

ASTERACEAE DESCRIBED FROM MEXICO AND THE SOUTHWESTERN UNITED STATES BY M. E. JONES, 1908-1935

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INTRODUCTION

Marcus E. Jones was for more than half a century one of the best-known field botanists of the western United States. In fact, if the extent of his work in both years and territory and the amount of good botanical material he accumulated are taken into consideration, he may fairly be called the leading western collector of his time. For most of his life his financial resources were far from ample, and much of his botanical exploration had to be done in spare time in connection with the practical work in field geology which provided his main support. He was a man of intense individuality and extreme independence of mind, given to unsparing criticism of botanists whose views did not agree with his own. These criticisms, it must be admitted, were often well founded, but the unnecessarily caustic way in which they were expressed lessened their effectiveness, and his own carelessness in both observation and description invited equally severe retort. Such replies, however, were surprisingly few, possibly owing to prudence on the part of those who might have been expected to make them. An interesting sketch of his life and work by his daughter, Mrs. Mabel Jones Broaddus, is given on pages 152-157 of the eighteenth number of his "Contributions to Western Botany," in the part published after his death, and there is additional information in a biographical sketch by Thomas C. Adams.¹

Although Jones collected from British Columbia to Baja California and Mexico, the main field of his work and his greatest interest lay in the flora of the Great Basin of Nevada and Utah. He brought together a vast amount of material, both specimens and notes, but never completed any comprehensive work on this area. His collections and manuscripts are now deposited in the herbarium of Pomona College at Claremont, Calif., which purchased them some years before his death.

His first botanical publication, apparently, aside from a sales list of his Colorado collection of 1878 which I have not seen, and perhaps another similar list in 1879, was a short paper entitled "Notes from Colorado," published in the Botanical Gazette for December 1879 (4: 247-248). His first described new species, *Gilia scopulorum*, was published in the Bulletin of the Torrey Botanical Club for June 1881

¹ Proc. Utah Acad. Sci., Arts and Lett. 15: 11-13. 1938.

(8: 70). Edward Lee Greene (1843–1915), after publishing 17 earlier short notes or papers² on the botany of the central and western United States, beginning in 1869, had published his own first new species, *Asclepias uncialis*, just a year earlier (Botanical Gazette 5: 64, number for June 1880). During the next two or three years both authors published a number of short papers in both these periodicals; Greene had new species in both journals, but Jones only in the Torrey Bulletin.

At that time Asa Gray, the acknowledged leader of American botany, already 70 years old, was striving to complete his "Synoptical Flora of North America" as well as to handle, with the assistance of Sereno Watson, the mass of new material from the western States and Mexico that came to the Gray Herbarium. Gray's facilities for herbarium work, as regards both specimens and library, were of course vastly superior to those of either Greene or Jones, and his abilities in dissection and technical description equally so. It were probably no exaggeration to say that neither Greene nor Jones ever made a proper dissection or accurate description of any at all complicated floral structure. On the other hand, both men had a knowledge of western plants as they grew that was denied to Gray. The field of North American systematic botany had been his for so long that he did not welcome the advent of younger men with different points of view, and more or less open dissension arose.

Gray's influence with the editors of scientific journals was naturally powerful, and Jones believed that it was used to block the publication of his own papers and those of Greene describing new species unless they had first received Gray's approval.³ It seems more likely, however, that Dr. J. M. Coulter was the moving spirit in this matter. Unpublished letters of Coulter to Gray and Sereno Watson in 1882 and 1883, which A. D. Rodgers, 3d, has kindly shown to me, make it clear that he had himself closed the pages of the Botanical Gazette to them, or at least to Jones, and had sought to enlist Watson's assistance in inducing the editors of the Torrey Bulletin to do the same. C. C. Parry, also, wrote to the editors of both journals in a similar vein. Whatever the exact source of the influence exerted may have been, it was effective. Jones' last paper in the Botanical Gazette was published in the number for August 1883, and in the Bulletin of the Torrey Botanical Club in that for June 1883; he never again published in either periodical. His paper describing six new species in the

² See Ellen D. Kistler, Bibliography of the botanical writings of Edward Lee Greene. Madroño 3: 328–348. 1936.

³ See Jones, Contr. West. Bot. 14:49–50. 1912. I have not been able to find in the pages of the Botanical Gazette or Bulletin of the Torrey Botanical Club the alleged editorial announcement to which Jones refers.

American Naturalist for August and September 1883 was apparently his last publication until after Gray's death in 1888. Greene published two short papers in the Botanical Gazette in 1883 and one in 1884, and none thereafter until 1897. He had three papers in the Bulletin of the Torrey Botanical Club in 1883, and none again until 1886, when he once more began to publish new species in this journal. His papers in 1884 and 1885 appeared mostly in the Bulletin of the California Academy of Sciences. In 1887 he began the issue of Pittonia, and in 1893 W. L. Jepson founded the journal Erythea. In these two serials and in his own Leaflets of Botanical Observation and Criticism (begun in 1903) most of Greene's subsequent writings appeared.

The first of Jones' Contributions to Western Botany appeared in Zoe in 1891, although this title was not adopted until the third of the series, and his other Contributions through No. 9 appeared either in this journal or in the Proceedings of the California Academy of Sciences except for No. 8, which was printed privately in 1898. The remaining numbers (10-18) were privately published by Jones, and Nos. 12-18 (except pp. 132-157 of No. 18) were put in type and printed by his own hands on a small press in his home. The complete freedom from censorship thus obtained must have been a source of satisfaction to him, if not to others, but the typographical appearance of his work and, as time went on and his type became worn, even its legibility suffered in consequence.

The bulk of Jones' published work, and much the most useful part of it, related to the botany of the Great Basin, with which he had a practical acquaintance of many years' standing. He did far more collecting than any other botanist in this area, by preference in out-of-the-way places (correspondingly difficult to locate on the map),⁴ and discovered a considerable number of very distinct new species. The results of his Mexican work were much less fortunate. He made a number of trips to northern Baja California, from 1882 to 1927. His other Mexican trips were in 1892, when his collecting was done principally in Zacatecas, Colima, and Jalisco; in 1903, when he botanized rather extensively in Chihuahua; in 1926, in Sonora, Sinaloa, and southern Baja California; in 1927 (January to March), in Sonora, Sinaloa, and Nayarit (formerly Tepic); early in 1928, in southern Baja California; in 1930, when he collected the bulk of his supposedly new Mexican species, in Jalisco and in southern Baja California; and in 1932, when he spent one day (March 25) on an automobile trip from Laredo, Tex., to Sabinas Hidalgo, Nuevo León (Jones' "Sabinal"), in

⁴ A detailed chronological account of his botanical itineraries through 1919 was prepared by Jones, and typewritten copies (52 pp.), with the title "An Account of the Botanical Collecting of Marcus E. Jones during the Years 1875 to 1919," have been deposited by Dr. Munz at the California Academy of Sciences, Gray Herbarium, and U. S. National Herbarium, as well as at Pomona College.

company with V. L. Cory and V. J. Shiner.⁶ Jones (Contr. 18: 141) took occasion to criticize Pringle as a "poor field botanist," because he himself got so many new species during a short stay in Pringle's own favorite collecting ground in Jalisco. It is not necessary to de-

⁶ At several places in his published writings, Jones gave more or less detailed itineraries of his collecting trips and briefer notes on localities. Those relating to Mexican trips are as follows: Contr. 15: 76-77 (1882, 1892, 1903, 1923-27 trips), 80-95 (1926-28 trips), 96-123 (1926-27 trips); 17: 3-6 (1882 trip), 13 (1926-28 trips); 18: 22-23 (Baja California localities of 1930), 86-119 (1930 trip).

As several of Jones' principal collecting localities in Chihuahua are not to be found on the ordinary map, it may be well to place on record what I have been able to discover regarding their exact location. The following quotation from his typewritten journal of botanical collecting (p. 43), referred to above, relates to his Chihuahua trip: "Then I went to Deming and the Floritas on the 7th [of Sept., 1903] and went to El Paso. I took the train for Dublan [ca. lat. 30°25' N., long. 107°55' W.] and reached Colonia Juarez on the 11th. botanizing at Sapio on the way on the 10th. I hired a team and wagon and went up on to the Sierra Madres going up Soldier Canyon on the 16th., was in Round Valley and Hop Valley on the 17th. and Mound Valley the 18th., going through Garcia I reached Chuichupa the 21st. and botanized there several days making it headquarters. From there I took a three days trip to Guayanopa Canyon and back. The 26th. I was in Largo Canyon and Soldier Canyon and back to Colonia Juarez. Thence I went to El Paso botanizing at Sabinal on the way about the 29th. I spent a day at Mesilla Park. This trip netted about 40 new species."

CHIHUAHUA: Colonia Juarez (Juárez of Mexican maps). About lat. 30°18' N., long. 108°5' W. Dublán is 20 km. northeast of it, and Garcia about 45 km. southwest of it.—Chuichupa (Chuhuichupa or Chahuichupa of official Mexican maps). About lat. 29°37' N., long. 108°22' W., about 40 km. almost due south of Garcia.—Guayanopa Canyon (Guaynopa of Mexican maps). About 25 km. south-southwest of Chuhuichupa and about 10 km. east of the Sonora boundary.—Hop Valley (Arroyo de Hop Valley of Mexican maps). On wagon road from Juárez to Garcia, about 7 km. northeast of Garcia.—Marsh Lake. Jones collected here at 7,000 feet on September 19. Not located, but from date evidently between Hop Valley and Garcia.—Meadow Valley. Jones collected here on September 17. Not located, but evidently close to Hop Valley, where he also collected on September 17.—Mound Valley. Jones collected here at 7,000 feet on September 18. Not located on the more recent maps, but shown on an unofficial map of 1916 at or near the Moctezuma of the official map, about 12 km. south of Garcia. Jones speaks of it (Contr. 12: 15) as near Chuichupa.—Round Valley. Jones collected here September 17. Not located, but evidently near Hop Valley.—Sabinal. The railroad station of this name is at lat. 30°55' N., long. 107°30' W., the town itself about 12 km. west of this.—San Diego Canyon. The wagon road to Garcia passes through this canyon about 10 miles south and a little west of Juárez.—San Pedro Canyon. Not located, but evidently near Soldier Canyon, where he collected the same day (September 16).—Sapio. Not located. On his southward trip, Jones collected here September 10, and reached Colonia Juárez the next day.—Soldier Canyon (Arroyo Soldado). On wagon road from Juárez to Garcia, about 16 km. northeast of Garcia. (The data in this paragraph taken mostly from the official map of Chihuahua, scale 1/400,000, issued in 1927 by the Secretaría de Agricultura y Fomento. San Diego Canyon, not shown on this map, is given on sheet 5-II-(L), published in 1911, of the "Carta de la República Mexicana á la 100,000a.")

fend Pringle's title to pre-eminence as a collector, but it may be noted, as bearing on Jones' ability to identify his own material from a region with which he was not familiar, that every one of the 25 allegedly new species of Asteraceae he described from his 1930 collection in Jalisco is a synonym of an older species, as is also the single species from his 1892 collection, and that 12 of the 26 were described by him under wrong genera, in 2 cases in wrong tribes, in 6 others in wrong subtribes.

The present paper deals with the species of Asteraceae described as new by Jones from 1908 through 1935, in Nos. 12, 15, 17, and 18 of his Contributions to Western Botany. It thus includes all the new species he described from Mexico and the much smaller number he described from Texas, New Mexico, and Arizona. Very few of these have been adequately dealt with in botanical literature since they were originally published, although his new species from Utah, Nevada, California, Montana, and elsewhere are practically all disposed of for better or worse in the various manuals and floras of those regions. One new genus, 63 new species, and 3 new varieties proposed by Jones are discussed in this paper, as well as 10 new names and combinations. Of these, 5 species and 1 variety are retained as valid, and the single genus, 58 species, and 2 varieties, as well as all the new names and combinations except one, are placed in synonymy. Of the 63 new species described, good and bad, 28 were placed in wrong genera, and of these 3 were in wrong tribes and 10 others in wrong subtribes. The species have been grouped in the following pages under the tribes to which belong the genera to which they were referred in Jones' original descriptions, the genera and species under each tribe being arranged alphabetically under the names given them by Jones.

This paper owes its completeness to the kindness of Dr. Philip A. Munz, of Pomona College, in lending material, in part directly, in part through C. V. Morton, of the United States National Herbarium. Acknowledgment should also be made of assistance derived from a manuscript treatment of most of the Eupatorieae prepared by the late Dr. B. L. Robinson and made available through the kindness of C. A. Weatherby. The identification of Jones' types is often not an easy matter, for he was careless in labeling and there are frequent discrepancies in dates, collecting numbers, and localities between the data on his mounted sheets and in his published papers. The recognition of the types of the species described from Chihuahua in his 1908 Contribution (No. 12) is especially difficult, since he seems to have left no names associated even with his types in much if not all of the material he collected there in 1903 and described in this paper. Fortunately the descriptions in this paper are for the most part comparatively satisfactory, so that it is possible to associate them with confidence in almost every case with the material laboriously hunted out by Dr. Munz.

Although the term "lectotype" has been used in the following pages only when there was occasion to select a type from among two or more sheets of the same or different collections cited by Jones, there can be little doubt that many others among the sheets here referred to as types (i. e., holotypes) should in strictness be regarded as lectotypes. Jones collected most of his specimens in quantity and distributed them widely by sale. A large part of his herbarium was unmounted at the time of its purchase by Pomona College in 1923, and many unmounted duplicates from it have since been distributed. A set of all the plants he collected after 1923 was deposited at Pomona, but it cannot be assumed that any given sheet of such specimens is therefore a holotype of one of his species.⁶ I am informed by one who knew him that it was his custom to spread out all his material when describing a new species and to draw up his account from the whole collection.⁷ In some few cases it is even possible that by some error all the material of a given collection was distributed and none kept by Jones. This seems to be the case in *Verbesina cayucensis*, of which there is a sheet of the type collection in the United States National Herbarium, although Dr. Munz has been unable to discover one at Pomona. For convenience's sake it is certainly desirable in general to regard the specimens retained in the Jones Herbarium as it was mounted at Pomona as the effective types, unless they disagree too strongly with his descriptions; and, in view of the average quality of these descriptions, such discrepancies must needs be visible to the naked eye, although not necessarily of great botanical significance.

All of Jones' privately published Contributions to Western Botany except the eighteenth were issued and distributed in only one form, and there is no evident reason to question the dates of issue printed on them. Of his last Contribution (No. 18), however, before it was published as a whole he distributed some copies of pages 25-85 in a specially printed paper cover bearing the following title: "Extracts from Contributions to Western Botany No. 18 by Marcus E. Jones A. M. Issued at Claremont, Cal., Aug. 23, 1933." The copy at the

⁶ Even though Jones later stated: "The types of my 1926, 1928, 1930, and 1931 collections went to the College by agreement because it helped finance the trips . . ." Contr. 18: 131. 1935.

⁷ The following paragraph, taken from a letter from Dr. Munz (September 22, 1942), may be put on record in this connection: "Jones never had a modern type concept. When we first began work on his herbarium, we would find for his earlier species perhaps two or three different collections not necessarily on same day or exactly same place, labeled 'type set'; often there would be two or three sheets of same collection number. My general feeling is that in his later years a type was a given collection number; the description was drawn up from a suite of specimens, usually unmounted; these were then distributed to subscribers and supposedly at least one retained here; often duplicates were retained here. But after the distribution and mounting, no one could say which of the specimens or sheets was really the type. His idea was to keep the best and most representative material in his own collection . . ."

Missouri Botanical Garden, as Dr. Greenman informs me, was received September 6, 1933, and those at the Gray Herbarium and the U. S. National Herbarium on September 7. A copy sent to Mrs. N. Floy Bracelin, of the University of California, was mailed sometime before August 27; the one at the New York Botanical Garden (containing pages 1-85) was received at the library October 20, 1933, having been sent to Dr. Merrill at or about the same time that a copy was sent to Mrs. Bracelin. The dates of receipt of the Field Museum copy and Miss Eastwood's private copy are not recorded. It is not in the libraries of the University of California or Stanford University.

It appears that a single copy of the "Extracts" containing additional pages was sent out by Jones. Mrs. Bracelin, with whom Jones was in frequent correspondence at that time, has kindly sent me extracts from his letters bearing on the printing and distribution of Contribution 18. In a letter dated August 27, 1933, he wrote: "Last week I sent you a complete copy to date of Contribution No. 18 and you are the only one to whom I have sent one that is complete." The copy received by Mrs. Bracelin, however, contained only pages 25-85. In reply to her inquiry regarding the missing pages he wrote, under date of September 13: "I intended sending you a complete copy of Cont. No. 18 and made out one as I wanted it to be and thought I had mailed it to you, but it appears that I sent it to Merrill instead, and so I am now putting up another to add to what I sent you." The copy first referred to, now at the New York Botanical Garden, has a paper cover bearing the same title as the other copies just mentioned, but it includes pages 1-85 instead of only 25-85 (Dr. H. W. Rickett, *in litt.*).

Copies of additional unbound pages of Contribution No. 18 were sent to two individuals before the complete work was issued in April 1935. Mrs. Bracelin informs me that Jones sent her pages 1 to 125 on dates not now ascertainable, and Mr. Weatherby writes that loose sheets up to and including page 131 were sent for examination to Dr. B. L. Robinson by Jones' daughter, Mrs. Mabel J. Broaddus, in November 1934. According to information furnished by Mrs. Bracelin taken from letters addressed to her by Jones, he was working at the printing of it as early as August 24, 1932. On July 25, 1933, he was at page 76; on December 22, at p. 107; and on April 23, 1934, at page 126. The statement by Mrs. Broaddus, in a circular advertising his publications, that "pages 1-85 had been printed and distributed to a selected list of botanists August 23, 1933," was evidently based on a misunderstanding. The statement by the late Ethel Crum (*Madroño* 3: 179. 1935) that "pages 30 to 85 of Number 18 appeared August 23, 1933; pages 86 to 131 were printed and a limited number of copies distributed by Mr. Jones before his death on June 3, 1934" is definitely in error in regard to the number of pages making up the "Extracts,"

and essentially so also in regard to pages 86-131, at least in its implication regarding the status of these pages.

Determination of the effective date of issue of Contribution No. 18 is of some significance, since none of the 3 new genera, 141 new species, and 9 new varieties in the complete work are provided with a Latin diagnosis or description, except for 4 new species of *Salvia* contributed by Dr. Carl Epling. Under article 38 of the International Rules of Botanical Nomenclature (ed. 3, 1935), a Latin diagnosis or description is obligatory for valid publication beginning January 1, 1935. Although Jones' distribution of bound copies of pages 25-85 to an undetermined but certainly not large number of botanists and botanical institutions is not to be commended as a method of publication, it may be taken as effective under the circumstances. The mailing of one copy of pages 1-24, bound with pages 25-85, in August 1933, and of two copies in unbound form subsequently (one at an unknown date, the other in November 1934), cannot be so regarded; and the sending of pages 86-125 and 86-131 in unbound form to two individuals likewise does not constitute publication. The 2 new genera (*Mollugophytum* [by typographical error *Mollugophytum*] and *Hutchinsonia*), 132 new species (including Epling's *Salvia*), and 7 new varieties described on pages 25 to 85 (the "Extracts") are therefore validly published under the International Rules, but the single genus (*Nissoloides*), 9 species, and 2 varieties on pages 20-24, 125, and 135 (issued in April 1935) are not.

SYSTEMATIC TREATMENT

VERNONIEAE

***Vernonia camporum* Jones, Extracts from Contr. 18: 69. 1933.**

Jones 27696, Orendain, Jalisco, November 27, 1930. This is *VERNONIA SERRATULOIDES* H.B.K.

***Vernonia floccosa* Jones, Extracts from Contr. 18: 69. 1933.**

Jones 27700, La Barranca, Guadalajara, Jalisco, November 23, 1930. This is *BOLANOSA COULTERI* A. Gray. Jones' name is preoccupied by *V. floccosa* Gardn. (1846).

***Vernonia viarum* Jones, Extracts from Contr. 18: 69. 1933.**

Jones 288, Chiquilistan, Jalisco, May 30, 1892. This specimen was correctly identified by Dr. B. L. Robinson, who is quoted by Jones, as *VERNONIA DEPPEANA* Less., but Jones nevertheless proceeded to describe it as a new species.

EUPATORIEAE

***Brickellia cayucensis* Jones, Extracts from Contr. 18: 71. 1933.**

Jones 27818, Cayuca Ranch, Loreto, Baja California, October 23, 1930. "An isotype sheet of this [in Gray Herbarium], bearing the no. 27818 and data identical with those given in Jones' brief character, bears three specimens. The first is *B. glabrata* (Rose) Robinson, which with its rather sharply toothed leaves of relatively small size was presumably the element that suggested to Jones relationship to *B. coulteri* Gray. The second element is *B. macromera* Robinson, which

has the crenate-serrate leaves 1–1.5 inches long and petioles 1 cm. long [of Jones' description]. The third plant is malvaceous." (B. L. Robinson.) To this it may be added that the sheet in the Pomona College Herbarium (No. 193142), which should be taken as the type, bears four stems, of which one has been identified by Dr. Robinson as *B. macromera* and three as *B. glabrata*. Jones' vague description applies about equally well to either species except for his characterization of the leaves as 1 to 1.5 inches long and papillate-roughened, by which he presumably meant hispidulous, as the leaves are in the specimen of *B. macromera*, whereas they are smaller and quite glabrous and smooth in *B. glabrata*. In view of this distinctive item of his description I designate as lectotype of *B. cayucensis* the single stem of *B. MACROMERA* Robinson on sheet 193142 in the Pomona College Herbarium, despite the numerical preponderance of specimens of *B. glabrata*. Jones' name would become a synonym whichever way it were typified.

Brickellia diffusa Jones, Extracts from Contr. 18: 71. 1933.

Jones 27821, Guadalajara, Jalisco, November 24, 1930. "Jones' *B. diffusa*, known from description and an isotype, is *B. PANICULATA* (Mill.) Robinson." (B. L. Robinson.) Jones' name is a homonym of *B. diffusa* (Vahl) Gray, the commonest and most widely distributed species of the genus. Material not seen by me.

Brickellia megaphylla Jones, Extracts from Contr. 18: 71. 1933.

Jones "27814, Arroyo Undo [Ranch], [Loreto, Baja California,] Oct. 23 and 26, 1930." Two sheets sent from the Pomona College Herbarium, one (No. 192947) labeled No. 27814, Arroyo Undo Ranch, Loreto, October 26, 1930; the other (No. 192768), labeled Cayuca Ranch, Loreto, October 23, 1930, without collector's number. They are clearly identical specifically, although the leaves of the second are more sharply toothed; the first, in view of the published locality, is here selected as lectotype.

This species was regarded by Dr. Robinson, after examination of an isotype in the Gray Herbarium, as apparently distinct from but suspiciously close to *B. hastata* Benth., of the western side of Baja California. Of the two sheets before me, the one designated above as lectotype bears two branches, one a poorly developed tip with small leaves only 4–5 cm. long, some of which are decidedly triangular-hastate, the other with well-developed leaves with blades 7.5 to 9 cm. long and 5 to 7 cm. wide, decidedly suggestive of those of well-developed *B. grandiflora* in outline and tothing and with no more hastation than is frequent in that species, but with the apex blunt. The specimen on the other sheet has leaves similar to these larger leaves but with sharper and more jagged tothing toward the base. If the few specimens of *B. hastata* so far known represent the normal leaf form of that species, the two are quite distinct. A Latin description prepared by Dr. Robinson, slightly modified to include characters shown by this more ample material, may be given here:

"Fruticosa 1.2–2.4 m. alta tenuiter griseo-velutina; foliis (supremis aliquando exceptis) oppositis graciliter petiolatis subdeltoideo-ovatis ad apicem rotundatum angustum acuminatis grosse crenatis vel basi argute dentatis 7–9 cm. longis 5–7 cm. latis membranaceis utrinque praecipue in venis paginae inferioris griseo-pilosulis subtus paullo pallidioribus et glandulis lucidis adpersis basi leviter cordatis 3-nervatis, petiolis 2–3.5 cm. longis; corymbis amplis convexis subfastigiatis ramosis; capitulis graciliter pedicellatis 10–12-floris ca. 1 cm. longis 4 mm. diametro; involucri squamis ca. 17 angustis viridi-striatis laxe imbricatis valde inaequalibus omnibus acutatis; corollis albis 5.5 mm. longis; achaeniis graciliter cylindratis 3.5 mm. longis brunnescentibus sursum griseo-villosulis. BAJA CALIFORNIA: Arroyo Undo Ranch, Loreto, Oct. 26, 1930, Marcus E. Jones 27814."

Brickellia shineri Jones, Contr. 18: 22. 1935.

Jones 29411, "on the Sabino river, Mex., 80 miles west of Laredo, Tex., March 26, 1932." The type (Pomona Coll. Herb. No. 200174) bears a printed label giving the locality as Sabinal, Mexico. V. L. Cory, who, as well as V. J. Shiner, accompanied Jones on the trip on which this plant was collected, informs me that the correct date is March 25 and the correct locality Ojo de Agua, about 2½ miles out of Sabinas Hidalgo, Nuevo León, at a point where the Río Sabinas emerges from the mountains. The plant is *EUPATORIUM PARRYI* A. Gray, a rather rare species of northeastern Mexico and western Texas. Jones' description is comparatively full and includes mention of the 5-angled achenes, which place the species in *Eupatorium* rather than in *Brickellia*, to which genus it bears a decided habital similarity. Jones' name is not validly published under the International Rules, since it is not accompanied by a Latin diagnosis.

Brickellia undonis Jones, Extracts from Contr. 18: 71. 1933.

Jones 27822, Arroyo Undo Ranch, Loreto, Baja California, October 26, 1930. "An isotype of this, sent to the Gray Herbarium, proves to be *B. MACROMERA* Robinson." (B. L. Robinson.) I have examined the type (Pomona Coll. Herb. No. 192745).

Eupatorium arborescens Jones, Contr. 12: 43. 1908.

Jones, Guayanopa Cañon, Sierra Madre Mountains, Chihuahua, 3,600 feet altitude, in the Tropical Life Zone, September 24, 1903. Referred to the synonymy of *EUPATORIUM PALMERI* A. Gray by Robinson in Standley, "Trees and Shrubs of Mexico" (Contr. U. S. Nat. Herb. 23: 1448. 1925). Not seen by me.

Eupatorium megaphyllum Jones, Extracts from Contr. 18: 70. 1933.

Jones 27808, La Barranca, Guadalajara, Jalisco, November 17, 1930. The type was examined by Dr. Robinson and identified as *E. QUADRANGULARE* DC. Jones' name is a homonym of *E. megaphyllum* Baker (in Mart. Fl. Bras. 6²: 322. 1876).

Mikania anomala Jones, Extracts from Contr. 18: 70. 1933.

Jones "27806, Guadalajara, [Jalisco,] Nov. 26, 1930." Three sheets, all with the name *Mikania anomala* n. sp. typewritten on the label, were identified by Dr. Robinson and are now before me. One, labeled No. 27806, Guadalajara, November 24, 1930, is *Piqueria trinervia* Cav. The second, labeled No. 27793 (the number in the hand of Munz, not Jones), Guadalajara, November 26, 1930, is the same species. The third, labeled No. 27807, La Barranca, Guadalajara, November 21, 1930, is *Eupatorium trinerve* Sch. Bip., and since it does not agree with Jones' description or data, it can be excluded from consideration. The name *Mikania anomala* must be referred to the synonymy of *PIQUERIA TRINERVIA* Cav. The specimen labeled 27806 does not agree with Jones' description, having narrowly lanceolate, distinctly serrate leaves, and comparatively few young heads grouped toward the tips of the three branches. The sheet of No. 27793, consisting mainly of a compound inflorescence over a foot long, with subentire, almost linear leaves, and mature heads, is undoubtedly the basis of Jones' description and is here selected as lectotype. The date of collection agrees with that given in the original description, also, and the citation of the number of the other collection may be regarded as merely one of many such errors in his paper.

Stevia bisecta Jones, Extracts from Contr. 18: 70. 1933.

Jones "27800, Orendain, Jalisco, Nov. 27, 1930." "Of this species the type number cited was 27800, said to have been collected at Orendain, Jalisco, Nov. 27, 1930. Under No. 27805 a sheet of material with identical data is submitted which so closely agrees with Jones' description that it seems surely to represent the plant intended, though (possibly through clerical or typographical

error) the number was slightly altered. The plant is *AGERATELLA PALMERI* (Gray) Robinson, originally collected near Guadalajara nearly fifty years ago." (B. L. Robinson.) It may be added that the type in the Pomona College Herbarium (No. 192915) bears a specific name differing in its first syllable from the published one, and that the number on the label appears to have been altered from 27800 to 27805.

Stevia pulcherrima (Robinson) Jones, Extracts from Contr. 18: 71. 1933.

"Jones expresses the opinion that this plant [*BRICKELLIA PULCHERRIMA* Robinson] is a *Stevia* and should be called *S. pulcherrima*. This view can scarcely be held by anyone who takes the trouble to note the imbricated involucre, 8-9-flowered heads, and capillary pappus. Jones incidentally states that I created for this plant a section 'Stevioideae,' doubtless a slip of his memory for *Steviastrum*." (B. L. Robinson.)

ASTEREAE

Aster madrensis Jones, Contr. 12: 43. 1908.

"Also collected by me at Colonia Juarez, Chihuahua, Mex. The type is from San Diego Canon west of Juarez along streams in wet places, Sept., 1903, 6400 feet alt., in the Middle Temperate Life Zone." The type (Pomona Coll. Herb. No. 37620) is *ASTER EXILIS* Ell.

Baccharis squamulosa (A. Gray) Jones, Extracts from Contr. 18: 71. 1933.

Jones states: "He [Robinson] also keeps up Gray's *B[rickellia] squamulosa* which is a pistillate *Baccharis squamulosa*." *BRICKELLIA SQUAMULOSA* A. Gray is, of course, a true *Brickellia*, bearing only a superficial resemblance to *Baccharis pteronioides* DC. (*B. ramulosa* (DC.) A. Gray), which is no doubt the plant Jones had in mind.

Conyza pulcherrima Jones, Contr. 12: 47. 1908.

Jones, "Soldier Canon, Sierra Madre Mts., Chihuahua, Mex., Sept., 1903, at 6,000 feet alt., in the upper edge of the Lower Temperate Life Zone." The type (Pomona Coll. Herb. No. 40425), which bears on the label the specific name in the positive rather than the superlative degree, is *CONYZA GNAPHALIOIDES* H.B.K. The specimens are unusual in having the outer pappus composed of lacerate squamellae 0.5 mm. long, rather than of the usual short bristles.

Erigeron howardi Jones, Contr. 12: 45. 1908.

Jones, "Colonia Juarez, Chihuahua, Mex., 6,000 feet alt., Sept., 1903, in the Middle Temperate Life Zone." A sheet (No. 37622) in the Pomona College Herbarium matches Jones' data and unusually careful description so well that I have no doubt it is actually the type, although it bears no name. The whole plant (stem, leaves, and involucre) is hispid-pilose, with spreading, more or less upcurved hairs with somewhat tuberculate bases, not strigose as described by Jones, and may be biennial rather than annual. It is closely related to *Achaetogeron linearifolius* S. Wats., of Hidalgo and the State of Mexico, differing in its annual or perhaps biennial (not perennial) root, dense and conspicuous, spreading or spreading-ascending (not sparse, inconspicuous, and appressed or subappressed) stem pubescence, and its shorter crown of squamellae (only 0.1 to 0.2 mm. long, less than half as long as the tube of the disk corollas; in *A. linearifolius* 0.4 to 0.5 mm. long, from half to essentially as long as the tube). It becomes *Achaetogeron howardi* (Jones) Blake. *Palmer* 351 (of 1896), from the vicinity of the city of Durango, belongs to the same species.

Erigeron sylvestris Jones, Contr. 12: 44. 1908.

Jones, "open woods, Soldier Canon, Sierra Madre Mts., [Chihuahua,] Mex., Sept., 1903, 6500 feet alt., in the Middle Temperate Life Zone." No specimen

so labeled by Jones has been found, but a sheet (Pomona Coll. Herb. No. 39229) bearing the same data and agreeing perfectly with Jones' description is undoubtedly the type. The stem is pilose, with the hairs mostly spreading except in its upper part, where they become ascending or (on the peduncles) subappressed; the heads are 2.5 to 3 cm. wide, the rays about 100 (pink in bud, white at maturity) and the involucre about 3-seriate, slightly graduated, 4.5 mm. high, of linear acuminate greenish phyllaries spreading-pilose along the midline. The disk achenes are obovate, strongly compressed, 2-nerved, very sparsely puberulous on the sides, the pappus a minute fimbriate crown without bristles. It is a form of *ACHAETGERON PALMERI* A. Gray with pubescence more spreading than usual, and is pretty well matched in this respect by *E. A. Goldman* 190a, from the Sierra Madre, Chihuahua, 65 miles southeast of Batopilas, about 7,000 feet altitude, which Miss Esther L. Larsen (now Mrs. Kenneth D. Doak) in her unpublished revision of *Achaetogeron* has referred to *A. palmeri*.

***Erigeron tenuicaulis* Jones, Contr. 12: 44. 1908.**

Jones, "on hillsides east of Hop Valley, Sierra Madre Mts., Chihuahua, Mex., 7,000 feet alt., in the Middle Temperate Life Zone, Sept., 1903." No material with corresponding data could be found by Dr. Munz. However, two sheets were sent (Pomona Coll. Herb. Nos. 39221, 39223), obviously belonging to one collection and labeled "Mesa, west of Soldier Canyon, Sierra Madre Mts., Chihuahua, Sept. 16, 1903, alt. 7,000 ft.," which agree so closely with Jones' rather careful description that I have little doubt that they are the actual collection cited and that the discrepancy in data is due merely to a different way of describing the locality. They are *ACHAETGERON AFFINIS* A. Gray, and Jones' description, interpreted in the light of these specimens, agrees so well with that species that I have no hesitation in referring his name to its synonymy.

HELIANTHEAE

***Aspilia grosseserrata* Jones, Extracts from Contr. 18: 84. 1933.**

Jones 27778, "La Barranca, Guadalajara, [Jalisco,] November 17, 1930" (November 16 on the printed label). Jones' description is unusually inaccurate, but from its general correspondence I do not doubt that it was actually drawn from the sheet so labeled (by Munz) and so numbered, which is *SIMSIA SANGUINEA* A. Gray var. *PALMERI* (S. Wats.) Blake. The type of this came from Río Blanco, Jalisco, and it has been collected at Guadalajara by Pringle. The achenes in Jones' plant are glabrous and epappose, despite his description; he probably mistook split margins of disk pales for pappus.

***Bebbia filifolia* Jones, Extracts from Contr. 18: 80. 1933.**

Jones 27783, Cayuca Ranch, Loreto, Baja California, October 23, 1930. This is merely *BEBBIA JUNCEA* (Benth.) Greene, approaching the formal var. *aspera* Greene in having the leaves (but not the stem) hispidulous. The leaves, described by Jones as filiform, 3-5-parted, and 3 to 4 inches long, are actually linear or very narrowly linear-lanceolate, about 4 cm. long, entire or with one or two teeth or short lobes. On the young branches the leaves are sometimes alternate, and the resemblance between the leaves themselves and the branches on which they are borne has led to Jones' error.

***Berlandiera macrophylla* (A. Gray) Jones, Contr. 12: 48. 1908.**

Gray's concept of this plant, as *BERLANDIERA LYRATA* Benth. var. *MACROPHYLLA* A. Gray (Syn. Fl. N. Amer. 1²: 243. 1884), seems to me preferable to that of Jones.

***Bidens barrancae* Jones, Extracts from Contr. 18: 82. 1933.**

Jones 27757, La Barranca, Guadalajara, Jalisco, November 23, 1930. After examining the type, Dr. E. E. Sherff, in his monograph of *Bidens* (Field Mus.

Publ. Bot. 16: 444, 446. 1937) referred Jones' species to *BIDENS PILOSA* L. var. *BIMUCRONATA* (Turcz.) O. E. Schulz f. *ODORATA* (Cav.) Sherff.

***Bidens orendainae* Jones, Extracts from Contr. 18: 82. 1933.**

Jones 27770, Orendain, Jalisco, November 27, 1930. This is referred by Sherff (*op. cit.* 456), after examination of the type, to *BIDENS PILOSA* var. *CALCICOLA* (Greenm.) Sherff.

***Coreopsis diffusa* Jones, Extracts from Contr. 18: 73. 1933.**

Jones 27720, La Barranca, Guadalajara, Jalisco, November 17, 1930. This is referred by Sherff, in his monograph of *Coreopsis* (Field Mus. Publ. Bot. 11: 453. 1936), to *CHRYSANTHELLUM MEXICANUM* Greenm. (1903).

***Coreopsis paludosa* Jones, Contr. 12: 46. 1908 (as *paludosus*).**

Jones, "Marsh Lake, Sierra Madre Mts., Chihuahua, Mex., 7,000 feet alt., in the Tropical Life Zone, Sept., 1903." This is retained as a valid species by Sherff in his monograph of the genus (Field Mus. Publ. Bot. 11: 434. 1936), although it is omitted from his key. Sherff cites in addition to the type (which I have not seen) a sheet in the Pomona College Herbarium collected by Jones at Meadow Valley in the Sierra Madre, Chihuahua, September 17, 1903. Another sheet (Pomona Coll. Herb. No. 30208), labeled as collected by Jones on mesa west of Hop Valley, Sierra Madre Mountains, Chihuahua, 7,000 feet, September 17, 1903, is evidently the same species, although its basal leaves are much smaller than those described by Jones and are entire. Two sheets in the U. S. National Herbarium collected by Dr. E. W. Nelson, one (*Nelson* 4783a) from the Sierra Madre, 30 miles north of Guanaceví, Durango, 8,000 to 9,000 feet, August 18, 1898, the other (No. 6104) from the Sierra Madre, Chihuahua, June-July 1899, belong to the same species.

***Dyschoris* Jones, Contr. 18: 125. 1935; *Didymocoris* Jones, Contr. 18: 127. 1935.**

On page 127, after a discussion of the characters of the genus *Dicoria*, Jones continued, in a phrase suggestive of Rafinesque: "Had Gray known that there are 2 opposed bracts he might have called the genus *Didymocoris*, a better name." On page 125, in a similar vein, after discussing the change of name from the original *Dicoris* Torr. & Gray (in Emory, Notes Milit. Recon. 143. 1848, without description or mention of species) to *Dicoria* Torr. & Gray (in Torrey, U. S. & Mex. Bound. Bot. 87.1859), he had stated: "It would have been better to leave the original name unchanged or to have called it *dyschoris*, false bug, which would have been better Greek, than to use a corrupt and an unclassical spelling for *choris*, bug." The name for bug in Greek is *κόρις*; there is no word *χορίς*, and *χωρίς* is an adverb meaning separately; and the prefix *δυσ* means bad or ill but not false. The two names unnecessarily made by Jones of course enter the synonymy of *Dicoria* and in my opinion are to be regarded as published in synonymy rather than as "provisional" or "alternative" names.

***Eclipta pusilla* Jones, Extracts from Contr. 18: 70. 1933.**

Jones 27739, Arroyo Undo Ranch, Loreto, Baja California, October 26, 1930. This is *MELAMPODIUM CUPULATUM* A. Gray, which apparently has not previously been recorded from Baja California although it is known from Sonora and Sinaloa. The five phyllaries are connate for more than half their length, very blunt, loosely hirsute, and provided with a narrow subscarios margin above.

***Encelia anomala* Jones, Extracts from Contr. 18: 82. 1933.**

Jones "27716, Arroyo Undo, Oct. 25, 1930." Three sheets representing this species are on loan from the Pomona College Herbarium. Two are numbered 27716 on the label but are from Cayuca Ranch, Loreto, October 23, 1930; one of

these is labeled *Encelia anomala* n. sp. (typewritten), the other bears an unpublished name (as a new species), also under *Encelia*. The third is numbered 27715, Arroyo Undo Ranch, Loreto, October 26, 1930, and carries the same unpublished specific name. Thus none agrees completely with the data as given by Jones. Fortunately, the selection of a type is a matter of no great importance, since all three sheets are clearly conspecific and are in fact *HELIOPSIS PARVIFOLIA* A. Gray. I designate the third sheet mentioned (Pomona Coll. Herb. No. 193731) as lectotype, since it is the only one from the locality cited, although its number (27715) and date do not agree. Since it is obviously impossible to select a type specimen with data agreeing in all respects with those given in the original description, it has seemed best to choose one that will preserve the type locality as published without change. Although apparently not previously reported from Baja California, *Heliopsis parvifolia* has been found there by several collectors but has been regarded as *H. buphthalmoides* (Jacq.) Dunal.

***Encelia lineariloba* Jones, Contr. 18: 21. 1935.**

Jones 29410, Laredo, Tex., March 23, 1932 (March 24 on the label). This is *VIGUIERA STENOLOBA* Blake (1918). Jones' name, included in that part of Contribution No. 18 published after December 31, 1934, is invalid under the International Rules, not being accompanied by a Latin diagnosis.

***Franseria acerifolia* Jones, Extracts from Contr. 18: 78. 1933.**

Jones 27765, Cayuca Ranch, Loreto, Baja California, October 23, 1930, and *Jones* 27764, Arroyo Undo Ranch, Loreto, October 26, 1930. Both collections are *FRANSERIA ARBORESCENS* T. S. Brandeg. The first, *Jones* 27765 (Pomona Coll. Herb. No. 193273), is designated as lectotype.

***Galinsoga sphaerocephala* Jones, Extracts from Contr. 18: 79. 1933.**

"*Galinsoga* Ruiz and Pav. Whether there is more than the one species here I do not know. The ray flowers are white and very short; the pappus is of several oblong scales variously lacerate and pointed. My species, *sphaerocephala* exaristate, is epappose, but otherwise as in *G. parviflora* and has linear or very narrow leaves." (Jones, l. c.).

Just what Jones intended by this paragraph, which is copied exactly as it appeared, will never be known. Possibly some lines dropped out in his typesetting. Dr. Munz has sent eight sheets of material examined by Jones. Three of these were marked "*sphaerocephala* Jones" on the sheet, not on the label, in Jones' own hand; no other sheet is labeled by Jones himself. These three, from New Mexico (*E. L. Greene*, Pinos Altos Mountains, August 14, 1880; *Wootton* 501, White Mountains, Lincoln County; *Wootton*, Organ Mountains, October 18, 1903) are all *GALINSOGA SEMICALVA* (A. Gray) St. John & White (1920). Two other sheets so labeled by Munz come from the Sierra Madre, Chihuahua, both collected by Jones, one from Mound Valley, September 18, 1903, altitude 7,000 feet, the other from San Diego Canyon, September 16, 1903, altitude 6,400 feet. Both are *G. semicalva*, and the sheet from San Diego Canyon (Pomona Coll. Herb. No. 31053), is designated as lectotype.

There are also three sheets labeled by Munz with a specific name under *Galinsoga* that was not actually published by Jones, although he no doubt had it in manuscript. All are *Sabazia microcephala* DC. var. *puberula* DC. Two sheets, marked type collection by Munz, were collected by Jones in San Diego Canyon, Sierra Madre Mountains, Chihuahua, September 16, 1903, at 6,400 feet altitude. The third, a single dwarf plant, is labeled as collected in Soldier Canyon on the same date at 6,500 feet. In all these the stem is essentially glabrous below the inflorescence, the pedicels are pilose with spreading gland-tipped hairs, and the achenes are all epappose. In the two sheets of larger specimens the ray achenes

are sparsely hispidulous and the disk achenes more densely so; in the single small specimen those of the ray are glabrous, of the disk sparsely hispidulous.

Jones' brief description is evidently a jumble derived from the two species mentioned. The words "exaristate" and "epappose" can refer only to the *Sabazia*, which is completely epappose, whereas the pappus of the *Galinsoga*, on the disk achenes at least, is too obvious to have been overlooked. The character "linear or very narrow leaves," on the other hand, refers only to *Galinsoga semicalva*.

The only specific name actually printed by Jones is [*Galinsoga*] *sphaerocephala*. This must be referred to the synonymy of *G. semicalva* and can hardly be regarded as more than a hyponym.

Guardiola diehlii Jones, *Contr.* 12: 48. 1908.

"Albuquerque and Socorro [sic], New Mexico, August, 1903, Diehl." The description calls for a plant a foot high with leaves 2 inches long. Two sheets were sent. One (Pomona Coll. Herb. No. 40420), collected by I. E. Diehl (No. 593) at Socorro, August 26, 1903, agrees with the description and is taken as lectotype. The other, collected by Diehl (No. 106) at Albuquerque, October 1, 1903, although no doubt the basis of Jones' Albuquerque citation, is a dwarf plant only about 9 cm. high, with the largest leaves 2 cm. long. Both are *FLAVERIA CAMPESTRIS* J. R. Johnston.

Lagophylla scabrella [Drew] Jones, *Extracts from Contr.* 18: 79. 1933.

Based on "*Hemizonia truncata* var. *scabrella* Jepson," a name which did not exist until Jones made it here. The synonym obviously intended was *Calycadenia truncata* var. *scabrella* (Drew) Jepson (*Man. Fl. Pl. Calif.* 1093. 1925), which was based on *Hemizonia scabrella* Drew (*Bull. Torrey Club* 16: 151. 1889). Drew's plant has been variously treated as a species, subspecies, or variety under *Calycadenia* and *Hemizonia* by different authors. The one thing clear is that the plant, at least Drew's original, is not a *Lagophylla*.

Melampodium anomalum Jones, *Extracts from Contr.* 18: 72. 1933.

Jones 27727, La Barranta, Guadalajara, Jalisco, November 17, 1930. This is *TRAGOCEROS SCHIEDEANUM* Less. Two sheets of the type number are in the Pomona College Herbarium; I designate No. 193188 as lectotype.

Melampodium durandi (A. Gray) Jones, *Contr.* 15: 156. 1929, and *M. minimum* (A. Gray) Jones, *loc. cit.*

Jones' transfer of these two species was prefaced by the remark: "It is evident to me that *Hemizonella* of Gray is a part of the genus *Melampodium* [*Melampodium*]." He added: "Both the above species are closely allied to *Melampodium hispidum* H.B.K." Jones' generic concept here overleaps the subtribal boundaries that have been placed between *Melampodium* and *Hemizonella* by more serious students of the family, who will be content to retain the two species, if they are really distinct, as *HEMIZONELLA DURANDI* A. Gray and *H. MINIMA* A. Gray. If they are united, the proper name is *H. durandi* A. Gray.

Melampodium minutiflorum Jones, *Extracts from Contr.* 18: 72. 1933.

Jones 27738, La Barranta, Guadalajara, Jalisco, November 17, 1930. This is *GALEANA PRATENSIS* (H.B.K.) Rydb., a member of the tribe Helenieae. Rydberg recognized three species of *Galeana*, but his third species, *G. arenarioides* (Hook. & Arn.) Rydb., can certainly be reduced to *G. pratensis*, and *G. hastata* seems only dubiously distinct from it. Rydberg separated *G. arenarioides* from the two other species by its 4-toothed, mostly sterile disk flowers (5-toothed and partly fertile in the others), its shorter leaves (mostly less than 1 cm. long, instead of 1.5 to 3 cm.), and its lower growth (0.5 to 1.5 dm. high, instead of 2 to 3 dm.). Although Rydberg, *more suo*, did not write the name *G. arenarioides* on any sheets among the material he borrowed from the U. S. National Herbarium in connection

with the preparation of his treatment for the North American Flora, he did write it on the species cover in which he returned sheets of *Palmer* 1824 (of 1892) from Tepic and *Pringle* 2330 from Jalisco. It is a fair inference, therefore, that he regarded these specimens as representing his *G. arenarioides*, particularly since he cites the species only from these same two states. In both the disk corollas are 5-toothed, not 4-toothed as originally described by Hooker & Arnott and repeated by Rydberg, and in other respects they offer no distinctions of the slightest consequence to separate them from material that he has labeled *G. pratensis*. The specimens of *Jones* 27738 represent a profusely branched late-season form, with the primary leaves fallen and the small, entire, elliptic or narrowly obovate leaves of the branches much in evidence, giving the plant quite a different aspect from the rather trim and sparsely branched, *Galinsoga*-like plants of the early season.

***Polymnia nervata* Jones, Contr. 12: 44. 1908.**

Jones, "Guayanopa Canon, Sierra Madre Mts., Chihuahua, Sept., 1903, 3600 feet alt., in the Tropical Life Zone." This is *MONTANOA PATENS* A. Gray, the type of which also came from Chihuahua.

***Sanvitalia longepedunculata* Jones, Extracts from Contr. 18: 78. 1933.**

Jones "27761 and 27729, La Barranca, Guadalajara, Jalisco, November 19, 1930." Only No. 27761 has been examined, the sheet of which (Pomona Coll. Herb. No. 193601) is hereby designated as lectotype. It is *SPILANTHES OCYMI-FOLIA* (Lam.) A. H. Moore.

***Sclerocarpus triumfonis* Jones, Extracts from Contr. 18: 77. 1933.**

Jones 27717, Triunfo, Baja California, October 6, 1930. This is *SCLEROCARPUS DIVARICATUS* (Benth.) Benth. & Hook. f. The species has not previously been recorded from Baja California, but its occurrence there is not surprising in view of its weedy nature.

***Spilanthus palustris* Jones, Contr. 12: 45. 1908.**

Jones, "Marsh Lake, Sierra Madre Mts., Chihuahua, Mex., Sept., 1903, 7,000 feet alt., in the Middle Temperate Life Zone." This is *JAEGERIA GLABRA* (S. Wats.) Robinson, originally described from the base of the Sierra Madre, Chihuahua.

***Verbesina ampla* Jones, Extracts from Contr. 18: 75. 1933.**

Jones 27780, La Barranca, Guadalajara, Jalisco, November 17, 1930. "Also No. 27699." I have seen only No. 27780, hereby designated as lectotype (Pomona Coll. Herb. No. 192828), which is the common and well-known *VERBESINA GREENMANII* Urban.

***Verbesina cayucensis* Jones, Extracts from Contr. 18: 76. 1933.**

Jones 27718, Cayuca Ranch, Loreto, Baja California, October 23, 1930. An isotype in the U. S. National Herbarium shows that this is *VERBESINA PENINSULARIS* Blake (1924). Munz writes that the species does not seem to be represented at Pomona.

***Verbesina grandis* Jones, Contr. 15: 154. 1929.**

Jones "No. 23420, Tepic, February 14, 1927, and No. 23421, Acaponeta, Nayarit, February 26, 1927." I have seen only No. 23420, hereby designated as lectotype (Pomona Coll. Herb. No. 200027), which is *VERBESINA GREENMANII* Urban (1907). Jones' name is preoccupied by *Verbesina grandis* Blake (1924).

***Verbesina monticola* Jones, Contr. 12: 47. 1908.**

I. E. Diehl, "Mound Valley, Sierra Madre Mts., Chihuahua, Mex., in meadows, at 7,000 feet alt., Sept., 1903, in the Middle Temperate Life Zone." The type (Pomona Coll. Herb. No. 39615) is *VIGUIERA CORDIFOLIA* A. Gray var. *GENUINA* Blake and is a form with lance-ovate leaves about 10 cm. long by 2.8 cm. wide. Jones' name is a homonym of *Verbesina monticola* Hook. f. (1864).

Verbesina pustulata Jones, Extracts from Contr. 18: 77. 1933.

Jones 27711, The Laguna, Laguna Mountains, Baja California, September 22, 1930. This is apparently a good species of the section *Sonoricola*, close to *V. erosa* T. S. Brandeg and distinguished chiefly by its closely and rather evenly serrate leaves (teeth 4 or 5 per cm.), which are densely griseous-hirsute-pilose beneath and truncate-rounded at the base, where abruptly contracted into the short winged petiole. The three sheets of *V. erosa* examined show considerable variation in shape, tothing, and pubescence of the leaves, however, and it is possible that with more material the two will be found to intergrade. The immature achenes of *V. pustulata* are obovate, 4.5 mm. long, with narrow ciliate wings and glabrous or appressed-pilose sides; one pappus awn is 2.8 to 3.5 mm. long, the other scarcely half as long.

Viguiera longiligula Jones, Extracts from Contr. 18: 75. 1933 (as *Viguiera*).

Jones "27708, La Barranca, [Guadalajara, Jalisco,] Nov. 15, 1930." What is apparently the type sheet has no collecting number, bears the typewritten name *Viguiera longiligula* n. sp., and is dated November 16, 1930 (printed label). It is *VIGUIERA DENTATA* (Cav.) Spreng. var. *CANESCENS* (DC.) Blake, with which Jones' description agrees well enough.

Viguiera magnicapitata Jones, Extracts from Contr. 18: 76. 1933 (as *Viguiera*).

Jones 27701, La Barranca, Guadalajara, Jalisco, November 23, 1930 (November 25 on label). This is *VIGUIERA PACHYCEPHALA* (DC.) Hemsl. var. *GENUINA* Blake.

Viguiera triangularis Jones, Extracts from Contr. 18: 75. 1933 (as *Viguiera*).

Jones 27710, Arroyo Undo Ranch, Loreto, Baja California, October 26, 1930. This is *VIGUIERA DELTOIDEA* A. Gray, in a nontypical form approaching var. *parishii* (Greene) Vasey & Rose.

Zexmenia epapposa Jones, Contr. 15: 155. 1929.

Jones 23394, Acaponeta, Nayarit, near the El Tigre Mine, March 1, 1927. This is *WEDELIA ACAPULCENSIS* H.B.K. The name is poorly chosen, as the plant has the normal squamellate pappus of *Wedelia*.

Zexmenia pustulata Jones, Extracts from Contr. 18: 80. 1933.

Jones, "northwestern Mexico, 1930." The sheet in the Pomona College Herbarium (No. 192946), marked by Munz as *Zexmenia pustulata* Jones, n. sp., bears the collecting number 27703 and is from La Barranca, Guadalajara, Jalisco, November 19, 1930. Jones' description agrees so well that there seems no reason to doubt that this sheet is actually the type. It is *VERBESINA SPHAEROCEPHALA* A. Gray, the type of which also came from Guadalajara.

Zinnia barrancae Jones, Extracts from Contr. 18: 78. 1933.

Jones 27698, La Barranca, Guadalajara, Jalisco, November 17, 1930. This is *ZEXMENIA GREGGII* A. Gray, the type of which also came from Jalisco.

HELENIEAE

Bahia depressa Jones, Contr. 17: 31. 1930.

Jones, "on cliffs near the Devil's River, [Val Verde County,] Texas, April 22, 1930." This is the only one of Jones' new Asteraceae, except the *Palafoxia* and a few Eupatorieae and Coreopsidinae examined by Robinson and Sherff, respectively, of which I have not seen the type or any authentic material. From description it is certainly the very distinctive *DYSSODIA MICROPOIDES* (DC.) Loes., with the outer pappus overlooked.

Chaenactis carphoclinia A. Gray var. *attenuata* (A. Gray) Jones, Contr. 12: 48. 1908.

Jones' reduction of *Chaenactis attenuata* A. Gray to varietal rank is justified by the inconstancy of the distinctive characters.

Dyssodia fimbriata Jones, Extracts from Contr. 18: 81. 1933 (as *Dysodia*).

Jones 27784, La Barranca, Guadalajara, Jalisco, November 16, 1930. The specimen sent agrees with Jones' description and with his data, except that the date is given as November 23. It is *DYSSODIA CANCELLATA* (Cass.) A. Gray.

Hutchinsonia hyalina Jones, Extracts from Contr. 18: 85. 1933.

"Named for Mrs. Susan W. Hutchinson who was with me in Arizona [Arizona] in 1931 and who collected this at Peach Springs in 1932." The type (Pomona Coll. Herb. No. 199211), was collected by Mrs. Hutchinson (No. 4595) west of Peach Springs, 4,000 feet altitude, on September 4, 1932. This plant, described as a new genus and species, is *HYMENOTHRIX LOOMISII* Blake (1927). This identification was communicated to Mrs. Hutchinson, who had sent a fragment of her material at my request, and the genus was retracted by Jones (*l. c.* 125,128) in two characteristic comments of which the last may be quoted: "Hutchinsonia hyalina Jones (See above) is a rayless form of *Hymenothrix wislizeni* Gray which Blake has mistakenly named *H. Morrissii* [*sic*], it is not often that one can correct two blunders at once but his species cannot be maintained in the face of intergrades. I am indirectly obliged to him for the correction." Jones' generic name is a homonym of *Hutchinsonia* Robyns (Bull. Jard. Bot. Brux. 11: 24. 1928).

Hymenothrix wislizeni var. *setiformis* Jones, Contr. 12: 47. 1908.

"Oracle, Arizona, Aug. 28th, 1903. Tucson, Santa Rita Mts., Nutt, New Mexico, and an intermediate form at Colonia Juarez, Chihuahua, Mex." Two sheets seen: One from Oracle, Ariz., collected by Jones on the date given (here designated as lectotype: Pomona Coll. Herb. No. 30902); the other from Nutt, N. Mex., September 2, 1903, *I. E. Diehl*. Both are normal *HYMENOTHRIX WISLIZENI* A. Gray.

Laphamia scopulorum Jones, Contr. 12: 48. 1908.

Jones, "Colonia Juarez, Chihuahua, Mex., Sept., 1903, at 6,000 feet alt., in the upper edge of the Lower Temperate Life Zone." Jones' name was doubtfully referred to the synonymy of *Perityle coronopifolia* A. Gray by Rydberg in the North American Flora (34: 19. 1914), evidently on the basis of description only, and my doubtful record of this species from Chihuahua in Kearney & Peeble's "Flowering Plants and Ferns of Arizona" (p. 972) was based on Rydberg's reference. Although superficially very similar to the dwarfer forms of that species with the most finely divided leaves, *L. scopulorum* is in fact a genuine *Laphamia* as I distinguish the genera, having the achenes linear-oblong, 2 mm. long, with very narrow callous margin, densely pilosulous all over on the sides as well as the margin (hence not definitely ciliate), with a pappus of two unequal awns up to 2 mm. long and a short crown of lacerate squamellae. It is a distinct species apparently nearest *Laphamia dissecta* Torr. but is readily distinguished by its white-rayed (not discoid) heads and its usually much smaller disk corollas (3 mm. long), with the proper tube nearly or quite as long as the cylindrical throat and the teeth densely pilose on back (not merely glandular or sparsely pilose), as well as by its more finely divided leaves.

Palafoxia linearis var. *gigantea* Jones, Extracts from Contr. 18: 79. 1933.

Jones, sand dunes west of Yuma, Ariz., September 26, 1931. This is a valid variety. The type has not been examined, but other material has been seen from the same region, including the type of the synonymous var. *arenicola* A. Nels. (Amer. Journ. Bot. 23: 265. 1936).

Pectis multiflora Jones, Contr. 12: 45. 1908.

Jones, "Soldier Canyon, Sierra Madre Mts., Chihuahua, Sept., 1903, in the Tropical Life Zone." Two sheets of the type collection sent, of which sheet No. 31382 (Pomona Coll. Herb.) is taken as lectotype. The specimens are *PECTIS BARBERI* Greenm., the type of which came from the Sierra Madre near Colonia García, Chihuahua, but for the most part they are so much more vigorous than the type specimens of this name that they might be taken for a different species if it were not for the intermediate forms also present in the same collection. The smaller specimens of Jones' plant are essentially scapose, up to 15 cm. high, with about 12 phyllaries, and agree well enough with Greenman's type collection. Larger plants are sprawling, several-stemmed, the stems once or twice dichotomous, the stem leaves oblanceolate, up to 3.5 cm. long and 5.5 mm. wide, and separated by internodes 2.5 to 4.5 cm. long, the involucre made up of as many as 20 phyllaries. Other less-developed heads on the same plant, however, have the normal number of phyllaries.

Pectis papposa ("papoosa") var. *sessilis* Jones, Contr. 12: 46. 1908.

"Socorro, New Mexico, and near Hillsbora [Hillsboro], I. E. Diehl, Aug., 1903, in the Tropical Life Zone." Two sheets sent, one collected by Diehl (No. 612) at Socorro, August 26, 1903 (lectotype, Pomona Coll. Herb. No. 30654), the other collected between Hillsbora and Lake Valley, September 2, 1903. Neither is labeled by Jones, but there can be no doubt that they are type material. Both are *PECTIS AUGUSTIFOLIA* Torr., to which Jones' variety has already been reduced by Rydberg (N. Amer. Fl. 34: 210. 1916). In both the pappus is not absent as described, but is reduced to a short subentire crown.

Porophyllum nodosum Jones, Extracts from Contr. 18: 82. 1933.

Jones 22684, La Paz, Baja California, November 15, 1926. This is *POROPHYLLUM GRACILE* Benth.

Porophyllum purpureum Jones, Extracts from Contr. 18: 81. 1933.

Jones 27777, La Barranca, Guadalajara, Jalisco, November 21, 1930. The type (Pomona Coll. Herb. No. 192964) is *POROPHYLLUM VIRIDIFLORUM* (H.B.K.) DC. A second sheet bearing the same name and number but the printed label "Orendain, Jalisco, Nov. 27, 1930," is so closely similar in every way that it is probably a plant of the type collection with a misplaced label. Nearly all the heads have fallen from both specimens, leaving the thickened peduncle tips with characteristically pitted receptacles. The few corollas remaining are so old and moldy that their original color can only be guessed at. By implication, Jones guessed that it was purple, since he contrasts it in this respect with his *P. rotundifolium* with greenish flowers; he does not mention the flower color, however, and his specific name may have had reference to the purplish-brown stems.

Porophyllum rotundifolium Jones, Extracts from Contr. 18: 81. 1933.

Jones 27777a, Orendain, Jalisco, November 27, 1930. This also is *POROPHYLLUM VIRIDIFLORUM* (H.B.K.) DC., looking somewhat different from the last because it is in good flower rather than in old fruit. The heads in both are erect, as they usually are in this species, although Rydberg keys out *P. viridiflorum* and *P. nutans* from related species by their "distinctly nodding" heads.

Porophyllum simplex Jones, Contr. 12: 46. 1908.

Jones, "Guayanopa Canon, Sierra Madre Mts., Chihuahua, Mex., [3,600 feet altitude,] Sept., 1903, in the Tropical Life Zone." This is retained as a species by Rydberg and separated in his key (N. Amer. Fl. 34: 183. 1916) from the related *P. coloratum* (H.B.K.) DC., *P. linaria* (Cav.) DC., *P. seemannii* Sch. Bip., and *P. guatemalense* Rydb. by having its phyllaries "conspicuously purple-dotted,

acuminate," those of the other species mentioned being "merely purple-tinged, acute." The alleged difference in acuteness of the phyllaries is nonexistent, and the presence or absence of purple dots is certainly not of systematic significance. The young phyllaries in Jones' type are densely purple-speckled, but in the older heads, in which the phyllaries have assumed a more uniform purple color toward the margin, the spotting becomes weak or invisible. *Rose, Standley, & Russell* 12795, which Rydberg has labeled *P. coloratum*, is spotted like Jones' type of *P. simplex*. *Pringle* 11565, which has in general the deep purple and strongly glaucous involucre of *P. coloratum*, shows dense purple speckling under the purple suffusion. *P. simplex* was described by Jones as annual, but the specimen sent as type has no root. The plant is pretty clearly distinct from *P. coloratum* (H.B.K.) DC., which is an annual with extremely narrow leaves, but I cannot separate it specifically from *Palmer* 215 (of 1885), from Chihuahua, which has been referred to *P. seemannii* Sch. Bip., a species of which I have not seen the type. I therefore place *P. simplex* as a probable synonym of *P. seemannii*. Although described by Rydberg as linear or narrowly linear-oblongate, the leaves on Jones' type of *P. simplex* are chiefly elliptic or elliptic-oblongate, with a blade 3 to 4 cm. long, 5 to 8 (12) mm. wide, on slender petioles 5 to 8 mm. long.

SENECIONEAE

Cacalia coriacea Jones, Extracts from Contr. 18: 80. 1933.

Jones, Orendain, Jalisco, November 28, 1930 (November 27 on label). The sheet (Pomona Coll. Herb. No. 192759) agrees well with Jones' description and is *CACALIA PLATYLEPIS* Rob. & Seaton, the type of which came from Río Blanco, Jalisco.

Cacalia tepicana Jones, Contr. 15: 156. 1929.

Jones 23357, Tepic, Nayarit, February 10, 1927. This is *SENECIO HARTWEGI* Benth. The stem and even the youngest leaves on the specimen, which is in rather old fruit, are only thinly tomentose, but the plant is clearly identical with *Palmer* 1847 (of 1892) from Tepic and like it is referable to *S. hartwegi* rather than to *S. seemannii* Sch. Bip., if the latter is really specifically distinct.

MUTISIEAE

Perezia foliosa Jones, Contr. 15: 154. 1929.

Jones "23358, La Barranca, Nayarit, February 21, 1927." The sheet sent (Pomona Coll. Herb. No. 162388), labeled as type by Munz, agrees well with Jones' description and data but is numbered 23359; Jones' citation of the number as 23358 is doubtless a typographical error. It is *PEREZIA LONGIFOLIA* Blake (1928) and is referred to that species by Bacigalupi in his monograph. Jones' name is a homonym of *P. foliosa* Rusby (1896). Jones described the leaves as linear-lanceolate to oblong-lanceolate, 1 to 1.5 cm. long, 2 to 3 cm. wide. The "1-1.5 cm." is doubtless an error for 1 to 1.5 dm.; the leaves of the type actually measure 13.5 to 21.5 cm. long.

Perezia kuhnioides Jones, Extracts from Contr. 18: 73. 1933.

Jones 27693, La Barranca, Guadalajara, Jalisco, November 25, 1930 (type, Pomona Coll. Herb. No. 192834). A second sheet (No. 192831), bearing the same number in Jones' hand on the label and from the same locality but dated November 21, is a plant of the same species showing the lower part of the stem and well-developed leaves, which are lacking on the other sheet. Both are *PEREZIA RIGIDA* (DC.) A. Gray var. *LINEARIFOLIA* Bacigalupi. This varietal name is unfortunately chosen, inasmuch as the principal leaves are by no means linear. The involucre in Jones' plant is 7 to 7.5 mm. high, not 4 mm. as he gives it.

***Perezia nervata* Jones, Extracts from Contr. 18: 74. 1933.**

Jones, "Orendain, Jalisco, Nov. 26, 1930." The sheet (No. 192577) labeled as type of this species by Munz agrees well enough with Jones' description and is undoubtedly the type; it is dated November 28. Another sheet of the same species in better condition (*Jones* 27696, Orendain, November 27, 1930) is labeled through some error as *Perezia kuhnioides* Jones, n. sp., but agrees so well with the other sheet that it may well be merely a better-prepared specimen of the same collection. Both are *VERNONIA SERRATULOIDES* H. B. K. Jones had precedent in his error, for the same species was described as a *Perezia* (*P. paniculata*) by Gray in 1886.

***Perezia nitens* Jones, Extracts from Contr. 18: 73. 1933.**

Jones 27798, Guadalajara, Jalisco, November 26, 1930. This is *GOCHNATIA GLOMERIFLORA* A. Gray. It was once described by Sereno Watson as a *Perezia* (*P. capitata*). Jones' description applies without question to this sheet, but his account of the heads must have been based on a cluster rather than a single one, for they are 5- to 7-flowered and narrow, not "about 20-flowered, rather wide."

***Perezia wrightii* var. *arizonica* (A. Gray) Jones, Extracts from Contr. 18: 73. 1933.**

Gray himself reduced his *P. arizonica* to *P. wrightii* outright in 1883, and no later author has attempted to separate them, nor does Jones bring forward any alleged distinctive characters.

CICHORIEAE

***Stephanomeria mexiae* Jones, Extracts from Contr. 18: 83. 1933.**

Mexia 2506a, north of Baruschil, about 10 miles northwest of north of Minaco, Chihuahua, in dry side of wash, May 7, 1929 (type, Univ. Calif. Herb. No. 442618). The type, kindly lent by Dr. H. L. Mason, is *STEPHANOMERIA THURBERI* A. Gray. Mrs. N. Floy Bracelin, of the Botany Department of the University of California, writes me that the single sheet on which this species was based was included in *Mexia* 2506 as collected. The material of No. 2506 in the U. S. National Herbarium is *Pinaropappus junceus* A. Gray, which bears considerable habitat similarity to *Stephanomeria thurberi*.

***Stephanomeria minima* Jones, Contr. 17: 31. 1930.**

Jones, "on the clayey plains at Fredonia, Arizona, June 1, 1929" (June 18 on label). The type is *LYGODESMIA EXIGUA* A. Gray, to which I have reduced the species in Kearney and Peebles, "Flowering Plants and Ferns of Arizona" (p. 1030. 1942).

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