Scotch broom

Cytisus scoparius (L.) Link

Synonyms: *Sarothamnus scoparius* (L.)Wimmer ex Koch
Common name: English broom, Scotch broom, scothbroom
Family: Fabaceae

Description
Cytisus scoparius is a woody shrub, up to 10 feet tall with many more-or-less erect branches that are angled and dark green. Leaves are mostly 3 parted with entire leaflets. Leaflets are obovate to oblanceolate, 1/4 to 1/2 inches long. Flowers are showy, yellow and abundant, is usually borne solitary in axils. Pods are flattened, brown or black, with white hair on the margins (Hoshovsky 1986, Whitson et al. 2000).

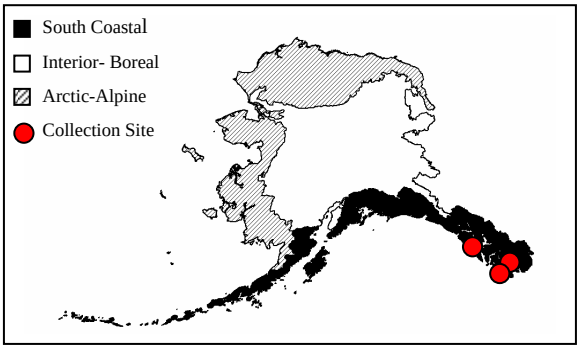

Photo: J.S. Peterson @ USDA-NRCS PLANTS Database

Ecological Impact
Impact on community composition, structure, and interactions: Within the first year broom plants can grow over 3 feet tall. It grows so dense that is often impenetrable and prevents the establishment of the native plants. It can fix nitrogen throughout the year in regions with mild winters (Wheeler et al. 1979). When the growth becomes too dense it eliminates forage sites for deer. It is slightly toxic and unpalatable for browse animals (Hoshovsky 1986).
Impact on ecosystem process: Broom stands prevents reforestation, creates a high fire hazard. It produces a sparse, readily decomposable litter (Hoshovsky 1986).

Biology and Invasive Potential
Reproductive potential: Scotch broom may reproduce vegetatively or by seed. It has been purposefully propagated from cuttings and it sprouts back after cutting. Scotch broom bushes can produce up to 60 seed pods per bush by their second year and 300 to 7,000 seed pods every next year. Each pod usually contains 4-9 seeds (Waloff and Richards 1977). Seeds remain viable for over 80 years (Hoshovsky 1986).
Role of disturbance in establishment: Soil disturbance providing bare soil is very conducive to broom seedling establishment. Broom can regenerate only where the canopy is disturbed by fire, substrate instability or by sheep and cattle grazing (Hoshovsky 1986).
Potential for long-distance dispersal: Broom pods often open explosively and the seeds may be widely scattered. The most rapid spread of the plant has occurred along waterways there the seed is distributed by water. Broom seeds have hard seed coats which can survive transport in river gravels. Seeds may also be transported by birds and other animals to isolated areas (Hoshovsky 1986).
Potential to be spread by human activity: Scotch broom is frequent planted in gardens and as a soil binder along highway cuts and fills. It spreads rapidly along the roads by passing vehicles and in gravel hauled from river bottoms (Hoshovsky 1986).
Germination requirement: Only about 45-50% of the seeds produced will actually germinate. For horticultural purposes soaking in the water and mechanical scarification is recommended. Such treatment is easily accomplished when seeds are transported by water for any distance. The seeds buried more than 4 inches deep fail to emerge. The fastest emergence occurs when seeds are buried less than 1 inch deep in a fine textured substrate (Hoshovsky 1986).

Growth requirements: Scotch broom is adapted to all types of soil with PH values ranging from 5.5 to 7. This plant has high drought and fire tolerance. It withstands temperatures to -13°F, and requires 150 frost-free days for reproduction. No cold stratification required for germination. Scotch broom is not shade tolerant (USDA 2002).
Cogeneric weed: Cytisus striatus (Hill) Rothm. is a weedy species that are found on the Pacific Coast (USDA 2002).
Listing: Listed as Noxious in California, Hawaii, Idaho, Oregon, and Washington (Invaders Database System 2003).

Distribution and Abundance
Scotch broom invades pastures, cultivated fields, roadsides, dry scrubland, native grasslands, dry riverbeds and other waterways. It does not do well in forested areas but invades rapidly following logging, land clearing and burning (Hoshovsky 1986, Whitson et al. 2000).
Native and current distribution: In the West, Scotch broom has now become established along the inland valleys of the Pacific Northwest, from British Columbia to central California (Hitchcock and Cronquist 1990). It has been collected from Sitka, Alaska (University of Alaska Museum 2003), reported from Ketchican and Prince of Wales Island (M. Shephard – pers. comm.).



Distribution of scotch broom in Alaska.

Management
Handpulling, cutting or mowing can be used for broom control. Herbicides for broom control are available. Seeding with native species in areas where broom has been removed is recommended. There is promise for adequate biological control as there are several broom-feeding insects from Europe, which have not been introduced. As broom stumps may resprout, monitoring is needed (Hoshovsky 1986).

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