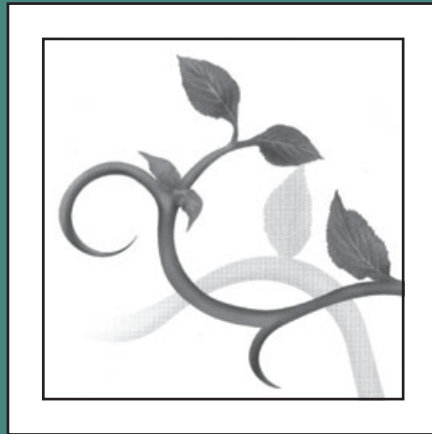


# Erowid Extracts

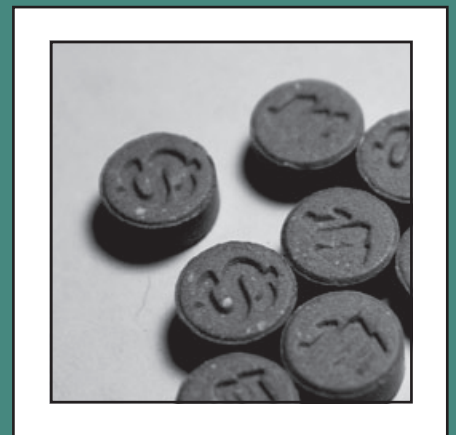
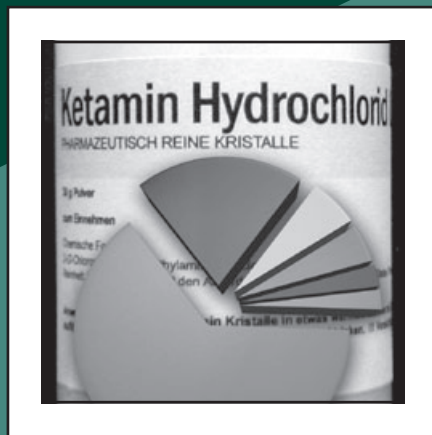
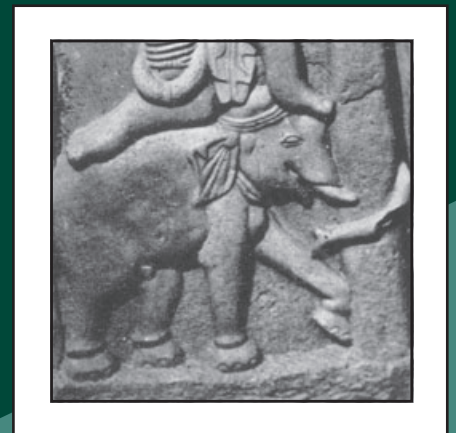
DOCUMENTING THE COMPLEX RELATIONSHIP BETWEEN HUMANS AND PSYCHOACTIVES

November 2010

Number 19



*"A ship in harbor is safe, but that is not what ships are built for."  
— John A. Shedd*



Ketamine and Urinary Health • Ketamine Surveys • Windowpane to the Soul  
THC Protective Against MDMA Toxicity? • DXM Considered for Scheduling

## LETTERS & FEEDBACK

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Just read my first issue of *Extracts*, outstanding and very impressive. Thanks and keep up the good work. [...] I don't actually use Erowid that much (I am of that generation you talked about that did most of its experimentation back in the good old '60s, but still dabble occasionally), yet I recognize it as an amazingly useful—no, necessary—resource and want to see it continue.

— HR  
*Erowid Member*

I brought the Erowid newsletter to our journal club/case conference today and showed it to several other physician and pharmacist toxicologists. They all thought it was fantastic.

— CD  
*Erowid Member*

I am currently 19 years old. As I've grown older this site has been a big help in satisfying my thirst for knowledge about psychoactive plants and substances. It is my improbable dream to actually work in the field of psychedelic research, if not professionally, at least on a personal level. Thank you so much for putting your time and effort into Erowid. I hope to support you further in the future assuming I actually end up with a job post-university!

— GZ  
*Erowid Member*

I wanted to show my support in order to thank Erowid for all the wonderful free resources it has provided me. During the recent downtime, I realized how much I take this site for granted, and without the fantastic and reliable information which it offers, my life would be drastically different.

— LM  
*Erowid Supporter*

Erowid has taught me to respect psychoactives as tools not toys. Thanks to Dr. Shulgin and Erowid I have safely experienced the expansion of my mind.

— SH  
*Erowid Member*

Please continue what you have been doing. There are few organizations out there that are willing to tell the truth, good or bad, about this subject matter. Thank you for your unbiased view. You have done insurmountable good for the community.

— MS  
*Erowid Member*

So many people stop to say the most positive things when they see my Erowid shirt, the best being, "That site saved my life!"

— EK  
*Erowid Member*

Thanks for offering the PDF version of *Erowid Extracts*. I'm trying to cut down on my paper usage.

— NM  
*Erowid Member*

Thank you so much for making and maintaining Erowid.org. Your website is what has helped me decide to go into a medical career.

— RG  
*Erowid Member*

I wish this donation could be a thousand times more. Listening to a talk by Myron Stolaroff and reading his book was a turning point in my life that I am so grateful for. I hope to write about it some day. Thank you, Myron Stolaroff.

— JM  
*Erowid Member*

You guys rock! I send hundreds of teenagers to your site.

— DR  
*Erowid Member*

I wanted to tell you how much I enjoy the Erowid Vaults. I don't trip any more but love to read about them and remember. (Not to say I won't ever.) It's great to read all the stuff you've gathered. Praise the Lord for the Internet. Thanks a bunch.

— AO  
*Email to Erowid*

I read the "psychedelic used car salesman" review in the article about MAPS' Psychedelic Science in the 21st Century conference from the June 2010 *Erowid Extracts* with interest. I sympathize with those who generally find fundraising efforts annoying or aggressive. The combined budget of all anti-Prohibitionist organizations doesn't even add up to an accounting error for the Prohibitionist organizations worldwide. Given the funding gap, it's a miracle that we're able to get anything accomplished at all. With this in mind, hopefully the community can better understand and tolerate fundraising pitches.

— RENÉ RUIZ  
*Erowid Supporter*

This website has provided me with immense amounts of knowledge and insight. I have been enjoying this resource for over ten years and I am unable to make a contribution big enough to repay you for the knowledge I have been provided. Thank you for everything and continue your service to the many people around the world.

— KLV  
*Erowid Member*

Send correspondence to:

[extracts@erowid.org](mailto:extracts@erowid.org)

Please include your name, title, and city/state/country of origin to be published with your letter.

Letters may be edited for length and clarity.

## ERRATA

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A reference on page 18 of the last issue was accidentally truncated. The full reference is: Richards WA. "Navigation within Consciousness: Insights from Four Decades of Psychotherapy Research with Imagery, Music and Entheogens". *J Assoc for Music Imagery*. 2004;9:27-39.

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Erowid Center’s mission is to provide and facilitate access to objective, accurate, and non-judgmental information about plants, chemicals, technologies, and related issues that affect the mind, body, and culture. Erowid Center supports and trains libraries, publishers, and other information distributors on issues related to these fields.

It is also Erowid Center’s goal to support medical, legal, scientific, academic, and independent experts in developing and publishing related resources.

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## Erowid Extracts

Number 19, November 2010

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Erowid Center  
PO Box 1116  
Grass Valley, CA 95945  
<http://www.erowid.org>  
[info@erowid.org](mailto:info@erowid.org)

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**Know Your Body**  
**Know Your Mind**  
**Know Your Substance**  
**Know Your Source**

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# Recent News & Updates

## Date Rape Drug Risk Exaggerated?

Several academic papers and examinations of crime data have established that there is little evidence to support the widely held belief that drug-facilitated sexual assault (DFSA) or the non-consensual use of incapacitating “date rape” drugs is common in the United States or United Kingdom.

In a 2009 paper in the *British Journal of Criminology*, Burgess, Donovan, and Moore looked at a number of studies that addressed the incidence of DFSA. In one example, they explain: “Originally the principal international voice of concern about drink-spiking, Detective Chief Superintendent Dave Gee oversaw a United Kingdom-wide study into the issue from 2005 [...]. Particularly regarding the role of Rohypnol, Gee concluded that the conventional drink-spiking narrative is an ‘urban legend’, as have policing authorities in Australia [...]”.

In their 2010 paper, “Roofies, Mickies and Cautionary Tales”, authors Weiss and Colyer cover the evolution of the date rape drug story over the last century, focusing on the discrepancy between the beliefs of young women about prevalence of DFSA and the small number of documented cases in which drugs are involuntarily ingested. Weiss and Colyer frame the problem as a “moral panic” form of modern folklore. They discuss the development of the myth through exaggerated statements in popular news media and the institutionalization of this moral panic through “anti-drug” advocates, the use of DFSA by groups concerned about violence against women as a centerpiece for their educational campaigns, and new laws that explicitly tied Rohypnol (flunitrazepam) and GHB to rape.

The authors of these reviews stress that some DFSA do occur, but the vast majority involve alcohol and other drugs that are intentionally ingested. While over 90% of young women surveyed had heard of drugs being slipped into other people’s drinks, only a small portion of DFSA

cases reported to the police clearly involve covert drugging (less than 2% of reported cases in a large study conducted by the National Forensic Services in the UK). Weiss and Colyer state, “The study did find, however, that many of the victims of DFSA had been binge drinking prior to their assault, or had voluntarily taken other types of drugs, most especially marijuana [...]”.

Drug facilitated sexual assault reporting is confounded by several factors. Accusations of date rape often involve sensitive questions of consent and miscommunication. Covert drink spiking offers an explanation for out-of-character behavior or memory lapses in situations that have no sober witnesses or participants. There appears to be a widespread misunderstanding of how powerful the effects of high-dose alcohol can be, sometimes leading to false assumptions that another drug must have been involved. ●

## “DMT” & Ayahuasca Seizures in UK

On October 7, 2010, the British newspaper *The Sun* published an article titled “Mind-busting jungle drug hits UK”, which describes “126 kilos of DMT being smuggled into Britain in 15 parcels from Brazil and Peru”. Illustrating the article with a photograph used without permission from the Erowid website, the popular tabloid sensationally compared the psychedelic *N,N*-dimethyltryptamine to “deadly” methamphetamine, tied it to schizophrenia, claimed that it “has been linked to deaths across the world”, and stated that the material seized by Customs was worth 13 million British pounds.



It seems unlikely that any pure DMT was intercepted. Rather, over the course of about a month, it is probable that multiple shipments of *Mimosa tenuiflora* [= *M. hostilis*] root-bark and/or other botanicals that naturally contain DMT were seized. This speculation is given merit by the fact that two online head shops have reported that incoming international shipments of *Mimosa* root-bark went missing from their shipping company’s international hub in Coventry, the same location where the UK Border Agency reported having seized the “DMT”.<sup>1</sup> Around the same time, Dr. Herman’s head shop in Manchester was raided for “DMT” due to its sales of *Mimosa tenuiflora* root-bark. This turn of events is reminiscent of a 2007 case in England, which attempted to paint dried *Trichocereus pachanoi* cactus as a “mescaline-containing preparation”. That case failed on the grounds that dried *T. pachanoi* would need to be further processed in order to be consumed as a drug.<sup>2</sup>

Also in the UK, a warrant was executed on September 1 at a home in the village of Dartington, in Devon. Senior members of the Santo Daime church were arrested by officers from the Serious and Organised Crime Investigation Team on suspicion of possessing ayahuasca; the material in question is believed to have been imported from Brazil and was confiscated for later analysis. The police appear to be aware that the material was imported as a sacrament for the Santo Daime church.

A 48-year-old British man and a 45-year-old Japanese woman were released on bail and slated to face charges of “handling/trafficking in a scheduled substance” on December 1, 2010. In recent years, ayahuasca-using churches have seen victorious outcomes in cases tried in Amsterdam, Spain, and the United States. ●

1. Paquelens. “The Sun B/s propoganda on dmt!” Davidlcke.com Forums. Oct 10, 2010.
2. Regina v. *Saul Sette*. 2007. Kingston Crown Court.

# FDA Considers Whether to Schedule DXM

## Manufacturer Blames Erowid for Abuse

by Fire Erowid

*“[...] he knocked on the door in Flushing to find a houseful of naked people stoned out on Romilar cough syrup.”*

—A scene from 1962 described in *The Sackbut Tapes* by Natty Bumpo

Dextromethorphan (DXM) has been available as an over-the-counter cough suppressant for more than 50 years. It was developed in part as a replacement for codeine-containing cough treatments that were being used non-medically. DXM tablets produced by Romilar were removed from the market in 1973 because of recreational use. DXM in syrup form remained available, as the unpleasantness of consuming it in large quantities was seen as a deterrent to “abuse”.

But recreational use didn’t stop. In 1990, the U.S. Food and Drug Administration (FDA) convened an advisory committee to consider DXM’s abuse potential. The committee recommended that additional toxicity data be provided and that more epidemiological data be gathered. In 1992, the committee reconvened to discuss epidemiological studies and concluded that “abuse” was confined to small communities and that additional studies should be conducted.

During the 1990s, the use of DXM-containing cough syrups, primarily by teens, became a well-known phenomenon among recreational drug-using communities. In response to what we viewed as fairly widespread misinformed use, Erowid began providing information about DXM in 1996.

At the request of the DEA, on September 14, 2010, a Drug Safety and Risk Management Advisory Committee of the FDA again held a hearing to consider the abuse potential of DXM and to recommend whether it should be scheduled in the United States.

The 15-member advisory panel included industry representatives, addiction experts, professors, researchers, epidemiologists, pharmacologists, psychiatrists, and harm reduction workers.

Formal presentations were made on the history, pharmacology, and abuse potential of DXM, with comments by pharmaceutical industry representatives.

Discussion covered how much DXM is sold over-the-counter in the U.S. (167 million bottles in 2009), rates of use by 12- to 17-year-olds (~2% report use in the last year), risks of use (5 deaths attributed to DXM alone were cited, though many deaths and hospitalizations have been associated with products containing DXM in combination with other drugs), alternatives to scheduling (age restrictions or availability behind-the-counter only), and consequences of scheduling (loss of access by those with medical need).

This advisory committee meeting was brought to our attention by several people who noticed that Erowid was mentioned. The first mention was by Bob Sosnowski, the founder of DexGen Pharmaceuticals, a company that produced a single-agent DXM gel cap in the U.S. He suggested that Internet sites like Erowid (“aerowit” in the transcript) were to blame for the recreational use of DXM, an amusing assertion coming from a commercial drug manufacturer—especially given that 37 years ago a DXM product was removed from the market due to recreational use.

“That research led us to understand the illicit demand for dextromethorphan on certain Internet cites including aerowit, DXM, dextroverse, I would encourage you all to look at these [...]. These cites claimed to promote safe, recreational use of dextromethorphan and provided tips such as how to extract dex from combination products and how to avoid overdosing on dex. These cites also claimed to be doing a public service by advising users not use Coricidin HBP because of the potential that chlorpheni-

ramine maleate, an ingredient in combination products, can cause death when abused.”

Then, during a discussion of how to educate parents and especially teens about the dangers of DXM, Stephen Pasierb, the President of the Partnership

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**“We’re going to have to fight the aerowits.”**

— S. Pasierb, President and CEO of the Partnership for a Drug-Free America

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for a Drug-Free America declared, “We’re going to have to go to MySpace and fight Website with Website. We’re going to have to fight the aerowits.”

Curiously, *none* of the presenters argued that DXM should be scheduled; indeed, speaker after speaker presented reasons for why it should not be. A Consumer Healthcare Products Association representative stated they did not believe that scheduling was warranted, but that they are concerned about abuse. Their four-fold plan is to increase parental awareness, increase teens’ perception of risk, increase social disapproval, and limit access points. Charles Schuster, former director of the National Institute on Drug Abuse, recommended against scheduling due to DXM’s “limited abuse potential and low level of actual abuse, especially considering its widespread availability and use”. He also pointed out that negative effects increase with dose in tandem with the effects sought by users, further limiting abuse potential.

Several speakers described needing to be careful when talking about DXM abuse, in order to not inadvertently increase use simply by talking about it. While we understand this concern, if there are people using DXM recreationally, information about this use must remain available.

At the end of the day, the committee voted 15 to 9 *against* scheduling DXM. ●

*The full transcript of the meeting is available at the FDA website.*

# WINDOWPANE TO THE SOUL



*Years ago*, I dropped magic mushrooms with a married couple in New Orleans' French Quarter. My friends, who were new to psychedelics, spent some time blissfully gazing into each other's eyes. Until one point, when the guy pulled away and nervously asked me: "Is it possible to look *too* deeply into someone else's eyes?"

Flash-forward to August 2010. I'm at the Boom Festival in Portugal with compatriot Alicia Danforth, where we will be running an Erowid Center psychoactive drug information booth. People have questions; we may have some answers. We've brought the Erowid.org website on a laptop, along with assorted print-based resources to hand out. Later in the week, we'll be taking part in a panel discussion

about psychedelic medicine on the main Boom stage. Pre-event, we've been asked to give harm reduction presentations to the volunteer staff of Kosmicare, a safe haven for attendees having difficult drug experiences (see *Erowid Extracts*, Nov 2008;15:12–15, for a detailed description of Kosmicare). But at the moment, Iker Puente, a student of transpersonal psychology and Holotropic Breathwork, is running the Kosmicare team through a training exercise.

Iker asks everyone to grab a partner whom they don't yet know personally. Without talking, we are then supposed to simply look at our partner until Iker tells us to stop. I pair off with Silvia, an attractive young Spanish woman, and we sit down to stare at each other. A degree

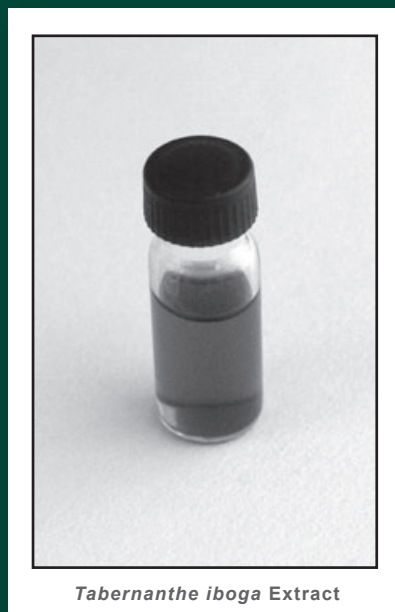
of nervousness between us manifests itself with a bit of chatting at one point, but largely we do pretty well. Minutes slow down. It seems most natural to look into Silvia's eyes—but then, this starts to feel somewhat uncomfortable. Looking at length into another person's eyes is an intimate activity. As reflected in my introductory tale, it can be intense even when one knows and loves the person. Yet the gaze of this beautiful stranger is captivating, and I'm falling into her eyes...

Something odd starts to happen, something entirely psychedelic. I realize that this woman's face reminds me of a dear friend, whom I do love and have not seen for years. After staring for so long, my mind appears to be attempting to make sense of this unusual situation by

## DRUGS OF BOOM

In Portugal, "personal use" quantities of illegal drugs have been decriminalized. This environment allows festival attendees to feel more comfortable about displaying their drugs to those staffing Erowid Center's Psychoactive Drug Information Booth. The following photos represent some of the range of drugs that Boom attendees brought to the festival.

*Photos by Jon Hanna*



Tabernanthe iboga Extract



MDMA ("Sass")

throwing up “new” versions of Silvia’s face, which more closely resemble my friend. While the face from my memory doesn’t quite match, my brain keeps trying. This creates a strange shifting, strobe-like visual “flanging” of faces, like a film that has lost every third or fourth frame. I decide to conduct an experiment by looking at Silvia indirectly, using only my peripheral vision. As I do this, her face explodes into a rapidly changing series of faces, each one belonging to a completely different woman. It’s as though my mind is tossing up the faces of every woman imaginable who even *vaguely* relates to this person in front of me. It’s disconcerting, and I return to a direct gaze. I’ve had that sort of experience before, but not often when I am totally sober!

Eventually, the 5- to 10-minute eternity passes, and Iker’s voice draws us out of our hypnotic task. With virtually no conversation involved, I feel a happy bond with Silvia—something peculiar to share with a total stranger. During the group discussion after the exercise, one of the volunteers describes an experience similar to mine, featuring a psychedelic shifting of her partner’s face. I’m pretty impressed that such a strong alteration of consciousness is so easily accessible,

*sans chemicals*. What was surprisingly novel for some of us, however, turns out to be old-hat for Alicia. “I attend the Institute for Transpersonal Psychology,” she whispers. “I’ve done this exercise a bunch of times.”

Later in the week, after grabbing some lunch during the hottest part of the day, I experienced an unexpected benefit from having taken part in the exercise of looking into a stranger’s eyes. Alicia has a keen perception for noticing people who are having difficult trips, so she headed off to speak with a guy whom she thought might need help. Although they parted ways after a short discussion, when she and I began to leave the food court, he found her again and Alicia introduced me. “Hey Jon, this is a new friend of mine. I thought we might hang out with him for a while.”

Assessing the guy through my dark sunglasses, I quickly grok that the tense young man standing before me appears—just under the surface—to be entirely unhinged. I’ve seen his condition before. This guy is *super* high on LSD, probably paranoid, and at the very least he’s distrustful of the situation he’s found himself in, where a total stranger wants to hang out with him for some inconceivable reason. He looks as though he might punch me as easily as shake

my hand, and a split second of his fear jumps into me.

Alicia then asks, “Can you take off your sunglasses so that he can see what you look like behind them?” As the moment crashes against me, I think, “Jesus fuck, *thanks*, Alicia! Why not completely remove *any* protective ‘guard’ that I might have and let acid-dude scour the contents of my entire being?”

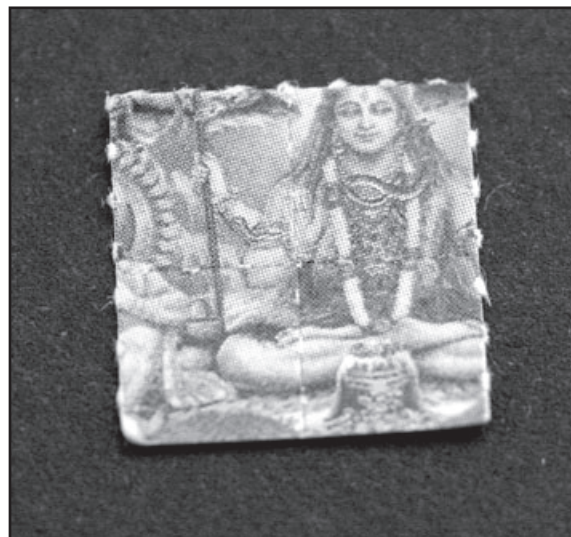
Which I feel beholden to do, so I take off my glasses. The thing is, I’d just *had* someone plumb the depths of my eyes, only a few days earlier. I could deal with it. I really had no fear. I felt clear, positive, and comfortable with this guy looking into my eyes for as long as he needed to determine that I posed no threat. I felt good opening myself up by removing my sunglasses and allowing a moment to create a personal connection with this tripping stranger. It didn’t take him long to see into my heart and know, gazing eye to eye, that I meant no harm.

Over the course of that day, and into the next, Alicia and I helped this guy deal with the challenging thought-processes he was having during his trip. Although troubled, he turned out to be a great person, and we also ended our brief relationship with a happy bond.

Eyes really are windows to the soul. ●



DMT + Harmala Alkaloid Blend (“Changa”)



Shiva LSD Blotter (Reportedly Strong)



Chocolate Disks (16 g of *Psilocybe atlantis* Sclerotia Each)



Methylone Capsules (200 mg Each)



MDMA Tablet



4-Acetoxy-DMT (Different Weights)



Festival

## Boom. Attacks of panic, paranoia, bad trips? They deal with everything

A tent for harm reduction experiences with drugs, psychedelic psychologists and one laboratory. Where *i* discovered the other side of the festival

CLARA SILVA (TEXT)  
*clara.silva@ionline.pt*  
NELSON D'AIRES (PHOTOS)  
*fotografia@ionline.pt*

The camera of Jon Hanna has already photographed many of the different drugs that circulate in the Boom Festival. And until Thursday, the day when the festival ends, he will continue to take photographs. The 42-year-old North American wants to collect images of all types of drugs in order to post them on the Erowid website—[www.erowid.org](http://www.erowid.org)—the largest database about psychoactive substances on the Internet.

"I bring you a Dalai Lama", a kid with a blotter hit of LSD in his hand says while entering into the information booth (which is actually an Indian teepee). For the second time, Jon was invited by the festival organizers to give advice on drugs and to answer questions "on the basic academic studies as well as personal experiences", he tells *i*.

"A few minutes ago a kid was here who wanted to try magic mushrooms for the first time", he says. "This person wanted to know what time of the day is best to take them, what dose is recommended, and other information of this sort." To one side of the computer where one can access the Erowid website, the specialist on psychoactive drugs has posted a sign in English where he encourages festival attendees to bring out their drugs to be photographed. "Yes, we are that geeky", it says.

Brit, a 29-year-old Dutch woman, enters the tent with a smile and a bottle of iboga in her hand. "It is an extract of the hallucinogenic substance from the root of an African plant that can be used to cure addictions", she explains. "It can allow one to overcome dependence on heroin, alcohol, tobacco, or other addictions." It is the first time that Brit is attending the Boom; however, of the nine-day festival, she only has three to have fun herself. During the other days, she is working as a volunteer for the Kosmicare project, a harm-reduction tent at the festival that provides support to those who have challenging experiences with drugs. "Once I had a difficult trip with LSD in Belgium, and it went badly", she says. "It took me a week to recuperate". After this episode, the Dutch woman was inspired to help others going through similar experiences. "It is easier to recover, when you are not alone", she remarks.

"A few minutes ago a kid was here who wanted to try magic mushrooms for the first time", says Jon Hanna

**ABOVE: Translated snippet from an article about the Boom Festival that appeared in the Portuguese News Magazine *i informação*, which discusses Erowid's participation.**



# Is THC Neuroprotective Against MDMA Toxicity?

by Ilsa Jerome, PhD

Is it possible that cannabis could reduce negative long-term effects on the brain's serotonin system caused by MDMA? Several researchers have sought to answer this question by administering THC to rodents immediately prior to MDMA, and the results hint at the possibility of neuroprotective effects.

In 2010, a team of researchers led by Clara Touriño published their work with mice showing that high doses of THC can block damage from very high doses of MDMA, prompting questions from ecstasy users about whether smoking (or eating) cannabis along with MDMA might provide some lasting benefit, or at least mitigate hangovers. Though a review of the current science shows it is too early to provide definitive answers, this interesting research demonstrates how much there is still to learn about MDMA neurotoxicity and potential prophylactic strategies in humans.

## Basic Pharmacology

MDMA and cannabis act quite differently in the brain and body. Delta-9-

tetrahydrocannabinol ( $\Delta^9$ -THC), the chief psychoactive compound in cannabis, activates endocannabinoid (CB) receptors (CB1 and CB2) in the brain and body.<sup>1,2,3</sup> MDMA stimulates the neurotransmitter systems for serotonin, norepinephrine, and dopamine, triggering a complex reaction of transmitter release and altered reuptake activity.<sup>4,5,6,7</sup> MDMA initially increases serotonin activity in the brain; however, it is also associated with lasting serotonin reductions.

## Evidence of Neurotoxicity

Research indicates that MDMA may produce long-term reductions in serotonin activity and other changes in the brain, either through toxicity (damage) to the brain cells that release serotonin or by changing the brain's response to serotonin.<sup>2,8</sup> Researchers have found lower brain serotonin levels in rats and monkeys weeks or months after repeated high doses of MDMA.<sup>9,10,11</sup>

MDMA dosage and ambient temperature both appear to play important roles in these findings.<sup>11,12,13</sup> Decreased serotonin activity may result from damage to parts of serotonin neurons called axons, or possibly the brain responding to the flood of serotonin by reducing the number of serotonin receptors.<sup>14,15,16,17</sup>

## Is it Neurotoxicity?

Controversy persists over the significance of these findings despite over 20 years of research. Some findings raise serious questions about whether most animal studies have

employed doses of MDMA truly matching those used by humans.<sup>18</sup> One opinion among researchers holds that the evidence clearly demonstrates long-term toxicity, while others think the evidence shows that the brain is withdrawing or

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**One of the leading explanations for the mechanism by which MDMA may harm serotonin neurons is that the drug or its metabolites produce "free radicals".**

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deactivating the protein that transports serotonin back into neurons. Brain researchers have used radioactively tagged drugs to estimate the amount of serotonin transporters available in regular ecstasy users. These scientists found that relatively heavy MDMA use is associated with fewer serotonin transporter sites, though lower serotonin transporter levels were not seen in people reporting low or moderate use.<sup>19,20</sup> Interestingly, not all researchers using the same radioactive drug detected fewer serotonin transporters in ecstasy users.<sup>21</sup>

## Radical Oxidative Stress

One of the leading explanations for the mechanism by which MDMA may harm serotonin neurons is that the drug or its metabolites produce "free radicals".<sup>22,23</sup> Free radicals are chemicals that interact with other molecules and produce oxidative stress, which injures cellular machinery and causes inflammation. If this hypothesis is correct, then any drug or activity that reduces oxidative stress or inflammation should reduce MDMA toxicity, an effect that has been demonstrated with vitamins C and E in rats.<sup>24,25</sup>

## Are Cannabinoids Protective?

There is evidence that cannabis possesses antioxidant and anti-inflammatory properties, with THC



Ecstasy Tablets, Photo by Chronic Crew

playing a role in some of these effects.<sup>26</sup> Researchers have found that when rats and mice received both MDMA and THC, they had a smaller rise in body temperature than after MDMA alone.<sup>27</sup> Morley and colleagues also found, when compared to rats given MDMA alone,

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### Researchers have found that when rats and mice received both MDMA and THC, they had a smaller rise in body temperature than after MDMA alone.

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that rats given MDMA and THC had less of a reduction in brain serotonin and its metabolite 5-hydroxyacetic acid (5HIAA). They concluded that THC lessened the lasting effects of MDMA on brain serotonin by activating the CB1 subtype of endocannabinoid receptors, because when they gave rats a different drug that *only* activated the CB1 receptors, that drug *also* attenuated the lasting reduction in brain serotonin after MDMA. Conversely, a drug that prevented activation of CB1 receptors (an antagonist) did not stop the reduction in brain serotonin after MDMA.

### Touriño's Mice

Touriño's research team examined whether THC and cannabinoid activity can reduce brain damage from high doses of MDMA. They used mice that had been genetically engineered to lack one or both CB receptors to study the effects of MDMA on brain dopamine.<sup>28</sup> In mice, MDMA toxicity causes lasting reductions in dopamine levels instead of the lasting reductions in serotonin levels seen in rats and primates. The researchers tested mice lacking the endocannabinoid CB1 receptor (mostly found in the brain), the CB2 receptor (mostly found on immune cells), or both. All mice received four separate doses of 20 mg/kg MDMA (a very high dose) at two-hour intervals. Some mice in all three groups received 3 mg/kg THC (also a very high dose) prior to MDMA. Giving mice THC beforehand prevented them from overheating (hyperthermia), prevented reductions in brain dopamine, and reduced microglial activation, considered a marker for inflammation.

However, mice without CB1 receptors did not benefit from receiving THC; they grew hot and had reduced brain dopamine. Likewise, blocking CB1 receptor activity with another drug eliminated the benefits of THC. In mice lacking CB2 receptors, THC still helped reduce body temperature and lessen reductions in brain dopamine, although it did not stop increased microglial activation. These results suggest that cannabinoids like

THC can mitigate the lasting, harmful effects of high-dose MDMA on the brain, perhaps through lowering body temperature and antioxidant and anti-inflammatory activity.

### Extrapolation Problems

Despite this intriguing evidence for the neuroprotective potential of cannabis in helping stave off some long-term effects of MDMA, there are a number of reasons for taking the data with a grain of salt. Most importantly, Touriño and colleagues' work, like the vast majority of studies of MDMA effects in animals, used an interspecies scaling formula to calculate MDMA doses to mimic those used by humans. However, research on blood levels of MDMA in rodents and monkeys has found that this scaling formula results in overly high doses to animals.<sup>29,18</sup> Hence it is not clear whether the lower doses of MDMA used by people actually reduce brain serotonin, let alone whether these effects are due to oxidative stress and whether they can be countered by antioxidants such as THC. Because animal studies with THC and MDMA used dosages resulting in much higher blood levels of MDMA than found in humans,

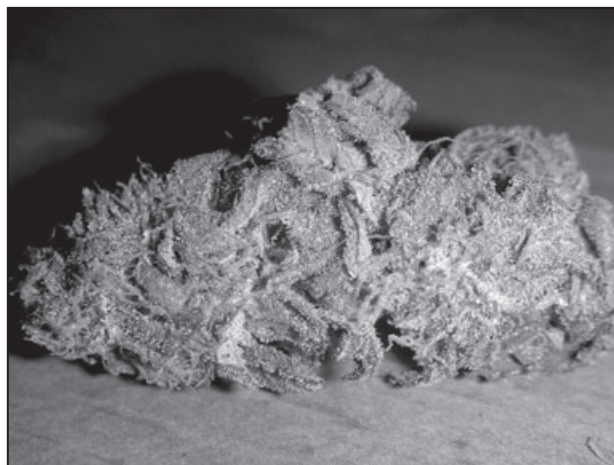
it is unclear whether these findings can be extrapolated to humans with any validity.

### Real-World Problems

Various lasting problems have reportedly been associated with ecstasy use, including depression, anxiety, impulsivity, and loss of enjoyment of taking MDMA. The most consistent cognitive deficit reported in the literature in humans is a small decline in verbal memory (word recall) performance.<sup>30</sup> Anxiety or depression prior to use, as well as heavy use of other recreational drugs, may be a contributory factor,<sup>31,32,33,34</sup> but there is also sufficient evidence to suggest that heavy ecstasy use causes memory problems.<sup>35,36</sup> Unfortunately, there is little strong evidence for attributing these effects to serotonin neurotoxicity in humans,<sup>19,37,38</sup> and therefore it is unknown whether they could be reduced by blocking neurotoxic effects.

### Additional Complexities

Lastly, some studies suggest that cannabis use itself is associated with problems in ecstasy users. These include increased likelihood of psychological problems such as anxiety and depression,<sup>39,40</sup> as well as reduced performance in some memory tests.<sup>41</sup> The correlation between cannabis use and these problems may result from a greater likelihood for specific behaviors and characteristics in such users, including



Cannabis Bud, Photo by Karmatoast

intensity of substance use or pre-existing traits such as impulsivity.<sup>34</sup>

More research is needed into the actions of antioxidants and anti-inflammatory compounds in heavy ecstasy users before conclusions can be made about THC's ability to mitigate damage caused by MDMA. Specifically, animal research using doses of MDMA and THC equivalent to those used recreationally by humans is necessary to judge possible prophylactic effects. Further, since cannabis contains many cannabinoids other than THC (including some that have neuroprotective properties in their own right), research with THC alone may produce misleading results. In short, Touriño's group reports intriguing findings that unfortunately offer little concrete insight into whether cannabis provides protective effects in brains of human ecstasy users. ●

*Ilsa Jerome is a research and information specialist for the Multidisciplinary Association for Psychedelic Studies; her particular focus is on literature relating to MDMA.*

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# Medicine / Circle

## I.

The tenth century Chan master Yunmen said: “Medicine and sickness subdue each other—they mutually correspond. The whole earth is medicine. What is the self?”

Medicine and sickness, or poison and remedy, subdue each other; they correspond. Yunmen might have been defining the Greek word *pharmakon*, drug, meaning either poison or remedy, depending on context, or a spell, enchantment. Pharmacology is its child. And *pharmakos*, the scapegoat, hidden away in prison or hanging from the Cross, is its cousin.

Perhaps there was a wedding—Poison and Remedy—where friends of bride and groom didn’t know on which side to sit. Elder married couples—such as Samsara and Nirvana, and Form and Emptiness—sat in the balcony. Someone threw rice.

Poisons are three or five, depending on lineage. As three, they are greed, hatred, and ignorance. On the *bhavacakra*, the Wheel of Life, the three poisons form the hub: the cock, the snake, and the black hog chasing each other and spinning the cycle of existence like a trimorphic ouroboros. As five, the Vajrayana tradition adds pride and jealousy, or envy, to the poisons. As ten, the poisons are *kleśa*, the ten defilements that spoil the immaculate purity of the *ālaya-vijñāna*, the “storehouse-consciousness”. They are like graffiti, or *pharmaka*: polychromatic pigments, or makeup, applied to the world through discrimination and artistry. Or maybe we have the Seven Deadly Sins, the fly in the ointment whose name is Beelzebub. Either way, we are up to our nostrils. Or are we?

Which side are you on? Bride or groom? Some say not choosing is to side with the oppressors. Hands rise toward you in supplication. The hands are

poisoned. Have been poisoned. Polluted, and sick. Self-poisoned. Hands with broken fingers. Dürer’s hands. Hands at *gasho*. Give me alms. Give me medicine. If poison and remedy mutually correspond, there is no doctor and no patient, so whose hands could they be?

Song Dynasty master Shiqi Xinyue said: “The intent of our teaching is like a poison-smeared drum. Once it is beaten, those who hear it, near and far, all perish. That those who hear it perish is surely true. But what about the deaf?”

The whole earth is medicine. Somewhere a mockingbird sings. Clouds gather. A rain may fall. Shiqi beats his drum and the sky cracks with thunder. The raised hands have become an army, swaying back and forth like tall grass in a light breeze. What will you do?

If the whole earth is medicine, that must include both ayahuasca and the leaf of an oak tree. This leaf is bitter, as is the ayahuasca: the curling margins host a few spines. Maybe it is Zhaozhou’s oak tree, in the garden or in the courtyard—the reason Bodhidharma came from the west. Surely this must be a medicine. But what medicine are you seeking? In matters of medicine, the oak leaf competes with the ayahuasca. Or perhaps that is backward. How is one to walk such a path, strewn with bitter brews and prickly oak leaves? Which are the sharper thorns?

Poison and remedy mutually correspond. The whole earth is remedy. What is the self?

This is the nub of the problem, the essential question for either approach—all else is distraction. Distraction is the poison, the disease. The “world” is distraction, yet the world is the medicine. From such a condition, Yunmen demands that we step forth and answer.



Bhuddist Pillar. Early 1st Century BCE.  
From *The Art of Indian Asia*,  
by Heinrich Zimmer.

II.

Exploded!      Whoever that was—  
Some of it      abstract  
But

then the spirits entered:  
    screeching,  
        and crying,  
not at all  
gentlemanly  
    or  
even mannerly.

*Where's that line in the fuckin' sand, man?  
my toe is itchin' to transgress.*

and one by one  
    they had their say  
    or  
    (in some cases)  
more than their say.

*These scoundrels—  
they'd steal a drink right from under God's chair.*

And someone said  
"She's never happy unless she's shakin' her butt."

They played drums and guitars and keyboards and horns  
and danced in wild circles, thumping the ground.  
Animals came to listen. A raccoon, his paws on the gate,  
    watched the whole set.  
They carried my litter to the center  
    and drummed as I purged.

*How could there be any spiritual work in such chaos?*

A man brought white sage, smudging my legs—  
    I reached, spilled the coals,  
my clothes caught fire.  
    They danced me out.

# KLUTS

## Ketamine and Lower Urinary Tract Symptoms

by Jon Hanna

In 2007, medical journals began reporting cases of ketamine-associated ulcerative cystitis,<sup>1</sup> a newly described bladder inflammation characterized by a number of lower urinary tract symptoms (LUTS) that include increased frequency of urination, urinary incontinence, pain during urination, passing blood in the urine, and reduced bladder size. Initial reports came from chronic recreational users of ketamine, but additional reports have since surfaced related to clinical use in the treatment of pain. So far, Erowid is not aware of any LUTS reports resulting from the use of ketamine as a surgical anesthetic, probably because this does not generally involve repeated use.

### Case Reports Aplenty

Recreational use of ketamine has risen in recent years, particularly in Asia. This has contributed to more hospitalizations

of users, as well as to an increase in reports and discussion of LUTS as a potentially serious adverse effect for regular users of the drug. East Asian ketamine users seeking medical help have been fairly young; in one review of 233 cases of people who visited emergency rooms in Hong Kong after using ketamine, the median age was 22 years old and 12% of these patients reported some urinary tract symptoms.<sup>2</sup> One article describing 59 case reports of ketamine-associated LUTS estimated that 30% of ketamine users might experience some “urinary symptoms”,<sup>3</sup> and others have repeated this estimate or projected a range of 20–30%.<sup>4,5</sup> However,

it is important to note that these estimates are based on hospital admissions and none of the authors provide any basis for extending their extrapolations to the larger general population of ketamine users. In a web survey conducted in October 2010 by Erowid, 3.6% of ketamine users

reported that they had “probably” or “definitely” had bladder pain or urinary problems caused by their ketamine use (see page 16).

**Recreational use of ketamine has risen in recent years, particularly in Asia. This has contributed to more hospitalizations of users, as well as to an increase in reports and discussion of LUTS as a potentially serious adverse effect for regular users of the drug.**

### New? Or Undetected?

These problems are surprising to the Erowid crew because, up until a few years ago, we had received no reports of such symptoms being associated with ketamine use. Although we have communicated with dozens of regular ketamine users over the years, including a number of daily and even hourly users, none of those people and none of the submitted experience reports before the mid-2000s described urinary tract problems. We asked ketamine expert Dr. Karl Jansen what he thought about ketamine-associated LUTS, and he replied: “It is a mystery to me also. Nobody I have ever spoken with has had such an issue, and I have spoken with some very heavy chronic users. There has been the mysterious ‘K Pains’, and it may be—given that they are unexplained—that these do arise in the urinary tract rather than the gastrointestinal system as has been assumed. In short, I know nothing about it beyond the recent reports, and have no ideas about it beyond the above.”<sup>6</sup>



Ketamine Vials, Photo by Erowid

One theory is that something about ketamine has changed. Many countries have increased controls on ketamine during the last ten years, and this may have affected the quality or use patterns associated with the substance. Prior to 2000, most recreationally used ketamine was diverted from the pharmaceutical medical supply. An increase in clandestinely produced ketamine may have resulted in contaminated material, in different forms or isomers of the compound, or in changing patterns of use (presumably the decrease of the injectable liquid associated with the pharmaceutical supply has led to more insufflation worldwide). Any of these changes might explain the increased risk of LUTS. However, the fact that some case reports of LUTS are from patients who have been prescribed ketamine for medical use confounds this line of speculation. A few tests done on street ketamine believed to have been illicitly synthesized, rather than being diverted pharmaceutical product, found that the material contained only ketamine and traces of dimethyl sulfoxide (DMSO).<sup>1,7</sup>

## A Real Association?

Because there have not yet been any controlled studies or other work to show that the incidence of LUTS is unusually high among ketamine users compared to otherwise similar populations of non-users, it is not currently possible to say that ketamine use increases the risk of LUTS. Because some urinary tract symptoms are extremely common in the general population, there is the risk of mistakenly identifying ketamine as a cause by relying on case reports. Large surveys estimate the general rate of LUTS at around 50% for people under 40 years old and, in one survey of men and women over 40 years old, more than 70% of respondents reported at least some LUTS.<sup>8</sup> However, in some of the reported cases the doctors assert that a “strong temporal association observed between the onset and cessation of ketamine use [...] implicates ketamine as a causal factor.”<sup>1</sup>

## Mechanism Unknown

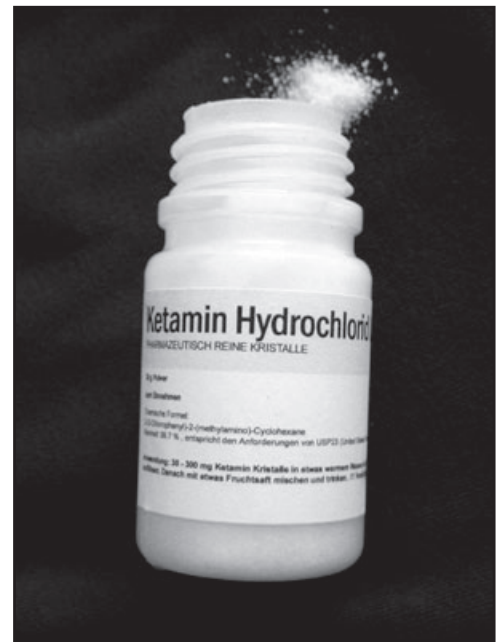
The mechanism by which ketamine might cause the various symptoms of urinary dysfunction has not yet been

established. Speculations from published case reports include the theory that ketamine and/or its metabolites, carried in the urine, exert a direct irritating effect on kidney or bladder cells, resulting in inflammation. Another theory proposes the possibility that ketamine and/or its metabolites compromise circulation in the bladder (and possibly the kidney) or decrease microvascular density. Case report authors have also proposed that an autoimmune reaction may play a role.<sup>1,9</sup>

## How Much, How Often?

Several of the published papers—often based on retroactive analysis of patient files—do not provide specifics related to the amount and frequency of dosing; nevertheless, they generally describe the recreational use as *chronic*. What constitutes chronic use? How much and how often? The journal articles that include information on frequency in their case histories of ketamine-associated ulcerative cystitis generally discuss daily use, which is also the frequency associated with patients taking ketamine for chronic pain.

Three chronic pain patients who developed LUTS were on prescribed oral doses of more than 800 mg administered over each 24-hour period.<sup>6</sup> In another case, a 16-year-old chronic pain patient started showing LUTS after only nine days on ketamine at 8 mg/kg per day; her symptoms improved when the dose was dropped to 6 mg/kg per day, and disappeared when the dose was dropped to 2 mg/kg per day. After having been off ketamine for a time, she started again at 5 mg/kg per day and the LUTS returned, but it disappeared when the dose was dropped to 3 mg/kg per day.<sup>10</sup>



Ketamine Bottle, Photo by Angelo Renner

One detailed case study included 59 street-ketamine-using patients with LUTS whose “duration of ketamine abuse” ranged from six months to ten years;<sup>3</sup> unfortunately, it did not present information about when the onset of symptoms occurred. Another study of 11 patients who had used ketamine for 1–4 years reported the onset of LUTS at 1–24 months, with daily doses ranging from 300 mg to 5 grams.<sup>4</sup>

However, in another case report, a 21-year-old male who had been experiencing LUTS for about nine

**Symptoms of LUTS sometimes improve or disappear entirely upon cessation of ketamine use, but not in all cases; in addition, it appears that permanent damage can be done to the bladder and urinary tract.**

months commented that his problems started right around the same time he began snorting ketamine “about twice a week”.<sup>9</sup> And in the case of a 25-year-old male who had been reconstituting powder and injecting it IV (not IM) 2–3 times a week, the LUTS showed up “just several days after the onset of ketamine use”. The final verdict in this case was

end-stage renal disease requiring regular hemodialysis.<sup>11</sup> While no information is provided related to the quantity consumed in either of these cases, these use patterns fit more closely to the “weekend partier” than to the daily user,

**There are indications that higher doses, more frequent doses, and longer-term use can all cause more severe and less-reversible damage.**

and may indicate that even non-chronic users of ketamine should be concerned about possible damage to their lower urinary tract.

### Prognosis

Symptoms of LUTS sometimes improve or disappear entirely upon cessation of ketamine use, but not in all cases; in addition, it appears that permanent damage can be done to the bladder and urinary tract. There are indications that higher doses, more frequent doses, and longer-term use can all cause more severe and less-reversible damage. In many of the case reports of ketamine-associated ulcerative cystitis, the medications used to alleviate symptoms were only partially or not at all successful, and the prognosis in advanced cases is dire.

### Not So Safe?

Ketamine is considered by some recreational drug users to be a relatively “safe” drug, despite its reputation as insidiously addictive. It has historically been pharmaceutically pure and is usually taken in amounts much lower than those used to induce anesthesia in a clinical setting. Although fatal overdoses are rare, accidental deaths

while under the influence of ketamine have occurred in otherwise healthy individuals. The latest information on ketamine-associated ulcerative cystitis may temper the idea that ketamine use won’t cause any long-term health issues among those who avoid serious addiction.

It is worth noting again that some urinary tract symptoms are common even among non-ketamine users. In addition, the entire spectrum of symptoms described as being suspected to be caused by ketamine use doesn’t occur in all ketamine users who report some LUTS. With proper treatment, most symptoms of ketamine-associated LUTS resolve after cessation of ketamine use, as long as it is confirmed that they are not caused by an infection (UTI) or sexually transmitted disease. It should also be

pointed out that mainstream media coverage of this phenomenon could create an impression that the problem is larger than it is.

The wide dose–response range leading to documented cases of LUTS suggests that individual responses to ketamine may be idiosyncratic and unpredictable, making it unclear what level and frequency of use may lead to urinary problems. Nevertheless, frequent ketamine users may want to cut back on their use, and all ketamine users might want to moderately increase their intake of water and pay attention to even minor urinary symptoms. ●

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Baggies of Ketamine Powder, Photo by ManuChitos Desfos



# Real or Placebo?

An Experience with Blue Lotus (*Nymphaea nouchali* var. *caerulea*)

by The Jilted Fairy

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The setting was at home in the living room on a mid-July afternoon in 2009. Participants were my wife and myself. We were both feeling pretty good without any outside distractions so we ventured into trying some of the blue lotus (*Nymphaea nouchali* var. *caerulea*) that I had been waiting to get for the last few weeks (imported). I had gotten a half-ounce before, but had not experienced any effect from it and was of the mind that it might have only placebo effects instead of any real effect.

My wife had no bias, had not heard of it before, and held no preconceptions.

I placed 8 drops of the blue lotus “absolute oil” in 6 ounces of wine and let it sit for 30 minutes. We also had soaked 80 grams of dried leaf and blossoms in 16 ounces of Zinfandel for about six hours. We split these wine preparations in half and drank them. Next we smoked an ounce of the dried material in a hookah.

The effects from the wine were very subtle and vanished quickly. The smoke from the hookah was smooth and relaxing. It gave a slight buzz if the frequency and depth of the draw were increased. I suspect that a 25x version

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**I started noticing a slight buzz that would never have happened from wine alone. I was definitely under the influence of something else.**

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of this mixture would be much better for smoking.

About 30 minutes into our smoking my wife noticed “patterns” in the smoke (fish, galaxies, etc.) and saw a lot of beauty. She was relaxed and enamored with the patterns. I only felt relaxed and interested in watching the astonishment

on her face. We talked and smoked more. She was relaxed and “didn’t give a f\*ck about anything, everything [was] just fine”.

She seemed disconnected, slightly drunk (bimbo-ish), and happy. I started noticing a slight buzz that would never have happened from wine alone. I was definitely under the influence of something else. I felt pleasant and relaxed, though nothing strong.

We had plans to attend a comedy show later that night;

four hours just seemed to slip by, and now we needed to head out. She didn’t care about going or the fact that we would be parting with tons of money for front row seats (she’s usually extremely frugal and not wasteful).

I didn’t care either, but I knew that getting out into the fresh air would be beneficial and we were not “stoned/drank”. The comedy and food were great, the walk home was extremely pleasant, and we were both talkative.

Prior to going to bed we got a call from my wife’s mother, who can pull her heart strings with a guilt trip as easily as a spider spins a web. For the first time *ever*, it didn’t work. There was *nothing* that could be said to upset her

or manipulate her in the least. I think blue lotus might be great as an anxiety reducer in some.



*Nymphaea nouchali*, Photo by S. Augustyn

Soon after getting home, and after some nice cuddling, my wife fell asleep. I, on the other hand, found myself popping in and out of extreme lucidity while slipping into sleep. I was in a “place” that I was not familiar with, but it had a quality to it that I relate to meditation. My mind felt a little rushed along a hum—as though a very quiet bee was in my head, and I was like a seed. I didn’t explore it any more at the time, but I intend to in the future. I could tell that this consciousness wasn’t going to allow me to wake up refreshed. It was a good experience, but it came at a time when I had to be up and out early.

No hangover or ill effects were experienced. I would definitely use blue lotus on occasion in the future, perhaps in combination with kanna or passionflower. I intend to try it again soon, when I have more time. ●

# Ketamine Use and Health 2010

## Erowid Micro-Surveys

by Earth Erowid & Fire Erowid

Questions about the effect of ketamine use on the urinary tract have increased over the last few years, after the issue was first raised in the medical literature in 2007. Following a review of the existing literature in September 2010 for Jon Hanna's "KLUTS" article (pages 12–14), we were unable to locate any published epidemiological studies assessing how widespread the problem is.

To gather data about this issue, Erowid Center conducted three online surveys in October 2010 asking visitors about ketamine use and health. The first two were "micro-surveys" displayed at the top of pages across the site. The third was a longer survey that was only offered to people who identified that they had used ketamine at least once.

We received more than 30,000 valid responses to the first two surveys. A

response was excluded from results if the respondent gave their age as under 10 or over 80 years old, or if responses were contradictory (e.g., different answers to number of ketamine uses between surveys 2 and 3). The first two surveys intentionally did not mention any specific health issues, in order to avoid prompting respondents.

Survey 1 (9,258 responses) asked four questions: age, total lifetime ketamine use, last year that ketamine was used at least twice in a single month, and a non-mandatory open response field asking what the top medical problems are that the respondent thinks ketamine use causes. In response to this open question, over half of respondents gave no answer or replied with some

form of "I don't know". Of those who did reply, 314 (~3.4%) mentioned bladder or urinary problems, with other mentions including addiction (371), brain damage or "Olney's lesions" (292),

**There was a clear correlation between total lifetime use of ketamine and likelihood of reporting bladder/urinary problems [...]**

heart problems or chest pain (97), nasal problems associated with snorting (90), and stomach and non-urinary abdominal issues (48).

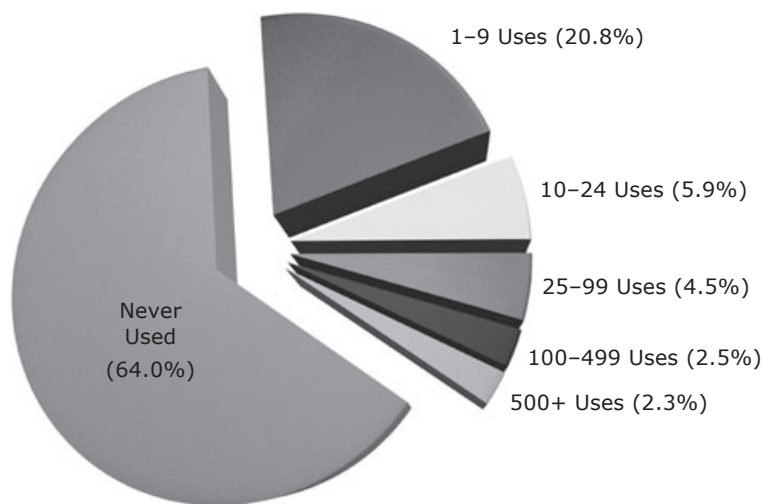
Survey 2 (20,992 responses) consisted of two questions: age, and whether the respondent had ever used ketamine. The percent of respondents reporting that they had ever tried ketamine was consistent with survey 1.

Survey 3 (3,379 responses) had fifteen questions and was a follow-up offered to those who answered "yes" to having used ketamine on survey 2. It asked how many times ketamine had been used (either medically or recreationally), what year it had last been used at least twice in a single month, several questions about whether the respondent had experienced different types of medical problems that they related to their use of ketamine, and two questions about urinary tract health regardless of association with ketamine.

Unsurprisingly, the percentage reporting that they had experienced problems controlling their ketamine use (or felt addicted) increased as total lifetime use of ketamine increased. Over 50% of those who have used ketamine 100 times or more said they'd had trouble controlling their use.

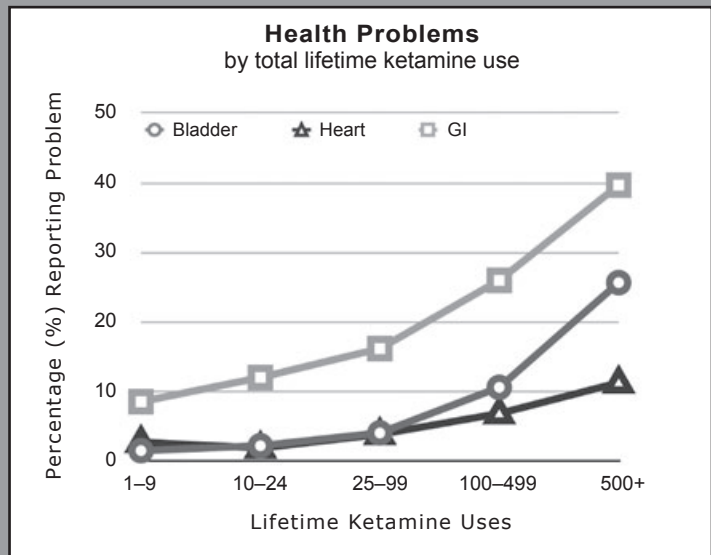
Several findings from our surveys (details below) suggest that a more rigorous look at these issues should be conducted. ●

**Total Lifetime Ketamine Use**

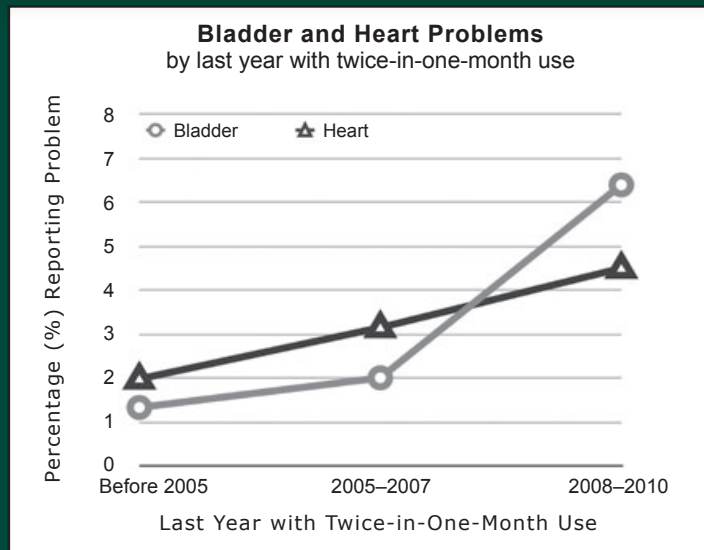


**Of respondents to surveys 1 and 2, 36% said that they had used ketamine at least once, either medically or recreationally. As expected, respondents to Erowid surveys do not reflect the general U.S. population. The National Survey on Drug Use and Health estimates that around 1% of the U.S. population over 12 has ever tried ketamine (from 2006 results published in 2008).**

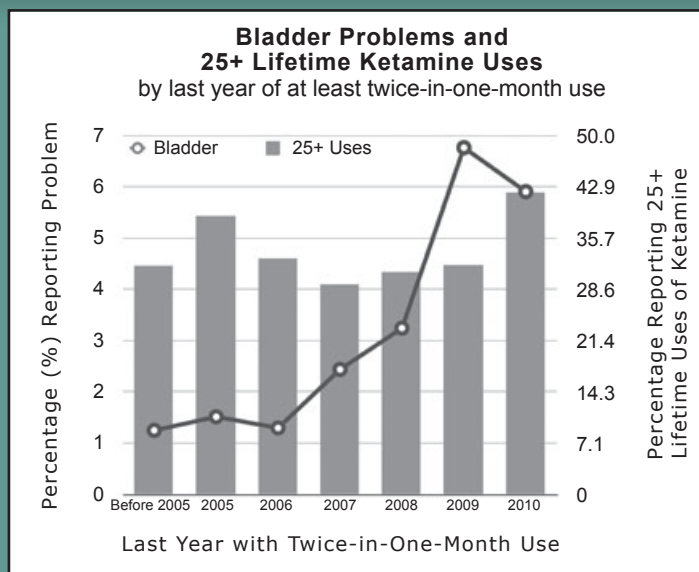
There was a clear correlation between total lifetime use of ketamine and likelihood of reporting bladder/urinary problems: 1.6% of those who report 1–9 uses in their lifetime, 2.3% with 10–24 uses, 4.1% with 25–99 uses, 10.6% with 100–499 uses, and 25.7% of those reporting 500 or more uses of ketamine. All medical problems were more likely to be reported with higher total lifetime use. Neither medical problems nor total lifetime use was correlated with age.



People who had used ketamine more recently were much more likely to report health problems. Ketamine-caused bladder or urinary problems were reported by 1.3% of those whose last year with two or more ketamine uses in a single month was before 2005. 6.4% reported bladder problems if they last used ketamine at least twice in one month after 2007.



The percent of respondents who reported using ketamine 25 or more times in their life was highest among those who had last used at least twice in a month in 2010 (42.1%). The more recently that users reported having used ketamine twice or more in a month, the more likely they were to report bladder problems related to use. This correlation was independent of age and of total lifetime use of ketamine.



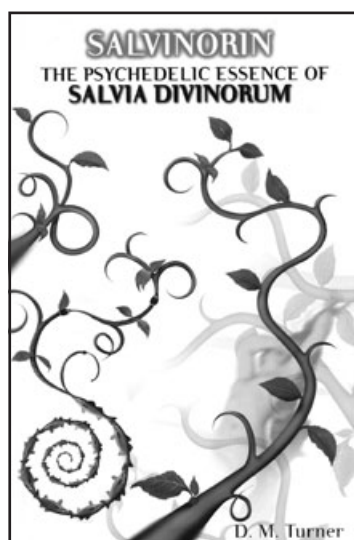
# DIVINING THE SAGE

## Book Recommendations for Interpreting the Salvia Enigma

by David Arnson

One of the most intriguing developments in the world of psychedelics during the 1990s was the sudden rise in awareness and popularity of the enigmatic plant *Salvia divinorum* and its psychoactive compound, salvinorin A. Researcher Daniel Siebert was the first to publish on the effects of salvinorin A in a human, after bioassaying crystals he extracted from dried leaf in 1993. Spurred on by trip reports in publications such as *The Entheogen Review* and on the Internet, use of this once little-known botanical is now a worldwide phenomenon with live plants, leaves, and extracts sold in head shops and online. Its notoriety has caused it to become banned in a few U.S. states and several other countries.

Native only to a small mountainous region of Oaxaca, Mexico, its use has jumped from the sacred (Mazatec Indian healing rituals) to the profane (kids smoking it in YouTube videos, for a laugh). Since the mid-1990s, over a dozen publications focused entirely on the topic of salvia have come out in print; the following reviews describe three of my favorite single-author books about this fascinating plant.



### **Salvinorin: The Psychedelic Essence of Salvia Divinorum**

by D. M. Turner (Panther Press, 1996)  
Out-of-print, but archived at:  
[Erowid.org/books\\_online/salvinorin/](http://Erowid.org/books_online/salvinorin/)

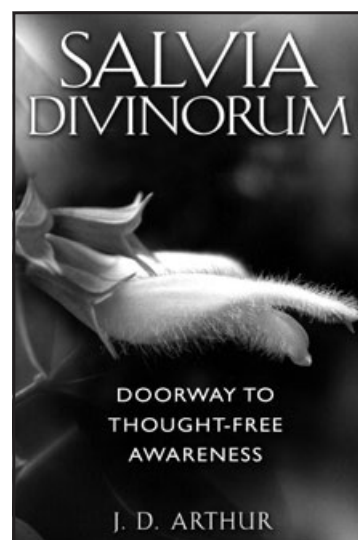
D. M. Turner, late author of *The Essential Psychedelic Guide*, produced the first slim book on the topic of *Salvia divinorum*. Thoughtfully and cogently written, Turner takes care to point out potential hazards from using the substance, such as severe-but-temporary disorientation.

Quoting Daniel Siebert, he presents several common reactions to salvia such as the sense of becoming an object; visions of two-dimensional surfaces, films, and membranes; revisiting places from the past; loss of the body and/or identity; various sensations of motion; uncontrollable hysterical laughter; and overlapping realities. Not necessarily what passes for recreation!

Turner provides a brief history of the plant, outlandish trip reports, and descriptions of the effects of salvinorin A combined with other psychedelics. He also touches upon his own encounters with a feminine salvia entity, and makes the interesting observation:

“If there is a physical counterpart to consciousness, memory or identity in humans, and if it could be extracted from our brains, I think we would find something similar to salvinorin. [...] I never actually lose consciousness [...] It’s simply that consciousness becomes so vast that I lose the perspective of my individual self.”

Although this book was written at the beginning of the salvia renaissance, it remains an excellent general treatment on the subject.



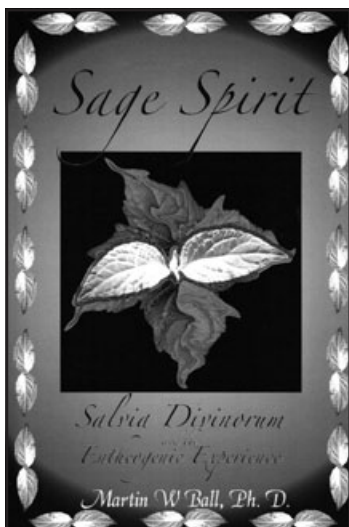
### **Salvia Divinorum: Doorway to Thought-Free Awareness**

by J. D. Arthur (Park Street Press, 2010)

“Probably the single most important change in perception that salvia can grant is the understanding of the difference between thought and awareness. [...] Awareness is a silent steady state of what might be called self-acknowledgement. [...] Thought, on the other hand, takes work. One must remember and maintain scores of concepts, buttressed by myriad words, to retain and connect, it seems,

even the simplest of thoughts. [...] Salvia can restore, if only for a few moments, our birthright of pure thoughtless awareness that lies quietly beneath the clatter of thought.”

Originally published in 2008 under the title *Peopled Darkness: Perceptual Transformation through Salvia Divinorum*, this book is based upon a series of experiences J. D. Arthur had over several years. Arthur is able to bypass the bewildering sensory effects of his initial experiences with an articulate analysis and description of a true “relationship” that he develops with the substance, especially with that of a 5x concentrate. He describes mental states in which he encounters “pockets of eternity”, and states that offer him access to realms where other beings exist. In innately self-aware forays through the internal logic of the dream state, he describes having frequent communications with a non-morbid “land of the dead”, or spirit world. Arthur also has much to say on the subject of language in the “salviaic” state, where English becomes superfluous and cumbersome, ultimately changing to a completely different yet still auditory form. Hinting at an almost Castaneda-style cosmology, this is a wonderfully written book. I truly appreciated Arthur’s ability to convey some very esoteric thought processes in a concrete manner.



**Sage Spirit: Salvia Divinorum and the Entheogenic Experience**  
by Martin W. Ball (Kyandara, 2007)

Author Martin Ball holds a PhD in Religious Studies and has been featured in the magazine *Shaman’s Drum*. His book *Sage Spirit* is an important contribution to the literature, as he has developed a shamanic ritual for the use of *Salvia divinorum*—one adapted for a contemporary Western approach, as opposed to following the original Mazatec form. While acknowledging that salvia can be “profoundly difficult and challenging to manage”, he emphasizes that “ritual is key” to bringing out the power of the plant.

Much of the book is comprised of journal-style descriptions and subsequent analyses of the author’s salvia journeys—from his first experience at the Burning Man festival to his years-long evolution of a ceremonial practice—wherein he encounters a realm of other consciousnesses, beings, and intentions.

A central element to shamanism—and to Ball’s salvia ritual—is the use of rhythmic, patterned sound. Ball reports great success using (at various times) drums, rattles, the didgeridoo, and Tuvan-style vocalizations. Although he has released some semi-electronic music CDs, he feels that the best application of sound comes from “organic” instruments. It is fascinating to read his insight that sound perception in “our” dimension is different from that of salvia space. In “their” dimension, the right rhythmic sounds create three-dimensional architectural structures and with the correct vibrations, one can do healing through singing. This concept parallels that of the *icaros*, or healing songs of ayahuasca shamans.

The multifaceted Ball has also done some fantasy fiction writing that is clearly influenced by his entheogenic experiences, and he excerpts passages from those writings in part of this book to show how the mythic can dovetail with altered states of consciousness.

The book concludes with a short section providing thoughtful guidelines on how to conduct a salvia ceremony

for groups or for the individual. Ball has done some much-needed shamanic pioneering here, and his ideas on psychoacoustics bear further investigation.

IT HAS OFTEN BEEN SAID that most folks who try salvia once never feel the need to take it a second time. The books above are notable in that their authors have, with courage and dedication, done some serious “mapping of hyperspace” (as Terence McKenna called it). Salvia

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**It has often been said that most folks who try salvia once never feel the need to take it a second time. The books above are notable in that their authors have, with courage and dedication, done some serious “mapping of hyperspace” (as Terence McKenna called it).**

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has never been, nor should it ever be, considered a “party drug”. Hopefully, increased awareness of its less-than-recreational properties will keep it legally available as a true entheogen and shamanic tool.

In reviewing the literature on *Salvia divinorum*, I would be remiss not to point out the plant’s poetic presentation in a chapter of Dale Pendell’s book *Pharmako/Poeia: Plant Powers, Poisons, and Herbcraft*, as this important piece of writing inspired production of the first commercial 5x salvia extracts. Also worth noting is the most comprehensive treatment of the plant currently accessible, the 251-page book *Salvia Divinorum and Salvinorin A: The Best of The Entheogen Review 1992–2000* (out-of-print, but available at [Erowid.org/library/books\\_online/salvia\\_divinorum\\_and\\_salvinorin\\_a.pdf](http://Erowid.org/library/books_online/salvia_divinorum_and_salvinorin_a.pdf)). Finally, I am looking forward to the forthcoming release of salvia expert Daniel Siebert’s 600+ page tome, *Divine Sage: The Definitive Guide to Salvia Divinorum*. ●



# Deep Healing on the Hurl-and-Whirl

An Experience with Ayahuasca

by The Doctor

**T**his weekend I participated in my first two ayahuasca ceremonies. I had heard many wonderful things about ayahuasca, and had looked forward with great expectations to riding on the “hurl-and-whirl”.

The first night was frustrating and disappointing. Sometime after my first drink, I began to feel like I was in that dreamy just-about-falling-asleep theta wave state, and I thought, “Oh, good, it’s finally starting”. What I didn’t realize was that it was peaking, not starting. I kept struggling with trying and failing to have an experience, and though I ended up taking four more drinks that night, I never felt particularly altered.

I did end up vomiting after my second and fifth drinks, although it didn’t feel like I was purging out anything significant. The one positive experience I had that night was when the shaman’s assistant sang during the ceremony; I was enraptured by her beautiful voice, and suddenly I felt as though The Goddess was singing directly to me. Other than

that I had purged was significant, and that the ayahuasca sometimes needs to clear things out and set the stage before the work can be started. He encouraged me to try again the following night. I came very close to not going back again, but I thought if I didn’t do it now, I probably never would again. I wanted my candy, but I decided that if I didn’t get anything the second night, that would be OK, too; I probably would just figure that ayahuasca wasn’t for me and would give up on it after one more try.

The second night I arrived with far fewer expectations and attachments. I thought that there was a good chance that I would not experience anything again, and I was mostly OK with that; I had hopes, but not expectations. I took my first drink and waited. All around me people started purging, crying, laughing, and still I felt nothing. After an hour or so the shaman came to me and asked how I was doing, and I told him I wasn’t feeling anything. He seemed astonished, then gave me another drink.

By way of some background, I should say here that all my life I have been prone to feeling chilly. Although I grew up in Vermont, I hate the cold. Often, especially if I’m at a rave or a party and

I’m altered, I will get so cold that I can’t warm up no matter how bundled-up I get. I also have been working with my therapist recently around issues stemming from being left alone to cry as a baby, struggling to get my needs met and finally giving up hope, which

has led to struggles I have with feelings of hopelessness and despair when I deal with relationship or other issues.

Shortly after my second drink, I started to feel altered. I also started to feel chilly again. I thought to myself, “I’m getting cold again. Why do I always get so cold?” And just as I asked the question, it came to me that what I had been crying about as a baby all those years ago was that I had been cold! I had been screaming (non-verbally), “I’m cold! I’m cold!”, and that moment had defined me. “I am cold” became the equation “I = cold” and this stayed with me for the rest of my life. Suddenly the struggles I’d had with chilliness, as well as the struggles I have had with struggling, all made sense, and in that moment of realization, I purged violently and repeatedly. Afterward, I felt a strong sense of relief, and felt that I had cured my chilliness—that I could now feel my environment realistically, could feel the cold and put on a sweater if I needed to, but without the charge or the feeling that it was never enough. I lay there with my adult self holding my infant self with compassion, comforting him and saying, “I’m so sorry you were cold, don’t worry, I’ll take care of you, let me warm you up now”, and I felt my wounded core start to heal and integrate.

From there I went on to have experience after amazing experience. One such experience I had was transcending the struggle. I have had constant struggles with expectations and attachments, and when it happens I get totally caught up in the struggle and can’t find my way out. I appreciate the saying, “When problems arise, ego struggles with finding a solution, while

**I decided that if I didn’t get anything the second night, that would be OK, too; I probably would just figure that ayahuasca wasn’t for me and would give up on it after one more try.**

that, I came away feeling like I would have had a more meaningful spiritual experience if I had gone to the blues festival, and it would have been a lot cheaper.

The shaman said that sometimes this happens with first-timers, that the fact

spirit understands that the struggle is the problem”, but the knowledge never seemed to do me much good. During my journey I started getting in my head again, struggling with something or other, and then suddenly I rose above the struggle. I could see a part of myself in a bubble below me, contained in its self-made hell of struggle, but I wasn’t caught up in it, and I could give it compassion, appreciating that its intention was good. It was trying to heal, trying to resolve, but it was just ineffectual.

From there, I rose up, and found myself among the stars. I saw every planet circling its sun, the stars circling their galaxies, the galaxies spinning around each other, and each revolution was a single pulse in a vibration in a note in a song that lasted billions of years. It was the Music of the Spheres, and I lay there enraptured by the beauty of it. The beautiful music that was playing in the room, I realized, was a microcosm of the Music of the Spheres, and I listened to this song that lasted minutes superimposed over the Music of the Spheres stretching over billions of years.

Several times throughout the night a freight train would go by, blowing its whistle. The whistle would start very softly, crescendo, and then ease away again. Every time this would happen, it would miraculously blend beautifully with whatever music or drumming was going on in the ceremony. I found myself wondering if it was a train whistle or part

of the ceremony. When I would finally decide it was “just a train whistle”, I would discount it as being “out there” and not part of what was going on in the ceremony “in here”, and the sound would lose its beauty. I then realized that there really was no difference between “out there” and “in here”, that it was all one, each was an interdependent reflection of the other. Three times during the night people walked by outside and unexpectedly purged; not realizing that they were walking into our energy field spilling out through the walls, they probably just assumed that they’d had too much to drink.

I also realized that just as there was no difference between the “out there” beyond our walls and the “in here” of our ceremony, there was also no difference between the “out there” of everything I perceive and the “in here” inside my head. I lay there *not* categorizing anything—whether it was the train whistle or what I was experiencing in the room—just simply being in the experience, as though I were a newborn baby looking out in wonder at the world around me for the first time and seeing everything as a reflection of different aspects of myself, at one with the universe.

Along this same vein, at one point during the night I thought of a friend of mine who has struggled with depression and other mental/emotional issues, and I thought how she would benefit from this work. I wondered why I was bringing her into my experience, and realized that

**I could see a part of myself in a bubble below me, contained in its self-made hell of struggle, but I wasn’t caught up in it, and I could give it compassion, appreciating that its intention was good [...]**

I had brought this person into my life as a representative of some wounded aspect of myself, that there was no difference between her and that part within me, and that one way to heal that part of me would be to find a way for her to heal. Of course, by that logic, I could also heal her by healing the part within me that she represents, but it seems like it would be easier just to get her to take ayahuasca.

At one point during the ceremony the shaman and his assistant came to me to do a healing. The shaman started doing energetic work, tapping at my third eye, while his assistant sang to me. I felt transported, drinking in the healing and love they were giving me, as well as that of The Goddess through them. They moved on to the next person in the group, but I still sat there drinking in the energy and the beauty of the healing.

All of this was the candy I was looking for, and the only part I can describe in words; the more significant part of my experience went deeper. I felt during my experience that the really important work going on was deep within me, and the candy was simply a reflection of that deeper healing. It was the tip of the iceberg, the frosting on the cake, but the cake itself is impossible to describe, other than to say that it involved entities beyond comprehension—entities that I could just begin to glimpse through the shaman and his assistant. It was an incredibly powerful and healing experience, one that I can still feel working within me. ●



Ayahuasca Cooking in Peru, Photo by Ross Heaven

# The Distillation

The Distillation includes updates, statistics, and information that we hope will offer insight into the ongoing site additions, traffic, and projects currently underway at Erowid.

## Summary

General Content Pages	15,351
Archived Site Pages	4,666
Experience Reports	20,761
References	7,635
Ask Erowid	577
The Erowid Review	252
Content Images	5,335
Visionary Art	1,997
Total	56,574

Erowid Files on Server	162,823
Erowid Disk Footprint	47.5 GB

Current Members	1,518
Daily Visitors	64,841

## Content Details

General Content Pages	15,351
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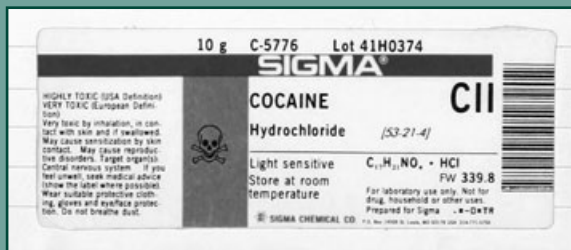
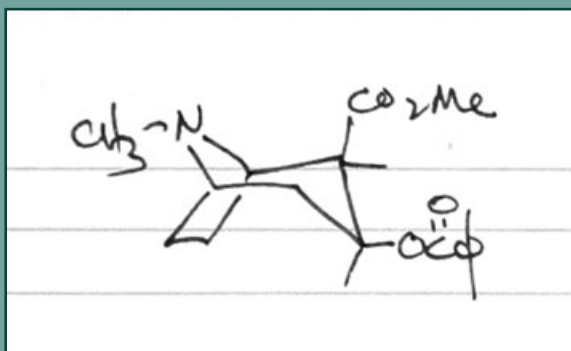
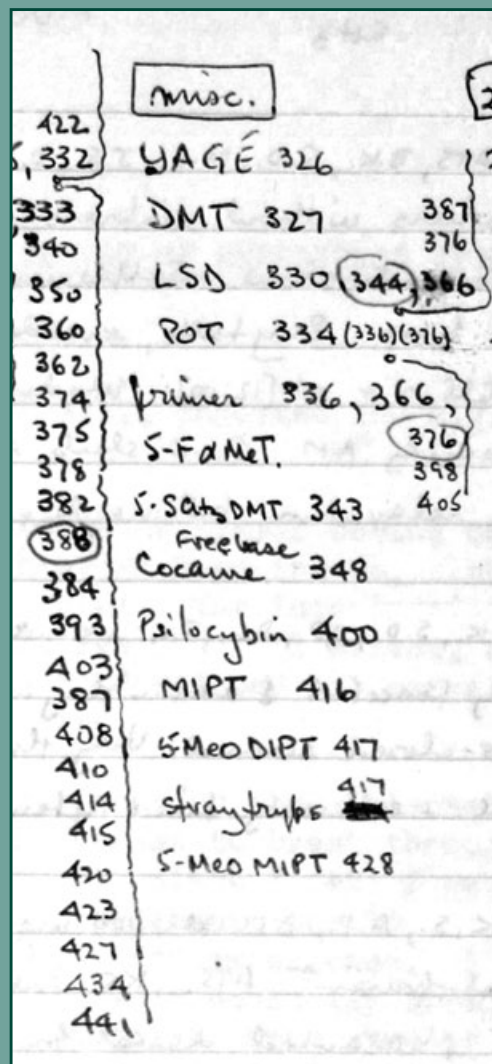
Number of Substances Vaults	321
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Most Popular Substance Vaults (with Change)
4-Methylmethcathinone (↔); MDMA (↔); LSD (↔); Mushrooms (↑); Cannabis (↓); Cocaine (↔); DMT (↔); Oxycodone (↑); Methamphetamine (↑); Ketamine (↑); Morning Glory (↔); Salvia divinorum (↓); DXM (↔); 2C-B (↑); Amanitas (↑); Heroin (↓); Datura (↔); Opiates (↔); Amphetamine (↑); Ayahuasca (↔)

Most Accessed Documents
How to Grow Medical Marijuana; Drug Testing Basics; DMT Extraction Guide; LSD Effects; Essential Psychedelic Guide—LSD; Mushroom Effects; MDMA Effects; Guidelines for Saying No to Police Searches

# Shulgin Lab Books

A selection of images from Alexander Shulgin's lab books, which the Erowid crew is transcribing.





380

Isoproprescaline  
to 418

"Isoproprescaline"

1-19-80	8:18 P.M.	20 mg p.o.	No effect
2-02-80	7:57 P.M. 11-11:30 P. 1:00 A.M	30 mg p.o.	Threshold? To bed. Visual images. Sleepless night...awake/asleep...imagery
9-6-80	7:58 P.M. 9:00 P.M. 9:20 1:00 A.M.	40 mg p.o.	Definite nausea Still nausea, definite central effect. To bed. Well past threshold. Night of imagery, thoughts, introspection. Unable to sleep until after 7 a.m. 9-7-80

Based on previous work, I place a threshold at 30-35 mg. The higher dose on 9-6 also followed about 10 lb weight loss from previous test. The 40 mg dose is very definitely above what I have defined as "threshold". The questionable 30 mg dose sets a bottom limit. From my notes it seems about 20/35 as active as escitaline. That would place it about 2.5 times as active as escitaline.

## Experience Reports

Published Reports	20,761
Published in Last 6 Mo.	732
Fully Triaged Reports	29,377
Partially Triaged Reports	2,476
Un-triaged Reports	12,897
Viewed Each Day	129,887
Submitted Each Day	15
Substances Included	518
Active Triagers/Reviewers	22

## What's New in EcstasyData

EcstasyData's redesign and injection of funding from DanceSafe has resulted in an upswing of activity for the testing program. Over 100 tablets have been tested through the project this year. In the last few months, upgrades to the system have also increased our capacity for publishing results from other drug checking programs.

Sylvia's participation in the Club Health conference held in Switzerland in June facilitated more networking with European drug checking groups. Streetwork Zurich's on-site high performance liquid chromatography testing program releases public notices about ecstasy and other street drugs that include quantitative data, something not permitted in the United States. Results for 50 samples from Streetwork's program have now been published on EcstasyData.org. Some quantitative data is also available from Spain, where Energy Control performs on-site and by-mail thin-layer chromatography (TLC) testing. Unfortunately, with samples that contain active compounds in addition to MDMA, it is not technically possible to determine quantitative data by TLC alone. A trial-run of eight Energy Control results was recently added to EcstasyData.org.

Although the great majority of samples tested continue to be ecstasy tablets, the variety of inquiries received by EcstasyData has been slowly expanding. Several people in the past few months have asked about the possibility of testing pharmaceutical drugs purchased from online pharmacies. As long as EcstasyData's lab has a reference sample, it can examine whether or not a specific drug is present. In a recent example, a tablet tested in October was sent in to confirm whether or not it contained the heart medication clopidogrel (Plavix). These types of tests are not eligible for the \$40 co-pay option, and the total cost of testing (\$120) must be assumed by the sender.

Properties of 37

See (mp: 38-39)

5:27Z  
5:27Z  
5:19Z  
2:16Z

remelt 12/17/88 - ref. sample - SLOW  
44-45°

GCMS 5% hexamethyl siloxane.

12 meter.  
Framan 8-360  
70° → 230°  
20°/min.

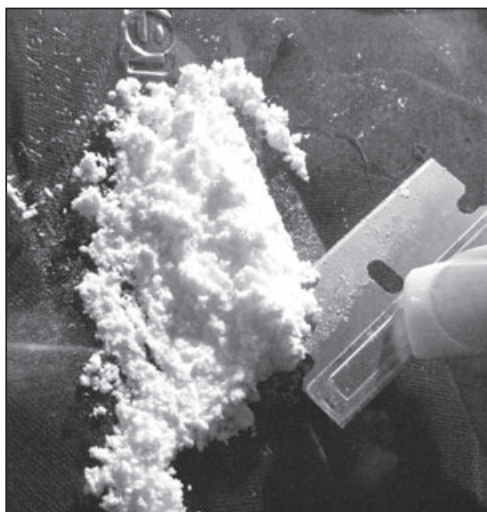
TLC strip

Out to reflux (takeoff) ~ 7 PM  
awfully slow to come over. Δ c mantle to slow. - to 75V. slow - replace receiver & low take-off - very fast. Temp within 10 min to 2 heat hold at reflux. 11 PM

# Image Vaults

Published Images	7,332	New in Last 6 Mo.	50
Image Vaults	294	Submitted Each Day	2.5
Viewed Per Day	34,937	Awaiting Processing	10,845

DXM Powder, Photo by Phantasmm



*Papaver somniferum*, Photo by Mescal



Clonazepam (Klonopin) Tablets, Photo by William Lewis

## September Server Crash and Fundraiser

For one week in September, following a rare 34-hour downtime of Erowid's main server, we tried something new. To raise awareness about the potential giving power of the tens of thousands of people who visit the site each day, a campaign to raise 500 discreet donations in a one-week period was prominently displayed across Erowid.org.

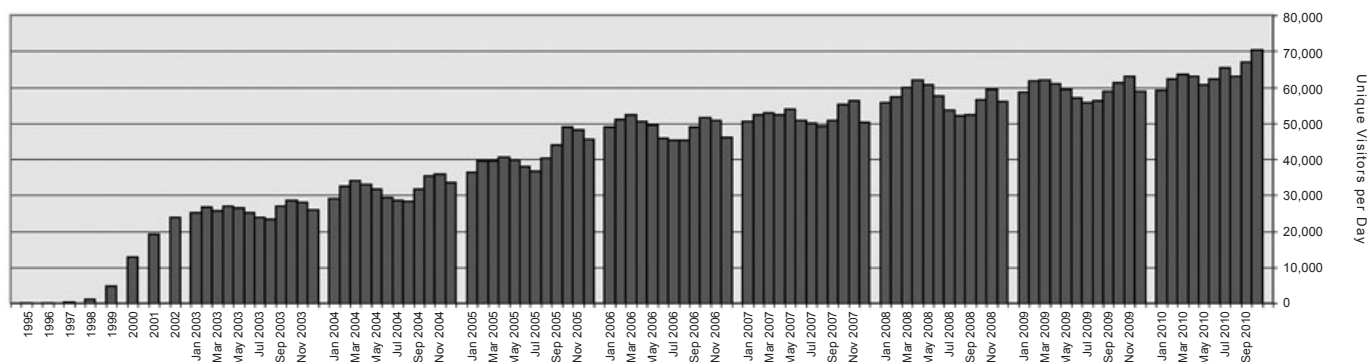
Along with a brief mention of *why* the site had gone down (a hardware malfunction resulting from power issues), we described that with over 64,000 unique visitors a day, we could generate 25% of our annual operating costs *in a single day* if each visitor donated only a dollar. We exceeded the target of 500 donations (averaging \$8.50 per donor) in a week prior to the campaign's deadline. Thanks to everyone who contributed!

In other fundraising news, a single supporter's referrals through Erowid's Amazon.com portal raised \$3,654 in September. While our typical visitor is unlikely to match this record, it encouraged us to remind *you* that through Amazon's referral program, your purchases could be yielding 7–8% micro-contributions to Erowid. As the end-of-year shopping season draws near, consider bookmarking our portal to Amazon (Erowid.org/amazon). It's an effortless way to support Erowid.

## The Erowid Review

Published Reviews	252
Published in Last 6 Mo.	10
Viewed Each Day	1,793

Daily Erowid Visitors (1995–2010)



### Stolaroff Documents Return Home

In mid-October, a team from Erowid trekked with the Shulgins to return all of the now-scanned materials from the Stolaroff Collection to Myron and Jean in Lone Pine. It was a touching reunion of friends who don't get to visit as often as they'd like—age takes its toll on traveling. During the visit, Jean mentioned feeling somewhat isolated these days; while the Stolaroffs no longer care to fuss with computers, they'd love to hear from folks who feel like writing:

Myron and Jean Stolaroff  
 PO Box 742  
 Lone Pine, CA 93545

Erowid Center's next step with the Stolaroff Collection is to create a system for describing and tagging documents with keywords, so that the entire database will be searchable. Once this has been tested, we will send a call out for volunteers to help with processing the collection's nearly 5,000 documents. For more about the Stolaroff Collection, see [Erowid.org/donations/project\\_stolaroff.php](http://Erowid.org/donations/project_stolaroff.php).

### EcstasyData Summary

2010	Daily Visitors	3,547	Daily Page Hits	17,112
		Results Posted	141	Daily File Hits
BY YEAR	Results Posted In		Testing Results (1996–2010)	
	2009	161	Total Results Posted	1,945
	2008	78	MDMA Only (33%)	647
	2007	35	MDMA + Something (20%)	398
	2006	30	No MDMA (46%)	900
	2005	133	– Nothing	103
1996–2004		1,367	– Unidentified	78



### Membership

Current Members	1,518
Recently Expired Members (0–6 mo.)	394
Older Expired Members (>6 mo.)	4929
Members in the United States	1083 (70%)
Members in Other Countries	468 (30%)
Countries with Members	42
Top Contributor Countries	
USA (1073); Canada (91); UK (83); Australia (80); Germany (36); Netherlands (21); Norway (17); France (15); Switzerland (14); New Zealand (9); Finland (9); Sweden (9); Spain (8); Belgium (8); Denmark (7); Italy (6); South Africa (5); Mexico (5)	

### Erowid Traffic Statistics

DAILY	Visitors	64,841	File Hits	3,596,771
		Transfer	28.50 GB	Page Hits
BY MONTH		Avg Daily File Hits	Avg Daily Page Hits	Avg Daily Visitors
	Oct 2010	3,631,630	380,154	70,210
	Sep 2010	3,575,299	362,265	67,007
	Aug 2010	3,362,085	353,233	63,056
	Jul 2010	3,511,558	355,421	65,405
	Jun 2010	3,464,533	361,162	62,603
BY YEAR	2009	3,682,793	384,788	59,483
	2008	3,812,410	418,918	57,012
	2006	3,025,185	409,796	48,755
	2004	1,799,694	405,528	31,241
	2002	1,206,855	283,541	23,042
	2000	462,000	126,000	12,000
1998	31,200	8,500	1,000	

# VERBATIM

**“The most complete gift of God is a life based on knowledge.”**

— Alī ibn Abī Ṭalib (~598–661)

**“The work of science is to substitute facts for appearances, and demonstrations for impressions.”**

— John Ruskin (1819–1900)

**“Whatever we read from intense curiosity gives us the model of how we should always read.”**

— Ernest Dimnet (1866–1954)

**“[...] the Internet could easily become Invisible High School, with a modicum of educational material in an ocean of narcissism and social obsessions. We could, however, also use it as an Invisible College, the communicative backbone of real intellectual and civic change [...]”**

— Clay Shirky (b. 1964)

**“[...] most of us employ the Internet not to seek the best information, but rather to select information that confirms our prejudices.”**

— Nicholas D. Kristof (b. 1959)

**“Fortunately science, like that nature to which it belongs, is neither limited by time nor by space. It belongs to the world, and is of no country and of age. The more we know, the more we feel our ignorance, the more we feel how much remains unknown; and in philosophy, the sentiment of the Macedonian hero can never apply; there are always new worlds to conquer.”**

— Sir Humphry Davy (1778–1829)

**“Facts do not cease to exist because they are ignored.”**

— Aldous Huxley (1894–1963)

**“A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it.”**

— Max Planck (1858–1947)

**“Accuracy of signal and free flow of information define sanity in my epistemology.”**

— Robert Anton Wilson (1932–2007)



**“[...] all human wisdom is contained in these two words—‘Wait and hope.’”**

— Alexandre Dumas, père (1802–1870)

**“Patience is the companion of wisdom.”**

— St. Augustine of Hippo (354–430)

**“Time makes more converts than reason.”**

— Thomas Paine (1737–1809)

**“Patience is not passive; on the contrary it is active; it is concentrated strength.”**

— Edward Bulwer-Lytton (1803–1873)

**“I had a stick of Carefree gum, but it didn't work. I felt pretty good while I was blowing that bubble, but as soon as the gum lost its flavor, I was back to pondering my mortality.”**

— Mitch Hedberg (1968–2005)

**“Nothing is so fatiguing as the eternal hanging on of an uncompleted task.”**

— William James (1842–1910)

**“[...] there is nothing either good or bad, but thinking makes it so [...]”**

— William Shakespeare (1564–1616)

**“The world we have created is a product of our thinking; it cannot be changed without changing our thinking.”**

— Albert Einstein (1879–1955)

**“Everyone thinks of changing the world but no one thinks of changing himself.”**

— Leo Tolstoy (1828–1910)

**“Men's fundamental attitudes toward the world are fixed by the scope and qualities of the activities in which they partake.”**

— John Dewey (1859–1952)

**“You cannot hope to build a better world without improving the individuals. To that end each of us must work for his own improvement, and at the same time share a general responsibility for all humanity, our particular duty being to aid those to whom we think we can be most useful.”**

— Marie Curie (1867–1934)

**“Think for yourselves and let others enjoy the privilege to do so, too.”**

—Voltaire (1694–1778)