



PEYOTE POPULATION GENETICS STUDY

*Martin Terry, Ph.D., Department of Biology, Texas A&M University
(mterry@txcyber.com)*

Peyote is becoming scarce in areas of South Texas where it was once abundant. Native American Church (NAC) leaders are finding it increasingly difficult to obtain adequate supplies for their church meetings, and even when they succeed, the peyote buttons are smaller and the price is higher. Why is this happening?

The dwindling of peyote populations is in part attributable to agricultural practices such as rootplowing, which totally annihilates populations of peyote and other plants, and permanently destroys the habitat by converting it into “improved” pasture.

Almost as damaging is improper harvesting by the agents of the peyoteros who are licensed to collect and sell peyote to members of the NAC. “Proper” harvesting means cutting off the consumable crown (or head) of the cactus at ground level, leaving the root intact to sprout one or more “pups” that will grow into new adult crowns over a period of a few years. But some of these contract peyote harvesters are digging whole peyote plants up by the roots, which the peyoteros then cut off and discard (or give to their customers as lagniappe, to be used for making tea). This practice obviously precludes regeneration and any subsequent production from the uprooted plants. Replenishing the dug-up population by seed is also difficult; peyote is an extremely slow-growing species, and it may take a peyote plant ten years from germination to reach a harvestable size under natural conditions.

The harvesting of peyote for illicit use almost certainly occurs, as well, but because it is illegal, it is also unregulated. There are no records to provide quantitative data, so its extent is unknowable.

The other major source of depletion is chronic over-harvesting. Faced with steady to increasing demand for peyote by the NAC, and a decreasing number of ranchers willing to lease peyote harvesting rights, the peyoteros or their agents are returning too soon to harvest peyote from ranches where they harvested previously, without waiting for adequate regrowth to occur from plants that were properly harvested the last time. The visible result of this hurried reharvesting at ever-smaller time intervals is that the peyote buttons offered for sale by the peyoteros have markedly decreased in size in recent years. The more subtle result of this repeated too-frequent harvesting is that eventually the rootstocks of the peyote plants are exhausted, and no further regeneration of new sprouts occurs – the plants simply die.

Is there a solution to this problem in sight? There are as yet no U.S. regulations to



“There are as yet no U.S. regulations to protect peyote as a species, as it does not (yet) meet the criteria of the Endangered Species Act for ‘threatened’ or ‘endangered’ status.”

protect peyote as a species, as it does not (yet) meet the criteria of the Endangered Species Act for “threatened” or “endangered” status. But if the current trend continues, there will inevitably be calls for a regulatory assessment by the U.S. Fish & Wildlife Service (FWS). At that point, the inevitable questions the FWS will ask include:

- What do we know about the number, location, size, and age distribution of peyote populations (in both the U.S. and Mexico)?
- What do we know about the genetic diversity of those populations, and is there a difference in genetic diversity between “healthy” populations and overharvested/decimated ones?
- What do we know about the breeding system of peyote, and what are the implications for recovery of “ailing” populations and for the reintroduction of peyote into its historical habitat from which it has been extirpated?

At our lab at Texas A&M we are currently conducting a population genetics study to address these very questions, using repeating sequences called microsatellites in peyote DNA as genetic markers, and examining representative populations of peyote from all parts of its geographic range. Based on the observation that effective regulations are based on good science, the practical purpose of our study is to have the relevant data already in hand when such data are requested for regulatory decision making.

Donations are needed to complete this study, and can be made through MAPS. Readers interested in the conservation of peyote can learn more about this study by contacting Martin Terry for further details: (254) 746-7968, mterry@mail.bio.tamu.edu. ■

Deep Spirit & Great Heart: Living In Marijuana Consciousness By Louis Silverstein, Ph.D.

“A first-person account, of thoughtful, healing, sensuous and provocative journeys into the earthly and spiritual aspects of awakened existence and being while under the influence of cannabis sativa. Captured in words by Ganja and given to Louis to be the journal keeper, we read of a plant teacher used to reveal multiple realms of consciousness and to make of life a rapturous experience. Journal entries relating insights into life’s challenges and possibilities and that describe a joyous daily existence, awareness of eternal truths, ecological wakefulness, sexual ecstasy and spiritual enlightenment are to be found as we read of Ganja’s travels into the land of Great Spirit & Deep Heart.

Highly crafted tales of respectful and disciplined use of marijuana reveal ‘heaven’ to be neither destination nor place, but a state of consciousness. Written in such a manner to appeal to both marijuana aficionados and to the general public, it is intended to promote dialogue on the role of marijuana in contemporary culture within the context of divergent and alternative views that serve to take to task the oppressive and dysfunctional ‘Say No Or Say Nothing’ societal dictum imposed by the drug war establishment being essential to the spirit and practice of freedom of expression and enlightened discourse on the subject of mind expansion.”

To Order: www.amazon.com, www.borders.com or www.barnesandnoble.com. Also, the author discusses his work in an online video at <http://www.pot-tv.net/archive/shows/pottvshowse-1771.html>