

Edmonton Willow Season 2020

Pictorial presentation of willow observations
carried out by a team of willow enthusiasts in
Whitemud North and Wagner NA in 2020

Compiled by Jiri Novak, 2021

Edmonton Willow Season 2020

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Salix bebbiana

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Salix maccalliana

Salix interior

Background

Patsy Cotterill and Elisabeth Beaubien started tagging and tracking willows in Whitemud North Park in 2014. Varina Crisfield joined them for one season in 2015. An article in Iris, The Alberta Native Plant Council Newsletter, No. 77 November 2015, describes their explorations "*Willow Watching Along Whitemud Creek, North Saskatchewan River Valley, Edmonton*". A few visits to the "willows" were also undertaken in 2016, 2017, and 2018. Patsy Cotterill then located and tagged more willow specimens in Wagner NA and more frequent willow watching resumed in 2019, this time including new observers Manna Parseyan and Jiri Novak.

Far more observations were done and the respective data was recorded in 2020. The team observed 13 species (49 tagged specimens) throughout the growing season and took 681 photos depicting phenophases of the tracked specimens.

There were 28 observations done in Whitemud North from 16-Apr to 14-Oct and 27 observations done in Wagner NA from 19-Apr to 14-Oct. That represents 55 trips in total although not every trip was attended by everyone. Photographs were taken by Patsy Cotterill (PC), Jiri Novak (JN), and by Manna Parseyan (MP).

Phenology Charts – 1 of 3

Data from observations

49 tagged specimens of 13 willow species were observed. For each species, there were obviously some variations in the species phenophase (event) dates from one specimen to the next based on their genetic make-up, age, diseases, local growing conditions such as the amount of moisture, overcrowding, and other factors. Such spread of event dates at the start of the growing season was found to be in a range of several days, and those dates were then averaged to present them in the phenology charts on pages 4 and 5.

Spread of early event timing for each species listed in the order of appearance

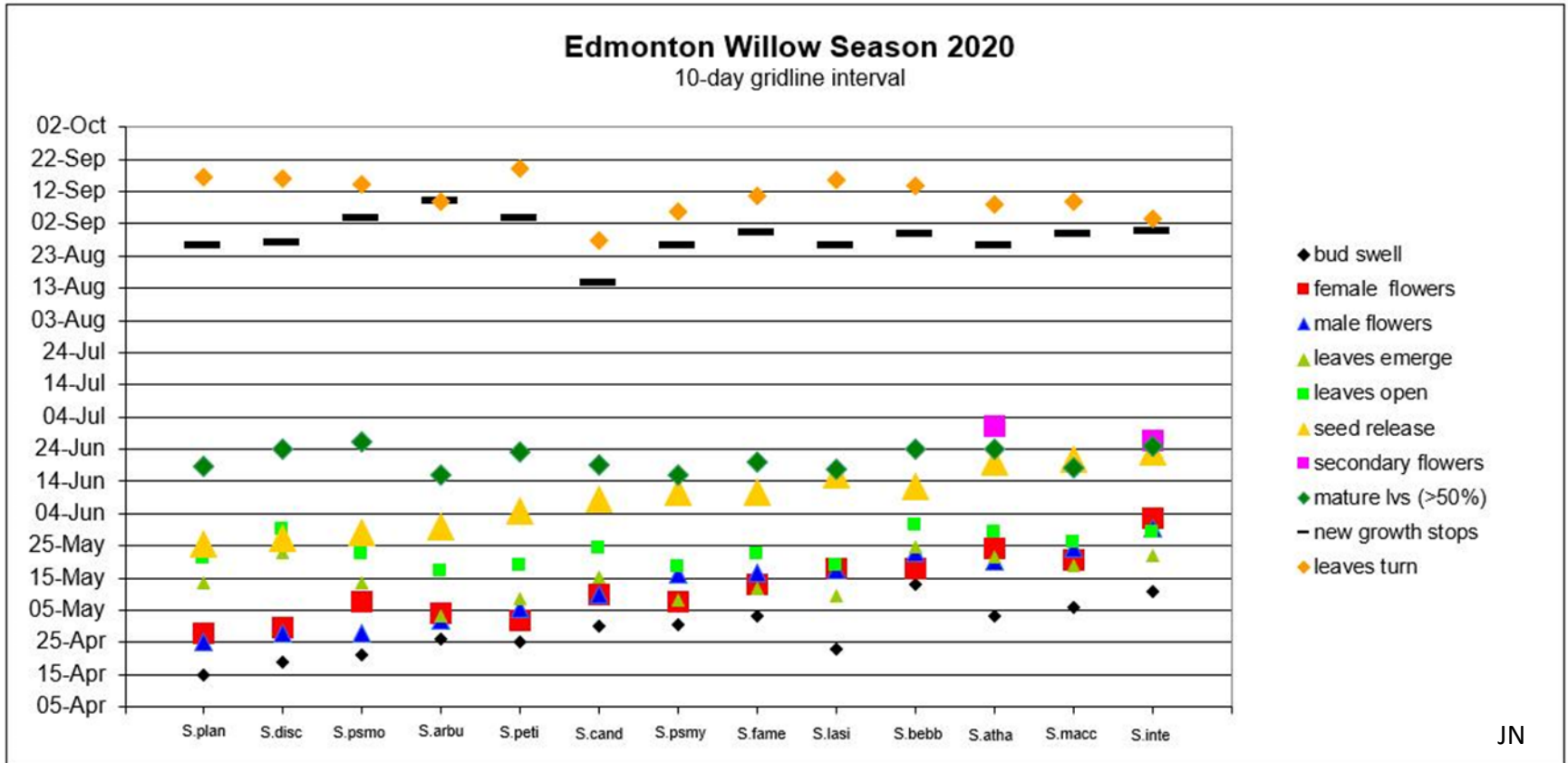
<i>Salix planifolia</i> (S.plan)	4 specimens, 11-day spread in leafing out dates (delayed in wet locations)
<i>Salix discolor</i> (S.disc)	5 specimens, 6-day spread in leafing out dates
<i>Salix pseudomonticola</i> (S.psmo)	3 specimens, Wagner started out 14 days later than Whitemud
<i>Salix arbusculoides</i> (S.arbu)	2 specimens, insufficient data
<i>Salix petiolaris</i> (S.peti)	3 specimens, 4-day spread in early phenophases timing
<i>Salix candida</i> (S.cand)	5 specimens, Wagner started out 3-7 days later than Whitemud
<i>Salix pseudomyrsinites</i> (S.psmo)	3 specimens, Whitemud flowering started 9 days later than Wagner
<i>Salix famelica</i> (S.fame)	3 specimens, 10-day spread in early phenophases timing
<i>Salix lasiandra</i> (S.lasi)	5 specimens, 8-day spread in early phenophases timing
<i>Salix bebbiana</i> (S.bebb)	6 specimens, 8-day spread in early phenophases timing
<i>Salix athabascensis</i> (S.atha)	2 specimens, 5-day spread in early phenophases timing
<i>Salix maccalliana</i> (S.macc)	4 specimens, 5-day spread in flowering dates
<i>Salix interior</i> (S.inte)	4 specimens, 7-day spread in early phenophases timing

Chart legend

bud swell	buds swelling and/or tips start to open up
female flowers	catkin flowering begins, first few stigmas moist
male flowers	catkin flowering begins, first pollen shed
leaves emerge	leaves start to unfold, up to 25% unfolded
leaves open	leaves unfolded 75% to 100%
seed release	first capsules shedding seed
secondary flowers	some new catkins appear on new shoots
mature lvs (>50%)	more than 50% of leaves appear mature (with a hardened surface patina)
new growth stops	summer growth of new shoots and leaves stops
leaves turn	end of photosynthesis, up to 25% of leaves start to turn yellow

Phenology Charts – 2 of 3

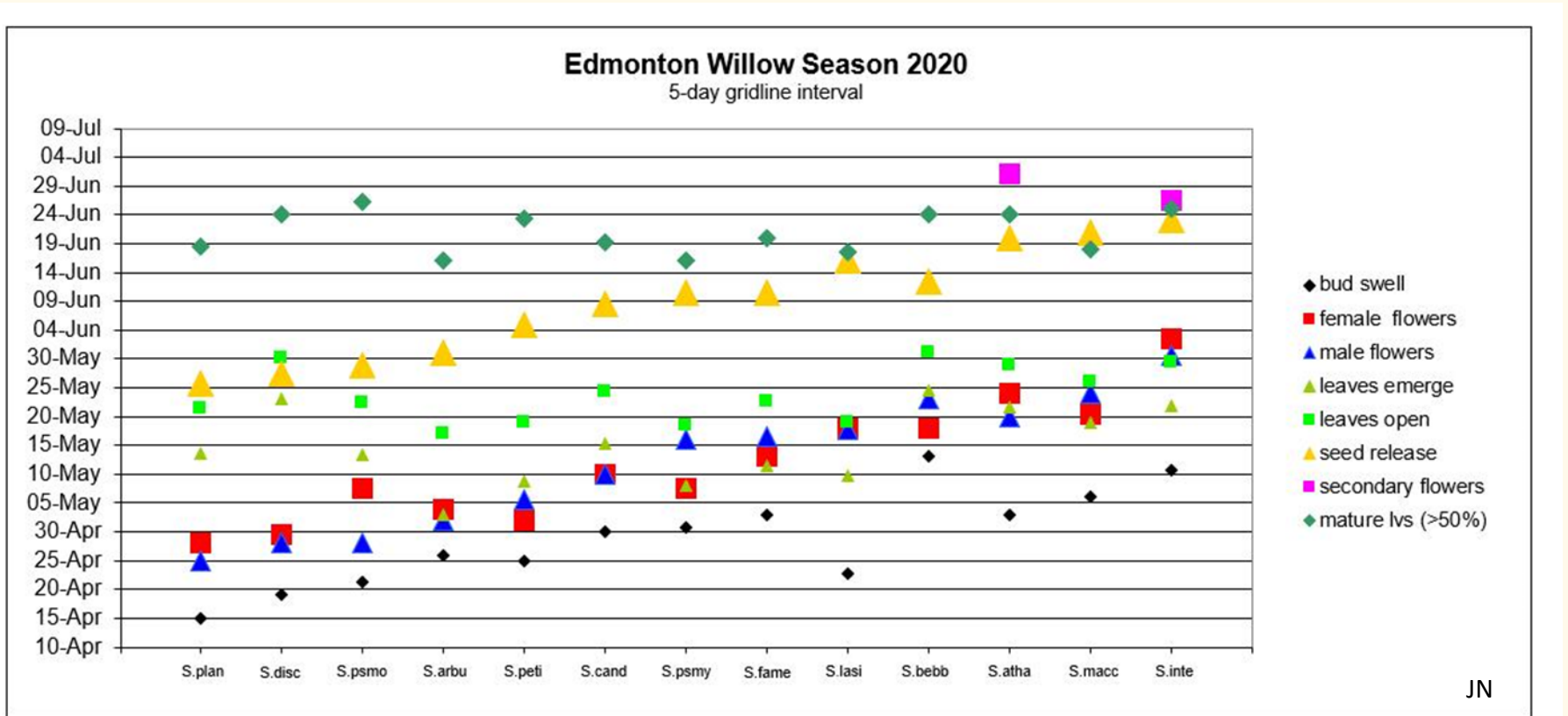
Phenology Chart 5-Apr to 2-Oct, 2020



JN

Phenology Charts – 3 of 3

Phenology Chart 10-Apr to 9-Jul, 2020



Salix planifolia (flat-leaved willow, tea-leaved willow, plane-leaved willow) - 1 of 3

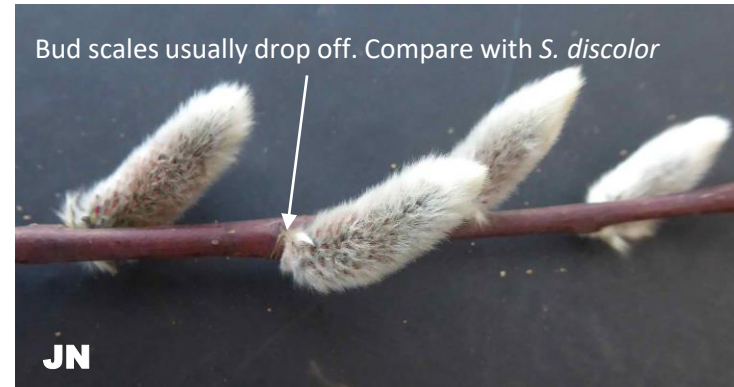


Leaves 2020-07-07
Wagner NA



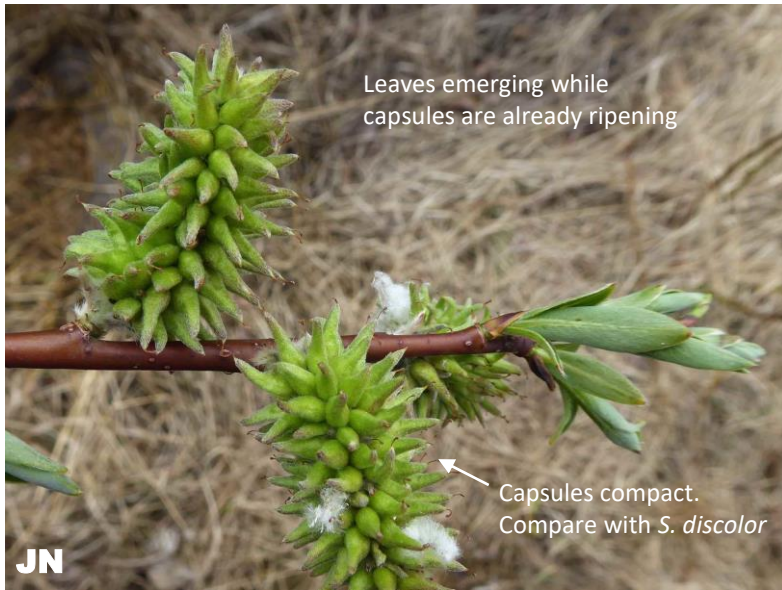
Glaucous
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

Salix planifolia (flat-leaved willow, tea-leaved willow, plane-leaved willow) - 2 of 3



Note: Early catkins (aka pussy willows) collected and sold for decorative purposes are usually those of introduced cultivars. From our native willows, *S. planifolia* is usually picked most often, closely followed by *S. discolor*.

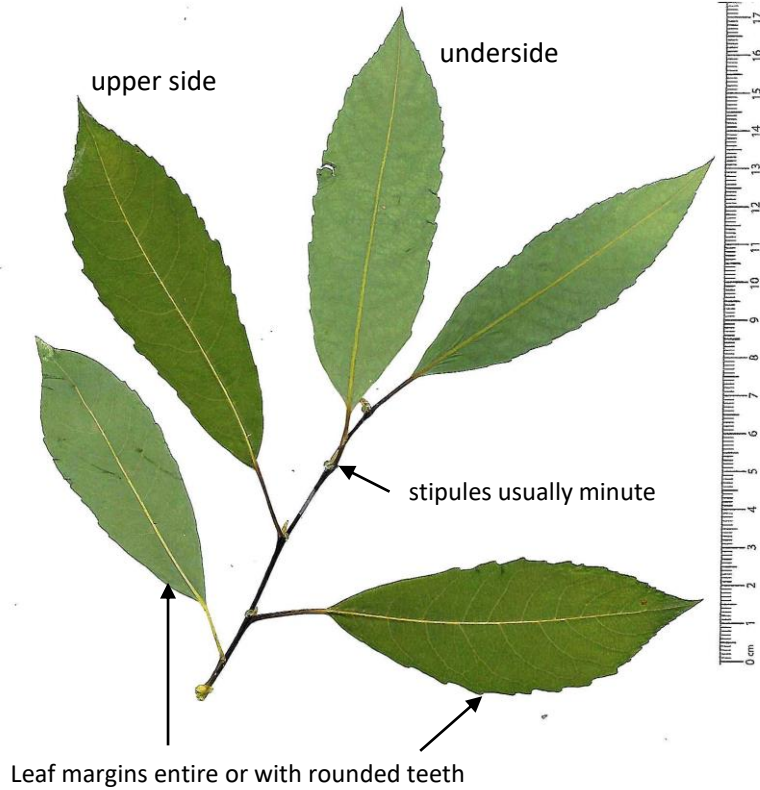
Salix planifolia (flat-leaved willow, tea-leaved willow, plane-leaved willow) - 3 of 3



Salix discolor (pussy willow) - 1 of 4

Salix discolor 2020-07-07

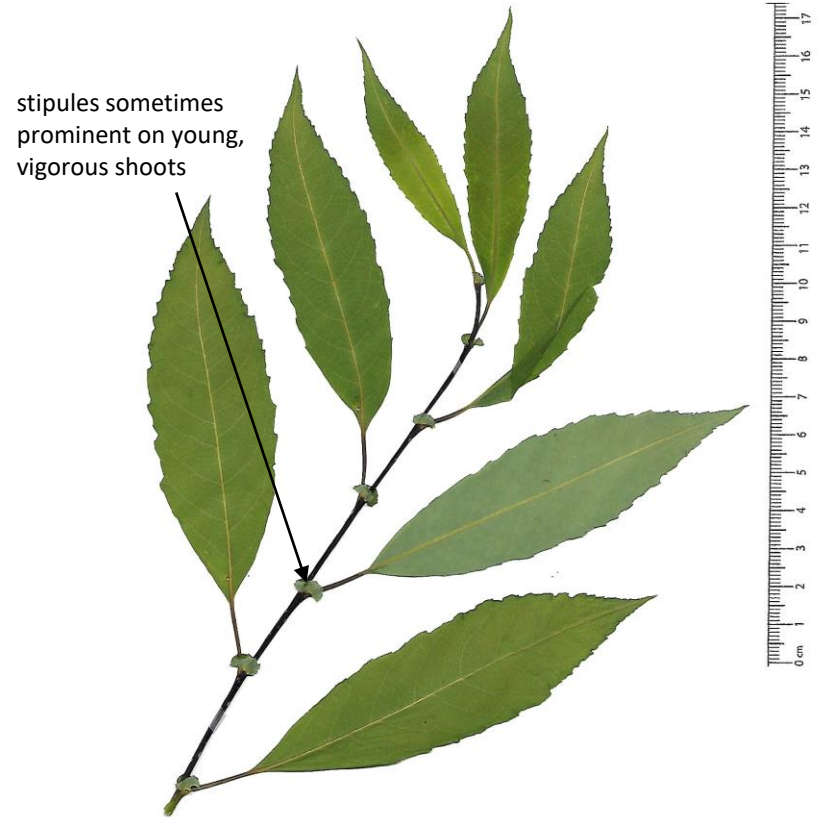
Whitemud 40F



JN

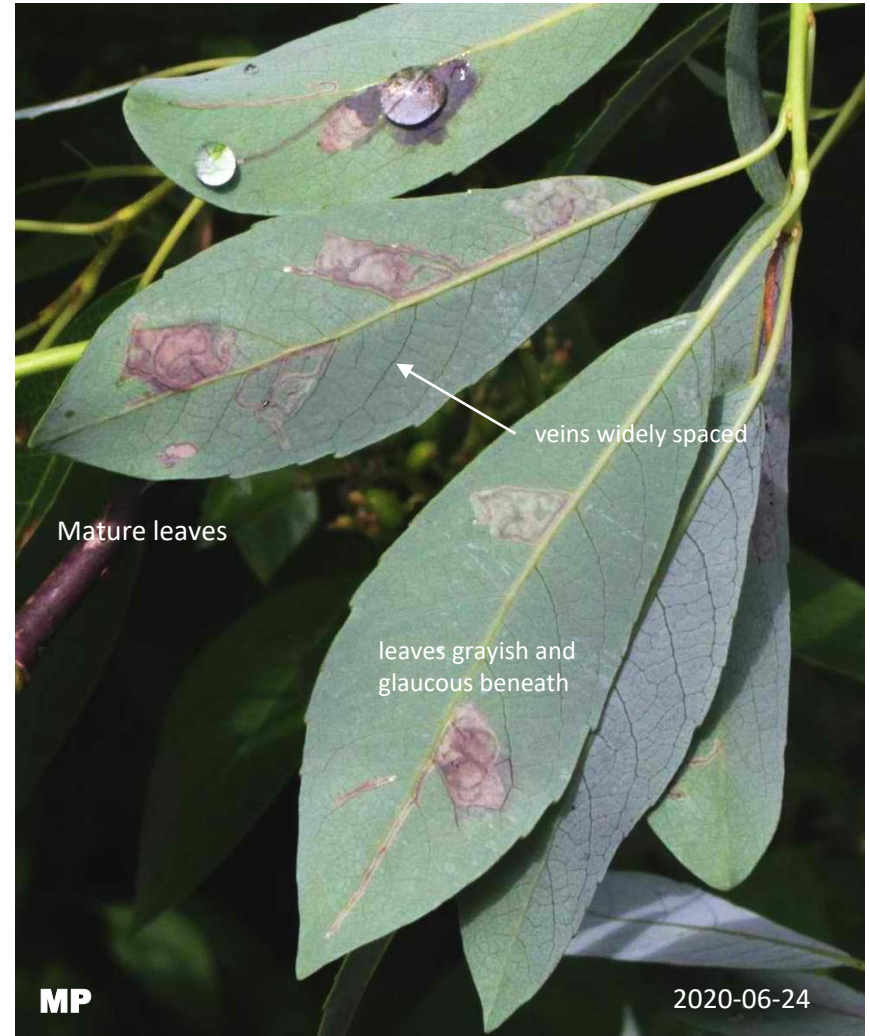
Salix discolor 2020-07-24

Whitemud 40F



JN

Salix discolor (pussy willow) - 2 of 4



Glaucous
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

Salix discolor (pussy willow) - 3 of 4



Bud scales robust and persistent. Compare with *S. planifolia*

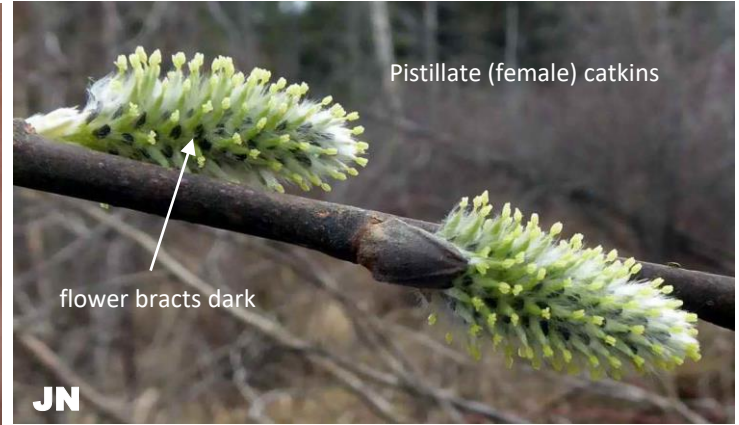
MP

Twigs dark brown to greenish brown



Female catkins starting

MP



Pistillate (female) catkins

flower bracts dark

JN



Staminate (male) catkins

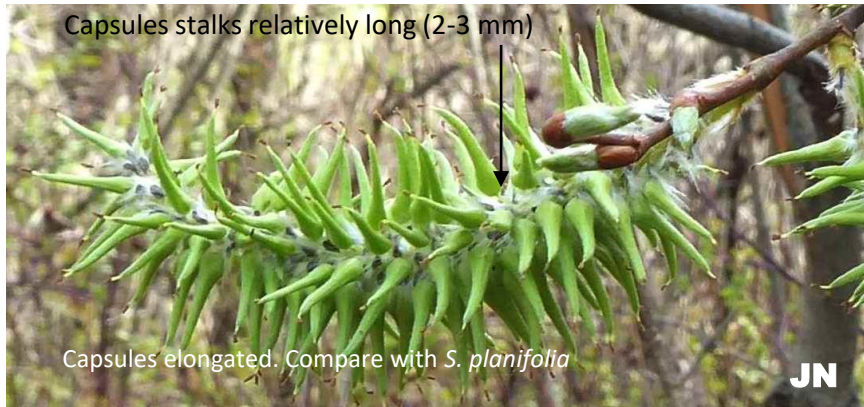
MP



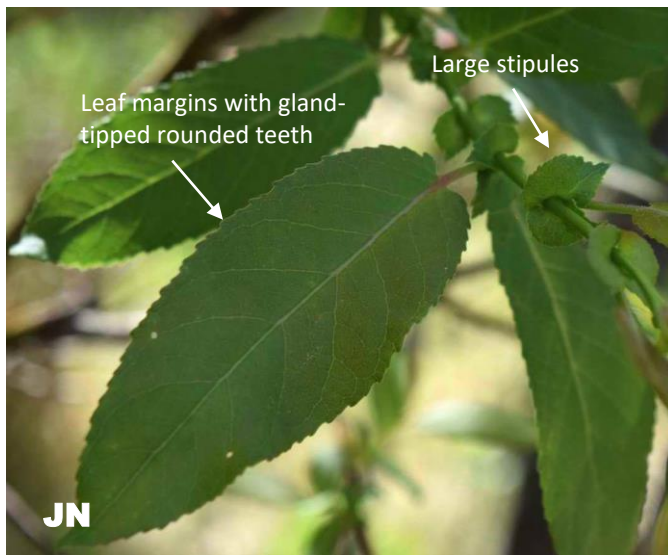
Staminate (male) catkins

JN

Salix discolor (pussy willow) - 4 of 4



Salix pseudomonticola (false mountain willow) 1 of 4



Salix pseudomonticola 2020-07-07

Whitemud 29M

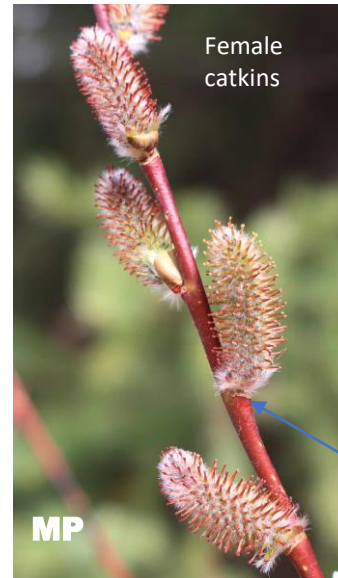
Leaves glaucous beneath



Glaucous

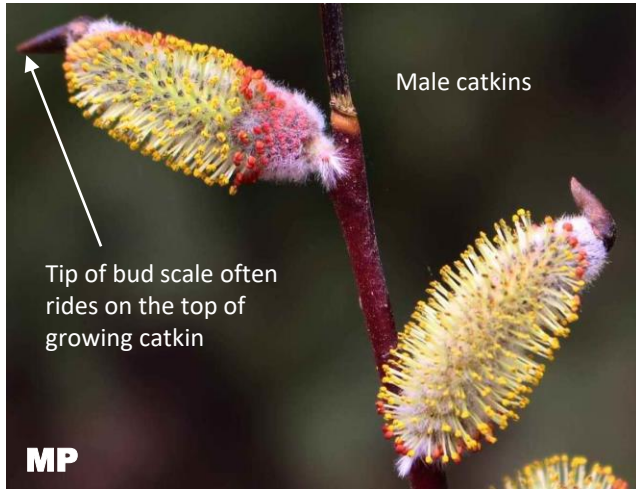
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

Salix pseudomonticola (false mountain willow) 2 of 4



Catkins are stalkless or on very short, leafy branches

Salix pseudomonticola (false mountain willow) 3 of 4



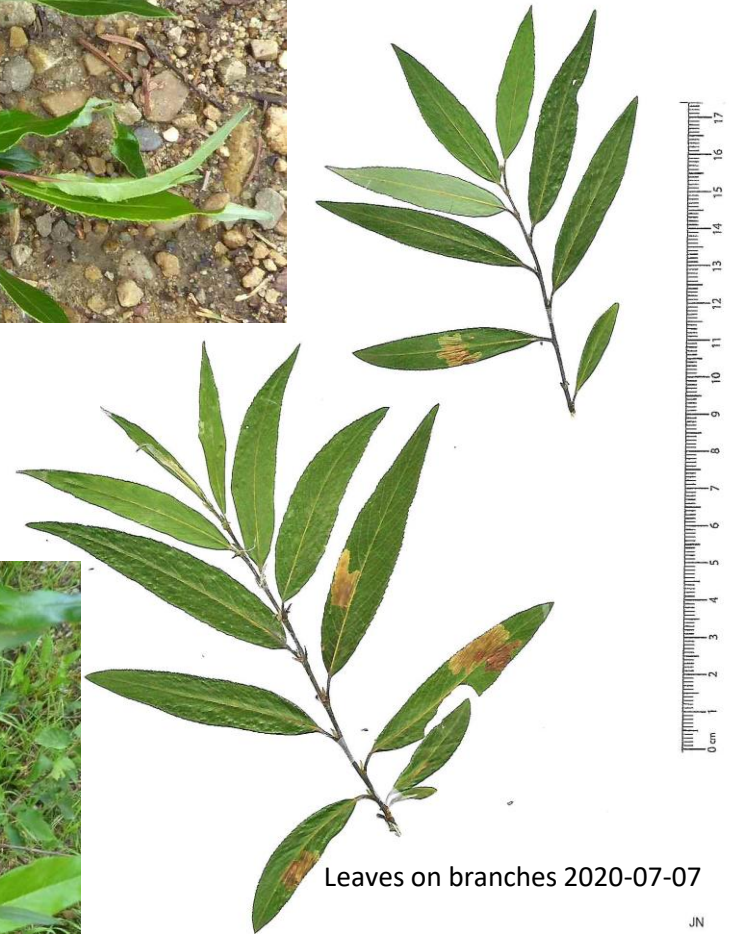
Salix pseudomonticola (false mountain willow) 4 of 4



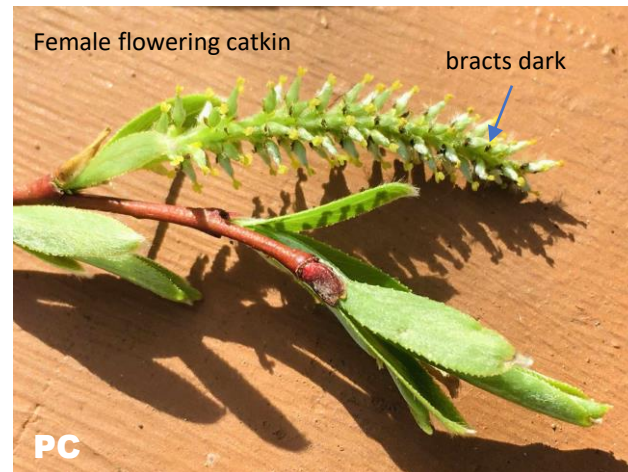
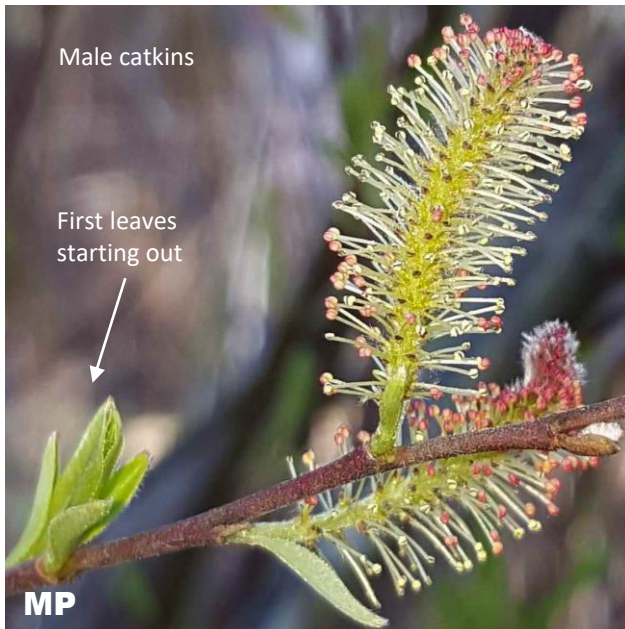
Salix arbusculoides (shrubby willow, little-tree willow) 1 of 2



Leaves with numerous small teeth
glossy above;
pale green beneath (sometimes
glaucous) with appressed white hairs



Salix arbusculoides (shrubby willow, little-tree willow) 2 of 2



Catkins on short, leafy shoots or stalkless

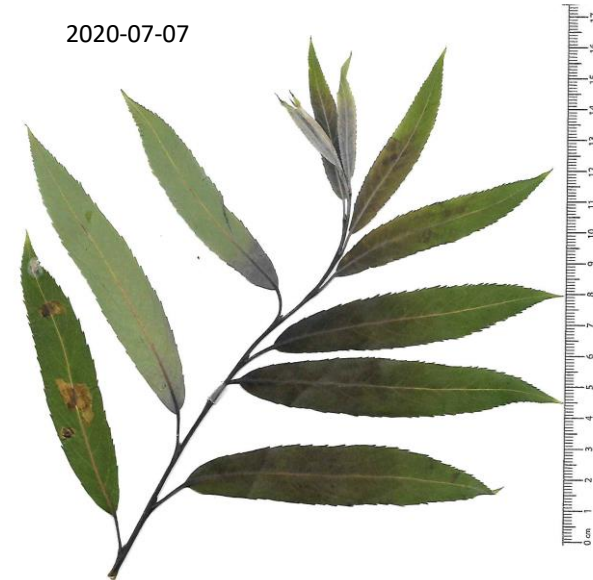
Salix petiolaris (basket willow, meadow willow) 1 of 4



Older leaves green above and glaucous below

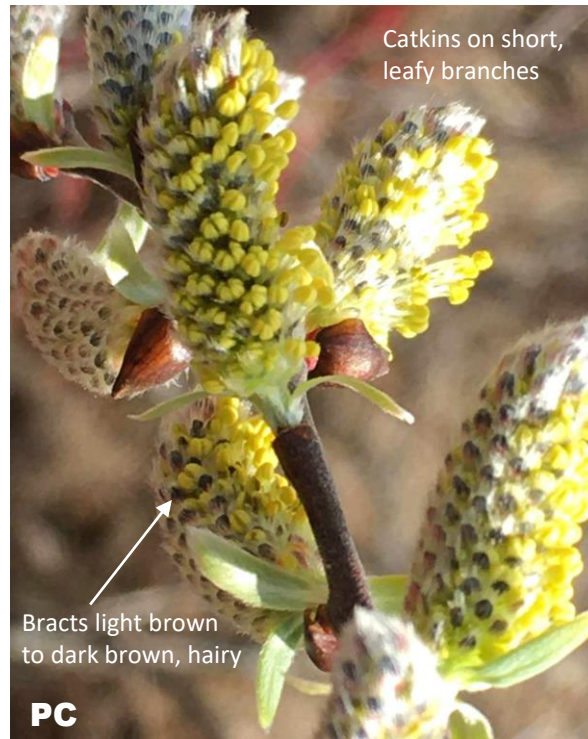
Glaucous:
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

2020-07-07



Juvenile leaf margins entire, later with small gland-tipped teeth, especially in upper half

Salix petiolaris (basket willow, meadow willow) 2 of 4



↑ Male catkins faded ↓



Salix petiolaris (basket willow, meadow willow) 3 of 4



Salix petiolaris (basket willow, meadow willow) 4 of 4



Twigs yellowish to reddish brown



Salix candida (hoary willow, sage willow) 1 of 4

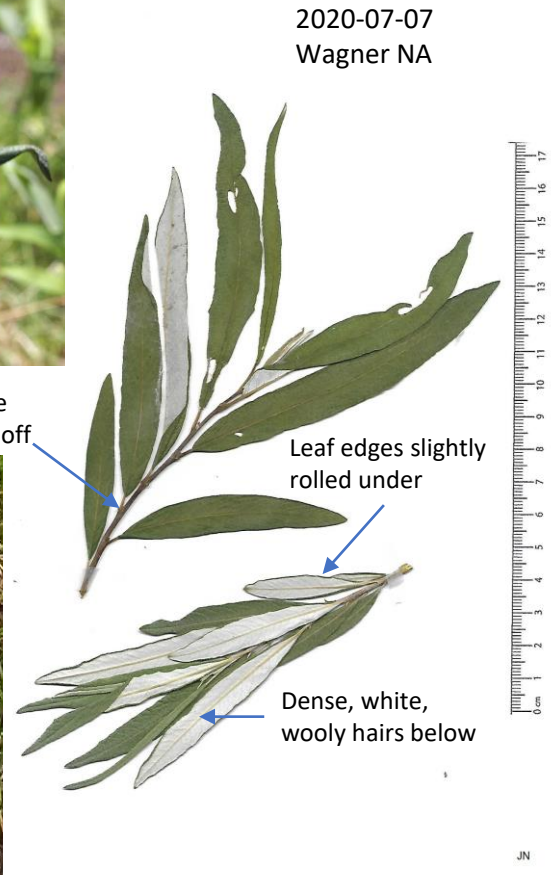
June photos



Low shrub, rarely taller than 1 m



Leaves wrinkled above due to impressed veins



2020-07-07
Wagner NA

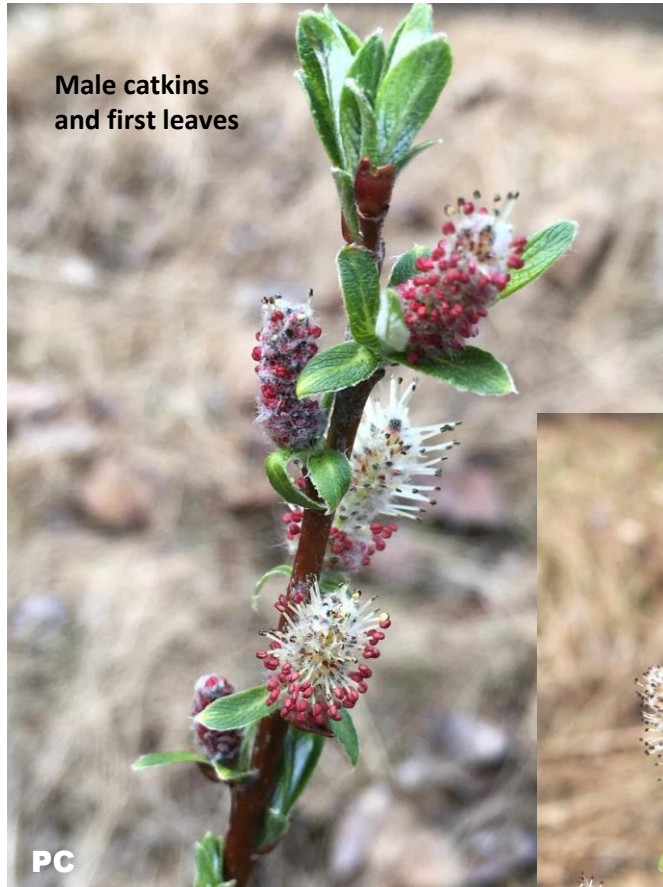
Salix candida (hoary willow, sage willow) 2 of 4

Twigs purplish and sparsely hairy when young



JN

Buds open up greenish



**Male catkins
and first leaves**

PC

Catkins on very short, leafy branches, appear with leaves



JN

Male flowers fading



MP

Salix candida (hoary willow, sage willow) 3 of 4



Pistillate (female) catkins



Salix candida (hoary willow, sage willow) 4 of 4

Capsules open up and release seeds



Salix pseudomyrsinites (tall blueberry willow) 1 of 3

Low-growing shrub, sometimes spreading laterally (variable)



Salix pseudomyrsinites 2020-07-07
Whitemud 23F

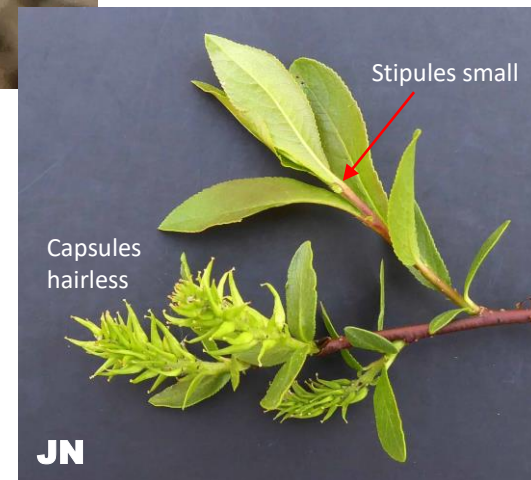


Salix pseudomyrsinites 2020-07-07
Wagner 3F

Stipules on
vigorous young
shoots



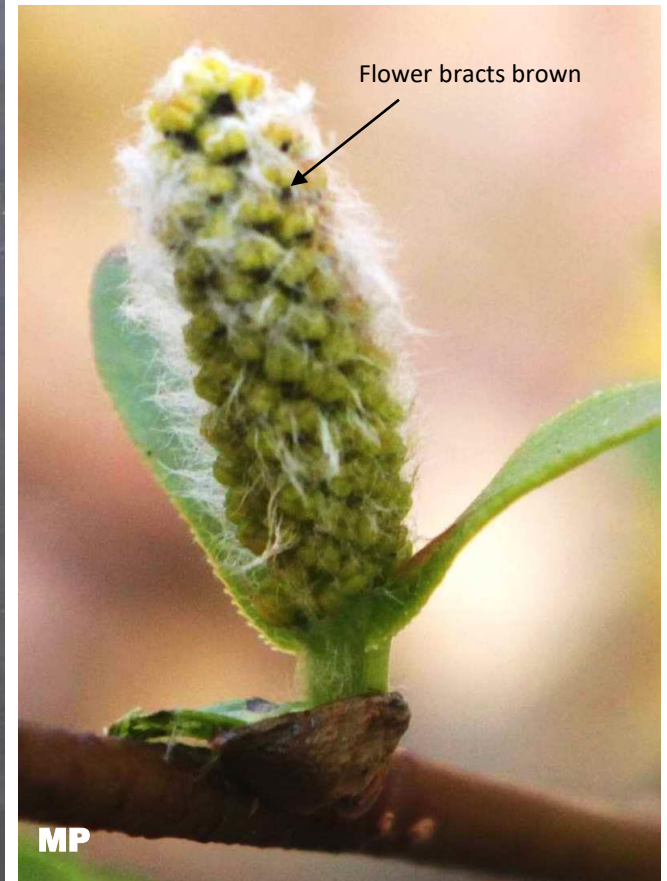
Salix pseudomyrsinites (tall blueberry willow) 2 of 3



Salix pseudomyrsinites (tall blueberry willow) 3 of 3



Buds of catkins
and leaves

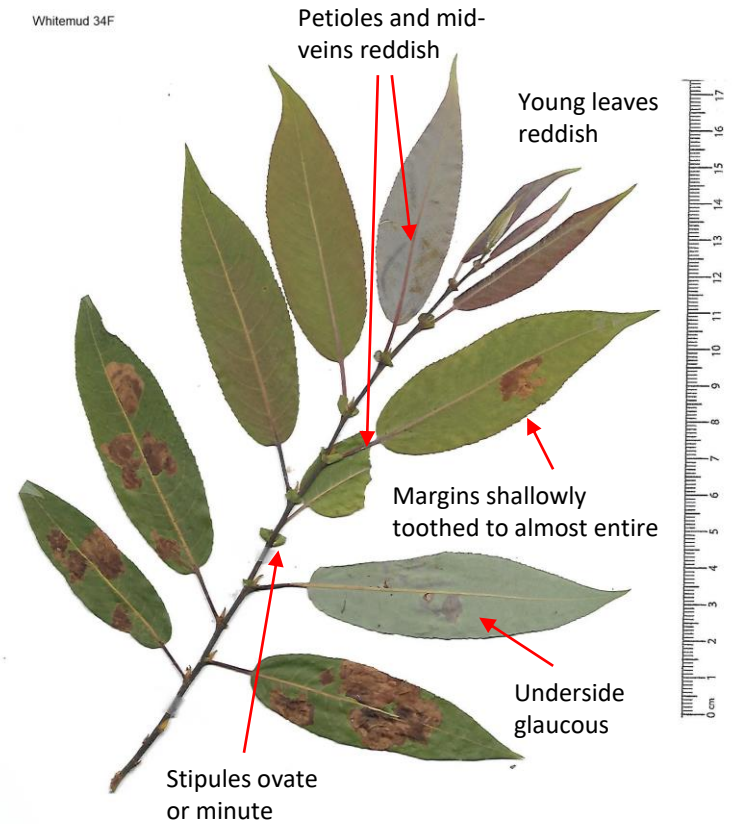


Catkins born on short, leafy branches

Salix famelica (hungry willow, starved willow) 1 of 4



Salix famelica 2020-07-07
Whitemud 34F



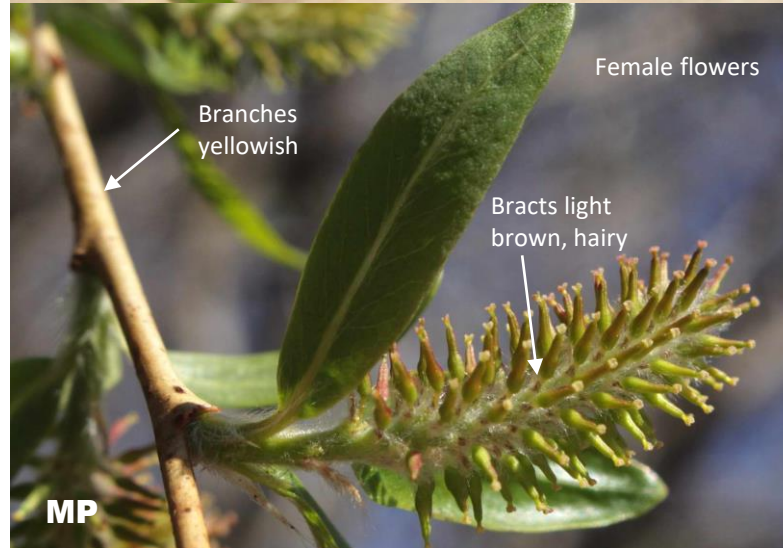
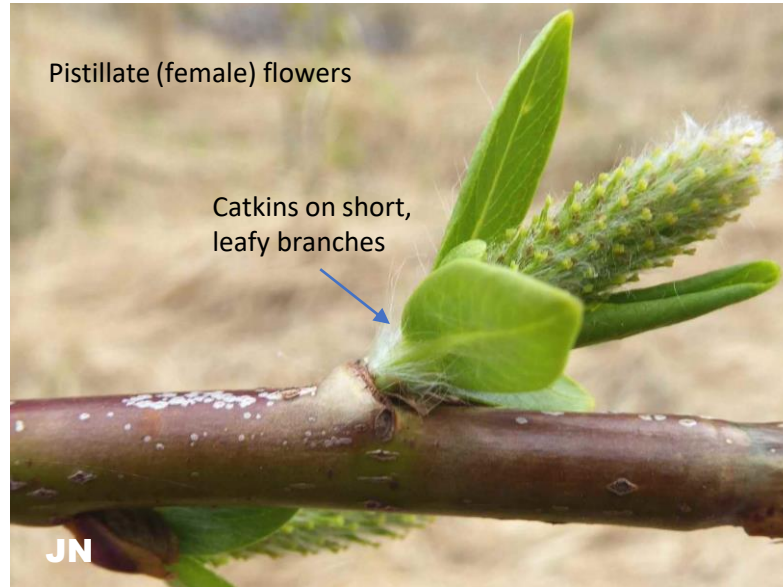
Glaucous
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

JN

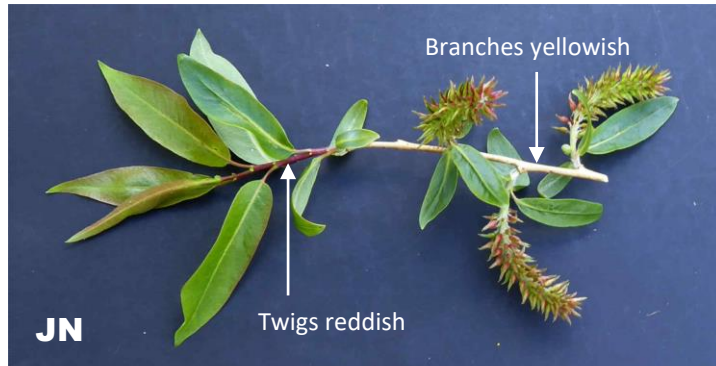
Salix famelica (hungry willow, starved willow) 2 of 4



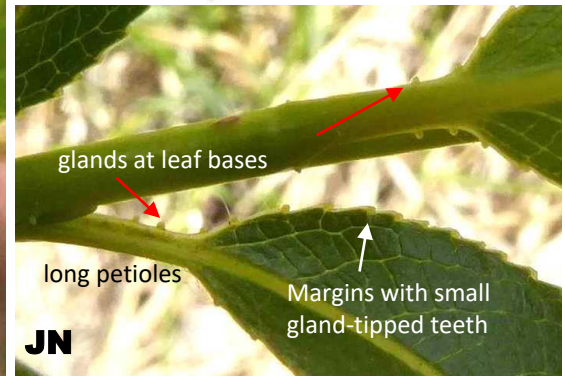
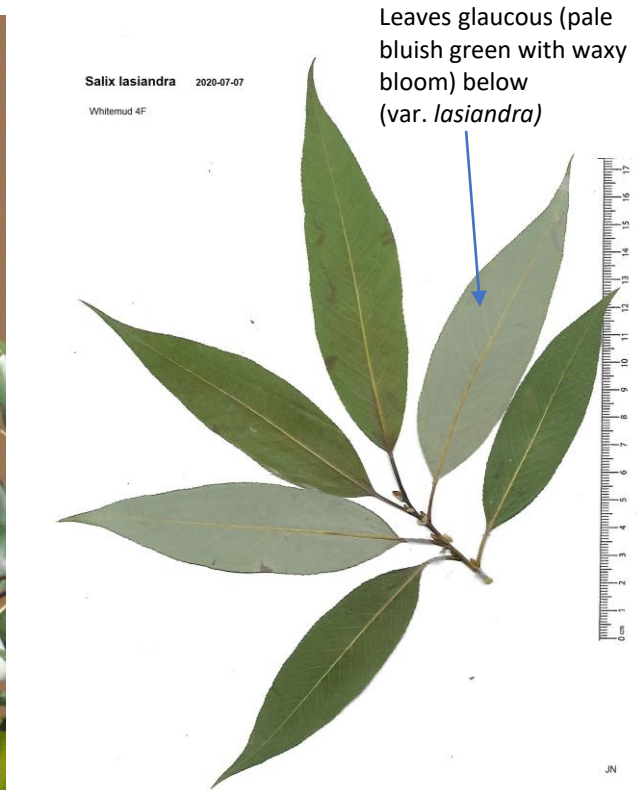
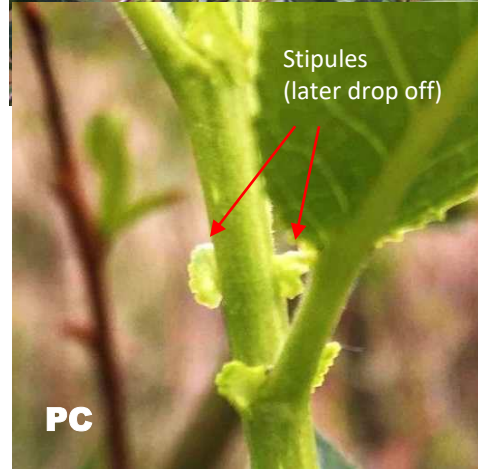
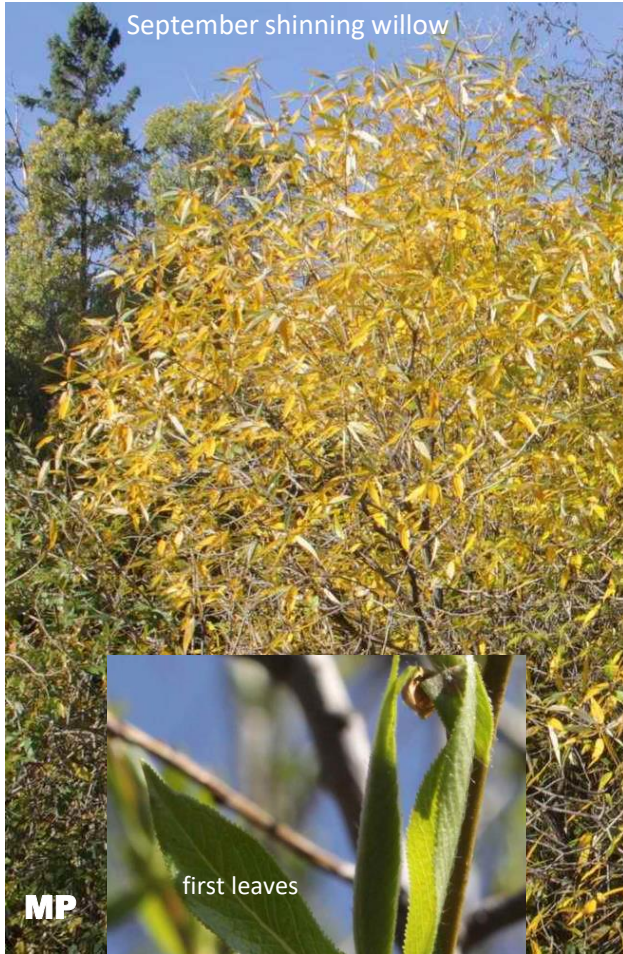
Salix famelica (hungry willow, starved willow) 3 of 4



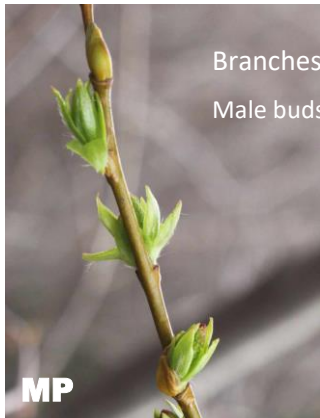
Salix famelica (hungry willow, starved willow) 4 of 4



Salix lasiandra (western shining willow, Pacific willow) 1 of 4

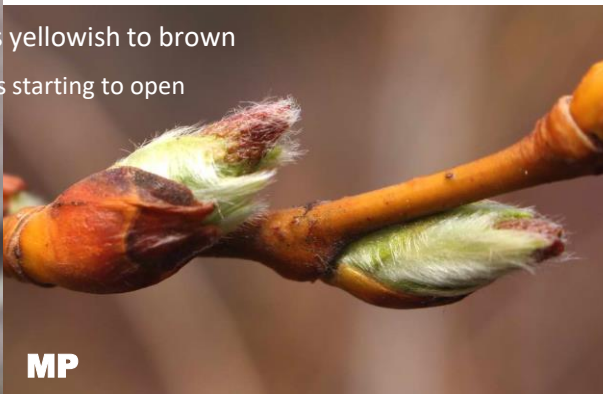


Salix lasiandra (western shinning willow, Pacific willow) 2 of 4

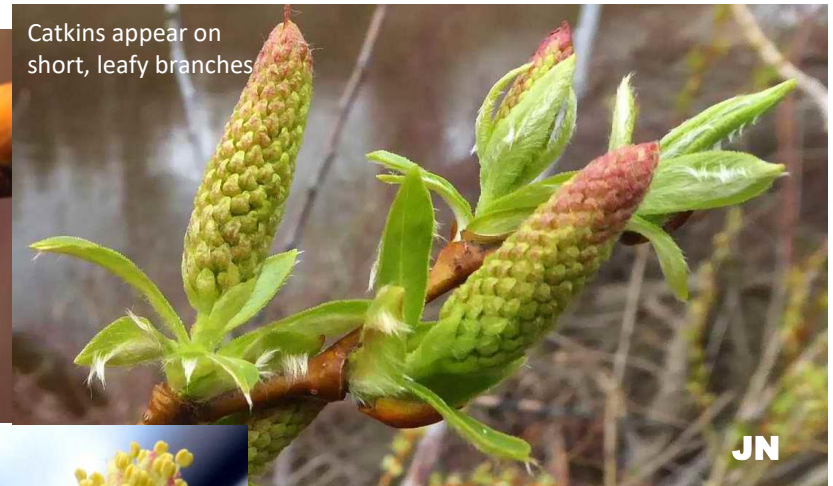


Branches yellowish to brown
Male buds starting to open

MP



MP



Catkins appear on short, leafy branches

JN



Staminate (male) catkins

Longer leaves on vegetative branches

MP



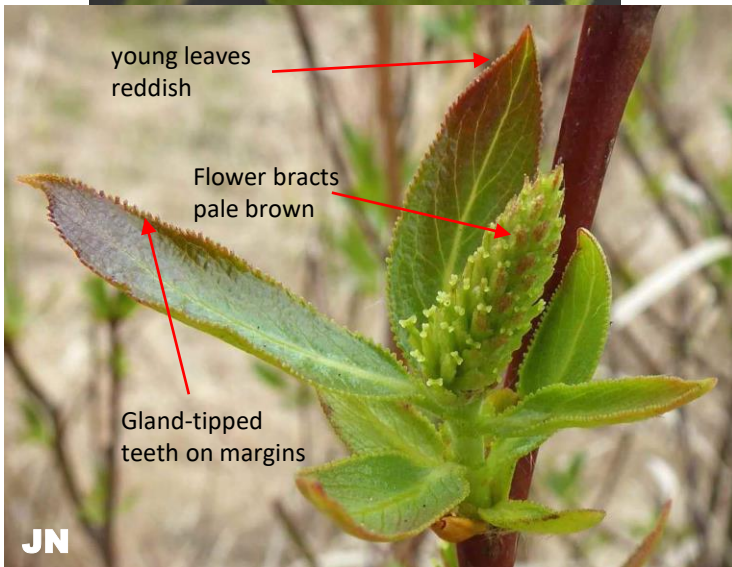
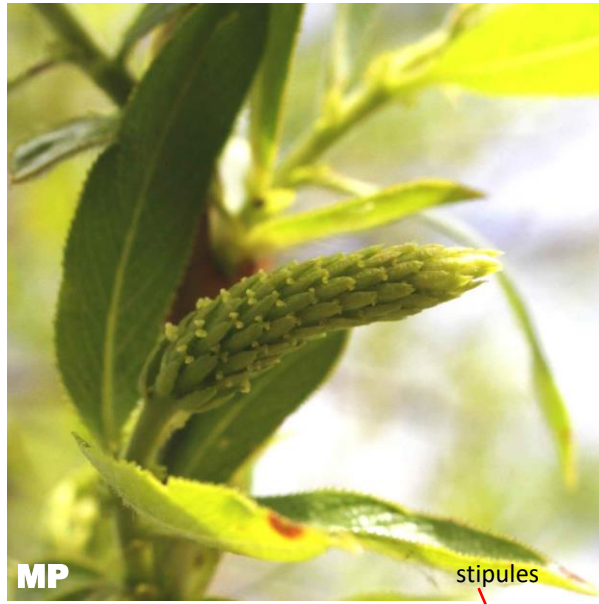
Flowers with (usually) five stamens (3-8)

MP



JN

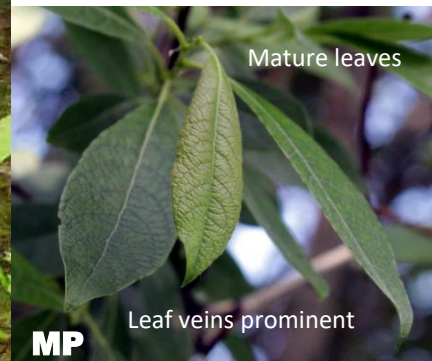
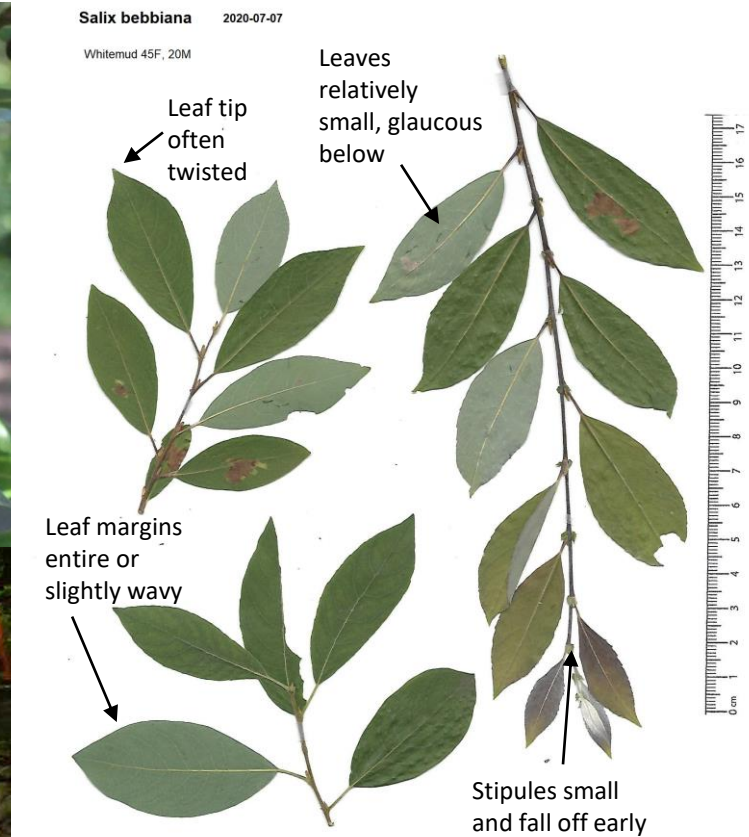
Salix lasiandra (western shining willow, Pacific willow) 3 of 4



Salix lasiandra (western shinning willow, Pacific willow) 4 of 4



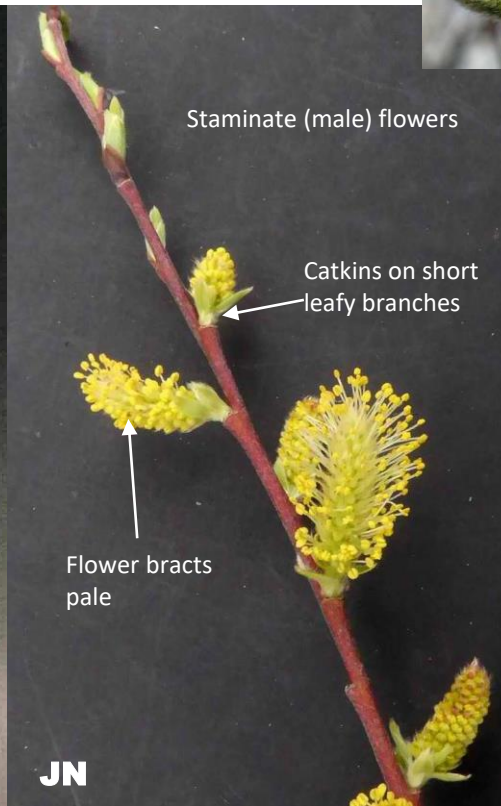
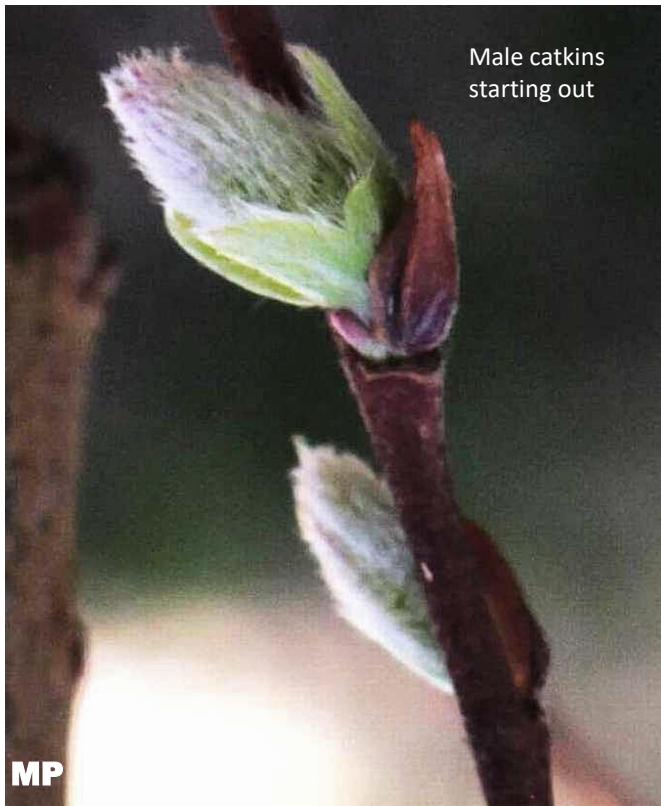
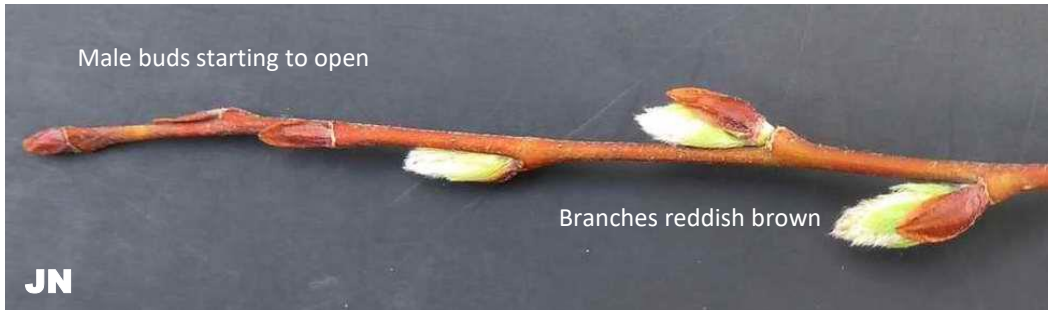
Salix bebbiana (beaked willow, Bebb's willow) 1 of 4



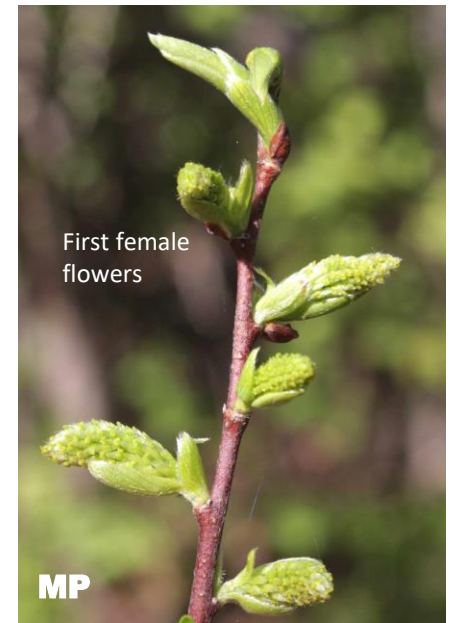
Glaucous
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

JN

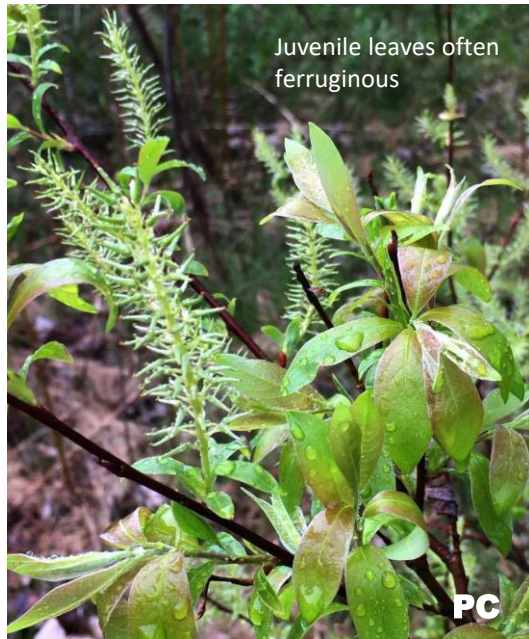
Salix bebbiana (beaked willow, Bebb's willow) 2 of 4



Salix bebbiana (beaked willow, Bebb's willow) 3 of 4



Salix bebbiana (beaked willow, Bebb's willow) 4 of 4



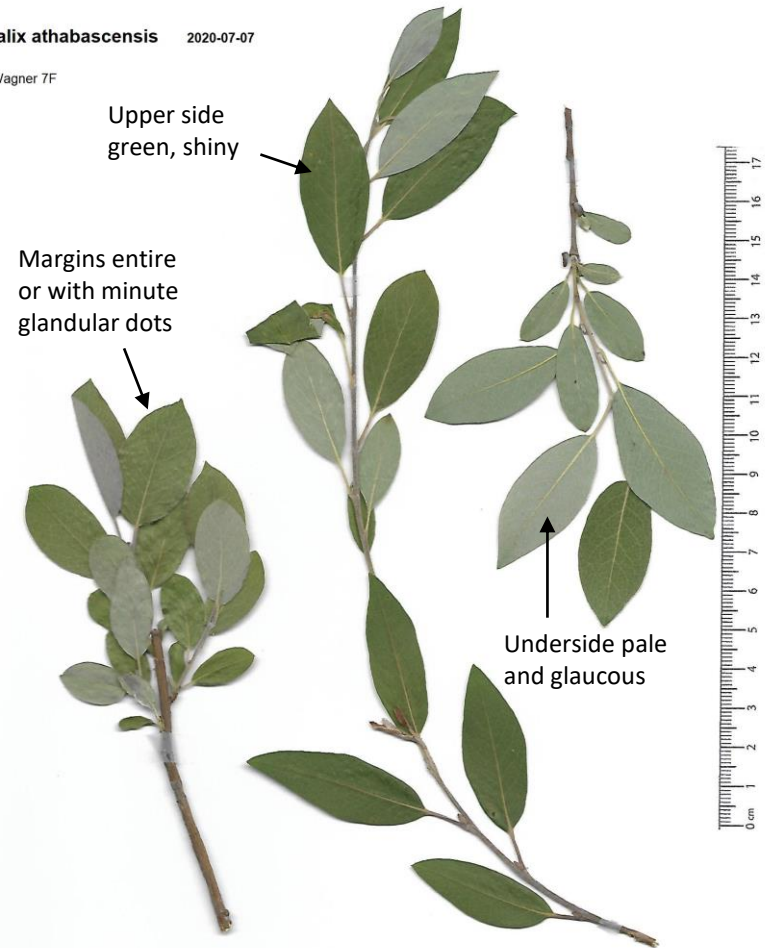
Salix athabascensis (Athabasca willow) 1 of 4

Low-growing shrub, seldom > 1 m, in fens and bogs



Salix athabascensis 2020-07-07

Wagner 7F



Glaucous:
Pale bluish green with waxy bloom (a fine white or bluish waxy powder that is easily removed by rubbing)

JN

Salix athabascensis (Athabasca willow) 2 of 4



Salix athabascensis (Athabasca willow) 3 of 4



Salix athabascensis (Athabasca willow) 4 of 4



Salix maccalliana (McCalla's willow, velvet-fruited willow) 1 of 3



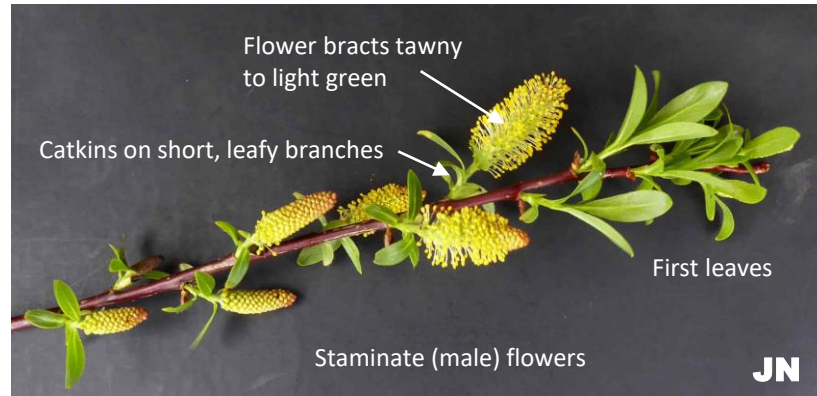
Salix maccalliana 2020-07-07
Wagner 30M

Mature leaves
leathery



Leaves green on both sides

Salix maccalliana (McCalla's willow, velvet-fruited willow) 2 of 3



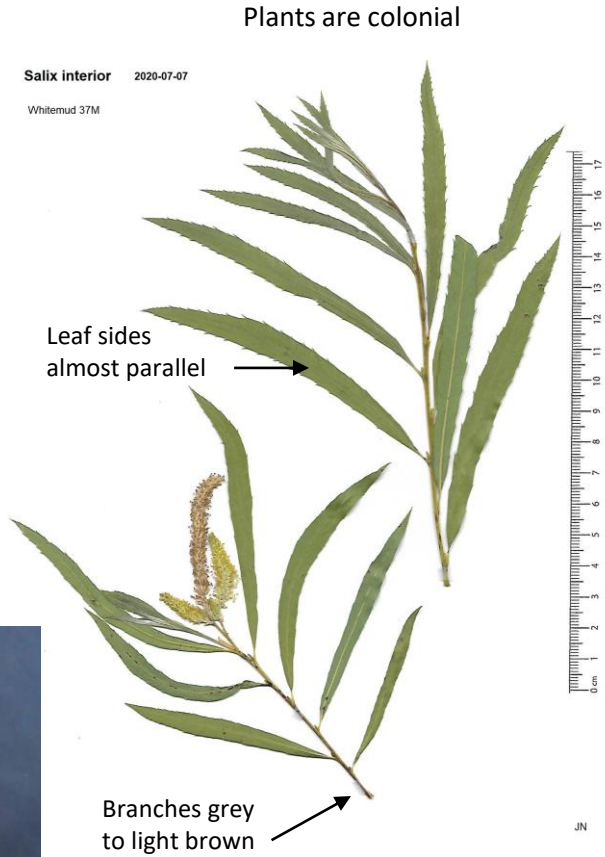
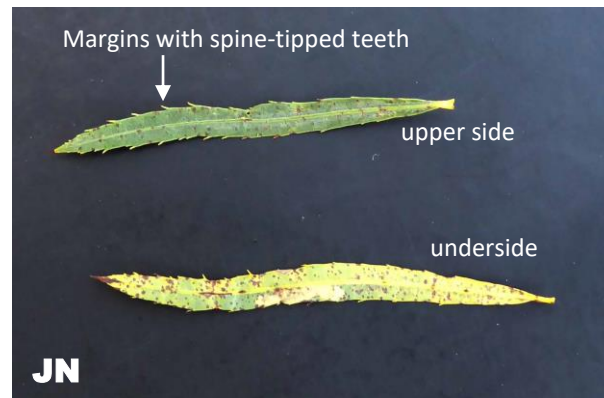
Branches dark, reddish brown, glossy

Salix maccalliana (McCalla's willow, velvet-fruited willow) 3 of 3



Pistillate (female) flowers

Salix interior (sandbar willow) 1 of 3



Note: leaves of similar *S. exigua* have smaller and fewer teeth

Salix interior (sandbar willow) 2 of 3



Salix interior (sandbar willow) 3 of 3



Note: While some capsules are releasing seeds, others are still ripening, and new flower catkins emerge throughout summer

References

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