

Newsletter

**APRIL 2019** 

# President's Corner Florene Carney

It feels like Spring is here, although snow is predicted for the end of the week. I see Shooting Stars coming up as well as Primulas and Gentians. The Saxifragas Bohunka and oppositifolia, in the trough, are blooming and the Bulbocodium is full bloom, brightening up the bed by the herb garden. Because of the high winds we'll be cleaning up sticks and branches for a while but it's great to be able to get outside without coats, hats, and boots.

There are many upcoming events, that are posted elsewhere in the Newsletter, so come and bring a friend. There have been discussions about having "Pop Garden" days. The idea is, if you have a day when your garden is glorious, send a message out and let everyone know they can show up to view it. If you think this is a good idea, let someone on the Executive Board know and we'll try to implement it.

I noticed in the Newsletter from The Sierra Rock Garden Society, that Charles sent out to the membership, they often do field trips last minute as well. There are times when you get out in the wild and see something you think is great and wish you could share. Let's think about how to make that work.

The leftover seeds from the NARGS Seed Exchange came today! There must be something in there that you would like to try. We'll have them at the Mid-town Mall Garden Show on the 20<sup>th</sup> for ARGS members to purchase while reserving a selection for the various plant sales to give all members a chance to obtain some.

I am looking forward to a busy and fun Spring. Hope to see you at some of the events.

For those who missed the January presentation on Penstemons by Kathy Swick, we have appended PDFs of her presentation and growth chart along with this newsletter file.

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#### **CALENDAR**

April 16<sup>th</sup>: Palmer Visitor's Center Rock

Gardens Renovation (see below)

April 20<sup>th</sup>: Midtown (formerly Sears) Mall

Garden Show (see sidebar)

May 11<sup>th</sup>: Clean-up at ABG

May 18<sup>th</sup>: Anchorage Plant Sale at ABG

May 25<sup>th</sup>: Plant Sale at Snowfire Gardens

June 6<sup>th</sup>: Rock Garden Tours – Valley

(See sidebar)

July TBA: An Evening in the Rock Garden

at ABG

Rock Garden plants for sale, demonstration on planting

troughs

August 17<sup>th</sup>: Field Trip: A Day at Hatcher

**Pass** 

# Palmer Visitor's Center Rock Gardens Renovation

# Jaime Rodriquez

On Thursday, April 11, 2019, Florene Carney and Jaime Rodriguez met with Alicia Greene of Greene's Gardening Services to plan the renovation of the rock gardens at the Palmer Visitor's Center. The first meeting of the renovation team will happen Tuesday, April 16, 2019 at the garden. There are two rock garden beds at the Showcase Garden, a large bed inside the main garden, and a smaller raised bed garden on the north side of the cabin. The beds will be renovated in small sections over the next several months. Today's meeting included discussion of plants that need to be moved, removed or tamed, as well as hopes for new material, plants to be protected and preserved, and identification and labeling. The Alaska Rock Garden Society assisted in renovating these beds ten years ago in 2009.

We are excited to help Alicia maintain these beauti-

ful gardens as a way of fulfilling our purpose of promoting rock gardening in Alaska. If you would like to help out, contact Jaime or Florene for more information.

# Spring Garden Day at the Mid-Town Mall April 20<sup>th</sup>, 10 am – 4:30 pm

ARGS will have a booth at the Mid-Town Mall again this year, formerly the Sears Mall. We will have several plant vendors there, with tomatoes, perennials, house plants & some rock garden plants. This is a fund raiser, so stop by, visit with the ARGS volunteers and support your group!

It's a good time to talk with people about rock gardening, plants & general gardening. There are always interesting people stopping by the booth to talk or ask questions. It is a gathering place for gardeners of all kinds & an opportunity to do some early plant shopping.

There will also be lots of other vendors at the Mall. The Orchid Society always will have lots of orchids; the ABG will be there with plugs; AMGA will have a booth with plants and moose gear (t-shirts, hoodies, etc.); Wildflower Garden Club always has a booth with marigolds for the kids, and I understand there will also be garden art vendors there.

Volunteers are needed to man the tables, help set up & take down, & interact with the public. Set up is 9 am -10 am; take down is 4:30 - 5 pm. If you can spare a couple of hours, please contact:

Gina Docherty – <u>Docherty@alaska.net</u> Hope to see you there!

# Valley Garden Tour

Save the date of June 6<sup>th</sup>! At this time there are five (5) for sure gardens on our visiting list. We are still working on the routes and logistics for getting a group of people all around the Valley. Watch for the flyer at upcoming events as well as information that will be on the social media outlets. It looks to be a very exciting, informational and fun afternoon. It's a chance to see a variety of rock gardens all of different styles. Some large, some small and all with owners who can answer questions and inspire you.





# 17<sup>th</sup> Annual Open Garden and Plant Sale

When: May 25, 2019 Where: Snowfire Gardens 3379 S. Inlet Vista Circle Wasilla (Just off Fairview Loop Rd.)

Time: 10:00 a.m. to 4:00 p.m.

What: Plants for rock gardens, kitchen gardens, borders, shrubs, trees, herbs, and tools
Lemonade, coffee, cookies, and sweet rolls to purchase
Tour the gardens
Ask an expert
Visit with other gardeners
Bring a sack lunch to enjoy in the garden

The Valley Garden Club and Meadow Lakes Bloomers also have their plant sales on this date, so make a full day of garden shopping in the Valley! Bring a car load and plan on having lunch at one of the wonderful restaurants in the area. Start at Snowfire and work your way around the Valley.



# POSITIONS OF RESPONSIBILITY (PENDING APPROVAL)

President: Florene Carney; (907) 376-5390;

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Librarian: Kathy Swick

Palmer Visitors Center Garden: Jaime

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ABG Rock Garden: Madge Oswald; (907) 345-

5144; johnmadge@chugach.net

Sunshine Committee: Dorte' Mobley

#### **CONTRIBUTIONS AND SUGGESTIONS**

The Alaska Rock Garden Society is a diverse group sharing an appreciation for rock gardening. Help make the society valuable to you by contributing suggestions for presentations, articles, plant sales, and field trips.

The newsletter is always looking for meaningful content on rock gardening in Alaska. Send your articles and/or pictures to the editor at <a href="mailto:Thule@alaska.net">Thule@alaska.net</a>. Events related to other gardening will also be posted as space allows.

#### Join NARGS

Join the North American Rock Garden Society. Benefits include a subscription to the Rock Garden Quarterly, seed exchange, garden book purchases at a discount, study weekends, and annual meetings, as well as other benefits. Membership in the Alaska Rock Garden Society is separate from NARGS, the national organization. Membership is \$40/year (plus \$10 for additional members). Register online at <a href="https://nargs.org/join">https://nargs.org/join</a>. The NARGS website is at <a href="https://nargs.org/join">www.nargs.org</a>.

# FREE MONEY - NARGS LINK TO AMAZON

Have you ever purchased an item online through Amazon.com? Most of us have. Are you a regular shopper at Amazon.com? Many of us are. Have you ever shopped at Amazon.com through the NARGS website link? Very few of us do. Do you know what the NARGS Amazon.com link is? Every time an individual (NARGS member or non-member) goes to the NARGS.org website and then clicks on the link to Amazon.com, the North American Rock Garden Society earns a commission on each item purchased. The commission varies based upon the item purchased and typically ranges from 4% to 18%. You make your purchase just as if you had gone to Amazon.com directly, and there is no additional cost to you. It is free money to NARGS. Make your next Amazon.com purchase by starting at NARGS.org. It is a winner for us all! Here is how to financially support NARGS.org through Amazon.com.

Go to the NARGS.org website.

There is a black banner with a link to <u>Amazon.com</u>. Click on that link and the next web page is the <u>Amazon.com</u> site. (Mozilla Firefox does not provide the link.) Shop as you normally do.

Shop at Amazon.com through NARGS.org web link!

ARGS WEBSITE:
CHECK THE ARGS CALENDAR FOR
CURRENT AND FUTURE EVENTS.
ARGS FACEBOOK



ARGS Memberships are for the calendar year.

# GROWING PENSTEMONS IN ALASKA BY KATHY SWICK



A BARE BONES SUMMARY WITHOUT ALL THE JUICY DETAILS AND PICTURES

Penstemons are beautiful, distinctive, and relatively unknown—a sure formula for getting noticed by all you ever-curious gardeners on the lookout for new plants. Once noticed, you may want to try one or a few. When you discover the size and diversity of the genus, an appetite for more information often develops. You might grow a few, try to germinate seeds, or keep records. Next, you'll look for other gardeners who know more about the challenges, or you will want to observe these beauties in the wild. Before you know it, you are halfway down the slope to becoming a "penstemaniac." You will not regret it.

Penstemon palmeri

When I gave a talk about this genus at the ARGS meeting in January, my goals were to (1) introduce and give an overview of this wonderful genus that has 250-300 species; (2) look in depth at species that have been and might be grown in Alaska; (3) discuss their varied habitats and very special cultivation needs, and (4) show how to access a wealth of first-rate information on the internet to help gardeners be successful long after the talk was over.

To that end I created handouts with very distilled information. I have been asked to share those handouts in the newsletter (attached below) and to make them understandable for those who didn't attend the talk. It is difficult to do so outside the context of the slides and conversation we had at the meeting. So if anyone needs clarification later, seek me out at the Midtown Mall garden event, the spring plant sales, or during weekly maintenance sessions this summer at the rock garden of the Alaska Botanical Garden.



#### **VERY, VERY BRIEF OVERVIEW**

Take a closer look at the flower to see what makes a Penstemon a Penstemon. The flower always has two petals above and three below. Inside there are four stamens, and distinctively, one non-fertile staminode that is usually hairy, giving rise to the common name Beardtongue.

The Penstemon genus has been subdivided into six subgenera which are					
further divided into 12 sections which are further divided into 23 subsections.					
further divided into 12 sections which are further divided into 23 subsections. Looking at the details of form and habitat that lead to these divisions					
produces an overwhelming amount of information.					

SUBGENUS	SECTION	SUBSECTION
Dasanthera		
Penstemon	Penstemon	Penstemon process
		Proceri
		Humiles
3		Multiflora
		Tubaeflora
		Harbouriani
		Gairdneriani
3		Deusti
		Arenarii
	Cristati	2000000000
	Ericopsis	Ericopsis
		Caespitosi
		Linarioides
		Ambigui
	Coerulei	W. 1000
	Peltanthera	Peltanthera
		Centranthifolii
		Harvardiani
		Petiolati
	Fasciculus	Fascisuli
		Campanulati
		Perfoliati
		Racemosi
	Chamaeleon	100000000000000000000000000000000000000
	Baccharifolii	
Habroanthus	Glabri	
	Elmigera	
Saccanthera	Saccanthera	Saccanthera
-	Defendance 1	Serrulati
	Bridgesiani	
Cryptostemon	THE OPTIMES OF THE	1
Dissecti		



I had to organize the particulars pictorially before I could really grasp how everything was related. (These are screen shots, the readable chart is attached.) I eliminated sections that would be impossible to grow in Alaska, based on my experience, the experience of other local growers, and written material from many sources. The resulting chart of species recommended for Alaska is attached SEPARATELY to the newsletter. Hopefully it is self-explanatory.

Please note, It is important to know which section a plant belongs to in order to access more information about it.



The rest of the handouts (included as the last three pages of this document) have details about the traits and habitat of the recommended sections. At the top are brief directions on how to access very detailed cultivation information for all species at the American Penstemon Society website. The other pages (at the end here) contain a list of organizations, online resources, and nurseries for seed and plants that will ship to Alaska.

Even with these handouts to help you, consider the following before planting any penstemon in your garden.

#### TWO NECESSARY GARDEN ADAPTATIONS—SITING AND SOIL

Penstemons are native to every state except Hawaii although the majority of them live in the western plains, the Rocky Mountains, or the coastal mountain ranges of the Pacific Northwest. Many have evolved specifically for the environment in which they are found. Some of them live in the worst conditions imaginable —sand dunes, baked cracked clay soil, arid plains, desert, oil shale, talus and scree slopes, and crevices.

Their environments usually have spring rains, some winter snowpack, and very little precipitation in between. Some species grow in neutral or acid soil but those from arid areas often live in mineral limey soils with absolutely no humus. Unsurprisingly, most Penstemon have very long taproots to search out the moisture deep in the ground. This means they are not successfully dug and moved around the garden and that siting must be thought out before they are put in the ground.

Penstemons also need to have an unusually airy soil mixture.



Look at the photo of our native species Penstemon gormanii, freshly dug as an herbarium specimen. This species grows on rocky slopes and on the flats of the Yukon River.

Notice the thick straight root for the first four or more inches which then changes color and bends as it goes deeper. Those first few inches of taproot were surrounded by large rocks and gravel. Where the color changes the root entered the more sandy silty soil common on alluvial river plains.

Similarly, Penstemons might do well on your property in gravelly places with poor soil where other garden plants won't grow, as long as they do not have much competition from weeds and bushes.

Another example: Some gardeners on the east coast with abundant rain and humid summers—anathema to western Penstemons—have managed to grow members of the Dasanthera subgenus AS LONG AS they are planted in poor soil with several inches, up to six inches, of mixed size gravel mulch. Do NOT fertilize. Do NOT add humus or manure. You will have much greater success if you make sure your planting spot is extremely well drained and has a deep rock mulch.

Our rainy Alaskan summers and falls tax the dryland species unless you site them in a protected areas, for example, in bright gravelly places under high second story eaves or balconies, or under the edge of trees with high branches where the sun can shine underneath. During their first year seedlings need more water to get established, but after that, most are drought tolerant. Winter snow cover is a plus or other protection from winter wet. Some sections need to be dead-headed or they may act monocarpic (noted in the chart).

#### THE EASIEST ONES TO GROW

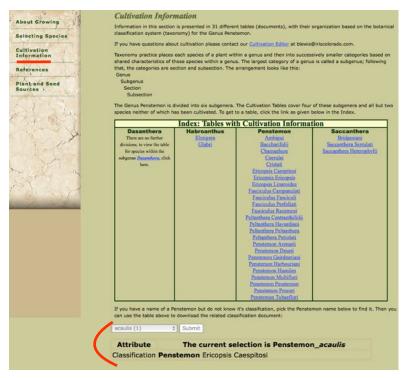
The Penstemons that are easiest to grow are from the Proceri subsection (see chart attached separately). These plants thrive in ordinary <u>very well-drained</u> rock garden conditions, crevices, or troughs. Penstemon procerus is native to eastern Alaska and has the most chance of success in south-central gardens given adequate drainage. Another one to consider is Penstemon hallii from altitudes above 10,000 ft. in Colorado These plants live with frequent short thundershowers there and may be more adaptable to our conditions, but once again, only as long as you give them <u>extremely</u> good drainage and poor soil.

Another good group for Alaska is the Dasanthera subgenus (see chart) with plants from the Northwest, including the drylands of Eastern OR/WA, as well as mountains of ID/MT. Some are subshrubs, some matfoming. Many do best in a narrow crevice with deep gravel mulch. P. rupicola and davidsonii have lived more than 15 years in my Anchorage garden and can be expected to do well in your garden too with careful siting.

Please note that the majority of Penstemon HYBRIDS sold through many nurseries, including Joy Creek, are NOT HARDY IN ALASKA, since the parent species live near the Mexican border and are warm zone plants. If you can afford to grow them as annuals, go for it. Otherwise seek out species on the chart or others rated to USDA zone 4.

#### FINDING MORE CULTIVATION INFORMATION

If you are like me, you regularly forget details and even names of plants, requiring a quick trip to one of Verna's books or other references. Likewise, the Penstemon genus is so varied in size, growth needs, and habitat that it is impossible to keep track of particulars. The equivalent of a quick look at Verna's books is a visit to the older website maintained by The American Penstemon Society, a truly remarkable group. Their newer website has bulletins etc, but the old one is like a file cabinet—stuffed full of articles, excerpts from books, a taxonomic identification key, cultivation charts, germination charts, and even pictures of seeds.



This resource is so important that I will walk you through the steps of how to find basic growing information, and leave you to explore the rest. The steps are outlined in brief on one of the handouts enclosed below too.

- 1. Go to apsdev.org Click "Enter our World"
- **2.** On the top menu bar, click "Cultivation" You will then see a page with a menu on a sidebar.
- 3. On the sidebar click "Cultivation" again.
- **4.** A page will load which has a chart. Each chart item links to a document that has a succinct table of critical information on how to grow each species in that section/subsection.
- **5.**You will need to know the subgenus, section, subsection your penstemon plant belongs to.
- **6.** Do not despair, at the bottom of the chart is a drop-down menu with ALL the species listed. Select the one you want more information about and hit "Search". The program will tell you exactly which group your penstemon is in.
- **7.** Click on the link for the correct section. A Microsoft Word document will download to your desktop that details the needs of every

Penstemon in that section in an easy-to-read color-coded chart.

8. Try this on a computer, I'm not sure how the download works on a smart phone. The document is in an older version of Microsoft Word, but my computer has no trouble opening it. THE HANDOUTS FOLLOW.

#### Summary of Directions of how to use AMERICAN PENSTEMON WEBSITE FOR DETAILS ON EACH SPECIES

1. Go to **apsdev.org** 2. Click 'Enter Our World', 3. Click on Top Menu 'Cultivation,' 4. Click on Side Menu 'Cultivation,' 5. Use Drop-down menu at bottom of table to find which section your species is in. 6. Click the corresponding section and subsection in table to find how-to-grow specifications.

#### DESCRIPTIVE SUMMARY OF SECTIONS RECOMMENDED

#### **Subgenus Dasanthera**

Long-lived

Showy, large flowers—pink, lavender, purple, rarely white

Low and shrubby, sometimes mat-forming

Tolerant of summer drought, found in rocky environments with cool nights

Neutral to acid not-rich, well-drained soil, will tolerate some lime

#### **Subgenus Penstemon**

1. Section Penstemon

Subsection Penstemon

Native to Mississippi River Basin northward to Canada

Mid-sized to large with large basal rosettes

Candidate for very well-drained border section

More moisture tolerant with good drainage

Long flower stalks, white/rose/lavender, bloom over a long time, DEAD-HEAD

Subsection Proceri

Subalpine or alpine from a few inches to two feet tall

From regions with heavy winter snow cover, Rocky Mts and west

Easy, somewhat drought tolerant, long-lived

standard well-drained rock garden conditions

Subsection Humiles

From high elevation in Rockies to lower elev. on west coast

Small to moderate-sized plant, Slender flowers often blue, with many stems

Mostly easy, long-lived

Imperative to have lean, gravelly soil

2. Section Cristiti

Herbaceous, basal rosettes, hairy, golden or orange staminode

Flower spikes mostly bue-purple, a few white and pink

From areas with ample spring rainfall and dry summers, Rocky Mts and westward and north

Moderately long-lived

Must have lean porous soil, trough

3. Section Coerulei

Great Plains, Saskatchewan to W. Texas, Rocky Mts to E. Oregon and E. Washington

Noted for blue-green glaucous foliage, stout pastel flower spikes, thick leathery leaves

Very drought tolerant from very poor dry, alkaline soils/gravel/clay

Intolerant of high rainfall and moisture, or shade, DEAD-HEAD

Must have perfect, perhaps to us radical, drainage-very deep tap-roots, do not transplant adults

#### **Subgenus Habroanthus**

1. Section Glabri

Central and Northern Rockies, Intermountain Region, Great Plains to E. Oregon and E. Washington

Flowers usually dazzling blue, many are alpine with mats, tufts

Dry sunny climates, drought tolerant, they collapse with too much moisture

Moderately alkaline or neutral superbly drained soil

Moderately long-lived with DEAD-HEADING

#### **Subgenus Sacanthera**

1. Section Saccanthera,

Subsection Serrulati

Sac-like anthers, usually violet to lavender flowers, toothed foliage

Dry areas of the Cacades, Pacific Northwest

Tolerates more moisture than inland species

#### **RESOURCES**

#### **ORGANIZATIONS**

#### \*\*American Penstemon Society

old site with lots of resources/articles: apsdev.org (also has links to new site)

#### \*\*Andi Wolfe Penstemon Database and Photo Gallery (Ohio State)

http://wolfelab.asc.ohio-state.edu/database https://wolfelab.wordpress.com/penstemon-photo-gallery/

#### **NARGS**

https://nargs.org/search/site/Penstemon also see Todd Boland articles written for NARGS bulletins

#### **Ontario Rock Garden Society Germination Guide**

http://www.onrockgarden.com/page/germination-guide-overview

#### **BOOKS**

\*\*Nold, Robert, 1999. *Penstemons*. Portland, OR: Timber Press.

Lindgren, D. and Wilde, E. 2003. *Growing Penstemons*: *Species, Cultivars, and Hybrids*, American Penstemon Society. Haverford, PA: Infinity Publishing Company.

Strickler, Dee, 1997. **Northwest Penstemons**: 80 Species of Penstemon Native to the Pacific Northwest. Columbia Falls, MT: Flower Press.

#### MUST-READ ARTICLE AT American Penstemon Society SITE

\*\*The Answer Lies in the Soil by Barrie Porteus http://apsdev.org/library/references.php?page=1&look4=

#### OTHER SITES OF INTEREST

**300 native Alaskan plants**, photographed within 40 miles of Circle, AK. <u>alaskawildflowers.us</u>

Pacific Northwest Flowers penstemon index (Turner Photographics) by Mark Turner, author of Wildflowers of the Pacific Northwest

http://www.pnwflowers.com/search?t=penstemon&Search=Search

**Rocky Mountain Flora**—Wildflowers of the Southern Rocky Mountains <a href="http://rockymountainflora.com/index.html">http://rockymountainflora.com/index.html</a>

#### **Burke Herbarium Image Collection** (University of Washington)

http://biology.burke.washington.edu/herbarium/imagecollection/browse.php?Genus=Penstemon

**E-Flora B.C.** Electronic Atlas of Flora of British Columbia <a href="http://ibis.geog.ubc.ca/biodiversity/eflora/efloraintroductionpage.html">http://ibis.geog.ubc.ca/biodiversity/eflora/efloraintroductionpage.html</a>

**Encouragement from** *Growing Penstemons* (Lindgren & Wilde): "Don't be afraid to experiment, since penstemons are frequently more adaptable than would be expected based on native habitat! The cultural limits of most species and varieties have not been determined and you may have micro-climates or soil conditions that will make it possible for you to grow many more than you would expect."

#### **SEED SOURCES**

#### **APS** (American Penstemon Society)

Seed Exchange open to members, 50 cents per packet, 20 packets membership \$25 per year, \$50 for 3 yrs. apsdev.org and penstemons.org

#### NARGS (North American Rock Garden Society)

Seed Exchange open to members, \$15 for 20 packets membership \$40 per year nargs.org

#### **ALPLAINS** (Premier source of wild collected seed from the Plains, West, Pacific NW)

Alan Bradshaw, proprietor (may be last year before he retires) alplains.org

#### **NURSERIES**

(some sell both seeds and plants)

#### Wrightman's Alpines, Ontario, Canada https://www.wrightmanalpines.com

Short list of penstemons available, check hardiness zone, outstanding nursery, ships to AK

#### Prairie Moon Nursery, SE Minnesota

wealth of information on each plant, including photos, range map, etc. 7 native species field grown, check hardiness zones, may ship only seeds to AK <u>prairiemoon.com</u>

#### Bluestone Perennials, Madison, Ohio

all hybrids which are probably not hardy here, will ship to AK. <u>bluestoneperennials.com</u>

## Joy Creek Nursery, Scappoose, Oregon

joycreek.com, mostly non-hardy hybrids, 4 species, reserves Jan. orders. will ship to AK

## Alpine Garden Nursery, Palmer, Alaska

Jaime Rodriguez, owner, <a href="https://www.facebook.com/TheAlpineGardenNursery/907-355-2462">https://www.facebook.com/TheAlpineGardenNursery/907-355-2462</a>, Open by Appointment 455 South Hyer Rd., Palmer, AK 99645

# Tryck Nursery, Anchorage, Alaska

Doug Tryck, owner, see <a href="https://www.facebook.com/Tryck-Nursery-444839839010175/">https://www.facebook.com/Tryck-Nursery-444839839010175/</a> 907-345-2507, call for hours 3645 Rabbit Creek Rd, Anchorage, Ak. 99516

# **GROWING PENSTEMONS IN ALASKA**

Sub-genus	Section	Sub- section	Species Successfully Grown in AK GIVEN appropriate drainage & site	Species Worth Trying, so far not succesfully grown in Ak. gardens	Challenging species to consider after other successes, ?hardiness?
<b>Dasanthera</b> "shrubbies"	https:// nargs.org/ reference/ penstemon- dasanthera- group		P. rupicola (crevice) P. davidsonii (3 var.) var. davidsonii, (c. 'Mt Adams Dwarf') var. menziescii (c. 'Microphyllus') var. praeteritus (from a drier area) P. cardwellii- (JR) tolerates moisture with sharp drainage, give winter snow cover	P. ellipticus (true alpine) N. Idaho, 6 in. tall, wants winter snow cover ?P. fruticosus (3 var.) 1 ft, woody, drier habitat than most Dasanthera, v. scouleri high-rated, Northern ID, NE WA P. lyalii-ID panhandle, 2 ft, lower elev., one of 2 herbaceous sp. in Dasanthera	<b>?P. newberryi</b> (3 ssp)-like a larger P. rupicola, Calif/Ore, 1 ft. hardiness unlikely, acid crevice, low summer H <sub>2</sub> O <b>P. montanus</b> -often confused with ellipticus, both herbaceous, long flowering season in deep gravel/talus, var. montanus (not idahoensis) more adaptable to gardens, difficult
Penstemon	Penstemon (aka Spermunculus)	Penstemon (aka Graciles)	(DEADHEAD?)	Habitat on moist side, herbaceous  P. digitalis-widely grown, tall, Great Plains, Maine, Ontario P. hirsutus-18 in. (v. pygmeae is dwarf, common in plant trade)	P. calycosus-hardiness unknown, eastern U.S., ok for perennial border, similar to P. digitalis, pinker and tolerates more shade.
		Proceri	P. procerus—Ak. native, dry, gravel P. procerus 'Nisqually Cream' P. procerus tolmei P. procerus v. tolmei 'Hawkeye' P. confertus- (JR) pale yellow, shade ok, to 18", Alberta to E. WA, E. B.C., long-lived	Long-lived, easy, well-drained rock garden  P. flavescens-yellow, 6-16 in., mat/tuft  P. washingtonensis- to 6', dry alpine slopes  P. globosus-rodky meadows/hills dry or moist, winter cover or snowpack	<b>?P. attenuatus-</b> variable, arid areas, rocky gravelly meadows, winter cover <b>?P. rydbergii</b> —(3 var.), hardiness unknown, N. Mex to Idaho, moisture loving compared to other species, esp. var. oreocharis, some varieties 6 in. to 2'
		Humiles	P. ovatus— (Florene) regular well-drained soil, tall P. albertinus-(JR) W. Alberta, 1 ft, easy, bright blue variants desirable, open rocky or dry, gravelly sites, rarely in cultivation		P. aridus-grass-like foliage, small mat, 6 in. sagebrush communities, trough P. humilis-(4 var.) from NW CO to NV, alpine to sagebrush/pinyon communities, 8 in. stems, very blue, trough
	Cristati (aka Albidi aka Aurator)			P. gormanii-AK.native, gravelly dry interior river banks P. albidus-S. Alberta to Texas, dry rock garden, fragrant at dusk, pollinated by moths	P. eriantherus-ample moisture spring, then dry, horrific soil, v. redactus smaller, one of the "beauties" of section P. pumilus-to 5 in., central ID, dry trough, no crowding, dry gravelly valleys
	Coerulei (aka Anularius)	(DEADHEAD)	<b>P. angustifolius</b> —(5 var.) the type lives in plains/Dakotas, azure, narrower leaves than nitidus, but similar, deadhead, trough	<b>P. grandiflorus</b> -(DT) most moisture tolerant in section. (Cultivar 'Prairie Snow, pure white, will not tolerate damp soil, cultivar not hardy?)	P. nitidus-ethereal blue,1 ft, maybe monocarpic unless dead-headed, dry slopes, gravel riverbanks, S. Alberta, trough
Habroanthus	Glabri (aka Habroanthus)	(DEADHEAD)	very sharp drainage required  P. hallii (true alpine)  P. uintahensis (difficult, true alpine, extremely sharp drainage but good soil below)	<b>?P. speciosus v. kennedyi</b> (high elev.) smaller variety <b>?P. virgatus asa-grayii</b> —(JR) AZ,NM hardiness uncertain, ex gravelly mountain	P. paysoniorum-WY desert, 6 in., very dry rock garden, snow cover P. cyaneus-"ravishing" (Nold), very dry, sagebrush communities, WY, So. ID
Saccanthera	Saccanthera (aka Azurei, Heterophylli)	Serrulati	modest summer water	?P. venustus-"beautiful", 1st rate (Nold), dry hills from ID to OR, easy from seed	<b>?P. serrulatus</b> -from wet side of Cascades, 2 ft, variable, garden worthiness varies