

Desert Plants

A quarterly journal devoted to broadening knowledge of plants indigenous or adaptable to arid and sub-arid regions, to studying the growth thereof and to encouraging an appreciation of these as valued components of the landscape.

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Editorial

Preservation of the Rincon Mountains and Creation of Saguaro National Monument as Little-Known Consequences of the Establishment of the Boyce Thompson Southwestern Arboretum.

With considerable pleasure the Boyce Thompson Southwestern Arboretum herewith publishes *Flora and Vegetation of the Rincon Mountains, Pima County, Arizona*, by Janice E. Bowers and Steven P. McLaughlin. We trust that this special issue of *Desert Plants* journal will find acceptance among the many students of plant life who annually visit the Rincon Mountain Unit of Saguaro National Monument.

Few people this decade realize the extent to which Colonel W. B. Thompson's desire for promoting the conservation and study of plants positively impacted Arizona in the decade of the 1920's and later. As but one example, it seems unlikely that Saguaro National Monument (including the Rincon Mountains) would have been made a part of the National Park System had it not been for a little-known chain of events which began with W. B. Thompson's humanitarian expedition across Asia in 1917.

Impressed by the plight of the poor people in arid, desert-like latitudes he traversed, Thompson noted their dependence on the sparse plant-life for food, fiber, shelter, medicine, firewood, and other necessities. He saw all too clearly how over-utilization of scarce resources resulted from pressures of increasing population. Newspapers of the day carried Thompson's stark predictions of the possible consequences of the doubling and re-doubling of the earth's population which he clearly foresaw as negatively impacting the world's plant resources and the environments in which the plants grew. Such views in the United States at that time made him practically a minority of one among non-scientists, as the vast North American continent seemed to have an endless chain of untapped resources.

Thompson decided to use his money and influence to try to change what he feared would become a dismal interface of man with a weakened, lessened, exhausted plant life of the future. His attack on the interface was four-pronged: 1) to increase per-acre agricultural production, thus decreasing the need for disturbing natural areas to make new farms; 2) to establish a Noah's Ark, so to speak, of species propagated from the wild and preserved in a garden situation; 3) to research wild species to determine values and possible uses in order to better appreciate them; 4) to preserve

wild plants in situ, i.e. in their own natural environment.

A quotation from a conversation of Thompson with Franklin J. Crider shows that his concern for plants was but a part of his larger reverence of nature in general: "Crider, I have no church religion. I don't believe a lot of things others seem to believe, but I have a religion. In these rocks, these trees, I see the work of a Supreme Being." Elsewhere Thompson drifted off into a statement which reveals that he was at heart a very deep philosopher in the recognition of his deity: "All sciences meet at one focus. Call that God if you want."

After Thompson's trip to Russia in 1917 he set up the Boyce Thompson Institute for Plant Research at Yonkers, New York, to look into the inner workings of plants—their chemistry and physiology. This was the first prong of his attack: to increase agricultural productivity. But aside from the practical aspects of such chemical and physiological research, he held an actual reverence for the "pure science" aspects and he justified these to others by predicting that someday, somewhere, a scientist studying life processes in plants in one of his laboratories might make a breakthrough so basic as to relate to the fundamentals of life even in man. As soon as construction of the Institute was finished and there was an official dedication in 1924, Thompson was beginning the Arboretum at Superior, Arizona, to be an effort toward the three remaining prongs of attack. Franklin J. Crider, a plant scientist at the University of Arizona and a department head, was appointed by Thompson to establish and direct the Arboretum in 1924. This not only created the Arboretum *per se* but established a plant scientist (Crider) in a position of high authority outside of government-operated educational institutions. Crider had Thompson's ear and Thompson was an old friend of Governor G.W.P. Hunt, reputedly having befriended Hunt when the latter had been a young carry-out clerk at a Globe, Arizona grocery store. Crider conceived a plan whereby Thompson could create the Arboretum as an adjunct to government-supported plant science. Under this plan the Arboretum would be as exempt from taxation as are government agencies, would be devoted to *pro bono publico* projects as are government agencies, but would be privately funded and outside government control.

Insofar as the Arboretum would accomplish such *pro bono publico* projects, it would relieve government of the need to do them and a potential burden on taxpayers would be eliminated.

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There was no law in existence in Arizona at the time which would allow such a plan but this was no obstacle to Thompson. He authorized Crider to work with an attorney to draw up the language for a law to allow creation of non-profit corporations, *pro bono publico*, which would not be taxed. This was revolutionary thinking in Arizona for the day. With Governor Hunt's enthusiastic endorsement and passage of the bill by the Arizona Legislature, the Arboretum became the first of a long series of non-profit corporations to become chartered under this enabling legislation. When Thompson eventually died some naïve government officials tried to tax the Arboretum as part of Thompson's estate, claiming that the legislation should be void under the grounds that it was only to benefit the Thompsons and as a personal bill passed by an old legislature and governor, it ought to expire with Thompson's death! It actually took a new Legislature to pass a resolution lauding the deceased Thompson and his Arboretum and essentially telling the tax collector to cease and desist! This established the ongoing tenure of such non-profit organizations in Arizona.

During the period when Crider had devoted himself to brainstorming on Arboretum development and creation of the enabling legislation, Cloyd Heck Marvin, President of the University of Arizona, happened to become somewhat alienated from the majority of the plant scientists at the University of Arizona, indeed from the majority of professors in the entire College of Agriculture. In fact, on May 11, 1926 a decidedly anti-Marvin statement was written and adopted at a meeting of the Agriculture faculty and signed by all but a few abstainers. Agriculture had been a strong area of instruction and research at the University ever since the institution's inception. Plant scientist Frank Guley had actually been the first professor hired for the University and even acted briefly as the institution's chief administrative officer under the Board of Regents. Agriculture in this early period had been very much in favor in the political sense in Arizona. Charles D. Poston ("The Father of Arizona") was even an employee of the Agricultural Experiment Station in those days!

But now in the 1920's President Marvin was abolishing departments in the College, selling a University farm, demoting and firing professors in the College, etc. To say the least, his administration was controversial. The Regents held a three-day hearing on Marvin's retention or firing but became hopelessly deadlocked with a tie vote. At this time it was customary to allot seats on the Board of Regents to certain power groups in the state. No one had ever considered that plant science represented a power group of any significance whatsoever. In this political showdown plant scientists saw the future of their science in Arizona at stake, with the decision on the subject to be made by persons not well versed in the subject. Some even feared an exodus of the best agricultural scientists from the state like rats from a sinking ship! But Crider, Thompson and Hunt threw in a wild card. As historians have recorded, Governor Hunt "... filled vacancies on the Board of Regents in January 1927 with persons hostile to Marvin, breaking the deadlock."

The interests of plant science had suddenly and mysteriously (but unnoticeably to the naïve) resolved to a recognizable constituency with its own power base. There was now a plant scientist in the private sector with enough prestige to be tapped by the Governor. The influence of Director Crider of the Arboretum was propelled forward as he became also Regent Crider of the University. With his knowledge of the needs of plant science in the state, he led the Regents' search committee from his office at the Arboretum to find a suitable President for the University. He wanted a plant scientist who would look with favor on all aspects of agriculture, but who would have a special reverence for the environment. If Colonel Thompson had been incarnated into the form

of a botanist, he would have been virtually the twin brother of Dr. Homer Leroy Shantz in his thinking. When Shantz was successfully recruited by our Arboretum's director to become President of the University of Arizona, he was already a distinguished botanist and ecologist with service for the United States and international agencies on various botanical surveys and ecological research projects around the world.

To promote the fourth prong of Thompson's plan, the Colonel had discussed with Crider a scheme to have Picketpost Mountain (adjacent to the Arboretum) set aside by the government as a National Monument to preserve the vegetation and the desert environment. (Thompson's biography, written later by Herman Hagedorn, erroneously stated that this occurred, apparently confusing it with what became Saguaro National Monument.) During this period, Crider also used his new-found influence with Governor Hunt to see that a native plant protection law (written at the Arboretum) was enacted to protect Saguaro cacti in the state and numerous other species which were being exploited.

The idea of the National Monument was very attractive, but if going after a whole National Monument, was there any larger tract available? Crider and Shantz conferred on the matter. President Shantz became enchanted with the Saguaro Forest east of Tucson as had Crider before him when the latter had come to Arizona as a young professor from Clemson. Forrest Shreve and others at the Carnegie Desert Laboratory also studied and revered the Saguaro forest. A meaningful preservation of habitat could be made if this forest could be set aside together with the adjacent Rincon Mountains which held further levels of ecological diversity. Was this area too big to propose? Too large an area might meet with opposition.

By the end of October, 1931, President Shantz secured agreements for the University of Arizona to acquire 5.5 sections of the Saguaro forest land. The Arboretum under Crider threw its weight in favor of the Saguaro National Monument scheme by substituting it for the Picketpost proposal, contenting itself with erecting a cattle-proof fence to preserve Picketpost's north-slope as a natural research area under an agreement with the Forest Service. Shantz's acquisition of the 5.5 sections of land was the first concrete step to pave the way for creation of the national reserve which on March 1, 1933 was established by President Herbert Hoover as Saguaro National Monument.

While at the Arboretum, concurrently with the Arboretum-University Jojoba Project, Crider had worked with another ecologist, Aldo Leopold, to develop a soil conservation program. Considerable tracts of land had been mistreated in the western United States and the disturbance had led to the topsoil blowing away. Crider and Leopold masterminded the creation at the Arboretum of a soil conservation nursery—the first which would grow native plants to revegetate eroding areas. This Arboretum program became so successful that the federal government wanted to duplicate it across the country—with the result that Crider resigned his position at the Arboretum to become one of the founding fathers of a new government agency which was destined to become the U.S. Soil Conservation Service.

When Crider moved to Washington, D.C., Thompson had already died and Hunt was out of office. Eventually Shantz resigned to head up wildlife management for the U.S. Forest Service. The Carnegie Institution terminated its Desert Laboratory. Although no person is impossible to replace, the golden age in Arizona under Crider when plant science represented a powerful constituency was, at least temporarily, over. But the spirit lived on and accomplishments including preservation of the Rincon Mountains and creation of Saguaro National Monument remained. Not to mention establishment of the Arboretum, enactment of the native plant protection law, enactment of the non-profit corporation act, discovery of liquid wax in jojoba seeds, and evolution of the U.S. Soil Conservation Service!