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Quick Guide to Plant Families of Western Washington

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A Quick Guide to Plant Families of Western Washington



*Revised to include common
riparian weeds and invasive plants*

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Introduction

This guide is an expanded version of a booklet designed to help students identify native plants in western Washington. It has been expanded to include invasive and ruderal taxa commonly found in riparian areas. The purpose of this guide is to provide practical help for identifying plant families, and to facilitate a basic understanding of plant morphology. By observing morphological characteristics such as leaf arrangement and structure, the user can narrow an unidentified species down to the family level. Because this book does not go to the species level, it is meant to be used as a companion to other identification guides such as Pojar and Mackinnon's (2004) Plants of the Pacific Northwest Coast.

Humans have occupied the northern Pacific coastal region for thousands of years. The first peoples to inhabit this area had an intimate relationship with plants and the environment. When European and other non-indigenous people settled and colonized this land, they too relied on plant resources. However, in many cases they did



not develop a personal, intimate knowledge of the species they encountered (Pojar and Mackinnon, 2004). Since their arrival, non-indigenous people have had a profound and largely negative influence on their environment. One of these has been the introduction of invasive plant species, which have become increasingly prevalent and threaten native biodiversity. Riparian zones typically support highly diverse plant communities (Naiman et al. 1993), yet riparian communities are also especially prone to invasion by exotic and ruderal species (Naiman and Decamps 1997). By including common invasive species, this guide is intended to be particularly useful for assessing floodplain and riparian ecosystems.

How to use this guide

This guide places plant families in groups according to growth form, leaf arrangement and leaf structure. Each group is comprised of the families that conform to the group characteristics and occur in western Washington. Under each family is a list of the genera that conform to the group characteristics and occur in western Washington. The genera shown in bold are those that include species that have been observed in floodplain habitats on the Nooksack River. Note that some families and genera will appear in more than one group if they include species with differing leaf arrangements or structures. See below for step-by-step instructions on how to use this guide.

Step 1. Determine whether the unidentified plant is a tree or shrub, herb or vine, fern, grass, horsetail or other.

Step 2. Determine whether the unidentified plant has an opposite, alternate, basal or whorled leaf arrangement

Step 3. Determine whether the unidentified plant has a simple entire, simple lobed or compound leaf structure.

Step 4. Refer to the group indicated by steps 1-3.

Step 5. Once the family of the unidentified plant has been determined, refer to another guide to determine the genus and species.

Helpful diagrams

(All definitions from Hitchcock and Cronquist, 1974)

Leaf arrangement:

Opposite

Leaves are situated directly across from each other at the same node.



Alternate

Leaves are situated singly at each node, ascending the stem in an alternating pattern.

Basal

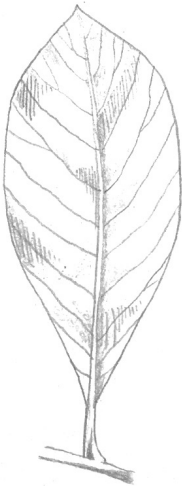
Leaves occurring in a tight cluster or rosette at the base of the stalk.

Whorled

Leaves arranged in a ring radiating from a node or a common point.



Leaf structure:



Simple

Blades of the leaf all in one piece, not compound.

Simple lobed
Leaves have
projecting segments
that are either
rounded or pointed.



Compound
Leaves are
divided into 2 or
more individual
leaflets.

Leaf margin:

Entire

The edge of the leaf is not toothed or otherwise cut

Group S. Trees and shrubs

Leaves opposite

Leaves simple entire.....S1

Leaves simple lobed.....S2

Leaves compound.....S3

Leaves alternate or whorled

Leaves simple entire.....S4

Leaves simple lobed.....S5

Leaves compound.....S6

Group S1. Trees and Shrubs with leaves
opposite, simple entire:

Buddlejaceae (Buddleja)

Buddleia

Caprifoliaceae (Elderberry and Honeysuckle)

Lonicera

Symphiocarpos

Celastraceae (Boxwood)

Pachistima

Cornaceae (Dogwood)

Cornus

Elaeagnaceae (Soapberry)

Sheperdia

Saxifragaceae (Saxifrage)

Philadelphus

Group S2. Trees and Shrubs with leaves
opposite, simple lobed:

Aceraceae (Maple)

Acer

Caprifoliaceae (Elderberry and Honeysuckle)

Viburnum

Group S3. Trees and Shrubs with
leaves opposite, compound:

Caprifoliaceae (Elderberry and Honeysuckle)

Sambucus

Oleaceae (Ash)

Fraxinus

Group S4. Trees and Shrubs with leaves
alternate or whorled, simple entire:

Aquifoliaceae (Holly)

Ilex

Betulaceae (Alder and Birch)

Alnus

Betula

Corylaceae (Hazelnut)

Corylus

Ericaceae (Huckleberry and Rhododendron)

Arbutus

Gaultheria

Menziesia

Rhododendron

Vaccinium

Myricaceae (Sweet Gale)

Myrica

Rhamnaceae (Buckthorn)

Ceanothus

Rhamnus

Group S4 (cont'd)

Rosaceae (Rose)

Amelanchier

Crataegus

Holodiscus

Malus

Oelmaria

Prunus

Rubus

Spirea

Salicaceae (Willow and Cottonwood)

Populus

Salix

Group S5. Trees and Shrubs with leaves alternate or whorled, simple lobed:

Araliaceae (Ginseng)

Helix

Fagaceae (Oak)

Quercus

Grossulariaceae (Current)

Ribes

Group S5 (cont'd)

Rosaceae (Rose)

Physocarpus

Rubus

Group S6. Trees and shrubs with leaves alternate or whorled, compound:

Berberidaceae (Barberry)

Mahonia

Leguminosae (Bean)

Cytisus

Ulex

Rosaceae (Rose)

Rosa

Rubus

Sorbus

Group H. Herbs and Vines

Leaves opposite

Leaves simple entire.....H1

Leaves alternate

Leaves simple entire.....H2

Leaves simple lobed.....H3

Leaves compound.....H4

Leaves basal or whorled

Leaves simple entire.....H5

Leaves simple lobed.....H6

Leaves compound.....H7

Group H1. Herbs and vines with leaves
opposite, simple entire:

Asteraceae (Sunflower)

Arnica

Bidens

Caryophyllaceae (Pink)

Cerastium

Lychnis

Silene

Gentianaceae (Gentian)

Gentiana

Hypericaceae (St. John's wort)

Hypericum

Lamiaceae (Mint)

Galeopsis

Lamium

Mentha

Prunella

Stachys

Onagraceae (Evening primrose)

Epilobium

Oenothera

Group H1 (cont'd)

Scrophulariaceae (Figwort)

Mimulus

Parentucellia

Scrophularia

Veronica

Urticaceae (Nettle)

Urtica

Group H2. Herbs and vines with leaves
alternate, simple entire:

Asteraceae (Sunflower)

Anaphalis

Chicorium

Lactuca

Lapsana

Leucanthemum

Sonchus

Boraginaceae (Borage)

Borago

Cryptantha

Mertensia

Myosotis

Phacelia

Brassicaceae (Mustard)

Brassica

Capsella

Draba

Lepidium

Sisymbrium

Thlaspi

Liliaceae (Lily)

Smilancina

Streptopus

Group H2 (cont'd)

Onagraceae (Evening Primrose)

Circaea

Epilobium

Oenothera

Polemoniaceae (Phlox)

Collomia

Microsteris

Navarettia

Phlox

Polemonium

Polygonaceae (Buckwheat)

Eriogonum

Polygonum

Rumex

Scrophulariaceae (Figwort)

Castilleja

Digitalis

Linaria

Pedicularis

Synthyris

Verbascum

Group H3. Herbs and vines with leaves
alternate, simple lobed:

Asteraceae (Sunflower)

Artemisia

Eriophyllum

Cirsium

Malvaceae (Mallow)

Malva

Polygonaceae (Phlox)

Rumex

Ranunculaceae (Buttercup)

Ranunculus

Rosaceae (Rose)

Geum

Group H4. Herbs and vines with leaves
alternate, compound:

Apiaceae (Carrot)

Angelica

Cicuta

Conium

Daucus

Ligustichum

Lomantium

Osmorhiza

Asteraceae (Sunflower)

Achillea

Ambrosia

Brassicaceae (Mustard)

Barbarea

Cardamine

Fabaceae (Legume)

Lathyrus

Leguminosae (Bean)

Lotus

Lupinus

Medicago

Melilotus

Trifolium

Vicia

Group H4 (cont'd)

Polemoniaceae (Phlox)

Collomia

Microsteris

Navarettia

Phlox

Polemonium

Ranunculaceae (Buttercup)

Aquilegia

Thalictrum

Rosaceae (Rose)

Aruncus

Saxifragaceae (Saxifrage)

Tolmiea

Scrophulariaceae (Figwort)

Pedicularis

Group H5. Herbs and vines with leaves
basal or whorled, simple entire:

Asteraceae (Sunflower)

Aster

Bellis

Crepis

Erigeron

Hieracium

Hypochaeris

Leucanthemum

Senecio

Brassicaceae (Mustard)

Arabis

Brassica

Draba

Lepidium

Liliaceae (Lily)

Allium

Camassia

Clintonium

Erythronium

Lilium

Maianthemum

Plantaginaceae (Plantain)

Plantago

Group H5 (cont'd)

Polygonaceae (Buckwheat)

Eriogonum

Rumex

Ranunculaceae (Buttercup)

Caltha

Rubiaceae (Bedstraw)

Galium

Violaceae (Violet)

Viola

Group H6. Herbs and vines with leaves
basal or whorled, simple lobed:

Asteraceae (Sunflower)

Cirsium

Centaurea

Crepis

Lactuca

Leucanthemum

Petasites

Senecio

Taraxacum

Geraniaceae (Geranium)

Arabis

Brassica

Draba

Lepidium

Polygonaceae (Buckwheat)

Rumex

Ranunculaceae (Buttercup)

Aconitum

Delphinium

Ranunculus

Rosaceae (Rose)

Geum

Group H6 (cont'd)

Saxifragaceae (Saxifrage)

Heuchera

Mitella

Saxifraga

Tellima

Tiarella

Tolmeia

Group H7. Herbs and vines with leaves
basal or whorled, compound:

Apiaceae (Carrot)

Angelica

Cicuta

Conium

Daucus

Ligustichum

Lomantium

Osmorhiza

Asteraceae (Sunflower)

Achillea

Senecio

Tanacetum

Brassicaceae (Mustard)

Barbarea

Capsella

Cardamine

Sisymbrium

Geraniaceae (Geranium)

Geranium

Montiaceae

Montia

Group H7 (cont'd)

Ranunculaceae (Buttercup)

Actaea

Anemone

Aquilegia

Thalictrum

Rosaceae (Rose)

Aruncus

Fragaria

Geum

Potentilla

Scrophulariaceae (Figwort)

Pedicularis

Group G. Grasses

Poaceae (Grasses)

Agrostis

Aira

Bromus

Dactylis

Holcus

Phalaris

Poa

Group F. Ferns

Polypodiaceae (Common ferns)

Athyrium

Polystichum

Group Ho. Horsetails

Equisetaceae (Horsetails)

Equisetum

Group O. Oddballs

Crassulaceae (Stonecrop)

Sedum

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