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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.

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NOTES ON THE POSITION AND CONSTRUCTION OF KEYS TO SALIX

Carleton R. Ball

1. Position. Keys should be inserted as solid tables, preceding the descriptions, as in *Illn. Flora*. In this form they are much more easily and helpfully usable than when interspersed with the descriptions, as in *Gray*.

2. Dichotomy. Keys normally should be dichotomous. An occasional trichotomous separation seems justified, at the lower levels, if such arrangement obviates an additional item introduced artificially merely to maintain dichotomy.

3. Positive vs. Negative Statements. In all cases the items are positive statements of characters, rather than negative statements such as: "Leaves not as described", etc. Occasionally, of course, the absence of a character is keyed, as: "Petioles not glandular", etc.

4. Symbols to indicate equality and rank of pairs of contrasted characters. Several different kinds of symbols have been used by different authors to the members of the pairs, and the descending rank of the pairs.

a. In brief keys, the indentation itself indicates the pairs and their rank (if proof-reading was accurate). Longer keys require symbols.

b. $\%$. Some authors use many different kinds of symbols in the same set of keys. These include asterisks, daggers, double daggers, dashes, equality signs, paragraph symbols, circles, squares, triangles, etc., as well as letters and numerals. One such is used for the first member of a pair and two for the second member.

The chief objection to the use of symbols of this kind is that they have no recognized descending value, as have letters and numerals, which make a recognition of rank difficult even in tabular keys and almost impossible in keys interspersed with descriptions. *Gray* (ed. 7) is an awful example of the latter.

c. Some authors use some letters and/or numerals with the symbols listed above. This practice is good as far as it goes, which usually is not very far.

d. The use of letters, or of numerals, or both, which have recognized descending rank, is preferable. If numerals are used, two spaces are required after the ninth rank or indentation. In the case of lower-case letters, the type-written letter "l" and the numeral "1" are the same. Lower-case c and e look much alike, but perhaps no more so than capital C and G.

e. In these keys, I am trying out a new form or arrangement of letter and numeral symbols. I have used capital letters to indicate the successive pairs, and a numeral, set off by a hyphen, to designate the members of each pair, 1 for the first member and 2 for the second member (I should have written -1 and -2).

Capital letters seem to stand out more boldly than lower-case or numerals for the first symbol. This system requires 3 spaces in every instance. If merely the capital letter were used, ~~not~~ either one or two spaces would be used. One space if a single letter were used for each of the two members of a pair, as A, or B; two spaces if A or B were used for the first member and AA or BB for the second. ~~Salix~~

The method I have used seems to make the key members stand out very clearly. The question for decision is whether three spaces are justified.

5. The sections of *Salix* are entered in the keys, in parentheses, so that the student may be learning relationships. Both *Schneider* and *Fernald* have been unable to assign several species to sections. Sections seldom have been taught.

6. If you desire, the word "long" could be omitted from the keys, as only the length of organs is given and would be so recognized. I doubt if confusion would be caused, and a lot of space would be saved.

VEGETAL AND FLORAL NOTES TO SALIX

- A-1. Leaves closely glandular serrate, serrulate, or crenulate-serrulate (except No. 9), linear to lanceolate or ovate, or somewhat oblanceolate; anthesis continuous (except in No. 9); bracted- or leafy-pedunculate.
- B-1. Petioles glandular above at apex; native erect shrubs or introduced trees; capsules glabrous; scales yellowish, hairy, deciduous.
- C-1. Leaves broadly lanceolate to ovate, primary veins coarsish and irregular; anthesis stoutish; stamens 3-5 or 7; capsules 5-10 mm. long. (*Incisae*).
- D-1. Leaves green beneath, broadly lanceolate, acuminate; capsules 4.5-6.5 mm. long. 1. *S. lucida*
- D-2. Leaves glaucous beneath, elliptic-lanceolate, acute; capsules 7-10 mm. long; fruit maturing in late summer. 2. *S. sericea*
- D-3. Leaves glaucescent beneath, ovate; capsules 5-8 mm. long; introduced small tree. *S. pentandra*
- C-2. Leaves lanceolate or linear-lanceolate, glaucous beneath, primary veins slender, closely spaced, parallel; anthesis slender; stamens 2 (or rarely 3-4 in Nos. 6 and 7); introduced trees. (*Fragiles*).
- D-1. Branchlets spreading, fragile; leaves lanceolate; capsules 3.5-5 mm. long.
- E-1. Leaves glabrous, 4-6 serrations per cm.; capsules short-pedicelled. 6. *S. fragilis*
- E-2. Leaves sericeous, 7-9 serrations per cm.; capsules sessile. 7. *S. alba*
- D-2. Branchlets elongated, pendulous; leaves linear-lanceolate or broader; petioles less frequently glandular; capsules 1.5-2.5 mm. long, sessile. 7. *S. babilonica*
- B-2. Petioles not glandular; native trees and shrubs.
- C-1. Native trees; leaves linear-lanceolate to rarely ovate-lanceolate, with tiny vein islets beneath; scales pale yellow; stamens 3-5 or 7; capsules glabrous, 3-5 mm. long; anthesis lux; styles 0.1-0.5 mm. long.
- D-1. Leaves glaucous beneath.
- E-1. Leaves linear-lanceolate, long-acuminate, somewhat pubescent; pedicels 1.5-4 mm. long. (*Romandianae*) 3. *S. caroliniana*
- E-2. Leaves lanceolate to ovate-lanceolate, glabrous; pedicels 1-2 mm. long. (*Triandreae*) 4. *S. amygdaloides*
- D-2. Leaves green beneath, linear-lanceolate (*Micrae*) 5. *S. nigra*
- C-2. Native shrubs, tall and erect (except Nos. 11 and 15, ascending or somewhat depressed).
- D-2. Capsules glabrous (varies somewhat pubescent in No. 9).
- E-1. Leaves linear, irregularly and remotely denticulate; anthesis serotinous; 1-3 together terminating leafy seasonal twigs 3-10 cm. long; scales yellow, deciduous. 9. *S. interior* (*Longifoliae*)

veg - fl.

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Hill's Flora

A-2. Leaves entire, sparingly denticulate, closely crenulate, or undulate-crenate.

B-1. ~~Leaves not entire~~ Vegetal organs glabrous when mature (see Nos. 30, 31, 32a); ~~leaves~~ not revolute. (Leaves) ^{↑ full-grown}

C-1. ~~Herb~~ Ascending or mostly erect shrubs; leaves glaucous or glaucescent beneath. (the rare No. 16 green beneath).

D-1. Leaves 1-6 cm. long, elliptic-oblanccolate to narrowly obovate; anents costaneous, leafy-pedunculate; scales glabrous; capsules glabrous; low ascending-erect shrubs.

E-1. Leaves 2-6 cm. long, entire, finely reticulate; styles and stigmas 0.1-0.2 long; peduncles to 5 cm. long. (*Romano*) 12a. *S. pedicellaris* var. *hypoclaena*

F-2. Leaves 1-3 cm. long, elliptic-oblanccolate, entire to sparsely micro-serrulate; styles 0.7-1 mm. and stigmas half as long; peduncles to 1.2 cm. long. (*Romano*) 17. *S. chlorolepis*

D-2. Leaves 3-8 or 10 cm. long, elliptical or elliptic-oblanccolate to narrowly obovate (except No. 40); scales hairy; capsules hairy; erect shrubs.

E-1. Leaves sparsely shallowly crenulate-serrulate, sometimes sparsely sericeous beneath, primary veins slender, closely spaced, parallel; capsules sericeous; styles 1-1.5 or 2 mm. long. (*Phyllifolia*)

F-1. Anents precocious, subsessile; capsules subsessile. 30. *S. planifolia*

F-2. Anents costaneous, on bracted peduncles 0.5-2.5 cm. long; pedicels 1-2 mm. long. 31. *S. pedunculata*

B-2. Leaves not entire, veining irregular, glabrous; anents precocious, sessile; capsules pubescent; styles and stigmas short.

F-1. Leaves elliptical to narrowly obovate, subentire to undulate-crenate, coarsely veined, thick; anents and capsules long; styles 0.5-0.7 mm. long. (*Discolora*) 36. *S. discolor*

F-2. Leaves linear-lanceolate to spatulate, finely-veined, thin, subopposite, sparsely serrulate apically; anents and capsules very short; styles 0.1-0.2 mm. (*Rurana*) 40. *S. murina*

C-2. Prostrate and sometimes creeping shrubs (No. 18 subherbaceous); leaves glabrous at maturity; anents leafy-pedunculate.

D-1. Leaves crenate, crenulate, or crenulate-dentate, 1-5 cm. long; anents 1-4 cm. long, mostly serotinous; capsules 3-6 mm. long, glabrous. (*Romano*)

E-1. Leaves green beneath, oval to suborbicular; scales glabrous or sparsely pubescent; styles 0.5 mm. long. 18. *S. herbacea*

E-2. Leaves glaucous beneath, narrowly or broadly elliptical to obovate; scales villous; styles 0.7-1.5 mm. long. 19. *S. uva-ursi*

D-2. Leaves entire or sparingly denticulate, ~~mostly crenulate-elliptical~~ 2-3 cm. long, glaucous beneath; elliptic-oblanccolate to oval-obovate; anents 2-10 cm. and styles 0.7-1.5 mm. long. (*ovalifolia*) long, costaneous; scales long-villous; capsules 5-8 mm.

- E-1. Young vegetal organs glabrous; leaves mostly obovate, sparsely denticulate apically; capsules thinly silky pubescent 21. S. aretophila
- E-2. Young vegetal organs often hairy; leaves oblanceolate to obovate, entire; capsules gray-tomentose. 22. S. anglicum
- B-2. Vegetal organs hairy when full-grown; (except No. 36); leaves mostly revolute; scales and capsules hairy; low to tall shrubs.
- C-1. Leaves oblong-oval to suborbicular, 2-8 cm long, closely crenate, glaucous and villous beneath; anthers serotinous; styles nearly obsolete. (Reticulatae) 20. S. vestita
- C-2. Leaves narrowly elliptical, linear-lanceolate, or oblanceolate, to broadly elliptical or oval, rarely obovate, glaucescent beneath.
- D-1. Anthers coetaneous or rarely subprecocious, 1-6 cm. long (short in No. 23), on short, mostly leafy peduncles; capsules 4-8 mm. long; styles 0.7-1.5 mm.; stigmas 0.3-0.7 mm. long (all organs shorter in No. 27).
- E-1. Leaves more or less pubescent to tomentose on both sides, linear-oblong to obovate or ovate; ~~anthers coetaneous~~ scales yellowish to brown; capsules 5-8 mm. long, tomentose or villous.
- F-1. Depressed to ascending shrubs 0.5-2 m. high; leaves elliptic-oblong to oval, ovate, or obovate, mostly entire, scales yellowish to light-brown; capsules subsessile; styles 0.5-1.5 mm. long; stigmas 0.5-0.7 mm. long. (Glaucous) veins raised above;
- G-1. Leaves elliptic-oblong to oval, obtuse at base, 2-4.5 cm. long, pubescent; anthers 0.7-2 cm. long; capsules tomentose. 23. S. brachycarpum
- G-2. Leaves broadly oval to ovate or obovate (narrower in some vars.), 2-7 cm. long, densely to thinly silky-villous; anthers 2-6 cm. long; capsules villous. 24. S. cordifolia
- H-1. Mostly erect shrubs, 0.5-4 m. high; leaves narrowly oblong to oblanceolate, or elliptic-lanceolate to elliptic-ovate, tomentose beneath, veins impressed above; capsules tomentose; styles 0.8-1.5 mm.; stigmas 0.3-0.6 mm. (Candidae). mostly glandular-crenulate;
- G-1. Bog shrub to 1 m. high; leaves oblong to oblanceolate, 4-12 cm. long; scales brown; capsules subsessile. 25. S. candida
- G-2. Shrub to 4 m. high; leaves elliptical to elliptic-ovate, 2-6 cm. long; scales reddish-brown; pedicels 1-2.5 mm. long; styles 0.8-1 mm. long. 26. S. cryptodonta
- H-2. Leaves densely sericeous beneath (becoming glabrate in Nos. 27, 28), linear-lanceolate to narrowly elliptical, acuminate, primary veins numerous, wide-angled, subparallel, impressed above; scales black; capsules 2-6 mm. long, sericeous; styles 0.5-1 mm. long. (Polita)

- F-1. Often depressed low shrub; leaves 3-5 cm. long, sometimes becoming glabrate beneath, subentire to closely crenulate; anents 1-2.5 cm. long; capsules 2-4 mm. long; styles 0.5 and stigmas 0.1-0.3 mm. long. 27. S. apocarya
- F-2. Erect tall shrubs; leaves 4-10 or 15 cm. long, entire to undulate-crenulate; anents 2-5 cm. long; capsules 4-6 mm. long; styles 0.7-1.2 mm. and stigmas 0.4-0.8 mm. long
- G-1. Native shrub 3-5 m. high; leaves sometimes becoming glabrate beneath; anents subprecocious to coactaneous. 28. S. pallida
- G-2. Introduced shrub or small tree, to 15 m. high; leaves permanently sericeous beneath; anents coactaneous. 30. S. viminalis
- D-2. Anents precocious (subprecocious in No. 39; also 28), 1-10 cm. long; capsules 6-10 mm. long, pubescent; styles and stigmas 0.1-0.5 mm. long (0.5-0.7 mm. in No. 36). rostrate, gray-
(subentire to undulate-crenate;
- E-1. Leaves not rugose beneath; anents precocious, sessile-subsessile, naked; scales broadly oblanceolate, black; pedicels 1-3 mm. long; styles 0.2-0.7 mm. long. (Discolor).
- F-1. Shrub or small tree, 2 to rarely 7.5 m. high; leaves glabrous (see var. a), mostly elliptical or elliptic-oblanceolate, rarely obovate, 4-10 cm. long; anents to 10 cm. long; capsules to 10 or 12 mm.; styles and stigmas 0.5-0.7 mm. 36. S. discolor
- F-2. Low, erect upland shrubs, 0.5-3 m. high; leaves pubescent-tomentose; anents 1-3 cm. long; capsules 6-9 mm. long; styles and stigmas 0.2-0.4 mm. long.
- G-1. Shrub 1-3 m. high; leaves oblanceolate to narrowly ovate, 3-10 or 15 cm. long, pubescent and sometimes becoming glabrate beneath. 37. S. humilis
- G-2. Shrub 0.5-1 m. high; leaves narrowly oblanceolate, mostly entire, crowded; 2-5 cm. long, pubescent on both sides. 38. S. tristis
- E-2. Leaves rugose beneath; anents subprecocious, 2-7 cm. long, short-pedunculate; scales oblong, greenish-yellow with red tips; pedicels 3-5 mm. long. (Rostrate Pulve)
- F-1. Shrub or small tree; leaves elliptical and acute to broadly rhombic-oblanceolate or obovate-oval, 4-10 cm. long, undulate crenate, pubescent on both sides; capsules 7-10 cm. long. 39. S. Robbiana

KEYS BASED ON FLORAL CHARACTERS

A-1. Scales pale yellow or greenish yellow, hairy, deciduous (see also Nos. 23, 24, and 39 under A-2); styles 0-0.5 mm. long; stigmas short.

B-1. Aments coetaneous, solitary, on leafy peduncles; ovaries and capsules glabrous.

C-1. Stamens 3-5 or 7.

D-1. Capsules 5-10 mm. long; pedicels stoutish; aments dense; peduncles 1-3.5 cm. long; petioles glandular above at apex; leaves without tiny vein islets. (Incisae).

E-1. Capsules 4.5-6.5 mm. long; pedicels 0.5-1 mm. long; leaves green beneath. 1. S. lucida

E-2. Capsules 7-10 mm. long; pedicels 1-2 mm. long; leaves glaucous beneath; fruiting aments persist throughout summer. 2. S. serissima

E-3. Capsules 5-8 mm. long; pedicels 0.5-1 mm. long; introduced tree; leaves ovate, glaucescent beneath. S. pentandra

D-2. Capsules 3-5 mm. long; pedicels slender; aments lax; petioles not glandular; vein islets tiny on lower surface. (Leaf

E-1. Peduncles 2-5 or 7 cm. long; pedicels 1.5-3 or 4 mm. long; leaves linear-lanceolate, glaucous beneath (Bonplandianae). 3. S. caroliniana

E-2. Peduncles 1-3 or 4 cm. long; pedicels 1-2 mm. long;

F-1. Leaves lanceolate to ovate-lanceolate, glaucous beneath. (Triandrae). 4. S. amygdaloides

F-2. Leaves linear-lanceolate, green beneath. (Nigrae) 5. S. nigra

C-2. Stamens 2 (or rarely 3-4 in S. fragilis and perhaps in S. alba also). (Fragiles)

D-1. Capsules 3-5.5 mm. long; peduncles 1-5 cm. long; branchlets not pendulous; petioles mostly glandular at apex. (Fragiles)

E-1. Capsules 4-5.5 mm. long; pedicels 0.5-1 mm. long. 6. S. fragilis

E-2. Capsules 3-4.5 mm. long, sessile. 7. S. alba

D-2. Capsules 1.5-2.5 mm. long; peduncles 0.5-1.5 cm. long; branchlets pendulous; petioles not glandular 8. S. babylonica

B-2. Aments serotinous; 1-3 together, terminating leafy seasonal branchlets 3-10 cm. long; ovaries sometimes thinly villous, capsules glabrous, 7-10 mm. long; leaves linear, remotely denticulate. (Longifoliae) 9. S. interior

~~A-2. Scales brownish to black, or rarely (No. 19) greenish yellow, (if yellowish, the capsules hairy, see Nos. 23, 24, and 39); stamens 2 (often united in No. 19 and always in No. 40); styles very variable.~~

~~B-1. Ovaries and capsules glabrous.~~

Illus Fl.

A-2. Scales brownish to black, or rarely (No. 17) greenish-yellow, mostly persistent, (if yellowish, the capsules hairy, - see Nos. 23, 24, and 39); styles very variable.

B-1. Ovaries and ~~capsules~~ capsules glabrous; stamens 2, often united in No. 19 and always in No. 40.

C-1. Scales hairy (in No. 18 sparsely pubescent to glabrous).

D-1. Aments coetaneous or subprecocious, on bracted or leafy peduncles; styles 0.3-1.5 mm. long.

E-1. Low and ascending, or mostly tall and erect shrubs.

F-1. Peduncles bracted, 3-10 mm. long; capsules 4.5-6.5 mm. long; pedicels 1-1.5 mm. long; styles 0.5-0.8 or 1 mm. long. (Cordatae).

G-1. Aments 2-5 cm. long; tall shrub; leaves serrate, glaucous beneath. 10. *S. rigida*

G-2. Aments 1-3 cm. long; low shrub; leaves crenulate-serrulate, green beneath (glaucous in var. *brachypoda*). 11. *S. myrtillifolia*

F-2. Peduncles leafy, 1-3 cm. long; capsules 6-9 mm. long.

G-1. Styles 0.3-0.5 mm. long; stigmas shorter; peduncles 1-3 cm. long; pedicels 2.5-3.5 mm. long. (Balsamiferae). 12. *S. pyrifolia*

G-2. Styles 0.7-1.5 mm. long; stigmas about 0.5 mm. long. (Commatae).

H-1. Peduncles about 1 cm. long; pedicels 1.5-3 mm. long; leaves glaucous beneath, glabrate-glabrous. 13. *S. glaucophylloides*

H-2. Peduncles 1-2.5 cm. long; pedicels 0.5-1 mm. long; leaves green beneath, pubescent. 14. *S. cordata*

~~ILLEGIBLE~~

E-2. Prostrate shrubs (Retusae).

F-1. Scales sparsely pubescent or mostly glabrous. 18. *S. herbacea*

F-2. Scales villous, (filaments often united). 19. *S. uva-ursi*

D-2. Aments precocious or coetaneous, sessile on old wood; capsules 7-9 mm. long; subsessile; styles 2-3 mm. long; stigmas 0.5-1 mm. long. (Chrysanthae). 15. *S. calcicola*

C-2. Scales glabrous (or with a few hairs at apex); peduncles leafy.

D-1. Aments 1-3 cm. long; peduncles 2-4 or 5 cm. long; scales yellowish-brown; capsules 6-7 or 8 mm. long; pedicels 2-3.5 mm. long; styles and stigmas 0.1-0.2 mm. long; low erect shrub (Rosae). 16. *S. pedicellaris*

D-2. Aments 0.5-1.7 cm. long; peduncles 0.5-1.2 cm. long; capsules 3-6 mm. long, subsessile (Retusae).

E-1. Styles 0.7-1.2 mm. long; stigmas 0.4-0.7 mm. long; scales greenish-yellow, glabrous; low erect shrub. 17. *S. chlorolepis*

E-2. Styles about 0.5 mm. long; stigmas 0.2-0.4 mm. long; scales brownish, sometimes strongly pubescent, prostrate shrub. 20. *S. herbacea*

- B-2. Ovaries and capsules hairy; stamens 2, often united in No. 19 and always in No. 40.
- C-1. Aments costaneous (or sometimes subprecocious), mostly pedunculate. (No. 30 precocious and sessile, and keyed in both groups).
- D-1. Styles 0-0.4, or rarely 0.6 mm. long; stigmas 0.1-0.5 mm. long; scales greenish-yellow in No. 39.
- E-1. Pedicels none, or very short; capsules 4-5 mm. long, tomentose; aments 2-4 cm. long; prostrate shrub. (Reticulatae). 20. S. vestita
- E-2. Pedicels 0.5-3 mm. long; aments 1-4 or 55 cm. long; capsules 3-8 mm. long, sericeous; erect shrubs. (Griaee)
- F-1. Capsules 3-5 mm. long; pedicels 0.5-1.5 mm. long;
- G-1. Capsules 3-5 mm. long; aments mostly precocious, subsessile or on bracted peduncles to 10 mm. long. 34. S. sericea
- G-2. Capsules 5 mm. long; aments mostly costaneous, on leafy peduncles 0.5-1.5 cm. long. 35. S. coactilis
- F-2. Capsules 5-8 mm. long; pedicels 1.5-3 mm. long; peduncles bracted, 0.5-2 cm. long.
- G-1. Capsules 6-8 mm. long; pedicels mostly 2.5-3 mm. long; leaves glabrous. 32. S. petiolaris
- G-2. Capsules 5-8 mm. long; pedicels mostly 1.5-2.5 mm. long; leaves more or less pubescent. 33. S. subsericea
- E-3. Pedicels 3-5 or 6 mm. long; capsules 7-9 or 10 mm. long, finely pubescent; aments 2-7 mm., short-peduncled; scales greenish-yellow, oblanceolate; styles very short. (Rostretae) 39. S. bobbiana
- D-2. Styles 0.7-1.5 or rarely 2 mm. long (~~rarely~~ 0.5 mm. in No. 27); stigmas 0.3-0.8 mm. long (shorter in No. 27).
- E-1. Peduncles leafy, 1-4 cm. long; prostrate shrubs; leaves glabrous and veiny inage; capsules 5-8 mm. long. (Ovalifoliae).
- F-1. Aments 3-9 or 10 cm. long; capsules thinly sericeous; pedicels 0.5-1 mm. long; leaves sparingly serrulate. 21. S. arctophila
- F-2. Aments 2-7 cm. long; capsules densely gray-pubescent, sessile or subsessile; leaves entire 22. S. anglorum
- E-2. Peduncles leafy, or bracted, or naked, 0.5-1.5 or 2.5 cm. long (to 5 cm. in No. 24); ascending or mostly erect shrubs.
- F-1. Scales yellowish-brown, obovate to oblanceolate, villous; capsules 5-8 mm. long, subsessile, pubescent; styles 0.5-1.3 mm. long; low shrubs. (Glaucae).
- G-1. Aments 0.7-2 cm. long; peduncles leafy, 5-12 mm. long; capsules 5-6 or 7 mm. long. 23. S. brachycarpa
- G-2. Aments 2-6 cm. long; peduncles leafy, 1-5 cm. long; capsules 6-8 mm. long. 24. S. cordifolia

F-2. Scales brownish-black, villous.

G-1. Capsules 5-8 mm. long; styles 0.8-1.5 or 2 mm. long; stigmas 0.4-0.7 mm. long.

H-1. Capsules and leaves more or less tomentose; aments 1-5 cm. long; leafy peduncles 0.5-2 cm. long. (Candidae).

I-1. Capsules subsessile; styles 1-1.5 mm. long. 25. *S. candida*

I-2. Pedicels 1-2.5 mm. long; styles 0.8-1 mm. long. 26. *S. cryptodonta*
S. argyrocarya

H-2. Capsules sericeous; aments 2-6 or 8 cm. long; leaves glabrous or thinly sericeous beneath (Phyllcifoliae).

I-1. Aments precocious, sessile; pedicels 0.1-0.5 mm. 30. *S. planifolia*

I-2. Aments coetaneous on leafy-bracted peduncles 0.5-2.5- cm. long; pedicels 1-1.5 or 2 mm. long. 31. *S. pedunculata*

G-2. Capsules 2-6 cm. long, sericeous; styles 0.5-1.2 mm. long; aments on bracted peduncles 0.5-1 cm. long; leaves linear-lanceolate, sericeous beneath (Pellitae)

H-1. Aments 1-2.5 cm. long; capsules 2-4 mm. long; pedicels 1-2 mm. long; styles 0.5 mm.; stigmas 0.1-0.3 mm. 27. *S. argyrocarya*

H-2. Aments 2-6 cm. long; capsules 4-6 mm. long; subsessile; styles 0.7-1.2 mm. long; stigmas 0.4-0.8 mm. long.

I-1. Aments subprecocious to coetaneous, subsessile or on bracted peduncles; native shrub. 28. *S. pellita*

I-2. Aments coetaneous, subsessile on naked peduncles; introduced basket willow. 29. *S. viminalis*

C-2. Aments definitely precocious and sessile or subsessile.

D-1. Styles 1-1.5 mm. long; stigmas 0.3-0.5 mm. long; capsules 6-7 mm. long; leaves mostly glabrous (Phyllcifoliae). 30. *S. planifolia*

D-2. Styles 0.1-0.7 mm. long; stigmas 0-0.7 mm. long.

E-1. Capsules 3-5 mm. long; styles and stigmas 0.1-0.3 mm. long.

F-1. Pedicels 0.5-1 or rarely 1.5 mm. long; capsules 3-5 mm. long, blunt (Griseae). 34. *S. sericea*

F-2. Pedicels none; capsules 3-4 mm. long; stamens united; leaves glabrous; introduced. (Purpureae). 40. *S. purpurea*

E-2. Capsules 6-10 or 12 mm. long, gray-pubescent, mostly rotate; styles and stigmas 0.2-0.7 mm. long. (Discolorae).

F-1. Aments 2-8 or 10 cm. long; capsules 7-10 or 12 mm. long; pedicels 1.5-3 mm. long; styles and stigmas 0.5-0.7 mm. long; leaves mostly glabrous 36. *S. discolor*

F-2. Aments 1.5-3 cm. long; capsules 6-9 mm. long; pedicels 1-2 mm. long; styles and stigmas 0.2-0.4 mm. long; leaves hairy.

G-1. Aments 1.5-3 cm. long; capsules 7-9 mm. long; leaves mid-sized, oblanceolate 37. *S. humilis*

G-2. Aments 1-2 cm. long; capsules 6-7 mm. long; leaves small, elliptical. 38. *S. tristis*