

Fire Effects Information System (FEIS)

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How does fire affect plants & animals?

FEIS has answers in >1,100 scientific literature reviews on plants & animals, including >160 nonnative plants.



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The screenshot shows the FEIS Home Page with a search result for *Paederia foetida*. The search bar contains "skunkvine". The results page includes a Table of Contents with sections like Introductory, Distribution and occurrence, Botanical and ecological characteristics, Fire effects and management, Management considerations, Appendix: Fire regime table, and References. Below this is the FIRE EFFECTS AND MANAGEMENT section, which includes a detailed description of fire effects on the plant, regeneration strategies, and adaptations. A red arrow points from the search bar to the search results page, and another red arrow points from the search results page to the FIRE EFFECTS AND MANAGEMENT section.

Prescribed fire in cogongrass to remove thatch before herbicide application

Specie: *Paederia foetida*

Table of Contents

- Introductory
- Distribution and occurrence
- Botanical and ecological characteristics
- Fire effects and management
- Management considerations
- Appendix: Fire regime table
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FIRE EFFECTS AND MANAGEMENT

Specie: *Paederia foetida*

- FIRE EFFECTS
- FUELS & FIRE REGIMES
- FIRE MANAGEMENT CONSIDERATIONS

FIRE EFFECTS

Immediate fire effect on plant: Skunkvine is top-killed [1] if not entirely killed by fire [1].

Positive regeneration strategy [2]:

General control strategy (on site, initial community) Secondary colonizer (on- or off-site seed source)

FIRE ADAPTATIONS AND PLANT RESPONSE TO FIRE:

Fire adaptation: In the few studies (as of 2004) reported, no effects of fire were observed on skunkvine [1]. However, in one study after fire [2], the lack of description of fire severity make predicting skunkvine's postfire survival and regeneration difficult.

Habit tolerance of skunkvine seeds was not reported in the available literature (2009). In the single study it seems that in unburned sites, skunkvine seed was lacking, suggesting that seedlings establish from seed sources [2].

Plant response to fire: Studies described below suggest that skunkvine may be killed by fire, but general from burned sites was short-lived. Reports of prolific sprouting by skunkvine came from a study that investigated seedling establishment in repeatedly burned sites [2]. In the only US fire

28. Macdonald, Gregory E.; Ferrell, Jay; Sellers, Brent; Langelund, Ken; Duperre-Bord, Omnia; Kettner-Guest, Ellen. 2008. *Skunkvine—Paederia foetida (L.) Rubecq*. In: Plant invasions: biology, management, and control. University of Florida, Institute of Food and Agricultural Sciences, Center for Aquatic and Invasive Plants (Producer). Available: <http://plants.ifas.ufl.edu/node/303> [2009, October 28]. (7596)

29. Mack, Richard N.; Simberloff, Daniel; Lonsdale, W. Mark; Evans, Harry; Clout, Michael; Bazzaz, Fahad A. 2000. Biotic invasions: causes, epidemiology, global consequences, and control. *Ecological Applications*. 10(3): 689-710. (4822)

30. Mada, M.; Washitani, I. 1990. A comparative ecology of the seasonal schedules for reproduction by seeds in a tall grassland community. *Functional Ecology*. 4(2): 169-182. (7582)

31. Mishra, B. P.; Tripathi, O. P.; Tripathi, R. S.; Paudel, H. N. 2004. Effects of anthropogenic disturbance on plant diversity and community structure of a sacred grove in Meghalaya, northeast India. *Biodiversity and Conservation*. 13(2): 421-436. (7586)

32. Morton, Julia F. 1976. Penitentes spread of many ornamental and fruit species in South Florida. *Proceedings of the Florida Horticultural Society*. 89: 348-353. (7593)

33. Myers, James H.; Wunderlin, Richard P. 2003. Vascular flora of Little Manatee River State Park, Hillsborough County, Florida. *Cactaceae*. 68(1): 56-74. (7582)



Photo by Dane Kuppingen

Princesstree in postfire habitat in Linville Gorge Wilderness Area, NC

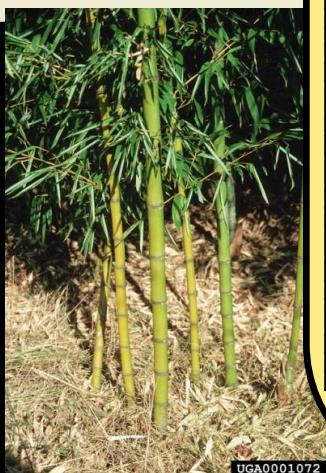


Photo © James R. Allison, Georgia Department of Natural Resources, Bugwood.org

Golden bamboo

New to FEIS: Reviews on >70 nonnative plants invasive in the eastern United States

Species added to or updated in FEIS as of February 2011			
Scientific name	Common name	Scientific name	Common name
<i>Aegopodium podagraria</i>	bishop's gout-weed	<i>Melia azedarach</i>	chinaberry
<i>Ailanthus altissima</i>	tree-of-heaven	<i>Mellilotus alba</i>	white sweetclover
<i>Albizia julibrissin</i>	mimosa, silktree	<i>Mellilotus officinalis</i>	yellow sweetclover
<i>Amelanchier brevipedunculata</i>	porcelainberry	<i>Microstegium vimineum</i>	Japanese stiltgrass
<i>Berberis vulgaris</i>	common barberry	<i>Misanthus sinensis</i>	Chinese silvergrass
<i>Cirsium palustre</i>	marsh thistle	<i>Morus alba</i>	white mulberry
<i>Coronilla varia</i>	crown vetch	<i>Nandina domestica</i>	sacred bamboo
<i>Cynanchum louiseae</i>	black swallow-wort	<i>Neyraudia reynaudiana</i>	silksilk
<i>Cynanchum rossicum</i>	pale swallow-wort	<i>Paederia foetida</i>	skunkvine
<i>Diocoreia alata</i>	water yam	<i>Paulownia tomentosa</i>	princesstree
<i>Diocoreia bulbifera</i>	air potato	<i>Persicaria longiseta</i>	Oriental lady's thumb
<i>Diocoreia oppositifolia</i>	Chinese yam	<i>Phalaris arundinacea</i>	reed canarygrass
<i>Diocoreia pentaphylla</i>	five-leaf yam	<i>Phyllostachys aurea</i>	golden bamboo
<i>Diocoreia sansibarensis</i>	Zanzibar yam	<i>Polygonum aviculare</i>	prostrate knotweed
<i>Dipsacus laciniatus</i>	cut-leaved teasel	<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Dipsacus sylvestris</i>	common teasel	<i>Polygonum perfoliatum</i>	mile-a-minute
<i>Elaeagnus pungens</i>	thorny-olive	<i>Polygonum sachalinense</i>	giant knotweed
<i>Eragrostis curvula</i>	weeping lovegrass	<i>Polygonum x bohemicum</i>	Bohemian knotweed
<i>Euonymus alatus</i>	burningbush	<i>Populus alba</i>	white poplar
<i>Euonymus fortunei</i>	wintercreeper	<i>Rhamnus cathartica</i>	common buckthorn
<i>Euphorbia cyathophylla</i>	cypress spurge	<i>Rhamnus davurica</i>	Dahurian buckthorn
<i>Euphorbia esula</i>	leafy spurge	<i>Robinia pseudoacacia</i>	black locust
<i>Frangula alnus</i>	glossy buckthorn	<i>Rubus phoenicolasius</i>	wineberry
<i>Glehnia hederacea</i>	ground ivy	<i>Schedonorus pratinus</i>	meadow fescue
<i>Hedera helix</i>	English ivy	<i>Schefflera actinophylla</i>	octopus tree
<i>Heracleum mantegazzianum</i>	giant hogweed	<i>Schinus terebinthifolius</i>	Brazilian pepper
<i>Hieracium aurantiacum</i>	orange hawkweed	<i>Solanum dulcamara</i>	Climbing nightshade
<i>Hieracium piloselloides</i>	tall hawkweed	<i>Solanum viarum</i>	tropical soda apple
<i>Hieracium pratense</i>	field hawkweed	<i>Tanacetum vulgare</i>	common tansy
<i>Holcus lanatus</i>	velvet grass	<i>Triadica sebifera</i>	Chinese tallow
<i>Iris pseudacorus</i>	yellow iris	<i>Tussilago farfara</i>	colts foot
<i>Kummerowia stipulacea</i>	Korean clover	<i>Urochloa mutica</i>	para grass
<i>Kummerowia striata</i>	Japanese clover	<i>Vinca major</i>	bigleaf periwinkle
<i>Lespedeza bicolor</i>	bicolor lespedeza	<i>Vinca minor</i>	periwinkle
<i>Lespedeza cuneata</i>	sericea lespedeza	<i>Wisteria floribunda</i>	Japanese wisteria
<i>Lysimachia nummularia</i>	moneywort	<i>Wisteria sinensis</i>	Chinese wisteria



Mimosa flowerhead

Photo by Dan Tenaglia, missouriplants.com



Lake Okeechobee wildfire

Photo by Chuck Hanlon, South Florida Water Management District

U.S.D.A. Forest Service, Rocky Mountain Research Station, Fire Modeling Institute



Partners:
~ USDA Forest Service Fire and Aviation Management
~ Joint Fire Science Program
~ Rocky Mountain Research Station, Fire Fuel & Smoke program
~ National Interagency Fuels Coordination Group



