Johnny Jumpup

*Viola tricolor* L.

**Synonyms:** *Viola macedonica* Boiss. & Duet, *V. tricolor* var. *hortensis* Candolle.

Other common names: garden violet, pansy, pansy violet, wild pansy

Family: Violaceae

**Invasiveness Rank:** 34 The invasiveness rank is calculated based on a species’ ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

**Description**

Johnny Jumpup is an annual or biennial herb that grows from 10 to 30 cm tall. Stems are erect, branched, angled, and glabrous or covered in short, downward-pointing hairs. Leaves are alternate, petiolated, glabrous or covered in short hairs, and oblong to lanceolate with blunt-toothed margins and large, 8 to 40 mm long, leaf-like, pinnately lobed stipules. Flowers are solitary in the leaf axils, nodding, five-petaled, 1 to 3.5 cm long, and bilaterally symmetrical. Petals are longer than sepals and have variable color patterns of violet, white, and yellow. Often, the upper petals are dark violet and the lower petals are white, yellow, or pale violet with dark violet streaks and yellow towards the base of the lowest petal. Sepals are green, oblong-lanceolate, 12 to 22 mm long, and 3 to 5 mm wide. Capsules are ellipsoid, 5 to 12 mm long, glabrous, and three-valved. Seeds are light brown (DiTomaso and Healy 2007, eFloras 2008, Nadtochij 2009, Klinkenberg 2010, NatureGate 2010).

**Ecological Impact**

**Impact on community composition, structure, and interactions:** Johnny Jumpup grows in roadsides and disturbed areas at low densities (AKEPIC 2010, Klinkenberg 2010), where it may increase the density of colonizing plants and cause modest reductions in moisture and nutrients available to native species. However, infestations do not appear to persist in Alaska (Carlson pers. obs.). Johnny Jumpup is insect pollinated (Lankinen 2000), and its presence may alter native plant-pollinator interactions.

**Impact on ecosystem processes:** Johnny Jumpup may reduce the moisture and nutrients available to native species.
species.

**Biology and Invasive Potential**

*Reproductive potential:* Plants reproduce by seeds, and each plant is capable of producing up to 3,020 seeds (Nadtochij 2009). Seeds can remain viable in the soil for up to six years (Nadtochij 2009).

*Role of disturbance in establishment:* In its native range, johnny jumpup grows on semi-natural grasslands, dry hillsides, flat rocks, rocky outcrops, sand dunes, and cultivated soils (Lankinen 2000, Kiviniemi 2008, NatureGate 2010). It is intolerant of shade and establishes in open areas (Nadtochij 2009). In North America, this species grows in disturbed areas and road sides (Klinkenberg 2010). All infestations in Alaska are associated with either fill importation or material extraction (AKEPIC 2010).

*Potential for long-distance dispersal:* Seeds are ejected explosively from the fruits and are further dispersed by ants (Beattie and Lyons 1975). They have elaiosomes, fleshy-oily protuberances that attract ants (Kiviniemi 2008).

*Potential to be spread by human activity:* Johnny jumpup is commonly cultivated in gardens, and in Alaska it may escape from cultivation into disturbed areas (DiTomaso and Healy 2007, eFloras 2008). It is recommended in Alaska as a fire resistant plant for use in landscaping around homes (Alaska Community Forestry Program 2005).

*Germination requirements:* Seeds have innate dormancy and remain dormant for 6 to 8 months after maturation. Seedlings will not emerge when seeds are buried deeper than 5 cm. The optimum temperature range for germination is 18°C to 24°C, but seeds can germinate at temperatures as low as 2°C (Nadtochij 2009).

*Growth requirements:* Johnny jumpup has high light requirements and is intolerant of shading. It grows best on mesic, nutrient-rich soils with pH between 6 and 7.5. This species does not grow well in sand, clay, nutrient-poor, or acidic soils (Nadtochij 2009).

*Congeneric weeds:* No *Viola* species are considered noxious in the U.S. or Canada (Invaders 2010, USDA 2010). Field violet, *V. arvensis*, can be a problematic weed in agricultural crops, and heavy infestations can reduce crop yields (Crop Compendium 2010). Field violet and English violet (*V. odorata*) are considered weeds in some parts of the U.S. (DiTomaso and Healy 2007, USDA 2010).

**Legal Listings**

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states
- Federal noxious weed
- Listed noxious in Canada or other countries

**Distribution and Abundance**

In North America, johnny jumpup grows in disturbed sites, cultivated areas, and road sides (DiTomaso and Healy 2007, Klinkenberg 2010).

*Native and current distribution:* Johnny jumpup is native to Europe. It has been introduced to China, Japan, Australia, New Zealand, South America, and North America (Mito and Uesugi 2004, eFloras 2008, GBIF New Zealand 2010, Tropicos 2010, USDA 2010). It has been collected from arctic regions in Norway and western Russia (Nadtochij and Budrevskaya 2003, Vascular Plant Herbarium Oslo 2010). This species grows in 40 states of the U.S. (USDA 2010). It has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (AKEPIC 2010, UAM 2010).

**Management**

Mechanical methods and herbicide applications have been successful at controlling johnny jumpup in cultivated fields in Russia (Nadtochij 2009). Annually-repeated, mechanical removal of plants has been successful in controlling johnny jumpup in Glacier Bay National Park and Preserve (Rapp 2009).

**References:**


Carlson, M., Associate Research Professor – Botany, Alaska Natural Heritage Program, University of Alaska Anchorage, 707 A Street, Anchorage, Alaska. Tel: (907) 257-2790 – Pers. obs.


