therein is thoroughly up-to-date. The notes on such rosaceous fruits as the apple, pear, peach and plum — not to mention the loquat — are excellent. Many other fruits come in for attention, and the book ends with a chapter on "Troubles of Fruit Plants".

All-in-all, this is a book that every horticulturist living in tropical America will not only enjoy; he will obtain from it a vast amount of useful information. *Wilson Popenoe*.

MALTHUS AND THE MODERN WORLD. Karl Sax.—Dr. Sax's book, on which he has been working for some years, is scheduled for fall 1954 publication.