

# BULLETIN

*of the*

AMERICAN ROCK GARDEN SOCIETY

VIOLET NUMBER

Vol. 4

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No. 6

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### OUR VIOLET NUMBER

AS THE subject for the third number dedicated to a single genus we have chosen *Viola*. This is a large group, comprising several hundred species widely distributed over the world. It is difficult for taxonomic treatment: not only do many of the species vary markedly and grade into one another, but also when two grow side by side they may hybridize, and the progeny, often strikingly vigorous, combines the parental characters in an intricate way. But it is an interesting genus for rock gardeners in that many of its members are small, modest, and neat, and but few are invasive or weedy. Secretary Osmun, long a violet enthusiast, has obtained from our members a number of articles, which are here presented.

For many years the chief authority on American violets was Ezra Brainerd (1844-1925), long president of Middlebury College, Vermont. He contributed the treatment of the genus to the 7th edition of Gray's Manual (1908), the second editions of Britton & Brown's Illustrated Flora and Small's Flora of the Southeastern States (1913), and of Bailey's Standard Cyclopedia of Horticulture (1914). He also published a monograph, *Violets of North America* (1921), illustrated by drawings and paintings prepared by F. Schuyler-Mathews. A revision of this work, entitled *Wild Violets of North America*, was published in 1942 by his daughter, Viola Brainerd Baird. However, in spite of the existence of these aids for identification, the violets under cultivation in the average rock garden are not always correctly named. A cautious botanist, indeed, will refuse to identify a solitary specimen, collected at the height of bloom, for he needs both spring and summer foliage, both showy and cleistogamous (*i.e.*, never open) flowers, and perhaps even mature seeds in order to be sure of correct classification.

Should any of our members desire help in ascertaining the valid names for plants they are growing, specimens may be submitted. A given clump should be marked by a securely attached label, and the following material be pressed: (1) a few leaves and flowers at blooming time, the petals spread out in soft cellulose tissue so that the flower interior remains visible (a note on the color when fresh should be added); (2) a second group of leaves, together with some of the cleistogamous flowers which come up a month or so later; and (3) if mature capsules are not represented in No. 2, then one or two of these enclosed in such a way that the seeds do not become lost.—E.T.W.

## A SURVEY OF THE GENUS VIOLA

HOW MANY KINDS of Violets are there? Some authorities, Bailey included, refrain from mentioning even an approximate number. However, Lt. Col. E. E. Todd, in "A Short Survey of the Genus *Viola*," in Vols. 55 and 57 of the *Journal of the Royal Horticultural Society*, states that the genus "embraces upwards of 500 species."

Considerable research was conducted from about 1900 until the time of this survey in 1930-1932—and presumably still continues—in an effort to classify the bewildering number of species,—a task of no small proportions, when one learns that for the 500 species, some 2,500 names exist! Furthermore, as Col. Todd points out, the gradations in steps from one species to another are sometimes very close, and it is "easier to think of types or 'collective species' than of individual species."

Under the *Nominium* Section, comprising 238 species in seventeen groups and several sub-groups, and including what are conventionally called Violets—"the *Violas* with the boat-shaped lowermost petal"—the following are discussed:

*Viola odorata*, the Sweet Violet. Its violet forms are widely known, but it also has color forms of purple, white, pink, red, or yellow with violet spurs. A plant of warm temperate climates, whose distinguishing features are "broad reniform leaves, long slender stolons rooting at the nodes, and short fimbriated stipules."

*Viola sepincola*, from Spain and France, typical of the second group. Its stolons are short and thick, leaves ovate, stipules lanceolate and long-fimbriated, spurs short and blooms white.

*Viola alba*, representative of a group having ascending stolons "not generally rooting at their tips; when also they bear flowers, instead of (all) flowers being radical; stipules narrower to the point of being linear; leaves more triangular and rough with adpressed hairs." The color of the flower is generally violet, but other color forms exist.

*Viola hirta*, typical species of the group that "might roughly be regarded as Sweet Violets without stolons, except that *V. hirta* is scentless (though others are fragrant) . . ." which "develop short and more or less upright turions in place of stolons." The distribution of *V. hirta* is similar too, to that of Sweet Violet, but its group includes some strictly alpine Violets, i.e., *V. pyrenaica* and *V. thomasiana*.

The above four groups belong to the *Uncinatae*, the beak of the stigma being longly hooked. The next six—the Wood and Dog Violets—belong to the *Rostratae*, the beak of the stigma being shortly hooked; they moreover are "caulescent, not acaulous, and the fruit springing from the leaf axils and not from the rootstock."

*Viola mirabilis* is exceptional in that it is at "first acaulous, and only later caulescent." This limestone plant, common to Central Europe and crossing from the Caucasus into Japan, "as a whole is pale green and is about eighteen inches tall; the . . ." later leaves are "large and reniform; the flowers are bright blue, densely bearded and very fragrant, with greenish white spur; the stems are densely leafy at the top but carry only one leaf below; the stipules are quite entire, the lowest scale-like and brown, and others green . . ."

*Viola rostrata* is clearly distinguished by straight and beakless styles, extremely long spur and large violet flowers, with unbearded petals, carried well above the leaves. Well known in cool areas of eastern North America, it is also reported from Japan.

*Viola silvestris*, representing one branch of Wood Violets, is characterized by "a central rosette of basal and long-petioled leaves." The flowers are of "medium size, purple, darker at the base; sometimes violet, lilac, rose or white. It is predominantly European." The closely related *V. mauritii* carries this group into Siberia and northern Japan; while America is represented by *V. labradorica*, with few and small deep violet flowers and the well-known *V. striata*, with creamy ones. As their name indicates, Wood Violets frequent shady, damp situations.

*Viola riviniana*, representing the other branch of Wood Violets, has pale green foliage and large lilac flowers. Col. Todd tells of a single plant of this in a Kentish garden that had over 350 blooms at one time! This Violet is fairly common all over Europe. Close relatives carry the group to most parts of the northern hemisphere, that most frequently found in America being the species *adunca*.

*Viola canina*, typical of the Dog Violets, has "thick, dark, shining, ovate-oblong leaves with small, shortly fimbriated, serrate stipules often entire on one side; smallish blue flowers, often deep blue, whitish at the base and with short, whitish or yellow spur." It varies considerably in size being on bare slopes or dry grassy pastures, "dwarf, and the flowers appear to spring from the rootstock; in moist shady places the stems may reach a foot high and the flowers are closely axillary." It is a plant of cold and temperate climates.

*Viola elatior*, another very distinct species of the Dog Violet group, is the tallest of all European Violets, growing upwards of two feet. The leaves are longly protracted to the point, the stipules are large, equalling or exceeding the petiole; the whole plant is rather ashy grey; the flowers large and bright blue with white streaks at the throat; the lateral petals are strongly bearded; the spur is short, thick and greenish . . . " *V. elatior* is widespread in central Europe and parts of Asia and is found in damp, low-lying places.

Col. Todd indicates other points of distinction between the Dog and Wood Violets. The former belong to the *Arosulatae*, being without rosettes of basal leaves, while the latter belong to the *Rosulantes*, having rosettes. Also the leaves of the Dog Violets are inclined to be truncate, while those of the Wood Violets are heart-shaped.

*Viola palustris*, the best-known representative of the Bog Violets, which group was once thought to be circumpolar but later discovered well down in the United States and in northern South America. It has round or reniform leaves of thin texture and small pale violet flowers. Several well-known American species belong to this group,—*V. blanda*, *V. renifolia*, *V. pallens* and *V. primulifolia*. All frequent banks of streams, mossy ravines or damp meadows.

The next group—*Adnatae*—"so-called by reason of the stipules being adnate to the leaf stem to beyond their middle point"—consists of 73 species, chiefly of eastern Asia. An especially noteworthy member is *Viola selkirkii*, which appears not only in the Far East and northern Europe, but also in Greenland, Canada, and the Rockies to Colorado. It "forms a neat clump of erect, ovate, longly petioled and deeply cordate leaves, with long pedicels, the petals being all beardless, the spur long . . ."

A transitional group is the *Vaginata*, so called because of the "broad chestnut vaginae or scales densely collected round the head of the root-stock." These robust plants with large pale violet flowers belong mostly to Japan, but one species, *Viola langsdorffii*, crossed by way of the Aleutian Islands to the American continent and is found along the Pacific Coast south to California.

Canada and the United States claim 75 species of *Viola*, 52 of which fall under the *Nominium* Section, the largest and best known being the *Boreali-Americanae*. "The group as a whole is acaulous and without stolons; the rootstock is short, thick and fleshy; the leaves are long-stemmed and die down in Winter; the flowers are always some shade of blue (though white forms are frequent though not typical; the lateral petals are bearded; the style is only slightly curved toward the base, with flat top and short frontal beak."



BY MAXCINE WILLIAMS

*Viola langsdorffii*, with pale violet flowers, follows the Aleutians from Japan to Pacific North America.

Certain characteristics with respect to the stem and seed capsule separate these Americans and Canadians into three distinct divisions. *Viola palmata* and *V. papilionacea* represent the first division, differing in leaf characters. *Viola septentrionalis* and *V. nova-angliae* are typical of the second division, having undivided leaves, the under-surface being pubescent; the flowers large and violet-purple in color. A form of *V. septentrionalis* with the flowers white streaked with purple has been introduced into English gardens as the "Canadian White Violet."

*Viola cucullata* with entire leaves, *V. pedatifida* with much-divided leaves, and *V. sagittata* with entire leaves lobed at the base (hence the name Spade-leaf Violet) are representative of the third division.

*Viola pedata* is paid tribute as the most beautiful of all American Violets. The finest forms known to Col. Todd were from the Alleghany Mountains of West Virginia.

The *Orbiculares* comprise three beautiful yellow Violets—the group name being “derived from the roundish, sometimes very round, deeply cordate leaves.” *V. sarmentosa* (syn. *sempervirens*) comes from the dry open woods of Vancouver Island southward to California; *V. rotundifolia* ranges from Maine to Georgia; *V. orbiculata* is from the “dark *Thuja gigantea* woods in Idaho north to British Columbia . . .” It is considered the “rarest and most beautiful of the three, with flowers more golden-yellow than the others, smaller leaves and racemes rather more leafy.”

Twelve species of Mexican Violets (expanding into New Mexico, U.S.A., and Columbia and Ecuador, S.A.) also belong to the *Nominium* Section. High mountain plants, inhabiting pine woods and alpine fields, they resemble somewhat *V. odorata* in habit; the flower, however, is smaller, “pale violet or white with violet veins or violet with white spur.” The three most widespread species are *V. humilis*, *V. ciliata* and *V. reptans*.

*Viola umbraticola*, another high woodland plant of Mexico, “stemless, stolonless, very leafy, dwarf, not more than three inches high . . .” seems to stand quite alone. It is, “perhaps, most suitably included at this point where the *Nominium* Section begins to show certain characteristics of the *Dischidium*.”

The second, or *Dischidium* Section of the genus *Viola* is very small and comprises nine species, only one, *V. biflora*, at all well known. “The *Dischidium* species are all stemmed; the stipules small and free; the basal leaves round; the flowers small, yellow, sometimes suffused with violet; the four upper petals erect and all beardless; the stigma two-lobed with the orifice between the lobes, and never beaked.”

*Viola biflora* is variable “in form and texture of leaf and pubescence of the plant as a whole,” which is really not surprising, considering that the plant ranges from the subalps to 13,000 feet in altitude over such a vast area as nearly all Europe except Britain, across Asia into Alaska and to the Rockies of Colorado. The eight-inch stem has one leaf in the middle and three or four basal leaves, and carries one to three small yellow flowers.

The *Chamaemelanium* Section, comprising thirty species principally from the Pacific United States, a few from Mexico and Asia, stands between the Violet (*Nominium*) and the Pansy (*Melanium*) sections. With one exception,—*V. barroetana*, a dwarf acaulous plant with long-stemmed leaves and small yellow flowers—the section is distinguished by “being caulescent; blooms usually yellow, rarely white, upper petals often brownish or violet; spur short; stipules free, single club-shaped . . .”

*Viola pedunculata*, the best example of the Nuttall's Violets, has “very large flowers of deep gold, with rounded petals on long stems, standing well above the leaves. The leaves, also long stemmed, are like those of the Common Violet, but more reniform, smaller, flattened, and more abruptly narrowed into the petiole.” It ranges from California to Arizona.

*Viola chrysantha* represents a west-American group which has much-divided leaves and short rootstocks with many fibres. “In *V. chrysantha*, the leaves are divided right to the midrib into linear segments. The blooms are deep orange-yellow and the petals striated with brown.” Others are *Viola halli*, a rare and beautiful species from a few mountain summits, and *V. beckwithii*, a large-flowered species, either white or lilac, with the upper petals dark blue.

*Viola acutifolia*, typical of a sub-section having short rootstock with "numerous fibrous roots, erect, well-developed stems leafless in the lower part," hails from Asia. It is now regarded by some botanists as a form of *V. biflora*. The flowers are "yellow, of medium size, two or three on each of the two or three stems."

*Viola glabella* is chosen as the most interesting of the second group of the same subsection, which group includes such well-known garden species as *V. hastata*, *V. eriocarpa*, and *V. pubescens*. Four species are Asiatic, five American and one, *V. glabella* itself, is found in moist woods on both continents. The foot-high stems, with one or two reniform leaves and two or three short-stemmed roundish leaves at the top, carry one or two small yellow flowers.

*Viola canadensis*, one of the most beautiful of all Violets, represents the third group; it is widespread over Canada, in uplands of the United States and extends into Mexico up to 7,500 feet altitude. The rare two-eyed Violet, *V. ocellata*, and the still rarer *V. cuneata* also belong to this group.

*Viola painteri* is typical of the last subsection of *Chamaemelum*—three Violets from Mexico, characterized by runner-like stems. *V. painteri*, the most alpine of the group, is usually found under firs above 9,500 feet. It has "veined petals of bright yellow, the two uppermost strongly tinged with reddish brown."

The *Melanium* Section is made up of 72 species mostly confined to southern Europe, extending somewhat into Asia; with one North and one South American species. As previously mentioned, this section covers the flat, broad-petalled members of the genus, usually thought of as the Violas and Pansies of gardens. They are "generally caulescent, perennial (except most of the *V. tricolor* group) . . ."

*Viola alpina*, the Pansy of the Alps, as if to prove the "fallacy of hard and fast distinctions" is "acaulous . . . Dwarf, with the leaves all radical, long-stemmed and roundish; medium to large flowers of a rich purple with a white eye, the upper petals standing away from one another to give it a startled look . . ."

*Viola cenisia* represents a group of fourteen species referred to as the *Cenisia* Violas. "Were it not that the genus includes a most amazing range of form, one would scarcely credit that the leaf of the *Cenisias* is a *Viola* leaf at all. It suggests a survival from some bygone geological age, and this suggestion is strengthened by the peculiar distribution of the group. They inhabit only the tops of mountains over 6,000 feet and there seems little or no correlation between the particular peaks they have chosen." Jumping from peak to peak, at times taking "giant strides"—from the Sierra Nevada in Spain to the Maritime Alps, to Serbia, Greece, Asia Minor, we find the interesting members of this group which include *V. cheiranthifolia*, *V. crassiuscula*, *V. megallensis*, *V. grisebachiana*, *V. brachyphylla*, *V. comollia* and others and, of course, *V. cenisia* itself.

We will merely mention the next group—*Viola valderia* from the Maritime Alps and *V. nummularifolia*—referred to as the False *V. rupestris*—and pass on to the remaining members of the *Melanium* Section. These "have their leaves clearly and always crenate or toothed."

The well-known *Viola cornuta* is mainly a Pyrenean plant, but has a "number of outlying stations throughout the mountains of Spain . . ."



*Viola calcarata*, representative of a group of five species from the central and western Alps, descending the length of Italy into Sicily and crossing into Greece, is variable in "many a detail" as well as color. Commonly purple, it also appears in a dazzling yellow or white, intermixed with shades of citron, deep gold and lavender. *Viola heterophylla* is the collective name of the Italian and Greek Calcarata or Spurred Violas—more luxuriant plants than *V. calcarata* itself.

*Viola altaica*, typical of a group containing eight or more species that hail from northern Africa and stretch across Italy, Macedonia and Armenia into the Altai Mountains of Asia, has "very large flowers of the most intense violet. In cultivation, it is difficult to convince oneself that it is not a garden Pansy, as apart from the size of the bloom, the plant takes on a very robust, almost obese appearance." A small Balkan group includes *V. orphanidis*, with long stems lying flat on the ground resembling a "foot-round green pancake."

*Viola dubyana*, (syn *heterophylla*), is chosen by Col. Todd as the representative species of its group, because of its beauty as a plant and its interest botanically. "It makes a concise six-inch tall clump and covers itself with bloom like some of the garden *gracilis-cornuta* hybrids." There are two color forms—"luminous violet and bright claret-purple." *V. lutea*, remarkable for its wide color variations, belongs to this group.

*Viola gracilis* is the "best known representative of a small group of brilliantly colored Violas." Its "leaves are blunt, crenate and covered with short down"; the flowers are generally violet in color, though there is a yellow form. A second representative, likewise well-known in gardens, is *V. elegantula* (syn. *bosniaca*). While its flowers come in rose, yellow, whitish, violet and red-violet, only the last color-form appears to be in cultivation.

*Viola tricolor* is "the greatest dragon" in Col. Todd's path, because so much has already been published about these Heartsease Pansies. In the group of sixteen or more species, of which *V. tricolor* has been taken as the typical or 'collective species,' there is wide variation in color and size of bloom—all the way from white through cream, yellow, lilac, violet to black-violet and from minute to relatively large. Some are also fragrant. "The leaves are generally oblong or lanceolate but sometimes spatulate, always crenate or serrate or incised; the stem in one species may be almost lacking and in others it may be anything up to two feet or more." The distribution of these Pansies is widespread—Europe, Asia, Africa and parts of both North and South America. Their natural haunts are no less varied—"lowland fields, and edges of paths, orchards, meadows, rocky slopes, high alpine screes, shrubberies and woods under pines or oaks at every altitude and in sandy or argillaceous soil."

The last reference in the Survey under review is to "two paradoxical Violets," *Viola rothomagensis* and *V. paradoxa*. The first is a native of northwest France, a violet and yellow-flowered Viola, fairly common in gardens; the second, a rare plant of the Island of Madeira, whose "numerous blue-mauve or yellow flowers make a flat circle of color barely interrupted by the green of the leaves."—DOROTHY EBEL HANSELL, Summit, N. J.

## SWEDISH VIOLETS FOR THE ROCK GARDEN

THE GENUS *Viola* is represented in most parts of the globe, although only very few of the about 500 species are tropical. There are highly different opinions on the limitation of the species and on their division into smaller systematic units. The very great number of hybrids add to the difficulties of taxonomic work on the genus. About 50 species (aside from the pansies and their allies) are used as border or rock garden plants.

Modern works on the Swedish flora take up 20 species, many varieties and 35 hybrids of violets. With few exceptions these species have a fairly wide distribution in Europe and of the really native species *Viola palustris* and *V. selkirkii* are common to the flora of North America, *V. biflora* also to the flora of Asia.

About half of the species of Swedish violets are suitable for rock gardens. The following notes are an attempt to give brief descriptions of these and some hints on their cultivation. Omitting those common to the floras of North America and Sweden and those introduced in America, I will discuss ten perennials, as follows:

*Viola alba* has, as its name implies, usually white, (rarely rose or violet) fragrant flowers. In habit it looks like a Sweet Violet but all the plant is densely hairy and the leaves are persistent over the winter. Its home comprises the countries around the Mediterranean, and the mountains of Central Europe. Remote from this fairly continuous area of distribution, it grows scantily on the Swedish island Öeland in the Baltic,—the most rare of the Swedish violets.

*Viola hirta* is fairly common in southern Sweden, going toward the north as far as Dalecarlia. Its flowers appear early in spring and are bright blue. When cultivated together with *V. odorata* there will soon be a great offspring of hybrids, which look like the Sweet Violet, but the stems are much shorter and the flowers have no or a very faint fragrance. The lawns of the Botanical Garden of the University of Uppsala are blue-dotted in early spring by this hybrid violet.

*Viola mirabilis* L. is common in southern and central Sweden, rare in the north with scattered localities up to lat. 67° N. The first flowers appear in spring on long (2—5 inch) peduncles from the rootstock, with the first leaves. They are pale rose or pale violet to nearly white, fragrant, and as a rule give no seeds. Later in the summer fertile cleistogamous flowers are produced from the stems. The leaves are first light, later dark green and because this violet grows in dense, rounded tufts, it is very suitable as a border-plant.

*Viola riviniana* is one of the most common violets in the Swedish deciduous and mixed woods (though does not occur in the birch forests of Lapland). The flowers are large, light blue purple with white, blunt-ended spurs. The plant is very vigorous and flowers profusely in May and June. The related *V. reichenbachiana*, which differs mainly in having darker flowers with tapering spurs, occurs only in the southern part of Sweden.

*Viola canina* prefers dry meadows, roadsides and open woods. It is very common in southern and central Sweden but northward it is replaced by *V. montana*. The latter, which is easy to distinguish by its very long stipules, is found from Lapland to the province of Scania. Where the two meet, hybrids are more common than the parents, all having light blue flowers and bluish or grayish green leaves.

*Viola elatior* is the largest of the Swedish violets, up to 1½ feet high. It is very rare and occurs only on the island of Oeland, which is its most northern locality in Europe. The general distribution runs from western Siberia to northern France, down to north Italy and Bulgaria. The flowers are pale blue.

*Viola uliginosa* has some scattered localities in southern and central Sweden, the most northern at lat. 62° N. It ranges over southern and central Russia, southwestern Finland and the lands south of the Baltic. It is found in moist or wet meadows, in bogs or on borders of streams. The flowers, which are large and deep blue purple, appear in spring at the same time as the leaves. In my opinion this species is the most beautiful of the Swedish violets.

*Viola epipsila* is related to *V. palustris* but is distinguished by its leaves, which are reniform like the latter species but a little acuminate, and by its pale purple-blue flowers. *V. epipsila* occurs in wet meadows from southern Sweden to Lapland, also in the mountains, but nowhere common or in abundance.



Two of the finest of Swedish violets are *Viola riviniana* and *V. uliginosa*; their flowers are violet blue.

BY CARL G. ALM

The violets mentioned above are easy to cultivate in the rock-garden, because it is here possible to imitate the conditions under which they grow naturally. *Viola alba*, *V. hirta*, *V. canina* and *V. montana* prefer fairly dry soil and sunny location; *V. mirabilis*, *V. riviniana*, *V. reichenbachiana* and *V. elatior* require more moist conditions and moderate exposure to the sun. The last two species, *Viola uliginosa* and *V. epipsila*, will thrive only if planted in a mixture of about equal parts of sand, leaf-mold and peat-mold in a place with sufficient moisture all the year round. They are not tender to frost, but a light covering of fallen leaves and twigs of conifers will prevent drying out during the winter. All the species are easily propagated by seeds and will flower the next year after germination.—CARL G. ALM, Uppsala, Botanical Garden of the University.

## VIOLETS IN IRELAND

FROM THE series of floras of Ireland which have appeared, starting with Threlkeld's *Synopsis Stirpium Hibernicarum* of 1726, there appear to be but eight or nine species native to the country. A summary of their occurrence and features is here presented.

*Viola palustris*, Marsh Violet. While this species is known throughout, it is more abundant in the west and north of Ireland. It occurs in the bogs and marshes, from sea level to at least 600 feet altitude in Derry, and flowers from April to June.

*Viola odorata*, Sweet Violet. Although found in various places,—woods, hedges, banks, and roadsides, it is usually so near houses as to suggest a garden escape, although it may have originally been native toward the east of Ireland. It flowers in March and April, in both blue and white color forms.

*Viola hirta*, Hairy Violet. Our rarest species, this occurs in the Dublin district only, growing in sandy pastures, banks and bushy places, and blooming in April. It was first recorded, from the east of Howth, in the Irish Flora of 1833.

*Viola sylvatica*, Woodland Dog Violet, a segregate from *V. canina* of Linnaeus. Common throughout Ireland in woods, pastures and banks, in April and May. Of two other segregates, *V. reichenbachiana* is less frequent than *V. riviniana*. The altitude range is from sea level to 2,500 feet on Slieve Donard.

*Viola canina*, Heath Violet (as established by Fries; often known by the synonyms *V. flavicorus* and *V. lactea*). Though a rather rare species, this is found in many parts of the country in sandy, heathy places, flowering from April to June.

*Viola stagnina*, Pale Dog Violet. This rare species is known only around Gort, Co. Galway, especially in "turloughs." In the western part of the Galway-Mayo limestone district the rock is a mere honeycomb, and streams disappear into it continually, to reappear perhaps several miles away. Turloughs are depressions in this limestone which fill with water in wet weather through subterranean passages, emptying again by the same means; they are sometimes as much as a mile across and 30 feet in depth, the the repeated rise and fall of water produces a vegetation quite different from that of permanent marshes. In their depths the plant *par excellence* is *V. stagnina*. In a zone above it occurs *V. canina*, and still higher *V. riviniana*; the two first named hybridize freely.

Finally there are three of the Pansy subdivision of the genus *Viola*:

*Viola lutea*, Mountain Pansy. While rare, this has been recorded in upland pastures and sandhills by the sea in the east, northeast and west of Ireland, from sea-level up to 700 feet in Co. Clare.

*Viola curtisii*, Sea Pansy. (synonym *V. symei*). A fine large-flowered form of this species is found on sand hills on the south and west coasts of Ireland. Threlkeld recorded it as "fetched from the Hill of Howth, Co. Dublin."

*Viola tricolor*, Wild Pansy. Frequent throughout in sandy, heathy places, and cultivated ground, although the typical large-flowered form is rather rare. Its var. *maritima* is found on coastal sand hills near Dublin and in cos. Down and Derry.—LADY W. PHYLIS MOORE, Rathfarnham, Co. Dublin.

## NOTES ON EAST AMERICAN VIOLETS

**D**URING twenty-five years of study on the cultivation of native plants, observations have been made on several eastern violets:

## 1. Stemless, without cleistogamous flowers.

*Viola pedata* and its variants.—The Birdfoot Violet is native in well-drained, sterile, acid soils on sunny slopes. It can be expected to persist in the garden only if planted in similar materials and situations, avoiding lime, leafmold, and rich soils generally. A mixture of sand with really acid humus will enable it to do its best; the finest I ever saw was growing in sterile weathered sawdust.

## 2. Stemless, with racemed cleistogamous flowers.

*Viola rotundifolia* and relatives.—This violet occurs naturally on cool, shaded, moderately acid slopes, so should not be planted in a summer-heated fertile soil garden and be expected to remain long. When its needs are met, it produces golden flowers in earliest spring, the large round prostrate summer leaves being also attractive.

## 3. Stemless, thick-rhizomed, violet-flowered.

*Viola papilionacea* and its variants.—The widespread species—or assemblage of related ones—for which the writer prefers the common name “Dooryard Violet,” is native in damp grassland on fertile soils. It spreads by seeds—especially those produced by the short-stalked cleistogamous flowers—with extreme rapidity, and is best kept out of the small rock garden. (See Bulletin vol. 3, no. 2, p. 28).

*Viola cucullata* and relatives.—Swamp Blue Violet is found in wet humus-rich soils in woods. It is distinguishable from the next-preceding by the knobbed petal-hairs and long-stalked cleistogamous flowers. Worth cultivating in moist-soil gardens.

*Viola affinis* and relatives.—The Pale Wood-violet grows on damp shady slopes in subacid loamy soil. More delicate than the next-preceding, it differs also in the petal-hairs being pointed and the capsules of the cleistogamous flowers being purplish. Not difficult to cultivate.

*Viola hirsutula*. Flat-leaf Violet is native in subacid soils in dry woodlands. It is a neat plant with roundish leaves tending to lie flat on the ground, purple beneath and fine-hairy above, and grows well in a shady moderately acid rock garden.

*Viola triloba* and relatives.—The group of Cut-leaf Violets are difficult to identify, since they not only grade into each other, but also show a change in leaf-shape from early to late in the growing season. They are desirable for cultivation in the moderately acid woodland garden.

## 4. Stemless, slender-rhizomed, white-flowered.

*Viola primulifolia* and relatives.—Here are included the entities known as *V. lanceolata*, *pallens*, *blanda*, etc., which form an intergrading group. They are native in moist acid soils, and are worth cultivating in a garden where there is a constant supply of non-limy water.

## 5. Stemmed, with entire stipules.

*Viola canadensis* and relatives.—The white-faced but purple-backed petals of the Canada Violet are attractive; it is, however, native to cool, moist, wooded ravines, and can only be expected to thrive in cultivation if protected from summer heat.

*Viola hastata* and variants.—The Halberd-leaf Violet is an attractive early yellow-flowered species. Its more northern variants grow in damp acid humus in upland woods, and can be cultivated in a cool, shady, acid rock garden.

*Viola pubescens* and relatives.—This series of intergrading yellow-flowered species grow in humus-rich soils in woods, and are adaptable for cultivation in similar habitats, the smoother variants being longer-lived in the garden.

6. Stemmed, with entire stipules.

*Viola striata*.—This striking white violet of alluvial and limy soil woodlands is readily cultivated, forming an excellent ground cover in shady rich-soil areas. Next to *V. papilionacea*, however, it is the greatest menace to the small rock garden, capable of smothering many a delicate alpine.



BY EDGAR T. WHERRY

The Halberd-leaf Violet, *Viola hastata*, is a striking yellow-flowered species; chiefly Appalachian.

*Viola conspersa*.—The attractive light blue species for which no better common name seems to have been suggested than "American Dog-violet" is native in subacid soils on wooded slopes. It is likely to be short-lived in cultivation unless the soil is kept acid and competition with more vigorous plants is prevented.

*Viola rostrata*.—Longspur Violet is a northern species, native in damp woods in rather rich soils. Like others of similar range, it will not thrive in cultivation unless kept cool in summer.

7. Winter-annual, Pansy-relatives.

*Viola rafinesquii*.—Though found in America by the earliest botanists, the white to lavender-flowered "Wild Johnny-jump-up" has been alleged to be an introduction from Europe, and assigned a complex nomenclature by some taxonomists. It is native on sunny limestone rocks, and only the fact that it is an annual has prevented its wide use in rock gardens.—E.T.W.

## VIOLA PEDATA

TO SEE the bird's foot violet in its native haunts is but to desire it for the garden, for it is the most beautiful of American Violets, whether in its rare bicolored form or the more common bright lilac one. Even though it is definitely not a rock plant, it is a great adornment to any rock-garden in which one can possibly persuade it to become permanently established. So rarely is this the case, however, and so numerous are those gardeners who desire its beauty, that all too frequent raids are made on the diminishing number of extensive wild stands in order to obtain plants, even for temporary display. This is a deplorable practice, and could be remedied by a proper examination of its natural growing conditions, and by applying what is learned to growing it well and in commercial quantities. A few suggestions as to the cause of failure with this plant are therefore not amiss.

In the first place, it will be noted that where the largest colonies and finest plants occur in the wild, it is in open, sunny areas, and the soil is remarkably poor, usually clay or sand, or a mixture of the two with some gravel content, not in woodlands or in rich loam. In fact the largest and most floriferous plants are in the loose sandy clay of railroad and highway cuts and embankments, where there is little competition. If therefore, one wishes to make a successful and permanent establishment of this plant, these soil conditions should be duplicated. It is where these conditions have been met that the writer has seen the few established garden colonies with which he has been acquainted.

*V. pedata* is unrelated to any other American violet, because of its flower form, no cleistogamous flowers, and no stolons or runners; it propagates only by seed from petaliferous flowers, and by fission of the short, upright rootstock. There are also remarkable physiological differences. In fact, *V. pedata* has no close relatives among all the violets of the world; *V. pinnata* of Northern Europe and Asia approaches nearest, but differs in flower-structure.

We have then, a truly American plant in every way, with a natural range from Maine to Minnesota, south to eastern Texas and northern Florida, with great variation in color, size, form of flower, petal-shape and leaf-design. It is interesting to note that the bicolored variety has its area of most frequent occurrence in a belt across the middle of this range, from east to west.

*Viola pedata*, commonly called bird's-foot violet, is one of the oldest-known of American violets, having been first described by John Banister in 1688, and first pictured by Plukenet in 1691. Its first appearance in European gardens was in 1759, when the plant was listed by Philip Miller as growing in his Physic Garden in Chelsea. This was the bicolored variety, as was also the one known to all the previous writers, as their descriptions plainly indicate. Since Linnaeus in 1753 knew no other variety, it is the historical type of the species. Not until 1789 did the concolorous variety become known to botanists. That year, in the Botanical Magazine (plate 89) William Curtis published a picture of this plant, calling it *V. pedata*, and indicating that it was the same variety known to previous writers. This error was the cause of much subsequent bickering over the name, all of which could have been avoided by looking in DeCandolle's *Prodromus* (1824), where the two varieties were clearly first named. There, the con-

colourous plant was called *V. pedata* var. *lineariloba*, and the bicolored one *V. pedata* var. *atropurpurea*. In this same article "*V. pedata* var. *bicolor*" made its first appearance as a name, but only in synonymy, so is invalid. Frederick Pursh, to whom it is accredited, never even mentioned the word *bicolor*; "*V. atropurpurea*" Rafinesque was also published only as a synonym in DeCandolle's work.

Since *Viola pedata* contains such a complex of variations in both color and cutting of the leaf, it is necessary to have varietal names to designate the stable ones. Under the rules of nomenclature these are:

*Viola pedata atropurpurea* for the bicolor variety.

*Viola pedata lineariloba* for the concolored variety.

*Viola pedata lineariloba alba* for the albino form.

There are no other names for this plant or its varieties that have a claim to valid recognition, so far as the records now show. EDWARD J. ALEXANDER, New York.



BY JOSEPHINE DE N. HENRY

Typical (bicolor) *Viola pedata* thriving in sterile acid soil in Mrs. Henry's garden, Gladwyne, Pa.

## VIOLA PEDATA AT GLADWYNE

SCARCELY a spring passes that does not find me collecting variations of *Viola pedata*, either near home or oftener by far in the mountains of the Carolinas or Georgia. The precious plants growing at Gladwyne as the result of these trips comprise: large broad-petaled white; white with striking dark eye; lavender with dark eye; bicolor of deepest purple and pure white; another with the dark hue extending well over the side petals; and lavender with large white "face." Wonderful pure lavenders, striking beauties, have been selected for the magnificent form and huge size. But the pink-flowered form found in sight of home is perhaps the most distinct and choicest of all.—MARY G. HENRY.



## VIOLA CONSPERSA

ONE OF THE main groups of stemmed violets, the "tribe of Aduncas," travels across the country from Maine to California and up into Alaska. It begins in the far north with *V. labradorica*, quite dwarf with bronzy leaves and dark purple blossoms, and follows the mountain tops south as far as New York. In my locality, its representative is *V. conspersa*, with green foliage, and blossoms more blue. The common name of this species is American Dog Violet, from its close relationship to the European *V. canina*.

*Viola conspersa* is an engaging little plant, only two or three inches tall in earliest spring, with several stems from the rootstock; the foliage is light green, rounded, heart-shaped at the base, and lightly scalloped; the stems are leafy with many tiny toothed stipules, and the flower buds spring from the leaf-axils. The blossoms are pale lavender, only about  $\frac{1}{4}$  of an inch wide; the side petals are slightly bearded, and the lower one usually veined with darker purple; the tiny spur is rather long for the size of the flower.

It is a rather shy and reserved little violet. This characteristic showed clearly in my notes; a ten-year list of blossoming dates in my garden included *Viola conspersa* only twice, although I was probably never without it. But in my wildflower lists, it appeared regularly, during the first week of May, together with purple, sweet white, and arrow violets, early everlastings, and wild strawberry blossoms. These list-companions, however, are not its native companions, since they are mostly from open fields, and *Viola conspersa* prefers cool moist hillsides and light woodlands.

Through the summer it grows into a taller clump of six inches or so, and the basal leaves may become immense, sometimes two inches across. I have never noticed this in the garden, but have more than once brought home plants from the woods, not sure that it could be the same violet. It has a long season of bloom, coming into its own after its more showy cousins have spent themselves, and has the endearing trick of showing scattered blossoms again in late summer. It has never made a pest of itself in the garden by seeding wildly, as do some species; in fact, it seems none too long-lived for me. I use it mostly as a groundcover in the wild garden, particularly under spring-flowering shrubs, such as *Rhodora*. Its touch of pale lavender is the perfect complement for the bright rose-purple of the *Rhodora*, and it adds a bit of green foliage beneath this late-leaving shrub.—GRACE F. BABB, Portland, Maine.

## VIOLA MONTANENSIS, A GEM

IN A MORE than half shady nook of my garden, in May of 1945—and in early June because it has been a wet cool spring—have come echoes of a very interesting trip in company with Mr. Bernard Harkness and a co-worker into the "Floral Valley" of Castle Creek in the Black Hills, in 1940.

The high point of that day was reached at the very turn of the road away from Castle Valley, a dozen miles above the hamlet of Deerfield. There a rock bordered, boulder strewn, grassy slope at the foot of dark spruce forest presented one of those thrilling expanses of gay blossom that the plant hunter yearns for and, with enough experience, accepts as so much bounty.

The wide and lovely light orange daisies of *Arnica fulgens* led the show, well supported by shooting stars (*Dodecatheon vulgare*, or more commonly, *pauciflorum*) in color ranging from lavender rose to purple crimson. Great light pink stars of creeping *Phlox alyssifolia* were there, soft gray mats of *Antennaria rosea* upholding their pussy-toes of deep pink fur, and here and there galaxied gold hearted, white fringed discs of *Erigeron flagellaris*. Up slope, close to the shadow of the spruces, were many small violets of medium blue, not conspicuous to the glance but to the enquiring eye noticeably on the order of *Viola adunca*, yet with the leaves distinctly grayish with very short rough hairs. The violet was unnameable to all in the party.

Some small plants with two or three blossoms each—there were few plants larger—were brought home for further observation, later to be identified as *Viola montanensis* Rydberg. In that very dry year, the death of those plants in my garden seemed the end of their not very exciting story.

Now in 1945, with the fourth of a series of moist cool springs, it appeared that the departed violets of 1940 had cast upon my unlikely prairie soil some despairing but hopeful seeds. Quite early was noted a promising plant, obviously the seedling of an earlier year, of different mien from the neighboring *V. rugulosa*, *jooi* and *adunca*, and I guarded it carefully. A second plant was discovered a few feet away. By flowering time they had definitely moved up from the "another violet" class and had achieved character. Stems were very short, nearly prostrate, thickly furnished with little leaves of pleasant pattern, long ovoid and obtuse—spoon-shaped, even to being somewhat cupped from the sides—and so crowded as to make each plant a thick cushion. Right on the cushions rested the very numerous well formed flowers. The habit of this gem and the nice harmony of light violet blue and ashy green rate *Viola montanensis* among my valued possessions. According to the manual the species is native from Montana to Colorado and Utah—CLAUDE A. BARR, Smithwick, South Dakota.

## VIOLAS NUTTALLII AND VALLICOLA

ONCE A dear old lady of Connecticut—and Yorkshire—from whom I no longer hear, wrote, "*Viola nuttallii* has blossomed, several times, and the little corker wouldn't let me see it."

At once the question, does *V. nuttallii* always flower so in the East, shyly, surreptitiously? Though years have passed, I still do not have the answer. But if so, its behavior is far out of character from its performance in its natural habitat, the Great Plains from Manitoba to northern Kansas and the Rocky Mountains from Montana to Arizona.

Here its sheer sun-reflecting brilliance of medium gold knows no peer and its veritable bebies of closely assembled papilios have a happy air that awakes responsive smiles in their beholders.

Child of the dry, open spaces, a true Sun worshipper, *V. nuttallii* has departed widely from the preferences and habits of other prairie violets, forsaking moisture-favored spots and rich soils, and making its home on the driest of gravelly slopes, or any spot where the grass stands not too dense, often in clays as lacking in softness as a potter's field.

*Viola nuttallii* fulfills its mission in my Great Plains garden as fully as a critical admirer could demand, beginning its flowering in April when its petite ecstasies of color are so very welcome, carrying on through May and into June until its efforts are quite overshadowed by spring's full panoply.

Then after a few weeks of seed-maturing it does a strange thing for a violet, side-stepping July, when the heat and drought of the true desert are apt to hold sway, it recedes completely to its crown an inch or more underground, from which nothing short of another spring may awaken it. Through most of its season *V. nuttallii* is seemingly stemless, the blossoms appearing among the tips of a tuft of leaves, yet there are short stems and these may stretch with moisture and increased shading to six inches or more, carrying scattered blossoms.

At a cursory glance *Viola vallicola*, habitant from mid-way of the Great Plains westward to Washington and British Columbia, is nothing other than *V. nuttallii*. In most respects as to size, habit and habits the two are similar. There is the same tone of golden yellow in the petal face and red-purple backing. The lanceolate leaves show obvious differences that one becomes accustomed to, discussed in the technical literature.



BY CLAUDE A. BARR

The west-American *Viola vallicola* has beautiful golden faced and purple-backed petals.

*V. vallicola's* distinct haunts, however, may have significance as it is found in richer, moister soils, usually in valleys, often in much shade. Would it therefore be more adaptable to average garden conditions? Observations in my own garden have not been reassuring, for stock from three states and a half-dozen varying local situations, whether grown with much shade and moisture or in half shade or full sun, has fallen well short of *V. nuttallii* in blossom-production.

But, shall I tell a secret? *Viola vallicola's* rock garden reputation of tomorrow may be based upon the discovery, a few years back, by Mrs. L. B. Nelson, away up near the Canadian line in Montana, of a wild tetraploid, a wonder-violet that has everything—except fragrance. Great glowing golden nuggets an inch or more wide, lavishly borne, on long stems, with about 24 handsomely arranged petals. Something for the garden of your dreams, now being propagated, very slowly, by crown-division!—CLAUDE A. BARR.

## VIOLETS IN MAINE

IT IS A pleasure to write about the violets I have found and grown in my Maine garden. To my mind, violets are among the most desirable plants for a wild garden, both for their beautiful spring blossoms and for their effective foliage mass through the rest of the season. I think I have them correctly named, but I shall never claim to be an authority on violets, as many of them tend to hybridize even in the wild, and so confuse the amateur.

The earliest to bloom here is usually the Meadow Violet, *V. papilionacea* (both the glabrous form and the pubescent one which approaches *V. sororia*). The children bring these in from the pastures and fields, their deep purple blossoms and dark green leaves making a corsage fit for any queen. They peep from almost every warm sunny spot, often surrounded by tiny Bluets. When moved to the garden, and freed from the mats of grass and weed roots of the field, this violet produces great tall-stemmed bouquets of bloom and clumps of handsome foliage.

The fields are always damp at this time of year, but at the foot of the slopes, or along the brooks, in even more moist soil, grows my own favorite, the Marsh Violet, *V. cucullata*. The blossoms are paler toned, hardly purple at all but almost blue, with a dark eye and delicate lavender markings on the petals. Its stems stand tall and straight above light green, often curled-up, leaves. This never seems to survive well in my garden.

The little Sweet White Violet, *V. pallens*, is sometimes the first to bloom in the garden, with warm spring sunshine. Its delicate fragrance is one of the joys of springtime. Low wet spots and mossy hollows by the brooks are patterned with its light green leaves, and spangled with the tiny blossoms. Another dainty small-flowered violet, usually found on lightly shaded hillsides, is the American Dog Violet, *V. conspersa*. This is a compact leafy little plant with pale lavender flowers springing from every leaf-axil; but it continues growing taller and more bushy through the summer, with a long blooming season. Both these small violets are good for groundcovers, although their foliage, like that of many violets, becomes immense by summer.

The Yellow Violet, *V. eriocarpa* (syn. *scabriuscula*), is another tall leafy violet, shooting up to a foot or more in light woodlands. It has many pale yellow flowers veined with purple, and may become a pest by its promiscuous scattering of seeds around the garden. However, its seeds are fairly easily gathered as they ripen along the stems, while those of *V. papilionacea* and many others are apt to form mostly in the underground cleistogamous pods and take us unawares!

A little later to bloom is the Ovate-leaved Violet, *V. fimbriatula*. It is a plant of dry fields and woods, usually in sandy soil; a neat low-growing violet, its blossom small, deep purple with a distinct golden eye, almost unseen unless you know its secret and look deep into its throat. The leaves are thick, and slightly woolly in the spring, almost oblong in shape. It is quite amenable to living in the garden, and never grows husky and rampant as do some of its cousins. Every year on Memorial Day, I collect a few plants near a little country cemetery, in a pine grove, thickly carpeted with pine needles, and great naturalized colonies of Lily of the Valley and Blue Myrtle. The Arrow-Leaved Violet, *V. sagittata*, is very similar, but prefers more open moist fields than *fimbriatula*.

The latest to bloom is the Lance-leaved, *V. lanceolata*, another species of damp fields, with dainty white blossoms, veined with dark purple, almost black, and narrow almost linear leaves. This too is quite adaptable to gardens, but like *pallens*, it spreads by stolons and must be watched somewhat.

These are by no means all the violets of Maine or northern New England. *V. canadensis* and *V. rostrata*, which I have never run across in the wild, have been given me for the garden; *V. rotundifolia*, too,—this a rather fussy little yellow treasure, one of the plants of mountain regions which are often found growing in sandy acid soil along the seacoast; and golden *V. pubescens* which is much like *eriocarpa*. Other species grow in limited regions in the mountains or cold bogs, and are not to be found on the ordinary collecting jaunt. Other well-known species such as the Cream Violet, *V. striata*, and the Birdfoot, *V. pedata*, although their natural range is further south than Maine, are fully hardy here in the garden. Even the mid-western *V. pedatifida* seems to feel at home here, and is indeed much easier to grow than the eastern Birdfoots. I hope someday to grow some of the gorgeous far western species.—GRACE F. BABB, Portland, Maine.

## VIOLETS AT FERNWOOD, MICHIGAN

THE PICTURE brought to mind by the lines of Wordsworth:

"A violet by a mossy stone  
Half hidden from the eye"

is a treasured one, reaching back, for most of us, into childhood days. It seemed fitting that the first time my trowel dug into the soil of our new place, "Fernwood," it was to plant a violet. This was a white *V. papilionacea* which had been given me one spring day four years ago by an understanding friend who knew how sorely I had missed the woods and plants of our former home. For many weeks this violet languished in a clay pot on our city kitchen window-sill. Perhaps it helped us to make a decision,—at any rate, the day we came to sign the papers which would make these few acres of hills and woods and streams our home, the violet came along with us and settled gratefully into the leafmold at the base of a large red-bud tree near the porch. It is at the top of a long flight of log steps, where I have since planted many more white violets; but this one is a little later, the flowers a little creamier and larger, and will always be quite special!

Planted the same day were a half dozen "*Confederate violets*," (classed by some botanists as *V. priceana*). Past experience with this robust but lovely variety assured me that in a short time they would take possession of a second, shorter flight of steps. When the next spring rolled around, the inventory of violets far surpassed our hopes. They were everywhere, in some places literally spreading a carpet. We could not follow the paths without treading on them. There were hundreds of a downy yellow species (apparently a variant of *V. pubescens*) and thousands of the ever-present *V. papilionacea*. In one large area nearly all the flowers of this are striped, mottled, or blotched with white. When we tried the horticultural variant "Freckles" it proved to be still different, the petals white, peppered with numerous lavender specks.

From Wisconsin that year came some Canada violets (*V. canadensis*), which I planted near a third flight of steps. We have since found them growing in profusion in a woods across the river from Fernwood, and now bring some in each year. Their unusual coloration and their late blooming make them a welcome addition to the collection.

It was only after we had driven 28 miles on war-rationed gasoline to Lake Michigan shores to collect some of the lovely long-spurred *V. rostrata* from a long-known station, that I discovered a sizeable colony right on the place. If it had been a gold vein or an oil deposit I could not have been more pleased.

Another violet venture, though somewhat painful, has been most satisfying. While driving one evening we passed a great patch of white violets in a moist ditch along the road. They proved to be *V. striata*, so we returned the next evening with trowel and baskets, and brought home enough to plant them a foot apart on the sloping bank of one of our small pools. The painful part consisted in disentangling a flourishing crop of nettles. Fortunately, the next year there was a fine lot of *V. striata* seedlings, and only an occasional nettle. In this case I hope the predictions of those who have had unfortunate experiences with this spready species come true, for they make a charming picture with the many maidenhair ferns growing there.

In accord with the recommendations of those with experience, a few plants each of the two color forms of *Viola pedata* were planted on a sandy stretch of river bank where the presence of low bush blueberries showed the soil to be sufficiently acid. If they succeed, they will be joined by many more.

We have two kinds of violets as yet unidentified, one a small pale-flowered native, the other a very early neat white sort obtained in Canada, where it was being grown under the name "Parma Violet."

In my small nursery beds I am trying out one or two individual plants of many other violets,—from the eastern states, from the Great Plains, from the west coast, and from Europe. Some of these are beginning to spread and others just exist, indicating that their requirements have not been met. Time alone will tell which ones will like Fernwood well enough to stay and add their variety of leaf and flower to the anemones, bloodroots, hepaticas, trilliums, and other tiny wildings—and especially the numerous ferns which grow here beneath the redbuds, dogwoods, sycamores and oaks.—KATHRYN E. BOYDSTON, Niles, Michigan.

## TWO NOTABLE VIOLETS IN IOWA

**W**E HAVE growing here two very interesting and worthwhile Violets.

The first, *Viola* "Freckles," is just exactly that: more odd than beautiful, its white face is minutely speckled with blue, leaving it as freckled as the proverbial guinea pig.

*Viola cucullata* Rubra is about as near red as violets get. Its blooms are a very reddish tone of purple. It makes quite a pretty picture in company with its white and blue woodland brothers.

Both these Violets are expert at producing cleistogamous seed, so should not be placed close to choice plants. Given a lilac bush for their home to ramp under they will gladden the heart each spring with their cheery carpet of colors. After becoming established they need no further care, being well able to look after themselves against neglect and encroachment of weeds.—A. F. PRIEST, Peru, Iowa.

## VIOLETS OF LOUISIANA

**G**EOGRAPHICALLY, Louisiana is in an enviable position as far as flora is concerned. It lies at the lower end of the Mississippi River where



BY HERBERT KELLEY

Large rosy-violet blooms suggested the species name of *Viola rosacea*, native to the delta in Louisiana.

through centuries the water from the entire watershed has come to the Gulf, often overflowing the land and depositing seeds that have been picked up here and there. Moreover, flowers have crept down from the mountain ranges of the Atlantic side of the country to meet others coming in from the mid-western plains.

Here we have many different soils; pine hills with their deep sandy loam, sometimes with streaks of iron ore, and delta lands with heavy alluvial black soil. Each type has its own native violets.

In the heavy delta soils, most of which are subject to occasional overflows, we have *Viola rosacea* growing out in the open woods and fields, its rosy-violet blooms making it easy to identify. No other species that I know grows under the same severe conditions.

Along the banks of the drainage ditches, usually in semi-shade and in a growth of grass and other plants, *Viola langloisii* puts up its lavender-violet blooms on stems at least six inches tall, standing well above its narrow leaves.

*Viola hirsutula* can be found growing in rich sandy loam of old yards and pastures; while *Viola cucullata* carpets the moist woodlands with its violet blooms and its heart-shaped light green leaves.

Along ditch-banks, in open fields, roadsides and along railroad embankments *Viola villosa* covers the ground in late February, being one of the first of the native violets to come into bloom.

When we leave the delta soils and go to the hills with clear cold creeks running through them,—so different from the sluggish bayous of the lower country,—we find such a vast number of different kinds of violets that it would take years to work them all out and classify them.

*Viola loveliana* is one of the most unusual of the Southern violets. Its foliage has a distinct overcast of purple, giving the leaves an unusual color, and more often than not each plant has two colors of blossoms, one a deep reddish-violet, the other a very light violet with deep purple veining. This violet seems to grow in either sun or shade, requiring only that the soil be acid.

*Viola triloba* var. *dilatata* grows along with *V. loveliana*. If one had not studied violets closely, he would not recognize the foliage of this as belonging to a member of the genus. It grows quite tall and unlike the typical *triloba*, the lower lobes are cut in several sections. It flowers over a short period, with few flowers to the plant. *Viola pedata* is also a native of the same hills as the above two sorts.

*Viola sagittata* is well scattered over the hills of the South, being found growing with *V. emarginata* and *V. viarum*. In one section of northwest Louisiana, close to the Texas border, a fine white form of *V. viarum* grows all through the woods. On the Opelousas Prairies, in southwestern Louisiana, a pure white form of *V. papilionacea* grows in abundance.

Along the creek bottoms *Viola triloba*, *V. esculenta*, and other cut leaf violets are to be found. Here too the simple-leaved *V. primulifolia*, with its lovely little white blossoms on tall rose colored stems, sends its fragrance over the woods.

There are old roads in the South that have been used for generations and have cut down deep into the hills; the trees form a canopy over these roads and their roots hold the mulch and make a wonderful place for *Viola walteri* to creep over the ground. This is one of the few stemmed violets that grow in the delta country.

The little annual pansy violet, *Viola rafinesquii*, grows in all of the different soils, seeming to require only the opportunity to turn its face to the sun.

While we have listed here the more clear-cut, readily separable species, there seems no end to the variation of the violets that this southland has, and perhaps some day a botanist will spend a few years collecting and classifying them. When this is done there will be no doubt be many new sorts added to this already large family.—JO N. EVANS, Ferriday, Louisiana.



## CULTIVATING NATIVE VIOLETS IN CALIFORNIA

FOR SOME years I have been growing wild violets in my California gardens, with more or less gratifying success. They were planted in six inch earthen pots in the correct soil mixture for each particular sort. By thus having them in pots, they could be easily moved into the house for closer study and also comparisons. I had at one time over three hundred such pots of violets, many of which were in duplicate. The species included not only North American violets, but many European ones as well. In the course of years, many of these plants have disappeared, but I still have a nice collection remaining:

I have found it nearly impossible to grow in my garden the glorious "California Golden Violet" (*V. pedunculata*). Many of the western violets are likewise temperamental and refuse to live long. With the stream violet (*V. glabella*), the Red-wood violet (*V. sempervirens*), the marsh violet (*V. palustris*) and the Alaska violet (*V. langsдорffii*), I have been rewarded with fair success.

The group called the stemless blue violets, of which there are 28 species in the eastern and southern states, have a thickened, fleshy rootstock and are by far the easiest to grow and keep alive through many seasons. The term 'stemless' here means that the plant has no stem, but that the stalk of the leaves and flowers arise from the rootstock. Of this group, the Hooded or Meadow Blue violet (*V. papilionacea*) is by far the easiest to grow, and it multiplies prolifically. It, however, sometimes becomes very troublesome in a garden. Notwithstanding this fact, I have made a beautiful border of this blue violet, together with its variety the Confederate violet, a pure white albino form, and a light blue variation.

So, also, the eastern *V. striata*, a stemmed white violet has been very satisfactory. When grown in a pot, its long stems hang downward and give the effect of a hanging basket. One very remarkable display that I had was when all eight of the stemless white violets, both eastern and western species, were in bloom at one time.

Mr. Milo Baker of Kenwood, California, a great student of violets, has grown several of the wild pansies from Europe in a shaded, moist spot. These have crossed and re-crossed through several seasons until he now has an infinite number of hybrids, the effect of which resembles a Persian carpet of rarest beauty. It would be worth trying in an eastern garden.

The sweet-scented English violet (*V. odorata*) has escaped from cultivation in both the eastern and western states, and this fact sometimes leads collectors to believe that it is a new species for us. It may be readily recognized by examining the pistil, which is unlike any of our American species: the tip of the style is bent downward like a hook. This, together with the long leafy runners, the hairy surface of the leaves, and the fragrant violet flowers make it unmistakable.—VIOLA BRAINERD BAIRD, Berkeley, California.



### THRICE WELCOME

The many, many friends of Dorothy Ebel Hansell will be delighted to know that she is resuming her official connection with the Society; Mrs. Hansell has accepted an appointment as Associate Editor of the Bulletin and has been re-elected Secretary of the Society as of January 1, 1947; we believe that this is a long step forward in the progress of the Society and we bespeak for Mrs. Hansell the same loyal support that you have given to the retiring Secretary.

### ANNUAL LUNCHEON

Our annual luncheon will be held on March 20, 1947: Our President, Dr. Ira N. Gabrielson will address us.

### ANNUAL ELECTION

On the occasion of our Annual Meeting on Saturday, May 24, 1947 we will be the guests of Gen. and Mrs. C. I. DeBevoise at their home, Cronamere, Greens Farms, Conn.; put a big bright mark around that date on your calendar.

### ANNUAL DUES

At the last meeting of the Board of Directors it was decided to offer three years' active memberships at \$10.00 if paid in advance.

### SEED EXCHANGE

The following fresh seed are ready for distribution; send self addressed, stamped envelope with your request to Mrs. L. D. Granger, 28 Bayview Avenue, New Rochelle, N. Y.

From Mrs. W. I. Higgins, Butte, Montana: *Anemone globosa*; *Aquilegia akitensis kurilensis*; *A. jucunda* var. *glandulosa*; *Oenothera caespitosa*; *Penstemon nitidus*.

From Miss Laura M. Sikes, La Jolla, Calif.: *Lapeirousia cruenta*; *Primula malacoides*, lilac; *P. malacoides*, white; *Moraea polystachya*.

Frs. Mrs. Earl French, Crosswell, Michigan: *Cerastium tomentosum*.

Mrs. Mrs. T. W. Boydston, Niles, Michigan: *Primula veris*, mixed.

From Mr. Robert M. Senior, Cincinnati 2, Ohio: *Campanula longistyla*; *C. pelviformis*.

Mrs. Mrs. E. H. Althans, Detroit 3, Michigan: *Clematis lanuginosa candida*; *C. lawsoniana*.

From Mrs. M. J. FitzPatrick, Skylands Farm, Sloatsburg, N. Y.: *Cornus florida* var. *fructo-luteo*; *Coreopsis tinctoria*; *Gentiana crinita*; *Papaver somniferum* (Mrs. King's special pink); *Primula japonica*, mixed.

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