

# PSYCHOACTIVE BOTANICALS IN RITUAL, RELIGION, AND SHAMANISM

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**Keywords:** Shamanism, ethnobotany, psychopharmacology, ayahuasca, psychoactive plants, psychedelics, drug and alcohol abuse, history of religion.

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## Summary

Psychoactive plants have played an important role in medicine, religion, ritual life, and recreation since ancient times. In shamanic religions, which appear to have dominated throughout much of human pre-history, trance induced by psychoactive plants and other techniques permits direct contact with the divine. For this reason, plant hallucinogens and other psychoactive botanicals have been considered by cultures throughout history as “plants of the gods”: sacred substances that bring knowledge, power, healing, and mystical insight, but that must be used with utmost respect and caution. With the spread of Christianity, and especially since the Inquisition and Conquest of the New World, the religious use of psychoactive plants has been severely and sometimes violently suppressed. Western scientific and popular interest in psychoactive plants enjoyed a resurgence in the mid-twentieth century, though the excesses of the 1960s “psychedelic era” provoked a backlash, exacerbating existing biases within the scientific, medical, and law-enforcement establishments. Psychoactive compounds produce their peculiar effects on consciousness by mimicking the chemical structures of neurotransmitters or otherwise altering the transmission of nerve impulses. Over the past two hundred years, chemical and physiological studies of natural psychoactive compounds and their synthetic derivatives have resulted in major contributions to medicine and neuroscience. This chapter presents an overview of twenty-two important psychoactive plants used in religious or ritual settings throughout the world, with supplementary information on ten additional species. The cultural and historical background for each plant is presented alongside pertinent botanical, chemical, and pharmacological information. An appendix provides a summary of the names, traditional and biomedical uses, and active components of plants discussed in the text. A general introduction and concluding discussion help set the topic of psychoactive plant use within the intertwined historical, social, philosophical, scientific, and contemporary legal contexts.

## 1. Introduction

Anyone who remembers as a child spinning gleefully towards a dizzy collapse, or experimenting with hyperventilation to attain a brief, disjointed oblivion, has partaken in the simplest and most innocent form of what may be a universal human instinct: the desire to attain altered states of consciousness. It is one of the great ironies of the human brain—this most intricately evolved, astronomically complex organ of reason—that people around the world and throughout history have used these very faculties to seek out and discover myriad ways of intentionally interrupting the brain’s normal functions to achieve euphoric pleasure, ritual bonding, medical and philosophical insights, and religious ecstasy.

Since the beginnings of the spice trade, and especially since Columbus’ accidental “discovery” of the Americas, European explorers, traders, missionaries, and scientists have taken a particular interest in the food, drug, and medicinal plants of the exotic peoples they encountered, ultimately giving rise in the 1890s to the modern field of ethnobotany. With Louis Lewin’s classic 1924 book, *Phantastica, Narcotica, and Stimulating Drugs*, the study of psychoactive plants and drugs became a subfield of its own. Beginning in the 1930s, Harvard ethnobotanist Richard Evans Schultes carried out pioneering research, documenting the botanical identities, chemical components, and

cultural uses of psychoactive plants worldwide. Growing awareness of natural and synthetic psychoactives through the 1950s inspired the work of a diverse and influential group of writers and philosophers including Jean-Paul Sartre, Aldous Huxley, Allan Watts, Alan Ginsberg, and William Burroughs. The so-called psychedelic revolution culminated in the late 1960s under the aegis of such pop-culture figures as Timothy Leary, Ken Kesey, and the Beatles. Interest in psychoactive plants and shamanism has continued to grow and evolve, as exemplified in the broad popular appeal of authors such as Carlos Castañeda, Michael Harner, Andrew Weil, Wade Davis, and Terence McKenna.

More so than any other subfield of ethnobotany, pharmacology, or anthropology, the topic of ritually used psychoactive plants enjoys a wide readership beyond academic and scientific circles. In a globalizing world, where information about traditionally used psychoactive plants is widely disseminated in publications and on the internet; where seeds, seedlings, and extracts are sold or distributed, sometimes at the margins of the law; where indigenous practitioners interact ever more directly with tourists, consumers, and New Age spiritualists; and where a global “war on drugs” has blurred the distinction between dangerous narcotics and ritually used plants, harrowing issues have emerged surrounding the authenticity of traditional and not-so-traditional practices, the legality and safety of drug use, intellectual property rights over traditionally used psychoactives and their derivatives, and the right to the free practice of religion.

### **1.1. Definitions and Scope**

“In all things there is a poison, and there is nothing without a poison. It depends only upon the dose whether a poison is poison or not.” – Paracelsus.

Dosage is crucial in determining whether psychoactive plants have merely medicinal, mildly stimulating, mood-altering, powerfully consciousness-altering, or dangerously toxic effects. A dizzying profusion of terms has emerged to describe various types of natural and synthetic psychoactive substances and their effects on the human nervous system: intoxicants (producing intoxication), narcotics (literally, “to benumb,” i.e. resulting in a depressive state of the central nervous system), hallucinogens (generating hallucinations), psychotomimetics (chemically imitating the effects of psychosis), psychedelics (an etymologically flawed neologism supposed to mean “manifesting the psyche”), and others. The term entheogen (“generating the God within”) has gained popularity among scholars-cum-advocates of the religious and recreational uses of psychoactive plants. Drawing on traditional beliefs, some authors use the terms “plants of power” or “plants of the gods.” In any event, none of the terms fully describes the broad range of effects that psychoactive plants have on the human mind and body, including visual and auditory hallucinations, other sensory distortions, mood alterations, enhanced social interactions, personal and spiritual insights, bodily purging, physical and psychological healing, and in some cases, mystical or ecstatic religious experience.

Psychoactive plants and substances can be divided into three broad classes, corresponding to their general effects on the central nervous system: stimulants such as cocaine, caffeine, and nicotine, which excite the nervous system; depressants such as opium, alcohol, and kava-kava, which produce sedation; and hallucinogens such as

ayahuasca, peyote, and LSD, which induce profound alterations in consciousness, perception, and experience. These categories are not mutually exclusive, since some plants and drugs produce different effects depending on dosage, phase of intoxication, and mode of use: alcohol initially seems to act as a stimulant (by depressing behavioral inhibitory pathways), but the depressant activity sets in at higher doses and at later stages in inebriation; cocaine is a powerful stimulant, but can also be used topically as an anesthetic, a characteristic generally associated with depressants; though considered a stimulant, nicotine at high doses can produce trance and visions, effects characteristic of the hallucinogens; likewise, hallucinogens often have stimulating or depressant activity, depending on the specific drug, dose, and phase of intoxication.

Given the large number of known psychoactive plants and compounds, only a selection of the most important and representative examples is included. The main focus of this chapter is plant-based hallucinogens with long-established patterns of ritual use, however important plants belonging to other categories will also be considered. Synthetic compounds are not addressed here, except insofar as these are relevant to the traditional psychoactive plants under discussion. For the major plants under discussion, an appendix is provided summarizing botanical names (including species authors), botanical families, region and mode of traditional use, principal active components, and modern biomedical uses (see Appendix 1). For clarity and ease of reference, species authors are omitted in the main text, except for those plants that are mentioned only in passing and not included in the appendix.

The most widespread mind-altering drug in human history is ethyl alcohol or ethanol, produced during the fermentation of plant sugars by naturally occurring airborne yeasts. Alcohol has played an important role in diverse religious and social contexts throughout human history and across the globe, for example, in initiation rites, religious rituals, social celebrations, courtship practices, preparation for warfare, and sealing economic or political contracts. However cultural uses and attitudes towards alcohol vary tremendously. In some cultures, religions, and historical moments, alcohol use has been strictly prohibited and severely punished. Depending on the cultural setting, excessive use of alcohol may result in debilitating psychological, social, and economic consequences. Since the Middle Ages, state societies have attempted to regulate alcohol production and consumption through taxes, quality control legislation, restrictions, or outright prohibition. The temperance movement in USA flourished in the late nineteenth century, when widespread recognition of alcohol abuse as a serious problem synergized with moralistic Protestant religious fervor. The Prohibition Era was enacted in 1920 as the 18<sup>th</sup> Amendment of the Constitution, banning the production, distribution, and sale of alcoholic beverages. Ironically, Prohibition did little to diminish the nation's thirst for alcohol, though it did contribute to the phenomenal rise of bootleg liquor and organized crime. Prohibition failed miserably and was repealed in 1933, but Prohibition Era moralistic attitudes were quickly transferred to other drugs, notably cannabis, cocaine, and opium, associated with immigrant and minority populations such as Mexicans, urban blacks, and Chinese. Alcohol remains the sanctioned social drug of the West, despite considerable evidence that alcohol may be equally, if not more, addictive and deleterious to health and society than many illegal drugs. The cross-cultural study of alcohol use and abuse represents a complex topic worthy of a treatise unto itself, and is beyond the scope of this survey.

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#### **Biographical Sketch**

**Glenn H. Shepard Jr.** completed his undergraduate degree at Princeton in 1987 and his doctorate in Medical Anthropology at the University of California at Berkeley in 1999. He was a post-doctoral fellow in Botany and Ecology at the National Institute of Amazonian Research (INPA) in Manaus, Brazil, from 2000-2004, and currently has a research fellowship from the Leverhulme Trust in collaboration with colleagues in the Department of Biological Sciences at the University of East Anglia, U.K. He is also a senior research associate in the Department of Anthropology at the College of William & Mary. Shepard has conducted extended field research with diverse indigenous societies of Peru (1986-present), Brazil (1999-present), and Mexico (1992-1994), and has also worked among Jordanian Bedouins (1985) and hill tribes of northern Thailand (1993). Research interests include ethnobiology and cultural ecology; medical ethnobotany, ethnomedicine, and shamanism; health, demography, and the effects of Westernization on indigenous societies; and community-based management of natural resources. Recent publications include papers in *American Anthropologist* (2004), *Advances in Economic Botany* (2004), *Medical Anthropology Quarterly* (2002), and *Journal of Ethnobiology* (2001), as well as co-authored papers in *Science* (2004) and *Nature* (1998). He has also participated in the production of a number of ethnographic films and videos, including "Zapatistas: Voices on the Edge of Revolution" (with Thor Anderson; Best Student Film, Society for Visual Anthropology Film Festival, 1995) and the Emmy award-winning Discovery Channel film, "Spirits of the Rainforest" (1993). Shepard was raised in the Tidewater area of Virginia on the shores of the Chesapeake Bay, and currently resides in Manaus, in the heart of the Brazilian Amazon.