



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized item.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

Statement on harmful and offensive content

The Hunt Institute Archives contains hundreds of thousands of pages of historical content, writing and images, created by thousands of individuals connected to the botanical sciences. Due to the wide range of time and social context in which these materials were created, some of the collections contain material that reflect outdated, biased, offensive and possibly violent views, opinions and actions. The Hunt Institute for Botanical Documentation does not endorse the views expressed in these materials, which are inconsistent with our dedication to creating an inclusive, accessible and anti-discriminatory research environment. Archival records are historical documents, and the Hunt Institute keeps such records unaltered to maintain their integrity and to foster accountability for the actions and views of the collections' creators.

Many of the historical collections in the Hunt Institute Archives contain personal correspondence, notes, recollections and opinions, which may contain language, ideas or stereotypes that are offensive or harmful to others. These collections are maintained as records of the individuals involved and do not reflect the views or values of the Hunt Institute for Botanical Documentation or those of Carnegie Mellon University.

About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

FLOWERS OF ISLAND X

by

George B. Van Schaack
Lieut. U. S. N. R.

Prepared for the use of
the men in the Armed Forces
stationed on Island X

Published by

Welfare and Recreation Department
Navy 163

1945

Preface

This island is not barren. From the first of June until October the lowland, hills and mountains are covered with a dense vegetation which springs up rapidly after the snow melts. Many of the plants bear colorful flowers and occur in such number that the fields and slopes become many hued. This pamphlet has been prepared to help you learn to recognize some of these plants. It is intended as a supplement to Dr. E. H. Walker's Key to the More Common Plants, Appendix E, The Aleutian Islands: Their People, and Natural History, Smithsonian War Background Studies No. 21.

A key is a sort of index of groups of plants having important characteristics in common. The arrangement is not alphabetical but is made according to contrasting characters. In using a key one must decide at successive steps whether the plant in hand has or has not a certain character. Because of the variation in plants and because of lack of experience it is easy to go astray in using a key, and unless one is fairly certain at the start of the name of the plant he is trying to identify he not infrequently finds himself undecided as to whether he has used the key correctly. This does not mean, however, that a key is useless to a beginner,--at best it leads him to the proper determination, at worst, if properly used and if it keys the plant (or a closely related one) at all, it gives him a good preliminary identification. But once such an identification has been made it is necessary to check it against a more or less complete description of the plant. The descriptions given in this pamphlet are intended to help at this point. Limitations of space in the Smithsonian publication prevented the inclusion of a set of descriptions of the plants keyed there. By no means all of the plants which Dr. Walker has keyed are described below, and, in a few cases, there are plants described which are not keyed.

These notes are based on observations made by the writer on this island in the summer of 1944. He is indebted to Dr. Walker for having determined the identifications of the plants which he collected. He is also indebted to Captain G. W. Soule and Sergeant R. H. Kinter of the Army, who loaned him the specimens which they collected last summer for checking certain points.

These notes are in no sense a scientific treatment of the plants found here. The descriptions are usually far from complete and are certain to contain many errors both of observation and of recording.

Island X, May, 1945

I. Collecting

Although this pamphlet is primarily intended merely to help in identifying plants, it is hoped that it may stimulate some readers to become interested in collecting and preserving plant specimens. It is unlikely that you will ever again find yourself in a place where the flora is so little known or where an even limited effort in collecting would contribute so much to science. The following paragraph is quoted from Plant Collecting by the Armed Services, by Egbert H. Walker, The Bulletin of the U. S. Army Medical Department, No. 83, December 1944.

"Every man in the service, medical or otherwise, has a rare opportunity to engage in the fascinating and highly worthwhile occupation of collecting scientific plant specimens for our great institutions. Already a number of servicemen have found this pursuit an enjoyable recreation, and their collections have proved to be of great scientific value. Specimens have been received from parts of the world where no collections were ever made, but these are only a drop in the bucket compared with what could be gathered if the men in the services realized the importance of the material to our large reference collections. The plants that you see every day about you really are desired in scientific collections."

A few points on collecting are emphasized here. It is most important to collect the whole plant, including the roots--the lower leaves and roots are sometimes critical in identification. A plant once collected rapidly wilts and becomes worthless as a specimen unless wilting is prevented artificially. As you collect them wrap your specimens in wet newspapers, or place them in a closed box or tin can of suitable size. Keep a record of the habitat of the plant (e.g., in low elevation tundra, on sandy beaches, in rocky ground at high elevation, near streams, in marshes, etc.). Dry your specimens in a press as soon as possible--rapid drying at low temperatures, 70°-100°, is the secret of preserving as much color as possible. In the appendix there are suggestions regarding presses. Remember to change driers frequently, at least once a day until the plant is nearly dry. Label your specimens, giving habitat, date, your name, number of the specimen, and any other items of particular interest, such as flower color, etc. In numbering start with 1 and number consecutively. Do not give the same number to two plants collected at different times or different places. Finally, if you find a plant which seems to be rare, collect it sparingly--the plant may be a newcomer to the island and just establishing itself.

In the appendix is given in full a note prepared to accompany letters written in answer to inquiries concerning plant collecting for the U. S. National Herbarium.

II. Grasses, Sedges, Rushes and Non-flowering Plants

The plants described in these notes are all of the more or less showy type in that they bear colorful flowers. But plants of this kind represent only a small portion of all the plants growing here. Grasses, sedges, and rushes are also flowering plants, whose flowers are very small,--for their determination at least a hand lens is usually necessary. But their collection is very important, and very little is known about the species which grow here. For those who want to study grasses there is an excellent beginner's book, *The First Book of Grasses*, by Agnes Chase, published by William Silvious, 832 Cambridge Oval, San Antonio, Texas, price \$1.25. Mrs. Chase, who is Custodian of Grasses at the U. S. National Herbarium, is most desirous of obtaining specimens of grasses from here.

The non-flowering plants, ferns, mosses, liverworts and lichens, are very numerous here and very little known. They are easy to collect and preserve. Finally, there are the marine algae, that is, the seaweeds, such as kelp, sea lettuce, etc. These, too, are easy to preserve--so long as they are dried before decomposition they are suitable for further study. The appendix refers to a special pamphlet on marine algae.

III. Descriptive Terms

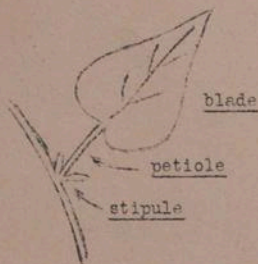
In order to describe a plant so that its identification will be reasonably certain it is necessary to refer to the various parts of the plant in precise words. The easiest way of doing this is to use terms each of which is quite definite in meaning. So great is the variation in plants that a complete glossary of such terms would list several hundred. Only a limited number is given here, those referring to characteristics frequently met with.

1. Parts of plants. A typical flowering plant is made up of four main parts: roots, stems, leaves and flowers. A plant whose stems and leaves are soft and quickly perishable is called herbaceous (like a herb). If the stems are woody, the plant is said to be woody--trees, shrubs and heather are woody plants.

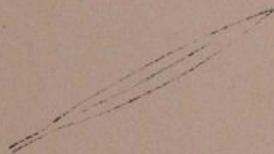
A leaf stem is a stem bearing leaves only. A flower stem bears flowers and, in many cases, leaves also. A leaf is basal if it springs directly from the root of the plant.

2. Parts of leaves.

The three parts of a typical leaf are named in the figure. The stipules are often absent. When the leaf has no petiole it is said to be sessile. A leaf-like appendage is called a bract--it may occur on a stem, at the base of a flower, etc. The angle at the junction of leaf and stem is called the axil of the leaf.



3. Shapes of leaves. In the figures below are shown the more frequently occurring shapes of leaves which have names of not so obvious meaning. In addition, leaves are described as circular, elliptical, kidney-shaped, triangular, heart-shaped, etc.



linear

long and narrow



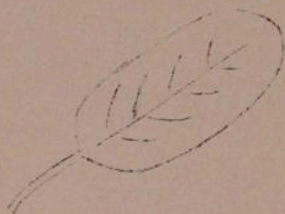
lanceolate

broader than linear near base



oblanceolate

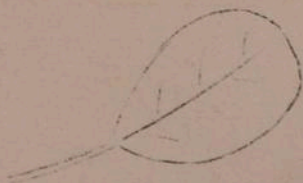
broader than linear near tip



oblong



ovate
egg-shaped



obovate
reversed egg-shaped



spatulate
long blade, tapering from
rounded end toward petiole

4. Simple and compound leaves; lobing. If the blade of a leaf consists of a single connected part it is said to be simple. A leaf of which the blade consists of three or more separate parts is said to be compound. The two principal types of compound leaves are shown here.



pinnate
like a feather; pinna -- feather



palmate
like a palm

If the blade of a leaf has a margin without teeth or indentations of any kind it is said to be entire. But many leaf blades are more or less lobed (maple leaves, for example). The clefts between the lobes may be so deep as to suggest a compound pinnate or compound palmate leaf--in these cases the leaf is said to be pinnately or palmately lobed.

5. Leaf veins. Many leaf blades show more or less prominent veins. Their arrangement is called the venation of the leaf. It may be pinnate (as in roses), palmate (as in maples), parallel (as in lilies) or netted, the veins forming a fairly complex net.

6. Leaf arrangement. Stem leaves usually have a fairly definite arrangement. They are said to be opposite if occurring in pairs at the same height on the stem but on opposite sides. They are said to be alternate if occurring singly at different heights along the stem. If several of them are more or less circled about the stem at the same height they are said to form a whorl.

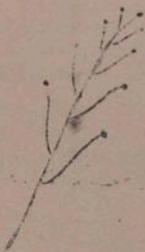
7. Parts of a flower. The four main parts of a flower are the calyx, corolla, stamens, and pistil. It is usually the corolla which the uninitiated notices first, for this is in most cases the most showy part. It is made up of the petals, which may be separate (as in the buttercup) or united (as in the bluebell). Below the corolla is the calyx, which may consist of several leaf-like or petal-like structures, the sepals, or which may be more or less of a cup with several lobes. The stamens, inside the petals, consist of two parts, the anther, containing the pollen, and the filament which supports it. The stamens are the male element of the flower. The pistil is the female element and consists of the ovary at the base, the style growing from the ovary and supporting the stigma, upon which the pollen is deposited. In some flowers the corolla is very regular, all the petals being alike, in others it may be quite irregular (as in the violet or snapdragon). The mid-portion of a united corolla is often referred to as the throat. The short stem immediately below the calyx in some flowers is known as the pedicel.

8. Inflorescence. This term means the arrangement of the flowers. The chief types are diagrammatically illustrated, each dark spot representing a single flower. Types of arrangement merge into each other so that it is not always easy to assign a definite type name. If the flowers occur on a leafless stalk which rises directly from a clump of basal leaves the flower stalk is called a scape.

The inflorescences shown do not cover the so-called composite family, of which the dandelion is the best known member. A dandelion plant does not have a single flower but a cluster or head of many flowers called florets. A more detailed description of this inflorescence will be found under the Composite Family in the section on plant descriptions.



spike
flowers sessile
or with very short pedicels



raceme ▼



umbel
as in "wild carrot"



corymb



cyme



panicle
compound raceme

IV. Plant Descriptions

The plants described here are listed by families, and within the family by botanical name. Such a name is a binomial, that is, it consists of two parts. The first part, a kind of surname, is the name of the genus, which is a group of quite similar plants, all of them having the characteristics of the family. The second part, a kind of given name, is the name of the species. A species is not a group of merely similar plants, but rather a group which cannot in general be subdivided on the basis of observable characteristics. In some cases, however, there are sufficient differences between members of a species to warrant classifying certain of them in subspecies or in varieties.

The common names, used below are taken largely from the Smithsonian publication. Many of the plants here do not have common (English) names, for they are not known widely to English-speaking people--the native Aleuts may, of course, have had common names for them in their own language. Nearly all of the common names given here are also applied to different (and often not even similar) plants in other parts of the world. Hence the common name is a poor substitute for the botanical name, which is uniform throughout the world.

To facilitate finding the plant you are interested in there is an index containing both botanical and common names. As a very inadequate substitute for a key there is a list, by flower color, of the flowers described.

LILACEAE LILY FAMILY

The common lilies of garden and roadside constitute only a small part of this large family. In many cases one recognizes plants as belonging to this family by their shiny, parallel veined leaves. In general the flowers have 3 sepals and 3 petals, alternating, the six appearing alike unless examined closely.

Tofieldia coccinea. Lamb lily. A small plant with a dense tuft or fan of flat lance-shaped leaves 1-3 in. long. Flowers very small, in cylindrical racemes at the end of a 4 in. stem. The stem reddish green, round, shiny, with a small bract below the inflorescence. Sepals and petals 3 each, waxy, yellow-white, red tinged. *2 mm long*
Fairly common on slopes at low elevation. July and August.

6 stamens, anthers long as petals + sepals, one from base of each perianth division, 3 lobed fertile reddish.
Some specimens pure white.

Veratrum album. False hellebore. A tall plant, 2-5 ft., of a single strong, leafy stem. Leaves alternate, ovate, clasping the stem, pointed at the tip, very strongly parallel veined, the lower ones sometimes 6-9 in. long, the upper ones shorter and narrower. Stem and under-side of leaves very fine hairy. The infl. resembles a sparsely branched panicle 6-12 in. long, the flowers are pinkish white to greenish yellow, 1 in. broad, 3 sepals and 3 petals alike, lance-shaped, 5 yellow stamens. Roots very poisonous. In moist low-land fields very generally. July and August.

Fritillaria gamschatkensis. Eskimo potato, Indian rice-root. The only plant on the island immediately suggesting the commoner lilies. 6-24 in. tall, a strong, round, shiny stem, leaves broadly lanceolate, very shiny dark green, opposite or in whorls of 3-5. Flowers 1-3 on short pedicels, nodding, purplish brown, 3 sepals and 3 petals alike, 1-1½ in. long, 3-ported stigma, 6 stamens with yellow anthers. Very densely over large areas in wet ground at low elevations, also on slopes up to 1000 ft. June and July, and later on the hills.

This flower, despite its beauty, has a rather disagreeable odor. It is called rice-root because of the form of its root--a bulb surrounded by many tiny rice-like bulblets. These roots formed one of the principal sources of starch of the native Aleuts. The plant is a native of Siberia but is found generally in the Aleutians and southeastern Alaska.

Meibothamnium dilatatum. Wild lily-of-the-valley. A small plant, 3-4 in. tall, a single stem with 1-2 short petioled, heart-shaped, shiny leaves. The white flowers in a cylindrical raceme, 4-petalled, 1¼-1½ in. broad, 4 white stamens. Quite common in low wet ground. Mid-June to August.

Streptopus amplexifolius. Cucumber plant. A tall plant, 1-5 ft., sometimes with several branches. A stout, round, smooth, shiny stem, with ovate, sharp pointed, shiny, parallel veined, alternate leaves clasping the stem (amplexus = clasping, folium = leaf), leaves 1½-3 in. long, whitish beneath. The flowers borne singly on filament pedicels from the axils of the leaves, but drooping around beneath the leaves, greenish white, the 6 segments pointed and curved backward. Strongly suggests the common Solomon's seal. Fairly common along streams at low elevation. Mid-June to early August.

IRIDACEAE IRIS FAMILY

This family is represented here by only one species.

Iris setosa. Iris, flag. This plant is recognized at once by anyone familiar with the purple garden iris. It varies in height,

6-20 in. The leaves, mostly basal, sword-shaped, $\frac{1}{2}$ -1 in. broad, sharp pointed, parallel veined. The flower stem, bearing 2-4 clasping leaves, round, shiny and sturdy, springing from the group of basal leaves which clasp it. Flowers 1-several along the upper end of the stem, each with a 1 in. pedicel, springing from the axil of a leafy bract, large, 2-3 in. broad, the 3 sepals broad spatulate, very thin and curving backward, the 3 petals, more linear and somewhat sturdier. In various shades of purple and purplish blue, variegated with white, the sepals marked with many dark veins. Very generally everywhere at low elevations and, in reduced size, to considerable heights. There may be two or more varieties of this species here. July and early August.

ORCHIDACEAE ORCHID FAMILY

The flowers of this family, like the lilies, have 3 sepals and 3 petals. But unlike the lilies the flower is irregular, the sepals being alike, two of the petals alike and extending sideways, the third, usually larger, often spurred or cupped, forming a lip. Members of three genera are described here. In addition a *Listera* (twey-blade) was observed before flowering, and a *Cypripedium* (lady's slipper) was reported from the north side of the island.

Orchis aristata. Showy orchis. A small plant, 3-6 in. tall. Two leaves on the flower stem clasping it, below the flowers, the lower ovate to elliptical, the upper more lanceolate, dark shiny green, parallel veined. The flowers in a leafy spike, each flower from the axil of a leaf, the ovary superficially resembling a pedicel. The sepals lanceolate, $\frac{1}{2}$ in. long, the lateral petals similar, the lip shorter and quite broad. In many color combinations of pink and purple, with more or less white. An occasional specimen albino (entirely white). Profusely on moist slopes near streams and in the lowland meadows. Mid-June through July.

Platanthora. There are apparently several species of this genus to be found here. Determination is not easy, and the notes below may not give the correct species name.

P. hyperborea var. *dilatataoides*. A plant of variable height, 8-24 in., of a single stout stem, bearing several alternate, lanceolate leaves clasping the stem, 2-4 in. long, parallel veined with a heavy central rib, very shiny, dark green. Flowers in a 2-4 in. raceme, short pedicelled, from the axils of leafy bracts, 3 sepals and 3 petals of same texture, the sepals broad lanceolate, $\frac{1}{2}$ in. long, the 2 upper petals $\frac{1}{2}$ in. long, curving over and almost forming a hood, the lowest petal very narrow and nearly $\frac{1}{2}$ in. long, pointing downward, spurred. Color greenish white to pure white, extremely fragrant. Quite generally and fairly commonly in wet ground at lower elevations. July to early August.

Among the plants closely resembling the above are *P. hyperborea*, tall leafy green orchid, of greenish flowers, and *P. dilatata*, tall white bog orchid, with white flowers of more delicate texture.

E. tipuloides (= *Habenaria behringiana*). A small plant of a single slender, ridged stem, 3-5 in. tall, with 2-3 alternate, lanceolate leaves, 1½-2 in. long, clasping the stem. Flowers 8-10 in a short raceme, very short pedicelled, from the axils of leafy bracts, yellowish green, 3 linear sepals ½ in. long, more or less pointing backward, the 2 uppermost petals shielding the uppermost sepal, the lowest petal pointing downward, very long and slender curved spur. Sparsely in boggy areas in lowlands. July.

Habenaria sp. A small plant of a single slender stem, bearing 2 alternate, clasping leaves near the base, 1 in. long, lower broad lanceolate to ovate, upper linear to lanceolate, shiny dark green, indistinctly parallel veined. Stem 2 in. tall, ridged, square, bearing 6-8 white to green flowers, very short pedicelled, essentially in pairs, successive pairs being at right angles to each other. General structure of flower similar to that of *Platanthera*. In wetter places on lower slopes. August to September.

POLYGONACEAE BUCKWHEAT FAMILY

This family contains the sorrels, the docks, the bistorts, etc. The flowers are usually very small and greenish and occur in spikes or panicles.

Rumex crispus. Wild rhubarb. A tall plant, 12-30 in., with several basal leaves, the blades arrowhead-shaped, 6-15 in. long, 2-4 in. wide, on long stems, of concave-convex cross section, the blades very dark green, prominently net-veined, edges curly, the petioles green above, reddish at lower ends, shiny at the base. The flower stem round, sturdy and ridged, bearing a few alternate leaves. Flowers in a dense panicle, very small, green, 6 sepals, no petals, 3 branched style, feathery stigmas. Not very common; in wet places at low elevation. August.

Oxalis digyna. Mountain sorrel. Small plant, 4-6 in. high. Several basal leaves with nearly circular blades, edges curly, palmately veined, smooth, ½-1 in. in diameter, on 1-2 in. petioles. Flower stem slender, red tinged. Flowers in a loose panicle, very tiny, green, tinged with red, 4 sepals, no petals, ^{6-8 branched style} 2-branched style. In rocky soil, usually at 1000 ft. and above. August. *Jeffers*

Polygonum viviparum. Bistort. A plant showing much variation in size, habitat and fruit color. No basal leaves, the flower stem 3-30 in. tall, round, jointed, leaves 2-several, lanceolate below to

linear above, blades 2-4 in. long with petioles 1-2 in. long. Very prominent central vein, indistinctly pinnately to net veined, darker green above, lighter below. Flowers in a cylindrical spike, 1-4 in. long, white to pinkish white, very small, 5 sepals, no petals, several white stamens with red anthers. On the same plant there will be open flowers at the middle of the spike, unopened ones above and mature fruit below. Fruit a small pear-shaped capsule, varying in color from red to orange to tan. On some plants the fruit will be observed to have sprouted, giving rise to small plants growing on the parent plant (viviparous = alive, parous = to bear). At all elevations, in both drier ground and very wet ground. Mid-July through August.

PORTULACACEAE PURSLANE FAMILY

Claytonia sibirica. Siberian springbeauty. A low, succulent plant, with many basal leaves radiating from the root, spatulate, 3-5 in. long, light green, shiny above, duller beneath. Many flower stems, 4-8 in. long, round, smooth, bearing two opposite, sessile leaves, ovate, but pointed. Flowers in very loose panicles from the axils of leafy bracts, pedicels 1-2 in. long, flowers $\frac{1}{2}$ in. broad, 2 sepals, 5 petals, 2-3 left, 5 stamens, 3-branched style. Very small seeds, hard, shiny, dark colored. Flower color from white (uncommon) through magenta shades to pink. Nearly everywhere at lower elevations. Late May until September.

spatulate
shrublike

CARYOPHYLLACEAE PINK FAMILY

This is a large family of small plants, the flowers white and generally small, and the plants often rather weedy in growth.

Stellaria. Starworts. (stella = star). Three members of this genus were observed. They are not easy to distinguish, all of them growing in tangled masses of slender stems and having very small flowers.

S. grisea. Wiry stems, 8-12 in. long, leaves opposite, $\frac{1}{2}$ in. long, lanceolate, sessile, prominent central vein, edges slightly curly, at intervals of about 1 in. along the stem, within the stem a fibrous cord. Flowers single on filament pedicels from axils of the leaves, $\frac{1}{4}$ in. broad, 5 sharp pointed sepals, 5 white petals, 10 stamens, 3-branched white style. Not very common; in sandy soil near the beach. July.

no petals!

S. media. Similar to the above, with longer stems, 10-15 in., round and soft hairy, within the stem several tough fibres. Leaves opposite, about 1 in. long, narrow ovate, pinnately veined. Stem

and leaves light green, stem somewhat branched. Flowers on light green, slender, hairy pedicels, 1/2-3/4 in. long, from axils of the leaves, 5 sepals, 5 white petals, 2-lobed and shorter than the sepals, flower about 1/3-1/2 in. broad. Near beaches. July.

S. sitchana. Similar to the above, but with stems 15-20 in. long, square, very slender, sharp hairy, within the stem a tough fibrous cord. Leaves opposite at enlarged joints, lanceolate, 1 in. long, from axils of the leaves, 5 linear, sharp pointed sepals, 3/16 in. long, 5 deeply cleft petals, white, scarcely longer than the sepals, 3-branched, greenish white style. Near beaches. July to August.

Cerastium aluticum. Aleutian chickweed. A small, rather untidy plant growing in small mats on old roots, stems very slender and hairy, 2-3 in. long. Leaves opposite, lanceolate to ovate, 1/4-3/8 in. long, prominent central vein, hairy both sides, with a very hairy margin. Flowers 1-2, at the end of stems, short, wiry, hairy, reddish pedicels, 5 light green sepals, 1/8 in. long, pointed, hairy, 5 white petals, 1/4 in. long, 2-cleft, 10 stamens. As the flower fades the sepals and petals increase in length, turn brown and become strawy. In rocky ground near elevations of 1000 ft. August.

Cerastium Fischerianum. 3 Fischer's chickweed. A small plant with ~~erect~~ ^{erect} upright stems, 8-10 in. tall, (from a trailing stem). Stem medium light green, round, 1/16 in. in diameter, quite hairy. Several pairs of opposite, sessile leaves, 3/4-1 in. long, lanceolate, fine hairy both sides, lighter color below, pinnately veined, the mid-vein depressed above and raised below. Flowers several at end of stem on hairy pedicels, 1-1 in. long, 5 sepals, linear, 1/2 in. long, hairy, white margined, 5 white petals, 1/3 in. long, 2-cleft, 10 ~~very short~~ ^{short} stamens, with white anthers, 5-branched styles. On rocky slopes at low elevation. ~~July~~ ^{Flowers in valley} July and August.

Sagina intermedia. Pearlwort. A very tiny plant growing in mats, of flower stems only, very slender, round, shiny, deep green, 1- $\frac{1}{2}$ in. long, with opposite, oval-shaped, shiny leaves, $\frac{1}{4}$ - $\frac{1}{2}$ in. long, rather fleshy. Flowers single at the ends of stems, 5 sepals, 5 white petals, 10 stamens, flowers under $\frac{1}{4}$ in. broad. On rocks at the beach. July.

Henckeyia pepioides. Sea-beach sandwort. A rambling plant growing in tangled masses in beach sand. Very succulent stems and leaves, stems light green, slightly ridged, smooth, leaves opposite, sessile, thick, dark green, elliptical, pointed. Flowers on short pedicels from axils of the leaves, 5-6 sepals, $\frac{1}{2}$ in. long, 5-6 white petals, $\frac{1}{2}$ in. long, 10-12 white stamens, cream anthers, 3- or 4-parted style. Very common on all beaches. July to mid-September.

Moehringia lateriflora. Blunt-leaved sandwort. A small plant,

— in. long, deep central vein, stem much branched. Flowers on very
pedicels 1

pinnae venation very indistinct, of present!

margins of refold scarious

3-5 in. tall, flower stems only, very slender, slightly hairy and sometimes tinged with red. Leaves in 2 or 3 opposite pairs, ovate, sessile, $\frac{1}{2}$ in. long, smooth above, slight hairy below, prominent central vein. Flowers 1-2 at end of stem, 5 short, dark green, cupped sepals alternating with 5 white, ovate petals, about $\frac{1}{8}$ in. long, 10 short stamens, white anthers, 3-branched style. On hillsides at low elevation. July and August.

RANUNCULACEAE BUTTERCUP FAMILY

A large family of various sized plants, many with dissected leaves, some with irregular flowers. It contains the common buttercups, the columbine, delphinium, etc.

Cotis trifolia. Goldthread. A small plant with several basal leaves, petioles 2-4 in. long, leaves very deeply 3-lobed, (tri = three, folium = leaf), sharply toothed, evergreen, dark green and shiny above, lighter below, $1\frac{1}{2}$ in. in diameter. Flowers single on pedicels 3-4 in. long, 5-7 white sepals, inconspicuous short petals, many stamens; on some plants one of the sepals with a green and toothed end. The roots long, golden fibres. Found generally in low elevation tundra. June and July.

Aconitum maximum. Monkshood. A tall plant, 2-4 ft., single strong stalks, shiny, slight hairy near top. Leaves alternate on 1 in. petioles, very deeply palmately lobed, the 3-5 main lobes again deeply cut almost linearly, slight hairy on margins and underside, very dark green and shiny above, veins raised on underside. Flowers several in a short raceme, purplish blue, the 'petals', which are really sepals, 5 in number, the lower two small, the two at the sides larger and cupped, the upper one nearly an inch long and forming a tight helmet or hood. The roots very poisonous, used by the natives to poison their arrow and spear ends. In drier ground near benches, among grass, etc. Mid-August to mid-September.

Anemone narcissiflora var. villosissima. Narcissus anemone. Plants 8-16 in. high, clumps of many basal leaves on long petioles, the blades palmately lobed into (usually) 3 almost separated lobes, each of these finely and fairly deeply divided, darker green above, lighter below. Flower stems several, round, hollow, with a single whorl of finely dissected leaves from the center of which spring the 3-8 flowers. Whole plant quite hairy (villosus = hairy). Flowers on 1 in. pedicels, 5 cream white sepals, $\frac{1}{2}$ in. long, surrounding a crest of many stamens with yellow anthers. To the casual glance a single flower strongly suggests a narcissus blossom. In great profusion nearly everywhere at lower elevations, whitening fields and hillsides. June to mid-July, and later on up to 1000 ft.

Ranunculus. Buttercup. This genus contains the common yellow buttercup of the States. Three species were observed here.

R. acer. Tall buttercup. The most common of the three species, 8-20 in. tall. A few basal leaves on long petioles, 3-5 lobed, the lobes cut into several sharp fingers (acer = sharp). Flower stems round, hollow, slight hairy, bearing several alternate, petioled leaves, lobed as above; near end of stem a few linear leaves. Flowers 3-10, in loose panicles, 5 sepals, small, yellowish green, 5 yellow petals about $\frac{1}{2}$ in. long, nearly oval, dark veined below, shiny above, like enamel, many stamens surrounding green pistil. Very common, sometimes seen in fairly dense patches. July and August.

R. eschscholtzii. A small plant, 1-6 in. tall, of a few basal leaves, palmately 3-lobed, the lobes toothed or scalloped, sometimes the leaf blade nearly circular, $\frac{1}{2}$ -1 $\frac{1}{2}$ in. in diameter. Flower usually single on stem bearing a whorl of linear leaves below the flower. Flower very similar to that of R. acer, but usually much smaller. Not very common; usually in wet ground near streams; also at edge of melting snow at 1000 ft. late in season. Late May to July, and into September at higher elevation.

R. nelsonii. A plant of medium size, 6-12 in. tall, more bushy than R. acer. Whole plant quite hairy, basal leaves 3-lobed, but lobes not deeply cut, rather irregularly scalloped and notched. Flower very similar to that of R. acer, but petals more blunt ended. Not very common; lower elevations. June to July.

CRUCIFERAE MUSTARD FAMILY

A large family containing mustard, radish, turnip, water cress, etc. Flowers always 4-petalled, the petals forming a cross (crux = cross). Many members of this family bear fruit before all the flowers have opened. The fruit is usually a more or less elongated pod.

Brassica sp. Mustard. A large plant up to 2 ft. tall, with a single very much branched stem, very leafy, the lower leaves nearly sessile, ovate to elliptical, 4 in. long, dark green, prominent veins, coarse toothed, somewhat hairy. Flowers many, loosely along all branches, on $\frac{1}{2}$ in. pedicels, yellow, $\frac{1}{2}$ in. in diameter, 4 linear sepals, turned back. Fruit a linear pod of square cross section. Observed only in previously inhabited areas, probably introduced by man. August and September. (See note on page 32)

Cardamine umbellata. Alpine cress. A small plant with many basal leaves forming a tufted rosette several inches in diameter. Basal leaves pinnately compound, 1-2 in. long, with nearly circular leaflets. Some plants with a fairly thick cluster of flower stems 3-4 in. long, others more spindly--flower stems leafy with compound

June 17 - on rock in Chickapott; June 18 - on rocks near Hunter Pt.

Stem leaves alternate to scattered. Plant glabrous. Throat leaf
corymbose. Flower diameter $\frac{1}{4}$ - $\frac{3}{8}$ in. Stamens 6. Sepals cupped.
Flower slightly asymmetrical



or linear leaves. Flowers in loose or dense clusters, at various stages of maturity, 4 sepals, sometimes pink tipped, 4 white petals, $1/16-1/8$ in. long. Fruit a linear pod, $1-1\frac{1}{2}$ in. long. The leaves and stems have a pleasantly bitter taste similar to that of water cress. Very generally in all wet places out of tundra. Late May to September.

Draba borealis. Northern draba. Small plant with few, if any, basal leaves. Flower stems slender, round, hairy, $2-4-6$ in. long, bearing alternate, ovate, pointed leaves, sometimes laterally notched, yellowish green, hairy above and below, upper hairs dark, giving leaf a spotty effect. Flowers several on short pedicels, alternate at end of stem, 4 yellowish green sepals, 4 white petals, notched, flower diameter $\frac{1}{2}$ in., 4 short stamens, yellow anthers. Fruit a flat, hairy pod, elliptical, sometimes slightly twisted. At lower elevations; not very common. July and August.

Sometimes
rare

Draba hyperborea. A medium sized plant of several light green, slight hairy flower stems, 8-12 in. long. Leaves alternate, sessile, 2-3 in. long, linear near base to broad near outer end, 2 or 3 sharp notches on each side, fine hairy. Flowers 8-10, sparsely along upper part of stem, petals $1/8-1/4$ in. long, greenish yellow, twice as long as yellowish green sepals. Fruit a green, rough-shaped pod, $\frac{1}{2}$ in. long, containing 2 rows of seeds. Uncommon; at low elevations. July. In quantity on Sugar Loaf July.

abundant
scattered

Arabis lyrata. Lyra-leaved rock-cress. Many short basal leaves, $1-1\frac{1}{2}$ in. long, with several sharp pointed lateral lobes. Many flower stems, bearing alternate, linear to lanceolate leaves, 1 in. long, stem branched, 6-9 in. long. Flowers in thin clusters at stem ends, 4 white petals, 4-6 green stamens, yellow anthers, $\frac{1}{2}$ in. in diameter. Fruit a linear pod, $1\frac{1}{2}$ in. long. At low elevations in wet places. July.

SAXIFRAGACEAE SAXIFRAGE FAMILY

The members of this family found here are mostly small plants, often having a cluster of basal leaves, always with 5 petals, and frequently growing along streams.

Saxifraga aleutica. Aleutian saxifrage. A very tiny plant, $\frac{1}{2}-1$ in. high, in mats of rosettes of shiny, recurved, elliptical leaves, $1/8-1/4$ in. long. From an occasional rosette a flower stem bearing two opposite leaves. Flowers white, very small. A plant of upper elevations; observed at 1500 ft. August, and perhaps earlier.

Saxifraga bracteata. A small plant of weak, leafy, tangled stems, a few basal leaves, stem leaves alternate, with $1\frac{1}{2}-2$ in.

petioles, nearly circular, deeply 3-6-cut, pointed scallops, $\frac{3}{4}$ in. in diameter. The stems light green and very hairy. Flowers 1-2 at the end of stems, $\frac{1}{3}$ in. in diameter, 5 green sepals nearly as large as the 5 white petals, 10 stamens, surrounding a large pistil having 2 short styles. In wet ground or along streams at lower elevations; uncommon. July and August.

Saxifraga sp. A much smaller plant, only 1-2 in. high, but otherwise very similar to the above.

Saxifraga bronchialis subsp. funstonii. Another small plant growing in mats of rosettes. From an occasional rosette a flower stem 1 in. long, bearing alternate, linear, bract-like leaves, these and the stem reddish green to green. Flowers few, in a branched cluster, 5 tiny, green sepals, 5 white petals, $\frac{1}{8}$ in. long, 10 white spear-like stamens, green pistil, double style. On rocky slopes at various elevations. July.

Saxifraga sp. A very small plant growing in mats of rosettes, these rather coarse, of hairy edges, nearly circular, thick leaves, about $\frac{1}{8}$ in. long. Flowers white on tiny stems bearing 2 alternate bract-like leaves. In rocky ground at higher elevations; observed at 1500 ft. July to August.

Saxifraga oppositifolia. Twinleaf saxifrage. Very similar to the above in its rosettes of leaves. But the flowers are almost stemless, growing right on top of the rosette, the 5 petals about $\frac{1}{8}$ in. long, purplish blue. In rocky ground on mountain tops. May to June.

Saxifraga punctata. Dotted saxifrage. (punctus = dot). A small to medium-sized plant of 10-20 basal leaves on 2-6 in. petioles, the blade $\frac{1}{2}$ -2 in. in diameter, nearly circular, with many pointed scallops, leaf stem reddish near base, green above, blade dull green above, lighter beneath, hairless. Flower stems 6-8 in. long, round, slightly hairy, reddish. Flowers 8-10 in a branched cluster, 5-6 red tipped, green, recurved sepals, the same number of white petals, $\frac{1}{4}$ in. long, stamens 10-12, red tipped, green ovary with 2 red tipped styles. Fairly common along lower elevation streams, especially near falls and cascades. July and August.

There are several saxifrages closely resembling S. punctata and difficult to distinguish from it. Observed here was one of similar size and appearance, growing in fairly dry lowland. Also observed were much smaller plants of similar appearance in rocky soil at various elevations, and one, only a couple of inches high, with pink petals and a red pistil, was observed at 1000 ft. in early September within a few feet of melting snow. Some of these may be other species or all of them may be variations of S. punctata.

Parnassia palustris. Marsh grass-of-Parnassus. (palus = marsh).

Pistil, $\frac{1}{8}$ " diam., many celled, many reddish hinged yellow styles

A medium-sized plant of many basal leaves, 1-2 in. petioles, blades heart-shaped to nearly circular, dark green above, lighter below. Flower stems 6-12 in. long, light green, square, with a single clasping, parallel veined leaf about one-fourth the way up the stem. Flowers with 5 dark green, lanceolate sepals showing between the 5 ovate, white petals, $1\frac{1}{3}$ in. long, 5 white stamens, $\frac{1}{2}$ in. long, with cream anthers surrounding a cone-shaped pistil. At the base of each petal a 2-lobed green structure, from each lobe of which there are 5 imperfect stamens. In wet ground among grasses, etc., at sea level. August.

ROSACEAE ROSE FAMILY

A large family of plants of very varied appearance. To this family belong, in addition to the ordinary roses, many garden berries, such as strawberry and raspberry, the apple, the plum, the cherry, the mountain ash, the five-fingers, etc.

Arnica sylvestris. Goatsbeard. This plant looks least like a rose of all the members of the family found here. It is large, 2-3 ft. high, with a single strong, branching stem, green at the base and reddish above, smooth and round. Several alternate, compound leaves, the whole leaf 10-15 in. long, the 3 branches united at the end of a 3-6 in. petiole, each branch bearing several opposite leaflets and a terminal leaflet. The leaflets nearly ovate, sharp pointed, doubly saw-toothed, somewhat crinkled, with a prominent central vein, green to greenish (or even reddish) bronze. Flowers many, in a pyramidal, spike-like panicle at the end of the stem, greenish white, very small. Found chiefly in ravines at lower elevations. Late July and August.

Sorbus sambucifolia. Siberian mountain ash. This is one of the few fairly large woody plants found here. In some places it spreads its branches on the ground, in others they are more vertical, and in favorable locations the plant may be several feet tall. The leaves compound, pinnate, 5-8 in. long, 6-8 opposite leaflets and a terminal leaflet about an inch long, lanceolate to ovate, dark green above, paler beneath, saw-toothed, sharp pointed, pinnately veined. Flowers in dense cymes, white, resembling tiny white single roses, about $1\frac{1}{3}$ - $1\frac{1}{2}$ in. broad. Fruit a bunch of red berries. Generally distributed at low elevations. Flowering in June, with fruit matured in August.

Rubus chamaemorus. Cloud berry. A plant of trailing roots, from which spring reddish, slight hairy stems, 2-3 in. high, bearing a few alternate, petioled leaves, 1-2 in. in diameter, crinkly, shallowly lobed, saw-toothed, much veined. Flowers with 5 light green sepals, 4-5 white petals, $\frac{1}{2}$ in. long, many white stamens--suggesting a strawberry blossom. Fairly common in the lowlands among thin tundra. The fruit a several celled raspberry-like berry of

$\frac{1}{3}$ long, shrubby

orange color. Flowering from mid-June to mid-July. Fruiting in August.

Rubus stellatus. Another plant of the same size as the above, with trailing stems, erect flowering stems, leaves varying in size, deeply 3-lobed, saw-toothed, slight hairy below and on the edges. Flower with 6-7 sepals, $1/3$ in. long, alternating with the same number of pink petals, $3/4$ in. long, oblanceolate in shape, with curly edges. In center of flower 20-30 pink stamens arranged in a tight crown. A very fragrant flower. In lowland tundra, not very common. Late June to July, and later at greater elevation.

Potentilla villosa. Hairy cinquefoil or five-finger. (villous = covered with fine hairs). A small plant strongly suggesting the strawberry in habit, but without the trailing stems. A cluster of basal leaves, compound, on petioles 2-4 in. long, 3 nearly sessile leaflets, triangular shaped, toothed rather coarsely, light green above, nearly white below. Leafy flower stems 3-4 in. long, bearing a few flowers in a loose cyme. Whole plant very woolly with fine white hairs. Flowers with 10 broad lanceolate sepals, $1/2$ in. long, 5 very separate petals, $1/3$ in. long, shallowly 2-lobed, brilliant yellow, with deeper yellow spot near base, fine veined, many yellow stamens, crested pistil. Found only in rock crevices by the sea and on rocky slopes at higher elevations--1000 ft. and above. July to August.

small
very small
chaffy
Sibbaldia procumbens. Sibbaldia. A small plant clinging to rocky ground, the season's growth from old woody stems trailing on the ground. Leaves compound on 2-4 in. petioles, slender, reddish, 3 leaflets nearly sessile, wedge-shaped, each sharply 2- or 3-toothed, and folded along the prominent central vein, light olive green, fine hairy below, hairy above and especially on the edges. Flowers few, in a loose cyme, calyx 5-lobed, with 5 alternating bracts, 5 yellow petals, 5 stamens circling the disk within the petals. Found only in rocky ground at 1000 ft. and above. August, July to mid-August.

small
chaffy
Gaura orthoceras. Cowslip-lobed evening primrose. A small to medium-sized plant with several basal leaves, strictly speaking compound, but to a casual glance appearing to be a leaf of a single blade with a petiole 2-6 in. long bearing a few alternate or opposite leaf-like bracts. The end leaflet from 2 to 4 in. in diameter, nearly round, heart-shaped at the base, indistinctly lobed, palmately veined and irregularly toothed. The lower leaflets very small, with a few sharp teeth. The petiole and leaflets hairy, dark green above, lighter below. Flower stems 1-several, 4-8 in. long, bearing 2-3 nearly circular, sessile leaves, similar to the end leaflet of the basal leaves though smaller--these stand out as a collar around the stem. Flowers few, in a loose cyme, 5 small, linear sepals, alternating with 5 larger, triangular shaped sepals about $1/2$ in. long, petals 5, nearly circular, $1/2$ in. broad, shallowly 2-lobed, yellow, fine veined, many yellow stamens, crested pistil. Found very generally throughout the lowlands and up to considerable heights. Of the three Geums

Observed in quantity near pond behind Barn Theater. 3 July 45

Observed in quantity in bloom at 10000' at western end of island by Lt (jg) H. W. Edwards about June 12, 1945. I saw the specimens he collected.

found here this is the only common one. June to early August.

Geum macrophyllum. Large-leaved avens. (macro = large, phyllum = leaf). A plant obviously of the same genus as the preceding, but much larger, 18-24 in. tall, with a very much branched stem. Some of the leaves distinctly 3-lobed and very large. Flowers similar to those of *G. calthifolium*, but smaller, about $\frac{1}{2}$ in. in diameter. Observed only once near the beach. July.

Geum rosii. A small plant, 2-4 in. tall, with a cluster of basal leaves, compound, with many many-toothed leaflets. Flower stem leafless, except for two small, deeply toothed, alternate leaflets. Flower single at end of stem, 10 sharply pointed sepals, $\frac{1}{2}$ in. long, in 2 sets of 5 each, 5 petals, yellow, many stamens, crested pistil. An alpine plant observed only at about 1800 ft. elevation. July and August.

LEGUMINOSAE PEA FAMILY

To this family belong the garden pea, the sweet pea, the various beans, the clovers, the locusts, etc. The leaves in this family are usually compound, the fruit is a legume or pod, the flowers are often butterfly-shaped.

Lupinus nootkatensis. Lupine. A coarse, bushy plant, 10-20 in. high, with several basal, palmately compound leaves, long petioles, 7-11 oblanceolate leaflets, 1-2 in. long, prominent mid-vein, somewhat hairy both sides. Heavy, branched flower stem, bearing alternate, compound leaves like the basal ones. Flowers in a conical terminal raceme, deep purplish blue to nearly white, irregular, lip-ped, about $\frac{3}{4}$ in. in diameter. Fruit a hairy pod, 1-2 in. long, containing several pea-like seeds. Very common in all wetter lowlands, and in dwarf size on the hills. July.

Lathyrus maritimus. Beach pea. (mare = sea). A rambling plant growing in tangled masses, with weak stems, triangular and slight hairy, bearing alternate, pinnately compound leaves, leaflets elliptical, 1 in. long. Flowers in small clusters, reddish purple, blue tinged, lowermost petal a cleft lip, uppermost a beaked hood tightly enclosing 10 stamens. Fruit a reddish, hairy pod. On sandy beaches, generally, but not commonly. Mid-July to August.

GERANIACEAE GERANIUM FAMILY

A not very numerous family of which only one species is found here.

Geranium erianthum. Wild geranium. A plant 6-12 in. tall,

having several long-petioled, deeply palmately lobed basal leaves, each of the lobes often subdivided and always coarsely, but sharply, toothed, the whole blade from 3-5 in. in diameter, dark green above, lighter and slight hairy beneath, veins prominent, depressed above, raised beneath. Flower stems rounded square, slight hairy, 2 opposite, nearly sessile leaves just below the inflorescence. Flowers 2-several, on hairy pedicels, 1-2 in. long, bluish purple, 5 hairy sepals, $\frac{1}{4}$ in. long, 5 petals, $\frac{3}{4}$ in. long, the petals and sepals alternating, the sepals pointed ovate, brown tipped, the petals round ovate, with purplish brown veins, 10 stamens, $\frac{1}{2}$ in. long, green shading to red, black anthers, red pistil. An occasional plant is albino (white)--these plants usually have leaves more deeply and sharply cut. Extremely common out of the tundra. July.

EMPETRACEAE CROWBERRY FAMILY

A family of few species of which only one is found here.

Empetrum nigrum. Black crowberry. A low, evergreen plant, forming the main element of the tundra. Trailing stems with 2-6 in. erect stems, very slender, round, reddish brown, leaves needle-shaped, $\frac{1}{2}$ in. long, nearly opposite in groups of 4, deep laurel green in color, shiny, showing a white crack in the underside. Flowers in the axils of the leaves at end of stems, very small, 3 deep purplish red sepals, no petals, 3 stamens, anthers 2-lobed, reddish purple. On maturing the stamens greatly increase in length--to fully $\frac{1}{2}$ in. Fruit a dark blue to black, spherical berry, edible, and, although of a somewhat flat taste, very highly thought of by the natives. The first plant to flower here,--observed in blossom on May 2nd. Fruiting in late August.

VIOLACEAE VIOLET FAMILY

A fairly numerous family of which only a very few species grow here.

Viola langesdorffii. Blue violet. A low plant of several long-petioled basal leaves, blades 1-1 $\frac{1}{2}$ in. in diameter, round, heart-shaped at the base, round toothed, dark green above, lighter below. Flower on a long stem bearing 2 opposite tiny leaflets. Flower blue, 1 in. in diameter, irregular, 5 petals, lowest nearly white, middle two bearded within, stamens orange to yellow. Fairly general at low elevations in wet ground, though not very common. June to mid-July.

ONAGRACEAE EVENING PRIMROSE FAMILY

A fairly numerous family of which only one genus, *Epilobium*,

was observed. Of this genus two species were easily identified. The remaining specimens observed presented a difficult problem in separation because of the large variability.

Epilobium angustifolium. Great fireweed. A tall plant of a single strong, leafy stem, 2-4 ft. high. Leaves very long and narrow, nearly sessile, deep green. Flowers in a long cone-shaped raceme, the lower ones opening first. Each flower with a short pedicel, the petals at the upper end of the 1-1½ in. long, square ovary, 4 brilliant magenta petals, 1/2-3/4 in. long. Observed in lowlands near streams. July to August.

Epilobium latifolium. Northern fireweed; red willowherb. A plant 12-15 in. high of a single leafy stem, gray green, sparsely fine hairy. Leaves many, lanceolate, 2-3 in. long, sessile, dark gray green above, lighter below, prominent central vein, pinnately veined. Flowers several, in the axils of the leaves, 1 in. pedicels, ovaries square, ½ in. long, at the end of which are 4 linear sepals, ½ in. long, alternating with 4 lanceolate to ovate petals, 3/4 in. long, sepals and petals brilliant reddish purple, sepals brown beneath, 8 stamens, white, ½ in. long, reddish brown anthers. A very striking flower. Along lowland streams, and also in wetter rocky ground at 1000 ft. elevation. Late July to August.

Epilobium spp. Many plants were observed which obviously belong to the genus Epilobium, but species identification was not made. All of these plants were fairly small, 3-10 in. high, (a few to 20 in. high), all had pinkish purple to white flowers of inferior ovaries, the 4 petals about 1/8-1/4 in. long. Some plants were dark green, of stout stems, with many opposite sessile leaves, others were light green, of weak stems, of fewer sessile, opposite or alternate leaves, many had red tinged stems and leaves. Observed in many places, from stream bottoms to quite dry ground, at various elevations, blooming from July to September.

UMBELLIFERAE CARROT FAMILY

A very large family containing many of the common vegetables, such as carrot, parsnip, parsley, etc. Perhaps best known from the European immigrant, 'wild carrot' or Queen Anne's lace. Flowers small, in umbels, frequently compound.

Conioselinum gmelini. Hemlock parsley. A plant usually 8-12 in. high, (sometimes to 18 in.), with a few basal leaves, of long petioles, compound, the 3 leaflets very much dissected, the petioles with a sheath, the stems reddish and ridged. Flower stem sturdier, with alternate leaves, similar to the basal leaves, sheathed. Flowers in a compound umbel, 1½-2 in. in diameter, flat-topped, florets tiny, white, pink or purple tinged, 5 petals, 5 stamens, maroon anthers. Foliage very tasty, similar to common parsley. Generally

and fairly commonly at low elevations. July and August.

Ligusticum hultenii. *Ligusticum*. A plant 12-18 in. high, with a few basal leaves, compound, leaflets in 3 groups of 3. Leaflets about 1 in. long, slightly 2- or 3-lobed, finely toothed, deep green. Flower stem sturdy, with a few alternate, compound leaves, on petioles having large clasping sheath. Flowers in 2-3 loose, compound umbels, florets tiny, white above, pinkish beneath, 5 tiny red sepals, 5 petals, 5 stamens, purple anthers. Generally, near beaches. August.

Celeriacum grolini. Wild celery; wild parsnip. A large plant, 16-48 in. tall, a single heavy, round, slightly ridged, light, hollow stem. Leaves large, on petioles with large bladdery expansions, very dark green and shiny above, lighter green and shiny below, hairless, doubly pinnately compound, leaflets many toothed and pinnately veined. Flowers in many-rayed compound umbels, 2-4 in. in diameter, florets tiny, greenish white. Generally, at low elevations. July to September.

Heracleum lanatum. Cow parsnip. A large, heavy plant, 16-48 in. tall, with or without basal leaves. Heavy stem, slightly ridged, light green, purple markings, whitish green pith surrounding small hollow tube. Leaves on petioles with bladdery expansions, blade compound, from 6-18 in. in diameter, 3 leaflets, each 3-lobed and roughly toothed, white hairy below, hairless and dark green above--a huge plant. Flowers in flat-topped, dense, compound umbels, florets $\frac{1}{4}$ in. in diameter. Very common at lower elevations, especially thick near beaches. July to September.

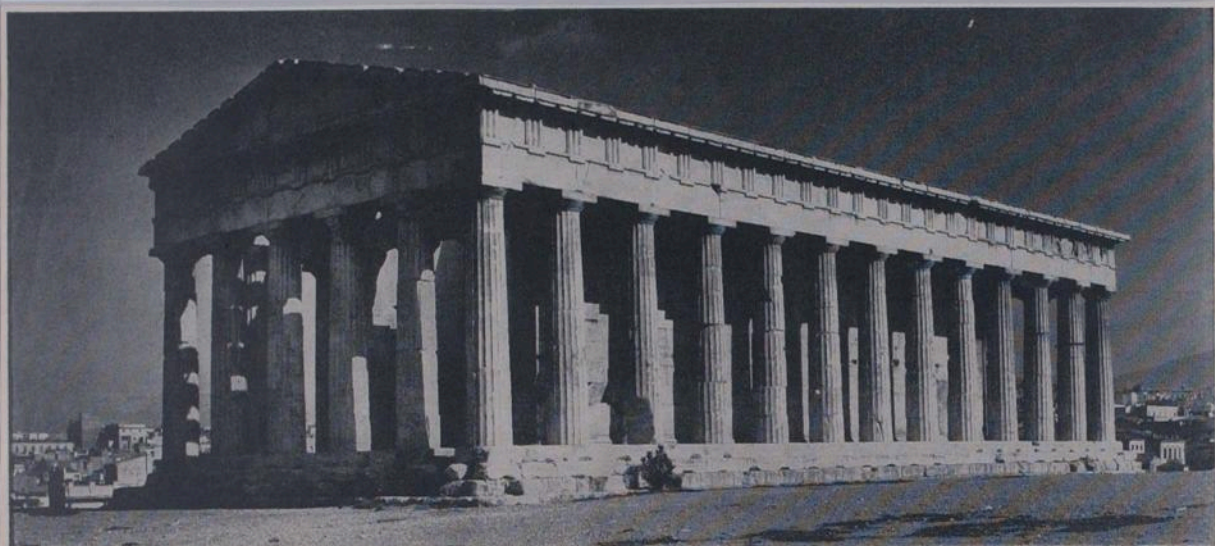
CORNACEAE DOGWOOD FAMILY

Cornus suecica. Dwarf cornel; bunchberry. A small plant, 3-5 in. high, single slender stem, 2 pairs of opposite, ovate leaves on lower part of stem, 3 pairs whorled at upper end of stem, leaves $1\frac{1}{2}$ in. long, nearly parallel veined, shiny deep green. Flower on $\frac{1}{2}$ in. pedicel at end of stem, 4 petal-like bracts, white with greenish to brown tips, each $1\frac{1}{4}$ - $1\frac{1}{3}$ in. long, broad, sharp pointed, surrounding a cluster of tiny, deep violet to black florets. Fruit a cluster of red berries. Generally and commonly in the tundra at low elevations. Flowering from mid-June to mid-July. Fruiting in August and September.

ERICACEAE HEATH FAMILY

A family made up largely of woody, evergreen plants, containing the rhododendrons, azaleas, laurels, huckleberries, cranberries, etc.





Pyrola asarifolia var. incarnata. Wintergreen. The only herbaceous (non-woody) member of this family observed here. A small plant of several basal leaves with $\frac{1}{2}$ -1 in. petioles and elliptical, nearly circular, very slightly toothed, dark green, shiny blades, $1\frac{1}{2}$ - $3\frac{1}{4}$ in. in diameter. Flower stem a scape, square, ridged, reddish, shiny, having 1-2 small bracts. Flowers 8-10 in a raceme, each with a short red pedicel and a reddish bract, 5 petals, pink, nodding, 10 stamens, yellowish brown anthers, ring-shaped ovary, green, 5-branched style. Not common; in marshy places. July.

There is probably another *Pyrola* here, *P. minor*. This is very similar to the above, its flower, however, being much more nearly a spherical bell.

Rhododendron kamschatcicum. Kamchatka rhododendron. A very low, woody plant with trailing stems. Leaves chiefly opposite or whorled, broadly oblanceolate, 1 in. long, hairy above and below, with many marginal hairs, not veined. Flower with 5 elliptical, hairy sepals, $\frac{1}{2}$ in. long, 5 brilliant, dark pink petals, the lower two larger than the united upper three, the flower $1\frac{1}{2}$ in. in diameter, 10 stamens, the upper 5 short and in line, the lower 5, $1\frac{1}{2}$ - $3\frac{1}{4}$ in. long, descending, with upcurved ends, single style, 1 in. long, shooting downward toward the opening between the two lower petals, greenish yellow 5-branched stigma. Very general and fairly common in tundra on lower slopes, seldom found on level ground. July to August.

Loiselcuria procumbens. Alpine or trailing anemone. Much branched, trailing, slender, woody stem, with short petioled, opposite leaves, elliptical, $1\frac{1}{8}$ - $1\frac{1}{6}$ in. long, shiny dark green above, gray green below, prominent mid-vein, depressed above, raised below. Flowers in terminal clusters of 2-5, $1\frac{1}{4}$ - $1\frac{1}{3}$ in. long, reddish, 5-parted calyx, 5-parted pinkish to white corolla, 5 stamens. Generally, at low levels in the tundra, often overhanging small brooks. June.

Phyllodoce aleutica. Aleutian mountain heath. Trailing woody stems with evergreen, linear, needle-like leaves, $1\frac{1}{3}$ in. long, densely surrounding the stem. Flowers several in a terminal cluster, pedicels $3\frac{1}{4}$ in. long, 5 linear, $\frac{1}{4}$ in. long, green sepals, greenish white, bell-shaped corolla, 5-parted, 10 stamens, single style. Generally, but not plentifully in tundra above 200 ft. elevation. July to early August.

Cassiope lyconodiodes. Cassiope. A trailing, much branched, woody plant, of very slender stems, bearing tiny scale-like leaves in 4 ranks, the season's growth green, that of former seasons brown. Flowers 1-3, terminal on slender pedicels, milk white, bell-shaped, 5 tiny teeth, 5 tiny greenish red sepals, flower $1\frac{1}{8}$ - $1\frac{1}{4}$ in. in diameter. Usually above 300 ft. in tundra, not very plentifully. July.

Vaccinium uliginosum. Mountain bog bilberry. A woody, shrubby, trailing plant, ovate leaves, $1/3$ in. long, sometimes purplish tinged on the edge. Flowers single or 2-3 together, nearly sessile, $1/4$ in. long, 5-parted, reddish calyx, corolla a waxy bell, deep pink, stamens several, pink, single yellow style. Very common in tundra up to 1000 ft. at least. Fruit a blue berry, much resembling huckleberry in appearance and taste. Blooming from late June through July. Fruiting from mid-August through September.

Vaccinium vitis-idaea subsp. nigrum. Mountain cranberry. A trailing evergreen plant of slender, reddish stems, leaves elliptical, margins rolled back, dark green, shiny, $1/3$ in. long. Flowers in small clusters, corolla bell-shaped, 4-cleft, pink. Fruit a dark red berry of rather bitter taste. In the tundra at lower elevations. July; fruiting August to September.

PRIMULACEAE PRIMROSE

This family, many of whose members are small and delicate plants, is represented here by only two common species.

Primula cuneifolia. Primrose. A plant with several basal leaves on $1-1\frac{1}{2}$ in. petioles, having a more or less wedge-shaped (cuneus = wedge) blade, $1/2-3/4$ in. long, with 10-15 coarse teeth, light green, smooth, rubbery. Flowers 1-3 on a single, reddish brown stem, 4-6 in. tall, each flower on a short pedicel, the 5 sepals greenish purple, $1/4$ in. long, the 5 petals united, each very deeply 2-cleft, $1/2-3/4$ in. long, various shades of pinkish purple to nearly white, the corolla throat yellow. Extremely common at low elevations in the more grassy fields and on grassy slopes, at greater elevations as the season progresses. Early June to August.

Trientalis europaea subsp. arctica. Starflower. A small plant, 2-5 in. high, of a single, slender, reddish, leafy stem, leaves sessile, undersized below to $1/2-3/4$ in. long above, obovate to elliptical, olive green, the upper ones several in more or less of a whorl. The single flower white, $1/3-2/3$ in. broad, 7 ovate petals, with 7 alternating, reddish brown, linear sepals about half the length of the petals, 7 white stamens, orange anthers, single style. Fairly general in low tundra at lower elevations. June to July.

GENTIANACEAE GENTIAN FAMILY

Only one species of this family was observed here. This was previously not known from the Aleutians, but had been found in the Commander Islands.

Gentiana puriculata. Gentian. A small plant, 1-4 in. tall, a single square, slightly purplish tinged, shiny stem with a few leaves clustered near the base of the stem and opposite above, $\frac{3}{4}$ -1 in. long, lanceolate, round tipped, sessile, parallel veined. Flower single on slender pedicel (in larger plants 2-4 on pedicels from axils of the upper leaves), tubular, $\frac{3}{4}$ -1 $\frac{1}{4}$ in. long, purple tinged green calyx, square, with 4 lobes clasping the corolla. Corolla purple, square with 4 lobes, at base of each lobe a fringed lip, 4 stamens $\frac{1}{2}$ in. long, black anthers, 2 stigmas. Observed only once at 1000 ft. in rocky ground. Late August to September.

BORAGINACEAE BORAGE FAMILY

Mertensia peritina. Sea bluebells. (more = sea). Stems 20-24 in. long, more or less trailing, round, smooth, slightly ridged, bearing alternate, oblanceolate leaves, $\frac{1}{2}$ -2 in. long, dusty light green in color, smooth beneath, slightly sandy above. Flowers in panicles at stem ends, buds reddish, calyx green with 5 sharply pointed lobes, corolla blue, bell-like, $\frac{1}{2}$ in. long, 5 bluish white stamens with brown anthers, single style. On sandy beaches. Mid-July to August.

Shaded, each
lobe notched

SCROPHULARIACEAE FIGWORT FAMILY

This is a large family of plants, many with more or less irregularly shaped flowers. It is represented here by about a dozen members.

Veronica. Speedwell. Five species of this genus were observed here by the writer. A sixth, collected by Capt. G. W. Scule of the Army, is unidentified and is listed as *V. sp.* All of these species have small blue flowers, 4-petalled, except in one case.

V. americana. American brooklime. A rather succulent plant with stems 8-10 in. long, radiating from the center, more or less prostrate, rooting at the lower joints. Stems light green, red tinged, round, hairless. Leaves short petioled, lanceolate to broader, opposite, $\frac{1}{2}$ in. long, toothed, nearly shiny above, pinnately veined. Flowers on slender pedicels from stem branches, 4 sepals, lanceolate, $\frac{1}{8}$ in. long, 4 purplish blue petals, $\frac{1}{2}$ in. long, showing reddish veins, 2 white stamens, purple anthers, single style, red stigma. In wetter places at low elevations. August.

V. grandiflora. Large-flowered speedwell. (grand = large). A small plant, 3-6 in. tall, of a single stem, reddish near the base, opposite, sessile leaves, two successive pairs being at right angles to each other, smaller below to 1 in. long above, lanceolate to

ovate, dark green above, lighter below, very hairy, slightly saw-toothed, prominent central vein. Flowers 2-5 in a loose cluster on $\frac{1}{2}$ in. pedicels at end of stem, each with a reddish bract, 4 sepals, green, hairy, $\frac{1}{8}$ in. long, 4 purplish blue petals, nearly round, $\frac{1}{3}$ in. in diameter, base of petals white, 2 purple stamens, white anthers, long purple style with green stigma. From sea level to 1000 ft. July to early September.

V. humifusa. Thyme-leaved speedwell. A plant of several branched stems, 6-12 in. tall, slight hairy, leaves opposite, elliptical, sessile, $\frac{1}{2}$ in. long, obscurely scalloped. Flowers on $\frac{1}{2}$ in. pedicels from axils of the upper leaves, light blue, very small, 4 green sepals, 4 petals, single style, 2 brilliant blue anthers on short stamens. In wet ground near streams at lower elevation. July to September.

V. stelleri Pall. Steller's speedwell. A small plant, 3-4 in. tall, of a single round, hairy stem, bearing opposite, sessile, saw-toothed, hairy leaves, ovate, $\frac{3}{4}$ in. long. Flowers 3-6 in a cluster at end of stem, 4 green, lanceolate sepals, 4 blue petals, parallel veined, $\frac{1}{2}$ in. long, lowest petal slightly smaller, 2 stamens with brown anthers overhanging the stigma. At lower elevations, sparsely. July.

V. stelleri Willd. A plant similar to the above, but smaller, about 2 in. high, the flower single and with only 3 sepals and 3 petals, the stamens 3 in number and with bluish anthers. At low elevations, not common. August.

V. sp. A small plant, 3-4 in. high, single hairy stem bearing opposite, elliptical leaves, the upper pairs clustered. From the axils of the lowest pair a slender, hairy flower stem, 2 in. long, bearing 3-5 flowers on short pedicels, the flowers very similar to those of V. grandiflora. At low elevations. July to August.

Lagotis glauca. A vigorous, fleshy plant, several basal leaves, stems reddish at base, of concave-convex cross sectioned pedicels, the blades 2-4 in. long, broad lanceolate to nearly elliptical, shiny, coarsely scalloped. Flower stem round, 6-12 in. tall, bearing several alternate, small leaves. The flowers in a dense, thumb-like spike, $\frac{1}{2}$ - $\frac{1}{3}$ in. long, each flower with 2 clasping sepals, 3 petals, the lowest larger, the upper 2 overhanging, 2 stamens, single short style, flower color blue. At lower elevations in wetter places and also, reduced in size, on wet slopes to 1500 ft. July to August.

Castilleja unalaschensis. Indian painted cup. A tall plant, 15-30 in. high, a single leafy stem, very ridged, alternate, sessile leaves, parallel veined, 2-3 in. long, very fine hairy. Near upper end of stem the leaves are yellowish, becoming pure yellow at the top and quite hairy, clustering around several closely packed yellow flowers. Usually found more or less covered with aphids. At lower

elevations among grass. July.

Euphrasia mollis. Eyebright. A very small plant, 2-3 in. tall, a single stem, round, fine, reddish, slight hairy, leaves sessile, opposite, $\frac{1}{4}$ in. long, toothed to scalloped, hairy beneath, shiny and hairy above. Flowers nearly sessile in the axils of the leaves, 5 petals, the lower three 2-lobed, $\frac{1}{8}$ in. long, yellow with purple markings, the upper two purplish pink, 4 stamens, single style. Not common; in wet ground on lower slopes. August.

Rhinanthus greenlandicus. Rattleweed. A single erect stem up to 18 in. tall, slightly branched near the top, square with rounded edges, shiny, slight hairy. Leaves opposite, 1-2 in. long, lanceolate, strong central rib, pinnately veined, fine hairy below, coarse sharp hairy above, saw-toothed. Flowers in tight groups of 3-4 at ends of stems, nearly closed, enclosed by a yellowish green, sharply 4-lobed calyx. Flower yellow, $\frac{1}{2}$ in. long, corolla tubular, 4-lobed, one lobe larger than the others forming a hood, enclosing 4 yellow stamens with brown anthers, style single, shaped like a question mark. At low elevations near streams among grass. August.

Podicularis chamissonis. Lousewort; woodbetony. A single erect stem, 10-18 in. tall, with 4 (sometimes 5) prominent ridges. Leaves nearly sessile, 2 in. long, (to shorter above), deeply pinnately lobed, the lobes toothed, in fours (or fives) whorled, green, tinged with red, especially the upper ones. Flowers in a conical spike, 16-48, sessile, in groups of four, lower groups about $\frac{3}{4}$ in. apart, upper groups crowding. Each flower with a tubular calyx, the corolla pink, lower lip 3-lobed, spreading, a fourth lobe above forming a sharply keeled and pointed hood, enclosing 4 pink stamens with blackish brown anthers, very long filament style, pink with a white stigma. Quite common at lower elevations in wetter places. July to August.

LENTIBULARIACEAE

BLADDERWORT FAMILY

Pinguicula vulgaris. Common butterwort. (pinguis = fat). A small plant with a few basal leaves, 1 in. long, obovate, heart-shaped at the base, sessile, light green, greasy or slimy, flattened against the earth, curling back when plant is pulled. Flower single on a slender stem, 2-3 in. long, slight hairy, green at base, emerging through brown to violet above, calyx 5-lobed, clasping the corolla of 5 unequal lobes, $\frac{1}{2}$ in. in diameter, with a sharp $\frac{3}{4}$ in. spur, dark magenta to purple, throat black rimmed, lower 3 lobes white bearded at throat. At first sight this flower strongly suggests a violet. Generally in wet ground at lower elevations, sparsely higher. Mid-June to July.

PLANTAGINACEAE PLANTAIN FAMILY

Plantago macrocarpa. Big-pod plantain. (macro = large, karpos = fruit). A plant with several lanceolate, parallel ribbed, basal leaves, 6-8 in. long, slightly hairy above. A single scape bearing a dense spike of tiny white flowers, the calyx of 4 green sepals remaining to surround the small, green, spherical fruit. Fairly general among grasses and larger plants. June.

CAPRIFOLIACEAE HONEYSUCKLE FAMILY

Linnæa borealis. Twin flower. Trailing slender, leafy, woody stems, bearing opposite, nearly circular, short petioled leaves, $\frac{1}{4}$ in. in diameter, pinnately veined, dark green above, light below. Flower stems erect with a few leaves below, bearing two flowers on very slender, $\frac{1}{2}$ in. pedicels from the axils of 2 opposite, tiny leaves. The flowers nodding, their pedicels bent at a sharp angle, calyx 5-toothed, green, corolla 5-lobed, $\frac{1}{4}$ - $\frac{1}{3}$ in. long, pinkish white outside, deep pink veined inside, and slight hairy within, style single, 4 stamens, 2 short and 2 longer, anthers white. Not very common; in the tundra at low elevations. Mid-July to August.

CAMPANULACEAE BELLFLOWER FAMILY

This family, containing the charming harebells of home, is represented here by two small members of alpine character.

Campanula dasycarpa. (campana = bell). A plant 2-4 in. high, of a leafy stem, bearing alternate, nearly elliptical leaves, with $\frac{3}{4}$ in. petioles and $\frac{1}{4}$ in. blades, the blades scalloped to saw-toothed, dark green, pinnately veined. Flowers single on reddish purple pedicels, calyx with 5 broad, pointed lobes, hairy, slightly curled, greenish brown. Flower a bell, 1 in. long, purple to blue, deeply 5-lobed, fairly prominent parallel veins, 5 short stamens, single white, 3-branched style. Generally and not uncommonly at lower elevations on rocky slopes. Late July to August.

Campanula lasiocarpa. Boring bellflower. A plant 3-4 in. high, with a basal cluster of 6-12 spatulate to lanceolate leaves, $\frac{3}{4}$ -1 $\frac{1}{4}$ in. long, dark shiny green on both sides, somewhat sharply toothed. Flower stem slender, ridged, green below to brownish purple above, bearing a few alternate lanceolate leaves. Flower single, with a green, hairy calyx of 5 linear, sharp pointed lobes, each with 2 lateral teeth. Corolla blue, bell-shaped, 5-lobed, 1 in. long, hairy within at the base, style 3-branched. A rather more delicate flower than *C. dasycarpa*. Same location and season as the preceding.

A huge family of plants united by the common characteristic of having the flowers densely grouped into so-called heads, as in dandelions, daisies, yarrow, etc. The individual flowers, called florlets, are of two types: tubular or disk, the corolla being a tube, with usually 5 lobes, and ray or strap-shaped, the corolla being a short (or sometimes longer) tube, with one lobe very much lengthened into a ribbon. The dandelion head has ray florlets only, the daisy has ray florlets on its circumference (the popularly known 'petals') and tubular florlets in a disk surrounded by the ray florlets. Each florlet usually has 5 tiny sepals which mature into hair-like or bristly structures, often forming a feathery appendage to the seed enabling it to be easily disseminated by the wind. The flower head is surrounded below by one or more rows of leafy bracts, forming the involucre, and, in some cases, there are papery bracts growing between the florlets. Separation of species in this family is often difficult, depending on very minute characters of the individual florlets.

Aster peregrinus. Aster. Plant of a single, erect, stout, ridged stem, 12-15 in. tall, with broad lanceolate leaves, 4 in. long, clustered at the base and bearing essentially alternate leaves, sparsely toothed, nearly parallel veined, slight hairy, with white hairs on the margins. The stem branched toward the top into several 6-8 in. long, round, hairy stems, each branch bearing a single flower head, the involucre of several rows of bracts, $\frac{1}{2}$ in. long, green. Many pink ray florlets, $\frac{1}{2}$ in. long, crested disk of greenish yellow. At sea level, not common. August.

Erigeron perennis. Erigeron. A plant of variable height up to 18 in. or more, of a single round, slightly hairy, slightly ridged, hollow stem, bearing alternate, sessile, lanceolate leaves, 1-2 $\frac{1}{2}$ in. long, pinnately veined, with a strong central vein, slight hairy, sometimes sparsely toothed. A single flower head at end of stem, involucre of 2 rows of linear, green, brown tipped bracts, pink to nearly white ray florlets, $\frac{1}{4}$ - $\frac{1}{2}$ in. long, disk florlets tiny, yellow to green. Very common at low elevations in both wet and drier places. July to early September. delicate

Erigeron unalascensis. A small plant of a single flower stem with several spatulate leaves, $\frac{1}{2}$ -1 in. long, more or less whorled at the base of the stem, leaves dark above, light below, reddish tinged near base, hairy above and on the edges. Stem fuzzy hairy, 1 $\frac{1}{2}$ -2 in. tall, bearing a few linear, hairy leaves, alternate, reddish. Flower head single, with many hairy, sharp pointed bracts, fine, pinkish white ray florlets, disk small. Observed at 1000 ft. on rocky slope. August.

Antennaria dioica. Pussytoes. A small plant growing in mats of rosettes, each rosette of 8-10 spatulate leaves, $\frac{1}{4}$ - $\frac{1}{2}$ in. long, dark green above, silvery below. Flower stem from center of rosette,

slight red tinged, hairy to wooly, 4 in. tall, bearing several alternate, linear leaves, $\frac{1}{2}$ in. long. Flower heads globular in a corymb, tubular florets only, grayish white. This plant is dioecious, that is, individual specimens contain flowers of only one sex. In the staminate (male) plants the bracts of the involucre have broad, white, petal-like ends; in the pistillate (female) plants these bracts are rose-colored. On rocky slopes, at 500 ft. and above. Mid-July to August.

Anaphalis margaritacea var. occidentalis. Pearly everlasting. An erect plant, up to 30 in. tall, of a single strong stem, wooly, bearing alternate, sessile, lanceolate leaves, 2-4 in. long, dark green above, white wooly below. Flower heads few to many, in a corymb, florets quite similar to those of *Antennaria dioica*. The bracts are numerous, pearly white and papery. Fairly common at low elevations among grass, etc. August.

Achillea borealis. Northern yarrow. A plant of a single wooly stem, up to 12 in. tall, bearing alternate, sessile leaves, doubly pinnately dissected, 1-3 in. long, very hairy to wooly. Flower heads in a dense corymb, convex-topped, each head with 4-6 broad rays, nearly $\frac{1}{8}$ in. long, white (sometimes pink), and a few tubular florets, with 5-lobed corollas, the bracts of the involucre in several overlapping rows, all dark margined. Very common in the lowlands and, in reduced size with color variations, sparingly up to 1200 ft. Mid-July to September.

Chrysanthemum arcticum. Arctic chrysanthemum. Plants of single stems, 8-12 in. tall, round, ridged, bearing leaves chiefly near the base, these 1-3 in. long, coarsely dissected to deeply lobed, thick and rubbery, a few, nearly linear, 3-toothed leaves on upper stem, alternate. Flower head of 20-30 broad white rays, $\frac{1}{2}$ - $\frac{3}{4}$ in. long, the disk flat, of many yellow florets. Recognized at once by the common name of daisy. Generally, though sparsely, among grass at low elevations, in reduced size at higher elevations. July to September.

Artemisia arctica. Arctic sagebrush. A small plant with a cluster of basal leaves, doubly pinnately lobed, light green, wooly, $1\frac{1}{2}$ -2 $\frac{1}{2}$ in. long. Similar leaves on the round, ridged, white wooly flower stem, which is 3-5 in. tall. Flower heads nodding on short stems from axils of the upper leaf-like bracts. All florets tubular, green to yellow to reddish, very tiny, disk $\frac{1}{8}$ - $\frac{1}{4}$ in. broad, nearly flat, involucre almost tubular. In rocky ground above 1500 ft. August.

Artemisia sp. Perhaps a different species from the preceding. Plants taller, 10-12 in., less wooly, basal leaves lacking, lower leaves linear, upper ones more dissected, flower heads superficially the same. Above 1500 ft. in rocky ground. August.

Artemisia sp. Single stem, 12-30 in. tall, leaves alternate, short petioled to sessile, 1-3 in. long, very deeply cut into lanceolate to linear lobes, green above, gray white below. Flowers in axils of upper leaves and on a terminal raceme, small and rather inconspicuous, hairy involucre of a few ovate, papery bracts, greenish white, tiny, tubular florets. Very common in lowlands. August to September.

Arnica ungluschkensis. Arnica. Plant of a single stem, round, slightly ridged, hairy, 10-15 in. tall, bearing several pairs of opposite, sessile, broad lanceolate, nearly parallel veined leaves, slightly toothed, hairy, dark above, light below. Flower heads single, 1-2½ in. broad, involucre of 2 rows of linear, green bracts, 12-25 broad ray florets, bright yellow, toothed on the ends, disk 1/2-3/4 in. in diameter, tubular florets brownish yellow. Generally, but not plentifully, at lower elevations, in reduced size up to 1000 ft. August.

Cacalia auriculata. A plant of a single stem up to 2½ in. long, leaning to erect, light green, very strongly ridged, hollow. Leaves alternate on ½-1½ in. petioles, the blades broader than long, up to 6 in. broad, irregularly indented to form coarse teeth, dark shiny green above, light dull green below, prominent veins in a network, each leaf with a circular stipule, stem angled at leaf junctions. Flower heads on a spike-like raceme, nearly cone-shaped, heads nodding, a few small, greenish bracts, together with a single row of white ribbon-like bracts enclosing the head. Florets white, few, with many hairy bristles. Quite common in all wet places among dense growth at low elevation. July to August.

Senecio palmatus. Groundsel. A tall plant, 3-4 ft. high, stem up to 3/4 in. in diameter at the base, round, faintly ridged, ridges darker green, solid with a white pith. Leaves alternate, 6-8 in. long, deeply palmately lobed into 5 lanceolate lobes, each of which is doubly toothed, petioles ½-2 in. long, veins raised on underside of leaf. Flower heads in large, nearly flat-topped corymbs, 3 slender bracts, 5-8 yellow ray florets 1/3 in. long, disk ½ in. in diameter, of 15-20 tubular florets, yellow, many fine white hairs surrounding florets. In low elevation ravines. August.

Senecio pseudo-arnica. Ragwort. A plant 12-36 in. tall, of a single stout stem up to 3/4 in. in diameter at the base, markedly ridged with 10-20 ridges, very white woolly, especially above. Leaves lanceolate to ovate, alternate, circling the stem, petioled below, sessile and crowded above, up to 6 in. below to shorter above, upper side very shiny dark green, white with heavy mats of woolly hair beneath, prominent veins, coarsely toothed. Flower heads 1-several, close to the stem, set about with several very woolly, short leaves, 20-30 yellow ray florets, 3/4 in. long, tubular florets greenish yellow, disk 3/4 in. in diameter. Very common along all sandy beaches. August.

Cirsium kamtschaticum. Kamchatkan thistle. A plant 2-4 ft. tall, stem stout, up to $3/4$ in. in diameter at the base. Leaves alternate, sessile, their edges running down the stem in ridges with $1/2$ in. spines. Leaves elliptical, deeply lobed, spiny hairy on the edges, otherwise hairy, dark green above, lighter below. Flower heads 1-3 at end of stem, nodding, 1-2 rows of brownish green, hairy bracts, $1/2$ in. long, florets all tubular, in a dense head $1-1\frac{1}{2}$ in. in diameter and 1 in. long, light pinkish purple. Quite common at lower elevations, especially in sandy soil. August.

Picris hieracioides subsp. kamtschaticum. Hawkweed; oxtongue. A plant up to 30 in. tall, of strong stem, $1/4-1/3$ in. in diameter at the base, light green, very spiny hairy, darker green above. Leaves lanceolate to broader, clasping the stem, irregularly toothed, from 6 in. long at the base to shorter above. Flower heads in a corymb, each with a leaf-like bract at the base of its stem. Flower heads with $3/4$ in., yellow, linear ray florets only, with closely packed, blackish green, very hairy bracts about as long as the florets. In ravines at low elevation. August.

Therapsium sp. Dandelion. Plant of several basal leaves, 3-6 in. long, lanceolate, cut into lobes which point toward base of leaf. Flower head single on a reddish green, hollow stem, single row of short green bracts surrounding an inner row of longer bracts, all ray florets, yellow, $3/4$ in. long, densely packed into a convex crest. To all but the expert this is the common dandelion. Very sparsely distributed here. August.

Hieracium triste. Hawkweed. A slender plant, 10-15 in. tall, of a few basal leaves, petioles $1-1\frac{1}{2}$ in. long, blade equally long and nearly elliptical, slight hairy, dirty green in color. Stem slender, bearing a few alternate leaves, like the basal ones to more linear, stem slight black hairy. Flower heads 2-4, loosely at end of stem, upper end of stem and the bracts very densely black hairy, bracts linear, $1/3$ in. long, florets all strap-shaped, yellow, $1/4-1/3$ in. long. Low elevations in wetter places, not very common. August.

* * * * *

Note on Brassica sp. My specimen, which was tentatively identified as Brassica sp., has just been determined as B. juncea by Dr. L. H. Bailey, the foremost American horticulturist. This plant, commonly known as Indian or brown mustard, is cultivated for greens, salad, pickles and oil. Another species, B. napus, was collected here by Robert C. Morehouse of the Army and was also determined by Dr. Bailey. It is commonly called rape and is grown for cover, forage and oil. Both of these plants were introduced here.

List of Flowers by Color

White: Maianthemum, Platanthera dilatata, Polygonum, Claytonia, Stelleria, Cerastium, Sagina, Honckenya, Moehringia, Coptis, Anemone, Draba borealis, Arabis, Saxifraga, Parnassia, Geranium, Epilobium, Conioselinum, Ligusticum, Heracleum, Cornus, Cassiope, Primula, Trientalis, Plantago, Erigeron, Antennaria, Anaphalis, Achillea, Chrysanthemum, Cacalia.

Greenish white: Veratrum, Streptopus, Platanthera hyperborea, Habenaria, Aruncus, Sorbus, Rubus chamaemorus, Coelopleurum, Phyllocladus, Artemisia.

Yellowish white: Tofieldia.

Yellow: Ranunculus, Brassica, Draba hyperborea, Potentilla, Sibbaldia, Geum, Castilleja, Euphrasia, Rhinanthus, Senecio, Picris, Taraxacum, Hieracium.

Yellowish green: Platanthera tipuloides, Artemisia.

Green: Rumex, Oxalis.

Blue: Aconitum, Lupinus, Geranium, Viola, Mertensia, Veronica, Lobelia, Campanula.

Purple: Iris, Orchis, Saxifraga oppositifolia, Lupinus, Lathyrus, Geranium, Gentiana, Veronica, Euphrasia, Pinguicula, Campanula, Cirsium.

Red: Empetrum.

Pink: Orchis, Polygonum, Claytonia, Saxifraga punctata, Rubus stellatus, Epilobium, Pyrola, Rhododendron, Laseleuria, Vaccinium, Primula, Pedicularis, Linnaea, Aster, Erigeron, Antennaria, Achillea.

Appendix

Concerning Plant Collecting by Members of the Armed Forces

This note is prepared to accompany letters written in answer to inquiries concerning plant collecting for the U. S. National Herbarium.

Why collect: Many people think that the plants of the region in which they are stationed are already thoroughly known and it would be useless to gather more material. This idea is erroneous because: (1) Collecting these plants may be a valuable occupation for increasing your knowledge of the plant life about you through having the specimens identified for you. (2) No part of the world is entirely known botanically and few at all adequately. (3) This herbarium may not have specimens of all the species of your area, even if they are common, or may not have specimens showing adequately both flowers and fruits and their variations, or our specimens may lack valuable data which you may supply on the labels with your specimens. (4) Duplicate material is needed to exchange with other institutions and to help rebuild the bombed-out herbaria of Europe and elsewhere. Also people often think the flora around them consists entirely of commonplace littoral weeds or plants of cultivation. Suppose sometime it becomes important to know when a certain weed was introduced to a certain isolated Pacific island by airplanes. If we do not know what was on the island before the advent of airplanes, we can scarcely say when some new pest arrived. If a person still thinks neither he nor science will benefit by his collecting, he should remember that there are groups very little collected, such as mosses, liverworts, fungi, algae (including seaweeds and diatoms), and lichens.

What to collect: Collect specimens of what interests you and for which you want names. Generally avoid sterile material, i. e. without flowers or fruits, because of the difficulty of accurate identification without these parts. Remember the grasses--they are too often overlooked as being "just grass and no one wants that". If at the seashore collect marine algae washed up on the beach, if you can not pull them off the rocks at low tide or dive for them. Remember the diatoms which are attached to the seaweeds. (see under How to collect.) The various forms of fungi, both saprophytic, like mushrooms, and parasitic, like wheat rust, are needed, but in case you collect the latter prepare also normal specimens of the hosts. Cultivated crop plants are rare in herbaria, but are often of much value and are desired in certain collections, especially specimens of special varieties not widely distributed. Notes on all these are essential and may often make an otherwise useless specimen very valuable. Too often herbaria have only specimens representing abnormal leaf sizes, especially of forms with leaves that are too large for a normal sheet. Hence, collect material representing variations in leaf size, shape, color, etc. and of other variations in parts. Do not hesitate to have one collection represented by two or more sheets.

Sometimes 20 or more are needed. Do not avoid big things. They are harder to collect, but are more valuable if done right. If possible, get wood samples with supporting herbarium material. The standard size here for wood samples is $3/4 \times 2 \times 4$ inches, but smaller samples are acceptable and larger ones can be cut into duplicates. Remember heartwood, sapwood, bark, etc.

When to collect: There is something to collect at practically all seasons. Mosses and lichens are available in Alaska in winter, even if the seed plants are dormant. Of many species we have no specimens showing their characteristics in off-season condition. Grasses, for example, sometimes have fall phases very different from the spring and summer ones. Therefore collect in different seasons and habitats.

How to collect: This is briefly treated in the Smithsonian Institution's Field Collector's Manual in Natural History. These are only suggestions. All equipment can be improvised in any military base from discarded materials. The simplest press for field work consists of two stiff cardboards, a few sheets of newspaper, and a cord long enough to tie them together. A press for drying specimens at camp consists of two stiff cardboards, or boards or slat frames, felt driers or merely corrugated cardboards without felt driers, and a strap or cord to tie them up or a 40 pound rock to put on top. A bundle of felt driers will be sent on request to promising collectors by the Smithsonian Institution. Some people never use felt driers because they must be changed so often, but use instead corrugated boards (with the corrugations running the short way) between the specimens that are drying. The filled press is hung with vertical corrugations over a not too hot fire, a worm engine, a radiator, or other source of dry heat. A press tied on a jeep hood, holes forward, will partly dry, if not in the rain. See or write for more elaborate instructions if needed. Collect mosses, liverworts and lichens in newspaper packets. Collect diatoms in vials or bottles. Rinse and scrape marine algae to remove adherent diatoms. The settlements may be dried or preserved in alcohol. Do not forget to label fully. Preserve samples of tide-exposed mud in the same way; it may be rich in diatoms. Mud comes up with the anchor. Preserve a spoonful, dried or in alcohol. We know very little about Pacific forms. Seaweeds can be dried in mass in the sun with little pressing. They can be softened later by soaking and made into good herbarium specimens by the specialist. A special leaflet on collecting algae can be obtained from E. H. Welker, Smithsonian Institution, or from Prof. H. H. Bartlett, Botany Dept., U. of Michigan, Ann Arbor, Mich. If you want a set of your specimens to be kept for yourself, collect duplicates so that we can retain a set and lay yours aside for you. If you retain a set, sending in one set for us, and if you want determinations reported to you, just let us know.

How to prepare for shipping: Pack specimens well. Be sure they are tight so they cannot slide and break. Use waterproof wrappings

if you have them; if not, do the best you can to keep specimens dry so they will not mold. Include a label with each specimen giving as much information as possible, at least the collector and number. If rules forbid giving localities (see next section), retain these data under the same specimen number and send them to us as soon as permitted. It might be wise to deposit a copy with your intelligence officer, to be sent to us later. In any case, number each specimen.

How to ship: Mailing is most common. There are, however, various means of getting specimens to the Smithsonian Institution through official channels. The Army Medical Museum, the U. S. Naval Institute, the Bureau of Yards and Docks of the Navy Department, and other government branches can relay packages. Dried plant specimens are not subject to quarantine restrictions if not packed with disease- or pest-harboring material, such as unprocessed cotton or rice straw. We are told that labels bearing full locality data can accompany specimens, provided that the sender's unit does not appear in the return address. You will be guided, however, by your superior officer or post office. Handwritten labels do not constitute messages requiring first class postage.

* * * * *

Index

Only those descriptive terms, not found in the section on such terms, are listed here.

Achillea borealis	30	Brooklime, American	25
Aconitum maximum	13	Buckwheat family	10
Anaphalis margaritacea	30	Buttercup, tall	14
Anemone narcissiflora	13	Butterwort, common	27
Antennaria dioica	29	Caecilia auriculata	31
Arabis lyrata	15	Campanulaceae	28
Arnica unalaschensis	31	Campanula dasycantha	28
Artemisia arctica	30	lasiocarpa	28
sp.	30, 31	Caprifoliaceae	28
Arunceus sylvester	17	Cardamine umbellata	14
Aster peregrinus	29	Carrot family	21
Azalea, alpine or trailing	23	Caryophyllaceae	11
Beach pea	19	Cassiope lycopodioides	23
Bellflower family	28	Cestilleja unalaschensis	26
Bilberry, mountain bog	24	Celery, wild	22
Bistort	10	Cerastium aleuticum	12
Bladderwort family	27	fischerianum	12
Bluebells, sea	25	Chickweed, Aleutian	12
Boraginaceae	25	Fischer's	12
bract	3, 29	Chrysanthemum arcticum	30
Brassica sp.	14	Cinquefoil, hairy	18

<i>Cirsium kamschatcicum</i>	32	head	29
<i>Claytonia sibirica</i>	11	Heath, Aleutian mountain	23
Cloud berry	17	Hellebore, false	8
<i>Coclopleurum gmelini</i>	22	<i>Heraclium lanatum</i>	22
Compositae	29	<i>Hieracium triste</i>	31
<i>Conioselinum gmelini</i>	21	<i>Hemkenya peploides</i>	12
<i>Coptis trifolia</i>	13	Honeysuckle family	28
Cornaceae	22	Indian rice-root	8
<i>Cornus suecica</i>	22	involucre	29
Cranberry, mountain	24	Iridaceae	8
Cress, alpine	14	<i>Iris setosa</i>	8
lyre-leaved rock-	15	<i>Laetis glauca</i>	26
Crowberry, black	20	Lamb lily	7
Cruciferae	14	<i>Lathyrus maritimus</i>	19
Cucumber plant	8	Leguminosae	19
Dandelion	31	Lentibulariaceae	27
disk	29	<i>Ligusticum hultenii</i>	22
Dogwood family	22	Lilaceae	7
<i>Draba borealis</i>	15	Lily-of-the-valley, wild	8
hyperborea	15	<i>Linnaea borealis</i>	28
northern	15	<i>Loiseleuria procumbens</i>	23
Empetraceae	20	Lousewort	27
<i>Empetrum nigrum</i>	20	<i>Lupinus nootkatensis</i>	19
<i>Epilobium angustifolium</i>	21	<i>Meianthemum dilatatum</i>	8
latifolium	21	Marsh grass-of-Parnassus	16
spp.	21	<i>Mertensia maritima</i>	25
Ericaceae	22	<i>Moehringia lateriflora</i>	12
<i>Erigeron perennis</i>	29	Monkshood	13
unalaschensis	29	Mountain ash, Siberian	17
Eskimo potato	8	Mustard	14
<i>Euphrasia mollis</i>	27	<i>Narcissus anemone</i>	13
Evening primrose family	20	Onagraceae	20
Eye-bright	27	Orchidaceae	9
Figwort family	25	<i>Orchis aristata</i>	9
Five-finger	18	<i>Orchis, showy</i>	9
Flag	8	Oxongue	31
floret	29	<i>Oxyria digyna</i>	10
<i>Fritillaria kamschatcensis</i>	8	Painted cup, Indian	26
<i>Gentiana auriculata</i>	25	<i>Parnassia palustris</i>	16
Gentianaceae	24	Parsley, hemlock	21
genus	7	Parsnip, cow	22
Gereniaceae	19	wild	22
<i>Geranium orianthum</i>	19	Pea family	19
Geum calthifolium	18	Pearlwort	12
macrophyllum	19	Pearly everlasting	30
rosii	19	<i>Pedicularis chemisensis</i>	27
Goatsbeard	17	Phyllocoele aleutica	23
Goldthread	13	<i>Picris hieracioides</i>	31
Groundsel	31	<i>Pinguicula vulgaris</i>	27
<i>Hesperaria behringiana</i>	10	Pink family	11
sp.	10	Plantaginaceae	28
Hawkweed	31	<i>Plantago macrocarpa</i>	28

Plantain, big-pod	28	Saxifrage, twinleaf	16
Platanthera	9	dotted	16
hyperborea	10	Scrophulariaceae	25
var. dilatatoidea	9	Senecio palmatus	31
dilatata	10	pseudo-arnica	31
tipuloides	10	Sibbaldia procumbens	18
Polygonaceae	10	Siberian springbeauty	11
Polygonum viviparum	10	Sorbus sambucifolia	17
Portulacaceae	11	Sorrel, mountain	10
Potentilla villosa	18	species	7
Primrose	24	Speedwell, large-flowered	25
Primulaceae	24	thyme-leaved	26
Primula cuneifolia	24	Steller's	26
Purslane family	11	Starflower	24
Pussytoes	29	Sterworts	11, 12
Pyrola asarifolia	23	Stellaria	11
minor	23	crispa	11
Ragwort	31	media	11
Ranunculaceae	13	sitchana	12
Ranunculus	14	strap-shaped	29
acer	14	Streptopus amplexifolius	8
eschscholtzii	14	Teraxacum	31
nelsonii	14	Thistle, Kamchatkan	31
Rattleweed	27	Tofieldia coccinea	7
ray	29	Trientalis europaea	24
Rhinanthus groenlandicus	27	tubular	29
Rhododendron kamtschaticum	23	Twin flower	28
Rhubarb, wild	10	Umbelliferae	21
Rosaceae	17	Vaccinium uliginosum	24
Rubus chamaemorus	17	vitis-idaea	24
stellatus	18	Veratrum album	8
Rumex fenestratus	10	Veronica	25
Sagebrush, arctic	30	americana	25
Sagina intermedia	12	grandiflora	25
Sandwort, sea-beach	12	humifusa	26
blunt-leaved	12	sp.	26
Saxifragaceae	15	stelleri	26
Saxifraga aleutica	15	Violaceae	20
bracteata	15	Viola longsdorffii	20
bronchialis	16	Violet family	20
oppositifolia	16	Wintergreen	23
punctata	16	Wood betony	27
sp.	16	Yarrow, northern	30
Saxifrage, Aleutian	15		

Carlowrie.
Kirkliston
Scotland.

Jan. 23rd 1946.

Dear Lieuten^{ant} Van Schaack^{us},

I write to tell you how delighted I was to receive your most interesting book "Flowers of Island X." It came yesterday from your friend in London and I sat up in bed reading it till past midnight, it was so interesting to me. I congratulate you indeed on finding so many plants on Attu, and also I am afraid that I envy you very badly for having had so much time on that (to me too) lovely island. I had only three hours! However in that time, with the help of a sailor of the U.S.C.C. I got (as far as I can recall) some sixty specimens. , amongst them some of the special Asiatic species, in spite of its being the very end of August, so I did not ^{do} too badly.

I have a list of all the species I got in the Aleutians, with some descriptions of habitat &c. in my book "Stepping-Stones From Alaska to Asia" which was published by Messrs Blackie of Glasgow & Toronto in 1937, but I am so sorry I have lent out my only copy left (and it is now out of print) or it would I believe have interested you to compare notes. Of course I missed so many of the spring flowers. Dr. Hulten sent me his flora and I ~~had~~ have it and am going to go all through yours and compare it with his when I get time.

Oddly enough, I have just received this morning a copy of the Smithsonian Institution's Aleutian Islands to review for the Royal Geographical Society in London. (I have already reviewed and read it for the Royal Scottish ~~Geographical Soc.~~ as I am Honorary Editor of its magazine. We (in Scotland I mean) have only a small publication but good illustrations, and can't ~~afford~~ afford as yet to pay our contributors, or I would ask or rather beg from ~~a~~ you a little account of Attu's geography and plants!!

I still do a lot of lecturing in Scotland, ^{to} ~~to~~ schools and Army, about the ~~Scottish~~ and worked for M.O.I. over here and also the B.P.U. during the w

war, as nobody else over here at that time had ever been on Attu or
Kiska!

I have been able to grow a few of the plants from the Aleutians from seed
I brought home, and if you come to Scotland I can still show you in my
garden near Edinburgh *Cirsium kamtschaticum*, *Aster peregrinus*, *Senecio pseudo-*
annua, *Geranium erianthum*, *Veronica grandiflora* and a species of poppy (*Alaskanum*)
I got only on Kiska, a little white dwarf poppy. I was deeply interested
to see if it also occurred at Attu, but do not see it in your list?

When I was up the Baltic in 1938 I visited Dr. Hulten at Lund and gave him
some seed of this poppy and would like to know if he really still considered
it *Papaver alaskanum*, for it seems to me to be different. It is a dwarf
white and was mentioned in a paper in *Forest and Stream* (by Dr. Egbert of the
U.S.G.C. in about 1908 I think.)

I shall be deeply interested in any further news you can send me of the
flowers of the Aleutians, and hope my old typewriter will be functioning
better then. I am afraid you will hardly be able to read this!

With very grateful thanks for the most interesting and valuable paper.
(I like the name "Island X" it sounds like a "thriller"! I got a thrilling
copy of a Japanese doctor's diary sent me by Major Francine who had found
it in a tent, where the doctor lay dead surrounded by his patients whom
he had killed, and in this diary he mentions on the last day of his life
the fact. eating some fried thistle "it was a delicacy"! The first fresh food in
six months. That would be *C. kamtschaticum*.)

Have you sent a copy of your Flora of Attu to Dr. Eric
Hulten of Lund University, Sweden? He would be greatly
interested to see what you did to his brackets!
Hoping to have further news of Attu flowers, &
with very grateful thanks for writing -
yours sincerely
Ingemar W. Dahlström



Lieut. George B. Van Schaack, U. S. N. R.
West Coxsackie.
New York, U. S. A.



Geranium erianthum
at Carlourie. Kirkcubbin
Scotland.

I. W. H.

2 176

The white poppy from 10.
Kiska in flower in
Scotland.

I. W. H.

This was published
in Alaska Sportsman

071

B

3

9.
aka Histic,
Cirsium kamtschaticum
(Carlourie. Scotland.)

I. W. H.

4 071

Veronica grandiflora at
Carlourie.

2 176

Dear George:

The shot in question, as I recall, is one taken on Hill 37, slightly south of the area where the Doctor and myself were stationed, but back and further up the hill.

The grade at this point became somewhat steeper, rising perhaps five feet to a gentle plateau, which was filled with *Anemone narcissiflora villosima*.

The rise, however, was covered with a rather lush growth of many varieties of plants. Those which show seem to be *Rhododendron*, Hawk-weed, Fern, and some others.

I don't think you were with me when the shot was made, but the Doctor was, and he is the one who urged the shot--being much impressed with the magnificent display of *Rhododendron*.

It was this display that is recorded so well in my memory--and it was perhaps the only spectacular display that I can recall.

I have drawn a crude chart of it's location, as near as I can recall after this great time--now over six years.

Will be writing again in a few weeks, I expect.

Regards,

Ralph.

P.S. Perhaps, the Rhododendron seems a bit tall, but not so--they are growing on the side of a steep rise, and this must be allowed for.

RHK

II P.S: Just got back my slides from Rochester that I made of the map of ATTU. Not too good.

1. The map of the entire island has a border around it--known as cropping. This will be impossible to eliminate with my camera, I think.
2. The same map should have been reduced slightly more--Cape Wrangell is cut a bit short; as is the scale for use when reducing or enlarging.

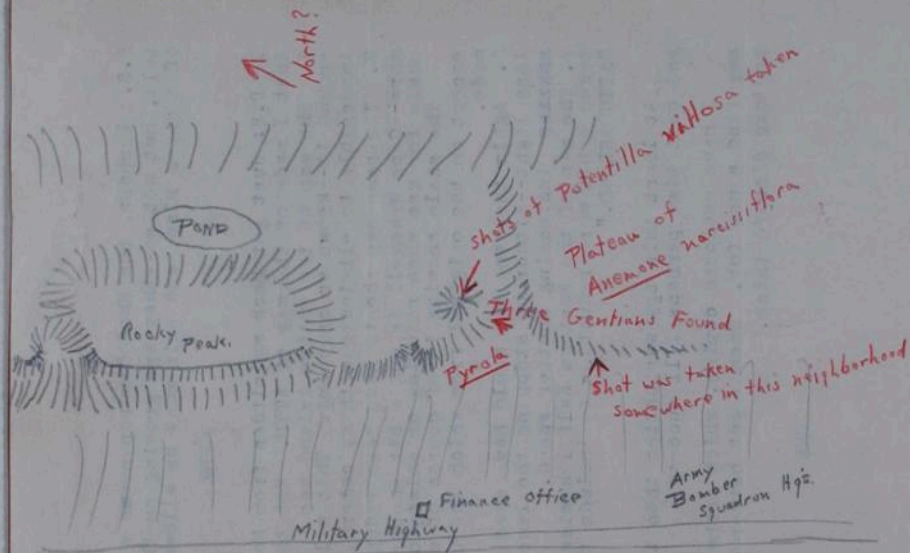
The scale showing is of course of no value except on the original from which the slides were made.

3. Again the same map could have used slightly less light--either by stopping the lens or ~~snapping~~ increasing shutter speed.
4. The map of the Eastern Half likewise could have taken a bit more reduction to include the words "ATTU ISLAND."

At least this try was better than the last; and next time perhaps I'll succeed.

I have enclosed copies, which perhaps you may find a use for. When I get better copies you can discard these.

RHK



Hill 37 as well I can recall.

Not drawn to scale



Botanical Collecting
by
Servicemen on Attu Island
George B. Van Schaack

Botanical Collecting by Servicemen on Attu Island

George B. Van Schaack

Making a collection of plants was probably one of the last things any serviceman ordered to duty in the Aleutian Islands expected to do in that remote area of snow, rain, wind, fog and mud. The islands had been played up so prominently as completely desolate that it is doubtful if any of us expected to see so much as a blade of grass. It is perhaps because of this very fact that when the full beauty of the summer vegetation there burst upon us so many found an interest in the flowers who, back at home, had taken the summer greenery and bloom for granted. At any rate the lushness of the vegetation and the quantity and brilliance of color did excite the interest of many men in all ranks. Privates and majors, seamen and captains were to be found picking flowers and either sending them home in cellophane wrappings via air mail or pressing them in magazines to take home when the long-looked-for day of leave should come. A few of us, having a slight knowledge of the scientific importance of accurate and complete data on the flora of a region, and realizing the probable paucity of such information for the Aleutians, went further and attempted to make large collections of scientific significance. Important collections of this type were made at Dutch Harbor, Atka, Adak, Amchitka and Kiska, but, so far as I know, the largest and most complete collections were made on Attu Island, the most remote member of the Aleutian chain, less than five hundred miles from Kamchatka. My own experience in the Aleutians was confined to this island and this account is concerned with the collections made there.

My own interest was kindled in the spring of 1944 when, after six months of snow and wind, the days became slightly warmer, the

sun shone once in a while and the areas where the snow had recently melted became rather suddenly green. Early in May I found the first blossoms, the brilliantly red, but very small, flowers of the crowberry, a heath-like plant which is a conspicuous element of the ground cover of large areas of the island. Not until late in May, however, did there begin the rapid succession of bloom which persists through August, and, in some areas, nearly through September. Among the most showy and widely distributed plants were an orchid, similar to our showy orchis, a pink primrose, a white anemone, a yellow mountain avens, a blue geranium, a dark purple lily, blue lupines and iris. These were so abundant as to color large portions of the landscape. All of them were recognizable as relatives of plants back home, but only as relatives. A letter to the Smithsonian Institution asking if there were any guide to these flowers brought a reply from Dr. E. H. Walker in which he said that he was preparing for the personnel of the armed forces a short account of the Aleutian flora which would include a key to the more common species. Within a short time he sent me a manuscript copy of the key for use in 1944 and, pointing out the relative scarcity of data on the Aleutian flora, wrote to urge me to make a collection of Attu Island plants for the U. S. National Herbarium. The collection which resulted was relatively small, but proved to contain over a hundred species, some twenty not previously reported from Attu.

The appreciation of the museum at receiving this collection and my success at having thus easily increased the knowledge of so many species made a second season on Attu seem a thing to be desired rather than avoided, with which tacit desire the U. S. Navy seemed to be in accord, for it was my fortune not to be ordered from the island until September, 1945.

In the spring of 1945 I met an Army medical officer, Capt. G. W. Soule, of Rockland, Maine, who also had collected on Attu during the preceding summer and who was expecting to be stationed there for another season. The two of us decided to make as complete a collection of plants of the area we could reach as time would permit. With the help of a time zone two and a half hours in advance of the sun and the naturally long twilight of latitude 53°N we were able to make extended collecting trips several evenings each week. By the end of the summer we had pretty thoroughly covered all types of locality in the eastern fifth of the island, from sea level to the mountain tops (elevation about 2400'). Our collections have proved to contain about 270 species of ferns and flowering plants, the number known previous to 1944 having been slightly less than 200.

These approximately 70 species newly reported from the island range from some of the world's commonest plants to some of the most rare. Near the site of what had been Attu Village, a small settlement of Russian-Aleut natives, we found the common sheep sorrel, a white clover, and timothy, the grass which is here so widely cultivated for hay, all of these clearly introduced at some relatively recent time. On the mountains were to be found several species known only from the Aleutians, so-called endemics, some of them known from only four or five isolated spots along the Aleutian chain. Of particular interest to us who had never been in Asia were species which had emigrated to Attu from Kamchatka and northern Japan. Among these were a small gentian, seen in some abundance on a single mountain, a tall and slender habernaria, of which only three specimens were seen, and a tall, soft, luxuriantly growing shield fern.

During my first season of collecting I almost completely ignored the grasses among the flora,--grasses are conspicuous as forming one

of the chief elements of meadow areas, but to the uninitiated all grasses look more or less alike and having flowers of no particular distinction to the naked eye they are easily overlooked. My omission in not collecting grasses in 1944 was pointed out by Dr. Walker and Mrs. Agnes Chase. Mrs. Chase wrote me to ask that I especially try to collect a complete set of grasses in 1945. In this effort Capt. Soule and I were indispensably aided by Lt. William S. Gaffney, formerly of the U. S. Forest Service in Montana. Lt. Gaffney was afloat a great deal of the time but was in port often enough to make several extended trips with us and to point out the differences to be noted in the grasses. Our grass collections contain some thirty species.

A few of these seem obviously to have been introduced as recently as the time of our military occupation of the island in 1943, but most of them are indigenous. Among these grasses are several which promise to clear up certain problems in grass distribution. Others are of importance in that they seem to be new to North America--to date two or three of them remain to be named, either as immigrants from Asia or as new species.

In the spring of 1945 Capt. Soule and I had the good fortune to meet Capt. P. F. Scholander who visited Attu for several weeks. Capt. Scholander, in recent years engaged in zoological research, had at one time ~~had at one time~~ been interested in eastern North American cryptogams, especially lichens. While on Attu he took the opportunity of doing some collecting in the restricted areas he could reach and gave Capt. Soule and me some preliminary instruction in such collecting. With this initiation we undertook to collect cryptogams as well as the higher plants. Complete reports on the cryptogams are still lacking, but there seem to be about 90 species represented, roughly 55 of lichens, 10 of liverworts, and 25 of mosses. It is probable

that many of these had not previously been known from the Aleutians at all, since the cryptogam flora of that area had received very little attention.

Besides Capt. Soule and myself there were several other collectors at work on Attu. Sgt. Ralph E. Kinter, of Lemoyne, Pennsylvania, was an almost constant companion on our trips and to his eagle eye for new and small plants we are indebted for finding many things we should not otherwise have seen. Only late in the summer of 1945 did we find an Army private, Robert Hardy, of Seattle, Washington, who had been collecting wholly independently. Hardy, formerly a forester in Washington, had made a large and fine collection of several hundred numbers, including some cryptogams. Mrs. Margaret Bell Howard, a Red Cross worker stationed on Attu during 1945, was unable to find time to collect during the summer, but in October and November, after most of the flowers were gone, she made a collection of nearly a thousand numbers, chiefly of cryptogams. In 1944 an Army private, Robert C. Morehouse, made a small collection of flowering plants.

In all, these collections total between three and four thousand numbers and between three and four hundred species. This makes possible a fairly wide distribution of specimens, and the interests of the several collectors are such that a number of different institutions will benefit. From my own collection a complete set is deposited in the U. S. National Herbarium. From Capt. Soule's collection a complete set went to Mr. J. P. Anderson of Iowa State College, who is engaged in writing a flora of Alaska. A set from Pvt. Hardy's collection is in the herbarium of the University of Washington. Sgt. Kinter's grasses and sedges, Mrs. Howard's collection and that of Pvt. Morehouse are at the U. S. National Herbarium. There still re-

main many duplicates in Capt. Soule's and my collections. These will eventually be distributed as widely as possible.

In addition to formal plant collectin there was a continued and constantly growing interest in the flora on the part of non- collectors. This was largely stimulated by the activities of Miss Louise Roloff of Boulder, Colorado. Miss Roloff, of the Red Cross, who was in charge of the Navy Recreation Hut during 1945, conducted frequent hikes to various areas, and took occasion on these hikes to point out many of the flowers. Working with the local daily paper published by the Welfare and Recreation Department of the Navy she sponsored a series of some sixty drawings of as many species of flowers, with short descriptions of each. In August she organized a local flower show which ran for two days and at which were exhibited about eighty-five species.

It is unlikely that many of the persons who found such interest in the flowers of Attu would care to return to the island under any circumstances. But I feel sure that all of them will, in varying degree, remember their exile on Attu with less bitterness for having had that interest.

July 1946

From an oil painting by
Edward F. Weston •
Wilson Press, Inc., Westport, Conn.



Dear George - My flowers are still
lovely & still warm my heart. - My
dear - I am sending you a book which
I love - I do hope you will love it too -
It's called "Old Herbaceous" Betty
read it aloud to us & we were sorry when
it had to end - I am sorry that in my
letter, I told you the wrong name for
the book of Robert Thomas' "It's Back to Nature
delay - but if you are reading "The Sea
around us" you are certainly much satisfied
what makes it really great is the fact
that it gives us a very great picture of
something that only the Scientists have
known - something that is perfectly
stupendous & almost terrifying. - *It makes*

The wonder - is there a deeper miracle
of work - there is Law balance, sea, plus
mythology of sea & coast's - Duns & Words
was Betty has read it aloud to us & it has
given me cold feet - Also one gets the feeling
of what we all are, just little grains
of sand - This card doesn't say Merry Xmas
but I wish you, my dear, with all my
heart - I wish I could take as much in the
snowy woods represented on this card - I love
trees so very much - Betty, I send you so
much love for you are very dear to us. I hope
that "Old Herbaceous" will give you pleasure
your wife heaps of love

& much joy for the New Year

With love in my cup

T. West

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 6-5567

July 15, 1955

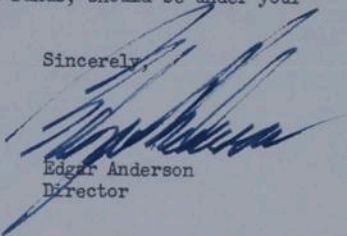
Dr. George B. Van Schaack,
Missouri Botanical Garden,
St. Louis, Missouri.

Dear Dr. Van Schaack:

Effective the 1st of September, 1955, we are appointing you Acting Curator of the Missouri Botanical Garden Herbarium. You are to take over in toto the curatorial responsibilities of Dr. Woodson, and I will leave it to you and to him to work out a smooth transfer of his various curatorial functions. He will continue to occupy his present office and to be our Senior Taxonomist. I think he should be consulted on all major policies, though relieved as far as possible from having anything to do with such routine chores as exchange of specimens, assignment of space to students, supervision of Miss Carroll, etc. Unless he prefers to make some other arrangement with you, he will continue to use his present office. In any case, he is to have complete authority over desks, files, and other equipment in that office.

Dr. Tryon will continue to serve as the Assistant Curator and so far as possible, his duties, whether carried out by him or a substitute provided with outside funds, should be under your direct supervision.

Sincerely,



Edgar Anderson
Director

EA:ep

cc: Dr. Woodson
Dr. Tryon
Miss Horner
Dr. Cutler

UNITED STATES NATIONAL MUSEUM
BUREAU OF AMERICAN ETHNOLOGY
ASTROPHYSICAL OBSERVATORY
NATIONAL AIR MUSEUM
NATIONAL ZOOLOGICAL PARK



SMITHSONIAN INSTITUTION

Washington 25 D.C.
U.S.A.

NATIONAL GALLERY OF ART
NATIONAL COLLECTION OF FINE ARTS
FREER GALLERY OF ART
INTERNATIONAL EXCHANGE SERVICE
CANAL ZONE BIOLOGICAL AREA

January 9, 1963

Dr. George B. Van Schaack
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis 10, Missouri

Dear Dr. Van Schaack:

Thank you for your letter of January 4 bringing me up to date on the gift that is to be sent to Dr. Keng. I am very pleased to know that this was arranged so successfully: it was a very fine thing to do.

I understand that the photo-offset reprint of Mrs. Agnes Chase's Index to Grass Species will soon be off the press. I too feel that this will prove a much-appreciated monument to Mrs. Chase's distinguished work in agrostology over so many years. We greatly appreciate your interest.

Sincerely yours,

Leonard Carmichael
Secretary

UNION COLLEGE
SCHENECTADY, NEW YORK
OFFICE OF THE PRESIDENT

February 1, 1947

Professor George B. Van Schaack,
General Engineering Building,
Union College.

Dear Professor Van Schaack:

Upon recommendation of the faculty, contracts for assistant professors who are performing satisfactorily have been set by the trustees at a three-year term. I am happy to report that your work is highly regarded, and Union therefore offers you a contract as an assistant professor until June 30, 1950. Renewal and promotion will be considered well in advance of that date.

I am very pleased to inform you that the Board of Trustees of Union College, meeting in New York on January 28, 1947, voted to increase your salary to \$3500 per year, beginning April 1, 1947. Changes in salary usually go into effect on July 1, but the Board, realizing the increased cost of living and recognizing the local A.A.U.P.'s protest against further bonuses, decided to take this means of meeting the need at an earlier date. The Board considered the A.A.U.P.'s suggested salary scale, agreed that it represented a reasonable goal, and approved these salary increases as a step in that direction.

In addition, it was voted that, for faculty members coming into the T.I.A.A. contributory annuity program after January 1, 1936, the college would increase its annual contribution to 6% if the faculty member matched this amount, or to 8% if the faculty member contributed 7%; this to continue only until the annuity at age 65 reaches a maximum of \$3,000.00. This new provision will go into effect at the rate you indicate on April 1, 1947, provided you have been in the employ of the college for one year; otherwise, your policy must begin with your second year.

The Board has also provided two funds of \$1,000 in the budget; one to pay the round trip coach fares of faculty members attending meetings of learned societies, the other to pay for reprints of published scholarly articles and to help in the expense of approved research projects of members of the faculty.

May I add my own best wishes to those of the Board on your continued association with Union.

Cordially,

Carter Davidson

Carter Davidson.

UNION COLLEGE
SCHENECTADY, NEW YORK
OFFICE OF THE PRESIDENT

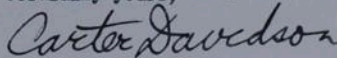
March 27, 1947

Professor George B. Van Schaack,
Department of Mathematics,
General Engineering Building.

Dear Professor Van Schaack:

All of us here at Union are very sorry indeed to know that you are going to be leaving, but we realize that the combination position at Washington University was one that would be very hard to refuse. Therefore our very best wishes go with you in your new post. If you can be of any help to us in finding a successor, we would deeply appreciate it.

Cordially yours,



Carter Davidson,
President.

UNION COLLEGE
SCHENECTADY, NEW YORK
OFFICE OF THE PRESIDENT

May 27, 1946

Dr. George B. Van Schaack,
North Woodstock,
New Hampshire.

Dear Dr. Van Schaack:

This is to confirm your appointment as Assistant Professor of Mathematics at a salary of \$3300 for the nine months of teaching, beginning in September 1946. We were very glad indeed to receive your telegram of acceptance and can now go ahead with plans for your program in the fall. Professor Morse can arrange your courses with you, and you can write to Miss Frances Travis in the Office of the Dean of the College concerning housing. I shall look forward to seeing you here in the fall.

Cordially yours,

Carter Davidson

Carter Davidson,
President.

Chicago, 22 June 1961

Dear Dr. van Schaack:

Now that I finally have some time to write, I want to thank you for all your help and hospitality while I was visiting the Garden week before last. It was a pleasure to know you, and I hope that you'll find the opportunity to come to Tucson sometime and visit.

Last week I reduced the list of references much further here at the Cramer and U. of Chicago libraries, and today I've just returned from the Philadelphia Academy. The remaining desiderata - 15 or so - will have to come largely from the British Museum or from Paris.

Saturday night I should be home in Tucson again.

Again with Thanks, and with best wishes for yourself,

Sincerely,

Francis Dones
Dept. of Botany
University of Arizona
Tucson

MICHIGAN STATE COLLEGE



August 16, 1945

DEPARTMENT OF MATHEMATICS

Lt. G. B. Van Schaack
Ordnance Department, Navy 163
F.P.O. San Francisco, California

Dear Lt. Van Schaack:

Now that the war is over, many of you who have been on leaves of absence for the duration will be finishing your work in war activities and will be planning sooner or later to return to teaching at Michigan State College. Some of you will be released from war work sooner than others. Some will wish to return to Michigan State College immediately, some may expect to return before next July, and some of you may decide to resign from our staff to accept other employment. We shall be glad to have you return when it is convenient, but we must know in advance when to expect you, so that we may notify our temporary teachers who are on month-to-month appointments and give them an opportunity to seek other employment. With nine men now on leave from the Mathematics Department, the simultaneous return of all of you would create quite a budget problem.

Will you therefore let me know as soon as possible which of the following alternatives applies to you.

1. I expect to return to Michigan State College before the fall term starts on September 24, 1945.
2. I expect to return to Michigan State College right after Christmas vacation 1945.
3. I expect to return to Michigan State College between January 1 and July 1, 1946.
4. I expect to return to Michigan State College in September, 1946.
5. I wish to resign from Michigan State College to accept other employment.
6. I cannot yet be sure when I can return, but hope to do so about _____.

I am not permitted to make any definite statement regarding your rank and salary until you state when you expect to return. All I can say is that I shall do as well for you as the budget will permit. You probably know that all appointments now are for eleven months' service, and one month's vacation per year.

The department will be interested to hear some news of you when you write. We hope to see you back in the not too distant future.

Sincerely yours,

J. Sutherland Frame
J. Sutherland Frame

MISSOURI BOTANICAL GARDEN
SHAW'S GARDEN



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

July 17, 1967.

Dr. David M. Gates, Director
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis, Mo. 63110

Dear Dr. Gates,

I write to confirm my request of July 14th. At our meeting I told you that my doctor has for several years advised my resignation as librarian, insisting that until I relieve myself of the considerable frustration I find in this position and, as well, move to a more equable climate, I can expect a progressive decline in health. I have been reluctant to follow this advice, believing not only that my continued effort in the library would serve the Garden's need, but also that this effort would eventually contribute to a change of those conditions which I have found frustrating.

During the last few months it has become clear that whatever may be the ultimate future of the Garden's library, its crowded quarters and serious understaffing can very doubtfully, by anyone's effort, be changed significantly before several years after my normal retirement date, October 1, 1968. It seems then only wise that I follow my doctor's recently renewed advice for an early retirement.

I trust you can arrange for my retirement on October 1, 1967. As part of this arrangement I request that my retirement annuity become effective October 1, 1967, as provided in the Retirement Plan for Employees of the Missouri Botanical Garden, article III, paragraph 3.03 b.

It is my hope to be able to leave St. Louis before the middle of October. If, however, such arrangements as I must make require my remaining in the city more or less indefinitely for several months, I should be glad, did you wish it, to consider offering my services in the library upon such terms as we might agree to.

Sincerely yours,

George B. Van Schaack
George B. Van Schaack
Librarian

cc: Mr. Harry C. Wuerstenbaeher, Jr.

MRS. FRANKLIN TEPPER HAIMO
7201 CORNELL AVENUE
SAINT LOUIS, MISSOURI 63130

October 22, 1969

Dear George,

Sara and John will be married on December 21, 1969 and we are making all arrangements. We will have only family and a very few close friends at the ceremony and would love to have you come if you can arrange it. There will be a dinner the preceding evening and a reception following the ceremony. Let us know as soon as you can whether you can join us for all the festivities.

All our best,





THE MORTON ARBORETUM

Joy Morton, founder

LISLE, ILLINOIS 60532 Phone: WOODLAND 8-0074

June 25, 1969

Dr. George B. VanSchaack
The Morton Arboretum
Lisle, Illinois 60532

Dear Dr. VanSchaack:

This letter is to confirm that the Board of Trustees of the Morton Arboretum would like to extend your present contract for an additional year beginning December 1, 1969 and ending December 1, 1970. At the time this contract is renewed, December 1, 1969, your salary will be increased from \$10,300 to \$11,300 per year. As included in your original contract, your home in Arbordale will be provided rent free.

I would like to thank you for serving as an advisor to the administration on problems in the library. Your constructive criticisms have been extremely helpful in starting the library in the direction it must go to support a scientific institution.

When Ian MacPhail becomes Head Librarian on October 1, 1969, your assignment will be to serve as cataloguer and any other duties agreed upon between you and Mr. MacPhail.

Sincerely,

Marion T. Hall
Director

MTH:hl

HERBARIUM OF GEORGE B. VAN SCHAACK

A labor of love
which shall for all time to come
be properly cared for
and cherished by many generations
of students who love the beauty and
the symmetry of grass.

We at the University of Wisconsin Herbar-
ium
are very fortunate to have received this
magnificent gift.

From Hugh to George: Thank you!

Deposited in the University of Wisconsin Herbarium 1966

Department of Biology
Nanking University
Nanking, C H I N A
June 25, 1963

Dr. George B. Van Schaack
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis 10, Missouri
U. S. A.

Dear Dr. Van Schaack:

I beg your pardon that I haven't written to you for more than half a year. The reason is that I have waited to answer your kind letter of January 11 until the arrival of Mrs. Chase's Index from England could be reported to you. Your letter of January 11 with an enclosure was received on February 1. From the enclosure I know that you have spent much time and energy for me to send letters of my appreciation to each of all the 31 individuals and institutions contributed to this gift, Mrs. Chase's Index to Grass Species. I am very very much obliged to you for your having done such a favour to me.

Through the kindness of Dr. C. E. Hubbard and Sir George Taylor, the director of Kew Gardens, the three volumes of this Index were eventually received in good condition. The volume 3 reached here on June 13, and the volumes 1 & 2 on June 22. I was very much delighted when I received them all. I had letters to Kew Gardens already and reported the arrival of all these three volumes to Dr. C. E. Hubbard and Sir George Taylor. Please allow me take this chance again to express my hearty thanks to you and Dr. E. H. Walker.

I think that you have obtained a license from your Treasury Department to exchange botanical publications between us directly. If so, Please let me know the number of your license, and I would be very glad to send you material as I have done so to Dr. Walker.

With all best wishes,

Very sincerely yours,

Y. L. Keng
Y i L i K e n g

Professor of Botany

May 5, 73

MRS. JOHN S. LEHMANN
10 APPLE TREE LANE
ST. LOUIS, MISSOURI 63124

Dear George:

Forgive my delay in answering your nice letter, but I have been out of town for a short time, have had house guests, and you know how time passes. I was so glad to hear from you and hear your news. Oregon must be lovely, and I am sure you already have many friends there, knowing you, but yours here still miss you and always will.

I do think Englemaann's death date should be remembered, and I feel sure Peter R will plan something. If its in '84 we have plenty of time, and at the moment Peter is swamped with the many things he is doing for the Garden which need doing. He is wonderful at getting the public into the Garden and things are happening every day with different groups involved.

As you know Jo Bascem is the new head of the Board, and Peter likes him very much. But I was delighted to hear Powell Whitehead who headed our drive is back working on funds again and we certainly need them as usual. I wish you had worked under Peter as he certainly loves the scientific part of the Garden as you do.

I do hope you ~~for~~ this way one of these days, and if so, do let me know. I knew what the Garden owes you, George and if it had not been for you the Redeubtsbooks would never have been rebound.

So we will keep in mind Dr Englemaann and I think your suggestion excellent, as I am sure Peter does too.

Best wishes and affectionate greetings,

Ann L.

WASHINGTON UNIVERSITY

SAINT LOUIS (s), MO.

DEPARTMENT OF MATHEMATICS

February 3, 1947

Professor G. B. Van Schaack
Union College
Schenectady, New York

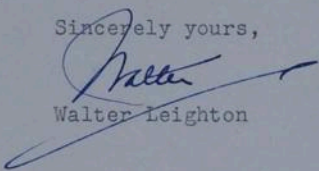
Dear George:

I have been authorized by the Dean of the College of Liberal Arts to offer you an appointment as an Assistant Professor in Mathematics at a salary of four thousand dollars a year commencing July 1, 1947. This offer is contingent upon final approval by our Corporation which I have every reason to believe will be a mere formality.

In the (unlikely) event that you should decide to teach during part or all of the 1947 Summer Session, I shall hold some summer courses for you until you suggest I do otherwise.

I hope you will find it possible to come to St. Louis and to lend a hand with our task of formulating a sound and energetic Mathematics program here.

Sincerely yours,


Walter Leighton

WL:JN

WASHINGTON UNIVERSITY

SAINT LOUIS (S), MO.

DEPARTMENT OF MATHEMATICS

February 18, 1947

Professor George B. Van Schaack
Department of Mathematics
Union College
Schenectady, New York

Dear George:

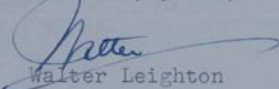
Your letter of acceptance is most welcome.
We are all delighted that you are to become a
member of our staff.

Before we can put through the formal letter
covering your appointment, we shall need to have
letters of reference from two or three mathe-
maticians who are familiar with your work. Also,
we shall need an outline of answers to the questions
suggested on the enclosed form.

I shall recommend your appointment the
moment these documents become available.

Warm regards.

Sincerely yours,


Walter Leighton

WL:jn
enc.

WASHINGTON UNIVERSITY



SAINT LOUIS (5)

DEPARTMENT OF MATHEMATICS

AND ASTRONOMY

May 8, 1946

Dr. George B. Van Schaack
505 Dahlia Street
Takoma Park, D. C.

Dear Van:

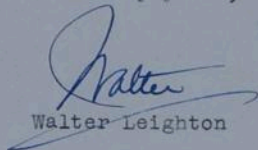
This will acknowledge your letter which arrived this morning. Naturally the possibility of our being reassociated is a very pleasant one to contemplate. The University is in the midst of a major change in its administration and is steadily but necessarily rather slowly establishing its permanent future policies. It seems quite clear that the emphasis here as in most good universities will be upon research, and that promotions and advancements in salary will be slow for non-productive persons. I feel that I should warn you of these things so that both you and I can arrive at the correct decision concerning Washington University's possible part in your future.

On the other side of the ledger there are a number of items which make the idea of your appointment attractive. In the first place, as a disciple of Morse I am willing to assert at any time and place that your training and background are second to none! Second, there is a possibility that we shall set up a scheme something like that now in effect at the University of Chicago which contemplates appointments to the Department of persons interested primarily in research and also appointments to the College of persons primarily interested in teaching. The latter would be expected to be highly competent and well trained mathematicians whose interest lie elsewhere than in mathematical research. I should have no hesitation in recommending you for appointment in the latter

group. Finally, there is a rather strong group of botanists here who hold appointments jointly in the University and in the Missouri Botanical Gardens. The guiding spirit among these persons is Dr. Edgar Anderson. Anderson impresses me as being an unusually able man, and I believe that he has a good reputation in his field. It is possible that we could work out something in the way of a joint appointment by the Botany and Mathematics Departments. In order to explore this idea I need to have rather quickly a rather detailed statement of your experience and interest in matters botanical. It would be helpful also if you would send me a very brief sketch of your mathematical history. I am, of course, familiar with its principal items.

Warm regards.

Sincerely yours,



Walter Leighton

WL/mk

WASHINGTON UNIVERSITY



SAINT LOUIS (5)

DEPARTMENT OF MATHEMATICS
AND BOTANY

May 28, 1946

Dr. George B. Van Schaack
505 Dahlia Street
Takoma Park, D. C.

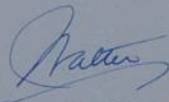
Dear Van:

I have been talking to Messrs. Dodge, Woodson and Anderson of the Botany Department about you since your letter of May 11 arrived. The most promising conversation took place this morning when Dr. Anderson dropped around to talk things over. You may not recall but you once tutored Anderson in Calculus at Harvard. He was then a graduate student in Botany and he seems to recall that the two of you spent most of your first period together discussing the Arnold Arboretum. The proposition under discussion at the moment is this. The Mathematics Department will consider your appointment as an Assistant Professor and would probably pay your total salary. If after the botanists make a few inquiries concerning your botanical interests and abilities and find that the information received is fairly favorable they will be willing to consider you for an honorary Curatorship without stipend in the Shaw Botanical Gardens. Under this plan you would take charge of that part of the herbarium devoted to the study of grasses. The advantages of the latter it seems are not to be underestimated. You would in the first place be given a place to work, you would have access to one of the best libraries of its kind in the world and you would have available a medium for publication in the *Annals of the Missouri* something or other (undoubtedly you know the publication. I have forgotten the exact title.) If your work on grasses should prove successful it is likely that you would be asked eventually to offer a graduate course on this subject in alternate years.

There are plans for building a new and quite large herbarium here and Anderson feels that the opportunity for work in Taxonomy will be very large indeed.

All this business suggested is subject to the approval of the Dean of Faculties here and I shall make it a point to sound him out very soon on his reactions to the whole idea. Inasmuch as he is presently in the hospital and has been for several weeks, this has not already been done. Perhaps it might be well for you to let me know by return post what salary you would feel you had to have to interest you in coming here. Your teaching load would be about 12 hours a week each semester. Perhaps you would be willing to give me two figures, one the minimum you would consider and the second what you feel you are entitled to.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Walter', with a stylized flourish at the end.

Walter Leighton

WL/mlk

MICHIGAN STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE
OFFICE OF THE SECRETARY
EAST LANSING, MICH.

KARL H. McDONEL

April 16, 1943

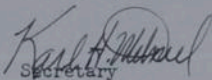
Mr. George E. VanSchaack
Mathematics Department
Campus

Dear Mr. VanSchaack:

The State Board of Agriculture at its meeting April 15th granted you a leave of absence effective May 1, 1943 through August 31, 1943 for military service. Your position here will be held open for you and this leave may be reasonably extended. If at the expiration of this leave you wish to have it extended, you should request an extension for such time as seems to be necessary.

Your life insurance policy of \$1,000.00 will be kept in effect during the period of this leave at college expense.

Yours very truly


Secretary



DEPARTMENT OF MATHEMATICS

July 2, 1959

Dr. George B. Van Schaack
3318 Regal Place
St. Louis 9, Missouri

Dear George:

Thank you for your note of June 11, in which you express your willingness to have your leave of absence extended to September, 1960, if this would ease the Department's budgetary problems.

Actually, extending your leave would not help the budgetary situation. For one thing, Ross's leave was predicated on your returning. As things now stand, we can get by in the fall only by assigning rather advanced courses to graduate assistants and we were really counting on your return to correct this situation in the spring.

The Department appreciates your offer, but our wish is for you to return for the second semester as planned.

Sincerely yours,

Brooks

H. M. MacNeille
Chairman

3318 Regal Place
St. Louis 9, Missouri
July 29, 1959

Dr. H. M. MacNeille, Chairman
Department of Mathematics
Washington University
St. Louis, Missouri

Dear Brook,

Thank you for your letter of July 2 to the effect that it will not be possible to extend my leave beyond February 1, 1960. I trust my decision not to return to teaching during the second semester will cause you little inconvenience.

I realize, of course, that this decision is tantamount to eventual resignation, and in due time I shall take this matter up with Dean Hall. In the meantime let me assure you that I appreciate your helpfulness in granting the leave originally. I regret not being able earlier to inform you of my decision, but I am sure you realize that it has not been easy to make the choice to relinquish the position I have held for so many years.

Sincerely yours,

George B. Van Schaack

3318 Regal Place
St. Louis 9, Missouri
February 14, 1960

Dr. H. M. MacKellie, Chairman
Department of Mathematics
Washington University
St. Louis 5, Missouri

Dear Brooke,

I write to confirm our recent telephone conversation. It has been very generous of you to consider my leave unofficially extended for another half year. But I cannot honestly say that I have the intention of returning to teaching next fall, for I have accepted a responsibility at the Garden which cannot be discharge in any foreseeable short future. It is not lightly that I give up any claim to my position at Washington University, but I see no other course open.

I should like to take this opportunity again to express my appreciation for your many kindnesses and for your constant endeavour to understand my position.

Sincerely yours,

George B. Van Schaack
Associate Professor of
Mathematics

CITY ART MUSEUM OF ST. LOUIS

St. Louis 5 Missouri

President: DANIEL K. CATLIN • Vice-President: HENRY B. PFLAGER • Director: CHARLES NAGEL • Secretary: MERRITT S. HITT

OFFICE OF THE EDUCATIONAL DEPARTMENT

November 12, 1959

Mr. George B. Van Schaack,
Librarian,
Missouri Botanical Garden,
2315 Tower Grove Avenue,
St. Louis 10, Missouri.

Dear Mr. Van Schaack:

You were so very kind to appear as the Visitor of the Week on our "Art in St. Louis" program broadcast over Radio Station KFVO and KFVO-FM this past Monday at 2:45 p.m.

Your discussion with Margaret Hartt of the Exhibition of "Flower Prints of Five Centuries" from the Library of the Missouri Botanical Garden was extremely interesting. Mrs. Hartt had mentioned the difficulties which you had encountered in making the tape, and we were unaware, as we listened, of any splicing or break in the continuity.

The Museum appreciates your generosity in giving of your knowledge, time, and effort in order to make this broadcast.

Sincerely,

Jean E. Milligan
Jean E. Milligan.

JEM/mr

MISSOURI BOTANICAL GARDEN

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 5567

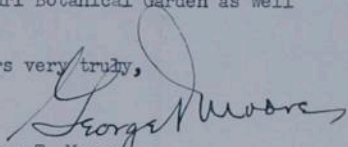
July 12, 1949

TO WHOM IT MAY CONCERN:

The bearer of this note, Professor George B. Van Schaack, is Professor of Mathematics at Washington University and Curator of Grasses in the herbarium of the Missouri Botanical Garden. He, with one or more of his colleagues, intends to make a vegetation reconnaissance of the Rocky Mountain area lying between northern New Mexico and Jasper Park, Alberta. Their chief objective will be to study the vegetational life zones, incidentally making collections for the herbarium of the Garden and Tulane University.

Any assistance you may be able to render these gentlemen will be appreciated by the Missouri Botanical Garden as well as by me, personally.

Yours very truly,



George T. Moore
Director

June 14, 1951

TO WHOM IT MAY CONCERN:

The bearer of this note, Professor George B. Van Schaack, is Professor of Mathematics at Washington University and Curator of Grasses in the herbarium of the Missouri Botanical Garden. Accompanied by Dr. Reino Alava of Turku, Finland, he is engaged in studying the flora of the Atlantic Coastal Plain and adjacent areas, incidentally making collections for the herbarium and for the University of Turku.

Any assistance you may be able to render these gentlemen will be appreciated by the Missouri Botanical Garden as well as by me, personally.

George T. Moore
Director

MISSOURI BOTANICAL GARDEN

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

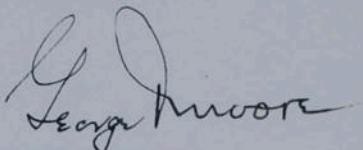
PROSPECT 5567

June 10, 1952

TO WHOM IT MAY CONCERN:

The bearer of this note, Professor George B. Van Schaack, is Professor of Mathematics at Washington University and Curator of Grasses in the herbarium of the Missouri Botanical Garden. Accompanied by Mr. Robert Cooper and family of Auckland, New Zealand, he is engaged in studying the flora of the southwestern part of the United States, incidentally making collections for the herbarium and for the Provincial Museum at Auckland.

Any assistance you may be able to render these gentlemen will be appreciated by the Missouri Botanical Garden as well as by me, personally.



George T. Moore
Director

MISSOURI BOTANICAL GARDEN

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 5567

February 11, 1947

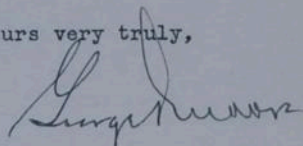
Dear Professor Van Schaack:

Dr. Woodson has shown me your letter to him concerning an arrangement with the Missouri Botanical Garden for continuing your work with grasses. We shall be very glad to offer you the facilities of the Garden and appoint you a Research Associate without compensation. This appointment would carry with it all the privileges of a member of the staff including the use of the library and herbarium and publication in both the BULLETIN and the ANNALS.

Unfortunately the present crowded condition of the library and herbarium will not permit our offering you an adequate place to work. We have plans for a new building which, if conditions improve, will permit our remedying the present situation in a reasonable length of time. We will, of course, find some place for you, but it will not be what we would like to offer, and I can only hope that it will serve your purpose.

Hoping that the suggested arrangements will appeal to you and that we may look forward to having you here next year, I am,

Yours very truly,



George T. Moore
Director

Professor George B. Van Schaack
Department of Mathematics
Union College
Schenectady, New York

Missouri
Botanical
Garden



October 22, 1973

Dr. George VanSchaack
1964 Harris Street
Eugene, Oregon 97405

Dear Dr. VanSchaack:

From conversations with present and former staff and students, from examination of old library records and from observing the numbers of volumes on our shelves with your annotations, it has become increasingly apparent to me that this library, and the Missouri Botanical Garden as a whole, owes a great deal of gratitude to you for your efforts to build, organize, maintain, and preserve our collections during your tenure as librarian here.

The annual Systematics Symposium has just ended, and I was pleasantly surprised to note the number of people who still identify this library with you personally. Without your efforts to create a book preservation program for this library; without the staff you hired and who are still retained; without the combination of energy and scholarship you devoted on behalf of this library, the problems facing us in the next several years would be almost insurmountable.

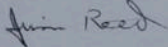
I am particularly grateful to have Carla and Kendra in their respective roles. Carla's abilities as a bibliographic detective are unsurpassed. Kendra is steadily assuming more and more responsibility in our efforts to preserve and restore the collections, and we are now finally in a position to provide her with opportunities to participate in conferences and seminars, and to receive further training in book binding technique. The bindery has grown to a point where we now employ two full-time people, one person part-time, and three volunteers. Much of the credit rests with you for initiating this effort, which was recently described by the President of the Guild of Book Workers as a "pioneer effort" in library conservation.

We are sending you a copy of the New York Historical Society's edition of Audubon's Birds of America, which we hope will serve as a

2315 Tower Grove Avenue
St. Louis, Missouri 63110
Tel: 314 865-0440

reminder of the library staff's appreciation for your efforts to build and maintain the Missouri Botanical Garden Library. If you ever have the opportunity to return to St. Louis for any length of time, you of course have a standing invitation to visit the Garden and the library.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "Jim Reed", with a stylized, cursive script.

James R. Reed
Head Librarian

JRR :MP

May 25, 1964

Dr. Robert W. Pennak, Chairman
Department of Biology
University of Colorado
Boulder, Colorado

Dear Sir:

Dr. Hugh C. Cutler has asked me to write you in connection with his application for a position in your department.

As you must know, Dr. Cutler has had wide field experience in taxonomy, as an undergraduate with Fassett, as a graduate student with Woodson and Anderson, and later on his own in the Southwest and large parts of South America. I regret I am only very marginally able to comment on his scientific competence here, my own formal training being entirely outside of biology. I have, however, had a twenty year lay interest in the Gramineae, during the latter half of which I have often talked with Dr. Cutler regarding various aspects of this family, always to my instruction, often having found him to have met the same questions before I had and having pondered them to some reasonable answer.

I think his genuine interest in the living plant should be stressed. Probably sparked by Fassett and Anderson, a sincere devotion to the understanding of plants in the field has broadened in him through the years. I have frequently canoed with him and made other trips--on every occasion he has improved the opportunity to observe live plants. I have not seen him in action along this line with his students, but I believe he must be successful here in arousing their interest.

On the other hand I have found him genuinely appreciative of the values of herbaria collections. During ~~my~~ three years as acting curator of the Missouri Botanical Garden herbarium (for the last two of which he was acting director of the Garden) I found him most helpful in supporting my own curatorial zeal in expanding the collections and giving them proper protection.

During all of the time I have known him here at St. Louis I have noted his friendliness to other staff members, both above and below him, and I have seldom, if ever, seen him lose his patience or temper. Throughout his acting directorship he spent himself untiringly in the interests of the Garden, frequently, it seemed to me, far beyond the expectation of

his superiors. I mention only one instance--the annual fall symposium on systematics--he personally did most of the planning for this, and during its session he and Mrs. Cutler extended the hospitality of their home to numerous students as accommodation and for breakfasts.

I should be sorry to see Dr. Cutler leave the Missouri Botanical Garden, but this only underlines my recommendation of him to you as a well trained taxonomist, with broad natural history interests, whose work has been received with approval. I believe you would do well to offer him a position at Boulder, in a country he knows well and devotedly loves.

Sincerely yours,

George B. Van Schaack
Curator of Grasses and Librarian

1964 Harris St.
Eugene, Or. 97405
November 3, 1973

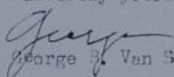
Dr. Sanford S. Tenfor,
Head, Department of Biology
University of Oregon
Eugene, Oregon

Dear Dr. Tenfor,

Acting upon your kind invitation I should like to apply for a courtesy appointment in the Department of Biology. As you know, I have adopted the University of Oregon, and should be happy to be adopted by your department. I shall be glad to enjoy its privileges, and as well to share its tasks, should any come within my limited purview.

I enclose a copy of my curriculum vitae.

Sincerely yours,


George B. Van Schsack

George B. Van Schaack Curriculum vitae
1844 Harris St., Eugene, Or. 97455
Address: 3318 Regal Place, St. Louis, Mo., 63139

May 1, 1967
Nov. 5, 1973

Born: Coxsackie, N. Y.; September 13, 1903.

Education:

1921-22	Syracuse University	Music (Piano and theory)
1922-25	University of Rochester	Music (Piano and theory)
1925-29	Harvard College	B. S. in Mathematics
1929-32)	Harvard University	A. M. & Ph. D. in Mathematics
1933-35)	Washington University	Elementary and Advanced Cataloging
1960-61	Washington University	Elementary Reference

Employment:

1935-36	Equitable Life Assurance Society	Mathematics Clerk
1936-38	University of Rochester	Instructor in Mathematics
1938-45	Michigan State College	Assistant Professor of Mathematics
1943-45	U. S. Naval Reserve, Lt.	Instructor in Anti-Submarine Warfare
1946-47	Union College, Schenectady	Assistant Professor of Mathematics
1947-60	Washington University	Associate Professor of Mathematics
1943-55	Missouri Botanical Garden	Honorary Curator of Grasses
1955-58	Missouri Botanical Garden	Acting Curator of the Herbarium*
1958-65	Missouri Botanical Garden	Librarian** (1954-58: chairman of library committee and essentially acting librarian); and Curator of Grasses Librarian
1965-67	Missouri Botanical Garden	Member of editorial committee of the Garden's <u>Annals</u> .
1964-67	Missouri Botanical Garden	
1967-72	Morton Arboretum (Lisle, Ill.)	
1972 -	Retired	

Areas of subject knowledge (in varying degrees): Mathematics, botany, music, classical physics and chemistry, history of botany, descriptive bibliography, rare books, methods of book illustration, binding techniques, history of the book, typography.

Languages: French, Spanish, German Reading, good to fluent, depending on subject
Portuguese, Italian, Dutch Reading, less than fluent, but with general understanding
Latin, Swedish, Russian Reading, quite limited without use of dictionary, but very useful in study

In some of these languages reading ability extends backward to 16th century.

Members: Phi Beta Kappa; Alpha Chi Omega; International Association of Plant Taxonomists; Sierra Club.

As references I list the names of the following people, all of whom have known me both personally and in connection with the rare book field for two to six years.

- 5 Dr. Andrew J. Eaton, Director of Libraries, Washington University, St. Louis, Mo. 63130
- 4 Mr. J. William Matheson, Special Collections Librarian, Olin Library, Washington University, St. Louis, Mo. 63130
- 1 Dr. George H. M. Lawrence, Director, Hunt Botanical Library, Carnegie-Mellon University, Pittsburgh, Penn. 15213
- 3 Mr. Joseph Howard, Asst. Chief, Descriptive Cataloging, Process Department, Library of Congress, Washington 25, D. C.
- 2 Dr. Estelle Brodman, Librarian, Washington University Medical School, St. Louis, Mo. 63110
- 6 Mr. Harold W. Tribolet, Director of Extra Binding, R. R. Donnelley & Sons Co., 350 Twenty-Second Street, Chicago, Illinois, 60616
- 7 Mr. Jacob Zeitlin, Zeitlin & Ver Brugge, Booksellers, 815 North La Cienega Boulevard, Los Angeles, California 90069

I refer you also, of course, to the director of the Missouri Botanical Garden, Dr. David M. Gates, 2315 Tower Grove Ave., St. Louis, Mo. 63110.

Sincerely yours,

George B. Van Schaack
George B. Van Schaack

Eaton

Oregon State System of Higher Education

☐ ID attached

NOTICE OF APPOINTMENT

☒ ID validated sticker
attached - sentInstitution University of Oregon Fiscal Year 1977-78Name George B. Van SchaackDepartment Biology

On behalf of the Oregon State Board of Higher Education and the President of the University of Oregon, your appointment is approved as follows:

- *☒ fiscal year beginning July 1 and ending June 30 at percent (FTE) of full time
☐ academic year beginning September 16 and ending June 15 at percent (FTE) of full time
☐ period beginning and ending at percent (FTE) of full time

Kind of Appointment

- ☐ Fixed term (length of term)
Fixed-term appointments are appointments for a specified period of time, as set forth in the notice of appointment. The faculty member thus appointed is not on the tenure track and the timely notice of provisions of AR 41.310 do not apply.

- ☐ Annual—tenure related ☐ Annual—not tenure related ☐ Indefinite tenure
 Rank Research Associate Position Research Associate in Biology; Honorary Curator of the Herbarium Museum of Natural History

Description of position: ☐ Instruction ☐ Administration ☐ Student Services ☐ OtherYour full time salary rate for ☐ 9 months ☐ 12 months \$.....

Total salary you will receive for this appointment \$.....

Distribution of time and salary:

..... \$..... %
 \$..... %
 \$..... %
 \$..... %
 Total ... \$..... %

This appointment is subject to the Procedures for Professional Evaluation as contained in the edition of the University of Oregon Faculty Handbook current as of the date of this appointment. These Procedures are incorporated herein by reference. It is also subject to the following conditions and qualifications:

*Courtesy appointment: no compensation from state funds.

Paul Olum
 Paul Olum
 Vice President for Academic
 Affairs and Provost

Date October 10, 1977

Your appointment is approved subject to the conditions and qualifications stated above and the provisions of the Administrative Rules of the State Board of Higher Education and the University of Oregon *Memos* including but not restricted to those relating to tenure, termination of employment, and patent policy. Please inquire at the office of the appropriate vice president or the Office of Management & Budget if you have any question in regard to the above information.

WASHINGTON



UNIVERSITY

SAINT LOUIS

OFFICE OF THE
VICE-CHANCELLOR, DEAN OF FACULTIES

March 31, 1958

Dr. George Van Schaack
Department of Mathematics
Washington University

Dear Doctor Van Schaack:

Under your appointment with tenure as
Associate Professor of Mathematics
your compensation for the year 1958-59, effective
July 1, 1958, will be as follows:

Salary \$ 7,300

Annuity Contribution \$ 730

Your salary covers the period September
15, 1958, to June 15, 1959, and will be paid in
nine monthly payments beginning September 30 and
ending May 31.

Very truly yours,

Carl Tolman
Vice-Chancellor,
Dean of Faculties

Copy to:
Central Administration
Retirement and Insurance Records
Dean Hall
Professor MacNeille

WASHINGTON



UNIVERSITY

ST. LOUIS 30, MISSOURI

OFFICE OF THE
VICE-CHANCELLOR, DEAN OF FACULTIES

March 8, 1960

Professor George B. Van Schaack
Department of Mathematics
Washington University

Dear Professor Van Schaack:

Professor MacNeille has informed me of your decision not to return to teaching. This letter is to accept with regret your resignation effective February 1, 1960, and to express to you the sincere appreciation of the administration and your colleagues for your past good work in the Department of Mathematics.

With very best wishes for the success of your work at the Garden, I am

Very truly yours,

Carl Tolman
Vice-Chancellor,
Dean of Faculties

Copy to
Dean Hall
Professor MacNeille
Central Administration
Retirement and Insurance Records

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE
ST. LOUIS 10, MISSOURI

January 14, 1966.

Editor of the Library Journal
New York, N. Y. 10036

Dear Sir,

I am gratified to see the article 'The Preservation of Deteriorating Books' in your issue of January 1st, and especially to read its paragraphs concerned with the many interests served by the original book which cannot be served by a reproduction. I am particularly interested in the 'cult of the microform', and note that the article does not criticize the microform for its most serious defect. Basically one uses a book for two purposes: first, to find something in it known to be there (a tale, a poem, a picture, a report, a statistic, a description, etc.) and, secondly, to find new food for thought. Barring such inconveniences as reading a novel in microfilm, the first purpose can be fairly well served by all sorts of copies, including microforms. The second is concerned with discovery and the creation of new associations of thought--for these no microform known to me can provide the immediateness of the original book. Here I have in mind, for example, the glance which, as the pages of a real book slip rapidly through the reader's fingers, picks up, in a word or a phrase or an illustration, ideas new to him and of vital interest in furthering his body of thought. Herein lies much of the magic of the original book over any microform copy of it. Let us preserve the originals, and when this is impossible, make available booksized facsimiles!

Our problem with deterioration largely results from misplaced confidence in the technological product of paper containing woodpulp and from our ignorance that temperatures above, say 60° F., are destructive of such paper. For these two, somewhat unavoidable, mistakes we shall pay dearly. But let me invite your attention to another problem, doubtfully much less serious costwise, which we cannot trace either to misplaced confidence or to ignorance--I refer to the destruction of books attendant upon their bidding by oversewing. Here we are guilty of having been for many years pennywise to an extreme. Any intelligent person who considers this matter at all judicially must recognize that for books of permanent worth oversewing is a form of destruction--not only in the final result that successive oversewing is often impracticable if not impossible, but that the initial oversewn binding renders the volume far less useful than would traditional sewing on tapes or cords. Literally millions of scholarly books and journals have been turned over to the mercy of the binder's guillotine to return to their library homes only replicas of their original selves, their inner margins cropped and their backs so tightly sewn that they are changed into stiff unyielding volumes which it is both difficult to read optically and unpleasant to handle physically--not to mention the impossibility of producing from many of them useful contact, or even optical, copies by electroprint and other methods.

Oversewing is cheaper than proper binding, and so are narrow inner margins cheaper than wide ones--while the librarian has been 'saving money' sending his books to the oversewing bindery, the publisher has been increasing his profit (or cutting down his deficit!) by reducing inner margins from 1 1/2" to 3/4" or even a 1/2". I can only repeat: We have been and continue to be pennywise. May this oversewing of books of permanent worth cease!

Sincerely yours,

George E. Van Schack
Librarian

Royal Botanic Gardens and National Herbarium
Sydney

14.1963

Dear Dr. van Schaack,

I write belatedly and distinctly shame-facedly to send my contribution towards the purchase of a copy of Agnes Chase: Index of Grasses for our Asiatic Colleague. To cap it all I have now lost your letter and cannot remember his name. I really do apologise for my delay - at first there seemed no hurry since the index did not seem to be in sight, and then time just slipped away. We have had a very trying and busy year here. Our Chief is below par in health, 2 of our small staff of botanists are abroad - one at Kew and one in California, and a third has been removed by a coronary occlusion and is unlikely to return. Meanwhile the public fires its customary bursts of queries at us and it has been all we can do to keep our heads above water.

I recently received an advance bill for the Index, so I hope that means it is well on the way - it will be a great day when it arrives. Our government institution is as poor as the Japanese, with a miserly book vote. There seemed no hope of getting the Index through official sources, and I have

felt obliged to raid my own pocket to secure
one for Sydney. Having seen it at Washington
I certainly feel it will be a rare acquisition
for any taxonomist working on grasses.

With all good wishes and kindest regards,

Sincerely,

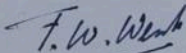
Joyce W. Vickery.

September 3, 1958

Dear Dr. Van Schaack:

I hope that during the period I have an appointment here at the Garden, that is, until September of 1959, you will be able to accept the position of Librarian and Curator of Grasses at the Missouri Botanical Garden. I don't think that these collections could be in better hands than in yours and I expect that you will be able to keep them in the best possible condition for use by the scientific public. Any assistance I can give you I will be glad to do.

Sincerely yours,



F. W. Went
Director

fwv:dp
CC: R.B.Smith
O.Glaessner

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 6-5567

July 12, 1959

Dear Dr. van Schaack,

It gives me great pleasure to
inform you, that your appointment
as Librarian of the Missouri
Botanical Garden, from September
on, is on a permanent basis. I hope
that the Garden, for many years
to come, will profit from your
knowledge and work.

Sincerely

F. W. Went

MISSOURI BOTANICAL GARDEN

ST. LOUIS

OFFICE OF THE DIRECTOR
5315 TOWER GROVE AVENUE
ST. LOUIS (10), MISSOURI

ARBORETUM, GRAY SUMMIT, MO.
TROPICAL STATION, BALBOA, C. Z.
EUROPEAN REPRESENTATIVE,
HOVE, SUSSEX, ENGLAND

June 10, 1946

Dr. George B. van Schaack,
Smithsonian Institution,
Washington, D.C.

Dear Dr. van Schaack:

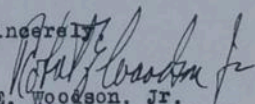
Dr. Leighton, of our mathematics staff at Washington University, tells me that you are considering coming to St. Louis, and that although a professional mathematician, you have lately acquired a strong interest in systematic botany, particularly the Gramineae. He suggested that in the event of taking up your residence in this city, you might be interested in research facilities at the Missouri Botanical Garden.

As you may know, the Garden has one of the outstanding herbaria in this country, with about a million and a half mounted specimens, comparing in size, if somewhat less in number of type specimens, with the herbaria at Washington, New York, and Cambridge. Our library I suppose is the most complete botanical library under one roof in America. The living plant collections, both at the city Garden and at our Arboretum outside town, have a very wide reputation. Our scientific personnel is able and well diversified, and we are fortunate in having our own organs of publication, of which the *Annals of the Missouri Botanical Garden* is of world-wide reputation as a scientific quarterly. At no other botanical institution in this country do working conditions and personal relations appear to be quite so delightfully informal and congenial as here. I wish that I might elaborate on this, but it must be experienced to be fully appreciated.

If you come to St. Louis, you will find that our Gramineae are inferior to those at the Smithsonian because they have not had the attention of a specialist since Hitchcock was here many years ago. But that is our interest in making you welcome to study them. In order to give you definite status at the Garden, the Director, Dr. George T. Moore, has suggested the position of Honorary Curator of Grasses, which would allow full freedom of correlating your duties at the University with your activities at the Garden. I would hope that eventually we could place you as a salaried member of our reorganized herbarium staff, perhaps in a year or two.

I hope that this letter has not been too verbose and disconnected, but the Garden is more like a human being than a machine, and I find difficulty in speaking of it objectively. At any rate, we are hoping that you will come to work with us and give our grasses the benefit of your attention. If there is any additional information that I can give you, please call upon me.

Sincerely,


Robert E. Woodson, Jr.
Assistant Curator of Herbarium

MISSOURI BOTANICAL GARDEN

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 5567

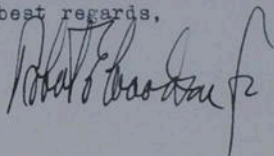
February 10, 1947

Dear van Schaack:

Your letter was received yesterday, and I showed it to Dr. Moore. You probably have heard from him already inviting you to become a Research Associate at the tempting salary of \$60,000 per annum, plus glory (to all of us, particularly MBG), plus the customary turkey (and what a turkey!) at Christmas, etc. etc. I should not forget to mention full staff privileges, including publication.

I surely hope you will be with us next fall if not sooner. Sure enough, the cold wave came and with it snow, although not enough to cover the ground. If we had looked in the Mausoleum garden (containing Henry himself) we would have found Snowdrops in bloom. I saw them the day ^{after} you left. Winter Aconites are probably in bloom at my cabin, and I wish I were there to see for myself. My new Ford station wagon arrived about a week ago, and we both are anxious to start covering some ground. Fall usually is a beautiful season in Missouri, and I hope we will be able to take you on a "Spring" field trip next September (to visit some of our big Ozark springs, in case you wonder !)

With best regards,



Missouri
Botanical
Garden



March 11, 1980

Dr. Joseph Ewan
Biology Department
Tulane University
New Orleans, Louisiana 70118

Dear Joe:

Carla shared with me your note mentioning George Van Schaack's concern about our binding operation. You may rest assured that we have not closed the bindery, we have not sold off any equipment, and we have no intention of so doing. On the contrary, our whole restoration program thrives. In 1979, more than 1200 items were treated in-house, for problems ranging from mending of torn pages clear up to full restoration of portions of our Pre-Linnean collection. We have obtained outside funding to help support our conservation program, and (given all conservatorial activities within the library) I estimate we're spending between \$20,000 and \$25,000 this year on maintaining and improving the physical condition of the materials in our care. In the nearly eight years I've been here, some 20,000 items have received at least rudimentary treatment. We've initiated a program to put large portions of the Pre-Linnean collection in Solander boxes. A routine program has been established to apply protective dressing to every leather bound volume in our collection at regular intervals. We have a daily program to monitor temperature and humidity levels throughout the library, and have extensively modified the building's humidifiers within the past two months. We've extended our conservation efforts to include non-book materials, as well, with maps, manuscripts, blueprints, photographs and such all being stored in archivally sound, acid-free boxes or folders. The old black pamphlet folders holding our cataloged pamphlets and reprints have proven to be highly acidic, and we are replacing them with other, better methods of pamphlet storage as rapidly as time permits. Dick Cowan and Frans Stafleu have been a big help to us in identifying some of our scarcer treasures so that we can get them cared for as quickly as possible. All in all, I would estimate we've easily spent \$150,000 in the time I've been here on staff, equipment, materials, and services to make certain our collections remain intact and available for future generation of taxonomists.

2345 Tower Grove Avenue
St. Louis, Missouri 63110
314xxxxxx 577-5156

Enough of that! I did want to get the record straight, however, and you're welcome to share my comments with George, if you like. No less a dignitary than a former president of the Guild of Bookworkers (the national association of hand book binders) has told me that our bindery operation is one of the best equipped, best staffed, and best supplied in-house library conservation set-ups in the country, comparable to the Preservation Office of the Library of Congress.

Things are thriving here at present. Not only is the bindery doing well, but the operations are booming too. Our recataloging operation has been the beneficiary of about \$600,000 in Federal money (shared with the New York Botanical Garden). In 1979, almost 13,000 volumes were recataloged -- giving us full descriptive cataloging and adequate subject cataloging for these materials for the first time in our history. Not only that, but everything we catalog is entered into a national computerized data base, and the staff and patrons of some 2000 other libraries then have access to our records for their own cataloging or for obtaining photocopies or interlibrary loan materials.

You may have heard that the historical section of the Botanical Society of America is planning a program on botanical archives for the Vancouver meeting; we hope it will be a "consciousness-raising session for those in attendance and make researchers more aware of their own papers as a resource for future historians.

Hope that all is well with you and Nesta. Keep in mind that we are still interested, and would be happy to accomodate you in whatever ways we can.

Best wishes,

Yours sincerely,



James R. Reed
Director of Libraries &
Curator of Special Collections

JRR/mp

TULANE UNIVERSITY

NEW ORLEANS, LA. 70118

AC 504 865-6226

Department of Biology

1 November 1976

Dear George,

Your 'For George' folder calls for some delivery: 1) nearly a year ago Edgar T. Wherry wrote--I think you knew him? and am sending a copy of his letter. His address: 41 W. Allens Lane, Philadelphia, Pa. 19119

2) Egbert Walker sent me stuff on Joseph Rock. You see the story on that head--really hardly any head at all in evidence. Egbert has not had time to return the drafts of mine but I think you would be interested.

3) Schwartz wrote me about bochet. I have not succeeded in retracing my steps in picking up this morsel that I dropped into my cup of tea. Now Miss Schwartz is reading my leaves.

4) Beatrice Smith has run into this ref on Cuban plant drawings -- 3 vols-- that seem to have once been at NY Hort Soc but no longer around.

5) Treubig and several others are worked up on endangered species, including such rarities as Isoetes known from a single coll that will be exterminated by U S Army Corp of Engineers likely before anyone else, etc. Large sums being spent on this which in my way of thinking is not well thought out.

6) note on Benister book all the way from Australia.

7) "Only Ten Feet Less" of 1969. Stafleu liked this little essay. You may have seen it. This copy = photocopy proof.

Hope you are well and enjoying the Fall. We are winding down on the mss for ed. 2 of Rocky Mt. Mats. and I have written to Boulder -- University Press there -- to see if they are interested. The appropriate place to publish.

I have verbal report that a) Tulane wants to keep systematic botany and replace me and b) has worked out something comfortable for me, but nothing in hand and really wonder when the univ debt is so staggering. Tulane's reserve funds have vanished under insanity of spending for football coaches, employed and fired (for which the last pres of the univ promised a 15-year agreement!! after he was fired from failing to win games). New president is not bidding for leadership in topflight teaching, research, etc. I am afraid, and again going along with alumni pressure for sports. UC President Clark said, for the faculty the issue is parking; for alumni, football; for the students, sex.

'Keep~~ing~~ thinking good thoughts'
as that TV columnist has it,
very best from both of us,

Joe

TULANE UNIVERSITY

NEW ORLEANS, LA. 70118

AC 504 865-6226

Department of Biology

24 June 1976

Karlene V. Schwartz
Dept of Biology
Univ Massachusetts
Boston 02125

Dear Miss Schwartz,

Jerry Stannard has been on leave from time to time, but I would surely imagine the Univ of Kansas would have his forwarding address. History Dept. as you know. His colleague in the Dept. -- A.R. Wallace enthusiast = Dr. H. Lewis McKinney, would know his whereabouts.

This reply to your query on hachet has been delayed with the hope that I would be successful in finding the source of my remark in "Plant resources in colonial America" that it was sold in coffee houses taken with tea. I have checked in several likely (and unlikely) places without success. It was a word for a "kind of pear" in 18th century dictionary (was it Johnson's, 1755?) -- I have been into so many. But nothing on this head.

Stand by. I shall come along with the source, if not the fact, and thanks for bringing the matter up at this time. Be sure to see J. Sauer in First Images of America, ed. Chiselli, Fredi, U Calif. Press, 1976, vol. 2. 819.

/BP

Sincerely,

Joseph Evan

OPEN LETTER

OPEN LETTER

TULANE UNIVERSITY

NEW ORLEANS, LA. 70118

AC 504 865-6226

Department of Biology

6 January 1976

Mr. Roland J. Treubig - Staff Forester
La. Forestry Commission
Alexander State Forest
Woodworth, LA 71485

Dear Mr. Treubig and Friends:

This will reply to yours of 25th September last and subsequent correspondence relative to the fate of rare and endangered plant species.

When considering the problem two different audiences will be approached: a small group of persons informed on matters of identity, distribution, and habitat, and the large 'John Q. Public' with varying concern over the fate of our native flora. The localized or endemic species, which will be known to the first group, with small total populations at best, must remain a problem of professional conscience. These botanists, and persons with botanical knowledge, can be helpful in trying to persuade the general public by information and example of the fragile nature of our environment. Obviously, restraint must be shown in collecting scientific specimens. Certainly this must remain an individual obligation.

For the general public the problem, we must admit, is complicated and success will rest on the public's conviction that the plants deserve protection. Drainage projects for agriculture and housing, major highway construction, and the uncontrolled removal of plants from the wild by commercial nurseries and over-zealous gardeners will deplete populations to the point of extinction. The answer, then, may be a wide program of information by all media, to explain the values of keeping our native flora. Posters for schools and public meeting places have been designed elsewhere. The results will be hardly noticeable.

In reviewing the lists of species designated as 'threatened or endangered' it occurs to me there is some confusion as to just what we are trying to save. Convolvulus arvensis, an introduced weed (labelled 'noxious' in some states), Psilotum nudum and Fatoua villosa, two garden or greenhouse interlopers, will surely take care of themselves; likewise Tribulus terrestris has been successful on all continents and need not be our concern.

What we need to protect are plants on a select list. I suggest that all the orchids (certainly Calopogon, Corallorhiza, and Cypripedium), Asarum, Gordonia, Dirca, Magnolia pyramidalis and macrophylla, Pachysandra, Panax, Thalia, Silene virginica, and Sarracenia psitticina, should be highlighted. It will be effective to focus on the few (generally shrubs and perennials of garden appeal) rather than issue a long list, most species little known and really beyond our ability to save on a public basis. An endemic species or one known as only a range extension into the state must survive by the good offices of the botanically informed. Beyond that, there is little we may legislate.

Sincerely yours,

Joseph Ewan
Professor of Biology

TULANE UNIVERSITY

NEW ORLEANS, LA. 70118

AC 504 865-6226

Department of Biology

24 June 1976

Dr. Beatrice A. Smith
2121 West County Road B
St Paul, Minn. 55113

Dear Dr. Smith,

Do I understand correctly? A Mrs. Wolstoncraft made three volumes of plant drawings of Cuban plants, that the volumes were supposedly sent to the New York Horticultural Society from Havana (as reported in N.Y. Farmer and Hort. Repository, 1:99. 1826)? I have no clue, as yet, but I shall put the info into my Search Book and perhaps, D.V., something may come of it.

The only person (who may be related?) is Charles Wollstonecraft / sic / who was introduced in a letter from Benj. Vaughan, London, Sept. 29, 1792, to John Vaughan, which appears in the Amer. Philos. Soc. Mss Catalog, vol. 9, which represents an analytic of the APS Mss collections in Phila.

Of course you have asked Miss Elizabeth Hall all about this?

It reminds me of the problem of a morsel of Linneana once belonging to the Linnean Society of N.Y. that Christine C. Robbins was searching for when writing her life of David Hessel. It was the same period and could not be located. Just disappeared. That was an actual Linnean plant collection -- would have been most interesting to recover.

With best wishes,
sincerely,

Joseph Ewan

TULANE UNIVERSITY

NEW ORLEANS, LA. 70118

AC 504 865-6226

Department of Biology

26 October 1976

Dear Egbert:

{Walker}

You may have seen the review of Sutton's Turbulent Career of Joseph Rock in the latest Fl Sci Bull but in any event I do wish to report to you, after your kind assistance in its preparation, that it bears only a shadow of resemblance to what was designed in the first place.

I sent a review to Bob Long -- sad to read of his death last July -- "I" for the Fl Sci Bull on 24 June 1975, following our correspondence, but the docket was full for Long's final stint as Editor. So it went into the next editorship, was returned as too long and with the request it be shortened, which was tediously done, and the second version sent "II" 12th Jan 1976. Now comes the drastically shortened version "III" which you will see bears little of the interest that the book in truth holds.

This is sad. I am deploring particularly that when a review is tooled, as I tool a ms, and based on ~~it will be from~~ careful reading and note-taking of the book, that the book review be excised as if cancerous.

I 'just thought you'd like to know' . . .

How is everything? Busy I presume. I hope you are going to leave all your letters, memorabilia, and the like, for future historians of botany. Your years with Bartlett, Saxon, the whole bally crowd at the SI, and your action group in Appalachian Mt Club's conservation programs, etc. etc., Wash Bot Soc, etc., must be preserved.

With all the best to you and yours, from Nesta and

Joseph Ewan

Would you mind returning the sheet marked I and II? postage herewith. I think I shall send them to George Van Schaeck; you remember him I'm sure. He likes to keep up with vagaries of the scientia anabillis.

Philadelphia, Pa., I
January 24, 1976.

Dear Joe:

To my regret I have no recollection of discussing new species of *Mikania* with Small. The N. Y. Botanical Garden did have a worker go through the whole herbarium to pick out types & ~~and~~ bring them all together in special cases, but he did not do it very thoroughly and I found several types of isotype or clastotypes of Polemoniaceae and segregated them. Since Arthur Cronquist is something of a Compositae specialist, he ought to be willing to search for that mysterious *Mikania*.

My 90th birthday anniversary celebration was very pleasant, with former students coming from as far as Boston & D. C.

Unfortunately my health is poor as I have chronic laryngitis which the doctors say is old age & incurable, so I get awakened in the night gasping for breath. Just have to, as the cartoonist says, Grin & Bear it. I am actively at work on the Flora of Pennsylvania. The Atlas is ready for the printer and the Manual is going along well; I am ^kworking on keys and descriptions of the Pteridophytes at present. Much of the Manual work was to ^{have} been done by Professor Wahl, and is now being taken over by his very competent successor Prof. Carl S. Keener.

Sincerely yours,

Edgar S. Sherry

1964 Harris St
Eugene, Ore. 97405
30 July 1981

Dear South American Friend:

You have been on my mind for sometime. As you know, however, letterwriting has become increasingly difficult for me. But what I have to say is of such importance that I am breaking my bad habit to communicate with you.

It is about my library, and about your thorough list of those books which you would like to have me leave you.

The longer I live, the surer I am that about all a person can do with his few material things is to insure that they be used and enjoyed by the greatest number of people once he himself no longer can use them. With this in mind, I absolutely cannot seem to see my books in any place except in a large library, convenient for one and all to enjoy. This feeling has been greatly reinforced the more I see how short money is in supply in most of the big libraries.

I hope our long friendship will stand in good stead in your understanding my strong conviction in this regard; and that you will feel none the less _____ toward me.

Most sincerely,

George B. Van Schaack

Have Someone
Help you Read
of Nov -

at Peoria -

3 A.M.

3-30-81

Dear Geo -

As in these last many mos. I
can not sleep. We have been here this last
week and may go home today. No doubt
see David on way etc etc. I have no idea
from an hour to hour what will happen
in any framework. Betty I am convinced
has lost her mind and I write you
yet again - if you can help me in
some way. This will have to be
wound up in 30-60 days and it all
begs discussion. Betty just says to
leave and I guess I have to accept that
but want to leave with some dignity +
have her in the hands of Diana or David
etc. I had hoped this trip (which is not
an easy home money trip with David & Beth

tried solve some problem, but I does not

I am totally without funds etc and
Betsy refuses to do anything to cooperate
in a solution and I can't go on + on

Please believe me. I will have to get
into a room with my SS But can
not over night. When we go home today or
tomorrow we will be into God knows
what kind of trouble -

Please help me if you possibly can so
I can get by these next few weeks

It is all so tragic and as I say - impossible
to describe But I make one last attempt
to avoid just having some one come in +
take the baby away.

It is crystal clear that both David +
Deana are at "water end" as to Mother But I
guess they figure as "my problem". I may make
more sense with them in next weeks etc

— Eva called on the 21st. I am writing



3.

(I stole this paper from
Lloyd's desk - He is asleep -

I called Tony on the "OT" yesterday
from Parkersburg north of here where
Lloyd had to go on "Cume Basins". He

is very deeply involved with "Cume" etc
~~He~~ He is a good person and
very "High Grade"

I am writing Graham a note
Even date -

We could "work" this out But
Becky says she's her money (that's truly
true) + apparently wants to get rid of
me + I am heart broken But
only feel sorry for her.

This relates to Tony and I do
not blame her either. It is an aggravated
human tragedy. Becky Hates Tony
with a passion that has taken possession
of her. She says she can't

I'll keep you

Substance -

Anything of

WRITE

DO NOT

See, me she sees, her etc.

The whole subject looks stuffy
into every minute of life +
Conversation of value there is little -

Weather is wonderful now. Of course this
is W.V.A. - Yesterday was like summer.

I have no idea how to survive the
next few days + am scared to
death but can not imagine
leaving Betty without at least
making some deal with David which I
will have to work at. God knows how
etc etc

I am hoping that Mary Anne Betty
will decide to stay at David's + I go on
home (How to cope I do not know)

But I doubt that she will etc stay
(there is nothing she can or say that makes sense -)

I can not call anyone "L.S." as you
know. I am trying to collect of it -

I can not go on (or Bless for who ever)

Xerox

Rehm G.H.I

Missouri
Botanical
Garden



October 17, 1981

Dr. Hugh H. Iltis
Department of Botany
University of Wisconsin
Madison, Wisconsin

Dear Hugh:

I was pleased to hear that you had recently visited George Van Schaack. As you vividly remember, George was instrumental in curating and preserving the library here at the Missouri Botanical Garden during a critical period in the Garden's history. For his efforts, we here at the Garden and the nation's scientific community are deeply indebted.

You mentioned in passing that George's personal library is now at the University of Oregon. There is one book in his collection that would be of great interest to us in completing a portion of our Pre-Linnean holdings, the first (1569) edition of Nicolas Monardes' Simplicium medicamentorum... We have eight other editions and translations of this early work on medical botany, but lack the edition in George's library. Because of the richness of our Monardes Collection, unparalleled in this country, and because of the international clientele our library serves routinely, I would hope there might be some way of persuading George and the authorities at Eugene that this particular volume would be more logically placed with its companion editions here in Missouri than in another less specialized collection where most plant scientists might never think to seek it. And what better place to house this publication than in the library George served so ably for so many years!

I hope you can use your powers of persuasion to help us in this particular quest.

Yours sincerely,

James R. Reed
Director of Libraries

JRR/mp

St. Louis, Missouri 63166
314 577 5100



MISSOURI BOTANICAL GARDEN

SHAW'S GARDEN

October 2, 1970.

Dear George,

I just received your letter and I am glad that this time I can do something for you. My guilty conscience for not having written you earlier and thanking you for your last letter and all the trouble you went to concerning the ground pine was really bothering me. Today I am boss and will answer your letter immediately.

I checked our copies of Ascherson and Graebner's Synopsis der mittelp-europäischen Flora and found the following:

We do have 5. Band, 2. Abth. p. 13-iv, 811, plus Hauptregister des 5. Bandes 2. Abth., 131 pages; 7. Band, p. 480 (I am enclosing typed title page of this volume); 12. Band, Erste Abth., p. 492, plus Hauptregister d. 12. Bandes, 1. Abth. 93 pages; 12. Band, Zweite Abth. p. 790 (separate pagination from 12. Band, 1. Abth.). Apparently, your 12. Band is incomplete.

We had also had a terrible summer, hot and humid, never any relief and I felt terrible. Furthermore, I had a blood test made, actually they made three after my doctor got the result of the first one which showed that I have pernicious anemia. You can imagine how I felt after I looked the word up.

Unfortunately, the old ground pine will stay. We have the pictures for the entire year taken about three months before the new year starts and, of course, Barbara did not want to change it. Furthermore, the illustration looks quite pretty and Gates is using it again for his Christmas cards. My article is finished and pretty horrible, but she did not complain.

For 1971, I chose William Turner's Herball and carefully picked illustrations of which I hoped they were easy to write about. Somehow this does not seem to be good English, I mean the last sentence. I just finished my article about Turner himself, which certainly was not easy, since I found it would be easier to write a book about him than only two-or three pages. I just had to leave out a great deal of his activities and publications. The plant illustration for the January-February cover will be the Nettle Tree and since my article is long, I don't have to write much about it. I hope to finish the little bit I have to say about the plant today, but there is much to do today, that is people are constantly asking questions and can't find things. Whatever will happen, after the re-classification is further advanced I don't even want to think about. Up to now, only books have been catalogued with new LC classification numbers, but when it comes to rearranging all the journals and put them all together ... well, I don't know what is going to happen. We are looking for a second cataloguer to speed up the operation, but have not found one yet. One we have, as I wrote you.

This year, the students who finished, had a hard time to find jobs, but finally, even the last one, Ken Robertson found one and probably the best. He is taking over Tom Elias' job ~~was~~ at Harvard, who is still staying on there, but is climbing up the ladder. This fall, Walter Lewis got only one new student, he is the one Iltis sent him. Nobody is interested in taxonomy anymore, since it was so hard to find jobs, the new fad is now ecology, which I should have written with a capital E. Any amount of money is obtainable for this and Gates is hiring five new people for which all his grants are paying. There is a rumor I should like to tell you, but dare not to write it down. Do you think Iltis is safe? I mean when he comes to the Symposium I might tell him, but I believe he likes to gossip and tell all the world. However, in any event I am looking forward to see him again.

Joe Ewan wrote me some time ago and asked me to send him his wife's rain gear which he told me arrived "in good fettle". I certainly miss it here and bought a new umbrella for the library. I did not tell him that we used her raincoat to wrap up the Crescentius to carry over to the Museum Building where Gates showed it to his luncheon guests during the capital fund drive.

André is also coming for the Symposium. This year we had to turn down almost a hundred people and even inspite of that more than 200 will come, which is too much. Any way, I believe we shall be busy.

I certainly envy you for not having anything to do!

Herzliche Grüße

Carla

P.S. I hope you can go to Europe, even though November is probably the worst month, but I don't know how the weather is at that time in Rome.

Could your library use a book ~~xxx~~ compiled by H. Hara The Flora of Eastern Himalaya of which we have two copies, since one was ordered by title and one by author? The price is \$ 30.00.

already
has

July 15, 1970.

Dear George,

You will probably think right away "what does she want from me now, since that is the only timeshe writes", well, you are right again. I need help with an article I have to write about the sweet ground pine (ajuga Chamaeipyitis) for the Christmas Bulletin. I found out a great deal about the botanical part, detailed description etc., but since this is not for the scient~~ist~~^{ist} but for the idiot, I need to have something that would interest the ordinary Bulletin reader. I couldn't very well write that this plant helps cure the syphilis, is good for urination and womens 'courses', not exactly the right thing for Christmas. I am enclosing a page which I wrote, I just wrote down every little tit-bit I could find and hope that you can give me some idea where I would find some legend or anything else of interest about it. Hegi was not much help, neither was Rees. All the books where I might find something like that are in the reading room and I already spent hours there in about 111° heat, it is unbearable. It is horrible outside and does not seem to get any better. I hope you have better weather there.

We have now a new cataloguer by the name of Marion Koch, used to be head cataloguer at the Public library as I told you, but apparently not the head of the department which doesn't make much sense to me. She was demoted and accepted the job here, is working in ^{the} basement cage, no airconditioning and ^{not} too high a salary. It is either 8200 or 8500. A propos salary, I just ^{got} a raise which brought my salary up to 7125 and today was payday and I figured that I got just exactly \$ 3.01 more in take-home pay. I couldn't believe it, but the business office checked it and it is true. Isn't it disgusting? I wish I could find a job which would pay more, but apparently it is not so easy in St. Louis.

I have sent you the latest Bulletin and you probably read what the director had to say about himself, so I have nothing to add. Our two assistant directors are Mark Paddock and Andy Johnson.

Right now the architect is in the office and is for the thousandst time going over the ~~plans~~ plans with Eugenia. They want to build something beautiful and don't seem to care too much about the functional part.

We are now changing our entire classification system and are going over to LC classification. I hope I will be able to find anything at all, but rather doubt it.

For a while all our students who finished this year were looking for jobs desperately, but this year it was rather difficult. Fortunately, now they all have jobs, except Bruce MacBryde who~~l~~ just came back from California where had been taking Lyman Benson's place during the latters sabbatical. However, Olga got a good teaching job in Ecuador and he a non-paying research job there too, so they are going there and hope

that he will get a grant from someone in this country to write about something in Ecuador. Dan Austin got a job with an almost brand-new university in Florida and Ken Robertson is going to Harvard to take over Tom Elias' job who stepped up the ladder. Only Ray Altevoigt hasn't found anything yet, but is for the present time in England working at Cambridge without pay.

I was just trying to find out what Iltis is writing about in our next Bulletin, but Barbara has already left.

André is coming again to St. Louis in the fall, will attend the Symposium. Are you coming? I hope by that time it will be cooler.

I wonder whether you are still corresponding with Dr. Stearn at the British Museum. Joan Nowicke, who has become a good friend of ours in the meantime, obtained a grant from the American Philosophical Society to study the Seaman expedition~~s~~ or specimens etc. and doesn't know a soul in London. She is leaving end of July for London and is going to spend practically all her time at the B.M. Should you write to him anyway, it would be very nice if you could say a good word about her. She is a terrific worker and I don't know what would happen to the Flora of Panama if she left. She is trying to find another job too, but has a personal problem since her former husband has to approve any move she makes, because he has certain rights as far as her son is concerned.

I have never heard from Lawrence about my Fendler manuscript, if one could call it that. I called it LETTERS FROM AUGUSTUS FENDLER, PLANT COLLECTOR, TO GEORGE ENGELMANN compiled and translated by Carla Lange. It was not very well written, I hoped to publish it somewhere else (after changing and correcting it), but apparently the Garden won't let me do it. I am going to wait a year and then do what I think best. I had asked Lawrence, who was in Europe until the beginning of July, to forward it to you after he was through with it.

Last week, the owners of Wheldon & Wesley came to visit here. That is Mr. Swann and his wife, he wrote me that he was touring the States and planned to interrupt his trip from Memphis to Urbana and spend a few hours in St. Louis. I took them out for lunch, showed them ^{the} climatron, it was about 96° and a little bit of the library, by which time everybody was complete^{ly} exhausted and then, fortunately, Marion Koch, who lives right at the airport took them there and saved me that trip in that heat and unairconditioned car.

I am waiting desparatingly for five o'clock, since I am hot and tired, but it still is only 4.15. I hope you are well and cool and should be very grateful if you could give me some hints concerning the old ground pine.

As ever, yours,



MISSOURI BOTANICAL GARDEN

SHAW'S GARDEN

May 19, 1970.

Dear George,

I should have written a long time ago, but you know how it is here, always too much to do. First I enclose a letter from my friend Mr. Ott from Lawrence, Kansas, who for years had been visiting the library, he is working for his PH degree, which should be forthcoming this summer. I sent him everything he requested on the list he attached, however, the reference he mentions in his letter is something I could not find anywhere. Of course, I could have just written down the reference for you, but I wanted to make sure that you see how easy it is to get a doctors degree when you work here.

Under Linné I did not find anything near to Flor.Germ. I also did not find any Flor.Germ. Do you have any idea what he is referring to or where I should look? I went through all the British Museum catalogue works of Linnaeus and did not find anything. If you can help, I should appreciate it, if not, I shall write the man I could not find anything on it.

I am also enclosing two xerox copies of two letters from Dr. Lawrence. After I received the first one, I told him that I was writing or compiling a book on Fendler and that apart from the Fendler letters, I had translated all letters written to Engelmann in German from A to F. He must have misunderstood somehow. In any event, I sent him the original photo of Fendler and his house in Allenton (with Mark's permission), now I am perfectly willing to send him a copy of my translations of the letters from A to F, but they are rather rough, need retyping, since, naturally typographical errors have crept in and I often changed the wording while typing, which means I xxxxxxx out a whole sentence and replaced it with different wording. Barbara is trying to get me some help, but there is very little interest here otherwise. I believe the translations of the letters are my own property since I made them on my own time and without any recompensation whatsoever, but I believe I better ask Mark whether they may be sent. In any event, they need retyping and I sent a memo to Mark with a copy to Eugenia and to Mark requesting that a typist be hired to do just that, may be one of the many summer students who ask for work. We shall see, I don't have much hope.

My work on Fendler is progressing and I hope it will be of interest to someone. Barbarg will probably publish it, even though I would rather have in Huntia. In any event, if you are interested, would you read the ms without too much criticism? You know how limited my time is and any time I work on it in my lunch hour I am interrupted constantly. Only the weekends help, but I can't let Morton go to the country alone every weekend, so the progress will necessarily be slow. I shall let you know what the decisions of the higher uppers will be.

I was very sorry that you could not come to the meeting in Philadelphia. It was certainly interesting, especially Dr. Lawrence's talks. I was very happy to meet Mr. McPhail, he is very pleasant person and I am sure you like working with him. The whole affair was a little bit strenuous for me, since we took the train up to Pittsburgh which took 14 hours to get there and we arrived at our hotel shortly before two in the morning and the next day all the meetings started. I did not attend the afternoon meeting in order to get some rest, since in evening was a cocktail party and dinner and afterwards more Hunt Botanical Library.

When are you coming to St. Louis again? It is beginning to get rather hot again and I dread the coming summer. I hope you have better weather there and you could resume your exercise on the bicycle.

With best wishes,

yours

Carla

Hunt Botanical Library
Carnegie-Mellon University Pittsburgh Pennsylvania 15213

14 May 1970

Mrs. Carla E. Lange
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis, Missouri 63310

Dear Mrs. Lange:

Thank you very much for your letter of 6 May, for I have been looking for it ever since the two photographs arrived (in perfect condition).

We are having copies made of the photographs, and will return them to you in not more than ten days time. Each will be identified as having come from the Missouri Botanical Garden and put into our file of photographs on Fendler.

The xerox copy of William Canby's paper on August Fendler also has arrived and I am most grateful to you for having it made for us. If there is a charge for this xeroxing please let me know.

I would be very happy to have a copy of the translation that you have made of Fendler's letters A-F. After I have looked them over I will be glad to give you any suggestions I may have for your consideration in the preparation of a more adequate biography of Fendler. I have not yet read Canby's account, but will do so before reading anything you have drafted and thus be in a better position to be helpful to you.

I have not taken the time to look up biographical accounts of Canby himself, but sometimes a study of these is helpful in understanding the biographer as well as the biographee. Should you have any records on Canby, I would be glad to have the citations to them. Those known to me are such as are cited by Barnhart.

It is good to know that you have this somewhat of an avocational interest in Fendler and only a person with a background such as yours is in a position to develop it adequately. Stay with it.

Very cordially yours,



George H. M. Lawrence
Director

GHML:jmr
(Dictated but not signed)

Hunt Botanical Library
Carnegie-Mellon University Pittsburgh Pennsylvania 15213

1 May 1970
(dictated 28 April 1970)

Mrs. Carla E. Lange
Missouri Botanical Garden Library
2315 Tower Grove Avenue
St. Louis, Missouri 63110

Dear Mrs. Lange:

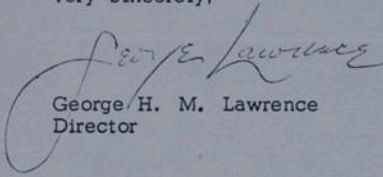
Please know how much I enjoyed the opportunity to meet you during the brief two-day sessions we had here last week, and that, to my regret I did not have then George Van Schaack's letter telling me of your studies in translation of Fendler's letters to Engelmann.

George has indicated that the Garden is unlikely to publish these translations. This causes me to wonder whether or not an account on Fendler could be written by you, quoting from the translated material, that would be suitable either for your Bulletin or for a longer unified account in a future volume of Huntia? Should you ever decide to pull this material together in such an article I would be very happy to have the opportunity to read it. This, even if you felt that publication should be in your own Bulletin, a decision that I could very well understand.

This has caused me to wonder to what extent you have been able to get biographical information on Fendler. An account such as we would be interested in would require some background on the man, on the *raisonne d'être* for their relationship, and a photograph of him. Presumably these can be had, even if not from collections available to you at the Garden.

Once again, I am sorry that this information was not known to me when you were here, because it would have been so easy then to have sat down and discussed it. I look forward to hearing from you further about it.

Very sincerely,



George H. M. Lawrence
Director

GHML:jmr

THE UNIVERSITY OF KANSAS
COLLEGE OF LIBERAL ARTS AND SCIENCES

LAWRENCE, KANSAS
May 4, 1970

DEPARTMENT OF BOTANY

Dr. Carla Lange, Associate Librarian
Missouri Botanical Garden
2315 Tower Grove Avenue
Saint Louis, Missouri

Dear Dr. Lange:

I have appended a list of references which I would appreciate you checking to see if you have there, if so, please send me a xerox copy, when possible, of those pages indicated concerning either Conferve or Azolla

In addition to these 5 listed, I give below one which I cannot verify. If you have it, please send those pages dealing with Conferve as well as a complete bibliography, perhaps even a copy of the title page:

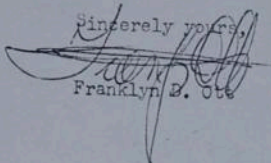
Linne, C.
Flor. Germ., Tome I. ca. p. 519...Conferve

For any of these materials in xerox which you can send, please bill me personally on your official forms, and send to me at the above address in care of the Department of Botany.

I hope you are well. I am sure you welcome the arrival of spring there as much as we do here. This winter past has been a very bad one here.

With best regards,

Sincerely yours,


Franklyn B. Ote

Enclosure

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

August 2, 1968.

Dear George,

A couple of days ago I sent you a manila envelope with reprints from Ray Fosberg. You may think, these were intended for the library, but that is not so. The envelope was addressed to you. The library also got a set of these reprints, but our new policy is not to keep any reprints in the library of which we have the journal. All the reprints, except those of which we do not have the journal, go to the herbarium. I spend several hours every weekend going through all the reprints stored in the basement in those cases that Virginia lettered.

Barbara was pleased to know that you liked the type of the new guide book. Derek wrote most of the text and he just told me he had sent the vanilla to your sister.

Miss Maddox went of to Tulsa today and ^{to} I shall have to talk a photographer about taking pictures out of Schöffer.

By the way, how did we get hold of the old Union Lists from W.U. ? Did you go over to get them, I assume so, but whom do we contact?

I am enclosing a few pages from an old Iris Society Bulletin which Mr. Benson brought in. He told us that in February of 1928 or 1929 three wooden boxes containing the books listed on page 19 were sent out to three places, 1) The New York Botanical Garden, which recently returned the books to the Iris Society. 2) Some place in California, where they were lost, 3) one box to MBG. We could not find it, it is so long ago, do you have any idea? But it was before your time too. Anyway, I promised I would ask you.

Last week a man from the Hunt Botanical Library was visiting here, his name is Mr. Calcutta and he probably comes from there, he was here with his entire (large family), Dr. Lawrence told him to be sure and stop at the library and look things over. We was quite impressed and it is a pleasure to show someone a Redouté who knows it is a Redouté. He told me that the Hunt library just bought a large Linnean collection from some library in Sweden and that they paid for the first edition of Systema Nature \$ 43 000 alone. So now, there are 7 copies in this country.

I am glad your sister could stay with you, I heard from Hugh Iltis that you are 'in great spirits', so keep it up, I am not.

Tausend Grüsse,

Carla

See over

Recently was the first time I could not find what somebody wanted (Oliver).

The Kew Index says: Sisyrinchium acuminatum, Herb. in Lindl. Bot. Reg. (1848)
Misc. 84 = angustifolium.

1843

I checked Edward's Botanical ^{Register} ~~Magazine~~, every single volume we have, and did not find a ~~Misc. 84~~, i.e. of course I did, but it was something else. I looked at plate 1843, but this was also something else. Is our set incomplete? Would you have found it? I am sure you don't have Edward's Botanical Magazine in your library, so I have to wait until you come here, if I have not forgotten it by then.

P.S. I was terribly shocked to hear of the Jones' automobile accident. I wonder whether he will be able to come to the Symposium.

I just found another note about something I am supposed to ask you. Miss Haddox found somewhere near your old desk a roll wrapped in cellophane of Nylon Cord Size No. 30, bought from Hanneke at \$3.15. She wants to know what that is for. Do you know? Sorry!

Sou did not comment for the first time on the last Bulletin.

At back of vol. p. 84, line 3 from bottom.

CARLA

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

December 16, 1968.

Dear George,

This is in a hurry, but I want to tell you how happy I was that you told me to hear Iltis' lecture. I even had the honour of being taken there and back to the Garden by the director! I enjoyed his speech tremendously and so did everybody else. Dr. Gates had a bad case of the flu and told me on the way to the auditorium that he would stay just a few minutes after introducing Hugh and go back to bed. He not only stayed during the whole speech, but also for the coffee break and took part in the question and answer period. Iltis certainly is a good speaker. I enclose the the clippings, one from the Post and none from the Globe. I don't even know whether he saw them, he told me he would see you in about 2 weeks. We did not have much chance to talk, but it was good to see him.

I am also enclosing a xerox copy of the viola which will be on the cover of the March-April Bulletin. I read the German text in Gart der Gesundheit and find it more difficult to read almost than the Latin. Could you tell me without looking at dictionaries etc. what you can understand of this description. I am especially ~~puzzled~~ puzzled of the syrup part of it, it is also mentioned in the German. And what does the end mean: Platearia Serapio?

In the case containing the Herbarius I found a description of the Herbarius ~~which~~ ^{who} handwriting at the bottom. Do you know wrote it? Was it Kleb? and who was he.

I got a little bit done last Saturday, but it is not easy for me. Furthermore, I believe I am coming down with the flue.

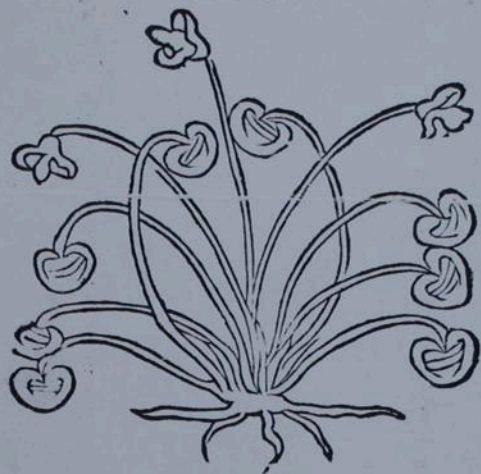
If you can answer this without too many difficulties, you know I will be grateful. Best wishes,

Sincerely,

Carla

violarū fit p decoctionē florū violarū in oleo oli-
ue. et eius colatura dicit̃ oleū violarū. Et muns-
ctio olei violarū extrinſus facta ſup epa cōfert
om̃a calēfactionē epatis. Sunctio etiā facta ſup
tempora et frontē dolorē capitis ex calore factū
remouet et ſomnū inducit. Siropus ergo viol-
arū virtutē h̃j leniendi inſrigidandi humectandi
ideo vj in febrībꝫ acutis notāter in terciana
nua ſeu interpellata. Et ſucrū violarū fit eo mō
quo fit ſucrū roſarū utputa ſuccus violarū
ecatur cū ſuero albo. Gel folia florū violarū mi-
nutim inſciſa cū ſuero albo mixta et ſoli pſentē
in vitro albo p. xl. dies p. ipſius fermentatiōe.
Itē violę otrite ſiue ipſa herba applicata ſup
lidū apoſtēma ofert in p̃ncipio. Fomentatiō
facta ex decoctione ipſius herbe violarie et ſup
pedes et frontē applicata ſomnū inducit in acu-
tis febrībꝫ. Flores vcl folia violarū comēſta cum
boragine et lactuca cū carmibꝫ recentibꝫ elixata
cōferūt in afflictione febrili. Decoctio etiā vio-
larū bona eſt ſcabiei loco ſcabioſo applicata. Et
otōz florū violarū vel ſuccus earū fronti illinitus
ſedat ſordā ſiue dolorē capitis ex cauſa calida.
Et decoctio earū cū ſuero p̃m̃dij cōfert tūſſi cali-
te et limit pectus et cōfert in pleureſi et peripul-
monia. Et idē valet inſtationi ſtomachi. Et ſiro-
pus violarū cōfert dolori renū et puocat vrinā et
ſoluētō educit colerā Auicē. Placari⁹ Ser.

Celvi



Viola

violenta

Viola frigida est et humida in primogenio. De
 floribus violarum fit siropus. et iucru violarum et oleum
 violarum. Et siropus violarum fit sic. Flores vio-
 larum coquantur in aqua et excolantur et iucro
 fit siropus. vel ex succo florum violarum et iucro
 fit siropus violarum. Sed flores violarum dimit-
 tantur in aqua tepida per noctem ex cuius cola-
 tura et iucro fit siropus violarum. Sed ex violarum
 succo et iucro melior fit siropus. Et oleum

147

Herbarius. Schoeffer, 1484. cxlvi. Viola. violen. (Expanded Latin)

Viola frigida est et humide in primo gradu. De floribus violarum fit siropus et zucrum violarum et oleum violarum. Et siropus violarum fit sic. Flores violarum coquantur in aqua et ex colatura et zucro fit siropus. Vel ex succo florum violarum et zucro fit siropus violarum. Vel flores violarum dimittantur in aqua tepida per noctem ex cujus colatura et zucro fit siropus violarum. Sed ex violarum succo et zucro melior fit siropus. Et oleum violarum fit pro decoctionem florum violarum in oleo olive. Et eius colatura dicitur oleum violarum. Et inunctio olei violarum exterius facta super epar confert contra calefactionem epatis. Unctio etiam facta super tempora et frontem dolorem capitis ex calore factum removet et somnum inducit. Siropus ergo violarum virtutem habet leniendi in frigidandi humectandi ideo valet in febris acutis notanter in terciana continua seu interpellata. Et zucrum violarum fit eo modo quo fit zucrum rosarum ut puta succus violarum misceantur cum zucro albo. Vel folia florum violarum minutim incisa cum zucro albo mixta et soli praesentetur in vitro albo pro .xl. dies pro ipsius fermentatione. Item viole contrite sive ipsa herba applicata super calidum apostema confert in principio. Fomentatio etiam facta ex decoctione ipsius herbe violarie et super pedes et frontem applicata somnum inducit in acutis febris. Flores vel folia violarum comesta cum boragine et lactuca cum carnibus recentibus elixata conferunt in applicatione febrili. Decoctio etiam violarum bona est scabiei loco scabioso applicata. Et odor florum violarum vel succus earum fronti illinitus sedat sodam sive dolorum capitis ex cause calida. Et decoctio earum cum zucro penidii confert tussi calide et linit pectus et confert in pleuresi et peripulmonia. Et idem valet inflatione stomachi. Et siropus violarum confert dolori renum et provocat urinam et soluendo educit coleram. Avicenna. Platearius. Serapio.

The violet is cold and wet in the first degree. Violet flowers are used to make syrup and sugar of violets, and violet oil. Violet syrup is made thus. Violet flowers are steeped (cooked, boiled ?) in water and from the filtrate and sugar the syrup is made. Or mashed violet flowers may be left over night in tepid water, and from the filtrate and sugar the syrup may be made. But it is better to make the syrup from violet juice and sugar. Also, violet oil may be made by steeping (soaking?) violet flowers in olive oil. An ointment of this violet oil placed outside over the liver is useful in treating inflammation of the liver. Further, the ointment put on the temples and forehead drives away the heat of a headache and induces sleep. Thus violet syrup has the power of alleviating, cooling, moistening, and therefore it is prescribed for tertian fever, either continuous or interrupted. And sugar of violets is made in the same manner that one makes sugar of roses, namely by mixing the juice of violets with white sugar. Or by mixing violet petals finely chopped with white sugar and leaving the mixture in a white (clear?) glass bottle for forty days to ferment. Moreover, bruised violets, or the plant itself, applied to a heated abscess, is immediately relieving. Further, a lotion made from steeping this same violet plant, placed on the feet and the temples, induces sleep in acute fever. Flowers or leaves of violets eaten with borage, and milk boiled with fresh meat are used in treating fevers. Also a decoction of violets is good to apply against the itch. The smell of violets or the juice thereof smeared on the forehead assuages a sodanum or headache [ex cause calida is superfluous] A decoction of these flowers with sugar of [penidii, gen. of penidius, a non-classical word which I don't find] is used against pleurisy [et peripulmonia is redundant] The same is useful against flatulence. And violet syrup is used for kidney pains and to induce urination, and it usually cures jaundice. Avicenna, Platearis, and Serapio.

HERBARIUS LATINUS. Mainz:[Peter Schoeffer] 1484.

Pr.D. woodcuts. Goth. Quarto.

Pellechet 1311 (under ARNOLDUS DE VILLANOVA. Six copies in France, some with, some without titlepage, printed red or black). Brit. Mus. Cat. I, 39 (208x145mm. Two copies without titlepages). Choulant 1p.13 (mentions under 5 a variant from this edition, misprint on 79a).

174 leaves, [a⁴b-x⁸y¹⁰], 32 lines, 1 and 2 cols. Types: text 92, headings pt. 1:149, pt. 118:118. Pr.D. and 150 woodcuts of plants. 2-, 4-, and 6 line spaces left for capitals.

1a: Herbarius. Ma-||guntie impressus. || Anno m̄c̄.lxxxiiij. ||

Below two shields hanging on branch, the device of Peter Schoeffer.

1b: blank. 2a: [R] Ogatu plurimoy inopu nūmoy || egentiū appo-
tecas refutātiū. oc= || casione illa. q̄ necessaria ibidē ad ||
corp⁹ egrū spectātia sūt cara sim || plicia at composita. nū-
misq̄ pluri || mis pparāda... 3a: Capitula herbarū sc8m || or-
dinem alphabeti. 5a: j. Below woodcut of first plant, with la-

tin and german inscription: Absintheū 154a: cl. Below

woodcut of last plant: Usnea maicz. 154b, line 22 ends:...
Pandecta Aui- || cēna Serāpio v̄c̄. 155a. index in 2 cols.: Par-
ticula sc8a de || simplicibz laxatiuis || linitiuu seu lubrica ||
tiuis supioribz anti || dotis deseruentibz. 155b. ends: xcvj. de
sapone. 156: blank. 174b, line 22 ends whole work: ...Valet etiā
ut inde fiant || suppositoria desup spergantur pulueres de l
esula || et puocabūt asellationem.

Literary collation: (1) Title and preface, 1-2.

- (2) Alphabetical table of herbs, 3-4a.
- (3) 150 illustrated chapters on herbs and
their virtues, 5-154b.
- (4) Chapter index of 96 drugs, 155a-b.
- (5) Chapters I to XCVI, 157-174b.

Saint Louis: Sturtevant Prelinnean Library.

225x155mm. First leaf wanting, a few stained leaves.
"Curious leather binding". From the library "of the
late Mr. Arrowsmith, Vicar of St. Pancreas".

So far as I know this is the only copy of the Editio princeps in America.
It is a larger copy than that in the British Museum, also larger than
the inferior Speiser reprint of this work in the Morgan Library.
Washington February 1917
A.P.K.

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE
ST. LOUIS 10, MISSOURI

November 4, 1964.

Mr. Harold Tribolet
R.M. Donnelley & Sons Co.
2223 S. Parkway
Chicago 16, Ill.

Dear Mr. Tribolet,

I have missed seeing you at the recent rare book conferences but, of course, your name always comes up and I am glad to have heard that all seems to be going well with you.

Since I last saw you in November of 1962 I seem never to have had time to carry out my intention of sending you a few of our rarest books for restoration. This I should like to do now and I write at this time to ask whether I may send you our Latin Herbarium of 1484 and our Fuchs, De Historia Stirpium of 1542.

The first of these is a small quarto of perhaps 175 pages, completely disbound and with the corners of most of the leaves pretty badly rolled up. The original cover is a flexible leather, through the back of which the sewing was carried to pass over two blocks of thicker leather, one near each end of the spine. The three pieces of leather are with the book, but there is no sewing left. It would certainly mean an extensive job to put this volume into authentic more or less original appearance but, as you know, it is one of the most famous books in early botany as well as having been done by Schoeffer. Accordingly, I think it is worth doing well if you would wish to undertake it, although one may question the wisdom of spending more on restoring it than a copy in good condition would bring on the market.

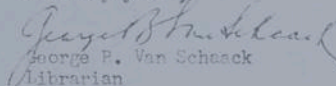
The Fuchs is an uncolored copy bound in full leather over board. The spine is not broken so far as I can see, although the cords are all broken off at the ends, the first few gatherings at both front and back being separated. It is doubtful that complete resewing would be necessary, but I am not a very good judge of that. The front paste-down is a portion of a textual vellum manuscript and the back one of a musical manuscript. These presumably remained on the boards from the original binding since the spine has been replaced at some later date and the conjugate portions of the paste-downs are lost. What should be done with these, if anything, but leave them alone, you would know better than I. In any case, this volume should be put in as near original appearance as reasonably possible.

If you could consider undertaking the restoration of these two items for us in your near future program, I should like to send them to you at this time for your examination and advice, in particular some estimate of the probable amount you would expect to have to charge for what you would advise being done.

I take this opportunity to repeat my invitation to have you visit this library if you get to St. Louis.

With kindest regards,

Sincerely yours,


George P. Van Schaack
Librarian

GPVS/cl

December 14, 1964

Mr. George B. Van Schaack
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis 10, Missouri

Dear Mr. Van Schaack:

Thank you very much for your letter of December 1, and the two little pamphlets you were good enough to enclose. I shall look forward to reading them within the next day or two.

The two books were received and they arrived in excellent condition. They are now in our vault pending our correspondence.

First, considering the Latin Herbarius - 1484, and the leaves in particular, obviously, one could spend a fortune straightening the corners of the leaves and probably completing them with matching paper but I don't think you would like to go this far. As an alternative, I would like to suggest that we straighten the paper at the corners and then stiffen the fiber slightly by the application of a thin gelatin size. The gelatin wash, as you know, would not add color to the paper nor would it be seen, but it would give the slight rigidity to the paper that it needs. Next, we would repair any major tears and complete the first flyleaf with matching paper applied to the incomplete corner. A blank flyleaf of antique paper would be added to the very end of the book to give protection to the last printed page which is now more or less exposed. All of the folds at the backbone that are now weak would be supported with a thin strong paper.

Next, we would sew the book in the original style using a linen sewing thread identical in thickness and texture to the original. The original cover would require very little attention but there are a few tears in the margins that should be supported, and this would be done.

At the moment, I can not determine how the little piece of manuscript vellum that you included in the envelop was used. Obviously, there is a piece of thread going through it, so it may have been on the inside of one of the first or last signatures to give additional support. Perhaps after we get into the job, the use of this piece of vellum would become apparent. Have you any ideas?

two.

Mr. George B. Van Schnack

December 14, 1964

As to cost, we estimate the price of this job would be \$300.00. In some instances, we can establish a maximum price and then ultimately bill at a lower price if our experience is good. However, in this case, I am quite certain we will need the entire \$300.00 to do the work described above.

The De Historia Stirpium - 1542 should present no insurmountable problems, but I am very sorry that it had been repaired before, for this always makes our work slightly less successful than it should be.

The first and last flyleaves are not original, as you know, having been added, I presume, at the time the book was repaired or possibly even earlier. I suggest we replace them with matching paper but retain the first leaf and probably hinge it to the new flyleaf so it becomes part of the record of the book. I would also trim it down slightly since it is not a precious part of the book, so the raggedness of the edges, particularly the top and the fore-edge, is removed. The first and last signatures that are not securely fixed to the original sewing would be repaired at the folds and resewed. Currently, it appears that the balance of the sewing is quite sound. The broken cords from the original sewing would be extended by the addition of new leather thongs, and these, in turn, would be laced into the boards. Headbands would be sewed at the top and bottom of the backbone. The corners of the original boards would be repaired with leather, and, of course, new leather would be applied to the backbone and over the sides approximately 1". Finally, we would do some blind tooling on the backbone and over the portions of the new leather on the sides. If you would like a title on the backbone, this, too, would be done in blind.

The cost of this work would be \$260.00.

If we are favored with these commissions at the present time, it would be desirable to schedule them for completion during the middle part of 1965 if this arrangement would not conflict with any plans you have.

If I can give you additional information or be more specific about some parts of this proposal, please let me know.

A very Merry Christmas to you.

Cordially yours,

EWK/es

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE
ST. LOUIS 10, MISSOURI

December 18, 1964.

Mr. Harold M. Tribolet
R. R. Donnelley & Sons Company
350 East Wenty-Second Street
Chicago, Ill. 60616

Dear Mr. Tribolet,

I am very glad to have your letter of December 14th with the word that you can undertake to repair the two volumes I sent you during the coming year. I agree with you entirely on the suggestions for repair which you have outlined in such detail--in fact, in so far as my knowledge extends, your proposals are essentially those I had in mind when I sent you the books. The prices you have quoted are reasonable and I have incorporated them in our purchase order which is enclosed with this letter.

The little piece of paper on a wall of which you speak was put surreptitiously inside of one of the signatures to give additional support to the binding in fact, this little rectangular piece was found inside the first signature of the book having been placed in the envelope to make sure it was not lost. I think it would be well to replace it and perhaps even to supply new pieces at the three other positions where such pieces must originally have been used. I don't recall having tried to discover whether further pieces were used with later signatures.

Your greeting of "a very merry Christmas" has just had a special realization. In this morning's mail the Garden received a thousand dollar check to be used for the library, in particular, if needed, for the repair of old books. I should like to spend at least some of this with you and wonder whether you could consider taking a third book for 1965. I know the pressure there is upon you to accept more work than you have time for and wonder since my talk with you two years ago whether you have discovered anyone to whom lesser commissions can be entrusted. At least during this time I seem to have heard of more people announcing their availability for repairing books, but I am not aware of having heard any particular ones recommended. If you could suggest the names of one or two such I should be most grateful.

May you too have a merry Christmas,

Cordially yours,

George B. Van Schenck
George B. Van Schenck
Librarian

GWS/el

November 23, 1965

Mr. George B. Van Schnack
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis 10, Missouri

Dear Mr. Van Schnack:

Thank you very much for your letter of November 10.

I was very sorry to hear that you were ^{any} ill following your European trip. Obviously, being sick under ~~these~~ circumstances is unfortunate, but I hope that your European itinerary was not changed because of your illness.

Under separate cover by Express prepaid we have returned the two books we have had in our vault during your absence. Although they were finished some time ago, we decided to hold them until we knew you had returned.

Incidentally, in the case of the Herbarius, 1404, we found that the first blank flyleaf had been erroneously placed at the front. It is now at the back where it belongs. K

We would like to do the set of Redouté in 1966, and I think your suggestions are quite sound. If you believe you will need a quotation for budgetary reasons, perhaps you could send one of the representative volumes and we could then issue our proposal and estimate.

I would certainly enjoy hearing about your European experiences before they become ancient. If you have an occasion to be in Chicago, please let me know.

With best wishes, I am

Very truly yours,

EWZ/vv

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"

2315 TOWER GROVE AVENUE
ST. LOUIS 10, MISSOURI

December 15, 1965.

Mr. Harold W. Tribolet
R. R. Donnelley & Sons Company
350 East Twenty-Second Street
Chicago, Ill. 60616

Dear Mr. Tribolet,

Please forgive me for being so tardy in acknowledging receipt of the two volumes shipped to us at Thanksgiving time. I was very happy to open the box and find these old works so excellently restored. We did right, I believe, in doing no more to the Latin Herbarius than we planned to--it is now back in consultable shape, suggesting what it was originally but not assuming its actual original condition--I am very pleased with it and so was Dr. Gates, the director. The Fuchs is equally satisfying and I feel we did right with it also--Dr. Anderson, when told that the leather on the spine was new although it looked of the 16th century said 'Oh, but that is cheating'--I don't think I agree here.

I am now looking forward to seeing the Crescenzi, for I can imagine you have made something very good out of it--it was a fine piece to begin with. As soon as the holiday fever is over I shall box up the eight volumes of Redouté and ship them to you. Shall I make a special arrangement for insurance or is that covered by your own policy for incoming material? I believe the value of this work should be set at \$ 25 000.

With all good wishes for the holidays,

Cordially yours,


George B. Van Schaeck
Librarian

GB/S/cl

MISSOURI BOTANICAL GARDEN

"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

February 18, 1969.

Dear George,

I think it is high time to write to you again. Unfortunately, I don't have your last letter with me, but thanks a lot for editing my so-called manuscript. I did what you^{be} said and hope it will turn out all right, except that I am, of course, very much worried about the statement that our copy maybe perhaps the only in the States. Well, we shall see what the reaction will be, but hopefully there won't be any, for the simple reason that I am pretty much convinced that nobody reads this article anyway with a few exceptions. Barbara was just too pleased to get your letter and praise for the last Bulletin and the fact that you wrote the Director.

We have now a fund drive for three million dollars under way, however, also the employees of the Garden, including the cleaning women, are supposed to make a pledge. I wouldn't be surprised if you receive a pledge card. We had a so-called kick-off luncheon downtown, and lots of speeches were being made. Dr. Steere made one of them, very good, I thought, and now we shall see what happens. I believe I told you that we got the grant from the National Science Foundation for the library and herbarium and the storage building is finished and the herbarium has already moved their cases over there, but we still have to wait for the shelving, which has been ordered, but apparently takes a long time to come. Miss Maddix already interviewed a cataloguer, her name is Mrs. Bahr, she was a student here at one time, has a masters in botany, may be you remember her, but possibly under her maiden name which I don't know. I imagine they will hire her. The downstairs cage is now practically empty, i.e. only furnished with office furniture for the ~~xxxxx~~ cataloguer and her helper. At the present time, Mrs. Eisendrath works there. I suppose you know that she is now on the staff, formal title 'Historian'. We also have a young Junior Leaguer who works as a volunteer for one day a week.

Mr. Fechner is leaving too, apparently he has reached retirement age and a new man has already been hired, whom he is working in.

Olga is expecting a baby any minute. Tom Elias has lined up a job at Harvard, Arnold Arboretum, and is moving there in June. Most of our students will be leaving us. Dan Austin in going to Brazil for a while and the rest will probably finish and move on to better pastures. ^{Caree}Card, the new girl we had after you left, has left too and we have somebody else now. Mary Dinsmore, the girl I once interviewed and was then hired by the Director's office has left too, didn't like it.

Mr. Fechner asked me to ask you what is in the box at the bank for which he has to pay \$ 6.00 storage per year. Do you know?

By the way, I ~~just~~ just learned that the magazine ~~THE CONNOISSEUR~~ The connoisseur in its latest issue has an article about Redouté and his works and apparently also mentions prices his works bring at auction. We are trying to get a xerox copy of it from the Public Library.

That's all I know, I hope you are in good health and escaped the Flu and other winter hardships. Here everybody had it and it lasted forever. I shall send you the next Bulletin as soon as it comes out and trust you will be mild.

With warmest greetings,

Carla

P.S. Nothing new concerning the Liliacées. Have you heard anything?

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

December 8, 1968.

Dear George,

I found the 1576 da Orta & Monardes book. The first part has 93 pages, even though page 92 is the last one with a number on it. Then comes the Monardes part beginning with page 1 (Libro primo) which goes to page 24 and then libro seconde which ends with page 44, as you suspected. The Monardes part is, of course, continuously numbered.

I have before me now the 1575 Monardes Della cose che vengono portante... The end of libro I is on page 78. It says 'Il fine del libro primo', on page 79 il libro II starts and on page 140 the first part of libro II ends. It says on that page 'Il fine della prima parte', then come 4 empty pages. Then comes what I xeroxed and wrote 'this follows the 4 empty pages'. Then from the page where I wrote 'this goes on to p. 159 Il Fine', I only copied this first page. After page 159 comes the unnumbered index of which I also send you a xerox copy. I hope this is clear, if not, write me what else you want me to xerox.

I am glad you had such a good time in California. On Friday, just after leaving the building I met Ray Fosberg who was just coming in with Dwyer. We did not have much time to talk, but he told me ^{he} wanted to see you and then found out that you were in California, just at the time he had been there and at the same place. Our new student Scott Meri from Wisconsin told me that Iltis will be here on Thursday, I am looking forward to seeing him and hope that he comes to the Garden.

I am so glad to know that I may get something on the life of Peter Schöffer from The Olin library. After reading all your annotations and notes I am, unfortunately, still a little bit confused. You did not answer my question as to the binding of our copy. It is not the original, I presume. What do you know about it?

Well, it is Sunday, almost 5 o'clock and I think it is quitting time. Barbara told me that whenever I write you to give you her love which I herewith do and please consider this a standing order or continuation. Thanks again, best wishes,

Sincerely

Carla

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

January 9, 1969.

Dear George,

Thank you very much for sending me your translation. I am afraid you went to too much trouble and work about this. Barbara will not be able to use the whole translation, so I am just picking out some of the 'virtues'.

I am enclosing my manuscript, as edited by Barbara, for your perusal, but I am afraid, you won't like it, and certainly find many things in it incorrect, probably especially the part where I say that the only copy in the United States of the 1484 edition is in our library. Barbara accepts it and seems to like it and I can only beg you not to write 'a letter to the editor' pointing out mistakes.

I had not only a very bad case of the flu, but also broke one rib the week before Christmas, right here in the library. I walked backwards with one of the our little metal book trucks towards my desk and the top drawer of the metal filing cabinet was open and I ran right smack into it. I am allright now, but at the time it was anything but pleasant.

I am also enclosing a xerox copy of a page in the Kraus catalogue concerning the Lililiacées.

I hope you had a good holiday season and that your toe is all healed up and that you did not catch cold. Nothing new here, except that you may now call me 'Frau Doktor' since Morton got a beautiful album containing a certificate from Washington University, allin Latin, stating that as of December 11, 1968 he is a Doctor of Jurisprudence. The funniest things happen.

Thank you again very, very much for all the trouble you took on the Schöffer and please let me know what I can do for you here any time.

With my very best wishes, and greetings,

Carla

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND S-0440

November 30, 1968.

Dear George,

Finally! I wanted to write to you so often, but either just didn't have the time or was too tired. We have here a new project, i.e. actually W.U. has it, but they need our cooperation. They want to publish a new Union List of their and our journal holdings (fortunately only the currently received ones) and, as usual, I was elected. I have^{to} make cards for every journal we are currently receiving, giving title, publisher, date of first number and place of publication. I have to use the ULS and make a note of all changes of titles etc. You can imagine how time consuming that is. Furthermore, Barbara is constantly asking me to start the translation of the German Engelmann letters, she just has no idea what a job that is. I looked at about thirty of them and half of them I just can't read, some of the handwriting is impossible, that has nothing to do with it being written in German, it is just hard to read handwriting, just as yours is, for instance, or mine to some people.

Furthermore, Morton moved his mother and sister to St. Louis, they bought a house in Glendale and I have to spend a lot of time with them getting them settled and going shopping with them etc. And, of course, they are not happy here, it is a crazy thing to transplant a 85 years old woman after having lived over 30 years in Minneapolis, where all her friends and interests are. But there was nothing I could do.

I hope you had a good vacation in California. I don't believe I wrote you about our last Symposium. I know I wrote to somebody about it, but I believe it was André. The majority were strangers to me, though some of them I did not remember seemed to remember me. Iltis was not here, nor Fosberg, nor the Jones', but he is getting better and is going around in a wheelchair and even goes sometimes to the herbarium. Have I told you that Cutler told me that Marion Hall told him that they were extremely satisfied with your work there, happy to have you and that you were exactly what they had been needing there. So that should make you feel good.

Now comes the bad part. As I told you, Barbara plans to use for next year's Bulletin as covers only illustrations out of Schöpfers Latin Herbarius and asked me to write an article about him and it for the March-April Bulletin, since the January-February Bulletin will be entirely devoted to fund raising and just has an illustration out of the Herbarius on it's cover, with just the name of the plant given, but no further description. I have read everything I could get hold off about the Herbarius (at least, I believe so) and find it entirely impossible not to repeat the things written by Agnes Arber about this work and by other authors. I also found that Arber copied almost word by word from Payne's paper on "The Herbarius" read before the Bibliographical Society. Since I found no evidence that this was copy-righted, I intend to use part of what he wrote.

He and Arber (probably copying from him) say that the plants in the Herbarius are all German native or garden plants, you also wrote me that it contains only German plants. It is true that the names are given in German as well as Latin, but Payne as well as Arber also mention that this work was probably printed from a manuscript Peter Schöffer found somewhere, that most of it was probably written hundred years before it was printed. He also wrote that it is a compilation from mediaeval writers, with some classical and Arabian authors. Why would an Arabian author write about German plants? In his History of Botany recently published, George H. M. Lawrence writes: "Two groups of incunabula followed, each passing through several editions or reprints (usually pirated). The first was the Latin Herbarius, or Ortus Sanitatis meaning (Garden of Health), and the second was the German Herbarius, or Gart der Gesundheit, also meaning "Garden of Health". The first edition of Ortus Sanitatis, an abundantly illustrated work, was printed in 1484 by Peter Schöffer of Mainz. Its text is in Latin.

Its illustrations are highly stylized, are presumably more of Mediterranean than of Central European plants.... What is true, are they all German plants or Mediterranean plants? I am inclined to believe you and Payne, but you must admit it is confusing.

Furthermore, our copy has no colored illustrations, has no title page and has this peculiar binding (I believe you said it was dog's leather). Please let me know what you know about our copy and how we acquired it (I know it is in the Sturtevant catalogue).

I am enclosing a xerox copy of two pages of Kleeb's A catalogue of early Herbals; mostly from the well-known Library of Dr. Karl Becher, Karlsbad. On the eighth line from above he writes "Only one copy in America (St. Louis), lacking the first leaf." It would be exciting if this is our copy.

Furthermore, I remember that you told me our copy is the second printing of the first edition. I read that the second printing was done by the brothers I. and C. Hist at Speier also in 1484. You will find this under item 4 of page 3 of the enclosed xerox copy.

I find all this very confusing and certainly am not very happy to undertake this task. So, any help you can give me will be more than appreciated. If you could annotate this letter, which might be easier for you than writing separately, I should be most grateful. However, if your time allows, write me as much as you can. I wish I could do anything here for you, but you seem to know everything.

We have a lot of new people here. André's successor is Dr. Duncan Porter who occupies André's old office together with his wife who is his secretary. He brought with him thousands of books, so that Walter Lewis has to buy shelving for him. His office is also being shared by Dr. Joan Novicke, but she rarely uses it, since there is no room for her specimens etc. on account of Porter's large library. In Will Blackwell's office

is now Marshall Crosby, he works on the mosses, looks about 17 and is very nice. Olga MacBryde (formerly Herera) works in Patty's little office next to Will's. By the way, Porter has a Derek Burch beard, only in brown. Patty's place has been taken by a girl named Sue (I forgot her last name), nice, quiet and pleasant. Mrs. Robinson was pensioned off on the day of the 65th birthday and now Melanie Brown is in full charge of the telephone room with all other duties that go with it, she is now a full-time employee and stopped being a 'floater'. I don't know how long she will last, she seems to me a nervous wreck and it is getting worse. The switchboard is going like mad, with so many more people here and especially in the ecology group since Dr. Gates got the Ford grant. I told you they are putting up a second trailer. There is now a Dr. Lanphear, a Dr. Hoffman, a Dr. Sally Walker, then we have now Jim Allman, the fund drive man, and his secretary, Barbara has a secretary which she shares with Cutler, in the director's office are now two secretaries and a new man, Andy Johnson, for program development. You can look at the back cover of the Bulletin I sent you. I hope you received it and the copy of the Annals. And here in the library we have now a full-time girl and a girl who comes three times a week and a shelver who comes every day. So it all adds up, and of course, we are now swamped with interlibrary loan requests since we have the xerox machine. In our new budget the salary for a cataloguer was provided for and that seems to be Miss Maddox' greatest need.

Erna Eisendrath invited Miss Maddox and me for lunch recently, just after their return from their Asian tour. They ran into Henry Hitchcock several times. Her husband just had a hernia operation, but is allright now.

I hope everything is fine with you and that you find time to write to me about this horrible man Peter Schöffner, I don't even know where and when ^{was} he born yet, but will try to find out. All I know, he came one fine day from Paris and joined Mr. Gutenberg. All my best wishes, and

Herzliche Grüsse,

Carla

P.S. Since I don't know how much postage I have to put on, the letter won't go out until Monday.

Dear Curlew,

I am very glad to hear from you - so much
news - many thanks. I should have written you
long ago to thank you for the Annals Bulletin
(and even before, the brochure) - I think your
contributions to the Bulletin are coming, and
very well, and I am bound to feel my
interest has been taken up by you so
completely and enthusiastically - I just wish
I could get down more now and have some
session with you over the books. In any
case please feel free to ask me as many
questions as you need answers for. Thanks
for letting me enclose these this time by
attaching of a copy of your letter and the
'Herbals' page you sent, plus some
copies from Innumerable in Ann. Lib. Klebs
worked way back, so his reports are
not as exact as those I got. I
also suggest several readings, which
I think will be of great value to you.

find the fascicle of Just der Gesundheit 1488
I think there is also something for you in
Fischer's Die Pflanzenkunde der Mittelalter (or
some such title), certainly in one of the
volumes of Meyer's Zeichnungen der Botanik
and in Tschisch's big work (ed. 2, incom-
plete) on history of pharmacology ^(in German) -

I can't remember name, but if you are on
resolving case (a large blue covered volume)
it should be on the shelves in section K
(green label)

By all means there is something you
can do for me. When I was in California
I bought a 1589 copy of de Orla &
Monardes - it is a bibliographic curiosity
and I am having a lot of trouble tracing
its history. What I need is the Franceses
Jussu, N. B. Monardes de vida y en
Digitized by the Hunt Institute for Botanical Documentation

shelf. It is about 8" x 6" x 3/4", in a
reddish orange cover. I have seen the
copy here at the Newberry Library, but
it cannot be borrowed, and there
hasn't been time to read all this I
need to. If you can find it please
ask Miss Malloy to have it sent on
I.L.L. + M.B.G. doesn't have this work, but
perhaps you remember the 1576 de
Orto (+ Monardes) *De libri de Histria
de i Remplori etc* which I bought
from Italy about the time you came
(and later I bought from Sinner, for
nearly the first part, 92 leaves)
If you can find it please let us know
how the Monardes part is pagged (or
leaved) - I think the last leaf must
be washed. K.Y.
Also M.B.G. has a 1575 Monardes

Della could you very soon perhaps
send 'Andie O'Connell'. If you can
find it, how is it fayed? I think
the first ~~two~~ part (of two Libs) is
fayed up to 109, and the second
part (of two ~~last~~ Libs plus the 'Libro
de Reue') is fayed separately up to
131 (the second page of the Epitome)

If I am right does the first part
p. 87 begin 'termine, prouca il
redore, --' and the second
part, p. 102 begin 'Libro che
tratta della Reue, --'.

Yes, I had a very good time in
California - three weeks in the
beautiful houses in the woods north
of San Francisco, with several trips

his son (also, it seems, very well) in the summer of '87. He is a teacher now at 68, twenty five years older than when I saw him in 1961.

Again, many thanks for your letter. All good wishes.

P.S. If you wish me to let him find any time I need you in Berlin.

MISSOURI BOTANICAL GARDEN
"SHAW'S GARDEN"



2315 TOWER GROVE AVENUE
ST. LOUIS, MISSOURI 63110
TOWNSEND 5-0440

October 1, 1968.

Dear George,

I have more than a guilty conscience for not having answered your letter to Miss Maddox which she asked me to answer since she was on vacation when I returned from mine. Mine was dull, but restful and fortunately my mother-in-law is moving to St. Louis now, so we won't have to go up to Minnesota all the time.

Thank you for your information regarding Trew and Redouté. We are exhibiting both right now expecting 25 young people who were trained to be guides in the Garden for the visitors who want them. Miss M. has studied the book edited by Buckman about the rare book meeting in Kansas and also Lawrence. By the way, Lawrence (his Majesty I mean) says that Schoeffer was the son in law of Gutenberg while Buckman says that Schoeffer married the daughter of Gutenberg's partner, a man by the name of Fust or Fuszt. What is right? Barbara plans for the next year, if possible, to use exclusively the illustrations in the 1484 Schoeffer and I am supposed to write a few lines and would like to know what is what. I wish you were here to write these things, after all, it was your specialty. I finished the sorting of the reprints and might start to translate the Engelmann letters, but first I want to xerox and read them and see whether they are worth translating. Barbara might want to publish those too.

There are lots of changes here at the Garden. A Dr. Duncan Porter has taken Andrés place for the Flora of Panama and a young man by the name of Marshall Crosby has taken Will Blackwell's place. He is working on Bryophytes. Joan Nowicke, or Dr. Nowicke now, works here too in Andrés office (wrong accent). Then there were ~~too~~ many new people hired to work for the the called 'ecology group' in the trailer. We have two now and a third is ~~xx~~ on its way, all this to make America beautiful.

We have a few new students too, one of them from Wisconsin was Iltis' student. He said that possibly Iltis is not coming to the Symposium and I am disappointed, since I would like to see him again, but I can understand that he might not ~~xxx~~ want to come. I presume that the Jones' won't be here either and you won't be here, so everything will be quite different. Dr. Anderson, by the way ^{was} ill again and was in a hospital with a nervous breakdown, I was told, but only for a short time. He's back here now. The Allwissende has a new assistant now and there are oodles of secretaries in the remodeled office now. Things are really booming here, but I am sure you won't miss it.

How do you like your work now? I sincerely hope you are more satisfied there than you were here.

Henry Hitchcock stopped in the other day (he always does it when he is in the building) he has just come back from the east, was asking about you, said he is leaving again in a week and hopes to see you when you come to St. Louis. When will that be? I am enclosing a letter to you, since I don't know whether it is to be sent by the Library, also, and if separate letter I am sending you the

tpi for volume 5⁴ of the Annals. I sent you the Annals and the Bulletin and hope you have received both.

I can't think of any questions today, furthermore it is early in the morning and also I am sure you will be glad not to have to answer any.

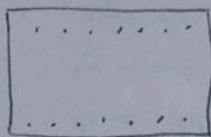
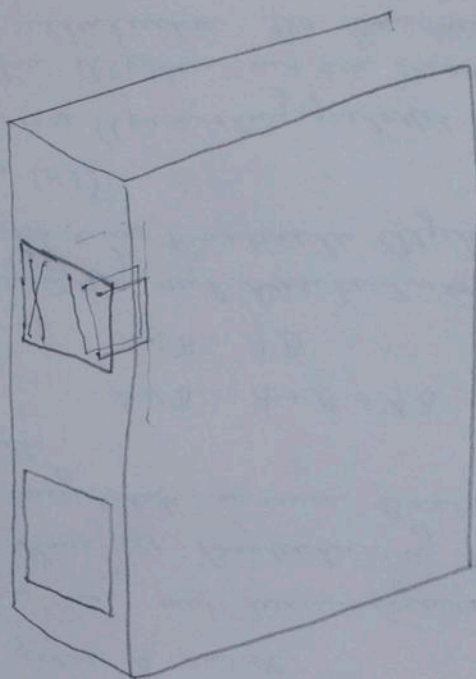
By the way, I congratulate you on the neatness of the typing in your letter to Miss Maddox. Your typewriter must be good and you too.

Best wishes and greetings,

Carla

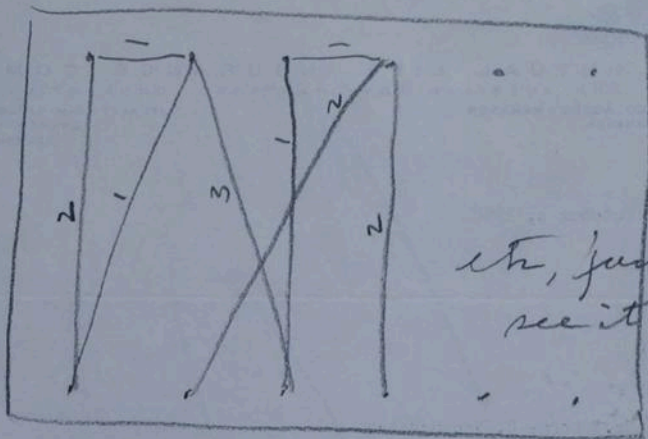
The binding of the Herbarium (1484), which is con-
temporary with the book itself, is of particular
interest because of its rarity and construction.
In the standard method of binding the folded
sections are sewn onto three or four cords which
lie crosswise on the back of the book and account
for the ridges seen on old bindings. ~~In the sewing~~
~~a single thread passes through the inside of each~~
~~fold, passing out through a hole at its~~
~~outer the level of each cord to encircle it~~
The sewing thread passes back and forth through
the folds of the sections going outside at each
cord to make a loop around it. It is then to
the lower ends of the cords that the corners
are attached, the cords being laced through
holes in the boards. Finally the whole
was covered with leather.

In the binding of the Herbarium there are
no cords - the covering material - here a
single piece of lamp glass, is sewn to
the back of the book as the sections



On the back of the book
 there are two pieces of ^{thick} leather
 like the figure, punched with
 holes - how many ^{in each row} please? - and how are
 they joined by thread? Please draw very
 clear figure for each piece, about

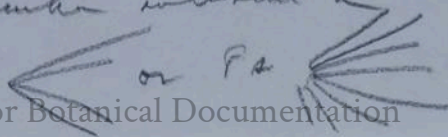
this size



etc, just as you
see it

and write for each join how
many threads ^{(Perhaps also there} of you draw
the figure correctly I shall
be able to tell how the sewing

was done. Also please
tell me how many ^{sections} ~~signatures~~
there are - it is a quadrant, but
I cannot remember whether a
quadrant in 4 or 8



are threads between holes on same level

You can tell by counting the
number of leaves (not pages) between
threads in the folder - then count
the number of folded sections.

I think it is a quarto in 8s
and that there are 20 or 22 sections.

I cannot remember if it is 'signed'
at all - i.e. with signature marks
at foot of first (and maybe other)
page of each section. There

are 150 leaves each with a
blank, plus 2 (?) pale leaves,

plus 10-15 leaves at back
This would be about 160(?) leaves
giving 21 sections of 8 leaves each

If there are 24 sections, say, there
should be 24 holes in each row
— I don't think there are, so some
holes must do double duty —
that's why I want exact pictures
of the thick pieces of leather.

February 20, 1968.

Dear George,

I just did not have the time to write yesterday. It was good to talk to ~~to~~ you. Since there were no unsolvable problems last week, I have not written. Now I have a question. Blackwell wanted to look at 'Calques des dessins', that was his only reference, but he thought the author might be Candolle. I found in our catalogue a card:

Candolle, Alphbnse de.

Calqués des dessins de la flore du Mexique, de

Mocino et Sessé ... 2 v. F.

It was listed in the folio list in the folio room, however, the entry was scratched out in pencil and I did not find the books. This ~~is~~ nothing unusual, but what puzzled me then was that I could not find any reference whatsoever to these two volumes anywhere. Blackwell said he did not unbedingt have to look at the book proper, but he wanted to know a little more about it. I checked the British Museum Catalogue, Arnold Arboretum and Pritzel, Kew and found no reference whatsoever. We looked at the Sessé, but that was not it. Apparently just illustrations or figures. Do you have the slightest idea what he is referring to and why the entry was crossed out in the folio list?

Another thing came up just now. Miss M. is trying to find^{out} the exact holdings of the library and had our shelper count the books on every 20th shelf and then made the necessary multiplication to arrive at a rather close number. Anyway, it turned out that we apparently have 35,344 periodicals and 48,758 books and pamphlets. This is so much less, than was always estimated that she asked me to ask you how you arrived at the figures you used to give, namely approx. 60 000 books and about 70 or 80 000 ~~xxx~~ pamphlets. May we please have your comments?

A busy day again today, your friend Mohlenbrock was here and two other students from Carbondale, also the seminar was today and the place was crowded and we busy.

There will be some changes here this year. As I told you Blackwell is leaving and Joan Novicke will take his place. They^{are} now looking for people to replace André, Dr. Suda, who just left, and Patty Putman who is going to marry in August. Susan is going to stay one more year, since her husband

won't get his Ph.D. until then.

Dr. Cutler asked about you recently, mentioned he hasn't heard from you since you left. Today it is cold again, 22 or so, and I think we had enough winter, except that I dread the summer so much more. Morton and I had planned to go Europe this year, but we don't know yet how the travel restrictions by Mr. Johnson will affect our plans.

Sin otro particular, saludo a Ud. muy atentamente,

Carla

(A gentlemen from Tucuman wrote to me today.)

AUGUST 21, 1968.

Dear George,

I hope it is not as hot where you are as it is here, the heat is really unbearable. I am going away to Minnesota next week and hope it will be cold there.

Now I come again with questions. We have a new man here now who is in charge of the fund drive which is to begin next January. Among other things, he wants to increase the membership of the Friends of the Garden and came up with the idea that each new member, each member who renews his membership and everyone who recruits a new member should get a print of a flower out of our Redouté books. He had Miss Rauh, curator of the Art Museum over here, and they decided on one illustration in the Malmaison book and one ~~two~~ in two volumes of the Liliacée and one in Trew (Plantae selectae. He would like to have some information on these books so that he could write a description of the history of the books which could be sent out with the prints.

In Trew we found a piece of paper on which was pasted the enclosed xerox copy note. Mr. Allman, he is the new man, would like to know ~~xxxx~~ or rather Miss Maddox would like to know who wrote and where the information comes from that: Perhaps the finest set of all is one of the first five copies of Redouté's eight-volume work on lily-like plants. We checked all the available bibliographies and all say that the Liliacée were published between 1802-1816. Stafleu mentions that the ordinary edition was published in 280 copies, and that a larger ~~xxxx~~ ~~xxxxx~~ (broadsheet) edition 24 x 18 in. was published in 18 copies between 1807 and 1816. Question: Is our set the ordinary edition published in 280 copies or the one published in 18 copies? The measurements seem not to coincide. Furthermore, Miss Maddox would like to know if you know how many copies of this work exist in this country. ~~xxxxxxxxxxxxxxxxxxxxxx~~

As to Trew she ^{would} ~~should~~ like to know also if you know how many copies were issued.

Miss Maddox just found out that volume 2 of the Liliacée gives the date 1805 and that she is convinced that we do not have the large edition. The title page of volume 1 is missing.

If you would be kind enough to care to answer these questions, please write to Miss Maddox since I won't be here next week. Thank goodness! We have now 95 degrees and probably 150 per cent humidity and a student of Iltis is here and was here yesterday and I had hardly a chance to stay in the airconditioned room.

I hope all is well with you, may be the Cutlers came by to see you on their way to Minnesota, and I also hope for an early winter.

With my best wishes,

Carla

I am sorry, it is such a messy letter.