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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.

W. W. CAMPBELL,
PRESIDENT OF THE UNIVERSITY

UNIVERSITY OF CALIFORNIA
SOUTHERN BRANCH

ERNEST C. MOORE, DIRECTOR

LOS ANGELES, CALIFORNIA

January
25 1927

Dr. C. ~~R.~~ Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Dr. Ball:

I am forwarding by prepaid express a number of willows collected during the past summer in Northern Idaho, for which I will greatly appreciate your determinations. In collaboration with Dr. St. John, I am preparing a flora of Northern Idaho including the region north of Clearwater Parallel, being concerned particularly with the cedar-hemlock climax. Would you be willing to prepare for this publication an account of Saxif~~ix~~? I await your reply with much interest.

Very truly yours,

Carl Epling

Carl Epling,
Instructor in Botany.

CE:DB

Time of publication is indefinite, probably about a year hence. Am going to leave this summer to complete the work & expect to have it ready by that time.



February 17, 1927.

Prof. Carl Epling,
University of California, Southern Branch,
Los Angeles, Calif.

Dear Professor Epling:

Your letter of January 25 was duly received, and the box of willows arrived yesterday. I looked at a few of them last night, and found that they represent very critical material. That section in northern Idaho is relatively little known. Dr. Piper, however, made a collection of the willows around Priest Lake. His material shows that, in general, the vegetation is luxuriant, giving the willow species a somewhat different aspect than they have under drier, or less favorable conditions to the south and west.

I am especially glad to have this material just now, as I am publishing on the willows of Canada, in the Canadian Field Naturalist, two papers having appeared last fall. The Canadian material from the Kootenay district immediately to the north, is difficult to handle because of the variability from the normal expression elsewhere. Your collections doubtless will match those rather closely. I will work up the material as rapidly as possible, and return it to you.

I note that there are one or two unmounted duplicates of some of the numbers. Did you intend that I should retain a specimen where there were duplicates, or did you wish the entire material returned? I infer that you wish to have it all returned, because I note that the labels have not been written for some of the mounted specimens, the labels bearing only the collection number. I am just as glad to return the material when all of it is to be returned as when I am permitted to retain specimens. On the other hand, I am glad to obtain specimens where they are available, because my own collection is much larger and more complete than that of the National Herbarium, the only other collection here, and therefore, I am enabled to handle critical material more promptly and satisfactorily. Naturally, therefore, I add to my own collection whenever I can.

As to writing an account of the willows for your forthcoming Flora of Northern Idaho, I will be quite willing to do this, and think that I can present the material by the time you will need it. Do you

- 2 -

want a form in scale of presentation similar to that in the
"Illustrated Flora of the Pacific States?"

Very sincerely yours,

Carleton R. Ball,
Senior Agronomist in Charge.

CRB-BWG

February 25, 1927.

Dr. C. R. Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Dr. Ball:

It was my intention, which I must have failed to state, that you retain any duplicates which you desire. In this connection I am hopeful of having a man collecting in the St. Joe Forest this spring, and possibly one farther North. I shall forward this material to you when received.

I cannot give you a date of publication for the Flora, since much depends on what I am able to do in Washington and Cambridge this spring before going abroad. There is accordingly no pressing need for the account of the Willows, and I will plan to discuss the matter with you sometime in June when I expect to be in Washington.

With many thanks, I am,

Yours very truly,

Carl Epling

Carl Epling,
Instructor in Botany.

CE:HD



September 26, 1928.

Dr. C. R. Ball,
Bureau of Plant Industry,
U. S. D. A.,
Washington, D. C.

Dear Dr. Ball:

I am replying herewith to your letter of July 2, 1927, to acknowledge receipt of the package of willows forwarded at the same time. Pray accept my thanks for the determinations.

I am pushing the flora and having it typed. I shall be glad to have your account of the willows at any convenient time. I believe that there is more material at Spokane. If so, I shall cause it to be forwarded to you.

Yours very truly,

Carl Epling

Carl Epling,
Assistant Professor
of Botany.

4 spec.
Thousand Palms, Riverside Co., Calif.
C Epling, March 25, 1928

S. gooddingii Ball, #8

S. exigua Nutt. #8
(capsule short-pedicel)



6-8 ft or more, arrays both
" " " " " "
" " " " " "
glabrous, style sheath
sessile

W. W. CAMPBELL,
PRESIDENT OF THE UNIVERSITY

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

ERNEST C. MOORE,
DIRECTOR

September 25, 1929.

Dr. Carlton R. Ball,
Bureau of Plant and Industry,
Washington, D. C.

Dear Dr. Ball:

I am acknowledging herewith your communication of recent date. Unfortunately I do not have duplicates of the two willows from Thousand Palms. If they are of particular interest to you, however, keep them. If not, I shall appreciate their return.

You will recall that some time since when I was in Washington, I requested your help in the preparation of an account of the willows of northern Idaho for my forthcoming manual. I now have the manuscript completed with exception of the willows and carex which is being done by Mr. McKenzie. If you still wish to prepare this manuscript, I shall appreciate it at your earliest convenience. I have not felt that I was able to study the willows with sufficient care since most of my time has been spent in that region after most of them had flowered.

I am

Yours very truly,

Carl Epling

Carl Epling,
Assistant Professor
of Botany.

CE:WS



October 12, 1929.

Dr. Carl Epling,
Assistant Professor of Botany,
University of California,
Los Angeles, Calif.

Dear Dr. Epling:

10/17/29
Sent by
to mail

Your letter of September 25 is received and noted. I will look up your two willows from Thousand Palms and return them to you. I suspect that they have already been mounted, but that will not worry me.

Regarding manuscript on willows for your manual, will say that this has been the hardest year of my 30 years in Washington and I have done nothing whatever on willows and have been unable to keep up with my office work. However, things are beginning to slacken up and I think I can give you what you wish.

Please send me copy of a page from your manuscript, showing the description of a genus, the form of keys you use for separating the species, and the treatment of one representative species. I will then prepare the manuscript in accordance with these.

Very sincerely yours,

Carleton R. Ball,
Principal Agronomist in Charge.

CRB:RL

W. W. CAMPBELL,
PRESIDENT OF THE UNIVERSITY

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

ERNEST C. MOORE,
DIRECTOR

October 25, 1929.

Dr. C. R. Ball,
United States Department of Agriculture,
Washington, D. C.

Dear Dr. Ball:

I am enclosing herewith two sheets, illustrative of the flora, as well as some paper upon which you may have the script typed if you desire. It is uniform with the remainder of the manuscript.

I was gratified at your consent to prepare this account. I have, in addition, a few more specimens in fruit, which I collected this last summer. I have never been in the region at a sufficiently early date to obtain very much flowering material; that is the reason why I am particularly glad of your consent.

In preparation of the key, I wonder if you will be able to make a leaf and twig key which will be useful during the time that field work is being done.

I am,

Yours very truly,

Carl Epling

Carl Epling.

E:R



Montia L. Miner's Lettuce.

Low, glabrous, rather succulent herbs. Leaves alternate, opposite or basal. Flowers in terminal racemes, reflexed in fruit, commonly white or veined with pink. Sepals 2, persistent, enclosing the capsule. Petals 3-5, equal or unequal, distinct or lightly joined at the base. Stamens 5 or 3. Capsule 3-valved, valves curling inward after dehiscence; seeds 1-3, small, usually black and shining.

Stem

Cauline leaves opposite, either numerous or a single pair subtending the inflorescence, these in one species united to form a disc.

Stem

Cauline leaves numerous, basal leaves none or few, plants more or less decumbent or prostrate.

Leaves commonly 1 cm. long, 1-2 mm. wide

M. fontana

Leaves commonly 2-5 cm. long, 5-10 mm. wide

M. chamissoi

Stem

Cauline leaves a single pair, opposite (joined in one species, forming a round disc); basal leaves several to numerous; plants commonly erect.

Stem

Cauline leaves joined and forming a round disc through which the stem passes.

M. perfoliata

Stem

Cauline leaves free, not forming a disc.

Plant 10-15 cm. tall; leaves linear or oblanceolate-spatulate.

Leaves linear, 1-3 mm. wide.

M. arenicola

Leaves oblanceolate-spatulate, 5-8 mm. wide.

M. dubia

Plant 20-30 cm. tall; leaves ovate.

Each pedicel subtended by a bract .5-1 cm. long

M. sibirica

Stem

Only the lowermost pedicel or none bracted
Cauline leaves alternate

M. asarifolia

Basal leaves few or none, cauline leaves 1-3 cm. long, expanded and scarious margined at the base.

Sepals 2.5-4 mm. long, exceeded by the petals

M. linearis

Sepals 2.5-3 mm. long, equal to or exceeding the petals

M. dichotoma

Basal leaves numerous, fleshy, in a rosette; cauline leaves .5-1 cm. long, not scarious margined at the base

M. parvifolia

1. M. fontana L. Water Chickweed. Annual, stems numerous from grass-like roots, slender, 5-15 cm. tall; leaves opposite, 5-10 mm. long, oblanceolate, ~~or narrow~~ at the base; flowers few in terminal racemes 1-2 cm. long subtended by a single bract, pedicels 3-8 mm. long; petals 2 mm. long, white, unequal in size, united at the base; stamens 3, capsule 1.5 mm. long, flattened globose, the valves curling inwards after dehiscence, seeds less than 1 mm. long, obovoid, roughened.

To be expected in our region in the mountains, in muddy places and along streams.

Beaver Canyon, Shaw.

2. M. linearis (Dougl.) Greene. Annual from grass like roots, branching from the base, the stems numerous, forming a small tuft 5-20 cm. tall; leaves narrowly linear and alternate throughout, 1-4 cm. long, 1-1.5 mm. wide, sessile and clasping; flowers in terminal 1-sided racemes, only the lowermost with small bracts, pedicels .5-1 cm. long; sepals becoming 4 mm. long, broad and rounded, persistent and chaffy in age, petals scarcely 1 mm. longer, white, distinct, unequal; stamens 3; capsule shorter than the sepals; seeds 1 mm. broad, lenticular, black and shining. (Claytonia linearis Dougl; Montiastrum lineare Rydb.)

grows freely
Hardly proper to our region. Occurring in dry soils, in association with yellow or lodgepole pine

Juliaetta, Darlington; Post Falls, St. John et al. 4327; Santa, Epling Wyckoff & Offord.

3 M. dichotoma Nutt. A low annual 3-6 cm. tall, branching more or less dichotomously from the base, the basal leaves soon withering, the ^{stem} leaves alternate, linear, scarcely 1 mm. wide, 1-2 cm. long; racemes 1-4 cm. long, bractless, the flowers arranged mostly on one side; pedicels 2-5 mm. long; sepals 2.5-3 mm. long; the petals subequal or shorter, white distinct; seeds black and shining, 1 mm. in diameter, lenticular.

Appearing as a diminished replica of M. linearis and growing with it abundantly, but apparently distinct.

Santa, Epling, Wyckoff and Offord.

4. M. parvifolia (Moq.) Greene. Stems tufted from a slender rootstock, ascending, 15-20 cm. tall, slender or filiform; leaves basal in a rosette at the apex of the rootstock, thickish and fleshy, blades 1-1.5 cm. long, oblanceolate to spatulate or subrotund, usually subacute at the apex on petioles as long or longer, ^{stem} leaves alternate, reduced upwards, oblong or spatulate, acute, commonly bearing bulblets of two unequal leaflets in the upper axils; flowers few in a terminal raceme 1-2 cm. long; pedicels commonly 1 cm. long, only the lowermost subtended by bracts; calyx 2.5 mm. long; corolla 6 mm. long, white or pink, the petals ^{notched}; capsule 1-2 seeded, shorter than the calyx, the seeds 1.2 mm. long, obovate, glistening but minutely pitted. (Claytonia parvifolia Moq; Naiocrene parviflora Rydb.)

Occasional on mossy rocks along alpine streams or on moist ledges, 3000 to 6000 feet, throughout our range.

Fish Lake, 6000 ft., Epling & Houck 9550; Upper Priest River, 3500 ft., Epling 7300; Priest Lake, Piper 3696.

5. M. chamissoi (Ledeb.) Dur. and Jac. Toad Lily. Low spreading plants, the stems decumbent or ascending, commonly 15-30 cm. long, branching, producing numerous slender stolons, these bearing bulblets at the tips; leaves in several pairs, fleshy, opposite, commonly 2-4 cm. long, obovate or oblanceolate, obtuse, acuminate at the base, reduced in depauperate specimens to narrowly oblong-lanceolate; flowers few in a terminal raceme 2-3 cm. long, often shorter than the branches, pedicels commonly 1-1.5 cm. long, only the lowermost with bracts, or bractless throughout; calyx 3 mm. long, the sepals

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

W. W. CAMPBELL,
PRESIDENT OF THE UNIVERSITY

ERNEST C. MOORE,
DIRECTOR

January 22, 1930.

Dr. Carlton R. Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Dr. Ball:

I am forwarding a few willows which I collected during the last summer in Northern Idaho. I thought you might care to include them in the treatment of Salix. There is nothing novel here, I believe, but all are in fruit, though late fruit, having been collected in July for the most part. I was unable to collect duplicates since I was back packing most of the time, but if any of the material should be of particular interest to you, feel free to keep it.

I shall be glad to have the manuscript at your earliest convenience bearing in mind, of course, the pressure of other matters.

With kind regards, I am,

Very truly yours,

Carl Epling

Carl Epling,
Assistant Professor
of Botany.

CE:WS



3814 Jocelyn St., N.W.
Washington, D.C.
Feb. 18, 1930.

Dr. Carl Epling,
Dept. Botany, U. of C.,
Los Angeles, Calif.

Dear Dr. Epling:

Your letter of Jan. 22, and accompanying package of willows, were duly received. I am returning the specimens by express collect and trust that they will reach you safely.

I inclose a list of the determinations, also a carbon copy of the list. I like to keep a check list of specimens determined, so that I can cite them later when recording distribution. These specimens have no numbers on the labels. When you number them, as I suppose you will do presently, please put the numbers on the duplicate copy of the list and return it to me.

I have lost my position in the Dept. Agr., having been framed and forced out under circumstances which naturally are not yet all known to me. On the face of it, the situation is some fiscal irregularities on the part of some subordinates on duty in the Midwest, and a new Secretary with no previous knowledge of the Dept. and its work. In seeking new positions I have the support of most of the high officials of the Dept. and of scores of scientists and administrators throughout the country. I mention these things, first because rumors have been set afloat by some one unfriendly to me, and secondly because I could use a summer job with an expedition if opportunity offers. Have had wide field experience in this country and Canada. I take the liberty of putting a statement of my experience into the packet I am sending back.

New, as to the manuscript, this change of circumstances has upset many things, as you can realize. However, while engaged in some agricultural writing, I hope to do something with willows also. Will try to get at it soon. If not, I will let you know.

With kind personal regards,

Very sincerely,

Carleton R. Ball.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

W. W. CAMPBELL,
PRESIDENT OF THE UNIVERSITY

ERNEST C. MOORE,
DIRECTOR

February 28, 1930.

Dr. Carlton R. Ball,
Department of Agriculture,
Bureau of Plant Industry,
Washington, D. C.

Dear Dr. Ball:

I regret very much to hear that you have severed your connection with the Bureau of Plant Industry, and hope that you may find a more congenial situation. I shall, of course, be very glad to mention your name when I hear of anything. However, I am pretty much out of touch here in Los Angeles.

I shall be very glad to have the manuscript at your earliest convenience, since it is the last of the *Lacunae* to be filled. The remainder of the manuscript is now typed and ready for publication. If I can be of service to you in any specific way, I shall be only too glad to have you call upon me.

Cordially yours,

Carl Epling

Carl Epling.

E:R

I enclosed your letter with address.

UNIVERSITY OF CALIFORNIA
AT LOS ANGELES

October 21, 1930.

Dr. Carleton R. Ball,
3814 Jocelyn Street, N.W.,
Washington, D. C.

Dear Dr. Ball:

In going over back correspondence which accumulated during the summer and which I did not have the opportunity to answer, I came upon your letter in which you mention the black portfolio which you thought might have been sent here as a cover for some willow specimens. I do not believe that we received it, or if so, it has now become lost in moving, but I shall, however, watch for it and if it is found I shall be very glad indeed to return it to you.

I wonder if you can give me some specific date when I may expect an account of my Idaho willows. This passage is the only one now incomplete, and since I wish to put the book through the press at the earliest possible date, I shall very much appreciate anything you can do to expedite this matter. I am very loathe to attempt an account of this genus myself, because I have never been in the field in Idaho sufficiently early to study the species while they were in flower and fruit, except occasional late individuals.

If you find that it is completely out of the question for you to prepare this account in the near future, I wonder if you would permit me to make a transcript of those species which you have described in Abrams work, and send it to you for whatever revision you may find desirable.

With kind regards, I am,

Yours very truly,

Carl Epling

Carl Epling.

CE:HB

Carl Clawson Epling Ph.D.

University of California at Los Angeles

1930

Dear Dr. Ball:

I am enclosing herewith a synopsis
of the Northern Idaho Uniflorous which I prepared
from the material I have at hand and at Pomona
and your published account in *Abrams*. I shall
be greatly indebted to you if you will go over the
script, making whatever changes you see fit,
particularly citing any further material you

may have especially for those species whose
presence I conjecture. If you believe some of
these do not occur, delete them. With best
regards & best wishes for the New Year

Carl E. Palmer

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON 25, D.C.

Dr. Carl C. Epling,
Dept. of Botany,
Univ. of California at L.A.,
Los Angeles 24, California.

3814 Jewelyn St., N.W.,
Washington 15, D.C.

17 November, 1952.

Dear Dr. Epling:

Recently I received from K.F. Hungerford, of the Idaho Coop. Wildlife Unit, Univ. of Idaho, some twigs of willow collected on Oct. 15, very slender with tiny leaves. Apparently it was late autumn growth under probably very difficult conditions. It seemed to *Salix Seculeriana* Barratt, but extremely depauperate in every way.

I checked thru my herbarium for specimens that would prove its identity and found just one from the N.W. United States. That was Epling and Heuck 4130, from the Thatuna Hills of Utah Co., on July 5, 1926. While most of the specimen was fairly normal, there were a few apical twigs which approximated the Hungerford collections, also from Utah Co.

As a long-time collector, I knew that we do not consider our individual specimens of any particular significance, unless collected for some evident peculiarity. So I thought that you might be interested in knowing that this collection of yours proved to be a real "friend in need" to me.

Trusting that all goes well, with you and yours, I am

Cordially yours,

Carleton R. Ball
Carleton R. Ball

Dear Dr. Ball:

So glad to have your letter, to know you are well and active, and that the willow of so long ago was useful. Have made no plant collections for a long time, as you doubtless know, but have been interested in *Drosophila*. I still keep up the Labiatae, however, and in fact have a couple of S.A. collections I should be looking over now.

Best regards,

Carl Epling

H 56 B-11

Epling, Carl
Salix, portion of mss. for flora of northern
Idaho.
29 p. 1929-1930.

(See correspondence)

Shrubs or less often trees with usually oblong or lanceolate short petioled leaves, at least those on vigorous shoots bearing a pair of more or less prominent stipules. Flowers dioecious borne in compact catkins, which appear before, with or after the foliage, each flower subtended by a small ovate or obovate usually entire bract, and accompanied by 1 or sometimes 2 small glands at the base; calyx and corolla wanting. Stamens 1-10, in each flower, usually 2 or 5, the filaments distinct or sometimes partly united. Pistil one in each flower, glabrous or hairy (sometimes becoming glabrous at maturity); style wanting or conspicuous, entire or bifid at the apex. Fruit a small two-valved capsule. Seeds provided with a silky tuft.

To study satisfactorily the species of this genus it is usually necessary to associate fully developed flowers with the fully developed foliage. Undeveloped foliage is often of a different shape and often more hairy than the mature; at the same time foliage of suckers and vigorous shoots may exceed the dimensions of the ordinary foliage.

Leaves glabrous on both surfaces; pistils glabrous

Leaves typically glaucous beneath, usually prominently
so (see *S. lasiolepis* and *S. scouleriana*)

Petioles with a pair of wart-like glands at the base of
the blade; stamens commonly 5

S. lasiandra

Petioles eglandular

Leaves lanceolate, long-acuminate, commonly 6-12 cm.

long; stamens commonly 5

S. amygdaloides

Leaves oblong, ovate or obovate, commonly 4-8 cm. long,

acute or obtuse or abruptly acuminate at the apex;

stamens 2

Plants essentially of subalpine situations, along

streams at higher elevations and in subalpine meadows

or sphagnum bogs

Stipules wanting or inconspicuous; catkins

1-2 cm. long; plants of sphagnum bogs

S. pedicellaris

Stipules mostly conspicuous, ovate or kidney-shaped,

serrulate; catkins 3-7 cm. long; plants of stream

bottoms

Pistillate catkins subsessile; leaves coarsely

glandular-serrate

S. pseudomonticola

Pistillate catkins on leafy branchlets 1-3 cm.

long, leaves finely glandular-serrate or

subentire

S. Barclayi

Plants of lowlands along streams and lake shores

Leaves narrowly oblanceolate or linear-elliptical

narrowed and acute toward the base

S. melanopsis

Leaves prevailing oblong, tapering abruptly above

the middle, rounded or subcordate at the base

S. lasca

- Capsules on pedicels .7-2 mm. long *S. lutea*
- Capsules on pedicels 2-4 mm. long *S. Mackenziana*
- Leaves typically green beneath sometimes paler
- Petioles provided with a pair of wart-like glands
towards the base of the blade; stamens 5 *S. caudata*
- Petioles eglandular
- Leaves thin, pure green, these and the branchlets
glabrous from the bud.
- Stamens joined $1/3$ to $2/3$ their length; pedicels
of pistillate flowers 2.5-4 mm. long *S. monochroma*
- Stamens free; pedicels of pistillate flowers
1-1.5 mm. long *S. pseudomyrsinites*
- Leaves thickish more or less leathery, dull, these and the
twigs wooly, becoming glabrous *S. commutata*
- Leaves hairy, at least beneath
- Twigs conspicuously covered with a white bloom; stamens 2
- Styles wanting or practically so; catkins mostly 1-1.5 cm.
long; leaves tending to be silky on both surfaces, the
midveins pubescent *S. Geyeriana*
- Styles 1-1.5 mm. long; catkins commonly 2-4 cm. long;
leaves green on the upper surface, satiny white beneath,
the midveins glabrous
- Bracts thinly hairy, brown; catkins appearing with
the foliage *S. subcaerulea*
- Bracts densely wooly black; catkins appearing before
the leaves *S. bella*
- Twigs glabrous or pubescent
- Leaves prevailing 5-10 mm. wide; styles short or none;
capsules hairy
- Catkins commonly 1-1.5 cm. long; capsules on pedicels
2-2.5 mm. long; twigs glabrous; stamens 2 *S. Geyeriana*

Catkins commonly 2-4 cm. long; capsules sessile;

twigs wooly; stamens 2

Leaves (except of suckers or young shoots) pre-

vailingy glabrous on the upper surface

S. exigua

Leaves silky silvery on both surfaces

S. argophylla

Leaves prevailingly 1-4 cm. wide

Petioles provided with a pair of wart-like glands

at the base of the blade; stamens 5; capsule glabrous *S. lasiandra*

Petioles eglandular; stamens 2 or 1.

Upper surface of leaves green and glabrous, the

lower covered with a close satiny pubescence;

twigs glabrous; capsules silvery pubescent

Styles .7-1.5 mm. long; stamens 2

S. drummondiana

Styles .5-.7 mm. long; stamen 1

S. sitchensis

Digitized by Hunt Institute for Botanical Documentation

Upper surface of leaves green and glabrous or

pubescent, the lower more or less wooly, not

satiny; twigs mostly pubescent (except *S.*

melanopsis)

Pistils and capsules glabrous, stamens 2

Leaves prevailingly glabrous on the upper

surface

Branchlets glabrous

S. melanopsis

Branchlets mostly pubescent

S. lasiolepis

Leaves downy on both surfaces

S. commutata

Pistils and capsules wooly or silvery pubescent

Stamen 1; leaves oblong, thickish, glabrous

above, dull silver beneath, not satiny

S. Coulteri

Stamens 2

Leaves downy on both surfaces

Filaments hairy at the base; leaves

commonly 4-6 cm. long

S. Eastwoodiae

Filaments glabrous; leaves commonly

2-4 cm. long

S. bebbiana

Leaves glabrous above, commonly 5-12 cm.

long, prevailingly elliptical oblanceolate

S. scouleriana

6
1. *S. lasiandra* Benth. A small slender tree 5-12 m. tall with rough furrowed bark; tinge deep reddish purple, lustrous; leaves lanceolate, commonly 6-12 cm. long, 1.5-2.5 cm. wide, acuminate to a very sharp point, rounded or narrowed at the base, finely glandular-serrulate on the margins, both surfaces smooth and glabrous, the upper dark green and shining, the lower glaucous; petioles commonly 8-12 mm. long, bearing one or two wart-like glands on the upper surface near the base of the blade; stipules inconspicuous, glandular; staminate catkins 2-6 cm. long, 1-1.3 mm. wide, stamens commonly 5; pistillate catkins 3-10 cm. long, 1.2-2 cm. wide; bracts lanceolate to ovate, usually dentate; capsules pale straw-color or light brown, 5-7 mm. long; pedicels 1.5-2 mm. long.

Lake shores and along streams.

Orogrande Cr., 3000 ft., Epling and Houck 9318, 9319; St. Maries, 2700 ft., Epling and Offord 8124, Epling and Wyckoff; Upper Priest Lake, 2700 ft., Epling 7708; Priest Lake, Epling 7763; Wallace, Epling and Offord 8125; Headquarters, Epling.

var. *lanceifolia* (Anderss.) Bebb. Young branchlets pubescent; leaves thinly so.

St. Maries, Epling and Wyckoff.

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2. *S. caudata* (Nutt.) Heller. Shrubs 2-5 m. tall, rarely a small tree; branchlets usually elongate, shining, chestnut brown; leaves oblong-lanceolate or lanceolate, commonly 6-12 cm. long, 1.5-2.5 cm. wide, long-acuminate to a sharp point, rounded or narrowed at the base, green and smooth on both surfaces, never glaucous beneath, finely glandular-serrulate on the margins; petioles commonly 3-12 mm. long, commonly with a pair of wart-like glands at the base of the blade; stipules inconspicuous or wanting; staminate catkins 2-4 cm. long, 1-1.2 cm. wide, stamens commonly 5; pistillate catkins 2-5.5 cm. long, 1.5 cm. wide; bracts ovate or obovate, glabrate on the outer surface; capsule straw-color 5-7 mm. long, pedicels 1-1.5 mm. long; styles .5-.7 mm. long.

Lake shores, along streams and in wet meadows.

Sand Point, Epling 10401; Upper Priest R., 3000 ft., Epling 8606;
Hughes Meadow, 3000 ft., Epling 8609.

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var. *parvifolia* Ball. Leaves 4-8 cm. long, 6-12 mm. wide.

Bovill, Epling; St. Maries, Epling and Wyckoff; Thatuna Hills,
Epling and Houck 9201.

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3. *S. amygdaloides* Anderss. A small tree 5-10 m. tall with cinnamon-colored fissured bark; twigs yellow smooth; leaves lanceolate, commonly 6-12 cm. long 1.5-3 cm. wide, acuminate to a sharp point, rounded or narrowed at the base, finely serrulate, light green on the upper surface, glaucous beneath; petioles 5-15 mm. long, without glands; catkins appearing with the leaves on leafy branchlets, the staminate yellow 3-5 cm. long slender flexuous, the pistillate loose and elongated 4-8 cm. long; stamens commonly 5; bracts elliptical, hairy inside, quickly deciduous; capsules glabrous 4-5 mm. long; pedicels slender 2 mm. long, exceeding the bracts.

To be expected in the southern part of our range along the large streams.

4. *S. argophylla*. Nutt. Shrub 2-4 m. tall, the young twigs white-wooly; leaves linear to linear-oblongate, 4-8 cm. long, 5-10 mm. wide, tapering and acute at both ends, nearly entire, silky and shining white on both surfaces; petioles indefinite 3-5 mm. long; stipules inconspicuous or wanting; catkins appearing after the leaves, terminating leafy shoots, 1-3 together, 2-4 cm. long, slender; bracts elliptical, acute, hairy; stamens 2; capsules wooly, 5-6 mm. long, nearly sessile.

Along streams at lower elevations.

Viola, Spring.

5. *S. exigua* Nutt. Ash-colored shrub 2-4 m. tall or a small tree with dark furrowed bark; twigs glabrous, very slender; leaves linear or linear-oblongate, 3-8 cm. long, 4-7 mm. wide, acute at both ends subsessile, thin, sparingly denticulate or nearly entire, the upper surface glabrate and green (rarely silky), the lower silky-pubescent with appressed hairs; (leaves of young shoots may be silky and silvery on both surfaces); stipules none or inconspicuous, catkins terminating short leafy branchlets, 1-3 together, the staminate 2-4 cm. long, the pistillate 3-6 cm. long; stamens 2; bracts elliptical, acute, more or less hairy; capsules 4-6 mm. long, glabrous or thinly hairy.

Along streams.

Bonniers Ferry, Epling 10467; Sandpoint, Epling 10404; Viola, Epling.

6. *S. melanopsis* Nutt. Dark green shrub or small tree 3-5 m. tall, the twigs glabrous and dark brown; leaves narrowly oblanceolate or linear-elliptical, acute at both ends commonly 4-8 cm. long, 6-15 mm. wide, finely denticulate on the margins less often subentire, dark green and glabrous on the upper surface, pale and glaucous on the lower surface; stipules evident, more or less deltoid, toothed; petioles indefinite nearly wanting; catkins 3-4 cm. long, obtuse, glabrous or thinly hairy; capsules glabrous, 4-5 mm. long, sessile or nearly so.

Along streams at lower elevations.

Upper Priest R., 3000 ft., Epling 7583; Wallace, Epling and Offord.

var. *Bolanderiana* (Rowlee) Schn. Leaves more or less pubescent beneath.

Priest Lake, Epling 7823; Upper Priest Lake, Epling and Simcoe 7721;

N. Fork Clearwater R., 2800 ft., Epling and Houck 9411, 9459; Wallace, 3000 ft., Epling and Offord 8128, 8139; Orogrande Cr., 3000 ft., Epling and Houck 9320; White Sand Cr., 3600 ft., Mirkwood 2036.

7. *S. pedicellaris* Pursh. Low shrubs usually about 1 m. tall, glabrous throughout; leaves elliptical to narrowly obovate, 2-4 cm. long, mostly obtuse at both ends, entire, firm in texture, glabrous, green on the upper surface, glaucous beneath; petioles 2-5 mm. long; stipules wanting or inconspicuous; catkins 1-2 cm. long, plump, borne on short leafy branchlets; stamens 2; bracts obovate, thinly hairy, persistent; capsules glabrous, 5-7 mm. long on slender pedicels 2-3 mm. long.

In sphagnum bogs, usually in subalpine situations.

8. *S. lutea* Mutt. Usually dense shrubs 2-5 m. tall with glabrous usually yellow branchlets; leaves yellowish-green, prevaillingly oblong or oblong-elliptical, 4-8 cm. long, 1-2.5 cm. wide, tapering rather abruptly above the middle to a sharp point, rounded or even subcordate at the base, finely and evenly serrulate on the margins, glabrous on both surfaces, paler or glaucous beneath; petioles slender, 3-8 mm. long, stipules conspicuous, mostly kidney-shaped and clasping, serrulate or entire; catkins nearly sessile on very short leafy twigs, the staminate 2-3 cm. long, the pistillate 2-4 cm. long, 1 cm. wide; stamens 2; bracts obovate tawny, downy; capsules plump, glabrous, 4-5 mm. long, on pedicels 1-2 mm. long.

(*S. cordata* Piper).

Along streams at lower elevations.

9. *S. Mackenziana* (Hook.) Barrott. Shrub or small tree with usually elongate yellowish or brownish glabrous branches, leaves prevailing oblong commonly 6-12 cm. long, 2-3.5 cm. wide, tapering rather abruptly above the middle to a sharp point, rounded or even cordate at the base, finely glandular-serrulate on the margins, glabrous above, glaucous beneath; petioles commonly 8-12 mm. long; stipules conspicuous usually kidney-shaped and clasping; catkins appearing with the leaves borne on very short leafy branchlets, the staminate 2-3.5 cm. long, the pistillate rather lax, commonly 4-6 cm. long; stamens 2 with glabrous filaments; bracts obovate, thinly pubescent on the outside, densely so within; pedicels 2.5-4 mm. long; capsules glabrous, 4.5-5.5 mm. long, the style about .5 mm. long.

Common along streams and lake shores and in swampy places.

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St. Maries, Epling and Wyckoff; Epling and Offord 3607; Upper Priest Lake, Epling and Simcoe 7186; Viola, Epling; Pierce, Epling; Moscow Mt., Epling.

10. *S. monochroma* Ball. Shrub 1-3 m. tall with glabrous shining light brown branches; leaves oblong-lanceolate or narrowly ovate, 3.5-7 cm. long, 1.5-3 cm. wide, abruptly or gradually acuminate, rounded at the base, glandular-serrulate, thin, green and glabrous and similarly colored on both surfaces; petioles slender commonly 5-12 mm. long; stipules conspicuous, ovate or kidney-shaped; catkins appearing with the leaves, the staminate slender flexuous 4-8 cm. long, 9-10 mm. wide, the pistillate 3-8 cm. long, 1.2-1.8 mm. wide; stamens 2, their filaments glabrous, usually united to above the middle; bracts capsules glabrous, 4-7 mm. long on pedicels 2.5-4 mm. long; styles .3-.7 mm. long.

Along streams.

Thatuna Hills, Epling and Houck 9160.

11. *S. pseudomyrsinites* Anderss. Shrub 1-3 m. tall with leafy brown shining twigs; leaves prevailingly elliptical or oblong-elliptical 3-6 cm. long, 1-2 cm. wide, acute or acuminate at the apex narrowed or rounded at the base, shallowly glandular-serrulate or nearly entire, green on both surfaces, the lower coarsely reticulate; stipules lanceolate to ovate; petiolis commonly 5-8 mm. long; catkins appearing with the leaves, borne on very short leafy branchlets, 2-3 cm. long in both sexes; bracts elliptical or obovate, thinly hairy; stamens 2 with glabrous free filaments; capsules 4-5 mm. long glabrous on usually pubescent pedicels 1-1.5 mm. long.

Along streams at higher elevations.

Scurvy Mt., 5800 ft., Kirkwood 1962.

12. *S. lasiolepis* Benth. Shrub or small tree 2-8 m. tall with usually pubescent dark brown branches, leaves oblong or oblong-oblancoelate commonly 6-10 cm. long, 1-2 cm. wide commonly glabrous on the upper surface, pubescent or sometimes glabrate or even glaucous beneath, subentire, mostly obtuse at the apex, narrowed at the base to petioles 8-12 mm. long; catkins appearing before the foliage, sessile, 3-7 cm. long; stamens 2, their filaments united at the base; bracts obovate, dark brown, densely hairy; capsule 4-5.5 mm. long, glabrous, on pedicels .5-1 mm. long; style .5 mm. long.

Along streams.

13. *S. pseudomonticola* Ball. Shrub 1-3 m. tall with yellowish or brown shining branchlets usually glabrous; leaves commonly elliptical-ovate or ovate sometimes obovate, 4-8 cm. long, 1.5-3.5 cm. wide, rounded at the base or subcordate, acute or abruptly acuminate at the apex, coarsely glandular-serrate, glabrous and strongly veined on both surfaces, green above, glaucous and strongly veined on both surfaces, green above, glaucous beneath; stipules conspicuous, ovate or kidney-shaped, serrulate; petioles commonly 6-12 mm. long; catkins appearing with the leaves, subsessile, the pistillate 3-7 cm. long, the staminate shorter; bracts obovate, obtuse, brown, densely wooly; stamens 2, with glabrous filaments; capsules glabrous, 6-8 mm. long on pedicels 1-1.5 mm. long.

Along streams at higher elevations.

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Indian Grave Camp, 6000 ft., Kirkwood 2606; Fish Lake Cr., 5000 ft.,
Kirkwood 1879.

14. *S. Barclayi* Anderss. Shrub 1-4 m. tall with thinly hairy or glabrous brown or blackish rather stout branchlets; leaves oval or obovate, 5-10 cm. long, 1.5-3.5 cm. broad, mostly wider above the middle, obtuse or short acuminate at the apex, mostly narrowed at the base, subentire or finely glandular-serrulate, mostly glabrous above when fully developed, glaucous beneath; stipules usually conspicuous, ovate, serrulate; petioles 5-10 mm. long, stout; catkins on short leafy branches, the staminate 1-5 cm. long, plump, the pistillate commonly 4-6 cm. long, 1.5 cm. wide; stamens 2; bracts dark, elliptical, hairy; capsules glabrous 6-8 mm. long on pedicels about 1 mm. long; styles 1-1.5 mm. long.

In subalpine meadows.

Fish Lake, 6000 ft., Epling and Houck 9618, 9619; Oxford R. S., 5000 ft., Epling and Houck 9667.

15. *S. commutata* Bebb. Shrub 1-3 m. tall with thinly hairy brown or black stoutish branchlets; leaves elliptical, oblong, ovate or obovate, 4-8 cm. long, 1.5-3 cm. broad, usually abruptly narrowed at the apex and acute, sometimes obtuse, usually narrowed toward the base, sometimes rounded, entire or nearly so, softly hairy on both surfaces, velvety when young, becoming more or less glabrous in age (var. *denudata* Bebb.) both surfaces similar in color; stipules evident, ovate; petioles commonly 8-12 mm. long; catkins appearing with the foliage, 2-5 cm. long, borne on short leafy branchlets; stamens 2 with glabrous filaments; bracts dark, obovate, wooly; capsules 5-7 mm. long, glabrous on pubescent pedicels about 1 mm. long; style 1-1.5 mm. long.

In subalpine meadows and along streams at high elevations.

Fish Lake, 6000 ft., Epling and Houck 9617; Oxford R. S. 5000 ft.,
Epling and Houck 9679; Hughes Fork Meadow, 3000 ft., Epling 7361; Monroe Cr.,
Kirkwood 1990.

16. *S. Eastwoodiae* Cockerell. Low shrub .5-2 m. tall with dark brown usually wooly branchlets; leaves prevailingly elliptical or elliptical-lanceolate frequently elliptical-obovate, 4-6 cm. long, 1-2 cm. wide, acute at the apex, obtuse or rounded at the base, subentire, softly wooly on both surfaces; petioles rather stout, commonly 8-10 mm. long; stipules inconspicuous; catkins appearing with the foliage on short leafy branchlets, the staminate 1-3 cm. long, plump, the pistillate 2-5 cm. long; bracts brownish, tomentose; stamens 2, their filaments hairy at the base; capsules downy 5-6.5 mm. long.

Along streams at higher elevations.

Fish Cr. (Mont.) 4500 ft., Epling and Kempf.

17. *S. subcaerulea* Piper

Shrub 1-3 m. tall with glabrous

conspicuously white-glaucous branchlets; buds glaucous; leaves narrowly oblong or oblong-elliptical, rarely oblanceolate, 3-8 cm. long, .5-2.5 cm. broad, mostly acute at both ends, or rounded at the base on suckers, sub-entire, the upper surface green and glabrous, the lower covered with a close satiny selberg pubescence, the midveins beneath being glabrous and yellow; petioles 5-10 mm. long; stipules usually none; catkins appearing with the foliage, sessile or nearly so, compact, 1-4 cm. long; stamens 2, their filaments glabrous, free; bracts ovate or obovate, thinly hairy, brown; capsules subsessile, silvery; 3.5-5 mm. long; style 1-1.5 mm. long.

Along streams or lakes mostly at higher elevations.

Upper Priest R., 3000 ft., Epling 8611; Fish Lake Cr., 5000 ft.,

Epling and Houck 9467; Oxford R. S., 5000 ft., Epling and Houck 9677, 9675; Fish Lake, 6000 ft., Epling and Houck 9635; Kirkwood 1897.

18. *S. bella* Piper. Shrub 1-4 m. tall with brownish mature bark and glabrous conspicuously white-glaucous branchlets sometimes yellowish; buds glaucous, leaves prevailing oblong or oblong-lanceolate, 6-12 cm. long, 1.5-3 cm. broad, acute or obtuse at the apex, obtuse or rounded at the base, subentire, the upper surface green and glabrous or nearly so, the lower covered with a close satiny silvery pubescence, the midveins beneath yellow and glabrous; petioles commonly 5-12 mm. long; stipules usually evident but small mostly ovate, acute; catkins appearing before the foliage sessile or nearly so, compact, the staminate 2-3 cm. long, the pistillate 2-6 cm. long; stamens 2, their filaments free, glabrous; bracts ovate or obovate, black, densely wooly; capsules subsessile, silvery, 4.5-5.5 mm. long; style 1-1.5 mm. long.

Along streams and lake shores at lower elevations.

Clarkia, Epling and Offord 8226, 8272; Upper Priest R., 3000 ft., Epling 7575; St. Maries, Epling and Wyckoff; Epling and Offord 8059; Priest R., 2700 ft., Epling 7932; Headquarters, Epling.

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19. *S. drummondiana* Berratt. Shrub 1-3 m. tall with reddish brown or sometimes yellowish puberulent branchlets and buds; leaves oblong-elliptical or obovate, 3-6 cm. long, 1-2.5 cm. wide, obtuse or abruptly acuminate at the apex, narrowed but usually obtuse at the base, subentire, the upper surface green and glabrate or puberulent, the lower covered with a close satiny silvery pubescence, the midvein yellowish but pubescent; petioles commonly 5-10 mm. long, rather slender, puberulent; stipules inconspicuous; catkins sessile or nearly so, appearing before the foliage, 1-3 cm. long; stamens 2, their filaments glabrous free; capsules silvery, 5 mm. long.

Along streams at median elevations.

White Sand Cr., (Selway For.) 3600 ft., Kirkwood 2037.

20. *S. sitchensis* Samson. Shrub 2-7 m. tall with brownish mature bark and slender dark brown or black branchlets, the youngest frequently short-downy; leaves prevailingly obovate and widest above the middle, 4-8 cm. long, 1.5-3.5 wide, obtuse or abruptly acuminate at the apex, narrowed below the middle but commonly obtuse at the very base, subentire, the upper surface dull green and glabrous or somewhat downy, the lower covered with a close satiny silvery pubescence (rarely glabrate and green); petioles commonly 5-12 mm. long, usually pubescent; stipules inconspicuous; catkins appearing with the foliage, usually on short branchlets, dense, slender, the staminate 2-3 cm. long, the pistillate 4-8 cm. long, very silky when young; bracts obovate, brown, thinly hairy; stamen 1, its filament glabrous, capsules silky 4-6 mm. long.

Along streams, in swampy places and along lake shores, common at lower elevations.

Carlin Bay, St. John 4235; Orogrande Cr., 3500 ft., Epling and Houck 9323; Upper Priest R., 3000 ft., Epling 7414; Fish Lake Cr., 5000 ft., Epling and Houck 9461; Upper Priest R., 3000 ft., Epling 7338, 7574; 7483, 7582; Pierce, Epling.

21. *S. Coulteri* Anderss. Shrub 2-4 m. tall with stout brown usually wooly or downy branchlets; leaves prevailinglly oblong; sometimes obovate 5-10 cm. long, 2-3.5 cm. wide, obtuse or abruptly acuminate at the apex, usually obtuse or rounded at the base, coarse and somewhat leathery, the margins subentire but more or less crenate-undulate, the upper surface green and glabrous or somewhat downy, the lower covered with a soft dull velvety pubescence, the midvein yellow and pubescent; stipules mostly evident, kidney-shaped; petioles commonly 5-10 mm. long; catkins appearing with the foliage usually on short branchlets, the staminate 3-5 cm. long, the pistillate slender 5-10 cm. long; bracts obovate, brownish, densely wooly; stamen 1, its filament glabrous; capsules silvery, 4-4.5 mm. long subsessile.

Common along streams at lower elevations.

Wallace, 3000 ft., Epling and Offord 8129, 8138; Priest R., 2700 ft., Epling 7935; Thatuna Hills, Epling and Houck 9129.

22. *S. scouleriana* Barrott. Shrub or small slender tree 2-12 m. tall with dull gray smoothish bark and brown branchlets, usually lightly downy; D. B. H. as much as 20-25 cm., leaves variable but prevailingly elliptical-oblongate, usually somewhat wider above the middle, commonly 5-12 cm. long, 2-4 cm. wide (larger in shade forms); obtuse or abruptly acuminate at the apex narrowed toward the base and usually wedge-shaped but often rounded, subentire but often crenate undulate or even crisped, the upper surface green and glabrous, the lower covered with a soft dull velvety pubescence, the midvein yellowish and pubescent (rarely glabrous and glaucous beneath); petioles commonly 5-12 mm. long; stipules usually conspicuous, kidney-shaped or earlike; catkins appearing before the foliage, sessile or on short branchlets, the staminate plump, 1.5-3 cm. long, the pistillate 2-5 cm. long, compact; scales obovate, black, hairy; stamens 2, their filaments glabrous; capsules wooly, 7-9 mm. long.

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Common throughout our region, abundant on dry hillsides in burns where it forms an important factor in early succession.

Clarkia, Epling and Offord; Upper Priest R., 4000 ft., Epling 7422; St. Maries, Epling and Offord; Hughes Fork, 3500 ft., Epling 7301; Clarkia, Epling and Offord; St. Maries, Epling and Wyckoff; Vanderbilt Gulch, Epling and Kempf; Twin Lakes, 5000 ft., Epling and Kempf; Moscow Mt., 4000 ft., Epling; Revett Lake, 5000 ft., Epling, Houck and Putnam; Snow Peak, 5000 ft., Epling 10321, 10328; Thatuna Hills, Epling and Houck 9130, 9157.

23. *S. bobbianna* Sarg.

Much branched shrub or small tree 2-5

m. tall with short brown or olive twigs which are pubescent to glabrous, their internodes relatively short, the leaves thus usually crowded; leaves prevailingly elliptical or oval rarely obovate, mostly 2-4 cm. long, 1.5-3 cm. wide, acute at the apex or abruptly short-acuminate at the very end, narrowed or rounded at the base, mostly entire, dull green on the upper surface and somewhat downy, softly ashy-pubescent on the lower surface the veins reticulate; stipules inconspicuous; petioles commonly 3-6 mm. long; catkins appearing with the foliage but rather late, the pistillate commonly persistent into the summer; staminate catkins 1-2 cm. long, plump; pistillate catkins on short leafy branchlets 3-6 cm. long, 1-2 cm. wide; bracts oblong-elliptical, acute yellowish; stamens 2, their filaments very slender; capsules wooly 6-10 mm. long on slender pedicels 2-5 mm. long.

'*S. perrostrata* Rydb.)

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Common along streams and along lakes in swampy places at lower

elevations.

Harvard, Epling; St. Maries, Epling and Offord 8015, 8044; Clarkia, Epling and Offord 8608; St. Maries, Epling and Wyckoff; Priest R., 2700 ft., Epling 7934; Priest Lake, Epling 7777; Upper Priest Lake, Epling 7744; Priest R. Exp. Sta., Epling 5784; Thatuna Hills, Epling and Houck 9159; Granite Sta., Epling; Headquarters, Epling.

24. *S. Geyeriana* Anderss. Low leafy shrub .5-1 m. tall, much branched with slender glabrous blackish twigs which may be more or less glaucous; leaves narrowly elliptical or elliptical oblanceolate, commonly 4-6 cm. long, 5-10 mm. wide, acute or acuminate at the apex, narrowed, or less often, rounded at the base, entire, green on the upper surface, paler and more or less silvery beneath, particularly when young; stipules none; petioles commonly 3-3 mm. long; catkins on very short leafy branchlets, the staminate scarcely 1 cm. long, ovoid, the pistillate 1-1.5 cm. long, numerous; bracts elliptical-oblong, thinly hairy, the tips reddish; stamens 2; capsules 5-7 mm. long, puberulent, on pedicels 2-2.5 mm. long.

Along streams and lake shores at lower elevations.

St. Maries, Epling and Wyckoff; Emerald Creek, Epling; Benton Cr., 2700 ft., Epling 7898, 7933; St. Maries, Epling and Offord 8009,

var. *argentea* (Bebb.) Schn. Twigs more or less pubescent, the leaves especially the younger silvery.

St. Maries, Epling and Wyckoff; Clarkia, Epling and Offord; Upper Priest R., Epling 7729.