

Columbines School of Botanical Studies  
 Wild Food Tending Economic Botanical Survey  
 Trip #3-6: Ochoco

Date: May 20-23, 2019

Abundance

- d – dominant (defines the plant community)
- a - abundant (codominant of the overstory or dominant of lower layer)
- c – common (easily seen)
- o – occasional (walk around to see)
- r – rare (trace, must search for it)

Phenology

- L - In Leaf
- FL - In Flower
- FR - In Fruit
- SN - Senescent

Uses	Genus	Name	Notes	Abun	Phen
<b>Food: Roots</b>					
	Allium cf. macrum	<b>Rock Onion</b>	Short/early	c	FR
	Allium geyeri var. tenerum	<b>Wild Onion</b>	Bulbils		
	Allium sp. (2)	<b>Wild Onion</b>	Tall	c	FL
	Balsamorhiza sagittata	<b>Arrow-Leaf Balsam Root</b>		c	FL
	Bistorta bistortoides (Polygonum b.)	<b>American Bistort</b>		c	FL
	Brodiaea sp. incl Dichelostemma sp., Triteleia sp.	<b>Brodiaea (White)</b>		o	L-FL
	Brodiaea sp. incl Dichelostemma sp., Triteleia sp.	<b>Brodiaea</b>		o	L-FL
	Calochortus sp.	<b>Sego Lily</b>	No Pick	c	L
	Camassia quamash ssp. brevifolia	<b>Common Camas</b>		c	FL
	Cirsium arvense	<b>Canada Thistle</b>			
	Cirsium vulgare	<b>Bull Thistle</b>			
	Dodecatheon sp.	<b>Shooting Star</b>		c	FL
	Erythronium sp.	<b>Fawn-lily</b>	No Pick		
	Fritillaria atropurpurea	<b>Checker Lily</b>	No Pick	r	FL
	Fritillaria pudica	<b>Yellow Bells</b>	No Pick	o	FR
	Hypochaeris radicata	<b>False Dandelion</b>			
	Lewisia rediviva	<b>Bitterroot</b>			
	Lomatium cf. leptocarpum var. bicolor	<b>Biscuitroot</b>		a	FL
	Lomatium cous	<b>Biscuitroot, Caush</b>		c	FR
	Lomatium grayi	<b>Biscuitroot</b>	With Juniperus		FL
	Lomatium macrocarpum	<b>Big White Caush, Biscuitroot</b>		o	FL
	Lomatium nudicaule	<b>Wild Celery, "Cum-see"</b>		c	FL
	Lomatium piperi	<b>Sycan, "Bisquick," Biscuitroot</b>		c	FR-SN
	Lomatium sp. (2)	<b>Biscuitroot</b>			
	Lomatium triternatum	<b>Luksh, Biscuitroot</b>			
	Perideridia howellii (P. oregana)	<b>Early Yampa</b>			

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Uses	Genus	Name	Notes	Abun	Phen
	<i>Perideridia montana</i> (P. gairdneri)	<b>Late Yampa</b>		c	L
	<i>Taraxacum officinale</i>	<b>Dandelion</b>			
	<i>Tragopogon</i> sp.	<b>Salsify, Oyster Root</b>			
	<i>Valeriana edulis</i>	<b>Edible Valerian</b>			

**Food: Greens and Potherbs**

	<i>Allium</i> cf. <i>macrum</i>	<b>Rock Onion</b>	Short	c	FR
	<i>Allium</i> <i>geyeri</i> var. <i>tenerum</i>	<b>Wild Onion</b>	Bulbils		
	<i>Allium</i> <i>robinsonii</i>	<b>Wild Onion</b>	Flat Leaves/bitter root		
	<i>Allium</i> sp. (2)	<b>Wild Onion</b>	Tall	c	FL
	<i>Berberis repens</i>	<b>Oregon Grape</b>			FL
	<i>Bistorta bistortoides</i> ( <i>Polygonum</i> b.)	<b>American Bistort</b>		c	FL
	<i>Calochortus</i> sp.	<b>Sego Lily</b>	No Pick	c	L
	<i>Castilleja</i> sp.	<b>Green Paintbrush</b>	Caution with poison soils		
	<i>Castilleja</i> sp. (2)	<b>Paintbrush</b>	Caution with poison soils	o	FL
	<i>Castilleja</i> sp. (3)	<b>Paintbrush</b>	Caution with poison soils		
	cf. <i>Phoenicaulis cheiranthoides</i>	<b>Wild Broccoli, Daggerpod</b>			
	cf. <i>Potentilla</i> sp.	<b>Potentilla</b>			
	<i>Cirsium arvense</i>	<b>Canada Thistle</b>			
	<i>Cirsium vulgare</i>	<b>Bull Thistle</b>			
	<i>Claytonia perfoliata</i> ( <i>Montia</i> p.)	<b>Miner's Lettuce</b>			
	<i>Dodecatheon</i> sp.	<b>Shooting Star</b>		c	FL
	<i>Erythronium</i> sp.	<b>Fawn-lily</b>	No Pick		
	<i>Fragaria virginiana</i>	<b>Wild Strawberry</b>			
	<i>Fritillaria atropurpurea</i>	<b>Checker Lily</b>	No Pick	r	FL
	<i>Fritillaria pudica</i>	<b>Yellow Bells</b>	No Pick	o	FR
	<i>Gallium aparine</i>	<b>Bedstraw, Cleavers</b>			
	<i>Gallium</i> sp.	<b>Bedstraw</b>			
	<i>Heracleum maximum</i> ( <i>H. lanatum</i> )	<b>Cow Parsnip</b>			
	<i>Hydrophyllum alpestre</i>	<b>Waterleaf</b>		c	FL
	<i>Hypochaeris radicata</i>	<b>False Dandelion</b>			
	<i>Lactuca serriola</i>	<b>Prickly Lettuce</b>			
	<i>Leucanthemum vulgare</i> ( <i>Chrysanthemum</i> l.)	<b>Ox Eye Daisy</b>			
	<i>Lomatium</i> cf. <i>dissectum</i>	<b>Biscuitroot</b>		r	FL
	<i>Lomatium cous</i>	<b>Biscuitroot, Caush</b>		c	FR
	<i>Lomatium nudicaule</i>	<b>Wild Celery, "Cum-see"</b>		c	FL

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Uses	Genus	Name	Notes	Abun	Phen
	Lomatium piperi	Sycan, "Bisquick," Biscuitroot		c	FR-SN
	Micranthes cf. oregana (Saxifraga cf. o.)	Marsh Saxifrage		o	FL
	Orthocarpus sp.	Owl's Clover			
	Osmorhiza occidentalis	Sweet Root			
	Perideridia howellii (P. oregana)	Early Yampa			
	Perideridia montana (P. gairdneri)	Late Yampa		c	L
	Plantago lanceolata	Plantain			
	Plectritis congesta	Rosy Plectritis			
	Prunella vulgaris	Self Heal, Heal All			
	Rosa sp.	Wild Rose			
	Rumex acetosella	Sheep Sorrel			
	Rumex sp.	Bitter Dock			
	Sambucus cerulea	Blue Elderberry	Flowers only		
	Sanguisorba sp.	Burnet			
	Sedum stenopetalum	Sedum		c	L
	Sidalcea sp.	Checker Mallow			
	Sonchus sp.	Sow Thistle			
	Taraxacum officinale	Dandelion			
	Tragopogon sp.	Salsify, Oyster Root			
	Trifolium macrocephalum	Big-head Clover		c	FL
	Trifolium pratense	Red Clover			
	Trifolium repens	White Clover			
	Veronica sp.	Speedwell			
	Viola nuttallii	Prairie Violet		o	FL

### Food: Fruits

	Amelanchier alnifolia	Service Berry			
	Balsamorhiza sagittata	Arrow-Leaf Balsam Root		c	FL
	Berberis repens	Oregon Grape			FL
	Calochortus sp.	Sego Lily	No Pick	c	L
	Dodecatheon sp.	Shooting Star		c	FL
	Erythronium sp.	Fawn-lily	No Pick		
	Fragaria virginiana	Wild Strawberry			
	Lonicera involucrata	Twinberry			
	Mentzelia sp.	Blazing Star	Uncertain, Ethnobotanical Ref.		
	Pinus ponderosa	Ponderosa Pine		d	L
	Ribes cereum	Wax Currant		o	FL
	Rosa sp.	Rosehips			

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Uses	Genus	Name	Notes	Abun	Phen
	Rumex sp.	<b>Bitter Dock</b>			
	Sambucus cerulea	<b>Blue Elderberry</b>			
	Wyethia amplexicaulis hybrid	<b>Mules Ear</b>			
	Wyethia helianthoides	<b>White Mules Ear</b>			

### Food: Spices/Teas

	Achillea millefolium	<b>Yarrow</b>			
	Fragaria virginiana	<b>Wild Strawberry</b>			
	Geum triflorum	<b>Prairie Smoke</b>		<b>o</b>	FL
	Heracleum maximum (H. lanatum)	<b>Cow Parsnip</b>	Strong		
	Juniperus sp.	<b>Juniper</b>	Fruits		
	Larix occidentalis	<b>Western Larch</b>			
	Lomatium cf. dissectum	<b>Biscuitroot</b>		<b>r</b>	FL
	Lomatium cf. leptocarpum var. bicolor	<b>Biscuitroot</b>		<b>a</b>	FL
	Lomatium cous	<b>Biscuitroot, Caush</b>		<b>c</b>	FR
	Lomatium grayi	<b>Biscuitroot</b>	With Juniperus		FL
	Lomatium macrocarpum	<b>Big White Caush, Biscuitroot</b>		<b>o</b>	FL
	Lomatium nudicaule	<b>Wild Celery, "Cum-see"</b>		<b>c</b>	FL
	Lomatium piperi	<b>Sycan, "Bisquick," Biscuitroot</b>		<b>c</b>	FR-SN
	Lomatium sp. (2)	<b>Biscuitroot</b>			
	Lomatium triternatum	<b>Luksh, Biscuitroot</b>			
	Osmorhiza occidentalis	<b>Sweet Root</b>			
	Perideridia howellii (P. oregana)	<b>Early Yampa</b>			
	Perideridia montana (P. gairdneri)	<b>Late Yampa</b>		<b>c</b>	L
	Prunella vulgaris	<b>Self Heal, Heal All</b>			
	Rosa sp.	<b>Wild Rose</b>			
	Trifolium macrocephalum	<b>Big-head Clover</b>		<b>c</b>	FL
	Trifolium pratense	<b>Red Clover</b>			
	Trifolium repens	<b>White Clover</b>			
	Veronica sp.	<b>Speedwell</b>	Simple		

### Alteratives incl. Diaphoretics and Diuretics

	Achillea millefolium	<b>Yarrow</b>	Diaphoretic		
	Artemisia arbuscula	<b>Low Sagebrush</b>		<b>c</b>	L
	Artemisia tridentata	<b>Big Sagebrush</b>		<b>o</b>	L
	Artemisia tripartita	<b>Three-Tip Sagebrush</b>		<b>c</b>	L
	Balsamorhiza sagittata	<b>Arrow-Leaf Balsam Root</b>		<b>c</b>	FL
	Berberis repens	<b>Oregon Grape</b>	Alterative		FL
	Ceanothus velutinus	<b>Red Root</b>	Lymph	<b>o</b>	FL

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	Gallium aparine	<b>Bedstraw, Cleavers</b>	Diuretic		
	Gallium sp.	<b>Bedstraw</b>	Diuretic		
	Hypochaeris radicata	<b>False Dandelion</b>	Alterative		
	Juniperus sp.	<b>Juniper</b>			
	Paeonia brownii	<b>Peony</b>		r	L
	Pinus ponderosa	<b>Ponderosa Pine</b>		d	L
	Rumex sp.	<b>Bitter Dock</b>	Alterative		
	Sambucus cerulea	<b>Blue Elderberry</b>	Diaphoretic		
	Taraxacum officinale	<b>Dandelion</b>	Alterative		
	Trifolium macrocephalum	<b>Big-head Clover</b>	Alterative, Simple	c	FL
	Trifolium pratense	<b>Red Clover</b>	Alterative, Simple		

### Aromatic/Bitters

	Achillea millefolium	<b>Yarrow</b>			
	Artemisia arbuscula	<b>Low Sagebrush</b>		c	L
	Artemisia tridentata	<b>Big Sagebrush</b>		o	L
	Artemisia tripartita	<b>Three-Tip Sagebrush</b>		c	L
	Balsamorhiza sagittata	<b>Arrow-Leaf Balsam Root</b>		c	FL
	Berberis repens	<b>Oregon Grape</b>	Bitter		FL
	Heracleum maximum (H. lanatum)	<b>Cow Parsnip</b>	Strong aromatic		
	Hypochaeris radicata	<b>False Dandelion</b>	Bitter		
	Juniperus sp.	<b>Juniper</b>			
	Lewisia rediviva	<b>Bitterroot</b>			
	Lomatium cf. dissectum	<b>Biscuitroot</b>		r	FL
	Lomatium cf. leptocarpum var. bicolor	<b>Biscuitroot</b>		a	FL
	Lomatium grayi	<b>Biscuitroot</b>	With Juniperus		FL
	Lomatium macrocarpum	<b>Big White Caush, Biscuitroot</b>		o	FL
	Lomatium nudicaule	<b>Wild Celery, "Cum-see"</b>		c	FL
	Lomatium sp. (2)	<b>Biscuitroot</b>			
	Lomatium triternatum	<b>Luksh, Biscuitroot</b>			
	Osmorhiza occidentalis	<b>Sweet Root</b>			
	Pinus ponderosa	<b>Ponderosa Pine</b>		d	L
	Rumex sp.	<b>Bitter Dock</b>	Bitter		
	Sonchus sp.	<b>Sow Thistle</b>			
	Taraxacum officinale	<b>Dandelion</b>	Bitter		

### Astringents

	Ceanothus velutinus	<b>Red Root</b>		o	FL
	cf. Potentilla sp.	<b>Potentilla</b>			
	Fragaria virginiana	<b>Wild Strawberry</b>			

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Uses	Genus	Name	Notes	Abun	Phen
	Geum macrophyllum	<b>Geum, Avens</b>			
	Geum triflorum	<b>Prairie Smoke</b>		<b>o</b>	FL
	Ribes cereum	<b>Wax Currant</b>		<b>o</b>	FL
	Rosa sp.	<b>Wild Rose</b>			
	Rumex sp.	<b>Bitter Dock</b>	Mild		
	Sanguisorba sp.	<b>Burnet</b>			
	Spirea sp.	<b>Spirea</b>			

### Calming Herbs, Nervines

	Hypericum perforatum	<b>St. John's Wort</b>			
	Lactuca serriola	<b>Prickly Lettuce</b>			
	Paeonia brownii	<b>Peony</b>		<b>r</b>	L
	Plectritis congesta	<b>Rosy Plectritis</b>			

### Demulcents, Emollients

	Penstemon sp.	<b>Penstemon</b>	Emollient		
	Plantago lanceolata	<b>Plantain</b>			
	Rumex sp.	<b>Bitter Dock</b>	Young Leaves		
	Sidalcea sp.	<b>Checker Mallow</b>			
	Viola nuttallii	<b>Prairie Violet</b>		<b>o</b>	FL

### Pain (see Tranquilizers/Muscle Relaxants)

	Arnica cordifolia	<b>Arnica</b>		<b>c</b>	FL
	Arnica mollis	<b>Arnica</b>		<b>o</b>	L
	Heracleum maximum (H. lanatum)	<b>Cow Parsnip</b>			
	Populus trichocarpa	<b>Cottonwood Buds</b>			
	Spirea sp.	<b>Spirea</b>			

### Misc.

	Achillea millefolium	<b>Yarrow</b>	Hemostatic		
	Artemisia arbuscula	<b>Low Sagebrush</b>		<b>c</b>	L
	Artemisia tridentata	<b>Big Sagebrush</b>	Incense	<b>o</b>	L
	Artemisia tripartita	<b>Three-Tip Sagebrush</b>	Incense	<b>c</b>	L
	Cercocarpus ledifolius	<b>Mountain Mahogany</b>	Digging Sticks	<b>o</b>	FL
	Gallium aparine	<b>Bedstraw, Cleavers</b>	Burns		
	Gallium sp.	<b>Bedstraw</b>	Burns		
	Juniperus sp.	<b>Juniper</b>	Incense		
	Leucanthemum vulgare (Chrysanthemum l.)	<b>Ox Eye Daisy</b>	Allergies		
	Pinus ponderosa	<b>Ponderosa Pine</b>	Incense, Fiber	<b>d</b>	L
	Plantago lanceolata	<b>Plantain</b>	Drawing Poultice		

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Uses	Genus	Name	Notes	Abun	Phen
	Taraxacum officinale	<b>Dandelion</b>	Blood Sugar, Wine, Minerals		

**Topics of Botanical Interest**

	Bromus tectorum	<b>Cheatgrass</b>			
	cf. Senecio sp.	<b>Senecio</b>			
	cf. Sisymbrium sp.	<b>Tumble Mustard</b>			
	Delphinium sp.	<b>Larkspur</b>	Poison Look-alike	<b>o</b>	FL
	Festuca, Poa, etc.	<b>Bunchgrasses</b>		<b>d</b>	L
	Olsynium douglasii var. inflatum (Sisyrinchium inflatum)	<b>Blue Eyed Grass</b>	Poison Look-like	<b>c</b>	FL-FR
	Ranunculus sp.	<b>Buttercup</b>		<b>o</b>	FL
	Toxicoscordion paniculatum (Zigadenus p.)	<b>Death Camas</b>	Poison Look-alike	<b>o</b>	FL
	Toxicoscordion venenosum var. gramineum (Zigadenus v.)	<b>Little Death Camas</b>	Poison Look-alike		
	Veratrum sp.	<b>Veratrum</b>	Very Poison		

**Animal Interaction**

	Canis sp.	<b>Coyote Howls</b>			
	Elk Poop			*	
	Grus canadensis	<b>Sandhill Cranes</b>			
	Insect Galls on Artemisia			*	
	Megascops sp.	<b>Screech Owls</b>			
	Plestiodon fasciatus	<b>Blue Tailed Skink</b>			

**Columbines School of Botanical Studies**  
**Wild Food Tending**  
**Field Trips #3, 4, 5 & 6**  
**May 20 - 23, 2019**  
**Ochoco Mountain Ponderosa Pine Forest and Scabland**

Ochoco Mountains ecology, geology, history and First Peoples  
Large camas meadows usurped by private cattle ranches

**Botany**

Keyed *Zigadenus paniculatus*

*Zigadenus* vs. *Camassia* field characteristics

Keyed *Camassia quamash* ssp. *brevifolia* using Flora of North America

Keyed *Lomatium cous* using a key to tuberous Lomatiums in Oregon from the article  
“A New Lomatium Sp. From the Ochoco Mountains of Central Oregon”

Using external resources for identification when the keys in Hitchcock prove  
unmanageable: county plant lists, scholarly articles, keys for smaller areas or  
characters

Keyed by individuals: *Arnica cordifolia*, *Wyethia helianthoides*, *Geum triflorum*, *Ribes  
cereum*

**Ponderosa Pine Zone and Scabland Mosaic**

*Zigadenus* ecology

Scabland ecology

Varying woody *Artemisia* spp. as indicators of soil depth and associated edible  
plants

**Wildcrafting**

How to dig roots using a cuppen

Harvested and processed *Lomatium cous*

Harvested and processed *Lomatium nudicaule* stems

Harvested and processed *Camassia quamash* ssp. *brevifolia* bulbs

Harvested and processed wild salad greens *Hydrophyllum alpestre*, *Viola nuttallii*,  
*Trifolium macrocephalum* flowers, *Sedum stenopetalum* above ground, *Allium* sp.  
flower buds

Tasted: *Frittilaria pudica* bulb and green capsule, *Perideridia montana* leaf and root,  
*Allium* sp. leaves, *Calochortus* sp. bulb and leaf, *Brodiaea* sp. corm, *Lomatium grayi*  
leaf, *Ribes cereum* flower

**Wild Food Preparation**

The rarity and relative specialness of finding a substantial caloric wild food that  
tastes “boring”



Experimenting with traditional methods of food preparation by using multiple ethnobotanical reference texts for ideas

Pit bake strategies

Inulin, increasing absorbable nutrition through pit bake

- *Lomatium cous* roots, peeled, sliced and fried in butter = “croissant root”
- Salad with *Hydrophyllum alpestre* leaves and flowers, *Viola nuttallii* leaves and flowers, *Trifolium macrocephalum* flowers, *Sedum stenopetalum* young stems and leaves, *Lomatium cous* leaves, topped with chopped *Lomatium nudicaule* young stems. Dressed with olive oil, apple cider vinegar, and *Lomatium cous* seeds.
- *Lomatium nudicaule* immature umbels and *Allium* sp. buds, stir fried in olive oil
- *Camassia quamash* spp. *brevifolia* bulbs, pit baked for 2 days with greens of *Wyethia*, *Balsamorhiza*, *Pinus*, *Achillia*, grass. (Bulbs were partially burned, and partially tan but too pale to eat in quantity. Took undercooked roots home to steam in crock pot until dark brown/black.)