

Piscidia erythrina (1)

Jamaican Dogwood

Indications

Used traditionally for pain, neuralgia, migraine, anxiety, tension, panic disorder, and insomnia.

Mechanism of Action

Piscidia erythrina has not yet been extensively researched in terms of its chemical constituents, but root extracts are known to contain the resins piscidin, jamaicin, and rotenone and isoflavonoids sumatrol, durmillone, and erythnone, collectively referred to as rotenoids.¹ These compounds are credited with fish toxicity as well as varied antimicrobial effects, activity against malaria and amoebiasis,² and possible anticancer effects.³

Piscidia has not yet had much clinical or molecular research outside of its piscicidal action. The sum total of chemical constituents in *Piscidia* are credited with muscle-relaxing effects⁴ that would contribute to its traditional use for pain and muscle spasms as well as to support smooth muscle relaxation in the vasculature to help bring down blood pressure.

Evidence-Based Research

Piscidia erythrina has fairly powerful effects on the heart, respiratory centers, nerve conduction, and the vascular system, and it is traditionally used in small physiologically appropriate dosages.

Animal studies on *Piscidia* have shown the plant to exert an anxiolytic effect that would also help contribute to hypotensive actions. In several *in vivo* pharmacological studies, extracts of *Piscidia* showed sedative, antispasmodic, anti-inflammatory, and hypotensive activity. In a comparative investigation of vegetable extracts on CNS activity in the mouse, oral dosing of *P. erythrina* produced pharmacological effects intermediate between the sedative action of *Valeriana officinalis* and the anxiolytic (antianxiety) activity of *Passiflora incarnata*.⁵

Both *in vitro* and *in vivo* findings reveal that the antispasmodic properties of *Piscidia* bark extract are either equal to or, in some cases, even greater than those of papaverine.⁶

Safety in Pregnancy and Breastfeeding

There have been no clinical studies on the use of *Piscidia* during pregnancy, but because of its strong effects, the plant is probably best avoided during pregnancy and lactation.

General Safety

Isolated rotenones are known to damage dopaminergic neurons with large or repetitive dosages,⁷ and concentrated rotenone has been established as a reliable method for inducing animal models of Parkinson's disease. Rotenones are also known to be fish toxins; therefore, *Piscidia* is generally recommended in small dosages, and as part of a larger more nourishing protocol in the management of acute and chronic pain. Nonetheless, small physiologically appropriate dosages are generally well tolerated and not reported to induce any symptoms of acute toxicity. Theoretically, *Piscidia* may have additive effects if taken alongside other pharmaceutical sedatives.

Dosage

In a sampling of formulas for pain and inflammation, encapsulated *Piscidia* powder varied from 12 mg to 250 mg per capsule. Little is known about precise dosing of *Piscidia*; however, as it does have potential for toxicity, caution should be used if exceeding 400 mg daily.

Traditional Uses

Piscidia erythrina is a tropical plant historically used for pain, neuralgia, migraine, anxiety, tension, panic disorder, insomnia, and high blood pressure in small-to-moderate dosages. The plant has also been used topically in head washes for lice and skin washes for scabies and other skin infestations and to control fleas in dogs.

Eclectic authors, a group of alternative minded medical doctors practicing in the late 1800s and early 1900s, including Ellingwood,⁸ Felter, and Lloyd, wrote about the plant's effect. *Piscidia* was claimed to reduce reflexive skeletal muscle spasms because of spinal cord effects, and the plant was sometimes used by eclectic physicians as a morphine substitute to promote restful sleep in cases of pain and nervous tension. *Piscidia* is reported not to suppress normal digestion and peristalsis nor to become addictive or have numerous side effects as is the case with morphine.

References

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⁶ **J Am Pharm Assoc Am Pharm Assoc.** 1948;37(3):89–97. *An investigation of Piscidia erythrina (Jamaica dogwood)*. Costello C.

⁷ **J Neurochem.** 2015;133(1):14–25. *Rotenone decreases intracellular aldehyde dehydrogenase activity: implications for the pathogenesis of Parkinson disease.* Goldstein DS, Sullivan P, Cooney A, Jinsmaa Y, Kopin IJ, Sharabi Y.

⁸ **The American Materia Medica, Therapeutics and Pharmacognosy.** 1919. Finley Ellingwood MD.

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