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PACIFIC INFORMATION SERVICE ON STREET-DRUGS

j.k. brown
m.h. malone: editors

VOL. FOUR NO. 1
The writings of Carlos Castaneda (1) have provoked renewed interest in the subject of solanaceous narcotics, but many modern readers remain unaware of the widespread use of such plant materials as intoxicants throughout most of recorded history. Various morphological parts, particularly roots, leaves, and seeds, of species of Atropa, Datura, Duboisia, Hyoscyamus, Mandragora, and Scopolia have been chewed, smoked, or drunk by individuals in all parts of the world for at least 5,000 years (2). Perhaps the earliest use of such materials was their addition to the weak and unstable fermented beverages of the time in order to increase their intoxicating properties.

Egyptian mythology records how the goddess Hathor set out to exterminate all mankind because of its sinful nature. In order to prevent this, Re, king of gods and men, decided to make Hathor drunk. For this purpose, he utilized a beer made from crushed barley which contained various additives including the fruits of mandrake (Mandragora officinarum). The goddess drank the brew and forgot all about her intention to eradicate the human race.

Fortification of beer by the addition of solanaceous herbs continued through the Middle Ages. The Chinese used stramonium (Datura stramonium) seeds; but in Europe, henbane (Hyoscyamus niger) seeds were more commonly employed. The widespread cultivation of henbane (Bilsenkraut in German) for this purpose accounts for the large number of European communities bearing such names as Bilsengarten, Bilsensee, Bilsen, and even Pilsen. The latter city is still closely associated with the brewing industry, and its name has become synonymous with a variety of beer. During the 16th and 17th centuries, regulations and laws began to prohibit the use of henbane seed as a beer additive, and the practice gradually died out.

Henbane is also intimately associated with Greek history, particularly with reference to the Oracles of Apollo. As a matter of fact, one of the names of the plant is Herba Apollinaris or Apollo’s herb (3). The most famous of these Oracles, situated at Delphi, was known as Pythia. Dressed in ornate robes, the priestess is said to have chewed “laurel” leaves while seated on a tripod over a fissure in the earth from which a vapor arose. During a trance-like state evidenced by her foaming mouth and convulsive twitchings, she would respond, usually ambiguously and through intermediaries, to questions concerning future events. Some authorities have attributed her physiological state to the nature of the inhaled vapors, but many believe that a better explanation lies in the supposition that the “laurel” leaves were henbane, the so-called herb of Apollo.
References to intoxication with solanaceous plants also occur in Greek mythology. Authorities (4) indicate that the wine of Circe which the sorceress used to turn Ulysses' men into swine was probably fortified with an extract of hyoscyamus. The common Greek name of the plant, pig bean, may indeed refer to this or to a similar incident.

Solanaceous narcotics have an age-old reputation as aphrodisiacs, and their use is vividly illustrated in the Old Testament tale of Rachel (5). The dudaim which Reuben found in the field and which permitted Rachel to fulfill her longfeded desire for children has been identified as the fruit of Mandragora officinarum. Kilmer (4) has pointed out that the essence of this story is found in the roots of the race and probably precedes its telling in Genesis by thousands of years.

Perhaps the most intriguing stories of these psychotropic plants concern the use of henbane, belladonna (Atropa belladonna), and stramonium as the active ingredients of the witches' ointments used particularly during the Middle Ages (13th to 18th centuries). A witch wishing to fly to the sabbat for purposes of intercourse with the devil had merely to strip herself naked and rub the green ointment over her entire body, including her anus and genitals. Then striding a broom stick, she was ready for the magical trip.

Conklin (6) notes that sufficient of the active alkaloids would be absorbed through the vaginal membranes to account for the commonly expressed sensation of flying. Further, the louse-bitten skin of a witch would probably provide more than ample absorption sites.

In addition to producing the sensation of flying, such ointments probably also account for the feeling of being transformed into an animal. Witches in Germany believed themselves changed into cats, rabbits, geese, and even werewolves by their use. Many of the witches' ointments contained, in addition to solanaceous plants, extracts of monkshood (Aconitum napellus). The initial stimulation of sensory nerve endings with associated tingling, which was produced by its contained alkaloid,aconitine, no doubt contributed to the sensation that hair or feathers were growing from the skin.

The use and abuse of solanaceous narcotics has continued down to the present day in both primitive and advanced societies. Australian aborigines, who failed to invent the wheel and whose only domesticated animal is the dog, use pituri (Duboisia hopwoodii) to provide a momentary escape from their harsh environment. Schultes (7) tells us that toloache (Datura species) is still employed in Northern Mexico, as well as in the American Southwest, where many Indian tribes use the plant parts in adolescent or divinatory rites. In 1968, the Food and Drug Administration ruled that all products containing stramonium could no longer be sold over the counter but required a physician's prescription. This was necessitated by the growing number of young people utilizing various preparations intended for the treatment of asthma as hallucinogens. Such "underground" publications as Herbal Highs by Mary Jane Superweed (8) devote considerable space to a discussion of the solanaceous narcotics, indicating a widespread interest in them at the present time.

The active principles of all these plants are a series of alkaloids, principally hyoscyamine, its isomer atropine, scopolamine (also known as hyoscine), and the anhydride of atropine (apoatropine) and its stereoisomer, belladonine. Chemically, they are all tropine derivatives and esters. In medicine, atropine is used primarily for its peripheral action which produces parasympathetic nervous system inhibition. It is thus effective as a mydriatic (dilator of the pupils of the eye), an antissalagogue (an agent stopping the flow of saliva), and an antispasmodic (a drug that relaxes the spasmss of smooth muscle). The latter action induces relaxation of peripheral blood vessels and causes a red flushing of the skin (erythema). Local applications also induce a slight paralysis of sensory nerves, thus easing pain. Centrally, it acts to excite, then to paralyze, certain cerebral and medullary centers. This accounts for its narcotic or psychotropic effects. Hyoscyamine and scopolamine are both cerebral sedatives -- the latter producing a kind of "twilight sleep" which was once used extensively in medicine for its quieting and calming effects.

Effective hallucinogenic doses of the solanaceous alkaloids are large enough to induce toxic effects including hyperpyrexia (high fever), accelerated pulse, mydriasis, confusion, delerium, and bizarre neurological symptoms. Most users do not experience a state of well being with associated (apparent) insight or understanding, but instead exhibit symptoms of disorganization and intoxication. These are so severe that observers will often seek medical attention for the drug taker. For these reasons, the solanaceous narcotics are classified as undesirable and relatively dangerous psychotropic agents.

Professor of Pharmacognosy and Dean, School of Pharmacy and Pharmacal Sciences, West Lafayette IN 47907.

REFERENCES
(5) Gen. 30: 14-17.
(7) P. K. Schultes and R. A. Fleming, Author's address.
Editorial Note: Amateur experimentation with the solanaceous narcotics is considered to be especially dangerous. Plant sources contain various mixtures of the alkaloids. The amounts of active ingredients can vary with the plant part used, the growing conditions and geographic locale, and finally whether the plant material is used freshly picked or in a dried form. The alkaloids are very potent in that very little of the pure material goes a long way. In addition, there is a very narrow safety margin between the intoxicating dose and the lethal dose for these compounds. Mild intoxication can occur with as little as 1 mg of atropine and fatalities have occurred in susceptible individuals with as little as 3 mg. Fifty mg of atropine is considered as the average fatal dose in humans (10). The average fatal dose of scopalamine (hyoscine) is only 8 mg. A few teaspoons of Atropa belladonna and a half-spoonful of seeds of Datura stramonium have caused death (10). In addition, there is no really effective and specific antidote for overdosage with the solanaceous narcotics. The antidote of choice at the absence of saliva, and the dilated pupils (non-responsive to light) used the result will be fatal since they synergize with the solanaceous narcotics.


Pacific Information Service on Street Drugs

Volume 4 no. 1
November 1974

Editorial Addition: If further reading is desired, the following chapter (57 references) is recommended.


Editorial Addition: Rationale for publication of the symposium was to bring together representatives of various disciplines, to share their experiences in the area of street drugs, to determine what has been accomplished by such activity and to look toward appropriate goals and objectives in this area for future activity.

The following papers appear in this volume:

1. A Drug Abuse Program - Three Years Later
   J. C. Brown and M. H. Malone

2. A Multidisciplinary Approach to the Study of Drug Abuse
   E. C. Griffiths

3. The Educational Program: What Now?
   E. E. Allard

4. Street Drug Information for Health Care Personnel: A Preliminary Report
   J. A. Mannix and K. W. Walker

5. The Normal Use of Psychological Drugs
   D. J. M. McNeil

6. A Concept of the Culture of Street Drug Abuse
   R. M. Miller

7. The Concept of Counter-Culture Street Drug Abuse Programs
   D. J. Smith

Vol. 1

Street Drug Analysis and its Social and Clinical Implications (129 pp.)

Editor: Joan A. Marshman, Ph. D.
Publication date: August 1974
P-224 Soft cover $5.50  P-225 Hard cover $8.00

With the increasingly widespread non-medical use of psychoactive drugs, the past several years have seen the realization that drugs purchased 'on the street' do not always contain the pharmacologically active material allegedly to be present. As a result, various types of street drug analysis facilities have evolved in North America and Europe, focusing their efforts toward one main objective: such as clinical care, research and patterns of drug use, education of drug users, the public or health care personnel, and facilitation of the research. This symposium was intended to bring together representatives of various disciplines, to share their experiences in the area of street drug analysis, to determine what has been accomplished by such activity, and to look toward appropriate goals and objectives in this area for future activity.

Vol. 2

Social Aspects of the Medical Use of Psychotherapeutic Drugs (180 pp.)

Editor: Ruth Cooperstock
Publication date: November 1974
P-226 Soft cover $8.00  P-227 Hard cover $10.00

The Symposium was co-sponsored by the Addiction Research Foundation of Canada and the Federal Government of Canada represented by the Non-Medical Use of Drugs Directorate, Health Protection Branch, Health and Welfare Department.

THE OBJECTIVE of the Symposium was to bring together senior scientists, distinguished in their field, for the purpose of sharing information with their colleagues, determining what has been achieved, and considering future courses of action.

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