



ToxTalks:

A Bulletin for Healthcare Professionals Who Manage Poisoned Patients

In Partnership with the UVA Division of Medical Toxicology – Department of Emergency Medicine

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Blue Lotus

Blue lotus or blue Egyptian lotus (Latin name: *Nymphaea caerulea*) is a flowering plant in the water lily family native to northern and central Africa. Water lilies have served as important symbols in a number of ancient cultures. In Ancient Egypt, the blue lotus was used in rituals, celebrations, and burial ceremonies. It has also been used medicinally for its aphrodisiac and calming properties. Today, blue lotus can be purchased as teas, extracts and tinctures, marketed for its calming effects. More recently, however, blue lotus extracts have gained popularity as an additive to vapes and gummies, marketed both in isolation and in combination with other psychoactive drugs (e.g., cannabinoids) for its calming and potentially euphoric effects.

Pharmacology

Blue lotus is thought to contain two alkaloids to which its psychoactive properties have been attributed: apomorphine and nuciferine. Apomorphine is a non-selective dopamine agonist, serotonin receptor agonist, and an alpha-adrenergic agonist. Apomorphine subcutaneous injection received its first U.S. Food and Drug Administration (FDA) approval as rescue therapy for the treatment of "off" periods in Parkinson's disease in 2004. In February 2025, a continuous subcutaneous infusion was approved.

Apomorphine has also been proposed for use in erectile dysfunction and Alzheimer's disease. Nuciferine has properties similar to those of atypical antipsychotics, including antagonist effects at 5-HT₂ receptors, partial agonism of dopamine receptors D₂ and D₅, and agonist effects at 5-HT_{1A} and D₄ receptors. Information on commercially available products is quite limited; however, laboratory analyses of commercially available blue lotus products have revealed that the amounts of these alkaloids varies considerably between products, with some containing negligible amounts or none at all. Some products also appear to contain other synthetic fragrances and additives as well.



Image retrieved from [Binoid](#)

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Reported clinical effects

Reports in the literature of intoxication from blue lotus are rare, probably indicating that severe toxicity is unlikely. In a case series published in 2023, five active-duty military members presented to medical care after reported ingestion or inhalation of blue lotus products. Clinical presentations were variable but neurological effects were the predominant presenting symptom, including agitation and abnormal behavior, confusion, drowsiness, and possible hallucinations. Mild lab abnormalities were reported, including leukocytosis, acidosis, and mild elevations in creatinine and transaminases.

Of the five patients in the case series, all were discharged from the emergency department after brief observation periods without serious sequelae. Given the known mechanisms of apomorphine and nuciferine, it is plausible that these effects were secondary to intoxication with these alkaloids; however, no laboratory analyses were performed on these products. An abstract from 2021 presents the case of a 22-year-old man who presented with seizure activity, akathisia, amnesia, and dysarthria. The case was complicated by acute kidney and liver injury. The patient reported the use of a blue lotus vape product for several weeks prior to the onset of his illness. Further investigation revealed no clear alternative explanation for the patient's symptoms and he was discharged on levetiracetam with instructions to discontinue blue lotus.

Image retrieved from [Pico Botanica](https://www.pico-botanica.com/)**Guidance for healthcare professionals**

Blue lotus exposures are expected to rise due to the increased prevalence of these products in vape shops and gas stations, as well as marketing of these products as a "legal high". Given how little is known about acute and long-term effects of these products, identifying a patient intoxicated with blue lotus may be challenging. Obtaining a thorough history and physical examination are the first steps, with a specific focus on identifying potential exposures. Because these products are not regulated by the FDA, the quality and reported contents of these products may not be reliable. Contamination and adulteration with other substances (e.g., synthetic cannabinoids) is possible, so alternative intoxicants should also be considered.

Laboratory and imaging investigation may be warranted to rule out possible complications, such as kidney and liver injury, and for diagnostic clarity. For patients presenting with suspected intoxication from blue lotus products, investigation into non-toxicologic etiologies should be performed, as significant toxicity from these products is rare. Supportive care is the mainstay of treatment for suspected intoxication with blue lotus products. This may include volume resuscitation, airway support, and symptom control, including benzodiazepines for agitation. Antipsychotics could also be considered in those with extrapyramidal symptoms secondary to dopamine agonism. Rapid clinical improvement is expected with quality supportive care, so prolonged symptoms should prompt further work-up. Patients should be counselled on the potential dangers of these unregulated products and encouraged to discontinue use.

References available upon request.

New Study Shows U.S. Poison Centers Save the Nation Billions Each Year

United States poison centers, including the [Blue Ridge Poison Center](#) at UVA Health and the [Virginia Poison Center](#) at VCU Health, save \$3.1 billion every year in medical costs and lost productivity, according to a new independent study released by [America's Poison Centers](#).

Conducted by RAND, the report *Poison Prevention, Treatment, and Detection as Public Health Investments* confirms that poison centers provide substantial economic and societal benefits for communities across the country. The two poison centers in Virginia responded to more than 53,000 calls in 2025 for potential poison exposures. More than 85% of the calls from patients and families were managed without requiring a visit to a health care facility. Both poison centers also work to prevent poisonings and to improve care through educational efforts for the public and healthcare professionals.

“Poison centers like those that serve Virginia are a cost-effective way to keep our neighbors safe and well-informed about potential poisoning hazards,” said Christopher Holstege, M.D., director of the Blue Ridge Poison Center. “Our teams are always available to protect the health of our fellow Virginians if they may have been exposed to a poisonous substance of any kind.”

For additional information, or to read the full report, visit poisoncenters.org/national-impact-study.

