

Review of: "Sacred Plants and Their Miraculous or Healing Properties"

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Potential competing interests: No potential competing interests to declare.

REVIEW OF SUBMISSION TO QEIOS: *SACRED PLANTS AND THEIR MIRACULOUS AND HEALING PROPERTIES*

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The submission is a nice review of plants considered sacred by traditional people. The influence of these plants in the past and present has been recognized by experts from several areas of study. Several attributes have been given to these species, such as “plants of the gods,” “power plants,” “teacher plants,” and “entheogenic plants.” They have psychoactive effects due to some of their chemical constituents, most of them alkaloids. The paper reviews the effects and influence of several plants on traditional and present-day societies. Emphasis is given to two plants, namely, mandrake and peyote, assumed as models of sacred plants in the Old and New World, respectively.

The submission is a long, detailed, and interesting paper, covering the uses of plants by traditional societies, which regarded them as possessing particular virtues through which humans were able to make contact with divinity and acquire power. The paper gives a detailed account of historical aspects and the involvement of the plants in traditional practices, including rituals in religious ceremonies and the treatment of diseases. The paper gives greater attention to the effects of mescaline from peyote in America and to the tropane alkaloids of mandragora in the Old World. A review is provided of recent research about the pharmacological effects of the substances, including the utility of peyote chemicals in psychiatry. The spread of recreational and ceremonious uses of these plants and their isolated constituents by present-day people is also covered in the paper.

The content of the paper is worth publishing. Certainly, a wide audience of people from several fields of interest will benefit from the publication.

Before final acceptance, several alterations need to be implemented in the paper. A list of suggestions is given below, aiming to improve the quality of the paper.

1. The English text needs to be revised, aiming to correct errors, typos, and improve reading fluidity. Just to give an example regarding lack of reading fluidity, attention is called to the three first lines of item 1.1. In an attempt to read these few lines, the reader bumps upon such a long series of commas that the understanding of the text becomes hard to apprehend.
2. Plant scientific names: a) In several parts of the text, the specific epithet *williamsii* is written with an uppercase initial;

for example, *Lophopora williamsii* (p. 45); specific epithets must be graphed with lowercase initials; b) Another nomenclatural rule establishes that both generic and specific epithets must be written in italics; thus, on page 13, *Piper betel* should be corrected to *Piper betel*.

3. Several figures presented in the paper are not cited in the text.
4. In the paper, it is claimed that Coca-Cola was first introduced in 1800; this is not correct; the product was introduced in 1886.
5. Cytisine – this alkaloid is, in fact, not related to nicotine; it is a quinolizidine alkaloid.
6. In the discussion about mandrake, the text says that its underground part is a root; this is not correct – it is a tuber (and underground stem).
7. Caution is recommended when writing about psychoactive plants. The text on pages 40-41, saying that “Their sacred substances bring knowledge, power, healing, and mystical insight...” may be interpreted by readers as benefits available to anyone. The sentence may be interpreted as an encouragement to the unrestricted use of the plants. Although the overall context of the paper is that these benefits become available after long experience with the plant, the text on pages 40-41 may be misinterpreted by readers and may encourage them to make use of the plants. It is suggested that the authoress reflect about the convenience of rephrasing this part of the text.
8. Actually, caution against the indiscriminate use of mescaline is recommended on page 57, which mentions the risk of “bad trips”. But a few lines below, the text recommends people “to consume it in a group, together with people who can help relax and reassure users.” This part of the paper may be interpreted as a sanction, by a scientist, of the consumption of mescaline by ordinary people. It is suggested again that the authoress reflect about the danger of misinterpretations of the content of her paper.
9. Hordenine, page 55. This substance is, in fact, not “an antibiotic”. It has no properties to act against microorganisms. Instead, it is widely used as a nutritional supplement.
10. The paper is not an article with original results derived from experimental procedures developed by the authoress. It is a long and interesting review of psychoactive plants and their chemical constituents. Thus, a section “Materials and Methods” is not appropriate. In continuation, an alternate division of the paper is given for consideration by the authoress: 1. Introduction; 2. Psychotropic plants and effects: terminology; 3. Historical aspects; 4. Psychotropic plants: diversity and geographic distribution; 5. Mandrake; 5.1. Botany and history; 5.2. Medicinal properties; 5.3. Association with mystical and divine; 6. Peyote; 6.1. Botany, history, and properties; 6.2. Ecology and conservation; 6.3. Chemical composition, psychotropic properties, and pharmacology; 6.4. Ritual practices; 6.5. Influence in arts and psychiatry; 6.6. Diffusion and pilgrimage: Real de Catorce; 7. Conclusions.