

Erowid Extracts

A P S Y C H O A C T I V E P L A N T S a n d C H E M I C A L S N E W S L E T T E R

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Erowid.org is a member supported organization working to provide free, reliable and accurate information about psychoactive plants and chemicals.

The information on the site is a compilation of the experiences, words, and efforts of hundreds of individuals including users, parents, health professionals, doctors, therapists, chemists, researchers, teachers, and lawyers. Erowid acts as a publisher of new information as well as a library for the collection of documents published elsewhere, spanning the spectrum from solid peer reviewed research to fanciful creative writing.

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You're now reading the first erowid member newsletter. Although Erowid is primarily focused on digital publishing, many of our friends, correspondents, and members have repeatedly told us they would like to have something on paper to read when away from the computer and to show non-web-oriented people. Over the last year, Fire and I have debated the pros and cons of producing a print publication. We finally decided that our first sojourn into the world of print should be a newsletter to members and supporters to help keep people up to date on Erowid projects and provide some brief samples of the type of data going into the site.

This newsletter is an experiment and we would love to hear feedback from readers about whether they enjoy the types of things we decided to include. The direct costs of producing this newsletter and sending it to members will be about \$2 per member, but we are expecting that these costs will be offset by an increase in memberships.

One of the challenges with writing this newsletter has been to try to choose what audience to write to. The wide range of Erowid members made it difficult to know how to write the MDMA Research Update, what level of knowledge to assume, what details to include, & what details to exclude. In the end, we targeted the MDMA piece at college-level readers who are familiar with the general MDMA neurotoxicity issues, but who are not following it closely enough to be reading or keeping up with all of it. We're interested in feedback about where to draw this line in the future.

In writing the Debunking Myths extract, we were shooting for something that would be a resource to refer to when talking to others. Erowid is a reference used by people who self-identify as the knowledgeable members of their peer groups. While the

myth we debunk is probably already known to be false by most members of Erowid, we hope this section can be of use as a concise collection of facts to help clear up recurring misunderstandings and misconceptions.

Work like you don't need the money.

Love like you've never been hurt.

Dance like nobody's watching.

— Unknown

As a website, Erowid.org is thriving. Traffic is up, submissions are up, and use of the information and materials we publish by media and educational programs around the world is also up. At this point our primary challenge is finding funding to allow us to hire a third person to help run the site. We apologize to those members who have sent us personal comments to which we have not responded, it is not for lack of caring on our part, just a lack of time. As of March 2001, Erowid has been a public resource for 5 continuous years and we are extremely pleased to be able to provide resources that others find useful.

We are very hopeful about the future of psychoactive-related education and information, even as a 1980's-style drug warrior is appointed chief of US drug policy. We believe that we are about to enter the last storm before the coming calm, as the failed policies finally collapse under their own weight. The next few years promise to be "interesting", in the sense of the old curse: "May you live in interesting times."

We hope you enjoy Erowid Extracts. Please send comments, criticisms, suggestions, and ideas for future newsletters to extracts@erowid.org.

Fire & Earth

Dr. Richard Evans Schultes (1915 - 2001)

by Fire Erowid



On April 10, 2001, Dr. Richard Evans Schultes, perhaps best known as the father of ethnobotany, died at the age of 86. Schultes was an explorer, botanist, and Harvard professor who authored several definitive books on ethnobotany including *The Botany and Chemistry of Hallucinogens*, *Ethnobotany: Evolution of a Discipline*, *Vine of the Soul*, and *Plants of the Gods* (with Albert Hofmann).

“A truly funny, weird, off-beat, crazy, complex, and ultimately hilarious character.”

-- Ann Shulgin

He was an impeccable scholar and an avid adventurer. His research into the use of plants by indigenous cultures included, from the very beginning, a strong interest in plants with psychoactive properties. Though Dr. Schultes held strongly conservative political beliefs, he was a staunch believer in individual freedom, especially in regards to religion and the use of drugs.

While working in the Harvard Botanical Museum library during his second year in school, Schultes was inspired to enroll in an ethnobotany course. He quickly became

Two years later (1938), Schultes travelled to Oaxaca, Mexico with Pablo Reko to seek the identity of *teonanacatl*, or Flesh of the Gods, believed to be a mushroom, but as yet unidentified. He was successful in identifying three species of mushrooms used by the Mazatec indians of the region. Although the species were already recognized botanically, Schultes was the first to record their use as psychoactives.

Schultes soon moved on (1939) to the challenge of verifying the identification of *ololiuqui*, the Vine of the Serpent. Identified nearly 40 years earlier as *Ipomoea sidaefolia* (later renamed *Turbina corymbosa*), there had been recent disagreement amongst botanists about whether that identification was correct, with some claiming that *ololiuqui* was actually *Datura meteloides*. Schultes travels took him back to Mexico where he was able to verify the original identification.

Over the next few years, Dr. Schultes worked extensively with Amazonian tribes, recording and documenting their knowledge of the medicinal and spiritual use of thousands of plants. He collected botanical medicines, hallucinogens, and poisons, identified 14 plant sources of curare, worked with *yoco* (a local stimulant), gathered data on *yage* (ayahuasca), and participated in the ritual use of many of the plants he researched.

[Dr. Schultes] left us with a heritage of botanical and pharmacological information that will make him immortal in the annals of ethnobotany. It is a privilege and a pleasure to have known him.

-- Sasha Shulgin

interested in the use of peyote by Native American tribes. His professor, the curator of the botanical museum, Oakes Ames, supported him in his decision to write his undergraduate thesis on peyote and funded Schultes's trip to Oklahoma with Weston LaBarre (1936) to study the use of peyote among the Kiowa indians.

Schultes was soon caught up in World War II, recruited by the United States to find an Amazonian source for rubber. The U.S. war effort depended on this natural product and 99% of its pre-war supply came from areas of Southeast Asia which had come under Japanese control. For the next 10 years, he devoted much of his time and effort

. . . the first time I met Richard Schultes; it was not what I expected. It was September of 1974; I had come from Berkeley to Cambridge on a Greyhound bus, via a circuitous route that had taken me through the Stropharia fields of Louisiana, through the deep South and on through New York to Boston. I was 23 and on a pilgrimage to find myself, to see the country, to figure out what I was going to do with my life. Mostly, I was on a pilgrimage to see Dr. Richard Evans Schultes, who in my estimation at the time was the world's greatest scientist, and certainly the world's greatest ethnobotanist. Twenty seven years later, on hearing the news that Dr. Schultes had left this world, I found little reason to revise that initial estimation. The world has lost a great man.

-- Dennis McKenna

to the development of a disease resistant strain of rubber tree, only to have the project eventually cancelled.

During the 40's and 50's, with only brief trips back to the U.S., he trekked through the Amazon, collecting more than 20,000 specimens of promising plants and gathering information about them from shamans and villagers knowledgeable in their use. After returning to the United States, Schultes took



care to warn that the plants of the Amazon, as well as native knowledge of their use, were endangered. It was this belief which, in part, fueled his intensive study of the ethnobotanical knowledge of indigenous people.

In 1953, Schultes became the curator of the Orchid Herbarium at Harvard and later the director of the Botanical Museum. During the next 30 years, he taught at Harvard, and published more than 10 books and 450 scientific articles, many of them about psychoactives. After retiring in 1985 he went on to publish *Plants of the Gods* (with Albert Hofmann) which remains one of the best references on entheogenic plants.

His work inspired a new generation of ethnobotanists, including Tim Plowman, who died in 1989, Wade Davis, and Mark Plotkin, who have continued in his footsteps with the study of native peoples and plants.

For more about Dr Schultes, see Erowid's online tribute at: http://www.erowid.org/culture/characters/schultes_richard.shtml ●

New Erowid T-shirts Now Available

We've just received our first batch of new Erowid t-shirts. The shirts are available in tan, purple, or black and display the word "EROWID" across the chest, made from hundreds of tiny words related to psychoactives, spirituality, and knowledge. Shirts are available as membership gifts or for a donation of \$40 or more. Visit our donations page for images or more information.

It is almost inconceivable that a chemical as simple as DMT could provide access to such an amazingly varied array of experiences, from the least dramatic to the most unimaginably earth-shattering. From psychological insights to encounters with aliens. Abject terror or nearly unbearable bliss. Near-death and rebirth. Enlightenment. All of these from a naturally occurring chemical cousin of serotonin, a widespread and essential brain neurotransmitter.

2C-T-7 Deaths

Last fall we reported on Erowid.org that there had been a death of a young man who had insufflated an estimated 35 mg of 2C-T-7. In April we received four additional reports of deaths related to the use of 2C-T-7, though only two have been confirmed: one in Seattle and one in Memphis. Of the three confirmed deaths, two individuals insufflated 2C-T-7 powder and one took it orally in a capsule. Two had taken Ecstasy sometime during the day of their death and one had not. Both insufflated doses were in the range of 30-35mg and the oral dose is unknown.

Two of the individuals are reported to have had some measure of violent reaction or outburst prior to death, while the third yelled about the presence of evil spirits. All three displayed aberrant behaviour before becoming non-responsive, but there were no specific symptoms that don't fit into the general category of "psychedelic crisis", until their breathing became erratic, they stopped responding, became unconscious, etc.

Additionally, we have received a reliable report from an individual who tried a combination of MDMA & 2C-T-7, which resulted in vomiting, violent and dissociated behavior, and memory loss. Happily he recovered after a brief stay in the hospital, but his report sounds very similar to the type

"The key to surviving schizophrenia (and believe me, I've been there) is to just SHUT UP. Shut up. You can believe any kind of madness you want, but for God's sake, don't tell anyone anything. Just nod and say 'I'm fine.' Otherwise they'll strap you down and do all sorts of unpleasant things to you."

— Terence McKenna (1946-2000)

It is just as fascinating to ponder why Nature, or God, made DMT. What is the biological or evolutionary advantage to having various plants and our bodies synthesize the spirit molecule? If DMT is indeed released at particularly stressful times in our lives, is that a coincidence, or is it intended? If it is intended, for what purpose?

— Rick Strassman, M.D. from
DMT: The Spirit Molecule

of reaction reported in all three deaths.

... I don't remember anything else from the evening, but apparently I started acting violently. My girlfriend had bruises on the side of her knees where I gripped her; I punched one of my friends when he attempted to rescue my girlfriend and I damaged one of my houseplants and destroyed my dresser. After two hours of this my friends decided that I was in danger of hurting myself and them (I kept threatening to kill my girlfriend and myself). The ambulance came around midnight (along with the cops) to pick me up and I threatened the police and screamed at them ... by Lottie

We have requested a copy of the Medical Examiner's report from last fall's Oklahoma death and will link to any further details we receive from the 2C-T-7 page on Erowid.

For More Info

http://www.erowid.org/chemicals/2ct7/2ct7_death2.shtml ●

The Light, by Evlove

AN EXPERIENCE WITH A NON-TRADITIONAL AYAHUASCA PREPARATION

It was Friday night, and my girlfriend 'E' and I were alone in a safe and comforting place.

Even before the tea, I was filled with excitement and awe about the upcoming sacrament. It was as though the insight was beginning before the ingestion. E was pretty excited, but also anxious about la purga. Her nausea also began shortly before the ingestion.

The Strength

I took out the extracted material (see prep info below), which was separated into the Strength (*Banisteriopsis caapi*) and the Light (*Psychotria viridis*). We opted to take the Strength by rolling the extract into balls and swallowing with water, which was pretty easy.

We then decided to take a walk to a nearby park. The sun was setting and it was drizzling a little outside, but it was a very pleasing drizzle. When we got to the park, I began noticing birds everywhere. Not that there were more birds than usual, rather, I happened to connect with and notice every bird within my immediate surroundings effortlessly (or intentionally on their part). I took this as a very good sign.

Neither E nor I noticed any overt effects aside from a slight rippling of the trees. As we walked back, E said she did feel different but that it was difficult to explain. When I questioned her a little more she said that she felt like the trees were walking with us or we were making the world move while we were staying still. This instantly reminded of Ken Wilber's description of One Taste while running, which seemed to give E a sense of validity to her experience.

The Light

When we got back from our walk, E said that being inside forced her awareness inside and this forced her to focus on how strange her body felt. Within minutes she was hovering over the toilet, purging a small meal she had eaten two hours previously. Still feeling sick, she asked if we could postpone

taking the Light a little so she could lay down. I brought her to a dark bedroom and began to give her a mix of massage and reiki. After about fifteen minutes, she said she was ready and we moved into the dining room.

One candle was lit as we sat face to face at the dining room table. The Light filled two glass mugs (~6 oz. each) and looked like a dark cappuccino. We both began to drink, E gulping quickly while I sipped slowly. Immediately, E jumped up and vomited on the floor. I helped her clean and then went back to finish my tea. I told her that I would leave a little so that she could try again later. In total I drank about 70% of the intended dose.

We went back outside and walked to a different park. E was disappointed that she hadn't been able to keep any of the Light down and was busy asking me to describe my experience. It was difficult to find anything happening until I sat down and closed my eyes. At this point (perhaps ten minutes after the Light) I could get into a deep meditative place easily. Then I opened my eyes and realized things were no longer as they usually are.

We left the park and strolled through the neighborhoods. I started to notice cats in a lot of windows in a similar way to how I had noticed birds earlier. As we walked, I experienced incredible time and space dilation as one block seemed to take forever to walk. We returned home, but stayed outside. I started to tell E all kinds of stories about my backyard and how I used to play in

the creek on this and that rock. I became flooded with childhood memories and I began to re-live some of the imaginary games I used to play. I was amazed at the detail and reality of the memories and how I had gone so long without accessing them.

I then noticed electric, flashing light, neon sign, cartoon, lighting bolt, LSD types of imagery. Media stuff, video games,

Preparation

~105 grams of whole leaf peruvian *Psychotria viridis* were placed in a large pyrex pot with britta water and a small amount of muratic acid (pH ~4.5). This was heated to a simmering/boiling temperature for about 2 hours stirring occationally with a wooden spoon. This was filtered with a cotton cloth and placed in another pyrex pot, which was set to boil to reduce volume. Then the leaves were soaked again in britta water + muratic acid (pH ~4.5) and heated for an hour, then filtered and combined with the other solution. One last wash was done to the leaves and then combined in the reduction pot. When the liquid in the pot had been reduced to about 6 oz, it was poured into a pyrex dish lined with syran wrap. This was placed in a 200 degree oven for two hours. I then turned the oven off, but let it sit in the cooling over overnight. When I awoke, I would turn the oven on for a little and then off letting it sit. It stayed in the off/on oven for about two days (on for one hour/off for eight to twelve) and this succesfully took out all of the water and acid leaving a hard extract which could easily be recovered by lifting the syran wrap.

~65 grams of banisteriopsis caapi were prepared in exactly the same way, except the vine was first beaten and shredded with a hammer and knife before the brewing began. The caapi resulted a thick tar-like extract which could be rolled into balls.

Adding hot water to these extracts produced the tea.

commercials, sky scrapers, glitter, and technology and I wanted to move to a more natural type of experience. Slowly, behind the Times Square, Las Vegas flashings, I found the forest and the soul of forest life,

although these digital, man-made, archetypes continued to come into my awareness.

La Purga

We headed inside and all of the sudden it came to me very matter-of-factly, 'I have to throw up.' My head over the bowl, I began to see disgusting images of blood and dirt, puss and dead things and remembered being in high school and worrying about how acne made me look ugly. All of these ugly thoughts of myself and all of the things I felt guilty about or regretted doing, all of my self-directed negativity was concentrated into every heave into the puke-filled water. A voice in my head said, 'That was great.'

After that, I found myself, clean and pure, new and innocent. I sat up on the bathroom floor and was an enlightened prince sitting in a field of bright green grass on a sunny day. I was glowing from head to toe and I realized that this is who I always am and that all the junk in the toilet was just a self imposed illusion. I felt fine with leaving it there. I soon noticed E by my side and she was my princess. It was beautiful.

Soon, the electric patterns returned and this time I accepted them as part of me, as natural. I accepted that my thoughts, rationality, and the video game of life included the



electricity, the media, computers and information and that these are natural as well.

E suggested we go upstairs and lie on the bed. She was still just feeling sick, no vision, no light. As I lay with her, I was traveling and there was just so much I cannot begin to talk about it, but this was the heart of the journey.

I would feel myself through E and see myself as her. I felt her holding on to the sickness, tensing up. At this point, I suggested that we finish the Light and get her through this sickness. She groaned and proposed that we have some marijuana first. A couple breaths brought me in touch with this ally and then we headed downstairs.

I told her to just face the sickness and watch it dissolve. I said, 'You'll drink this Light and then you'll throw up and then it will be over.' A strange kind of calm came over her and she drank the Light and then threw it right up and then she was cured. She took on a glowing smile and couldn't believe she had spent so much time holding on to the sickness, which revealed itself to be of little substance. She smiled so beautifully.

The two of us went upstairs and I shared some of my experience with her, before we drifted to sleep easily and peacefully. ●

VENDOR NOTES

- After first becoming available online in late 1999, several American suppliers appear to be removing 2C-T-7 from their catalogs.
- MBE Tech, an online supplier of research chemicals, has shut its doors. This according to a note on the front page of their web site.
- Erowid received a flood of complaints about the plant supplier Shaman's Garden during April 2001. After receiving no response to their complaints from the company, several customers contacted the site's web hosting company and in mid-May, their primary site was shut down.
- Two new books to check out, *DMT: The Spirit Molecule*, by Rick Strassman, and *Ketamine: Dreams and Realities*, by Karl Jansen

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Earth Erowid

Artwork

Slee

Crew Members

Psilo

Scruff

Christopher Barnaby

Shell

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

MDMA Research Update

by Earth Erowid

A lot has happened during the past year of MDMA research. As evidence continues to build about MDMA's neurotoxic effects and as long-term negative side effects become clearer, arguments suggesting that the evidence is purely prohibitionist rhetoric grow weaker. However, the evidence remains complex and the documented negative consequences of use appear to increase with maximum dosage and frequency of use: users who use more score worse. A variety of interesting papers have been published about MDMA's effects on memory, cannabis use as a confounding factor, MDMA pharmacokinetics, side effects profile, gender differences in effects and dosage, and other areas worth further study.

The following is not an introduction to or overview of the complex issue of brain changes related to MDMA and potential long term consequences of use, it is a set of brief summaries of some of the most interesting new developments in the field. This article is intended for those who already have some familiarity with the topic, for an introduction, please see http://erowid.org/mdma/mdma_research1.shtml.

Ecstasy and Memory

A number of studies during the past year have focused on the mounting evidence that heavy ecstasy use causes reductions in short-term verbal memory abilities, such as

recalling a list of words. While several of these studies were hopelessly flawed and nearly all were exaggerated by the media as evidence that ecstasy causes irreversible stupidity, depression, and forgetfulness, some were well-designed and conducted by more neutral researchers.

These suggest that there is reason for concern about the negative side-effects of ecstasy use on attention and short-term memory, especially among those who use more frequently or at higher doses.

One of the best studies (Gouzoulis-Mayfrank 2000) compared ecstasy users to both non-users and cannabis users (see Cannabis Confound below). Subjects in this study had an average lifetime use of 120 ecstasy tablets, over a 28 month period. In several tests, the ecstasy users scored worse than both comparison groups. The most concerning results involved verbal short-term memory and 'executive function' (puzzle solving, relies on working memory) on which ecstasy users have scored worse than non-users in a growing number of studies.

Memory: Longitudinal Data

A promising directions of research is found in a paper by Zakzanis published in Neurology (2001), where ecstasy users had their memories tested and then were interviewed and tested a year later. Average use in the group had gone up by 26 sessions

during the year, with an average of 4 tablets per month. Scores declined in the two subtests related to short-term verbal memory (recalling details of a short story). While this study is far from a final say on the matter, its longitudinal design is more convincing than simple comparison group testing. It would be particularly interesting if this same group were studied again in the future and a non-using comparison group was included.

Memory: Research Summaries

Perhaps the most compelling evidence that MDMA causes moderate long-term declines in working memory are two review papers published in 2000, one by Morgan in Psychopharmacology and the other by Gamma on Maps.org. Both authors conclude that there is sufficient reason to believe that high dose or frequent (twice a month) use of ecstasy leads to measurable declines in short-term memory performance. Although I believe the issue of pre-existing differences has not been adequately addressed and there are many limitations to the available data, these problems should not be dismissed. In the last few years, most of the informed community has come to the conclusion that heavy or sustained recreational ecstasy use leads to measurable cognitive decline lasting an unknown period of time.

Memory: Cannabis Confound

One of the recurring questions in ecstasy research is what role cannabis use plays in memory test findings. A handful of studies have shown that recent cannabis use can affect short-term memory skills. Since ecstasy users participating in these studies have predominantly been regular cannabis smokers, it is possible that memory problems found in ecstasy users are partially the result of recent cannabis use. Several research groups, recognizing this possibility, have recruited non-ecstasy using cannabis smokers as a comparison group.

Unfortunately, the influence that cannabis smoking has on the test results is not yet fully understood. While Gouzoulis-Mayfrank found that ecstasy users scored worse than their cannabis-only comparison group, a similar study by Croft (Psychopharmacology 2001) found that cannabis smokers and ecstasy users scored nearly identically. This data suggests that the types of memory problems seen in ecstasy

Terminology

5-HT: 5-hydroxy-tryptamine, serotonin.

transporter: Neurotransmitter reuptake site on a neuron.

free radical: a usually short-lived, highly reactive molecular fragment that contains one or more unpaired electrons.

in vitro: 'in glass', in petri dishes or test tubes, rather than in a living animal.

longitudinal study: a study taking place over time, where specific individuals are tested on more than one occasion in order to watch for changes in those individuals.

nystagmus: eye twitching or wiggling. Common side effect of ecstasy use.

PET Scan: Positron Emission Tomography. Imaging technique using radioactive tracer molecules that emit positrons with large, expensive detector equipment.

pharmacokinetics: the process by which a drug is absorbed, distributed, metabolized and eliminated by the body.

radio ligand: a radioactive chemical marker which binds to certain cells and is used to allow areas inside the body or brain to be mapped or measured.

users could be substantially attributable to recent cannabis use.

Another interesting piece of data reported by Croft is that although the cannabis smokers had been asked to remain abstinent for 48 hours prior to testing, the actual period of abstinence was much shorter. After testing was completed and participants had been paid, researchers asked how long they had actually abstained. A number of participants admitted to having smoked within the 48 hour abstinence period. Unfortunately, the implications of this type of rule-breaking on other research are difficult to gauge.

MDMA Half-life

In the last few years there has been some good research done on the pharmacokinetics of MDMA by Mendelson and colleagues at UCSF (unpublished) and by de la Torre and colleagues, published in the *Annals of the New York Academy of Science* (2000). One major piece of pharmacology which most users don't know and isn't intuitively obvious is that MDMA's elimination half-life in humans is quite long, around 9 hours. This means that 9 hours after you swallow a single dose of ecstasy, concentrations in the blood have only dropped to half of their peak levels. MDMA levels are still at 1/4 their peak 18 hours after ingestion and 1/8 of their peak levels at 27 hours. It isn't until more than a day and a half after taking MDMA that the body is no longer experiencing direct pharmacological effects of the chemical.

Although MDMA remains in the blood at relatively high concentrations for more than a day and a half, most people experience primary effects for only 4-5 hours.

One proposed mechanism for MDMA neurotoxicity is that after ingestion, MDMA breaks down into a variety of metabolites, some of which are highly reactive molecules called 'free radicals'. Unless properly handled by the brain, these free radicals will damage neurons through a process called 'oxidative stress'. If MDMA concentrations remain high enough for a long enough period of time, the neurons' capacity for processing these metabolites fails, though if doses are low enough, the brain is able to keep up and no damage occurs. Another theory, by Nichols at Purdue, is that the free radicals result from an abnormal metabolism of dopamine.

The longer the brain is exposed to high doses of MDMA, the more likely it is to

suffer cell damage. Boosting (taking a second dose after some period of time) exacerbates the problem because it extends the period of time during which cells are exposed as well as increasing the peak concentrations of MDMA in the system. This increases the likelihood of neuron damage, as well as increasing side effects such as jaw clenching, nystagmus, dry mouth, and dizziness. Extrapolating from recent studies, it appears that taking a 100 mg tablet and then an additional 100 mg after 2 hours is as hard on the brain as taking a single 200 mg dose.

Non-linear Pharmacokinetics

The pharmacokinetic data in humans also points out that within the range of therapeutic doses, small increases in dose can cause large increases in blood levels. In the de la Torre paper, an increase from 100 to 150 mg more than doubled the peak plasma levels and therefore increased risk of damage.

Anti-oxidants Reduce Damage

Also important to users is research over the last few years showing that anti-oxidants injected into rats before MDMA exposure reduces or eliminates damage to 5-HT neurons. A recent paper by Shankaran and colleagues (*Synapse* 2001) showed that anti-oxidants also reduce tolerance between exposures: rats given MDMA with anti-oxidants had stronger effects on their next dose of MDMA than rats who weren't given anti-oxidants. Although its unknown how oral anti-oxidant doses in humans compare with those injected in the rats, users should consider using anti-oxidants such as vitamin C and E, and/or alpha-lipoic acid before, during, and after taking ecstasy to minimize risks of cell damage.

Gender Differences

An interesting piece of research recently published was Liechti, Gamma, and Vollenweider's paper "Gender differences in the subjective effects of MDMA" (*Psychopharmacology* 2001). Data was collected which supports anecdotal reports that women experience a higher level of effects than men, given the same dose per bodyweight. This paper combines data from multiple studies to reach a total of 74 total subjects: 54 male, 20 female. On almost every side effect measure given, women reported higher levels of effects than men, though their reporting of side effects on placebo days were nearly identical. Unexpectedly, men's blood pressure went up

more than women's given the same mg/kg dose. This data confirms a growing body of knowledge showing that women may be more sensitive to MDMA than men and suggests strongly that users and therapists should take gender into account when choosing doses.

Side Effects Profile

Another aspect of Liechti's "Gender differences" paper is a profile of side effects reported by the 74 participants who were given MDMA. While the results are not surprising (jaw clenching and lack of appetite), it is some of the first well collected data on the side effects of pure MDMA. While most users know that jaw clenching is common, its interesting to read that it was experienced by only 60% of those given MDMA in this study (none with placebo), 60% of the subjects reported difficulty concentrating (15% with placebo), 40% experienced some dizziness (1% with placebo), and 53% experienced dry mouth (3% with placebo). Whether interested in therapeutic or personal use, this paper contains some of the most practical information.

Serious Adverse Reactions

While most users don't experience life threatening or dangerous side effects from MDMA, our understanding of the negative reactions continues to deepen. Matthew Baggott, as part of a huge literature review he's been working on over the last 2 years, has written a summary of the medical emergency data available as of March 2001. His review should be available on MAPS.org in the next few months and most of the

MDMA Side Effects

(Liechti, Gamma, Vollenweider 2001)

Side Effect	MDMA	Placebo
Difficulty Concentrating	59	15
Jaw Clenching	58	0
Lack of Appetite	54	4
Dry Mouth / Thirst	53	3
Impaired Balance	49	0
Restless Legs	41	1
Sensitivity to Cold	41	1
Dizziness	38	1
Sweating	31	0
Nausea	14	3

following information comes from his work.

Serious hyperthermia (overheating) makes up about 25% of published reports of ecstasy related emergencies. The somewhat less discussed problem of hyponatremia (see below) accounted for about 10% of the published cases. The other two largest causes for ecstasy-related cases were "psychiatric complications" (psychotic episodes, panic attacks, severe depression) making up 22% of cases, and liver toxicity which made up about 16% of cases.

Hyponatremia

Hyponatremia (literally "low salt") is a condition where the salt and electrolyte levels in the blood fall dangerously, which can lead to brain damage and death. A common understanding of ecstasy-related hyponatremia has been that it is caused only by drinking dangerously large quantities of water.

One of the growing areas of understanding is that ecstasy-related hyponatremia may be exacerbated by a direct

pharmacological action of MDMA. MDMA has been shown to cause an increase in the anti-diuretic hormone (ADH or Vasopressin). While diuretics cause increased urination, increases in anti-diuretic hormone reduce urination and levels of salt in the bloodstream. Drinking too much water and an increase of ADH combine to make hyponatremia more likely.

Data shows that cases of ecstasy-related hyponatremia can occur at very low doses (1/2 a tablet) and while most cases occur after heavy obsessive water drinking, this is not true in all cases. Users should be warned about this issue and people showing symptoms of hyponatremia (see sidebar) should be treated by medical professionals immediately.

Liver toxicity

A less well known ecstasy-related medical problem is hepatotoxicity (liver toxicity). 16% of available adverse case reports involved liver problems. Although its known that hyperthermia can cause liver damage, several in vitro studies show that MDMA on its own can cause damage to liver cells. While this is an emerging area of study, users should be aware that recurring flu-like symptoms for days or weeks after last use or jaundiced (yellowed) skin tone can be symptoms of liver toxicity. If these symptoms occur, a trusted doctor should be consulted.

Interspecies Scaling Debate

One ongoing debate in MDMA research is the issue of interspecies scaling. The debate itself is quite academic, but it directly affects both users and therapists because it is the link between animal data on neurotoxicity and human use.

Since most toxicity research with MDMA has been done with rats, mice, and non-human primates, the question arises of how valid the results are for humans. This is a complicated area of the science and is debated in all the fields that use animals to test for toxicity. In a series of articles and letters in Neuropsychopharmacology, several groups of researchers have argued back and forth whether the doses used in Ricaurte's animal studies indicate that a single 1.7 mg/kg oral dose of MDMA is likely to produce damage in humans (1.7 mg/kg is a solid, full-effect dose for most people). This dose has been used by Vollenweider and colleagues for research done in Switzerland. Ricaurte and McCann argue that, based on their

calculations, this dose is neurotoxic.

Vollenweider, Jones, and Baggott argue that variations in metabolism between humans and other animals radically affect how toxic a particular chemical is in a species and that generalized formulas cannot describe the complexity of interspecies scaling. They argue that the current theories for the mechanism of MDMA-related neurotoxicity involve oxidative metabolites (not MDMA itself) and therefore the exact way humans metabolize MDMA is key in determining its dangerous levels.

Single Dose, No Damage Found

A study conducted in Switzerland by Vollenweider, Gamma, and colleagues found that a single, effective, oral dose of MDMA in a comfortable clinical setting caused no detectable change in 5-HT transporter binding. They used the same PET scan techniques developed by the Ricaurte / McCann to show lower 5-HT transporter levels in ecstasy users. Although the number of subjects was small and there is some question about whether these tests could detect small changes, this preliminary research suggests that, in clinical settings, a single 1.7mg/kg dose of MDMA doesn't cause large changes in 5-HT transporters.

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Signs of Hyponatremia

Early

Anorexia
Headache
Nausea
Emesis
Muscular cramps
Weakness

Advanced

Impaired response to verbal stimuli
Impaired response to painful stimuli
Bizarre (inappropriate) behavior
Hallucinations (auditory or visual)
Asterixis
Obtundation
Incontinence (urinary or fecal)
Respiratory insufficiency

Far Advanced

Decorticate / decerebrate posturing
Bradycardia
Hyper- or hypotension
Hyper- or hypothermia
Dilated pupils
Seizure activity (usually grand mal)
Respiratory arrest
Coma
Polyuria (secondary to central diabetes insipidus)

First Natural Entheogen Experience

by HappilyAnonymous

I obtained an ounce of dried *Salvia divinorum* leaves (Oaxacan wild harvest) on Tuesday, April 25, 2000, and decided to try a small amount the next Saturday, as a test to see if this plant lived up to her reputation. At 9 p.m. I began chewing a quid of rehydrated leaves in a small dark upstairs room, while sitting on a folding chair. I was alone except for four 12-week-old kittens who were in and out of the room.

At 9:15 I started to feel a slight strange intoxication. At this time I swallowed the first quid (waste not, want not!) and began another quid. About ten minutes into the second quid I felt a presence in the room, a very large presence, which was moving closer to me. When I closed my eyes I could see a living entity, of no definite shape, a composite plant/animal that was to me more feminine than masculine. This being had tendrils, tentacles, foliage, hands, all in a vast shapeless mass.

The being came closer, emanating great power and pure love. It engulfed me and I surrendered to her, and was in sweet repose in her loving, caring embrace. In the process of surrendering I had what felt like a long, intense orgasm, but without ejaculation. I could not physically talk with this being, thinking the words "Thank you!". The lovingness of her embrace, only and of her spirit, was evident. As part of her now, I vowed to extend this love to all.

At this point the four kittens were trying to jump on my lap, and I realized the kittens were also a part of her, pure spirits, wild and free. I had to move to the floor, as I was totally overwhelmed. After a few minutes I found my voice, and whispered "Thank You" to the Goddess, the Goddess of Life. After a while I was able to walk to the stairs and made my way downstairs, where the incredible love and teachings continued to flash in my mind.

If I never had *Salvia divinorum* again I would not be unhappy in the least—what I experienced in those minutes will take the rest of my life to integrate. I may not be able to put into words much of what I experienced, and learned, but I will try; the main thing I learned from this experience is to be a loving person, as loving as the Goddess, and to help life in all its forms. I look forward to exploring *Salvia* more, with respect. It is a powerful, sacred plant, and I'm grateful and fortunate to have met her. I have used powerful synthetic psychotropes in the past, decades ago, and this is the first natural enteogen I have ever used; there is no comparison. This plant is a teacher and a healer, suitable for those who are either pure in heart or who wish to be. ●



Organizational Updates

Lycaeum (lycaeum.org)

Andrew Edmond, the absentee owner of the Lycaeum, recently announced that he will cease hosting the site this summer. It is still unclear what will happen with the existing collection, but in order for it to continue, a new host location and active director will need to step forward. If a qualified director can't be found, both the drug archives and the hosted sites will be shut down, with a historical snapshot hosted by Erowid.

MAPS (maps.org)

MAPS is nearing completion of its MDMA research protocol for submission to the FDA. This research project involves therapists in South Carolina evaluating the use of MDMA-assisted psychotherapy in the treatment of Post-Traumatic Stress Disorder. In May, Dr. Francisco Moreno, at the University of Arizona, received final FDA approval to begin his study of psilocybin in the treatment of patients with Obsessive/Compulsive Disorder (OCD). The study still requires DEA approval for the site to handle Schedule I substances and a DEA certificate of confidentiality (to protect the privacy of the subjects).

Dancesafe (dancesafe.org)

After a series of internal difficulties, DanceSafe underwent a major reorganization in February with both the Board of Directors and most of the staff of the national office leaving. Dancesafe continues to provide laboratory ecstasy pill testing, marquis testing kits, and educational resources to chapters around the US.

Council on Spiritual Practices (csp.org)

CSP is nearing completion of another book in their Entheogen series, titled *Psychoactive Sacramentals*. It will be a collection of essays by

various authors discussing the spiritual impact of enteogen use. Contributors include Huston Smith, Stan Grof, Rick Doblin, Alexander and Ann Shulgin, Albert Hofmann, and Myron Stolaroff.

Psychedelic Library (psychedelic-library.org)

Peter Webster continues to work to make psychedelic texts available through the Psychedelic Library, though a few texts have been taken down recently because of issues with copyright holders.

Shroomery (shroomery.org)

Control of the Shroomery changed hands in late April. Aphex, the previous webmaster, who started in Feb 1998, is stepping back due to lack of time. Control has been passed to Thor and 3DShroom.

TRP (tripzine.org)

TRP magazine recently changed its name to Tripzine and has moved their website to <http://www.tripzine.com>. The next issue is expected out later this summer.

Entheogen Review (entheogenreview.com)

ER recently put up a website which contains subscription information, an index for the current issue, and some related links. The site is slim, but it does give them a presence on the web.

Heffter Research Institute (heffter.org)

Heffter is also working on the psilocybin OCD study at the U of Arizona (see MAPS above). Heffter board member Franz Vollenweider has begun a three-year investigation of memory and the self using psilocybin. Board member Dennis McKenna has joined the faculty of the U of Minnesota Medical School and is developing an ayahuasca research program there.

Myth Debunking

Mescaline in Microdots

Fire Erowid

Rumors persist about tiny mescaline containing tablets. Some dealers will actually sell microdots as “mescaline” and it’s not difficult to find people who will argue that the effects of these tablets are “definitely different than LSD”. While many people know that it’s just about impossible that a microdot or tiny pill would contain mescaline, it can be difficult to convince someone who just spent money to purchase the rare substance that they most likely bought LSD instead. In cases like this, references can be useful, and a picture is worth a thousand words.

1) A threshold dose of mescaline (the dose at which the smallest amount of recognizable effects can be felt) is somewhere around 100 mg. A normal active dose for most people falls in the 200-400 mg range.¹

2) An average size MDMA tablet weighs around 250 mg, including all binders and fillers. In general, less than half of this weight is actually MDMA. Likewise there are pressed 2C-B tablets which weigh 45 mg and contain 5 mg of 2C-B, about 1/9 of their weight. A standard microdot weighs only 7.5 mg. Assuming that only 1/3 of this material is binders, that means a maximum of 5 mg of active material in the micro-tablet.

3) While there are a few psychoactives which are active in the 5 mg range, mescaline is definitely not one of them. It would be difficult to get a threshold dose of mescaline into a tablet even as large as an ecstasy tablet (similar in size to a standard advil or aspirin tablet). A full dose of mescaline (400 mg) barely fits into a fully packed large capsule with no fillers. At 5 mg of mescaline per microdot, it would take between 50 and 75 tablets to equal a single dose.

1. Alexander & Ann Shulgin, *PiHKAL* (Berkeley: Transform Press, 1998) 702.

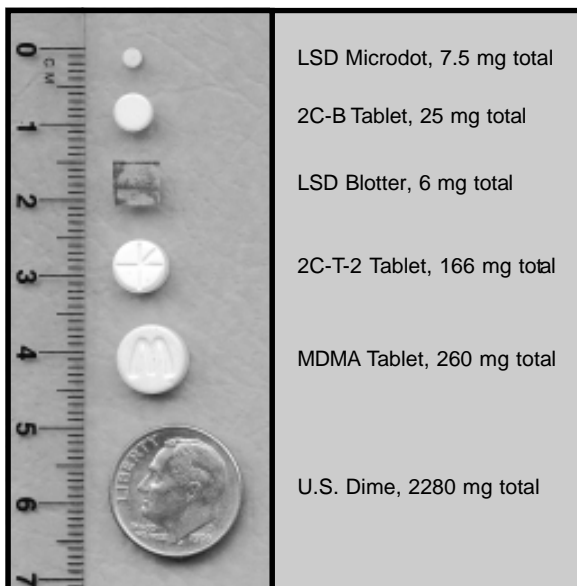
Storage Tips

LSD & many other chemicals keep longest if stored in air-tight containers in dark, cool places. LSD degrades with exposure to air, light, or warm temperature. This process is slow under normal conditions, but the longer the exposure to air or light, and the warmer the temperature, the more degradation will occur.

Best: Glass vial with tight seals (available from any science supply), in freezer, cool pantry, or basement.

Good: Air-tight hard plastic container or small glass jar, stored in closet, insulated from rapid temp changes.

Worst: Plastic bags, tinfoil, or open air at room temperature.



Memetic, Scatter, & Grow

Many members we've spoken to in person have been surprised and interested to hear about the wide variety of organizations that have used information and images from the Erowid website. Besides the usual suspects of web boards, newspapers, and students writing class papers about psychedelics in the last year, we have granted permission to hundreds of other organizations and projects to use pieces from our site. These include a Navy recruiting office interested in drug education for new recruits, a NIDA-funded educational neurology CD, a local DARE newsletter, many harm-reduction groups

including local DanceSafe chapters, several drug abuse counseling centers, school drug education programs across the country, etc. We've granted permission for several dozen groups in non-English speaking countries to use images or translated texts, including one in mainland China. Prentice-Hall, a major text book publisher included surfing erowid as part of a chemistry exercise in one of their courses.

Many television stories about various substances have included information and images from our site, some have notified us or requested permission, most have not. Our primary requirements for the non-commercial use of material from the site is that the author/artist (if any) and erowid.org both be credited immediately next to the image or information, so each use is accompanied by a pointer back to the full library.

An unexpected propogation effect comes in the less formalized de-facto use of erowid as a primary resource by psychoactive-related professionals. A member of a large forensic crime lab and friend of erowid said that the site is the first place the lab staff goes for information about non-medical use of psychoactives.

A recent comment we received from a self-described Paramedic mirrors other comments we've received from emergency medical professionals:

“Your site, with its references to medical journals, reported experiences, and legislative updates has been an invaluable resource in our efforts to keep educated on the symptoms, treatment, and culture surrounding the use of these drugs. This last is very important, for it assists us in gaining the trust and understanding of our patients (who are often as distrustful of us as we are of them).”

It is always satisfying to hear that others find our work helpful. ●

THE DISTILLATION

Along with the daily maintenance and upkeep of the site, we are always working on a number of interesting projects. Here is a list of some of the larger of these projects. Erowid is seeking targeted donations to support this work.

MDMA Article Database

For the past 8 months, Erowid has been working with the Multidisciplinary Association for Psychedelic Studies (MAPS) to create a comprehensive online database of scholarly articles and peer reviewed research related to MDMA and street ecstasy. The MDMA Database reached a release version in May and through the summer we will be developing a system for keeping the database up to date and sharing database changes between Erowid and MAPS. <http://www.erowid.org/mdma/articles/>

Sandoz Article Library

Working with the Albert Hofmann Foundation and MAPS, we are working to digitally archive a collection of more than 4,000 lsd and psilocybin related papers originally collected by Sandoz Pharmaceuticals (the company where Hofmann developed LSD). The collection consists primarily of peer-reviewed journal articles from the 1940s through the 1970s, many of them rare and hard to find. We have started this project and will be doing major work on it this summer, with a projected first-draft completed by the end of 2001.

LSD Testing Project

Erowid would like to begin testing street acid and blotter to determine their exact content and quality. We are planning on starting with a small sampling of available forms to try to answer some of the long standing questions about what isomers are present, the profile of different chemicals, and what contamination or degradation substances are detectable. We also want to follow up with Freedom of Information Act requests to the DEA to try to get access to some of their records about the contents of street acid. In order to begin this project, we need to raise \$2000 in dedicated donations, so far we have \$400 raised.

Risk Benefit Analysis Project

This is a project we began outlining last fall. While there are some documents available about the risks of different psychoactives and the concept of "risk-benefit analysis" as an educational paradigm, we would like to develop a comprehensive resource for comparing and contrasting the risks of the most common psychoactives we cover. To do this, we would work with some of the top researchers in this area to come up with a easy to understand risk profile for each plant or chemical and each common mode of use. We have a \$5,000 matching-grant promise from MAPS to support this project, but we need to raise \$10-20,000 more to be able to pay the researchers who we would work with. This project has not yet begun.

Drug Price Report

For over a year we've been trying to revive the Drug Price Report project from hyperreal. Unfortunately due to a number of volunteers for this project disappearing, it has stalled. Although the DEA collects a huge amount of data about street prices, but they refuse to publish this information to the public except when they find it expedient to do so. While there are a number of challenges involved in creating this public resource.

Grassroots Peer Review Project

One of the biggest challenges for Erowid as it grows is to maintain the quality and reliability of the information we archive. It is a general problem that the world faces with growing access to all types of information: How do you know whether something you read is reasonably accurate? Specifically for Erowid the problem is that as we add crew members who have the ability to add or edit information, we need a system by which reliability of documents and crew members can be tracked, opinions and ongoing debates about data are archived and linked to from each document, and readers can rate documents by quality and clarity. In many areas of knowledge, our world needs systems by which peer-groups can review and score documents to increase the overall quality of information over time. Earth's database design experience, work with an Open Source software group, and our niche of politically disapproved information create a unique confluence of factors that make this project both possible and efficient for our project as well as creating something of value to the world outside psychoactive information archives. We're hoping to have an early version of this done by the end of 2001.

Visionary Art Vaults

Early this year we launched our Visionary Art Vault, with Christopher Barnaby as the curator. He has done an amazing job assembling some beautiful works by talented artists. We continue to build out this Vault and are looking for ways of promoting the artists's inspiring work. <http://www.erowid.org/art/>

Volunteer Management

One of the hardest jobs we face is managing volunteers who would like to help. Of every 50 people who volunteer, 1 of them actually goes on to do anything. We are seeking experienced volunteer managers who can commit several hours each week to coordinating volunteers for a variety of projects. ●

Site Statistics

Pages: 9,530; **Archived Images:** 2,325; **Avg Daily Visitors:** 17,800; **Avg Daily File Hits:** 809,000; **Avg Daily Page Hits:** 213,000; **Members:** 271

	Avg Daily File Hits	Avg Daily Page Hits	Avg Daily Visitors
Apr 2001	809,000	212,779	17,800
Mar 2001	804,000	199,818	16,700
Feb 2001	684,000	188,431	15,300
Jan 2001	554,000	169,608	13,500
2000	462,000	126,000	12,000
1999	135,800	37,000	4,100
1998	31,200	8,500	1,000
1997	7,000	2,100	300
1996	1,000	316	60

VERBATIM

“For unrestricted use, the West has permitted alcohol and tobacco; all other chemical Doors in the Wall are labeled Dope, and their unauthorized takers are Fiends.”

— Aldous Huxley (1894-1963)

“Alcohol mixed with GHB. (I Should have listened to Erowid’s warning). What happened next shows that I do possess a great level of stupidity.”

— CroverC, in an experience report submitted to Erowid

“The physical incidents of arrest were merely gratuitous humiliations imposed by a police officer who was (at best) exercising extremely poor judgment. Atwater’s claim to live free of pointless indignity and confinement clearly outweighs anything the City can raise against it specific to her case.”

— US Supreme Court majority, without irony, deciding that Ms Atwater had no constitutional protection against harassment for driving without a seatbelt. April, 2001

“The President’s focus is going to be on creating a drug policy that focuses on demand, that focuses on supply, that’s a broad-based, rounded strategy to reduce drug abuse everywhere. That’s his focus.”

— Ari Fleischer, GWBush’s Press Secretary, May 10, 2001

Death is not extinguishing the light; it is putting out the lamp because the dawn has come.

— Rabindranath Tagore, poet, author, Nobel laureate (1861-1941)

“I love deadlines. I love the whooshing noise they make as they go by.”

— Douglas Adams (1952-2001)

“Morning was perfect and beautiful beyond words. Everyone looked like they had been painted by a great medieval painter. Almost all my friends had tripped on something and were all very happy as well. This was more than a feeling, it was like a place. I was certain this shining, love-drenched place was what was meant by 'The Kingdom of Heaven', it’s not a place you wait to go when you die, its a place individuals and groups can go without ever leaving 'the world'. The place has a taste, and a smell, sweeter than any words can describe. It is a place where death is irrelevant, not because it doesn't exist, but because 'now' is real, and no matter what happens in the future you are so alive 'right now'.”

— Hermes-Thoth

“Spend money on experience, not on goods.”

— Ben, Burningman 2000

Don’t join the book burners. Don’t think you are going to conceal faults by concealing evidence that they ever existed.

— Dwight D. Eisenhower, (1890-1969) June 14, 1953, Dartmouth College.

“Sane is a word which means you can get up in the morning, dress and feed yourself, and get through the day without harming or alarming anyone including yourself.”

— James Kent

“A little nonsense now and then is relished by the wisest men...”

— Roald Dahl, Willie Wonka and the Chocolate Factory

“As of today, the federal government is waging an all-out effort to reduce illegal drug use in America.”

— G.W. Bush, May 10, 2001

"We need, fully and completely, to marshal the nation’s energy in a true all-out war against drugs."

— H.W. Bush, Jan 13, 1989

"We need a nationwide crusade against drugs, a sustained, relentless effort to rid America of this scourge."

— R. Reagan, 1986

"We must wage a total offensive, world-wide, nation-wide, government-wide . . . war on drugs."

— R. Nixon, June 17, 1971

We can be knowledgeable with other men’s knowledge but we cannot be wise with other men’s wisdom.

— Michel Montaigne, essayist (1533-1592)