

# Systematic Species Comparison:



*Aconitum*  
*delphiniifolium*  
subspecies  
*delphiniifolium*

verses

*Aconitum*  
*maximum*

# Species Classification

Kingdom *Plantae* Plants

Subkingdom *Tracheobionta* – Vascular plants

Superdivision *Spermatophyta* – Seed plants

Division *Magnoliophyta* – Flowering plants

Class *Magnoliopsida* – Dicotyledons

Subclass *Magnoliidae* – Basal Angiosperms

Order *Ranunculales*

Family *Ranunculaceae* – Buttercup family

Genus *Aconitum* L. – monkshood

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1. Species *Aconitum delphiniifolium* DC. – larkspur leaf monkshood

Subspecies *Aconitum delphiniifolium* DC. *ssp. delphiniifolium* – larkspur leaf monkshood or northern monkshood

2. Species *Aconitum maximum* Pall. ex DC. – Kamchatka aconite

# Family: Ranunculaceae

-Leaves- deeply lobed

-Floral parts-  $\infty$ ,



-Petals/tepals- showy, hoods  
spurs

-Fruit: achene or follicle

<http://www.blogger.com/feeds/6740776895777259012/posts/default>

# Genus: *Aconitum*



- Globally over 250 species of *Aconitum*
- Highly poisonous
- Aconitin- a neurotoxin which paralyses, and lowers body temperature and blood pressure<sup>2</sup>
- Traditionally used by natives to coat arrow tips for whale and seal hunting

# Keying to *Aconitum*

**A. Fruit a follicle**

**B. Flowers Zygomorphic**

**C. Upper sepal hooded, flowers few  
arranged in a open raceme =**

***Aconitum***

**D. Upper sepal has long spur, flowers  
numerous in spike like raceme =**

***Delphinium***

# Keying Among *Aconitum*

Two *Aconitum* Species in Alaska:

**1. *Aconitum maximum***

(8 specimens on ARCTOS)

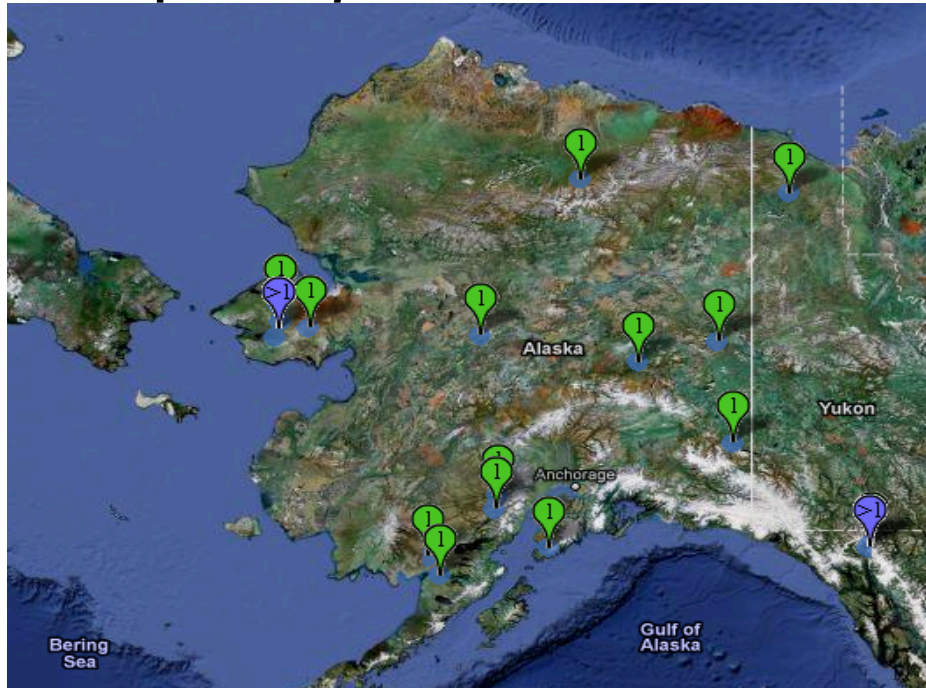
**2. *Aconitum delphiniifolium*** (17 specimens)

**subsp. : *delfiniifolium***

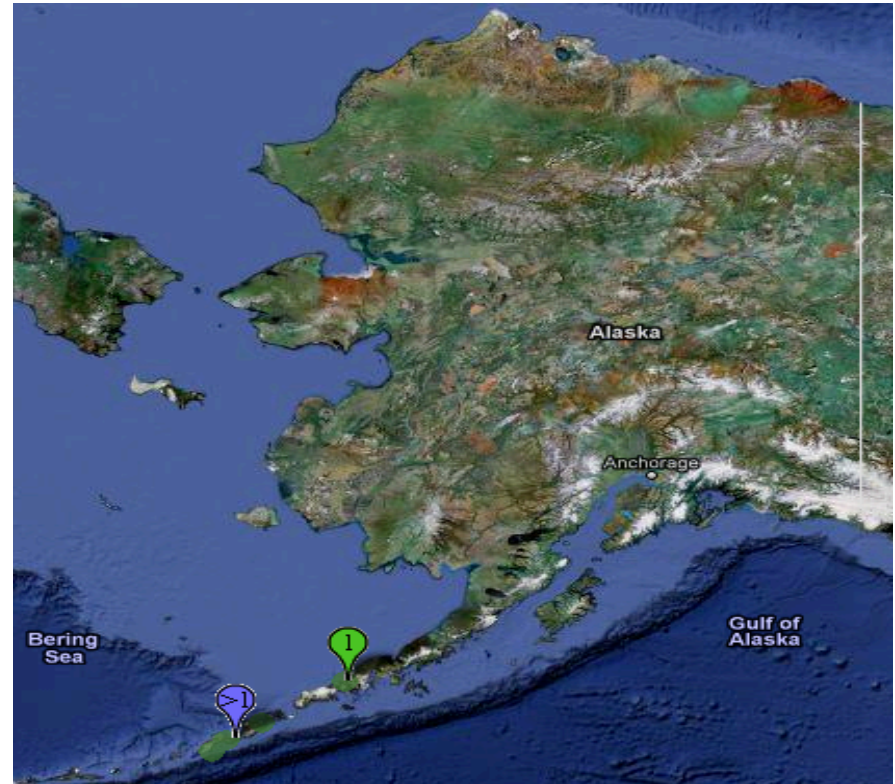
*paradoxum*

*Chassonianum*

# *Aconitum delphiniifolium* subsp. *delphiniifolium*



# *Aconitum maximum*



# General Appearance Differences

*maximum* is a bigger plant, with bigger stems, leafs and flowers.  
*delphiniifolium* is a smaller plant with a more delicate appearance and less leafs and flowers.

*delphiniifolium* (1, 14)

subsp. *delphiniifolium*



*maximum* (specimen 4, 8)





1. *maximum* has more crowded and numerous leaves and flowers along stem, inflorescence mixed (indeterminante thyrsse).  
*delphiniifolium* leafs and flowers are less numerous and crowded along the stem, inflorescence always a open raceme or solitary.

*delphiniifolium* (specimen 2, 5, 8)

subsp. *delphiniifolium*



*maximum* (specimen 8, 1, 2 )



2. *maximum* has longer, thicker pubescence plant wide and sometimes had hairs lining the underneath venation. *delphiniifolium* had less prominent pubescence with none displaying under leaf hairs.

*delphiniifolium* (specimen 8, 17)  
subsp. *delphiniifolium*



*maximum* (specimen 4, 6)



3. *maximum* has a thicker, more woody stem with a bigger root system.

*delphiniifolium* has a thinner, more supple stem with a smaller root system.

*delphiniifolium* (1, 12, 6)

subsp. *delphiniifolium*



*maximum* (specimen 5, 4, 1)



4. *maximum* has leaves that are generally not cleft to base.  
*delphiniifolium* has leaves that are cleft to base.  
Hulten uses this as one of the main distinctions between the two species but sometimes it's hard to distinguish.

*delphiniifolium* (7, 12, 8 )  
subsp. *delphiniifolium*



*maximum* (specimen 7, 5, 2)



# ARCTOS Specimens: *maximum*

1. ALAAC V143548
2. ALAAC V119793
3. ALAAC V128458
4. ALAAC V126118
5. ALAAC V116620
6. ALAAC V116551
7. ALAAC V100567
8. ALAAC V19352

All Specimens of both *maximum* and *delphiniifolium* were examined: 4/8, 4/9 and 4/23/2010.

# ARCTOS Specimens: *delphiniifolium*

1. ALAAC V158468
2. ALAAC V113655
3. ALAAC V112244
4. ALAAC V138583
5. ALAAC V136245
6. ALAAC V152945
7. ALAAC V145371
8. ALAAC V148501
9. ALAAC V148502
10. ALAAC V112609
11. ALAAC V114444
12. ALAAC V110275
13. ALAAC V103359
14. ALAAC V117349
15. ALAAC V115809
16. ALAAC V115843
17. ALAAC V96814

# Works Cited

1. All ARCTOS Specimens found at: <http://arctos.database.museum/SpecimenSearch.cfm>
2. <http://www.aacc.org/members/divisions/tdm/library/Pages/feb09-toxin.aspx>
3. For species classification and range maps <http://plants.usda.gov>
4. Further information gathered from Eric Hulten's *Flora of Alaska and Neighboring Territories* and William J. Cody *Flora of the Yukon Territory*.