



ETHNOMYCOLOGY ETHICAL GUIDELINES

THIS DOCUMENT STATES THE ETHICAL PRINCIPLES THAT GUIDE THE FUNGI FOUNDATION, ALONG WITH THE PRACTICAL GUIDELINES FOR ITS DIFFERENT ACTIONS. THIS SET OF ETHICAL GUIDELINES WAS DEVELOPED TO PROVIDE A FRAMEWORK FOR DECISION MAKING AND TO SERVE AS A GUIDE FOR CONDUCTING OUR ETHNOMYCOLOGICAL RESEARCH IN A RESPONSIBLE, RESPECTFUL, AND TRANSPARENT MANNER. THEIR CREATION REFLECTS OUR COMMITMENT TO CARRYING OUT THIS WORK WITH A CLEAR AND CONSISTENT ETHICAL FOUNDATION.

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Acknowledgements

We respectfully acknowledge that the foundations of ethnomycological research lie in ancestral knowledge, practices, and worldviews developed, maintained, and transmitted by Indigenous Peoples, Afro-descendant communities, traditional societies and local communities. This knowledge is their intellectual and cultural heritage, and they are its rightful creators, holders, and stewards. This work is dedicated to them, in recognition of their profound contributions and their role in sustaining biocultural diversity. We also thank the researchers, universities, institutions that support the ethical documentation and dissemination, and non-extractive practices. Ethnomycology thrives when it is carried out in dialogue with communities, under principles of reciprocity, mutual respect, and co-production of knowledge.

We also acknowledge that the loss of traditional mycological knowledge is inextricably linked to the loss of biological diversity and vice versa, and that biocultural diversity is a key to retaining this knowledge. We want to explicitly recognize the continuing destruction of ecosystems throughout the world and its devastating biological and human implications. The knowledge underlying the resource management practices of the world's Indigenous Peoples, Afro-descendant communities, traditional societies and local communities is directly tied to the maintenance of biological diversity.

A Note On The Origin Of This Document

The Fungi Foundation is a global organization that focuses on the importance of fungi as major representatives of biodiversity, on increasing knowledge of their diversity and ecological roles, promoting innovative solutions to contingent problems, educating people about their importance and their current and ongoing applications, as well as recommending public policy for their conservation.

The importance of the evolutionary relationship between fungal organisms and humans is still being unveiled and yet, what we know of this relationship is of inestimable value. It is fundamental to humankind's future generations. Ethnomycology is the study of the sociological impact and historical uses of, and relationships with, fungi by peoples of different ethnicities, races or nationalities. It can be considered a subfield of ethnobiology, which is the study of the interactions among people, organisms, and culture. According to Stamets (2000), the use of mushrooms by humanity extends back to Paleolithic times. While ethnomycology focuses on the connections and phenomena occurring in the relationship between fungi and humans, as a Foundation, we also recognize the interactions of fungi with other plant and animal species.

The ethnomycology of Indigenous Peoples, Afro-descendant communities, traditional societies and local communities comes hand in hand with the rich traditional ecological knowledge that they have accumulated over thousands of years. Based on La Duke's (1994) definition of "traditional ecological knowledge" as how Indigenous Peoples relate to their ecosystems in culturally and spiritually based ways, we wish to respect, preserve, and restore this knowledge, together with the fungal organisms and the ecosystems in which they live. The recognition of this deep ancestral relationship between fungi and other organisms, whether the details are known or not, is fundamental for the preservation and/or conservation of Earth's ecosystems.

At the Fungi Foundation, we acknowledge that vast areas of wild ecosystems worldwide have already been irreversibly altered or destroyed or are severely threatened. These losses not only lead to the disappearance of habitats and species but also to the loss of the ancestral knowledge of Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities: wisdom built and passed down through generations from a deep relationship with the land and the necessity of living from it. Therefore, the Fungi Foundation is committed to preserving and revitalizing the ancestral knowledge of fungal use and human relationships with fungi around the world and recognizing this critically important wisdom through the projects to be carried out.

Furthermore, we are aware that in the past some research has been undertaken without the sanction or prior informed consent of Indigenous Peoples, Afro-descendant communities, traditional societies and local communities and that such research may have caused harm and adversely impacted their rights. We are committed to working in genuine partnership and collaboration with these communities to avoid perpetuating past injustices and build towards developing positive, beneficial and harmonious relationships in the field of ethnomycology.

Introduction

The Fungi Foundation’s Ethical Guidelines provide a framework for ethical decision-making and conduct in ethnomycological research carried out in collaboration with Indigenous Peoples, Afro-descendant communities, traditional societies and local communities. These guidelines apply to the current and future projects and related activities of the Fungi Foundation. Importantly, this document represents the first ethical guidelines developed specifically and exclusively for work focused on the relationships between humans and fungi, marking a historic step in the recognition of fungal knowledge systems and those who safeguard them.

Building on this foundation, we hope that this document will not only be useful for those conducting ethnomycological research, but also for Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities who choose to share their knowledge about fungi and their surrounding environments. This framework may serve as a point of reference in contexts where communities wish to collaborate with institutions, universities, academic groups, or external researchers. In particular, it may be useful when such collaboration aims to support the defense, recognition, and conservation of their biocultural heritage. We acknowledge that each community has its own forms of organization, internal norms, and ethical principles; therefore, this document is offered as an open, adaptable, and evolving guide that can be adopted, enriched, or transformed according to the autonomous decisions of each collective.

In this way, the guidelines reflect the vision of the Fungi Foundation and its goals to facilitate ethical conduct, equitable relationships, and reciprocal responsibility by all parties and to germinate a commitment to meaningful collaboration. We are aware of the unique characteristics of each culture, so this is intended to be a living document that will evolve over time in response to changes in understanding, contributions, and circumstances. Likewise, any point may be adjusted based on agreements reached between the researcher(s) and the community or individuals involved in a project that requires these guidelines.

Purpose and Scope

These ethical guidelines provide a framework for respectful, transparent, and equitable collaboration in projects involving the collection, documentation, and sharing of ethnomycological knowledge, as well as the conservation and sustainable use of fungi and their ecosystems.

They have been successfully applied in the project the Sciences Across Cultures Initiative (SACI) in 2024, and its subsidiary projects is a collaboration between the Sarayaku Indigenous People of the Ecuadorian Amazon; the Fungi Foundation; the More-Than-Human (MOTH) Program an interdisciplinary initiative dedicated to the advancement of rights and well-being for humans, nonhumans, and the web of life; Cosmo Sheldrake, a multi-instrumentalist, music producer, and field recordist; the Society for the Protection of Underground Network (SPUN), a scientific organization uncovering and sharing the importance of the underground fungal world; and Local Contexts, an organization which creates pathways to make explicit and protect Indigenous data sovereignty. The Fungi Foundation's Ethnomycology Ethical Guidelines provided the leading framework for decision-making and conduct for ethnomycological research with the Kichwa Indigenous People of Sarayaku.

It is expected to increase the number of projects and communities involved, which endorse and implement these guidelines.

1. Principles

This document is based on the ethical principles of ethnobiology (see International Society of Ethnobiology Code of Ethics¹, and the Sociedad Latinoamericana de Etnobiología²) on The Declaration of Belém, and other legal environmental documents, such as the Rights of Nature Law adopted in Ecuador; with principles that are based on sustaining life on Earth, respect for our Ancestors and for the traditional ecological knowledge (TEK) and Indigenous and Local Knowledge (ILK) of Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities. Likewise, it is recognized that mycological knowledge is not exclusively restricted to rural or Indigenous contexts. In urban areas, there are also individuals with valuable knowledge, often inherited from their families or acquired through migratory experiences, educational processes, or contemporary foraging practices. These principles also facilitate compliance with standards set by international law, policies and customary practice, such as those set out in the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2007).

The following Principles are the fundamental standards that guide the work of the Fungi Foundation.

Principle of Self-Determination, Prior Rights and Responsibilities

Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities have the right to self-determination, as well as pre-existing rights over resources, cultural interests, and responsibilities concerning the air, land, waterways, fungi, and natural resources within the areas they have traditionally inhabited or used. These rights include knowledge, intellectual property, and traditional rights linked to the use of such resources. This principle is grounded in international declarations such as the Indigenous Peoples' Declaration on Sustainable Development and Self-Determination (Rio+20, 2012) and the American Declaration on the Rights of Indigenous Peoples (2016), which explicitly recognize the sovereignty of Indigenous Peoples over their territories and ancestral knowledge.

Principle of Respect to Pachamama³ and her Rights

Nature in all its life forms has the right to exist, persist, maintain and regenerate its vital cycles.

¹ https://www.ethnobiology.net/wp-content/uploads/ISE-COE_Eng_rev_24Nov08.pdf

² <http://revistaetnobiologia.mx/index.php/etno/issue/view/40/33>

³ In recognition of the Pachamama in the current Ecuadorian Constitution Art. 71: “La naturaleza o Pacha Mama, donde se reproduce y realiza la vida, tiene derecho a que se respete integralmente su existencia y el mantenimiento y regeneración de sus ciclos vitales, estructura, funciones y procesos evolutivos. Toda persona, comunidad, pueblo o nacionalidad podrá exigir a la autoridad pública el cumplimiento de los derechos de la naturaleza. Para aplicar e interpretar estos derechos se observarán los principios establecidos en la Constitución, en lo que proceda. El Estado incentivará a las personas naturales y jurídicas, y a los colectivos, para que protejan la naturaleza, y promoverá el respeto a todos los elementos que forman un ecosistema.”

Principle of Historical Justice and Respect for Indigenous Peoples and Local Communities

Every individual, organization, company, civil association, or institution conducting ethnomycological research has the ethical responsibility to acknowledge the historical injustices, marginalization, and economic, political, cultural, social, and educational oppression that Indigenous Peoples, local communities, farmers, and Afro-descendant groups have endured.

They must commit to:

- Respecting, safeguarding, and valuing the identity and integrity of these peoples and communities.
- Recognizing their cultural and territorial autonomy, as well as their collective rights over knowledge, practices, and biocultural resources.
- Sharing their cultural wealth through a perspective of respect and collaboration, avoiding appropriation or representation without consent.
- Promoting respect for their cultures, territories, and ways of life.
- Acknowledging and protecting the collective biocultural heritage that belongs to them by ancestral right.

This responsibility must be undertaken with full awareness of the historical context and a firm ethical commitment to avoid academic or cultural extractivism.

Principle of Reciprocity, Mutual Benefit and Equitable Sharing

Indigenous Peoples, Afro-descendant communities, traditional societies and local communities have the right to be compensated for the utilization of their knowledge and their biological resources. Mutual benefit and equitable sharing may occur in ways that are culturally appropriate and consistent with the wishes of the community involved.

Every ethnobiological research process must, from its initial stage, include an open and respectful dialogue with participating communities regarding the way their collaboration will be compensated. The form of compensation must be consensual, contextual, and ethically grounded, taking into account the resources available to the research team, the expectations and needs of the consultants, as well as precedents established by previous research in the region (Hammett & Sporton, 2012).

It is essential to recognize that non-consensual or unjust compensation can reinforce and deepen structural inequalities, perpetuating asymmetric power dynamics and exacerbating intra-community marginalization. Therefore, agreements on compensation should be formalized

in writing or through culturally appropriate means and periodically reviewed in accordance with the progress of the project.

Principle of Conservation of Flora, Fauna and Funga

The gradual international recognition of macroscopic organisms as Fauna, Flora, and Funga (Kuhar et al., 2018) paves the way for substantial changes in educational, agricultural, and other policy areas. The insertion of the term Funga in legal environmental laws and other documents is essential to the awareness of the threatened fungal organisms that, just like all the Flora and Fauna, are also suffering with the world's loss of environments and changing climate while also playing an enormous role in regulating these ecosystems.

Principle of Respect to the Elders and Knowledge Keepers

To show respect to the Elders and anyone collaborating on the project, this includes attentive listening. Many want their voices to be heard. This knowledge needs to be preserved and used the best way possible, so the next generations will have an opportunity to live in a better world. The value of their words is inestimable and means the continuation of humanity, it is about the symbiotic relationship between people and their ecosystems.

Respect is also demonstrated in the recognition of boundaries, silences, and the decisions of those who choose to share—or not share—their knowledge. This requires establishing a genuine, ethical, and non-coercive dialogue with knowledge holders. Many ancestral voices wish to be heard, but this must happen on their own terms and timelines, without undue pressure or insistence.

The recognition, preservation, and respectful use of the diverse linguistic expressions, names, and associated terms for fungi in different languages is an integral part of safeguarding ethnomycological knowledge.

This knowledge not only deserves to be preserved but also valued, understood, and transmitted responsibly so that future generations have the opportunity to inhabit a more just, balanced, and respectful world. The significance of these words and teachings is immeasurable: they represent the continuity of humanity and the profound symbiotic relationship between people, territories, and ecosystems.

Principle of Acknowledgement and Due Credit

All research and products derived from knowledge shared by Indigenous Peoples, Afro-descendant communities, traditional societies, local communities, and any human being

who forms a relationship with nature must properly recognize and credit the authorship or co-authorship of those who participate, in accordance with previously established agreements with the individuals and communities involved.

Recognition is not limited to mentions in publications but includes the possibility of collaborative co-authorship, as a right, not an obligation, respecting the explicit wishes of those who, by choice, prefer not to appear as authors but simply be acknowledged as contributors of knowledge.

Any publication, dissemination, or use of the documented knowledge must be previously consulted, agreed upon, and validated with the participating individuals or communities, following local protocols and national and international regulations on collective rights, intellectual property, and the sharing of ancestral knowledge. This means ensuring that the final content is reviewed and approved before dissemination, with special attention to avoiding the disclosure of information that may be considered inappropriate, sensitive, or unauthorized.

Finally, recognition and credit must extend to all secondary or future uses and applications, maintaining the principles of transparency, informed consent, and fair benefit.

Principle of Educated Prior Informed Consent

Indigenous Peoples, traditional societies and local communities have the right to make decisions on any program, project, study or activities that directly affect them. Educated prior informed consent must be established before any research or program is undertaken, at individual and collective levels, as determined by community governance structures. In cases where the intentions of proposed research or related activities are not consistent with the interests of these peoples, societies or communities, they have a right to say no.

Principle of Support for Social and Indigenous Projects

To recognize and support the efforts of Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities in undertaking their own research – based on their own epistemologies and methodologies – in creating their own projects, programs, knowledge sharing mechanisms and related activities, and in utilizing their own collections and databases in accordance with their self-defined needs.

2. Practical Guidelines:

We, members of the Fungi Foundation, strongly urge actions as follows:

- a) To act in good faith to ensure that the connections to original sources of knowledge and resources, maintained in the public record, are given due credit and are referenced in accordance with the preference of the traditional and Indigenous Peoples, local communities, researchers and authors. Likewise, it is essential to ensure that a project's objectives, approaches, and scope are communicated clearly, transparently, and realistically to the involved communities from the initial stages. This helps prevent disproportionate expectations and strengthens the trust-based relationship among all parties.
- b) In the situation where research has been done without proper prior consent, has caused harm and/or adversely impacted a community's rights, and if the community requests, we require members to remove the project work with which the information has been related, and to commit to working in genuine partnership and collaboration with these communities to avoid perpetuating past injustices and build towards developing positive, beneficial and harmonious relationships in the ethnomycology field.
- c) Take active measures to protect and to enhance the relationships of Indigenous Peoples, Afro-descendant communities, traditional societies and local communities with their environment and fungal organisms and thereby promote the maintenance of cultural and biological diversity. These measures should, as far as possible, originate from the communities themselves, fostering their direct participation in defining strategies and ensuring that actions reflect their knowledge, values, and priorities.
- d) To support projects that are led by Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities, especially those related to the recovery of ecosystems, traditional ways of living and ethnomycological knowledge.
- e) To support programs that are developed to guarantee the preservation and strengthening of Indigenous and traditional communities and their traditional knowledge, and that they respond to the approaches, interests, and priorities expressed by their members. The preservation and strengthening of their traditional knowledge should emerge from direct dialogue with the communities, ensuring their active participation from the project's formulation and avoiding imposed initiatives or those disconnected from their realities and needs.
- f) Try to establish mechanisms by which Indigenous specialists and knowledge holders are recognized as proper authorities and are consulted in all programs affecting them, their resources, and their environment.

- g) To give opportunities for the voices of Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities to be heard directly, bringing visibility not only to their traditions and cultural expressions but also to their daily struggles, current concerns, and the challenges they face due to political and ecological contexts. According to McAlvay et al. (2021), the role of researchers or collaborating organizations involves facilitating the amplification of these voices beyond the local sphere. Even without adopting an activist stance, the dissemination of results can influence public policies and collective actions. Therefore, it is essential to ensure that communities themselves determine which aspects they wish to share in studies, respecting their right to decide how and what to narrate.
- h) To be aware of historical traumas and specify the level of threats to the ecosystems and populations included in each project to be developed.
- i) To preserve the knowledge that has been collected and make it available for humanity, especially vulnerable populations, and future generations. The dissemination and preservation of knowledge must be carried out respecting the decisions, values, and transmission methods of the individuals and communities who hold it. It should not be imposed through external frameworks but rather emerge from horizontal dialogue and free, prior, and informed consent. This means that knowledge may only be shared with the world to the extent and in the manner determined by its rightful holders.
- j) Create educational programs to alert the global community to the value of ethnomycological knowledge for human well-being that can be readily accessible to the world, especially to the Indigenous Peoples, Afro-descendant communities, traditional societies and local communities that have contributed to the ethnomycological knowledge gathered.
- k) To be aware that some Indigenous, traditional or local peoples may have their own cultural protocols and practices for conducting research and projects within their own communities; in the event of inconsistency between such local requirements and these Ethnomycology Ethical Guidelines of the Fungi Foundation, all parties involved are encouraged to work collaboratively to develop appropriate practices and reach agreements that benefit the community, biocultural heritage, and nature.
- l) To refrain from or minimize as much as possible the adverse effects of activities of research that can disrupt or disenfranchise Indigenous Peoples, Afro-descendant communities, traditional societies and local communities from their customary and chosen lifestyles; and support positive outcomes.

- m) Collaborate with all researchers—including ethnomycologists, as well as anthropologists, ethnologists, historians, biologists, and other specialists—who generate knowledge related to traditional mycological wisdom, with the goal of making the results of their research available to Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities with whom they have worked. Whenever possible, dissemination should be considered in the corresponding native language, respecting culturally appropriate communication methods and ensuring, whenever feasible, the inclusion of dissemination in the original language.
- n) Facilitate the recovery and strengthening of traditional mycological knowledge by working closely with local, Indigenous, or traditional communities. Interventions must be carried out through consensus and respect for the ways in which communities currently engage with and update their knowledge, ensuring that the information is handled ethically and in context.

Note: This document has been revised and endorsed by our Board of Directors, Advisory Board, and our team members. These Ethnomycology Ethical Guidelines show the fundamental principles for internal use of the Fungi Foundation and whomever may desire to adopt them in partial or in full. While they are based on the main global and individual commitments of some nations and organizations, their review by Indigenous Peoples, Afro-descendant communities, traditional societies, and local communities is ongoing. Consultations have been initiated with the Sarayaku community in the Ecuadorian Amazon, and their acknowledgment will be added once their formal response is received. Future acknowledgments from other communities will also be included as they are received.

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