

# **What are psychedelics?**

**A closer look at the world's  
most widely used psychedelic  
compounds.**

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**A closer look at the world's most widely used  
psychedelic compounds.**

**Chapter 1: DMT**

**Chapter 2: LSA**

**Chapter 3: LSD**

**Chapter 4: Mescaline**

**Chapter 5: Psilocybe cubensis**

## What is DMT?

DMT is a white, pungent-smelling, crystalline solid with a melting point of 49-50 degrees Celsius, hydrochloride salt hygroscopic, picrate m.p. 171-172 degrees Celsius and methiodide m.p. 215-216 degrees Celsius. It is insoluble in water, but soluble in organic solvents and aqueous acids.

DMT is the major constituent of the bark of *Virola calophylla*, but it is also found in:

- 1 the seeds of *Anadenanthera peregrina*.
- 2 the seeds of the vine *Mimosa hostilis*, used in eastern Brazil to make a drink called *ajuca* or *jurema*.
- 3 the leaves of *Banisteriopsis rusbyana*, which are added to the harmaline drinks derived from other plants of the *Banisteriopsis* genus to make *oco-yage*.
- 4 the leaves of *Psychotria viridis*, also added to the *Banisteriopsis* drinks.

DMT must be combined with monoamine oxidase inhibitors to become active orally and cause hallucinations. This is the case with the shamanic potion *ayahuasca*. See our *ayahuasca* page for more info.

## History

DMT was first synthesized in 1931, and demonstrated to be hallucinogenic in 1956. It has been shown to be present in many plant genera (*Acacia*, *Anadenanthera*, *Mimosa*, *Piptadenia*, *Virola*) and is a major component of several hallucinogenic snuffs (*cohoba*, *parica*, *yopo*), seeds and drinks.

## Chemistry

Name: N,N-Dimethyltryptamine

Chemical name : N,N-Dimethyl-1H-indole-3-ethanamine

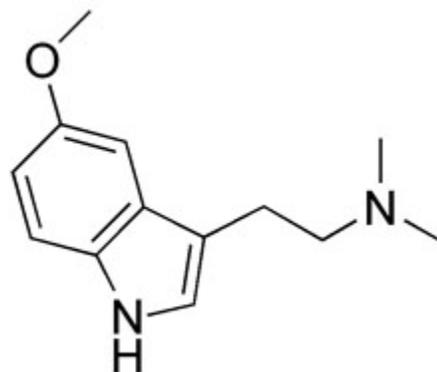
Alternate chemical names : 3-[2-(dimethylamino)ethyl]indole, DMT

Chemical formula: C<sub>12</sub>H<sub>16</sub>N<sub>2</sub>

DMT is a derivative of tryptamine formed by substituting methyl groups for the two hydrogen atoms attached to the non-aromatic nitrogen atom in the tryptamine molecule.

Both the parent compound tryptamine and the N-methyltransferase system which is capable of converting it to DMT, occur in humans, but there is as yet no evidence that DMT is formed *in vivo*.

DMT has nonetheless been identified in trace amounts in the blood and urine of both normals and of schizophrenic patients, but its origins and functions are unknown.



## Effects

Like LSD but often more intense. Since it is not taken by mouth, the effects come on suddenly and can be overwhelming. The term mind blowing might have been invented for this drug. Thoughts and visions crowd in at great speed; a sense of leaving or transcending time and a feeling that objects have lost all form and dissolved into a play of vibrations are characteristic. The effect can be like instant transportation to another universe.

An unusual feature of the induced intoxication is the speed of onset and short duration. Within 5 minutes of administration there is mydriasis [dilated pupils], tachycardia [rapid heart beat], a measurable increase in blood pressure, and related vegetative disturbances which usually persist throughout the drug experience.

In 10-15 minutes, the full intoxication is realized, generally characterized by hallucinations with the eyes either open or closed, and extensive movement within the visual field.

There is difficulty in the expression of one's thoughts, and in concentration on a given subject. There is usually a mood change to the euphoric with unmotivated laughter, but instances have been reported in which paranoid ideation has promoted anxieties and feelings of foreboding into a state of panic.

The subject is largely symptom-free at 60 minutes, although some residual effects have been seen in the second hour.

With the inhalation route of administration the time scale is contracted, with onset of effects noted in 10 seconds, a short period of full intoxication at 2-3 minutes, and a complete freedom from any residual effects within 10 minutes.

At higher drug levels, there are increased vegetative symptoms, and these effectively overwhelm the psychedelic experience at dosages of 150 mg i.m.

## Usage

DMT is not effective orally; it has to be smoked or injected. With intramuscular injection, there is an abrupt threshold of activity shown with 30mg, and a complete psychedelic experience results from the administration of 50-70mg (75mg subcutaneously, 30mg by inhalation).

Repeated usage does not appear to lead to either physical or psychological dependency.

When taking DMT make sure you are in a comfortable and familiar environment, best is a lit room, where you sit or lay down. Taking a shot of DMT while you're standing, will almost certainly make you fall on your ass when it kicks in.

Recommended is a dosage of about 40-50 mg. The dosage should be weighed out.

Dosages below 25 mg yield only physical and threshold psychedelic effects. Dosages between 25 mg and 40 mg are usually not enough to display the full range of the unique

DMT effects described below.

Dosages in excess of 55 mg, particularly if you are successful in holding all of the vapor in your lungs, can be VERY heavy and are not recommended for first time users.

The most common way to inhale DMT is the following.

Obtain a 'freebase' airpipe. Use with the largest funnel type bowl you can find. Insert the largest fine mesh stainless steel screen that will fit into the bowl. Then sprinkle the DMT uniformly over the center of the mesh screen. Make sure to keep the DMT away from the edges of the screen so that when it melts it does not run over the edge of the screen.

Hold a match or torch above the screen and inhale deeply and slowly. Do not let the flame touch the DMT as this will destroy much of the drug. DMT melts and vaporizes easily so the point is to let the hot air rushing by the flame into the pipe vaporize the DMT. It is quite easy to vaporize the DMT and end up with the air chamber full of white DMT vapor.

On each toke try to hold your breath for as long as possible. Exhale and immediately take a second toke. The physical effects, a buzzing or vibration throughout your whole body, come on first.

The intensity of these effects is not a reliable guide to the dosage of DMT that you have consumed. Keep taking lungfuls and holding them until all of the premeasured DMT is consumed.

## Warnings

It is not a party drug: the effects are most entertaining experienced in a quiet room. Also make sure there are one or more friends who can watch you and take away the pipe (if that's the way you've chosen to consume DMT). Because you'll be in a trance sooner that you will know and from then you will have poor motor control, and probably your eyes closed already.

Do not stand up. Do not operate heavy machinery. Do Not Drive.

Individuals currently in the midst of emotional or psychological upheaval in their everyday lives should be careful about choosing to use psychedelics such as N,N-DMT as they can trigger even more difficulty.

Individuals with a family history of schizophrenia or early onset mental illness should be extremely careful because psychedelics have been known to trigger latent psychological and mental problems.

Synthetic DMT has been extensively tested by medical authorities in Europe and America. It is perfectly safe with no lasting physical effects at these doses. However, since smoked DMT causes an abrupt blood pressure increase, it is probably not good for people with abnormally high blood pressure.

DMT's effects are heavily increased when you're taking MAO inhibitors. These are present in some medicines and food. This combination can be very dangerous.

## **Substitutes**

The brevity of the experience make its intensity bearable, and, for some, desirable. At least two synthetic drugs in which the methyl group of DMT is replaced by a higher radical are psychedelic.

The drug DET is active at the same dose as DMT and the effects last slightly longer, about one and a half to two hours. DPT is longer-acting still and has fewer autonomic side effects.

## **Combinations**

We do not recommend that DMT be combined with other drugs. It should be done on a clean head. Marijuana fogs the effects.

## What is LSA?

LSA (Lysergic Acid Amide) is a naturally occurring psychedelic found in many plants, with a potency 1/10 to 1/30th that of LSD. It has some similarities in effect to LSD, but is generally considered much less stimulating and can be sedating in larger doses. The most common plants in which it is found are morning glory (*Ipomoea violacea*), of which the seeds are consumed and Hawaiian baby woodrose seeds. As many psychoactives these plants have a history of spiritual/religious use among Indian tribes in South America, and have they entered the Western world first as a somewhat obscure psychoactive.

## History

The seeds of several types of tropical lianas have been used by the Indians in Mexico in their rituals for a long time. One of the first Spaniards who observed those rituals wrote in his book: "...and when the priests want to communicate with their gods and to receive their message they eat from this plant, from which they later get into delirium. Throughout the whole time they see thousands of visions and divine hallucinations..." Because of this total negative attitude of the Spaniards towards those rituals, through the last centuries they were kept in secret; many of the scientists even began to doubt the stories of the first missionaries. The mysterious lianas were found by ethnobotanist Dr. Richard Schultes in 1941; it seems that the Zapotec Indians, living in one of the Mexican states still use them with that purpose. In 1959 Richard Schultes sent samples of a cultivated Mexican morning glory, *Turbina corymbosa*, to Albert Hoffman, the discoverer of LSD. In 1960, Don Thomas MacDougall reported that seeds of another morning glory, *Ipomoea violacea* were used as sacraments by certain Zapotecs, sometimes with the *Turbina corymbosa* seeds and sometimes not. This morning glory species is the one with familiar varieties in America of which not all are "active". In the end, LSA turned out to exist also in the edible Hawaiian baby woodrose seeds (*Argyrea nervosa*).

## Chemistry

In 1960, Hoffman analyzed the *Turbina corymbosa* seeds and said they contained ergot-like alkaloids. This was hard for people to believe since previously such chemicals had only been found in the rye fungus *Claviceps purpurea* (ergot). But Hoffman was right; the seeds contained d-lysergic acid amide. This differs from LSD only in that it has a NH<sub>2</sub> where LSD has a N(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>, but LSD is some 50 to 100 times as potent. The morning glory *Turbina corymbosa*'s seeds also have other psychoactive alkaloids in them: d-isolysergic acid amide, chanoclavine, elymoclavine, and lysergol.

## Effects

LSA is taken in orally and after 20 minutes it causes a dream-like state during which the consciousness of the person is completely preserved. In a little bit larger doses these symptoms may get stronger and after an hour the user usually falls asleep. As a matter of fact, LSA causes the typical for LSD visual effects very rarely, except if it is not taken in very large doses.

Onset: 2 hours or so to peak

Duration : 10 - 14 hours

Normal after effects : up to 24

## Usage

1 Morning glory seed has about 0.01mg LSA.

1 Hawaiian baby woodrose seed has about 0.25mg LSA.

A common dose varies from 0.5 to 1.5 mg, a strong dose holds 1.5 to 4 mg. Do not use more than 4 mg.

## Warnings

Ergometrine has strong uterus-stimulating properties so it's a really bad idea for pregnant women to eat these seeds. Also, these seeds are supposed to be bad for people with liver problems (e.g. jaundice, hepatitis).

Do not combine LSA containing seeds with MAOIs. Both are increasing blood pressure and heart speed, and altogether it would be dangerous.

And, as with all psychoactive substances do not use any if there is a history or the potential of mental illness unless it has been shown to improve your condition or attitude. Do not use these substances if you are on psychotropic pharmaceuticals or other types of drugs until the research has been done on the possible interactions.

## Substitutes

LSA has been seen as a natural substitute for LSD, which is semi-synthetic, stronger and produces heavier hallucinations. LSD is the best known and most researched psychedelic. It is the standard against which all other psychedelics are compared. It is active at extremely low doses and is most commonly available on blotter or in liquid form.

## Storage

Both kinds of seeds may lose potency with age and temperature of storage.

# What is LSD?

LSD is the best known and most researched psychedelic. It is the standard against which all other psychedelics are compared. It is active at extremely low doses and is most commonly available on blotter or in liquid form.

## History

1938: Albert Hofmann, a chemist working for Sandoz Pharmaceutical, synthesizes LSD-25 for the first time in Basel, Switzerland while looking for a blood stimulant. LSD research is not continued until 5 yrs later.

Apr 16, 1943: Albert Hofmann accidentally experiences a small amount of LSD for the first time. This is the first human experience with pure LSD-25. He reports seeing "an uninterrupted stream of fantastic pictures, extraordinary shapes with intense, kaleidoscope-like play of colors." The experience lasted just over two hours.

Apr 19, 1943: Albert Hofmann intentionally takes (250 ug) LSD for the first time. This is the first intentional use of LSD.

1952: Charles Savage publishes the first study on the use of LSD to treat depression.

Meanwhile some other interesting things were going on. Most striking was the CIA's interest in this drug. The organization was keenly interested in the possibilities of using LSD for interrogation and mind control, and also for large-scale social engineering. The CIA conducted extensive research on LSD, which was mostly destroyed.

Several mental health professionals involved in LSD research, most notably Harvard psychology professors Drs. Timothy Leary and Richard Alpert (later known as Ram Dass), became convinced of LSD's potential as a tool for spiritual growth. Their research became more esoteric and controversial, alleging links between the LSD experience and the state of enlightenment sought after in many mystical traditions. They were dismissed from the traditional academic psychology community, and as such cut off from legal scientific acquisition of the drug. Dr. Leary was then (allegedly unbeknownst to himself) approached by agents of the CIA, who supplied him with such quantity of purified LSD-25 that he and Dr. Alpert/Ram Dass made available to a much wider portion of the public. His experiments lost their scientific pretense, and the pair evolved into countercultural spiritual gurus, making LSD a household brand among the hippies of the 1960s. The drug was banned in the United States in 1967, for scientific therapeutic research as well as individual research and recreation. Many other countries quickly followed suit.

Since 1967, underground recreational and therapeutic LSD use has continued in many countries, supported by a black market and popular demand for the drug. Legal, academic research experiments on the effects and mechanisms of LSD are also conducted on occasion, but rarely involve human subjects.

In 1979 Albert Hofmann published "LSD: My Problem Child", that was followed by many other books from other writers.

## **Chemistry**

D-lysergic acid diethylamide (LSD) is a synthetic chemical derived from ergot alkaloids which are produced by the ergot fungus which grows on rye. As a chemical substance, LSD is very quickly broken down by the body and even before the trip has ended all traces of it will be eliminated. This suggests that LSD triggers some sort of neurochemical cascade rather than acting directly to produce its effects.

LSD is sensitive to oxygen, ultraviolet light, and chlorine, especially in solution. However its potency may last years if stored away from light and moisture in a freezer. In pure form it is colorless, odorless, and bitter. LSD is typically delivered orally, usually on a substrate such as absorbent blotter paper, a sugarcube, or gelatin. In all these preparations, LSD is tasteless.

## **Positive effects**

Depending on how much and how recently one has eaten, LSD generally takes 20 - 60 minutes (though sometimes as long as 2 hrs) to take effect. The primary effects of LSD last for 6-8 hours.. For many people there is an additional period of time (2-6 hrs) where it is difficult to go to sleep and there is definitely a noticeable difference from everyday reality, but which is not strong enough to be considered 'tripping'.

In the beginning stages of onset, LSD is likely to cause a sort of undefinably feeling similar to anticipation or anxiety. There is often a slight feeling of energy in the body, an extra twinkle to lights, or the feeling that things are somehow different than usual. As the effects become stronger, a wide variety of perceptual changes may occur; non-specific mental and physical stimulation, pupil dilation, closed and open eye patterning and visuals, changed thought patterns, feelings of insight, confusion, or paranoia, and quickly changing emotions (happiness, fear, giddiness, anxiety, anger, joy, irritation).

An LSD trip may vary greatly from person to person, from one trip to another, and even as time passes during a single trip. Widely different effects emerge based on set and setting: the 'set' being the general mindset of the user, and the 'setting' being the physical and social environment in which the drug's effects are experienced. It is common for users to believe that they have achieved insights into the way the mind works and some users experience permanent or long-lasting changes in their life perspective. Some users consider LSD a religious sacrament, or a powerful tool for access to the divine. Many books have been written comparing the LSD trip to the state of enlightenment of eastern philosophy.

## Negative effects

An LSD trip can have long lasting or even permanent neutral, negative, and positive psychoemotional effects. LSD experiences can range from indescribably ecstatic to extraordinarily difficult; many difficult experiences (or "bad trips") result from a panicked user feeling that he or she has been permanently severed from reality and his or her ego. If the user is in a hostile or otherwise unsettling environment, or is not mentally prepared for the powerful distortions in perception and thought that the drug causes, effects are more likely to be unpleasant.

Dangers are purely psychological, not harmful to the body. LSD may release latent psychosis or exacerbate depression, leading to irrational behavior. There is also a danger of foolish or incautious behaviour, e.g. misjudging distances or thinking one can fly. Physical overdose is not a hazard, though one may easily ingest more than one may be able to handle psychologically.

Chronic effects of the drug can be positive and negative. Positive effects include spiritual contact and self- exploration; the most severe negative effect is known as LSD psychosis. LSD psychosis has been linked to forms of schizophrenia, and thus, to some physiological disorders -- it appears to be dependent on the user, and not on the drug.

Really the only serious physiological concern about LSD use has been that it may cause chromosome damage -- this was first reported by Cohen et al. in 1967. These findings were seldom replicated, and were contradicted by other studies (Loughman et al., 1967; Bender et al., 1968; Pahnke, 1970). In 1977, Maimon Cohen, one of the investigators who first reported this a decade earlier, stated that no conclusions could be drawn based on existing evidence (Cohen et al., 1977).

The phenomena of LSD flashbacks has been over-sensualized by the media for many years. Flashbacks are associated with highly emotional experiences and often happen to people who have never used psychedelic drugs. A frightening war memory, being raped, or even getting married, can all trigger flashbacks quite some time later. Thus, an emotional experience on LSD can also cause flashbacks. Physicians now refer to this as a condition known as Hallucinogen Persisting Perception Disorder (HPPD). It only appears to a very small percentage of users.

LSD has zero physical addiction potential. It is not physically addictive and it is not a drug that you will want to immediately do again.

Tolerance builds up rapidly with LSD. The same amount the next day gives a noticeably diminished effect. This wears off after three days to a week. There is also some cross-tolerance with psilocybin containing mushrooms.

## Medical use

Introduced by Sandoz as a drug with various psychiatric uses, LSD quickly became a therapeutic agent that appeared to show great promise. However, the extra-medical use of

the drug in western society in the middle years of the twentieth century led to a political firestorm that resulted in the banning of the substance for medical as well as recreational and spiritual uses.

LSD has been studied in the past as a painkiller for serious and chronic pain caused by cancer or other major trauma. Even at low (sub-psychedelic) dosages, it was found to be at least as effective as traditional opiates while being much longer lasting (pain reduction lasting as long as a week, after peak effects had subsided).

Furthermore, LSD has been investigated as a treatment for cluster headaches, an uncommon but extremely painful disorder. Although the phenomenon has not been fully investigated, case reports indicate that LSD and psilocybin can reduce cluster pain and also interrupt the cluster-headache cycle, preventing future headaches from occurring. Currently existing treatments include various ergotamines, among other chemicals, so LSD's efficacy may not be surprising. A dose-response study, testing the effectiveness of both LSD and psilocybin, is as of 2005 being planned at McLean Hospital. Unlike attempts to use LSD or MDMA in psychotherapy, this research involves non-psychological effects and often sub-psychedelic dosages; therefore, it is plausibly the most likely way that a respected medical use of LSD will arise.

## Varieties

LSD comes in several different forms. The most common is paper blotter. Other forms include gell caps, liquid, and gelatin. Each form will contain different quantities and purities of lysergic acid diethylamide.

The most common form of LSD is paper blotter divided into about 1/4" squares called tabs. A single tab usually contains between 30 - 100 ug of LSD. Paper blotters are created by taking a sheet of absorbant paper (usually decorated and perforated) and soaking it in a dilution of lysergic acid diethylamide. The dilution can vary greatly from one batch to another, or one chemist to another. Because of the method used to make blotter tabs, there is no practical way to know the exact dosage of a particular tab without either trying it or knowing the chemist. Adjacent tabs on a sheet will usually contain very similar levels of LSD. Because a blotter tab is so small, only extremely potent chemicals such as LSD can fit at active levels.

LSD is soluble in water and other solvents, though liquid LSD is usually water based. Liquid LSD is used in the creation of blotter tabs. A single drop of potent liquid LSD could be 50 times a normal dose, although it is generally diluted to the point where a single drop is equal to approximately one dose. This varies greatly from batch to batch, and is sometimes a weak dose while othertimes a very strong dose. Liquid LSD is uncommon. Be extremely careful when dealing with it as there is no way to gauge it's potency.

Gelatin LSD is made by mixing liquid LSD with gelatin and forming it into small, thin squares. The benefit of this method is that less of the LSD is exposed to sun and air which break down lysergic acid diethylamide. Also known as "window panes". A single square of gelatin is commonly stronger than a single blotter tab of LSD.

## Usage

A standard dose of LSD for the past 20 years has been between 50 - 150 ug (micrograms). A single hit of most blotter paper contains somewhere in this range, though this varies depending on the source and there is no way for the average user to determine the strength of a piece of blotter other than by word of mouth. In the 60's and 70's, when LSD came primarily in pill form, the average single dosage unit was somewhat higher than it is with today's blotter, more often in the 200-400 ug range. A drop of liquid can contain a huge amount of LSD but is generally made so that one drop is a single medium dose.

## Combinations

MDMA: Known as candyflipping. Most prefer quite low doses of LSD.

## Warnings

Do not operate heavy machinery. Do Not Drive.

Individuals currently in the midst of emotional or psychological upheaval in their everyday lives should be careful about choosing to use strong psychedelics such as LSD as they can trigger even more difficulty.

Individuals with a family history of schizophrenia or early onset mental illness should be extremely careful because LSD is known to trigger latent psychological and mental problems.

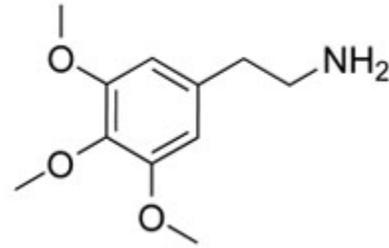
LSD can cause uterine contractions and is probably better avoided by women who are pregnant.

Dangers are purely psychological, not harmful to the body. LSD may release latent psychosis or exacerbate depression, leading to irrational behavior. There is also a danger of foolish or incautious behavior, e.g, misjudging distances or thinking one can fly. Physical overdose is not a hazard, though one may easily ingest more than one may be able to handle psychologically.

Lethal (toxic) doses of LSD are conservatively several tens of thousands of times as much as a normal dose, making it (in the toxic sense) one of the safest drugs known.

## What is mescaline?

Mescaline is a naturally occurring psychedelic found in several cactus species, most notably, Peyote (*Lophophora williamsii*) and San Pedro (*Trichocereus pachanoi*). Several other members of the trichocereus family also contain mescaline.



Mescaline belongs to a family of compounds known as phenethylamines, making it quite distinct from the other major psychedelics which belong to the indole family. LSD, psilocybin, harmaline, and DMT are all indoles. Many synthetic "designer" psychedelics/energizers, such as ecstasy (MDMA) and 2C-B, are phenethylamines, and are related to the chemistry of mescaline.

In addition to containing mescaline, the cacti mentioned above contain a large variety of related psychoactive compounds, and will produce experiences that are qualitatively different from pure mescaline.

Many members of the trichocereus family are psychoactive. Many references indicate that one variety, *Trichocereus peruvianus*, is several times as potent by weight as the other trichocereus species. Psychoactive species include:

*Trichocereus bridgesii*, *T. cuzcoensis*, *T. fulvinanus*, *T. macrogonus*, *T. pachanoi*, *T. peruvianus*, *T. taquimbalensis*, *T. terscheckii*, *T. validus*, *T. werdermannius*.

## History

Peyote and San Pedro are New World psychedelics. In ancient times their use was concentrated in the regions to which they are native. Peyote was used throughout Mexico to as far north as Texas, San Pedro in the Andes mountain region of South America. The introduction of Peyote into the U.S. and Canada, and its use by North American Indian tribes, occurred much more recently, beginning sometime in the late 1800s.

As with mushrooms, the Roman Catholic church tried to abolish the use of Peyote and San Pedro. However, they were only partially successful. Peyote use spread from Mexico to North America, and the Native American Church was formed in 1918 to preserve Native Americans' right to use Peyote. And with San Pedro, the ceremony practiced by many South American shamans continued while incorporating several Christian symbols into the rituals. The name of a Christian saint was even adopted for the cactus.

Mescaline was the first psychedelic compound to be extracted and isolated, which occurred in 1896. In 1919 it became the first psychedelic to be synthesized. For the next 35 years it remained a somewhat obscure compound known primarily to the psychiatric community. In 1953 the popular novelist Aldous Huxley read about mescaline. Soon thereafter Huxley tried mescaline, and brought it to the attention of the public by writing *The Doors of Perception*.

Today, natives throughout North America still perform sacred Peyote rituals. In South America shamans continue to hold traditional San Pedro ceremonies which are associated with healing, imparting or counteracting witchcraft, and putting one in touch with supernatural and divinatory powers. A claim frequently heard about the San Pedro experience is that the user embarks on a flight of a telepathic nature being transported across time and space. A user who embarks on this "astral journey" may perceive events happening in distant parts of the world, or in metaphysical realms. This flight phenomenon may result from solanaceous plants which are frequently included in the San Pedro brew and contain the Belladonna alkaloids.

## **Varieties**

Synthetic or pure crystalline mescaline is one of the rarest psychedelics, and misrepresentation of other substances as being mescaline is very common. And so, items ranging from LSD to DOB (a relative of 2C-B) are being sold as mescaline sometimes.

Illegal drug labs rarely produce mescaline for the underground market because of its inefficiency, high cost, and lack of a market. It requires approximately 1/2 gram of mescaline sulfate to produce a psychedelic trip. This same amount of material would represent 4 doses of ecstasy, 20 doses of 2C-B, 50 doses of psilocin, or 2500 doses of LSD. And without the large market of substances like ecstasy, smaller, less efficient batches must be produced, raising the cost of production even higher. The small amount of mescaline that is produced for the psychedelic underground typically fetches from 100 to 200 dollars per gram, (50 to 100 dollars per dose), clearly too expensive to become a popular street drug.

Mescaline sulfate can be distinguished by the structure of its crystals. These are approximately 1/4" long and look like fine needles or shards of glass. The amount of mescaline needed for a high can fill two double 0 gelatin caps. Those who claim they've had mescaline in tiny microdot pills, or as a white powder in a capsule where only 1/8th of a gram produced a powerful experience, have been given something other than real mescaline. Another form of mescaline, mescaline hydrochloride, is said to be about 25% more potent than mescaline sulfate.

## **Dosage and preparation**

The amount of mescaline sulfate required for a full experience is about 500 mg. (or approximately 350 mg. of mescaline hydrochloride) Pure mescaline should be taken in two half-doses about 30 minutes apart. This will minimize disturbance of the stomach, which usually passes after the first couple hours of the high. When consuming whole cacti one is actually taking a combination of alkaloids which synergistically interact with each other, producing an experience which is different, and sometimes more desirable, than pure mescaline.

## What is *Psilocybe cubensis*?

*Psilocybe cubensis* is currently one of the most popular and commonly available natural psychedelics. This species is known under several other names such as *Stropharia cubensis*, *Stropharia cyanescens* or *Stropharia caerulescens*, but the most common name is the 'Mexican mushroom'. This mushroom is very easy to grow, and therefore it is one of the most used hallucinogenic mushrooms all over the world.



More than 180 species of fungi are recognized as containing the tryptamine alkaloids psilocine and/or psilocybine. They are Agaricales and include the genera *Psilocybe* (117 species), *Gymnopilus* (13 species), *Panaeolus* (7 species), *Copelandia* (12 species), *Hypholoma* (6 species), *Pluteus* (6 species), *Inocybe* (6 species), *Conocybe* (4 species), and *Agrocybe*, *Galerina* and *Mycena* (one each). Concerning the distribution of *Psilocybe*, the majority of the species are found in the subtropical humid forests of Mexico and New Guinea. Mexico has the highest number of neurotropic fungi, with 76 species), of which 44 belong to *Psilocybe* (39 % of the world).

The name of the genus "*Psilocybe*" comes from the Greek words *psilos* (bare) and *kube* (head), warped into New Latin to form "*psilocybe*". Literally translated, this means "bald head", which supposedly comes from their appearance.

## History

At an archeological site in the Non Nak Tha region of northern Thailand, the bones of zebu cattle were recently unearthed in conjunction with human remains. We know that *Psilocybe cubensis* flourishes in the manure of cattle and buffalo in this region of northeastern Thailand. Terence McKenna has suggested that the temporal and physical relationship between the human bones and the bones of cattle is conclusive evidence that psychoactive mushrooms were known to the people who frequented this region around 15,000 B.P. (McKenna, 1992).

On the Tassili Plains in northern Algeria, cave paintings dating as far back as 9000 B. C. E. (Samorini. 1992; Gartz, 1996) portray anthropomorphic figures with mushroom images on their bodies, evidence that mushrooms were known and used in a mystic manner. Emboden (1979) describes, among traditional folk remedies from the 2nd century Chin dynasty in China, a cure for 'the laughing sickness', mushroom intoxication attributed to the accidental ingestion of psilocybian mushrooms. In Central and Southern America use of psilocybin mushrooms (and other hallucinogens) was common until the arrival of Spaniards who spread the Catholic faith with sword and fire and forbade the use. The Mixtec Indians even had a god for hallucinatory plants, especially the divine mushroom, who is called Seven Flower and is depicted with a pair of mushrooms in his

hand (Wasson 1898). But also the Aztec had their god for the entheogens, Xochipilli, Prince of Flowers. Mushrooms ingested by the indians were supposedly *Psilocybe mexicana* or *caerulescens* and *Panaeolus sphinctrinus*.

The appeal of mushrooms in the "modern world" originated when Gordon Wasson came to the Mazatec village of Huatla de Jimenez, and experienced a session of "velada" held by curandera Maria Sabina. Velada included a religious ritual under a heavy influence of *Psilocybe* mushrooms (Wasson 1898). Information about the mushrooms spread and experimentation began. In 1958 the active ingredients of the mushroom, Psilocybin and psilocin, were found and their analogues were synthesized by Dr. Albert Hoffman, who also discovered lysergic acid diethylamide (LSD) (Schwartz 1988). Experimentation with the mushrooms historically increased, leading to their significant influence in the part of the "60's psychedelic movement" (The Vaults of Erowid: Sacred mushrooms.). And even these days, *Psilocybe* mushrooms are one of the most common hallucinogenic substances for recreational use (Adlaf 1998).

*P. cubensis* (Earle) Singer, a coprophilous (dung-inhabiting) species, common in subtropical regions, but unknown in the tropics, was first identified from a specimen collected in Cuba in 1904 as *Stropharia cubensis* (Earle 1906). About the same time, Patouillard (1907) collected *Naematoloma caerulescens* (which is now synonymous with *P. cubensis*) in Tonkin (Hanoi), North Vietnam.

## Botanical

- kingdom *Protista*
  - division *Fungi*
    - class *Basidiomycetes*
      - order *Stropharia*
        - families *Bolbitiaceae*, *Coprinaceae*, *Cortinariaceae*, *Pluteaceae*, and *Strophariaceae*
- *basidiomycotina* or *-mycetes* -- Fungi that produce spores on stalks outside the terminal cells.
- *agaricales* -- mushrooms with cap & gills;

Commonly used species:

- *Panaeolus sphinctrinus*, *subbalteatus* (benanosis)
- *Psilocybe baeocystis*, *caerulescens*, *cyanescens*, *mexicana*, *pelliculosa*, *semilanceata*, *stuntzii*
- *Stropharia* (*Psilocybe*) *cubensis*

This mushroom has a yellow head, which can be 1,5 to 8 centimeters in diameter and a stem of 4 to 15 centimeters long. It's to be found throughout the southern United States, as well as most of Central and South America, and parts of southeast Asia. It grows on cow manure or manure-fertilized soil.

## **Chemistry**

The primary active ingredients of *Psilocybe cubensis* are psilocybin and psilocin, and to a lesser extent baeocystin and norbaeocystin. The ratio of psilocybin to psilocin varies from species to species. The primary difference between the two is that psilocin is unstable and it breaks down when the mushroom is dried, while psilocybin lasts much longer (a 115-year old mushroom sample was found to contain some). The two are equally psychoactive, since one molecule of psilocybin breaks down into one molecule of psilocin. These substances increase the dopamine level in the brain. This is what causes the trip.

## **Effects**

The historical mind-altering effects of psilocybin are described as a voyage to the spirit world. These hallucinogenic effects are similar to those of LSD; however, psilocybin is two hundred times less potent and also has a shorter duration time (Schwartz 1988). Common physiological reactions include muscular relaxation, coldness of the limbs and abdomen, and dilation of the pupils. A somewhat stronger dose includes vision and mental hallucinations, powerful distortion of space, increased ability to visualize creatively, spontaneous detailed images, feelings of time distortion. These effects of psilocybin are often more pronounced in users who have used mushrooms before. So, the use of the mushroom causes a feeling of disconnection from reality and an altered state of consciousness (Cumno 1994).

The nature of this trip depends upon the person taking it and the mood/state of mind that person is in. So your experience can be quite different from what you can read here or hear from other people.

At first there might occur some side effects; unlike an hangover from alcohol afterwards, mushrooms give sort of a hangover before the actual trip starts. This includes a feeling of reduced temperature, gas and/or stomach discomfort and nausea. This is where a bad trip could start, remember this only happens when you come to think negative about it, these feelings then become stronger and exaggerated and this negative spiral influences the effects in the same way. This is more likely to happen to people who have a history of being depressed, schizophrenic or traumatized. So if you suffer from one of these, but also if you feel stressed, tensed or just not happy, do not take mushrooms.

When taking a medium dose the trip takes about 4 - 6 hours and wears down gradually. The interval between hallucinations gets longer, until they disappear completely.

## **Medical use**

The prevalence of psilocybin throughout history and its current use has lead to intensive studies and research. The studies on human and animal models both demonstrated that psilocybin produces psychosis-like symptoms primarily through serotonin-2 receptor stimulation.

Very positive effects are reported by people suffering from cluster headaches; their pains are reduced extremely thanks to the use of some varieties of psilocybe cubensis. The website [www.clusterbusters.com](http://www.clusterbusters.com) has gathered information and experiences on this.

Also research has proved that psychoactive mushrooms can be helpful in the treatment of mental disorders. Research on this matter is still going on and safety parameters still have to be established.

## Varieties

The list of Psilocybe species is extremely long; of which only the most frequently used mushrooms are included in this encyclopedia. Psilocybe cubensis has several varieties, of which the most common are: Psilocybe cubensis "Amazonian", Psilocybe cubensis "Brazil", Psilocybe cubensis "Cambodian", Psilocybe cubensis "Cuba", Psilocybe cubensis "Equador", Psilocybe cubensis "Golden Teacher", Psilocybe cubensis "Gulfcoast", Psilocybe cubensis "Huautla", Psilocybe cubensis "Matias Romero", Psilocybe cubensis "Mazatapec", Psilocybe cubensis "Orissa India", Psilocybe cubensis "Palenque", Psilocybe cubensis "Tasmanian", Psilocybe cubensis "Thai", Psilocybe cubensis "Transkei".

Most of them look quite similar - they vary the most in largeness - but originate in different countries and grow under slightly different circumstances.

## Usage

The medium adult oral dose, according to Hofmann, is 4-8 mg of psilocybin. Thus, you can estimate doses from the mg/g psilocybin figures found in technical literature. Data for "% dry weight" is the same as centigrams per gram, so just multiply by 10 to get the mg/g figure.

For the fresh mushrooms, this schedule is used very often:

5-10 grams for a light trip for starters.

15-25 grams for a medium trip.

30-35 grams for a trip of the highest level for true psychonauts.

There is no reliable way of converting weight in grams from fresh to dry, mushrooms contain approximately 90% water (i.e. 10 grams fresh = 1 gram dry) but the figure varies from species to species.

Most psychonauts agree that making mushroom tea the easiest way of consuming them. Pour some hot water over the dried and shredded mushrooms, wait five to ten minutes, separate the liquid and repeat with some more hot water.

The mushrooms, fresh or dried, can also be mixed with orange juice, hot chocolate, water-honey and spices.

## Warnings

It should be noted that like all 'major' hallucinogens, psilocybin can precipitate psychotic episodes and uncover or aggravate previous mental illness. If you're stressed out or depressed, don't take mushrooms; if you have schizophrenia or something alike, DO NOT take mushrooms.

## Contraindications

A feeling of reduced temperature, gas and/or stomach discomfort and nausea are quite common, although not everyone experiences these effects. Keep in mind that they're absolutely normal and do not let it put you down (which is not good for the rest of the trip).

## Combinations

Combining this mushroom with MAOIs is not recommended, however, after consuming MAOIs only half the dose of mushrooms is needed and the trip lasts about two hours longer. But because of the consequences MAOIs have, it's absolutely necessary to be very careful.

Smoking marihuana on the comeup will ruin the clearheadedness that mushrooms have caused. When smoked at the peak, the THC synergizes with the psilocybin/cin and jumps things up a notch and then recedes to a more mellow trip. Lastly, when smoked on the comedown, the pot brings back the trip to some effect; nowhere near the peak effects but definately a marked increase in activity.

## Growing

Psilocybe cubensis can be grown through different methods from spores. It would not be very clever to put them down here briefly, while there are many good and detailed descriptions available on the net.

Don't feel like buying al the supplies and invest a great part of your time in cultivating? There are growboxes for sale, which make it easy to produce between 200 and 400 grams of fresh Mexican mushrooms in about two weeks. When sold they do not contain any psilocybin or psilocin yet, so in fact they are still legal in many countries.

## Storage

Fresh mushrooms can be stored in the fridge for about two weeks. It is least unpleasant if you eat them as fresh as possible, or if you dry them. Dried mushrooms are slightly less potent than the fresh ones, but can be stored for years.

