



Common Name: JACOB'S LADDER

Scientific Name: *Polemonium reptans* Linnaeus

Other Commonly Used Names: Greek valerian

Previously Used Scientific Names: none

Family: Polemoniaceae (phlox)

Rarity Ranks: G5/S1

State Legal Status: Special Concern

Federal Legal Status: none

Federal Wetland Status: FAC

Description: Perennial **herb** forming small clumps of branched, hairy stems, 8 - 20 inches (20 - 50 cm) tall. **Leaves** up to 8 inches (20 cm) long, alternate, hairless, with 7 - 21 oval, opposite (occasionally alternate) **leaflets** $\frac{3}{4}$ - 2 $\frac{3}{4}$ inches (2 - 7 cm) long; lower surface of leaflets pale green, upper surface dark green with 3 conspicuous veins; **leaf stalk** with narrow wings. Each **flower cluster** with a small, leaf-like **bract** on the stem beneath. **Flowers** $\frac{1}{2}$ inch (1.3 cm) wide, blue-purple with greenish throats, bell-shaped, with 5 rounded petals, 5 pointed sepals, and a 3-lobed stigma extending slightly beyond the petals (stamens are shorter than the petals). **Fruit** an oval capsule about $\frac{1}{4}$ inch (6 mm) long, enclosed by the sepals.

Similar Species: Blue phlox (*Phlox* spp.) and waterleaf (*Hydrophyllum* spp.) have similar flowers, but the compound leaves of Jacob's ladder with paired leaflets are distinctive.

Related Rare Species: None in Georgia.

Habitat: Rich, low woods and floodplains with soils high in calcium. Often occurs with white oak, bladdernut, white basswood, and oakleaf hydrangea.

Life History: Jacob's ladder is a perennial herb that reproduces sexually. Its flowers are visited by a variety of insects and require cross-pollination in order to set fruit. Beetles and flies eat their pollen and butterflies and moths extract nectar, with little or no pollination occurring. Bees are the major group of pollinators and are attracted to the nectar contained in the nectar chamber at the bottom of the flower (hidden beneath the hairs at the bases of the stamens); purple lines at the base of the flower act as nectar guides. On a given plant's flowers, the anthers mature and produce pollen before the stigmas become receptive, helping to prevent self-pollination.

Survey Recommendations: Surveys are best conducted during flowering (April–May) and fruiting (June).

Range: Georgia, north to Maine, and west to Oklahoma and Ontario.

Threats: Logging, clearing, and development of habitat; damming streams; invasion by exotic pest plants.

Georgia Conservation Status: Fewer than 10 populations are known, all on private property.

Conservation and Management Recommendations: Protect populations from clearcutting and development. Avoid damming streams. Eradicate exotic pest plants, especially Japanese honeysuckle and Chinese privet.

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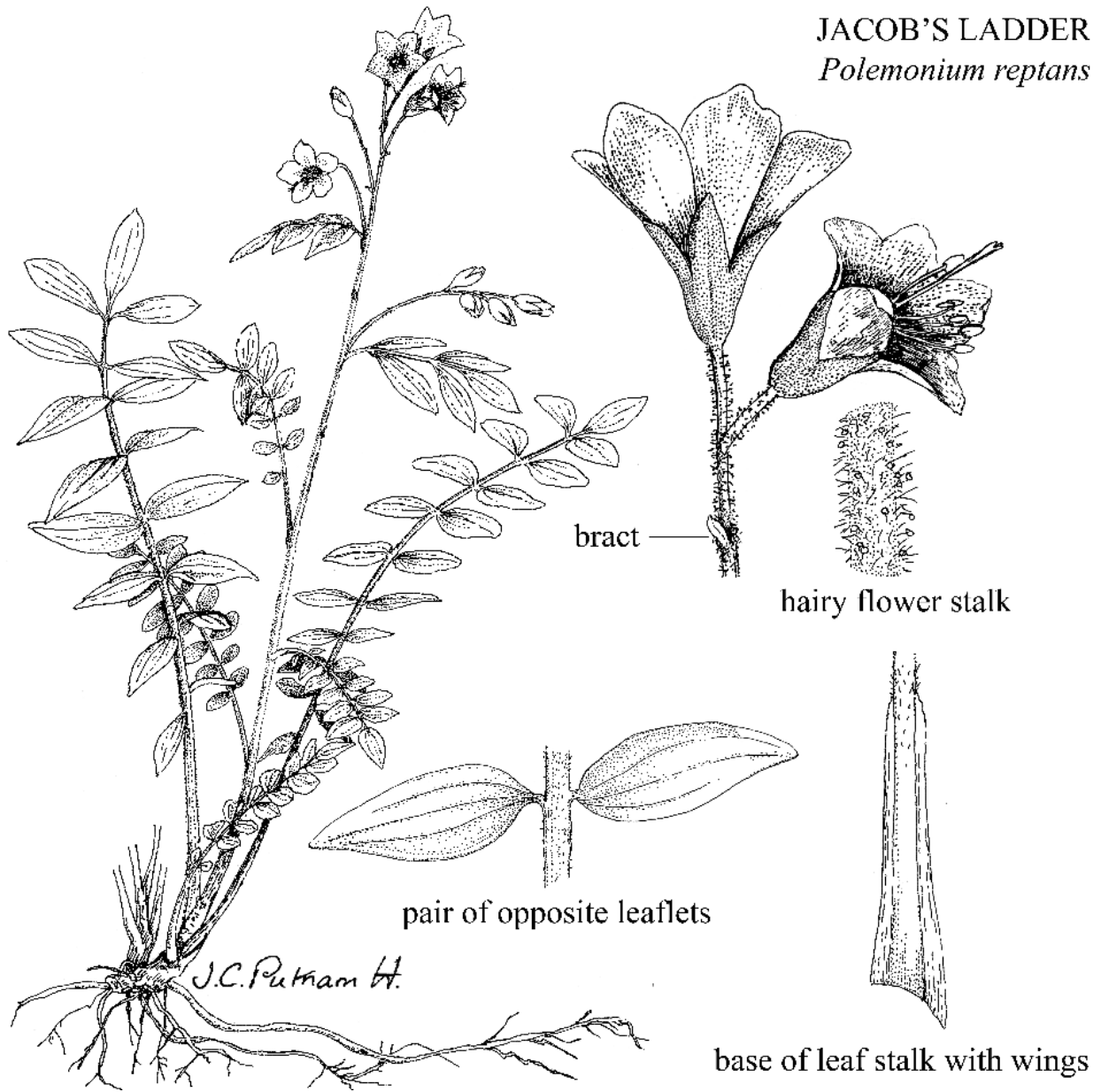
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L. Chafin, July 2008: original account

K. Owers, Feb. 2010: added pictures

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Polemonium reptans





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