

of the weeds of Spain by Dantín Cereceda. T. Poggi and R. Ciferri, in their work on Italian weeds (*Malerbe e lotta*. 3. ed. p. 160. 1952), merely mention it in a general list as moderately resistant to 2,4-D. The only specific account of it I have found is by Francesco Crescini (*L'Italia agricola* 67: 151-155. 1930), who discusses its occurrence in abundance in alfalfa fields near Bologna, notes that the fruits germinate best after exposure to heat and dryness on the surface of the soil, and concludes that the best way to eradicate it is to pull up the plants at intervals during the winter and early spring as they come up in a field.

*Calepina* is placed by Schulz in the subtribe *Raphaninae*, the fruit being regarded as morphologically 2-jointed with the lower joint completely suppressed. The following description should facilitate the recognition of the plant if it turns up elsewhere.

Annual or biennial, usually 30-50 cm. high, with many erectish stems, these few-branched above, glabrous throughout and somewhat glaucous; lowest leaves in a rosette, 15 cm. long or less, lyrate-pinnatifid, the others narrowly obovate to oblong, slightly toothed or the upper entire, sessile, sagittate-clasping; flowers small, in anthesis corymbosely crowded at apex of stems and branches, in fruit forming loose racemes, not bracted; pedicels slender, erectish, in fruit 5-12 mm. long; petals white, somewhat unequal (the 2 outer larger), 2.8 mm. long or less; fruit nut-like, indehiscent, 1-celled, 1-seeded, readily deciduous, globose-ovoid, bluntly short-pointed, 4-ribbed (2 of the ribs weaker) and reticulate, glabrous, 2.5-4 mm. long, tipped with the sessile stigma.—CROPS RESEARCH DIVISION, AGRICULTURAL RESEARCH SERVICE, U. S. DEPT. AGRICULTURE, BELTSVILLE, MD.

ORCHIDACEAE NEOTROPICALES III. DE ORCHIDACEIS INSULARUM TRINIDAD ET TOBAGO  
NOTULAE ADDITICIAE

RICHARD EVANS SCHULTES

THE WORK OF completing an orchid flora of Trinidad and Tobago has brought to light several data worthy of consideration. The following notes complement those which were published in the first<sup>1</sup> paper of this series.

I acknowledge the continued and valuable help of Dr. Wilbur G. Downs and Dr. T. H. G. Aitken of the Trinidad Regional

<sup>1</sup> Schultes: "Orchidaceae Neotropicales I" in *Bot. Mus. Lenfl. Harvard Univ.* 17 (1956) 170. "Orchidaceae Neotropicales II. De orchidaceis principaliter colombianis notulae" was published in *Caldasia* 7 (1957) 239-260.

Virus Laboratory in sending pertinent field observations and in their intensive collecting and cultivation of native orchids. I must also mention with appreciation the interest shown by Dr. G. A. C. Herklots, Principal of the Imperial College of Tropical Agriculture, in the progress of our work on the orchids of the Colony. Thanks are due my colleague, Mr. Leslie A. Garay, Assistant Curator of the University of Toronto Herbarium, for his collaboration and to Mr. Elmer W. Smith for his careful delineation of the new species of *Erythrodes* which Mr. Garay has herein published.

*Coryanthes macrantha* (Hook.) Hooker in Bot. Mag. (1831) t. 3102.

**Trinidad:** Ex. coll. E. J. S. Dudley, (flowering) December 4, 1955, W. G. Downs & T. H. G. Aitken 72 (Herb. Ames 67906); Waller Field, November 24, 1956, G. A. C. Herklots s.n. (Herb. Trin. 15413, sheets 1 & 2).

Until very recently, we have not been able to report *Coryanthes macrantha* as an undoubted native element of the flora of Trinidad, as the provenience of all of the collections was designated as gardens or experimental stations (Schultes: op. cit. 182).

Downs & Aitken 72, taken from the cultivated collection of E. J. S. Dudley, Esq., is reported "presumed native," but no definite collection-locality of the cultivated material was given.

In November, 1956, Herklots collected and brought it to flower in *Coryanthes macrantha* at Waller Field, Trinidad, and January 13, 1957. There is now no question that this species forms a part of the native orchidaceous flora. The field notes for this collection state: "Infls. pendulous; lip crimson; petals yellow, spotted crimson; strong 'estery' scent (amyl acetate?)."

*Epidendrum tipuloideum* Lindley Fol. Orch. (1853) Epid. 32.

*Epidendrum Broadwayi* Ames & Schweinfurth in Bot. Mus. Leaf. Harvard Univ. 1 (1932) 5.

**Trinidad:** Saut d'Eau, North Coast. January 18, 1931, W. E. Broadway 7444 (Herb. Ames 37893: TYPE of *Epidendrum Broadwayi*). Morne Bleu, April 9, 1955, W. Downs & T. H. G. Aitken 46 (Herb. Ames 67837). Spring Hill Estate, Arima Valley. January 13, 1957, T. H. G. Aitken s.n. (Herb. Ames 68590). **Venezuela:** Provincia de Carabobo, Campanura. Altitude 1000 ft. Funch & Schlim 575 (Photograph of type, Herb. Ames 67855). Above Colonia Tovar. Altitude

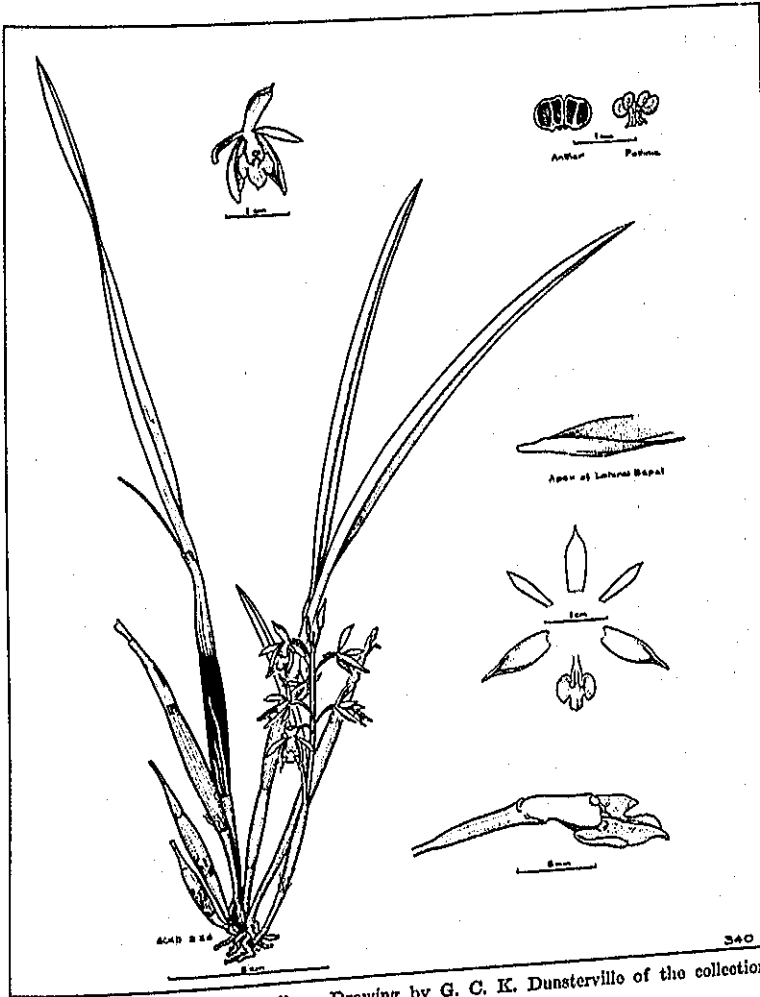
about 2000 m. Medium forest. No date. *G. C. K. Dunsterville 340* (Herb. Garay 5051).

Plant small, epiphytic, up to 17 cm. tall. Stems green, brown or purple-brown, slender, subclavate. 4-8 cm. tall, invested by close, tubular scarious sheaths, apically 1- or sometimes 2-foliolate. Leaves narrowly linear, grasslike, up to 20 cm. long, 1.8 cm. wide (usually much shorter and narrower), acute; mid-nerve keeled beneath. Inflorescence racemose, much shorter than leaves, up to about 6 cm. long, basally enclosed in tubular sheath up to 3.5 cm. long, loosely 4-9-flowered. Floral bracts membranaceous, minute, lanceolate, much shorter than pedicels. Pedicel with ovary up to 1.3 cm. long. Flowers yellow or yellowish green, rather fleshy. Lateral sepals obliquely elliptic-lanceolate, basally somewhat adnate to column, 11 mm. long, 3-4 mm. wide, dorsally conspicuously carinate-mucronate at apex; dorsal sepal oblong-elliptic or oblanceolate, about 10 mm. long, 3-3.7 mm. wide, acute. Petals linear-oblanceolate, up to 9.3 mm. long, somewhat oblique, acute. Lip adnate to tip of column, 3-lobed; lamina up to 5.5 mm. long, 3.7-6.4 mm. wide (at widest part), basally 2-callose; lateral lobes semi-ovate or rounded, obtuse, marginally sometimes erose, extending about half length of lip; mid-lobe larger, broadly-triangular to irregularly subquadrate, apically acute or minutely apiculate. Column stoutish, up to 6.4 mm. long.

A comparison of the type material of *Epidendrum Broadwayi* with the description and a photograph of the type and recent collections of *E. tipuloideum* leads me to the belief that the two concepts represent one variable species.

The type of *Epidendrum tipuloideum* (*Funck & Schlim 575*), which is at Kew, was collected in the Provincia de Carabobo in Venezuela. A photograph of the type (Herb. Ames 67855) shows Lindley's diagnostic sketches. Mr. Victor A. Summerhayes very kindly studied the type at my request and made a *camera lucida* drawing of the lip on the type sheet. His drawing indicates, as he states in his letter of May 12, 1955, that "the drawings on the type sheet made by Lindley are exaggerated in certain respects and give a false idea of the labellum." According to Summerhayes' drawing, the lip is trilobate and measures 5 mm. in length and 3.7 mm. in width (across the widest part); the column measures 5 mm. in length. The mid-lobe is broadly triangular (not narrowly lanceolate-triangular, as shown by Lindley) and acute; the lateral lobes are broad and rounded (not narrowly elongate and deeply indented along their margins, as shown by Lindley).

Summerhayes' notes continue: "*Epidendrum Broadwayi* appears very different at first, and we have material collected by Broadway at Maraval which seems identical. We also have, however, several sheets, all of cultivated material of Trinidad origin which differs from both of the others. The middle lobe is long and rather narrow but does not taper much until near the end, while the side lobes are more or less cruciform with no marked sinus between them and the middle lobe . . . I am won-



*Epidendrum tipuloides* Lindley. Drawing by G. C. K. Dunsterville of the collection Dunsterville 340.

dering if really all these varieties (including *E. Broadwayi*) are referable to one species. After all, we know precious little about the mainland forms of the species . . . and it may be equally variable in Venezuela."

A study of the material cited above convinces me that we are, in reality, faced with a single species, the lip of which especially is extremely variable in shape. There is in the Ames Herbarium and in the Garay Herbarium a critical drawing of *Dunsterville 340* from Venezuela, which is undoubtedly referable to *Epidendrum tipuloideum* but which, in the mid-lobe of the lip, approaches *E. Broadwayi*. Furthermore, the lip in the specimen *Aitken s.n.* from Trinidad shows considerable variation in shape in different flowers from the same inflorescence.

The collection *Downs & Aitken 46*, which was erroneously assigned to *Epidendrum Rousseauae* Schltr. (Schultes: Bot. Mus. Leaf. Harvard Univ. 17 (1956) 192, t. 49), may now be referred to *E. tipuloideum*. It has a lip which strongly resembles that of the type of *Epidendrum Broadwayi*.

*Epidendrum yatapuense* Barbosa-Rodríguez in  
Vellozia 1, ed. 2 (1891) 123.

*Epidendrum laxum* Poeppig & Endlicher Nov. Gen. ac Sp. 2 (1838) 2, non Swartz.

*Epidendrum macrothyrsis* Lehmann & Kränzlin in Engler Bot. Jahrb. 26 (1899) 472.

Recently, the name *Epidendrum laxum* Poepp. & Endl. was taken up for the concept known as *E. yatapuense* Barb.-Rodr. and *E. macrothyrsis* Lehm. & Kränzl. (Schultes: loc. cit. 190; Schweinfurth: Bot. Mus. Leaf. Harvard Univ. 17 (1956) 214).

It has been discovered that the binomial *Epidendrum laxum* is preempted by the prior publication of *E. laxum* Swartz Prodr. (1788) 125 for a concept now included in *Pleurothallis*. The next epithet, therefore, must be taken up for this wide-ranging and rather variable species: Trinidad, Peru, Ecuador, British Guiana and Amazonian Brazil (Schultes in *Caldasia* 7 (1957) 346).

*Epistephium ellipticum* Williams & Summerhayes in  
Kew Bull. (1928) 145.

*Epistephium tenuifolium* Mansfeld ex Hoehne Fl. Brasilia 12, 2 (1945) 42, t. 31 (*sine diagn. lat.*)

*Epistephium minutum* Barbosa-Rodrigues Jr. ex Hoehne loc. cit. (in synonym.).

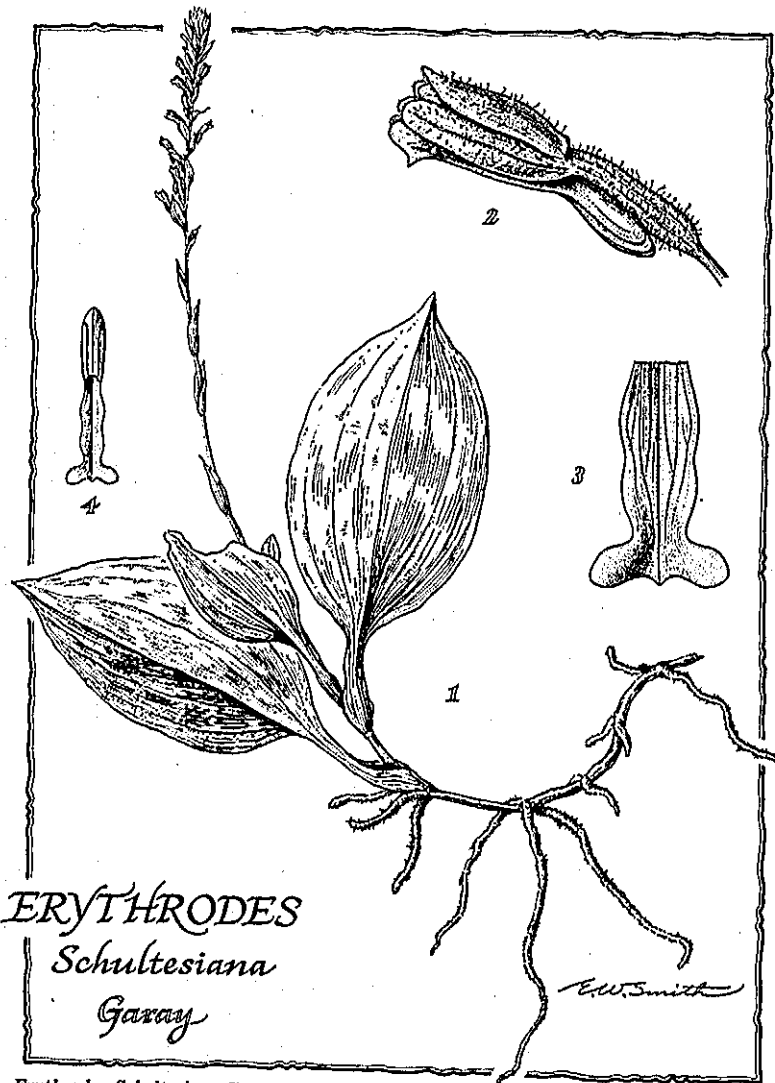
**Trinidad:** Valencia Road, Mora Forest end, September 1, 1925, *R. O. Williams et al s.n.* (Herb. Trin. 11324); Aripo Pool, December 26, 1927, *R. O. Williams & Cheesman s.n.* (Herb. Trin. 11903); near Aripo Pool, June 13, 1928, *R. O. Williams & G. W. Freeman s.n.* (Herb. N. Y.); Long Stretch, February 11, 1953, *N. W. Simmonds s.n.* (Herb. Trin. 14870); Long Stretch, near Gravel Pit, October 27, 1955, *N. W. Simmonds s.n.* (Herb. Trin. 15364). **Venezuela:** Estado Bolívar, Chimantá Massif. Forested west-facing slopes with sandstone boulders, between Camp 2 and Camp 3, northwestern part of Abácapa-tepuí. Altitude 850–1100 m. April 18, 1953, *Julian A. Steyermark 75115* (Herb. Ames 68525). Estado Bolívar, Chimantá Massif. Dense forest along upper reaches of Río Tirica between southeast part of Apácara-tepuí and west part of Chimantá-tepuí. Altitude 1700 m. June 24, 1953, *Julian A. Steyermark 75976* (Herb. Chicago 1,443,160).

It would seem that the invalidly published *Epistephium tenuifolium* from Pará, Brazil, represents the same concept as *E. ellipticum*. There is a slight difference in shape of the leaves. Hoehne's drawing of *Epistephium tenuifolium* shows a somewhat emarginate apex of the flattened portion of the lip, and the lip of *Epistephium ellipticum* is described as "entire." In the material and descriptions at hand, there appeared to be appreciable variability in size of the lip. All other characters, however, would seem to agree.

#### ERYTHRODES

The following notes on *Erythrodes* have been contributed by Mr. Leslie A. Garay of the University of Toronto and the National Research Council of Canada. Mr. Garay is at present spending a year at the Orchid Herbarium of Oakes Ames as a Guggenheim Fellow.

The genus *Erythrodes* encompasses about 100 different described concepts, and is distributed in the tropical and subtropical regions of both hemispheres. The majority of the species are native to the American tropics. From the Island of Trinidad only three species are known, two of which occur quite abundantly throughout the West Indies, while the third one, *E. trinitatis* Ames, a member of the "querceticola" complex, is endemic and very rare. The new species described here was discovered among the thousands of yet unidentified specimens in the Reichb. Herbarium in Vienna.



*Erythroides Schultesiana* Garay. 1. Habit, about  $\frac{1}{2}$  natural size; 2. Side view of flower, about 5 times natural size; 3. Lip, drawn without spur, about 6 times natural size; 4. Lip from above, drawn with spur, about 3 times natural size. Drawn by Elmer W. Smith.

The species, known only from Trinidad, may be distinguished by the following artificial key:

A. Inflorescence with an elongated peduncle.

I. Sepals 6-8 mm. long ..... *E. plantaginea* (L.) Fawc. & Rendle

## II. Sepals 3–5 mm. long.

- a. Terminal portion of lip entire, lunate .....  
 .....*E. hirtella* (Sw.) Fawc. & Rendle
- b. Terminal portion of lip 2-lobed, the lobes divergent .....  
 .....*E. Schultesiana* Garay
- B. Inflorescence with an abbreviated peduncle .....*E. trinitatis* Ames

***Erythrodes Schultesiana* Garay sp. nov.**

Terrestris, circiter 30 cm. altus. Rhizomate cauliformi, decumbenti; radicibus crassiusculis, villosis; caule suberecto, 3-foliato; foliis late ovatis vel ellipticis, acutis vel subacuminatis, basi abrupte in petiolum vaginantem productis, lamina 9–10 cm. longa, 5–6 cm. lata; pedunculo cum racemo satis gracili, in specimine unico leviter arcuato, minute glanduloso-puberulo, vaginis 4 remotis, acutis obsesso, usque ad 19 cm. longo; racemo dense multifloro, cylindraco; bracteis ovato-lanceolatis, acutis vel subacuminatis, 8–10 mm. longis; sepalo postico cum petalis conglutinato, ovato-oblongo, concavo, apice acuto vel obtuso subtiliterque ciliolato, 1-nervio, 5 mm. longo, 1.75 mm. lato; sepalis lateralibus leviter falcatis, ovato-oblongis, 1-nerviis, apice obtusis subtiliterque ciliolatis, 5 mm. longis, 1.5 mm. latis; petalis falcato-oblongis, 1-nerviis, apice obtusis et subtiliter ciliolatis, 4.5 mm. longis, 1 mm. latis; labello oblongo-ligulato, antice bilobo, lobulis divergentibus, obtusis, disco 3-nervio, glabro, 5 mm. longo; calcare oblongo-cylindrico, acuto, 3.5 mm. longo; ovario breviter pedicellato, clavato, cum pedicello 7 mm. longo.

**Trinidad:** Legit *Cr(ueger)* 47 (Type in Herb. Reichenbach 43895; Herb. Ames 63591).

This new species differs from all known concepts of *Erythrodes* from Trinidad, in having a distinctly bilobed lip. It does not seem to be closely related to any described species, though its floral structures, especially the lip, resemble *Erythrodes vystophylla* (Rehb.f.) Ames from Venezuela. However, the two species are vegetatively very dissimilar.

The specific name is given in honour of Dr. Richard Evans Schultes of Harvard University for his contributions to botanical science, especially towards our knowledge of the orchid-flora of Trinidad and Tobago.

*Maxillaria Reichenheimiana* Endres & Reichenbach fl. in  
 Gard. Chron. (1871) 1678.

*Maxillaria pachyacron* Schlechter in Fedde Repert. Sp. Nov. 9 (1911)  
 165.

**Trinidad:** Cumaca, (flowered) February 10, 1957, *Downs & Aitken* 64  
 (Herb. Ames 67811).

The collection cited herewith represents a species which has hitherto been thought to be endemic to Costa Rica and Honduras.<sup>2</sup> The discovery of *Maxillaria Reichenheimiana* in Trinidad is most unexpected.

The Trinidad specimen has larger flowers and more narrowly lanceolate leaves than most of the material in the Ames Herbarium from Middle America, but there are no morphological differences of sufficient importance to separate it even to a varietal status. In Middle America, *Maxillaria Reichenheimiana* is rather variable in shape of leaf and size of flower.

*Quekettia pygmaea* (Cogn.) Garay & R. E. Schultes comb. nov.

*Ionopsis pygmaea* Cogniaux in Urban Symb. Antill. 6 (1910) 624.

*Trizeuxis pygmaea* (Cogn.) Schlechter in Urban loc. cit. 7 (1913) 498.

Trinidad: Caparo, March 27, 1908, *W. E. Broadway* 2251 (Herb. Ames 10644; 21048).

A critical study of this concept, the generic position of which has not hitherto been entirely clear, indicates that Cogniaux's *Ionopsis pygmaea* properly belongs in *Quekettia*. It cannot be accommodated in *Ionopsis* because the flower is not spurred. While it does not exhibit all of the characters hitherto thought to be essential to *Quekettia* (e.g., a basally excavate lip), there seems little doubt that it should be referred to this generic concept.

We cannot place this species in *Trizeuxis*, as its sepals are not deeply connate (but scarcely so). There are also discrepancies in the structure of the column and in the anther which seem to separate it from *Trizeuxis*. The only illustration of the species was recently published under the binomial *Ionopsis pygmaea* (Schultes in Bot. Mus. Leaflet, Harvard Univ. 17 (1956) t. L).

*Quekettia* is a genus of three species distributed through eastern South America from Dutch Guiana, Brazil and Argentina. It is now registered for the first time from Trinidad. We maintain *Capanemia* Barb.-Rodr. as a genus distinct from *Quekettia*.

*Xylobium palmifolium* (Sw.) Bentham ex Fawcett  
Fl. Pl. Jam. (1893) 39.

Trinidad: Saut d'Eau, North Coast, August 1930, *W. E. Broadway* 7435 (Herb. Ames 36525).

<sup>2</sup> Downs, W. G., in Bull. Am. Orch. Soc. 26 (1957) 686.

*Xylobium palmifolium*, a West Indian species, has hitherto been known from Trinidad apparently only from a *Bradford* collection.

PLANTS NEW TO ILLINOIS AND TO THE CHICAGO REGION.—  
Intensive collecting in the Milwaukee Road classification yard at Bensenville, Cook County, Illinois during August, 1956 resulted in the discovery of the following new Illinois or Chicago region plant records. All specimens are on file in the Illinois herbarium of the Chicago Natural History Museum.

1. NEW TO ILLINOIS

*Artemisia frigida* Willd. August 8, 1956, *Thieret 2205*.

the most common *Artemisia* in the yard, about 30 plants seen.

*Senecio viscosus* L. August 8, 1956, *Thieret 2233*.

two colonies, with 8 and 13 plants.

*Chenopodium rubrum* L. August 8, 1956, *Thieret 2200*.

a group of fifteen plants, growing with *Chenopodium glaucum* and *Atriplex argentea*.

2. NEW TO THE CHICAGO REGION

*Lepidium perfoliatum* L. August 9, 1956, *Thieret 2291*.

scattered plants throughout the yard.

*Artemisia absinthium* L. August 8, 1956, *Thieret 2198*.

3 plants seen, each in a different area of the yard.—JOHN W.

THIERET, CHICAGO NATURAL HISTORY MUSEUM.

A NEW VARIETY OF *RUDBECKIA CALIFORNICA*.—*Rudbeckia californica* Gray var. *intermedia* var. nov. Folia glabra et glauca, ovata vel anguste elliptica, margine grosse crenato, serrato, vel basi lobato.

Leaves glabrous and glaucous, ovate to narrowly-elliptical, apex acute or acuminate, base acute or rounded; the margins very irregular, coarsely crenate, dentate, or serrate, or irregularly lobed near the base, rarely almost entire; blades of the basal leaves mostly 1.5–2 dm. long; heads mostly 1 per stem; involueral bracts ciliate, glabrous and glaucous; disk globose or globose-conical, 1.5–2.5 (–3.5) cm. high, up to 1.4 cm. wide.

Type: Mt. Eddy, Siskiyou Co., California, *L. E. Smith 557*, September 1, 1913. Type in the Gray Herbarium, isotype in the U. S. National Herbarium.

Distribution: Klamath Mts., northern California, at altitudes of 3500 to 5000 feet.

The broader leaves with toothed or lobed margins readily distinguish the new variety from its nearest relative, *R. californica*.

*nica* var. *glauca* Blake, a narrow-leaved plant with entire leaf margins which occupies a disjunct area in northwestern California and adjacent Oregon. The glabrous leaves of var. *intermedia* clearly distinguish this variety from the conspicuously pubescent *R. californica* var. *californica* of the Sierra Nevada.—ROBERT E. PERDUE, JR., U. S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE, CROPS RESEARCH DIVISION, BELTSVILLE, MD.

A POSTHUMOUS EDITION.<sup>1</sup>—It is fortunate that the flora of Wisconsin is sufficiently similar to that of New England, so that this book is useful locally. It is just the sort of small publication that is most urgently needed for the use of plant taxonomists teaching courses in New England, or amateurs of all levels of competence. Here is a book that will introduce students and advanced amateurs to the plants they meet around them, without bringing in the welter of extra-limital plants which cause confusion in large manuals.

The book has a large number of botanically accurate line-drawn illustrations, which greatly simplify the problem of identification. The accuracy of the illustrations is a rather unique feature in such a small publication.

This book should be available to all students taking a taxonomy course. It serves as a very fine introduction to the important study and fine hobby of botanizing, and it shames those of us in New England who should have prepared such a book for our own area.—W. H. DRURY, JR., LINCOLN, MASS.

#### A NEW FLORA OF GREENLAND<sup>2</sup>

WHILE WAITING for the completion of the very slowly published North American Flora, several manuals of small parts of this continent have been worked out and published in recent years. Some are scientific floras of little interest to the non-specialist ranging up to the high quality characterizing the Flora of Alaska and Yukon by Hultén. Others are of the more popular type where scientific exactness is left out for the sake of simplicity. Only a few of the recent floras are, however, of the combined scientific and popular kind which can be used by amateurs and specialists alike and encourage an interest in botany more than other media are able to do. The Gray's Manual is of this type, and also the much too voluminous and expensive new Britton and Brown, but other regions not covered by these works still are waiting for a handy manual. Especially the arctic and subarctic parts of the con-

<sup>1</sup> *The Spring Flora of Wisconsin* by Norman C. Fassett, The University of Wisconsin Press, Madison, Wisconsin, 1957. v plus 189 pp.; price \$2.50.

<sup>2</sup> TYGE W. BÜCHER, KJELD HOLMEN, KNUD JAKOBSEN: *Grönlands Flora. Med illustrationer af Ingeborg Frederiksen*. P. Haase & Söns Forlag, København, 1957. 313 pp.