

## Invasive Species Profile: Nandina (*Nandina domestica*)

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**Native Range:** from India to Japan

**U.S. Introduction:** 1834 as an ornamental

**Life Cycle:** perennial shrub

**Means of Spreading:** berries, eaten by birds which pass the seeds, and runners

**Commercially Available:** yes

**Control Method:** hand-pull seedlings and young plants. Mature bushes may require mechanical tools, such as a Weed Wrench. Cut down large bushes leaving two feet of defoliated branches; continue removing new growth until the plant dies.

**Good Alternative Species:** winterberry (*Ilex verticillata*), American holly (*Ilex opaca*), red chokeberry (*Aronia arbutifolia*)

**Comments:** *Nandina domestica* goes by several common names, such as “sacred bamboo” and “heavenly bamboo.” All of these informal names are misnomers. First, it is a shrub belonging to the barberry family whereas all true bamboos are grasses, albeit very tall grasses. Second, there is nothing “sacred” or “heavenly” about a noxious weed, especially one that poisons wildlife, as will later be discussed. Since this genus only contains one species, some people simply call this plant “Nandina,” using the genus as a common name, which is the same convention that this article uses.

In 1804, England was the first western country to receive specimens of this Asian bush. People liked Nandina’s ornamental attributes—the red berries in winter, white or pinkish floral accents in the spring, and dense, evergreen foliage. Nandina made its U.S. debut in 1834 at a Washington, D.C., garden. By 1837, it was sold through mail order. After escaping cultivation, Nandina is now invasive in warm, southeastern areas, from Texas to Maryland, and several counties on the West Coast.

Nandina’s ability to grow under various soil, lighting, and moisture conditions contributes to its spread. However, Nandina infestations usually occurs in forested areas. Several viruses target Nandina, and it is susceptible to some bacterial and fungal infections, but these biological controls are insufficient to restrict this weed in America. All parts of the plant contain toxins, which ward off



**Figure 1. Bright red berries ripe in the winter and evergreen foliage (A) are some of the reasons people plant Nandina. During the cold months, the leaves may take a red patina. However, the foliage remains completely undamaged by herbaceous mammals or insects because this plant is poisonous to all North American wildlife. Nandina flowers and grows new leaves in the spring (B).**

predation and fuels its invasive potential. Cyanogenic glycosides are a primary defense used by *Nandina* and are safely stored within plant cells. When ingested by pets, people (including small children), and wildlife, the ruptured plant cells release the cyanide sugars, which taste bad and usually discourage further consumption. The defensive compounds entering the body are metabolized into hydrogen cyanide, which is extremely toxic. Too much results in symptoms like respiratory failure and can lead to death within minutes to an hour.

Cyanide is a naturally occurring poison, produced by thousands of plant species in different concentrations and forms. For example, almonds contain cyanide but in such small quantities that humans can easily snarf a handful without any problems (excluding nut allergies, which is a different reaction). In *Nandina*'s case, an animal may eat some berries and later disperse the seeds in its droppings—bad for habitats but the critter lives. The difficulty is when wildlife mistakes the poisonous fruits for native ones and consumes too much. This problem is especially apparent in species that find a food source and gorge on it until their stomachs are full. Cedar waxwings feed this way plus they swallow berries whole, making them particularly vulnerable to death by *Nandina* cyanide poisoning.

*Nandina* might be marketed by the cultivar's name. 'Moyer's Red' and 'Royal Princess' are two fruiting varieties. Dwarf cultivars lacking berry production include 'Obsession,' 'Nana,' 'Gulfstream,' and 'Fire Power.' Folks ask if landscaping with a dwarf *Nandina* is all right for animals. The leaves and branches are still toxic, can cause health problems when ingested, and offer little more biological function to the environment than a plastic plant.

People can take several steps to prevent invasive or poisoning problems with *Nandina*. The best option is to replace *Nandina* with natives, such as winterberries, American hollies, or red chokeberries. Wildlife love these plants and the birds that benefit from the berries alone include mockingbirds, robins, cardinals, and of course cedar waxwings. Leaves of native bushes host insects that become food for baby birds. Pulling mature *Nandina* roots can be tough so either use a Weed Wrench or keep defoliating any new shoots to starve the root. For *Nandina* remaining in place, remove the berries before they mature, preferably after blossoming. Always bag and dispose of berries in trash destined for an incinerator or landfill; never recycle or leave them outdoors for wildlife to eat.

For more information on *Nandina*:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3005831/>  
<https://www.fs.fed.us/database/feis/plants/shrub/nandom/all.html>  
<https://www.invasiveplantatlas.org/subject.html?sub=3057>  
<https://www.invasive.org/browse/subinfo.cfm?sub=3057>  
<https://www.cabi.org/isc/datasheet/35692#F83A7609-B182-4B38-BA0D-1C7DBB9439D7>  
<https://ar.audubon.org/news/nandina-berries-kill-birds>  
<https://wagwalking.com/condition/nandina-poisoning>  
<http://www.pawdogdaycare.com/toxic-and-non-toxic-plants/nandina>  
<https://homegardenjoy.com/site/2016/02/avoid-planting-nandina.html>



**Figure 2. Native plants make the best backyard birdfeeders! A flock of cedar waxwings (*Bombycilla cedrorum*) are munching red chokeberries (*Aronia arbutifolia*) in a Fairfax, Virginia, garden.**

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