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An Independent Institution

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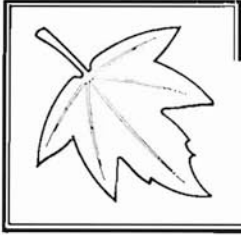


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As Philip Munz was to write later "the seven years between 1927 and 1934 had to be considered as a trial period for the garden, a time to determine whether the plans Mrs Bryant had of establishing a botanic garden devoted to California plants were feasible and practical."⁷³ The answer seemed to be yes, and on the basis of past experience Mrs Bryant initiated the legal procedures which would make the garden a financially sound operation. In 1931 the Board of Trustees consisted of Allen L. Chickering, chairman, and Roy Lacy and Ernest A. Bryant, Jr, members. By 1934 two other names had been added, John Treanor and Mrs Bryant. On 12 July 1934 through a Trust Indenture, Mrs Bryant transferred to the self-perpetuating Board of Trustees a bill of sale for certain real and personal property including the botanic garden site along with a financial trust agreement, the income from which was to be used for "furthering the Rancho Santa Ana Botanic Garden in memory of John W. Bixby." The Trust Indenture also contains a statement of "The Nature and Purpose of the Institution Hereby Founded and to be Maintained Hereunder." (Appendix I) The garden became a financially independent organization.

The first Annual Report, that for the year 1933, was issued in April 1934. According to the table of contents, pages 1-4 consisted of a "Foreword By The Founder And Business Director." These pages are missing from all extant copies of the report and there is no explanation. Neither is there any mention of the fact that Dr Ernest A. Bryant died on 19 October 1933. In the obituary appearing in the *Los Angeles Times* it was reported that Dr Bryant had retired from active practice eight years earlier to devote his entire time to providing hospital and medical care for needy persons. He established the Good Hope Hospital Association and obtained financial assistance to create an endowment fund, the income of which was used to pay hospital charges for those unable to obtain help from other sources. Later he established the Good Hope Clinic in connection with the hospital.⁷⁴

In the 1933 report Wolf stated that he had spent 69 days in the field the previous year making collections of various kinds: herbarium specimens, collections of cones, and wood and seed samples. The herbarium at the time contained 11,694 sheets of which 5,498 had been added in the one

year. As early as 1933 Wolf had initiated an exchange arrangement with other herbaria including the University of California, Berkeley, and the California Academy of Sciences, San Francisco.

The library was reported to contain over 1,800 books and a number of scientific journals were being received through subscription. Wolf was an excellent photographer and he reported that at that time there were over 3,000 negatives on file, most of them being taken on field trips. It is interesting that at that early date Wolf reported experimenting with the use of shortwave radio as a means of maintaining contact with the home base. Perhaps the most noteworthy event of 1934 was the hiring late in the year of Percy Charles Everett (1902–1973) as Corresponding Secretary and Keeper of the Herbarium (later Superintendent). Everett was born in Sierra Madre and after attending local schools had enrolled at the University of Illinois but was later forced to withdraw because of illness. Following an extended period of hospitalization, he accepted a position with the United States Forest Service as a lookout on Santiago Peak in the Santa Ana Mts. and there met Carl Wolf who was then making a botanical survey of the area. Wolf was impressed with Percy Everett and persuaded him to come to the new botanic garden where he stayed until his retirement in 1967.

Beginning in 1935 the garden reports were made on a semiannual basis. The one for October 1935 began with a report by the Managing Director in which Mrs Bryant wrote that "we are gaining more assurance about our method of propagating and planting as we learn by experience what not to do again. Our work is bound to be in a large part experimental because so much of the material has never been grown under cultivation before." There is also the first mention of the fact that some 200 varieties of wild flowers had been propagated in field rows and that the seeds would later be broadcast over large areas on the hillsides and around the Administration Building. The practice of growing annuals in field rows for seed production continued for many years and when in flower they received a great deal of attention from visitors. Excess seed was distributed free of charge to schools, churches, cities, and other organizations.

The same year also saw the appearance of the first of a series of *Occasional Papers* made possible by the "Dr Ernest A. Bryant Special Garden Publication Fund." The fund was established by the Bryant family in memory of Dr Bryant "in order to keep that interest, so dear to us, active and ever present as we send our printed bulletins out from Rancho Santa Ana Botanic Garden."⁷⁵ Series 1, Number 1, of the *Occasional Papers* contained articles of The Playa Del Rey Saltbush, Observations of *Baccharis Pilularis* DC. and California Plant Notes I, all by Wolf. On 24 June H. J. Webber wrote Mrs Bryant suggesting ways of improving the garden's publi-



Many species of California annuals were grown in rows for seed production. Shown here is Fivespot *Nemophila* (*Nemophila maculata*). RSA.

cations and suggested the use of the name *Bixbya* saying that it would follow in the tradition of *Malphigia*, *Addisonia*, *Pittonia* and *Torreya*. He also enclosed a layout for a suggested title page similar to the one used at the present time in *Aliso*.

Visitors for the six months numbered 1,715 compared with 1,554 for the same period in 1934 and included a number from abroad. Preparation for visiting days required a great deal of work, flowers from a large number of species in bloom in the garden were collected and displayed in the herbarium each labeled with its scientific name. Visitors were conducted through the various departments by members of the staff and informal talks were given in the herbarium.

By 1935 Wolf was well along on his scientific investigations of the New World cypresses, the results of which would not appear for many years.

Due to the death in 1935 of John Treanor, Stuart O'Melveny, Chairman of the Board of Title Insurance and Trust Co., Los Angeles, and a member of the firm of O'Melveny and Meyers, prominent Los Angeles attorneys, was elected to the Board of Trustees. O'Melveny was to continue to serve the garden for the rest of his life, a period of 39 years.

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The report of the meeting of the Board of Trustees and the Councilors for April 1936 recorded the fact that Theodore Payne was actively engaged in directing the plantings being made in the garden and at the meeting he discussed the thinning of earlier plantings and the moving of a group of oaks "that if left in their present position [would] block a desirable view from the building." Wildflower seed broadcast in the garden had not germinated well according to Payne due to the lack of seasonable rainfall. Ernest Braunton is reported to have approved of the plantings made by Payne.⁷⁶

In 1937, E. R. Johnson, Superintendent, reported on a large planting which had been completed during the winter at which time about 7,000 plants of *Rhus laurina* were planted on the south slopes of a number of hills, and other chaparral species were planted in almost as large numbers; these included *Ceanothus verrucosus*, *C. megacarpus*, *Berberis nevini*, *Ephedra viridis*, *Photinia (Heteromeles) arbutifolia*, *Rhus ovata*, *R. integrifolia* along with scatterings of live oaks. Over 3,000 cypress seedlings were planted to cover the east side of the canyon above the reservoir and 250 sprouted acorns of Engelmann's oak were planted on the slope east of the Administration building and three acres were planted to California poppies. In a later report it is recorded that broadcasting of wildflower seed usually resulted in failure to produce masses of color because the plants cannot compete successfully with introduced annual weeds. Mrs Bryant reported that after ten years of planting the "Ranch Santa Ana Botanic Garden is beginning to look at least somewhat like a Botanic Garden" and she said they now plan to concentrate on special gardens, the "Cactus and Succulent Garden," the "Bulb Garden," and the "Bog Garden."

During the year, Mrs Bryant presented the garden with a new vehicle which Wolf used to advantage, spending during the year 88 days in the field. Percy Everett reported that in preparation for the distribution of duplicate specimens that over 31,000 herbarium labels had been made using the Multilith machine.

The year 1938 was notable for the number of publications issued by the garden. The first number of the *Leaflets of Popular Information* was published in April. These leaflets, issued weekly during the visiting season were prepared as supplements to special displays mounted at the garden and replaced for the time being the informal talks that had been given in previous years. The reason for the change was the herbarium could no longer seat the large number of people visiting the garden. In all, 73 *Leaflets* were issued, the last on 26 May 1944.

Also appearing the same year was number one of the *Rancho Santa Ana Botanic Garden Monographs, Horticultural Series*, issued in May. This work entitled "Growing Calochortus," was authored by Chairman of the

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Board of Trustees, Allen L. Chickering, who had been interested in calochortus for many years and had had considerable experience in the growing of these beautiful but in general difficult plants. The work was illustrated by reproductions in color of watercolor paintings made in Chickering's garden in Piedmont by his daughter-in-law, Caroline Rogers Chickering (Mrs Allen L. Chickering, Jr). The first logo used by the garden showed a single calochortus flower surrounded by the words Rancho Santa Ana Botanic Garden—Established, 1927.

The *Rancho Santa Ana Botanic Garden Monographs, Botanical Series 1*, was issued in September. It was "The North American Species of *Rhamnus*" by Carl Wolf and embodied the results of his 11 years' study of the group.

Also published was the second of the garden's *Occasional Papers* which included notes about California plants, distributions, and the descriptions of new entities, one being a new cactus, *Opuntia munzii*.

On 15 April 1939, Irving M. Walker became a member of the Board of Trustees to replace Roy Lacy who had resigned. Walker continued to serve the garden until his death in 1969.

The new Assembly Hall building was dedicated at the April meeting of the Board of Trustees and Councilors. Located on a hillside it was approached by steps leading down to a wall-enclosed garden which lead to the Assembly Hall, an auditorium 27 by 50 feet in size beneath which were restrooms, storage rooms, and a room for the seed collection. After its completion, all floral displays and the informal lectures for visitors, which had been temporarily suspended because of lack of space, were again instituted. According to Wolf, the informal talks attempted to give the visitors information of an educational nature rather than an entertaining nature.

Ernest Johnson, Superintendent, reported that in attempting to overcome the problem of having plants become rootbound in the pots before being planted, experiments were being conducted using a pot made of asphalted paper, 4 inches square and 12 inches long. These pots made closer contact with one another than rounded pots and required less watering. Such containers were to become popular elsewhere many years later.

Carl Wolf reported that the new herbarium cases had been installed and that he and Everett had been able to completely rearrange the collection in a scientific manner.

During the year the greenhouse, lathhouse, and nursery, which up until then had been located near the ranch headquarters on the river bottom, were moved to an area on the hill at the west end of the garden. The move was made possible by adding to the garden approximately 15 acres of fairly level land and involved the construction of new facilities, road grading, and a great deal of replanting.

In addition to the greenhouse and lathhouse, a nurseryman's cottage and

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Alice Eastwood, well-known California botanist and longtime friend of Mrs Bryant. Photograph by Wolf taken outside of herbarium. Date unknown.

a garage and shops were also constructed. A public parking lot was laid out and the picnic grounds moved from the river bottom to the new site on the west side of the garden and a new road was built leading from the picnic grounds and nursery area to the administration building. Laid out by Fredrick Law Olmsted, the new road took into consideration scenic views as well as safety factors.

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The picnic area was planted with rows of native sycamores which were kept pollarded and the area under the trees was planted with lippia which made a good groundcover except that when in flower it was favored by bees and could not be walked on with bare feet.

At the April meeting, Mrs Bryant announced changes in the garden staff: Ernest R. Johnson would remain as Construction Engineer but would relinquish the title of Superintendent. Percy Everett became Superintendent and Rex Wertheim became Office Assistant to Mr Everett; Mr R. V. Cavers returned to the ranch office. S. C. Husbands became Nurseryman replacing B. D. Stark. Husbands was formerly with the U.S. Soil Conservation Nursery at Santa Paula and the Ventura City Park Department. With the arrival of Husbands, the first attempts were made to root cuttings of some of the finer forms of plants then growing in the garden. Most important of all was the fact that after Husbands became Nurseryman exact and thorough records were kept of all material handled in the nursery. At the time there were 22 gardeners, all Mexican and Ramon Valverde became "Foreman of the Mexican Crew."

As early as 1939 it was reported that "gopher" control required the full-time attention of one employee while further along in the same report there is the statement that "One of the most serious and discouraging problems to contend with is the matter of rabbit and rodent control." There is also a report that bulbous plantings were being lost due to attacks of field mice and kangaroo rats. Plant diseases were also reported as causing considerable concern, especially on *Ceanothus* and *Arctostaphylos*, and the heavy soil in the garden was considered to be a contributing factor. The report continued, "These diseases have been called to the attention of visiting plant pathologists, but so far no answer to our problem has been found."

Whenever possible, Allen Chickering accompanied Carl Wolf on field trips, and in April 1939 they spent several days in the Panamint Mts. on one occasion hiking to the summit of the range from which they reported fine views of Death Valley and other desert areas. Mr Chickering, because of his wide acquaintance with many large landholders in the state, was very helpful in obtaining permission for collecting on private property.

As early as 1939, California nurserymen were beginning to request propagating material of some of the native plants and during that year Armstrong Nurseries, Ontario, California, obtained a great deal of material from the garden plantings.

In 1940 Mrs Bryant, reporting on the library, said that it was growing rapidly with books bought by the "Dr. Ernest A. Bryant Special Fund," the first time that this fund had been mentioned. She also reported that authors' reprints as well as books had been received as gifts. Wolf re-

ported that the herbarium then contained 23,090 mounted specimens and that there were 32,438 duplicate specimens waiting to be distributed. The cone collection contained 159 specimens; the wood sample collection 157; the seed collection, 1,742 and that there were 4,576 photographic negatives.

In June, Mrs Calvert E. Norland was hired to assist in the herbarium. A graduate of Pomona College, she had had experience in the herbarium at the University of California, Berkeley. She soon had most of the backlog of specimens mounted and Wolf was complaining that there was no room to store the many specimens now on hand. During that year they made a distribution of 6,700 specimens to other botanical institutions and labels for the remaining duplicates, over 26,000 were nearly completed.

Wolf lamented the fact that he had been unable to conduct very much fieldwork and noted that "In order for me to carry on thorough fieldwork during the spring months, it is essential that I be relieved of the necessity of being on hand for the visiting days."

At the semiannual meeting of the Board of Trustees and the Councilors held on 5 October 1940, Jepson discussed the various departments of the garden saying "that in comparing early day botany to what was being accomplished here, the Garden was indeed a miracle." He also stressed the need for more thought to be given to matters of publications and suggested the formation of an editorial board. In concluding his remarks he said "that our constant efforts must be directed toward accomplishing our ends with originality of thought and action. With this constant striving the aims of the Garden would at all times stand at the pinnacle of botanical thought."

A Committee on Publications consisting of LeRoy Abrams, Philip Munz, and W. L. Jepson was named and on 27 September 1941 they presented a report embodying their recommendations. Among other things they suggested that:

It would be desirable for the Garden, at present, to issue but one main periodical. This periodical should include not only scientific botanical papers, but any other serious type of paper likely to come out of the Garden itself, such as a history of the Garden, important cultural experiments with plants or any horticultural results relating to native plants having permanent scientific or horticultural value.

There was some discussion about a possible name for the publication and on 13 November 1941, Mrs Bryant wrote Jepson listing three possibilities, *Santiana*, *Romneya*, and *El Paisano*, and asked him if he would approve the plan of having the Trustees, Councilors, and Staff each vote for one of the names listed, to which Jepson replied, "The plan seems to me rather doubtful. I could never figure out any wisdom in counting noses."⁷⁷ Later Mrs Bryant wrote Jepson suggesting other names: *Esperanza*, *Las*

Mariposas, Pasear, and Hacendado.⁷⁸ Jepson replied, "*El Paisano!* What a fine name. My congratulations on your originality." Munz objected to *El Paisano* saying that it was "not appropriate for a dignified botanical journal" because of the possible reaction to the name in South America.⁷⁹ The journal whose name they were pondering in 1941 was not published until 1948 and then under the title *El Aliso*.

In addition to reports by division heads, the semiannual reports contained vast amounts of information about the quantity of seed on hand, number of plants propagated, lists of the flowering specimens used during the visiting season with dates when each species was shown, and perhaps the most voluminous of all, the "Garden Condition Report" in which was given a complete inventory of all woody and semiwoody material grown in the garden. The report issued 1 October 1940 covers 17 pages typewritten and single spaced, each line devoted to a single population of plants bearing the same collection and propagation number. Besides the name of the plant, also recorded were bed number, date planted, number alive, number alive the previous year, and condition and heights. Such inventories required much of the staff's time both in making the field inventory as well as in the preparation of the report. Also in 1940 there appears to have been a complete and detailed inventory of all equipment and supplies belonging to the garden.

The winter of 1940-41 was wet and Mrs Bryant reported that Ernest Johnson had many disappointments in trying to keep the roads in passable condition and that he had had to contend with landslides, erosion, and the destruction of many trails all because of the torrential rains. It is also reported that Ralph Cornell of Los Angeles had drawn the plans for the new approach to the garden and, "has shown real interest in helping us with several problems we could not cope with in planning to beautify the gardens." This is the first and only time that Cornell, a highly regarded southern California landscape architect, was ever mentioned in connection with the garden.

Mrs Bryant also reported that Terry Stephenson had written a history of the Rancho Santa Ana which "we hope to print and make available to you" (Trustees, Councilors and Staff). Apparently this was not published.

In 1941 visiting days, which had previously been changed from Thursday to Friday, now were extended to Fridays and Saturdays during April and May, a schedule that except for the war years was continued as long as the botanic garden was located in Santa Ana Canyon.

The previous year Wolf had complained of the lack of herbarium cabinets and in 1941, 14 new metal-covered ones were added making it possible to store all the specimens in insect proof and relatively fireproof cases.

In the autumn and winter of 1941 Wolf was again able to be in the field

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for extended periods and reported that between October 1941 and April 1942 that he had traveled over 10,000 miles and collected over 200 lots of seeds, plants, and cuttings. Between 19 February and 7 March he had been in northwestern California where he made about 90 collections of plants and cuttings. He reported, "It rained almost continuously during the trip, making it fine for moving plants, but inconvenient and disagreeable to travel and camp." On this trip he collected large numbers of ferns and also plants of Sitka spruce, coast hemlock, western yew, and red alder as well as rhododendrons, huckleberries, salal, dogwood, and numerous manzanitas.

In October 1941 Mrs Bryant announced the completion of the new library room long delayed in construction. The room of reinforced concrete was made an integral part of the otherwise adobe building and the botanical library previously located at the Bryant home in San Marino was brought to the ranch and installed in the new fireproof quarters and Wolf was appointed as librarian.

In the October 1941 report Wolf stated that between 27 April and 16 August he had spent 57 days in the field and had traveled about 8,000 miles, made 1,100 herbarium collections and several hundreds of lots of propagation material. Only in 1932 and 1935 had he been able to make a larger number of collections. In the report he wrote:

As you read my report covering field work you may wonder that such large amounts of time and energy have been given over to this phase of the Garden's activities. However, it should be remembered, that, unlike many other botanic gardens, this one is greatly dependent upon field work for the attainment of its goals. Therefore, nearly all the other Garden activities are more or less directly proportionate to the amount of field work, which includes the collection of data, specimens and propagation materials.

Carl Wolf's account of his trip to the Old Dad Mts. and the Kelso Sand Dunes with Jepson as well as his trip to the Kingston Mts. and Pahrump Valley with Abrams are of considerable botanical and historical interest as is his trip to the west side of the Providence Mts. Of his trip with Jepson to the Old Dad Mts. and Kelso Sand Dunes between April 27th to May 2nd, Wolf wrote:

To the south and west of the Providence Mts. are the Old Dad Mts. and nearby are the extensive Kelso Sand Dunes. Both of these have intrigued me for a number of years. The former are visible from east of Amboy, the latter from near Cima, and from both of these spots I had contemplated, on several occasions, the botanical treasures which they must surely contain. Apparently, sight of these two areas had produced about the same sort of a fascination for Dr. Jepson. When I suggested at the April semi-annual meeting that he remain in the southland and join me in a week of collecting in those areas, he offered several very feeble excuses as to why he should return immediately to Berkeley,

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but eventually agreed to stay and explore the Old Dads and Kelso Dunes with me. Accordingly, we met at the Dix Van Dyke Ranch at Daggett on Sunday morning, April 27th, where Dr. Jepson had been spending several days botanizing the nearby areas.

By sundown Sunday night we were camped adjacent to a large wash at the southeast base of the Old Dad Range, after having botanized at several places along the road from Daggett to Amboy and on the road from Amboy to the Old Dads. The weather over most of the Mojave Desert at this season of the year, when on "good behavior," is delightful and this day had been no exception. A few coyotes came near our camp during the night to investigate and to serenade, adding variety to the frequent train whistles which were carried clearly across some 15 miles of open desert.

In a large and important canyon on the southeast of the Old Dad Range is Willow Spring which is sometimes shown on old maps of the region. By Monday night we had reached the lower end of this canyon where we camped at the end of a very faint and little used but passable road. The next day (Tuesday) we hiked up the east fork of Willow Spring canyon to the main ridge from which we got an excellent view of vast expanses of the surrounding desert country. During the day we had made several particularly interesting plant finds. The first of these was *Dudleya arizonica*, some plants of which were over a foot across. This is apparently the same species as we have found in the Kingstons, and is also likely the same as *Echeveria lagunensis* of the Laguna Mts. The second was a lone plant of *Mahonia Fremontii* growing near the main ridge. It is of interest to point out that the nearest known station for this species is about fifty miles to the north in the New York Mts. The third was an exceptionally beautiful colony of *Oenothera caespitosa marginata* in which the plants were larger and more luxuriant than I had ever noted elsewhere. The fourth was *Phacelia Campanularia* growing to 2 and 3 ft. high with flowers abnormally large and with exceptionally rich blue color.

We spent most of Wednesday on the north side of the Old Dads, which in some miraculous manner of local geographical nomenclature became the Granite Mts., an unfortunate state of affairs since there are already four other Granite Mts. on the California deserts. A peculiar morphological condition of the fruits of *Juniperus utahensis* was noted on this side of the range. For some reason the pulpy portion of the berry did not completely cover the seed, thus giving the fruit an "acorn-like" appearance. At Rattlesnake Spring we discovered some colonies of *Agave deserti*, whose only other known locality for this region is in the Providence Mts.

Late Wednesday afternoon we reached the borders of the Kelso Sand Dunes. These rise to heights of several hundred feet and were formed by sands picked up on the Mojave River and deposited in the valley to the south and west of the Providence Mts. Travelers who journey from Los Angeles to the East via the Union Pacific Railroad pass very close to these Dunes, but no important highway passes within sight of them. The only road leading through them is the one from Amboy to Kelso. During the hot months it is difficult if not hazardous to attempt this road, and at other seasons it is advisable to drive in from Amboy so as to take advantage of driving downhill through the most treacherous parts of the sandy road.

Most of the day was given over to collecting in the Kelso Sand Dunes which were just in their full glory, being rich in variety and quantity of many interesting species. *Hilaria rigida* and *Panicum huachucae*, *P. urvilleanum* were con-



Willis Linn Jepson in the Kelso Sand Dunes, 1 May 1941. Photograph by Wolf. RSA.

spicuous as successful binders of the dunes, the latter species being one which I had never before collected. Due to the unusual growing conditions this season the plants of Canaigre (*Rumex hymenosepalus*) were exceptionally large as illustrated by the accompanying photograph showing Dr. Jepson preparing a specimen of it while almost literally sitting beneath its shade.

Another outstanding plant of the Kelso Dunes was *Argemone corymbosa*, the original station for which was probably very close to Kelso. It was abundant in the Dunes, in the vicinity of Kelso, along the road from Kelso to Baker and in the vicinity of Cronese Valley. I had known it previously in the field only from Pisgah and welcomed the opportunity to see it in such great profusion as it has long been misunderstood botanically and confused with other species.

Linathus aureus (yellow flowers) and its variety *decorus* (white to very pale lavender flowers) were represented over hundreds of square miles of desert from near Amboy to Baker. The two appear to be identical in every morphological detail except for coloration, yet they were noted to occupy essentially separate areas, and only in one or two places did we find plants which appeared to be intermediates (flowers pale creamy yellow) and these were infrequent and on the borders between vast areas of the two. From Amboy to Kelso we found only the white *decorus*. Between Kelso and Baker the two intermingled, while in the

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Baker area we found only the yellow aureus. The reasons for these sharply defined geographic areas occupied by these two were not really apparent, yet on the basis of some botanical treatments one would conclude that *decorus* was an insignificant color variant of sporadic appearance, rather than an entity of about equal distributional importance.

When I reached home on Friday night, May 2nd, after six days in the field, I found that I had approximately 270 herbarium numbers in my presses, practically all of which were from areas little known botanically and in which I had never before collected. I had also spent six days of delightful association with Dr. Jepson, an experience which any young botanist should long cherish and which can only be regarded as training par excellence in the field of California botany.

After returning to Berkeley Jepson wrote Mrs Bryant saying, "The five days in the desert were very much worthwhile. Dr. Wolf is a capital companion in the field—I have never known one better—and both enjoyment and profit were mine in full measure."⁸⁰

Of his field trip with Abrams to the Kingston Mts. and the Pahrump Valley of May 10th to 16th, 1941, Wolf wrote:

As soon as it was possible to leave after the Saturday afternoon talk in the Assembly Hall on May 10th we set out for a trip to the Kingston Mts. Dr. Abrams had arrived from Palo Alto that morning especially to go on this trip. After stopping for dinner at Victorville we drove on to a few miles east of Barstow where we camped on a high open mesa some distance from the highway.

A portion of the Kingston Mts. which was not previously accessible by car was now easily reached because the Excelsior Talc Mining Company recently built a road some 10 miles in length through the southeast portion. In this area we camped Sunday night and also made extensive collections. The first plant of outstanding interest was *Tricardia Watsonii*, a curious member of the *Phacelia* family which looks very like a Four o'Clock.

My interest in the Kingstons dates back to 1932 when I first saw them from Valley Wells, but was just completing three weeks of field work and not only did not have time for a visit, but also had my presses filled to capacity. However, in 1935 I made some rather extensive collections in these mountains. Since then a plan has gradually been formulated to carry on a botanical survey of the desert ranges of this region, including the Kingstons, Clark, Ivanpah, New York, Providence and perhaps the Old Dad Mts. As a result, on this trip every effort was made to collect all species not definitely known to have been previously obtained.

Three full days were given over to collecting in the Kingstons. We climbed an interesting canyon to the southeast of Horse Thief Spring and also explored and collected in the somewhat disconnected northeast portion of the range. We were particularly struck by the numerous species of *Ellisia* and *Phacelia*, many of which we could not readily or satisfactorily identify in the field.

Horse Thief Spring is probably the most interesting spot in the Kingston Mts. There is an abundant year-around supply of good water. Huge cottonwoods and willows which must have been planted a great many years ago provide ample shade. On the surrounding slopes great colonies of *Penstemon Palmeri* and *Argemone platyceras* occupy the areas burned over some two years ago.

Late Wednesday we dropped down into the valley to the north of the Kingstons

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and headed east from Tule Spring for the Pahrump Valley, which lies astride the California-Nevada border. On Thursday morning we reached the summit or the divide separating the Tule Spring Valley from the Pahrump. To the north were the Nopah Mts., rocky and funereal in aspect. To the south were some lower hills, almost equally rocky and which can be considered as the extreme northwestern portion of the Kingstons or an isolated block of the Nopahs. High on their rocky slopes were great colonies of a gray shrub which looked like herds of sheep. Since their identity could not be determined with a glass I hiked up to them, discovering that they were plants of *Buddleia utahensis*, a species which we had first discovered for California in the southern portions of the Kingstons. This colony probably contained more individual plants of *Buddleia* than are known from all other California locations.

In the Pahrump Valley the rains had produced a carpet of bloom, but we were nearly forced to abandon attempts to collect specimens because of the myriads of small gnats which attacked us. Dr. Abrams was wearing a brown felt hat upon which these tiny pests landed so thickly that the surface was nearly black. Just in passing, I might mention that Dr. Abrams applied some sort of an insect repellent to his hands, arms and face, after which the gnats attacked him with renewed and violent enthusiasm. Shortly after noon we reached higher ground separating the Pahrump Valley from the Mesquite Valley to the south and were relieved to discover that we had left the gnats behind.

The road from the Pahrump Valley to the settlement of Kingston in Mesquite Valley parallels an old traction road built years ago for steam tractors to haul mining material between Death Valley and the Union Pacific Railroad, but it has not been used for 30 to 40 years. With the aid of a topographic sheet Dr. Abrams and I finally discovered sections of the old road, but only because the vegetation which covered it included a slightly larger percentage of gray foliated plants than the surrounding desert.

Near Kingston we passed through acres and acres of *Sphaeralcea Fendleri* in greater profusion than I have ever noted elsewhere in California. In the same region were colonies of *Phacelia calthifolia*, a lovely species with somewhat succulent green foliage and attractive deep orchid or lavender flowers.

In the Valley Wells region I was again impressed with the remarkable way in which the two species of *Baileya* were restricted in their habitats. Almost without exception, *B. multiradiata* occupied the higher ridges in coarse rocky or gravelly soil, while *B. pleniradiata* delighted in the fine sands and silty soils of the valley floor.

Late Thursday night we were again camped near Barstow, and since I had to be at the Garden for visitors on Friday we set out early for home, going from Barstow to Victorville by way of Stoddards Well, collecting as we went. When we reached home our presses were full, some 340 numbers having been collected, most of which were from the Kingstons and which, with our previously collected material, give us an excellent basis for our botanical survey of that range.

It had been years since I as a graduate student had enjoyed the opportunity of spending several days in the field with Dr. Abrams. This trip was no disillusionment. He was still the same enthusiastic, keen-eyed, discerning collector, but above all he was still an excellent dishwasher.

Wolf collected by himself on the west side of the Providence Mts. from May 25th to 30th. Of this trip he wrote:

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LeRoy Abrams in camp below Horse Thief Springs, Kingston Mts., Mojave Desert, 14 May 1941. Photograph by Wolf. RSA.

On Sunday May 25th I set out alone for the west side of the Providence Mts. I had decided to go in by way of Baker, thence east to Valley Wells, over to Cima and then south along the road paralleling the Union Pacific Railroad. Having gotten a late start I was still some 20 miles from Cima when I made camp among the Joshuas that night.

Monday morning I got an early start and was soon at the west base of the Providence Mts. About midway between Cima and Kelso I discovered the road to the Columbia Mine high on the west slopes of the range. As a result practically the entire day was spent in collecting in the areas adjacent to the mine.

On Tuesday I moved south a few miles and located the road to the Tough Nut Mine. This enabled me to drive to nearly 5000 ft. elevation, from which I hiked into the adjacent canyons and over the towering cliffs of limestone. A recent grave at the Tough Nut Mine gave mute evidence that dwellers of the desert still bury their dead on the spot where they die.

Late Tuesday afternoon I reached Kelso for supplies of gasoline and water.

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There I made inquiry as to any sort of a road to the largest and most interesting looking canyon on the west side of the Providence Mts. and which lies almost due east of Kelso. I soon learned that Kelso got some of its water from Cornfield Spring in the head of this canyon and that a service road used once or twice per year was probably passable for several miles.

Wednesday morning I started for Cornfield Spring, driving at a rate scarcely faster than a walk. In the lower end of the open canyon were giant Desert Willows (*Chilopsis*) in full bloom, while on the adjacent mesas were huge plants of *Psilostrophe Cooperi* 2-3 ft. high and 3-5 ft. across, literally covered with their golden yellow flowers and in a truly colorful way reminding me that Cooper had been the first to collect in the Providence Mts. about 1860. About 4 or 5 miles airline east of Kelso the "road" ended and I set out up the canyon on foot into a portion of the Providence Mts. in which I believe no other botanist has heretofore collected. Due to the unusually heavy rainfall the stream in this canyon was a vigorous, dashing, lively, clear sort of a mountain brook over a foot deep and six feet wide in many places. Such a stream is unusual in the desert and seemed almost miraculous for the Providence Mts.

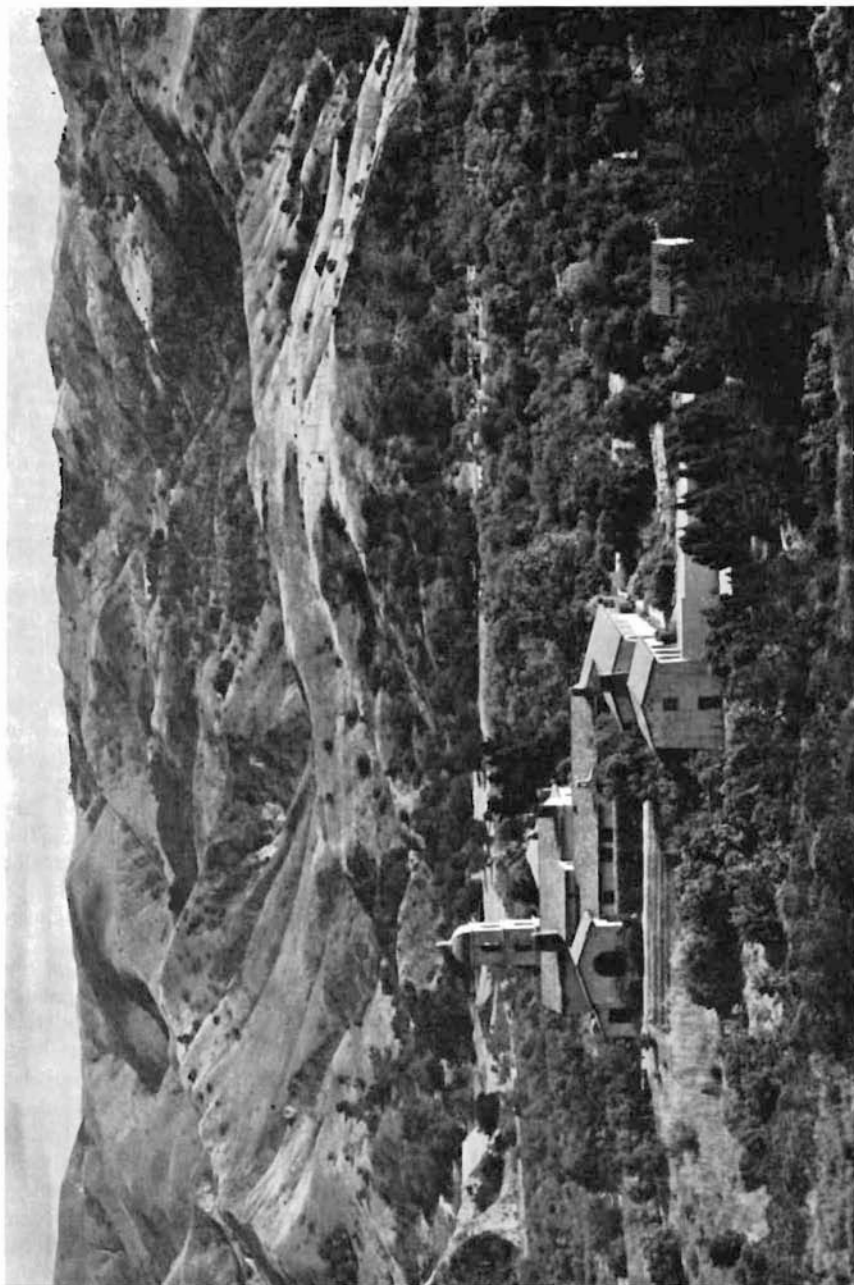
Along this stream were extensive colonies of an *Oenothera*, of which I took back some small seedlings. Those have since bloomed in the nursery and proved to be *O. longissima*, a species known heretofore in California only from a very small colony in the New York Mts. which was discovered in 1935 by Dr. Munz. Not far above this point I came upon a fine grove of Hackberry trees (*Celtis Douglasii*), the nearest other known station for which is on Clark Mt.

In passing I must not neglect the wild burros which thrive in great numbers on this side of the Providence Mts. During my first night their braying had gone on continuously, and I had at first mistaken them for cattle. They were curious little creatures varying from black to gray and could be readily approached. There seemed to be no cliff that man could climb upon which these sturdy little creatures had not already set foot. Active steps should be taken to preserve this herd, much as the desert sheep are protected, for in no small way they represent an epoch of the California deserts which is fast disappearing.

Shortly after starting back to Kelso on Wednesday afternoon I discovered that the center bolt on the left rear spring had broken and that the leaves were dropping out. By great good fortune I negotiated the next 4 miles to Kelso at a snail's pace saving all the spring leaves. There is no garage at Kelso, but a couple of the mechanics at the Union Pacific Roundhouse agreed to fix the spring and obligingly went to work immediately.

On Thursday I had hoped to tackle still another portion of the west side of the Providence Mts., but the so-called "road" leading to the base of the mountains eventually became so difficult to follow in the maze of washes it traversed that I was forced to give up because several days would be needed. Therefore, I returned to Kelso, took the road to Amboy and made a few stops in the Kelso Sand Dunes. At Amboy I turned homeward by way of the Sheep Hole Mts. and Twenty-nine Palms, camping that night in Morongo Valley. East of Twenty-nine Palms I came upon large colonies of *Heliotropium convolvulaceum californicum*, a fragrant, white-flowered annual which I have never before collected.

This was the third and last trip of the season to the Mojave Desert and was one which was very fruitful in numbers of specimens obtained as well as in botanical finds. Another 234 herbarium numbers had been obtained, thus bringing the total desert collections for the season to 825 numbers, specimens which were



Panoramic view of botanic garden and Santa Ana Mts., ca. 1950. RSA.

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largely from areas which have previously been poorly or not at all represented in either our or any other herbarium.

The war years were to affect the botanic garden's development as they did other institutions and some of the many programs were discontinued or sharply curtailed. In the semiannual report of 1 October 1942 Mrs Bryant asked the question of "how the Rancho Santa Ana Botanic Garden can render the most immediate public service during the wartime period." and she continued, "Today we turn to members of our whole group of advisors asking for constructive suggestions to guide the staff into the most necessary activities we can undertake which will be of vital importance in the present emergency."

Wolf lamented the fact that he had been unable to do any field work during the past six months but said that much had been accomplished in the herbarium and work on the cypress project was continued. Being a true field botanist, Wolf, in the report of 1 October 1943, again lamented having to "forego the usual collecting trips into many remote regions and the bringing back of specimens for the Herbarium and material for propagation in the nursery." By that time however he had been appointed a collaborator in the Bureau of Plant Industry to assist Dr J. M. Webber in his yucca fiber investigations. The project was to determine the feasibility of utilizing leaves of native yucca species as a source of fibers for making of rope and in connection with this investigation Wolf was happy to again be in the field.

The garden was also then cooperating with the California Fish and Game Commission in efforts to establish cover for quail in certain areas of the state and they report searching for "small clumps of brush of a type that would not be eaten by stock." Wolf was enthusiastic about the project because "it offers a possible use for some of our least attractive shrubs"

That same year the garden was contacted by the Army Engineers Camouflage School at March Field, Riverside County, asking for suggestions of plant materials that could be used in camouflage demonstration plots. One of the questions was to suggest a fibrous material similar to raffia which could be used to weave small nets for helmets and packs and the botanists suggested leaves of the *Washingtonia* palm.

In the fall of 1943 it was decided that a survey should be made of the fruits and seeds of the wild trees of the state to determine whether any of them might yield products of economic value. The amount of material collected varied from a few pounds to over a half ton. The coast live oak (*Quercus agrifolia*) and the Joshua tree (*Yucca brevifolia*) were found to have fruits with a high oil content and both were found to be of good

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quality as edible oils. The results of this project were published in Wolf's *California Wild Tree Crops* (1945). Wolf concluded his portion of the 1943 report by saying:

I would like to digress for a moment from the presentation of the routine events of the past six months to point out that I sincerely believe that there is a place for institutions such as Rancho Santa Ana Botanic Garden where freedom of action can be maintained. The lights of academic freedom and thought have been largely extinguished over much of the world, and even in America most of our centers of learning and research have been rather thoroughly regimented, at least for the duration of the war.

To the founder of this Garden, Mrs. Bryant, to the Board of Trustees, and to the Advisory Board I want to express my sincere appreciation for the years of thought and planning which they have given to this Garden, and because of which it is now able to carry on with much the same freedom as in the past. Perhaps the retention of this freedom will eventually be of greater value to our American way of life than any direct contribution which the Garden is making to the war effort at present.

At the same time Percy Everett reported on the wartime problems of maintaining the grounds saying:

The shortage of help and inexperience of our Mexican laborers has made it impossible to operate as efficiently as we would like. Nor have we been able to accomplish as much as is necessary to keep everything in good order. All of our operations have been reduced to the minimum. But despite these curtailments and changes, we have been able to keep up the essential work in a satisfactory manner. The growth of the Garden has not stopped, but has steadily gone forward, though at much slower pace.

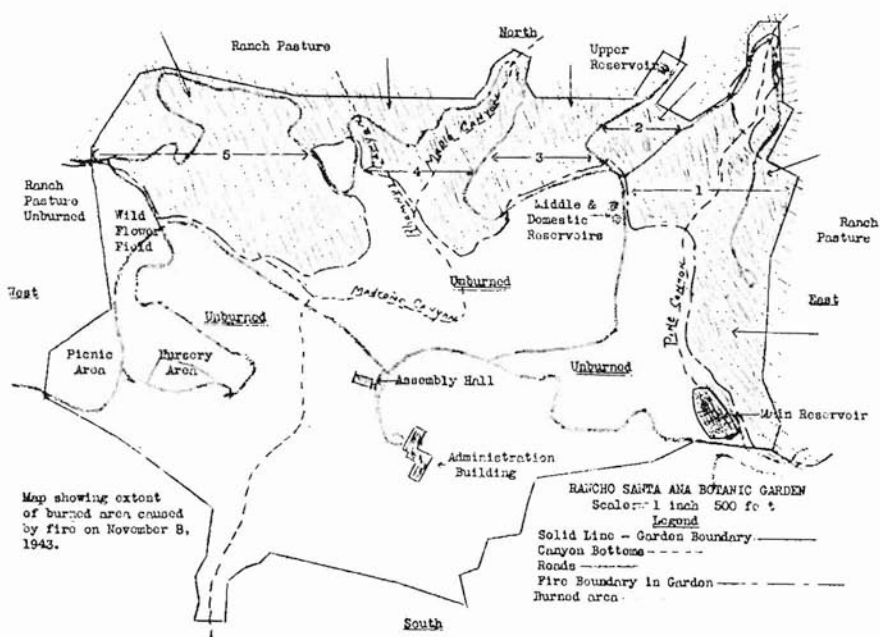
At intervals during the past year we only had two or three laborers working, but an average of four or five men has been maintained for most of the time. On the whole the men have worked well and steadily. Their inexperience made it necessary for me to be constantly on the watch, and to direct each job more closely than would ordinarily be done with an experienced crew. This in turn has taken much of my time that might have been more profitably spent doing other work.

However, it was the weather and the disastrous fire that swept part of the garden that was to gain the greatest amount of attention in the 1943 report, and Everett wrote:

From November 5 to 8, 1943, a 35 mile an hour Santa Ana windstorm dried the growth covering the hills to a tinder, and greatly aggravated the conditions which attended the disastrous fire that swept through part of the Garden on the 8th.

Immediately upon hearing of the fire at the garden Jepson had sent Mrs Bryant a contribution which was to help in the purchase of fire fighting equipment.⁸¹ Everett continued:

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Very welcome and gentle rains came a week after the fire, and until late February of 1944, the rains did no damage. Between February 20 to 24 we experienced the heaviest storm in 13 years. Some of the canyons carried so much water, the roar of it could be heard for quite some distance away. A considerable amount of soil and debris was carried from the bare hills and the heavy runoff washed out a few trees and much soil in the main canyons

During the heavy rains of last February 20 to 24, storm water accumulated on the main reservoir road because of debris blocking the entrance to a storm drain. The water overflowed the road bank, ran down the hillside and into the Booster Pump House through an open window. Two of the electric motors were soaked with water and mud. About the same time two army men, while attempting to park their truck in the Weed Garden for an all night bivouac, broke a large pipe line connected to the upper reservoir. The lowering of the water level in the reservoir caused an automatic float control switch to start the motor connected to the system, and being wet, it soon burned out.

In terms of loss of plantings and damage to property it was the most disastrous year in the history of the garden.

In the report of 1 January 1945 the Superintendent was able to give a more accurate account of the losses sustained in the fire of 1943. He wrote:

Our main interest this year in the Plant Inventory was to determine more concretely the damage done by the fire. After checking all the records thoroughly, I

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believe a very fair estimate of our losses to be 5300 plants. Of these 3800 were in bed plantings and 1500, mostly trees, in cover plantings

The old saying that it is an ill wind that blows no good holds true in the experience of the Garden after the fire for the condition of many of the plants indicates they have benefited greatly by being burned The quick recuperative power of many of our natives has been amply demonstrated by the noteworthy improvement of their appearance. Plants that were gradually losing their inherent vigor have produced abundant new and vigorous growth that is almost equal to their original size.

Everett continued:

In the spring of 1944, the burned areas of the Garden and Ranch were literally covered with millions of *Calochortus catalinae* and later with *Calochortus Weedii intermedius*. Large patches of California-Poppies, Phacelias, Lupines and several other annuals turned the hills to brilliant orange, and soft purple and blue. This is the first time in the history of the Garden that the hills were so colorful, which indeed, made partial recompose for the otherwise somber appearance.

Even with the restrictions imposed by the wartime years and setback occasioned by the fire of 1943, Everett was able to write on 1 July 1945 that:

One of the greatest compensations for one working in the Garden is the feeling of real accomplishment as one watches the gradual fulfillment of a plan. And so it is when as the years pass by we feel a milestone has been reached in the plans of the Garden. Here we note an especially fine plant producing quantities of flowers, or a pine setting cones, an oak with a heavy crop of acorns, the gradual spread of a strawberry over steep canyon slopes or just the vigorous growth that comes with the birth of summer.

Mrs Bryant announced in 1943 that henceforth the reports would cover a complete calendar year, thus cutting down on the amount of time and effort which had to be put into producing semiannual reports.

The first of the second series of annual reports appeared on 1 January 1945 and the Report of the Managing Director was to be the last that Mrs Bryant would write. In it she reported the resignation of Dr Wolf effective 1 June 1946 and she paid tribute to him by saying:

Carl Wolf came to the Botanic Garden fifteen years ago, shortly after receiving his degree at Stanford. Our project was just established, and I think we all can be gratified over the way he has laid the foundation for combining Scientific research with related experimental plantings, thereby adding to authentic knowledge of many California species. For the past twelve years Dr. Wolf and Mr. Everett, (for several years keeper of the herbarium collections, before becoming Garden Superintendent) have co-operated most successfully in linking Botanical research with Horticultural studies. The Garden's two chief objectives have been carried on jointly to the point where the Institution now is able to contribute valuable data and information to all students and scientists interested in the study of plants indigenous to California. The system they have evolved for keeping accurate and

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exhaustive data of all materials and subjects studied testify to the care and intelligence with which these two men have worked together to preserve records which will be invaluable as a source of basic information for those studying special family groups.

The system devised by Wolf and Everett, with minor changes, continues to be followed to the present time. According to a recent author "The propagation records of the Rancho Santa Ana Botanic Garden are incredibly detailed and complete, models of their kind."⁸⁴ In April 1971 a representative of the American Horticultural Society's Plant Record Center, Mt. Vernon, Virginia, microfilmed the gardens master propagation file. Over 7,000 pages were photographed and have since been placed on data processing forms in the master files of the Plant Record Center. Mrs Bryant concluded the report by saying:

We face 1945 with confidence that the foundation is solidly laid and we are ready to build up an Institution of increasing value and usefulness, as rapidly as the war and post-war situation will permit.

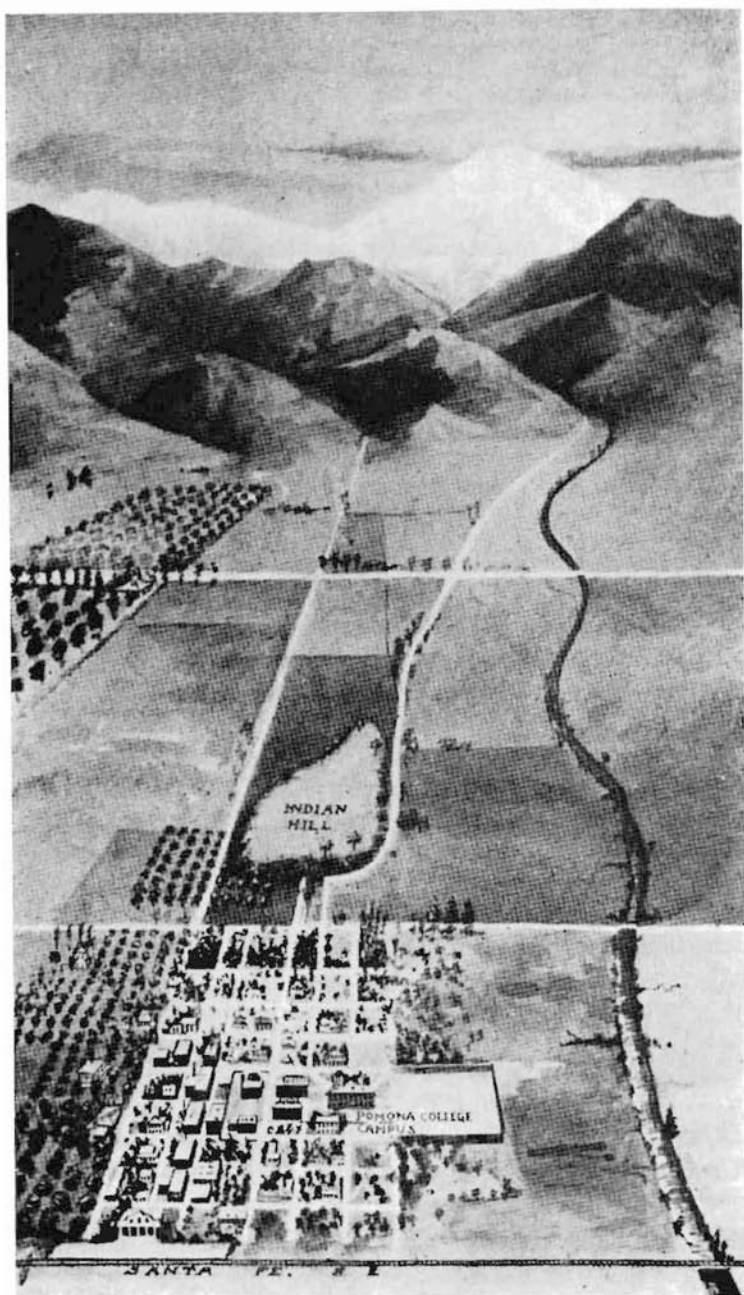
On 1 October 1945 Warren Sullivan began work at the nursery as a replacement of S. C. Husbands who earlier had resigned. Sullivan was to continue as nurseryman until his retirement on 25 July 1974.

After Wolf's resignation, Mrs Bryant began a search for a resident botanist to replace him and she was again seeking Jepson's advice. On 20 March 1946 Jepson wrote John Thomas Howell saying that he had just received word that Professor Munz had been appointed to take Wolf's place. Jepson wrote "the news took my breath away."⁸⁵ One reason being that Jepson had not been consulted by Mrs Bryant about Munz. Jepson continued, "In basic plan the Rancho Santa Ana Botanic Garden could scarcely be better. In behalf of its scientific aims I have worked very hard for it, given the garden a great deal of time and considerable money. I have always paid my own way to council meetings. It will be a happy day for the garden when it has a scientific director."

In the quarterly report of the Superintendent of 1 April 1946, the announcement was made of the appointment as Botanist of Dr Philip A. Munz who was to assume his duties on 1 August.

Philip Alexander Munz (1892-1974) was born in Wyoming and received his Ph.D. at Cornell University and in 1917 accepted a position at Pomona College. Although trained primarily as an entomologist, upon his arrival in California he became interested in the California flora, an interest that continued throughout the remainder of his life. At Pomona he developed a strong undergraduate program in botany and brought together a large and important herbarium, primarily of the plants of southern California but also quite representative of the flora of the entire state. In 1935, Clare-

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mont Colleges published his *Manual of Southern California Botany*, a work that remained for many years the standard taxonomic treatment for the southern part of the state. In 1944 Munz returned to Cornell University where he was associated with Dr Liberty Hyde Bailey at the Bailey Hortorium. Wishing, for family reasons, to return to southern California the opportunity came in 1946 when Mrs Bryant offered him the position of Botanist at the Rancho Santa Ana Botanic Garden.

Dr Munz assumed his duties on 1 August 1946 and in his first quarterly report ending 1 October reported that he and Mrs Bryant both felt that it was important for him to become acquainted with the garden as such "its plantings, its methods of work, its resources in the way of Herbarium, Library and the like."

It was Mrs Bryant's wish that with a change in Botanist it was time to review the period of founding and early history of the garden. She had written Jepson in April 1946 saying that "Mr. Chickering is writing a short history of the Garden which will be illustrated with photographs taken in different years as our permanent improvements have been developed" Apparently the task of writing the history fell to Munz and in this undertaking he was at a disadvantage in having only recently arrived at the garden and in not having available to him important primary sources. His *A Short History of the Rancho Santa Ana Botanic Garden* was approved in principle by Mrs Bryant before her death. It was published in May of the following year.

In the October report there is the first mention of the fact that the garden was building a house for the Botanist "in a beautiful spot beyond the live oaks west of the Administration Building." In the meantime the Munz family lived in the Bryant country home as guests of Mrs Bryant who came to the garden on weekends.

Mrs Bryant died suddenly on 2 October 1946 while on a visit to Santa Barbara. Dr Munz said of her ". . . I am thankful to have obtained even a glimpse of the ability, the idealism, and the courage that she possessed. I hope that as a member of the Garden Staff, I may be able to do something toward accomplishing the ends that she had in mind for the institution which she created and which she so ably directed during its formative years."⁸⁴

In the same report Percy Everett said "Although, at first, the shock made

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Reproduction of a watercolor painting of Claremont and vicinity by an unknown artist, ca. 1905. Courtesy of Honnold Library. At that time the road to San Antonio Canyon was a continuation of Dartmouth Ave. and the road followed along the eastern base of Indian Hill mesa.

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it seem as if the real force behind the Garden had left forever, it now comes out more strongly than before that it has not gone but is even more evident."

Mrs Bryant's sudden death was, of course, a great shock not only to her many friends but to all those connected with the botanic garden and there was some question as to what effect it would have upon the future of the garden. In a letter to Munz written on 24 October, Allen L. Chickerling, Chairman of the Board of Trustees, said: "I am hoping . . . to hold a meeting [next week] of the Board of Trustees of the Rancho Santa Ana Botanic Garden. The decision as to what to do is naturally in their hands but, from the endowment on hand at the time of Mrs. Bryant's death, coupled with the provisions she made for the Garden in her will, I can see no reason why the Garden should not be able to go ahead as planned by her."

At a meeting of the Board of Trustees on 6 November 1946, Dr Munz was named Managing Director of the garden to succeed Mrs Bryant. Jepson's dream of nearly 20 years that the Ranch Santa Ana Botanic Garden should have a scientific director became a reality only one day before his death which occurred on 7 November 1946. Although the wording "Managing Director" continued to be used in the minutes of the meetings of the Board of Trustees, Munz never used the word "Managing." Beginning in January 1947, a new policy was put into effect that called for monthly reports rather than the previous quarterly reports.

In the report of January 1947, Munz stated that much of his time had been spent in distributing duplicate herbarium specimens that had been accumulated by Wolf and he said that they had sent out 9,000 specimens and another 8,700 were ready to ship. He had also completely reorganized the library utilizing the Dewey Decimal System but so far no cataloging had been done.

The Superintendent reported that Warren Sullivan had been busy propagating plants and that since 1 October, 30,000 plants had been planted out, a considerable undertaking considering the number of gardeners employed at that time.

In general the monthly reports which were to follow were brief and contained little except statistical data on number of specimens shipped, or the number of plants set out in the garden. However, in February 1947, Munz reported that "It is now planned to have the spring field day of Trustees, Councilors and their wives on Sunday, April 13." This would be the first such field day since they were cancelled during the war years.

In March 1947 an announcement was made that the garden would again be open for visitors on Fridays and Saturdays during the months of April and May. As in the past, admission was by card only. The same month the Board of Trustees announced the appointment of Robert Casamajor

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of Pasadena as a trustee replacement for Mrs Bryant. Casamajor had been Councilor for horticulture since 1945 and was to continue to serve the garden until his death in 1960.

Public response to the announcement of the reopening of the garden to visitors was even greater than expected and in April about 1,100 people were admitted to the grounds and Munz spoke to them on a wide variety of subjects all the way from the history of the garden to how plants get their names and on the use of native plants in foreign gardens. By the close of the first postwar season, about 3,000 people had visited the garden.

For the first time in several years additional garden Councilors were named and these included Laurence M. Klauber, a business executive and world-renowned authority on rattlesnakes; Dr Walter E. Lammerts, well-known rose hybridizer; Dr Herbert L. Mason, taxonomist at the University of California, Berkeley; Dr Fritz W. Went of the California Institute of Technology, and Dr Carl Wolf.

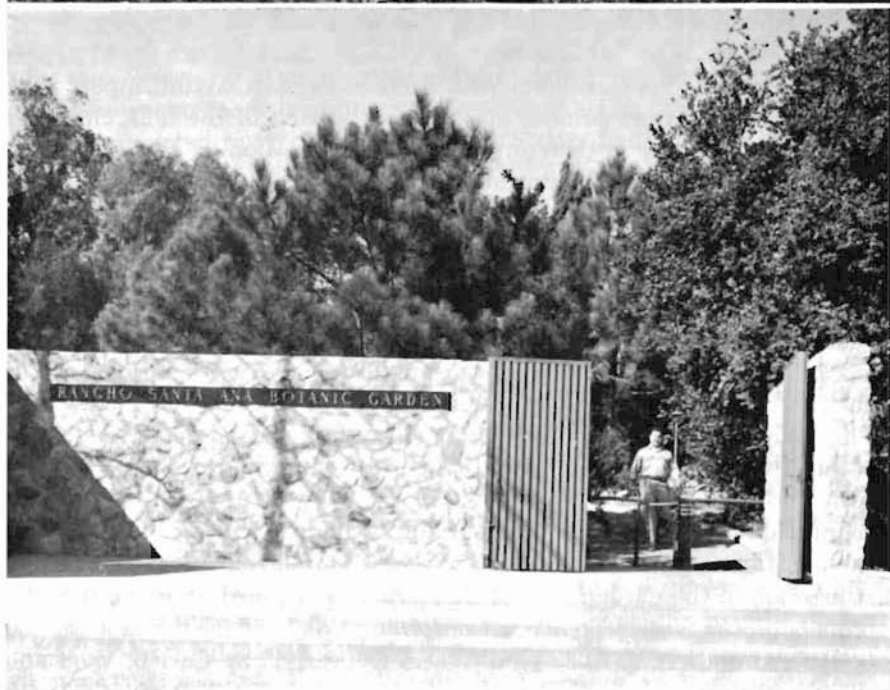
In 1945 Mrs Bryant sent Wolf's cypress manuscript to Jepson. Although ill and often confined to bed, Jepson spent a considerable amount of time reviewing it and making suggestions for improvement, after which it was to again be returned to him for a final review. There was some question about who was to publish the work and Jepson wrote on 25 August 1945 saying, "It has been my hope that the research papers originating at the Rancho Santa Ana Botanic Garden would appear in a single series of volumes printed in a manner worthy of the high character of the garden. I take it therefore that your suggestion as to the University Press [University of California] refers only to printing and not to publishing." On 8 April 1946, S. T. Farquhar wrote Mrs Bryant asking that the manuscript be sent to the University of California Press for review.

At the end of June 1946 Mrs Bryant wrote Jepson saying, "You know we all appreciate your wise counsel and everything you have done for the garden since the inception of the project, and we appreciate the time and effort you have spent in reviewing our publications, in spite of your serious illness."⁹³

This may have been the last letter she wrote to Jepson. Mrs Bryant died on 2 October 1946 and Jepson died on the seventh of the following month.

In June 1947 Munz wrote, "I am trying to build up our library . . . and hope to get some good exchanges for our new journal, *El Aliso*." This is the first mention of the garden's scientific journal then called *El Aliso*, *A Series of Papers on the Native Plants of California*. Volume 1 of the new journal was devoted entirely to "The New World Cypresses" by Carl B. Wolf and Willis F. Wagener and it appeared on 10 April 1948. Beginning with

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Volume 4, Number 1 (1958), the "El" was dropped and the journal appeared as *Aliso*. Beginning with Volume 6, Number 1 (1965), a subtitle was added: "*Journal of the Rancho Santa Ana Botanic Garden*." The subtitle had been suggested by the committee on publications as early as 1941.⁸⁵ The name "El Aliso" was apparently chosen by Munz, "Because of the historical importance of the sycamore, the original boundaries of the Rancho Santa Ana having been surveyed from a giant tree, also because of Mrs. Bryant's fondness for the species."

In 1947 Theodore Payne offered the garden his extensive collection of old nursery catalogues including a nearly complete set of his own publications which began in 1906. These early catalogues have great historical value in documenting the dates of introduction into horticulture of many of the California natives. Since receiving this initial gift the garden has continued to add to its collection through gifts and exchanges and today possesses one of the largest collections of seed and nursery catalogues in the United States.

In the year-end report it was announced that Mrs Munz was employed as a part-time librarian and that she had begun to catalogue the library. Mrs Munz continued to serve the garden in that capacity until September 1960. The herbarium at the time was reported to contain 34,675 specimens with 16,963 duplicates being sent out during 1947.

At the semiannual meeting of the Board of Trustees and the Councilors held on 25 April 1948 announcement was made of the appointment of Lee W. Lenz as Assistant Botanist. Lee Wayne Lenz (b. 1915) was born in Montana and at the time of appointment was a Ph.D. candidate at The Henry Shaw School of Botany, Washington University and the Missouri Botanical Garden, St. Louis, where he was a student of Dr Edgar Anderson. After receiving his degree in June, Dr Lenz arrived at the garden on 1 July 1948. Among his duties was that of attempting to produce new or more adaptable garden plants from native California species. Before the end of the year the Pacific Coast iris project was already well underway. In August, Drs Munz and Lenz made a collecting trip to northern California gathering material for future breeding programs. Earlier in the summer Dr and Mrs Munz had spent two weeks collecting in the high Sierra Nevada.

Another appointment announced at the April meeting was that of Gloria Campbell as Secretary and Curator of the Herbarium. Miss Campbell was

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Administration building at Claremont viewed from the southwest (top). The building contains the herbarium, library, research laboratories, and staff offices. Pedestrian entrance to the garden.

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a student of Dr Lyman Benson at Pomona College and had been awarded a M.A. degree from the Claremont Graduate School in 1948.

Also noteworthy was the fact that beginning in 1948 laboratory supplies and equipment were being purchased so that it would be possible for staff members to carry on laboratory research.

After Mrs Bryant's death the Bryant country home became the administration building for the garden, and offices and laboratories occupied what earlier had been bedrooms; the herbarium, however, continued to be housed on the lower floor where it had been located since the construction of the house in 1928.

An announcement was made in March 1949 of the appointment of Edward K. Balls who was to have charge of the grounds around the administration building (he was later given the title of Horticulturist). Edward Kent Balls (b. 1892) a Yorkshireman and a Quaker became interested in botanical collecting while serving with the Friends Service Committee in Russia following World War I. Returning to England in 1925 he joined Clarence Elliott's nursery where he became particularly interested in alpine plants. His first plant collecting trip was to Persia where he spent four and a half months, part of the time "as a guest of some charming and hospitable Kurdish brigands."⁸⁸ He later collected throughout the Near East, as well as in Morocco, Greece, Mexico, and South America and is responsible for having introduced into cultivation many beautiful garden plants.

In September 1939, Balls came to the United States on a lecture tour after which he had hoped to resume his plant collecting but World War II prevented him from carrying out his plans. Following the war he worked for the United Nations Relief and Rehabilitation Administration in Egypt, Italy, and Yugoslavia before being transferred to China where he remained for 18 months. In July 1947, Mr and Mrs Balls arrived in Carmel where he went into partnership with Lester Rowntree collecting and selling California native plant seeds. This partnership was of short duration and in March 1949 he came to the botanic garden where he remained until his retirement. Soon after arriving he began collecting seeds as well as herbarium specimens throughout the state, and under his direction the seed collection took on major proportions. A true collector in the best sense of the term, Balls was always ready and willing to gather items of interest for specialists whether beetles or postage stamps.

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California fan palms (*Washingtonia filifera*) in front of administration building (top). Entrance to administration building.

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No botanic garden can function as a research institution without a comprehensive library. Mrs Bryant had early realized this and had been successful in bringing together within a relatively short time a number of important botanical works, but the main task of library building rested with Munz who responded to the challenge with enthusiasm. The late 1940's and early 1950's was an opportune time for acquiring rare and out-of-print books because many important items were coming onto the market as overseas private libraries were liquidated. The annual reports for the next few years contain long lists of choice items which had been added to the collection. The library remained one of Munz's chief interests throughout his administration.

As early as 1947 Munz was envisioning a new flora that would cover the entire state of California. The original plan called for certain groups to be prepared by specialists and the remaining parts divided between John Thomas Howell of the California Academy of Sciences, David D. Keck, at that time Head Curator at the New York Botanical Garden, and himself. In the summary report for 1949 Munz reports that already a number of families had been written up. For various reasons it became impossible for Howell to contribute substantially to the proposed flora and the bulk of the work was prepared by Munz with major contributions by Keck. The finished work, *A California Flora*, was published by the University of California Press in 1959 with financial assistance from the botanic garden.