Gentiana calycosa
(Photo courtesy of Mountain Plants of the Pacific Northwest [5])

Mountain bog gentian, Rainier pleated gentian, Explorer's gentian (*Gentiana calycosa*)

> " [...] has clustered, unbranched stems up to 1 foot (30cm) high. The plants are hairless and more or less shiny. Leaves: Opposite, crowded on the stem, ovate, without petioles, up to 1 inch (2.5cm) long). Flowers: Showy, 1 inch (2.5cm) long or more, borne singly or few at the stem tip; petals dark blue, fused into a broad five-lobed tube with fringed plaits between the lobes." [5]

Range:

British Columbia south to Sierra Nevada and east to Rocky Mountains of Wyoming, Montana, and Canada [1, 4]

Climate, elevation:

Alpine elevations in climates with moderate to deep snow pack, late snow melts, and warm summers

Local occurrence:

Common locally in the Cascades and Olympics

Habitat preferences:

Wet meadows and bogs and streamsides.

Plant strategy type/successional stage: (stress-tolerator, competitor, weedy/colonizer, seral, late successional)

- Stress-tolerator – post-snowmelt at alpine elevations
- Stream-side/wet meadow colonizer at alpine elevations [1, 2, 3, 5]

Associated species: [6]

- *Tsuga mertensiana*
- *Abies lasiocarpa*
- *Mimulus lewisii*
- *Vahlodea atropurpurea*
- *Calamagrostis canadensis*
- *Poa alpina*
- *Veratrum viride*
- *Lupinus latifolius*
- *Rannunculus eschscholtzii*
- *Castilleja spp.*
- *Cassiope stelleriana*
- *Carex nigricans*

May be collected as:

Mature seed

Collection restrictions or guidelines:

Mature seeds are tan, and may be collected when the seed capsules (many-seeded pods [5]) begin to split at the top. It is sometimes difficult to obtain seeds before snowfall in September. [3]

Seed germination:

" Seed is placed into a 1000 ppm gibrellic acid soak with distilled water for 15 minutes. The imbibed seeds are placed on moistened paper towels using distilled water in open plastic bags under refrigeration at 2C for 100 days. Seed is checked every other day to monitor moisture content and fungal contamination of paper towels. " [3]

Seed life:

Can be stored at least three years [3]

Recommended seed storage conditions:

Seeds should be removed and separated from capsules, and stored in sealed containers at 3C to 5C with low relative humidity. [3]

Propagation recommendations:

- Seeds (surface-sown), after temperature stratification and acid scarification [3]
- 20 weeks growing stage, 8 weeks hardening [3]
- Overwinter seedlings under cover [3]
- 9 months total growing time before planting [3]

Soil or medium requirements:

70% milled spaghnum peat moss, 20% perlite, and 10% washed sand [3]

Installation form:

9 month-old seedlings [3]

Recommended planting density:

Based upon personal observations, plant no closer than 10 inches apart in target areas for typical coverage, and no farther apart than 14 inches.

Care requirements after installed: (water weekly, water once etc.)

Requires constant moisture (if properly located, no watering should be necessary, as location will provide sufficient water)

Normal rate of growth or spread; lifespan:

2cm to 3cm per growing season [3]

Sources cited:

(1) *Gentiana calycosa*. USDA Natural Resources Conservation Service Plants Database. Retrieved April 10, 2006 from the World Wide Web: http://plants.usda.gov /java/profile?symbol=GECA

(2) Pojar, Jim, et al. (1994). Plants of the Pacific Northwest Coast. Lone Pine Publishing: Vancouver, British Columbia, Canada.

(3) Protocol Information (Gentiana calycosa). Retrieved April 10, 2006 from the World Wide

Web: http://www.nativeplantnetwork.org/network/view.asp?protocol_id=305

(4) Spellenberg, Richard. (2001). National Audubon Society Field Guide to North American Wildflowers – Western Region. Knopf: New York.

(5) Taylor, Ronald J. and George W. Douglas. (1995). Mountain plants of the Pacific Northwest. Mountain Press Publishing Company: Missoula, Montana, US.

(6) Visual observations (Autumn 2005) of Walter Wilson at Bird creek meadows (Mount Adams, Washington, US).

Data compiled by:

Walter S. Wilson, 11 April 2006