

PROFESSIONAL ETHICS AND ETHNOPHARMACOLOGY

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Keywords: research ethics, cultural knowledge, genetic resources, Indigenous rights, community protocols, ethnopharmacology, medicinal plant research.

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Summary

The intellectual and methodological plurality of ethnopharmacology poses a variety of theoretical and practical challenges. One of these is developing a sense of cohesion among researchers with such diverse sub-specialties as anthropology, natural products chemistry, and comparative religion. Sharing a common applied goal, and some fundamental principles to uphold in achieving that goal, are unifying aspects of any group. But defining a research ethic and level of professional responsibility that work for all members is challenging in today's complex ethical and legal climate, especially for research involving biodiversity and the medicinal knowledge of Indigenous or traditional peoples. This chapter critically examines the state of research ethics and professional responsibility in ethnopharmacology. Published sources and publicly available materials are drawn upon to construct an understanding of current thinking on the topic, identify issues and challenges, and offer considerations for the future of the discipline. Both *internal* standards (moral obligations widely agreed within the field), and *externally* imposed standards (by regulatory bodies, national governments, international environmental and human rights laws, and community protocols) are considered. The latter includes approvals, permissions and permits related to

documentation of cultural knowledge and genetic resources, compensation, benefit-sharing, credit and rights issues, and community protocols. There is an expectation that today's ethnopharmacologists have an understanding of the ethical, legal, ecological, sociocultural and sociopolitical aspects and implications of their work. There also is significant pressure from governments, interest groups and stakeholders to build equity into research relationships, especially given widespread accusations of "biopiracy" and "cultural appropriation". With increased effort to develop a more unified collective perspective, ethnopharmacologists, as brokers of knowledge and agents of change, are well-positioned to be leaders in developing ethical and equitable research practices, if these are based on agreed values and terms that are co-defined with involvement and due respect for all stakeholders.

1. Introduction

Ethnopharmacology is a convergence of diverse disciplines, spanning natural and social sciences and the humanities. Such interdisciplinarity is vital to meet the primary objective of ethnopharmacology, which is to seek a comprehensive understanding of traditional medical systems. Intellectual and methodological plurality, however, also pose a variety of theoretical and practical challenges. One of these is developing a sense of cohesion among researchers with such diverse sub-specialties as anthropology, natural products chemistry, and comparative religion. Sharing a common applied goal and some fundamental principles to uphold in achieving that goal are unifying aspects of any group. But defining a research ethic and level of professional responsibility that work for all members of a diverse group can be particularly challenging in today's complex ethical and legal climate, especially for research involving biodiversity and the medicinal knowledge of Indigenous or traditional peoples.

In addition to their disciplinary expertise, there is an expectation that today's ethnopharmacologists have an understanding of the ethical, legal, ecological, sociocultural and sociopolitical aspects and implications of their work—a tall order, especially as few individuals are truly interdisciplinary in their training. In most cases, ethnopharmacological research is carried out by teams of individuals with specific types of expertise that, only when combined, cover the scope of the discipline. Professor Nina Etkin has argued that ethnopharmacology must achieve an *integrated*, not just interdisciplinary approach. She has pointed out that few researchers spend time with the local people who provide medicinal information, or in the ecological settings where biological materials are collected for laboratory testing. A lack of direct interaction with these human and biological communities makes it difficult to understand in any meaningful way the broader contexts that are essential to a truly integrated ethnopharmacology, or the wide-ranging and complex issues that can arise from ethnopharmacological research.

Ethnopharmacologists are intermediaries between scientific and Indigenous cultures, catalyzing change and facilitating appropriation of genetic resources and cultural knowledge. While ethnopharmacology is primarily academic in nature, it is well established that academic data often flow into the private sector for commercial purposes. Well-known ethnobiologist, author and Indigenous rights advocate, Dr. Darrell Posey (1947-2001) has argued that a lack of relationship between researchers

and traditional knowledge holders facilitates commodification of the sacred. Posey challenges ethnopharmacologists to develop higher levels of awareness and commitment to respect and protect Indigenous rights and cosmologies in research. In a 2002 article published in the *Journal of Ethnopharmacology*, he explains the potential harm in ignorance: “the plant, animal, or crystal that an ethnopharmacologist wants to collect may, in fact, encompass, contain, or even be the manifestation of an ancestral spirit—even the healer’s grandmother”.

While many researchers and research institutions go to great lengths to develop equitable partnership arrangements and follow ethical principles, the extent to which individuals can go is partly limited by their awareness and understanding of the issues. Like all biodiversity research involving cultural knowledge, ethnopharmacology operates within the hazy interface of ethical and legal realms. Researchers are expected to address complex, value-laden and politically-charged issues, such as prior informed consent, access and benefit-sharing, and intellectual property ownership. Few scientists have the expertise to deal with these issues, and many institutions do not provide expert assistance unless or until there is a commercializable product involved. Choices among conflicting obligations require a balancing of diverse interests and stakes in the research, sometimes leading to serious dilemmas for researchers. What guidance is available to ethnopharmacologists in these situations, and what support from their colleagues can individuals expect if their work is (legitimately or not) subjected to suspicion or serious criticism from outside the field? Adhering to an agreed set of fundamental principles and practices to direct research choices is one way to both protect and guide members of the group.

Given the scale and intensity of debate over rights to medicinal plant knowledge and resources during the last couple of decades, it is time for a critical evaluation of the state of research ethics and professional responsibility in ethnopharmacology. Since the 1990s, extensive international attention directed at “bioprospecting” and “biopiracy” has elevated biodiversity research, especially that involving medicinal plant knowledge, to new levels of social awareness and criticism. Controversies have led to collapse of multi-million dollar projects, polarization of scientists, and crystallization of new standards for research and development and biodiversity protection. While to the ethnopharmacologist, ethnopharmacology is not equivalent to bioprospecting, the difference appears small to most of civil society, including many Indigenous groups who have spoken out against appropriation and commodification of their traditional knowledge and resources. In a report for the WWF-World Wide Fund for Nature called *Ethics, Biodiversity, and New Natural Products Development*, Dr. Anthony Cunningham has made the point that “ethical changes arise out of crisis, and professional ethics are no exception”. In some ways, the bioprospecting/biopiracy discourse has brought a crisis upon ethnopharmacology. But so too has it also brought an opportunity to address the complex of ethical, legal, social and political issues that can no longer be ignored by researchers and their sponsoring institutions. Where does ethnopharmacology stand?

This chapter takes a reflective view of the discipline to examine critically the state of research ethics and professional responsibility in ethnopharmacology. A diversity of published sources and publicly available materials are drawn upon to construct an

understanding of current thinking on the topic, identify issues and challenges, and offer considerations for the future of the discipline. Both *internal* standards (moral obligations widely agreed within the field), and *externally* imposed standards (by regulatory bodies, national governments, international environmental and human rights laws, and community protocols) are considered.

The following section begins with clarification of some terms and assumptions as they are used in this work, first examining what is meant by “profession” and “ethics” to understand what is meant by professional ethics, and then exploring the relevance to ethnopharmacologists.

2. What are Professional Ethics?

The term *profession* is used in various ways, but usually with reference to a vocation or calling that involves advanced learning, specialized training and commitment to a social good. At one end of the spectrum are the medical, legal, education and engineering professions, which have highly regulated and self-disciplining memberships through licensing, and sanctioning mechanisms. Typical aspects of these professions include monopoly control of a service in a society in exchange for which a society demands adherence to certain values. Certain ethical expectations thus follow from the professional role itself. Many people also consider the scientific community as a group of professionals (although in a less strict sense of the word) who have a professional responsibility to use their specialized knowledge and skills for social good. Many sub-groups within the scientific community that are formally organized into associations consider themselves as organizations with professional obligations (e.g. anthropologists).

For our purposes, a profession is a collective of individuals with specialized training, skills and knowledge who share a common occupation and voluntarily organize their occupation to serve a moral ideal and work in a morally permissible way. The term also signals competence and trustworthiness because the organization must set standards beyond what the law, market and ordinary morality would generally require. Ethical standards of a profession are typically thought to give rise to obligations and virtues that do not apply to others outside the professional role. These standards are morally binding on every member of the profession simply as a result of membership in the profession.

The term *ethics* also has several meanings. In one sense, it is a *synonym* for morality, with both words deriving from root words for “custom”. Morality here is seen as largely inherent in cultures and societies so the set of moral standards shared by most members of a culture or society is referred to as “common morality”. Examples are “do not harm others” and “do not lie”. Ethics is also a field of philosophy that seeks to subject commonly accepted moral beliefs and customs to rational critique. Philosophers have elaborated numerous ethical theories that provide frameworks for evaluation of moral judgments, moral character and acceptability of actions. The sense most relevant to this chapter, however, is ethics as a morally-permissible standard of conduct that governs members of a group organized as a profession. Ethics, in this sense, is about seeing problems and enacting mechanisms (frameworks of principles and rules) to allow address of those problems

Based on the above definitions, *professional ethics* can be described as a special set of standards that apply especially to one's role as a professional, and to which all members of the profession are morally bound. A "code of ethics" is often a key component of professional ethics, providing principles and rules for decision-making and conduct. Professional ethics must be compatible with common morality, yet are more than common morality. That said, ethical standards of different professions and associations are diverse, and might more accurately be envisioned as a spectrum. Some standards are simply interpretations and applications of common morality for the specific details of the particular occupational group; others convey an elevated consciousness and sense of responsibility about the professional endeavor as well as its broader positive and negative impacts on wider society and the environment.

Ethnopharmacologists are increasingly viewed as a group with professional responsibilities yet the extent to which ethnopharmacology should be considered a profession is unclear. An understanding of the occupation and the moral ideal that binds ethnopharmacologists together is required. Likewise, characterizing the professional ethics of ethnopharmacology requires deciphering the special standards that apply to the collective group. None of these is straightforward, as discussed in the following sections.

2.1. Ethnopharmacology as a Profession

Ethnopharmacology is defined in this Theme as the interdisciplinary scientific investigation of health related practices and biologically active substances utilized by humans. Ethnopharmacology draws upon components from a diversity of fields across the natural and social sciences (e.g. botany, natural products chemistry, pharmacology, pharmacognosy, anthropology, nutrition, medicine, and the comparative study of religions) in search of a comprehensive understanding of traditional medical systems. Because of the disciplinary expansiveness of the field, it is not possible for all ethnopharmacologists to share the same day-to-day occupation in a strict sense, i.e. the work of a cultural anthropologist is quite different from that of a natural products chemist. The nature of the discipline requires the maintenance of several sub-specialties, otherwise the breadth of the research would not be possible; 'occupational unification' is accomplished through the purposeful integration and synthesis of sub-specialties toward a common purpose, i.e. a holistic understanding of traditional medical systems. Whether or not ethnopharmacologists typically achieve the level of integration required for a comprehensive understanding is debatable; in most cases to date this is probably not so, but this aspiration is a defining feature of the discipline.

Is it important that ethnopharmacology be viewed as its own profession? Ethnopharmacologists are already a subset of the larger profession of scientists (natural and social) who share a commitment to extend human knowledge of the physical, biological or social world. At this broad level, scientific ethics and responsible research conduct are well established; they also largely define and perpetuate the institution of science, especially as an academic endeavor. These fundamental principles and their implementation include:

- Reproducibility and scientific validity, which are contingent on defined methods for experimentation and treatment of data.
- The integrity of the scientific process, which requires avoiding bias and conflicts of interest.
- The quality of science, which depends on sharing knowledge through publication and openness.
- Proper attribution in citing other's work and in determining authorship, which are essential mechanisms for credit and accountability.
- Ethical treatment of human participants in research.

To a large degree, the science profession tolerates and has mechanisms (such as peer-review) to internally mediate unintentional errors or negligence in the above. Scientific misconduct, on the other hand—particularly deception (i.e. fabrication, falsification or plagiarism)—is seen as antithetical to scientific values, with potentially devastating consequences for those who engage in such ethical transgressions.

Does the general level of ethical standards for science meet the needs of ethnopharmacologists? General scientific ethics are built upon the pursuit of knowledge as a fundamental value. They go beyond common morality, but do not provide any contextual guidance for researchers within their field of specialty. This may be adequate for some sciences but not others. For example, another layer of ethics is particularly important for research outside the physical laboratory sciences that extends into the field and is more directly engaged with the biological or social worlds. Unlike many other disciplines of scientific research, ethnopharmacology involves both field and laboratory contexts *and* is integrally involved with both biological and social realms. This creates a level of complexity for ethnopharmacologists that merits careful consideration about research processes and outcomes.

Does it make sense on practical and/or philosophical grounds to treat ethnopharmacology as a subset of the general scientific community that requires a special set of additional standards related to the biological and sociocultural contexts of ethnopharmacological research? Or is this reinventing the wheel? There is already a wealth of professional standards for associations developed within related disciplines, ranging from cultural anthropology to ethnobiology to natural products chemistry. Many of these standards are specified in *Codes of Ethics*, such as those of the American Anthropological Association, International Society for Ethnobiology, Society for Economic Botany, Society for Conservation Biology, Society for Environmental Toxicology and Chemistry, American Institute of Chemists, and American Chemical Society.

Some relevant professional societies that do not have *Codes of Ethics* have instead used guidelines, position papers, or resolutions to set out collective views and recommendations. For example, the American Society for Pharmacognosy has adopted membership *Guidelines for Interactions with Source Countries*, which consider issues related to consent, compensation, conservation, and the rights of Indigenous communities. A technical report on medicinal chemistry prepared by the International Union of Pure and Applied Chemistry considers issues such as access, benefit-sharing and intellectual property rights in relation to use of biodiversity for natural products

development. Position statements of the American Folklore Society on ethics and human subjects outline specific responsibilities to protect the welfare of participants in ethnographic research. The International Chemical Society has adopted conservation and reciprocity-based principles embodied in its *Göteborg Resolution*.

Some individually-authored documents containing ethical guidelines prepared on behalf of, or endorsed by, professional societies or organizations are also relevant to ethnopharmacology. Two well-known examples include *Suggested Ethical Guidelines for Accessing and Exploring Biodiversity* prepared as a Pew Conservation Scholars Initiative by Anil K. Gupta and *Ethics, Biodiversity, and New Natural Products Development* written by Anthony B. Cunningham and endorsed by the International Society of Ethnobiology. Many other codes, guidelines, standards, statements and declarations that are highly relevant to ethnopharmacology have also been developed by concerned scientists, Indigenous groups, non-governmental organizations, governments, industry, or a combination of these sectors.

While the above examples are not meant to provide a comprehensive list, they do reveal a plethora of existing documents that offer guidelines diverse enough to span the range of sub-specialties found in ethnopharmacology. Should ethnopharmacologists simply draw upon these existing sources, as appropriate to their sub-specialties, to guide their professional conduct? Reframed, the question is whether existing frameworks meet the needs of ethnopharmacology and serve the moral ideal that binds ethnopharmacologists together as a professional group. Answers are explored in the following sections.

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Biographical Sketch

Kelly Bannister is Director of the POLIS Project on Ecological Governance and Adjunct Professor in the School of Environmental Studies at the University of Victoria (Victoria, B.C., Canada). She has B.Sc. and M.Sc. degrees in Microbiology/Biochemistry and a Ph.D. in Ethnobotany/Medicinal Plant Chemistry. Her main interests are in research ethics and Indigenous intellectual property and cultural heritage rights in research involving biodiversity and traditional knowledge. She is actively involved in both ethnobotanical field research, education and policy analysis, and works with several First Nations and treaty groups in British Columbia. She is particularly interested in institutional policy development for collaborative research between universities and Indigenous communities. Her current work explores ethical issues in community-based research and community protocols as a tool for facilitating equitable research practices. She has authored several journal articles, book chapters and reports and given many presentations on ethical and legal issues in ethnobotanical research. She is currently chair of the Ethics Committee of the International Society of Ethnobiology, a member of the Research Ethics Board of the University of Victoria, and a member of the national Aboriginal Ethics Working Group of the Canadian Institutes of Health Research that developed the new CIHR Guidelines for Aboriginal Health Research in 2007 (<http://www.cihr-irsc.gc.ca/e/29134.html>). She is a collaborator on several federally-funded research projects, including the Project for Protection and Repatriation of First Nation Cultural Heritage (<http://www.law.ualberta.ca/research/aboriginalculturalheritage/>), the Clayoquot Alliance for Research, Education and Training (<http://www.clayoquotalliance.uvic.ca/>), the Coasts Under Stress Project (<http://www.coastsunderstress.ca>), the Ethics of Cultural Appropriation Book Project, and the Intellectual Property Issues in Cultural Heritage Project (<http://www.sfu.ca/IPinCulturalHeritage/Welcome.html>).