



KRATOM (*Mitragyna speciosa korth*) **(Street Names: Thang, Kakuam, Thom, Ketum, Biak)**

November 2019

Introduction:

Kratom, (*Mitragyna speciosa korth*), is a tropical tree indigenous to Thailand, Malaysia, Myanmar and other areas of Southeast Asia. Kratom is in the same family as the coffee tree (*Rubiaceae*). The tree reaches heights of 50 feet with a spread of over 15 feet.

Kratom has been used by natives of Thailand and other regions of Southeast Asia as an herbal drug for decades. Traditionally, kratom was mostly used as a stimulant by Thai and Malaysian laborers and farmers to overcome the burdens of hard work. They chewed the leaves to make them work harder and provide energy and relief from muscle strains. Kratom was also used in Southeast Asia and by Thai natives to substitute for opium when opium is not available. It has also been used to manage opioid withdrawal symptoms by chronic opioid users.

In 1943, the Thai government passed the Kratom Act 2486 that made planting of the tree illegal. In 1979, the Thai government enacted the Narcotics Act B.E. 2522, placing kratom along with marijuana in Category V of a five category classification of narcotics. It has been reported that young Thai militants drink a "4x100" kratom formula to make them "more bold and fearless and easy to control." The two "4x100" kratom formulas are described as a mixture of boiled kratom leaves, mosquito coils, and cola or a mixture of boiled cough syrup, kratom leaves, and cola served with ice. In this report, it also mentioned that the use of the "4x100" formula was gaining popularity among Muslim youngsters in several districts of Yala (Southern Thailand) and was available in local coffee and tea shops.

Kratom is promoted as a legal psychoactive product on numerous websites in the U.S. On those websites, topics range from vendors listings, preparation of tea and recommended doses, to alleged medicinal uses, and user reports of drug experiences.

Licit Uses:

There is no legitimate medical use for kratom in the U.S.

Chemistry and Pharmacology:

Over 25 alkaloids have been isolated from kratom; mitragynine and 7-hydroxymitragynine are the primary psychoactive alkaloids in the plant.

Pharmacology studies show that mitragynine and 7-hydroxymitragynine have mu-opioid receptor agonist activity. Kratom has been described as producing both stimulant and sedative effects. At low doses, it produces stimulant effects, with users reporting increased alertness, physical energy, talkativeness and sociable behavior. At high doses, opioid effects are produced, in addition to sedative and euphoric effects. Effects occur within 5 to 10 minutes after ingestion and last for 2 to 5 hours. Acute side effects include nausea, itching, sweating, dry mouth, constipation, increased urination, and loss of appetite.

Kratom consumption can lead to addiction. In a study of

Thai kratom addicts, it was observed that some addicts chewed kratom daily for 3 to 30 years (mean of 18.6 years). Long-term use of kratom produced anorexia, weight loss, insomnia, skin darkening, dry mouth, frequent urination, and constipation. A withdrawal syndrome was observed, consisting of symptoms of hostility, aggression, emotional lability, wet nose, achy muscles and bones, and jerky movement of the limbs. Furthermore, several cases of kratom psychosis were observed, where kratom addicts exhibited psychotic symptoms that included hallucinations, delusion and confusion. In the U.S., the use of kratom has been associated with numerous cases of overdose and fatalities.

Illicit Uses:

In recent years, there has been an increase in the popularity of kratom and kratom-based products on the recreation drug market. Kratom is mainly being abused orally as a tea. Chewing kratom leaves is another method of consumption. Doses of 2 to 10 grams are recommended to achieve the desired effects.

Other countries are reporting emerging new trends in the use of kratom. In the United Kingdom, kratom is promoted as an "herbal speedball." In Malaysia, kratom (known as ketum) juice preparations are illegally available.

User Population:

Information on user population in the U.S. is limited. Kratom abuse is not monitored by any national drug abuse surveys.

Illicit Distribution:

The System to Retrieve Information from Drug Evidence (STRIDE)/STARLiMS, a federal database for the seized drugs analyzed by DEA forensic laboratories, and the National Forensic Laboratory Information System (NFLIS), which collects drug analysis information from federal, state and local forensic laboratories, indicate that there was one drug report of mitragynine, the primary active alkaloid in kratom, in 2010, 46 reports in 2011, and 139 reports in 2012. Since that time, the number of mitragynine drug reports have continued to increase to 193 in 2015, 321 in 2016, 333 in 2017; and, preliminarily to 589 drug reports for 2018. Kratom is widely available on the Internet. There are numerous vendors within and outside of the U.S. selling kratom. Forms of kratom available through the Internet include leaves (whole or crushed), powder, extract, encapsulated powder, and extract resin "pies" (40g pellets made from reduced extract). Seeds and whole trees are also available from some vendors through the Internet, suggesting the possibility of domestic cultivation.

Control Status:

Kratom is not scheduled under the Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249, or Email DPE@usdoj.gov.