

Sharing Knowledge

Intra-cultural variation of ethnobotanical knowledge and the factors that pattern it in a Mambila community in the Cameroon-Nigeria borderland



Réka Komáromi

MSc Ethnobotany, 2009

University of Kent at Canterbury

Department of Anthropology

rekomaromi@googlemail.com

**Sharing Knowledge: Intra-cultural variation of ethnobotanical knowledge
and the factors that pattern it in a Mambila community in the Cameroon-
Nigeria borderland**

Réka Komáromi

MSc Ethnobotany
University of Kent at Canterbury
Department of Anthropology

*Submitted in partial fulfilment of the requirements for the degree of Master of
Science in Ethnobotany with the University of Kent at Canterbury, the Durrell
Institute of Conservation and Ecology and the Royal Botanic Gardens, Kew*

September 2009

16,000 words

Abstract

This dissertation is an outcome of a collaborative work with the Mambila Dictionary Project, to which it contributes Mambila names for 173 vascular plants (65 identified with scientific names), and voucher specimens of 60 plant species deposited at the herbaria at Yaounde, Cameroon, and Kew, UK.

Situated within the wider debate concerning the preservation and loss of biocultural diversity, I focus on the plant knowledge of 39 Mambila women and men of varying ages. As this study is the first ethnobotanical project conducted in the area of Somié, in the Cameroon- Nigeria borderland, I aim to establish the basic categories in the local classification of plants. I also aim to identify the factors influencing the general pattern of ethnobotanical knowledge and the degree of knowledge sharing and knowledge loss, particularly in relation to age, gender and level of education measured in years spent at school. I primarily focus on theoretical and practical knowledge, that is, the ability to name plants, and the practical skill to identify plants and their uses as well as to put this knowledge into practice.

Table of contents

| | |
|--|----|
| Acknowledgements..... | 8 |
| Chapter 1: Introduction | |
| 1.1 Theoretical context and background..... | 9 |
| 1.2 Aims and objectives..... | 11 |
| 1.3 Hypotheses..... | 11 |
| 1.4 Chapter contents..... | 12 |
| Chapter 2: Ethnography | |
| 2.1 Geography | 13 |
| 2.2 The Mambila..... | 14 |
| 2.3 Religion..... | 15 |
| 2.4 Demography and social organisation..... | 16 |
| 2.5 Subsistence agriculture..... | 18 |
| 2.6 Education and language..... | 19 |
| 2.7 The market..... | 19 |
| 2.8 Agro- pastoralist conflict..... | 21 |
| Chapter 3: Data collection, methodology and ethics | |
| 3.1 Informants..... | 22 |
| 3.2 Research assistants | 22 |
| 3.3 Freelist and questionnaire interview..... | 23 |
| 3.4 Plant identification trailwalks..... | 23 |
| 3.5 Interviews..... | 24 |
| 3.6 Voucher specimen collection and identification..... | 24 |
| 3.7 Participant observati..... | 25 |
| 3.8 Data analysis..... | 26 |
| 3.9 Permissions and ethics..... | 27 |
| Chapter 4: Local systems of plant classification | |
| 4.1 Categories of Mambila ethnobotanical classification..... | 28 |
| 4.2 Nomenclature..... | 29 |
| 4.2.1 Generic names..... | 29 |
| 4.2.2 Folk- specific names..... | 29 |
| 4.3. Ethnoecological categories..... | 31 |
| 4.3.1 The Field (ηuen)..... | 31 |
| 4.3.2 Coffee plantations and oil palms..... | 32 |
| 4.3.3 The Homegarden (kapti)..... | 32 |
| 4.3.4 The Savanna | 32 |
| 4.3.5 The Forest (homo)..... | 33 |
| 4.3.6 Lake, water, stream (dua)..... | 33 |
| 4.3.7. The village (□□)..... | 33 |

| | |
|-----------------------------------|----|
| 4.3.8. The Courtyard (càgà) | 33 |
|-----------------------------------|----|

Chapter 5: Domains of plant knowledge

| | |
|--|----|
| 5.1. Knowledge of medicinal plants..... | 34 |
| 5.1.1. The concept of disease and medicine in Mambila culture..... | 35 |
| 5.2.1 Knowledge of food plants and their preparation..... | 36 |
| 5.2.2. Semi wild and wild foods | 37 |
| 5.3 Famine foods..... | 37 |
| 5.4 Firewood..... | 38 |
| 5.5 Cash crops..... | 39 |
| 5.6 Plants for construction and crafts..... | 39 |
| 5.7 New and introduced species..... | 39 |
| 5.8 Multi- purpose species..... | 39 |

Chapter 6: Patterns in the variation of ethnobotanical knowledge

| | |
|--|----|
| 6.1 Theoretical and practical ethnobotanical knowledge | 41 |
| 6.1.1 Lexical plant knowledge | 41 |
| 6.1.2 Substantive plant knowledge..... | 42 |
| 6.1.3 Specialist plant knowledge..... | 43 |
| 6.1.4 Flexibility and change..... | 44 |
| 6.1.5 Knowledge erosion..... | 45 |
| 6.2 Informant consensus..... | 45 |
| 6.2.1 Consensus among group..... | 46 |
| 6.2.2 Formal education as an independent variable..... | 47 |

Chapter 7: Discussion and conclusion

| | |
|--|----|
| 7.1 Factors that influence ethnobotanical knowledge variation and its patterning | |
| 7.1.1 Age..... | 52 |
| 7.1.2 Gender roles..... | 52 |
| 7.1.3 Ethnic mixing and the effects of “Fulbeisation”..... | 54 |
| 7.1.4 The role of formal education..... | 54 |
| 7.1.5 Patterns and fluctuations in the transmission of plant knowledge..... | 55 |
| 7.1.6 Socio- economic changes..... | 56 |
| 7.1.7 Individual motivation and preferences..... | 57 |
| 7.1.8 Knowledge loss..... | 57 |
| 7.2 Methodological constraints and inconsistencies..... | 58 |
| 7.3 Conclusion | |

Appendices

Appendix I: Photographs

| | |
|---|----|
| Aerial photographs of Somié illustrating the extent of deforestation..... | 64 |
| Miscellaneous photographs taken in the field..... | 65 |

Appendix II: Tables

| | |
|--|----|
| Table 1: Socio- demographic data for 37 research participants | 68 |
| Table 2: Freelist and interview form..... | 70 |
| Table 3: Form used to record demographic data collected during structured interviews..... | 72 |
| Table 4: Summary list of tree species mentioned on freelists and collection walks | 73 |
| Table 5: Summary list of plant species mentioned on freelists | 76 |
| Table 6: Summary list of “top 22” plants from freelist mention | 80 |
| Table 7: Individual knowledge scores based on trail walk..... | 81 |
| Table 8: Individual knowledge scores based on identifying and naming uses in the field | 82 |
| Table 9: Yearly activity calendars for men and women..... | 83 |
| Table 10: Freelist mentions of tree/ plant varieties and tree/plant uses by groups..... | 84 |
| Table 11: Summary table of plants used medicinally and in ritual..... | 85 |
| Table 12: Food plants based on information from freelists and trailwalks..... | 86 |
| Table 13: Trees mentioned as firewood by different groups | 88 |
| Table 14: Trees and other plants mentioned as sources of food (wild or cultivated)..... | 89 |
| Table 15: ANTHROPAC cluster analysis of freelist data(trees)..... | 90 |
| Table 16: ANTHROPAC cluster analysis of freelist data (other plants)..... | 91 |
| Table 17: ANTHROPAC regression analysis of trailwalk data (trees)..... | 92 |
| Table 18: ANTHROPAC regression analysis of trailwalk data (other plants)..... | 94 |
| Table 19: Summary list of transmission channels of ethnobotanical knowledge..... | 96 |
| Table 20: Knowledge transmission summary list for all participants..... | 98 |

Appendix III: Statements

| | |
|--|-----|
| 1 : Note on orthography..... | 100 |
| 2 : Voucher specimen collections..... | 101 |
| 3: Letter from the mambila Dictionary Committee to the University of Kent at Canterbury..... | 105 |
| 4: Reflections on the fieldwork..... | 107 |
| References..... | 110 |

List of Figures and Tables

| | |
|---|----|
| Figure 1: Map of Cameroon..... | 13 |
| Figure 2: Map of Cameroon with Tikar Plain indicated | 14 |
| Figure 3: Yamba ceremony in front of the Chief’s palace..... | 16 |
| Figure 4: Typical Mambila house in the centre of the village..... | 18 |
| Figure 5: Veyo Marguerite in her groundnut field..... | 19 |
| Figure 6: Girls at the market selling maize-based snacks..... | 20 |
| Figure 7: Cattle herds of sedentary Fulbe moving through savanna..... | 21 |
| Figure 8: Observing 88-year old Wuwea Barabas fixing a fishtrap..... | 25 |
| Figure 9: Making maize beer (kpata)..... | 26 |
| Figure 10: Home garden (kapti)..... | 32 |
| Figure 11: Teaching Mambila literacy in the courtyard..... | 33 |
| Figure 12: ‘ Tradi- practitioner’ in his office | 36 |
| Figure 13: Ring- barking trees for firewood..... | 38 |
| Figure 14: Unidentified bulbous plant at male specialist’s house, used against spiritual poisoning..... | 42 |
| Figure 15: Young boy with njàgà (<i>Cyperus articulatus</i>) | 45 |
| Figure 16: Unidentified fleur (introduced species) | 47 |
| Figure 17: Plant uses mentioned on trailwalks | 49 |
| Figure 18: Young girl with her certificate of excellence from school | 51 |
| Table 1: Plants on the “top 22” list that were mentioned in multi-contextual uses | 40 |
| Table 2: Medicinal plants and plants used in ‘ritual’ medicine as mentioned on | |

| | | |
|----------|---|----|
| | trailwalks..... | 43 |
| Table 3: | Trail walk data for <i>Epathorium odoratum</i> | 44 |
| Table 4: | Agreement on plants as food (trail walk data) | 46 |
| Table 5: | Total number of plants in different category uses as mentioned on freelists and on trail walks..... | 48 |
| Table 6: | Individual knowledge scores based on identifying and naming uses on trail walk.... | 50 |
| Table 7: | Linear regression model for the relationship between plant knowledge/ age, gender and education..... | 50 |

Acknowledgements

Being a nomad and a sailor has taught me, over the years, that we are never alone on the journey of life long learning and in the search for Truth and Reality.

I would like to express my deepest gratitude to the angels in my life, dead and alive, for having believed in my passion for people and plants, and for manifesting in the most crucial moments of this project : my father Mihály and my sister Anemi; my mother Mária and my daughter Priska.

I would also like to acknowledge all those people, who were my companions in this year of academic exploration:

My supervisors, Professors Roy Ellen and David Zeitlyn; your wise guidance and excellence in the field has been my constant lighthouse on these often “choppy seas”.

All my friends and colleagues from the Kent University; you were all instrumental in this dance of balancing work with fun, tears with laughter. A special thanks to Eibes for “holding the fort” in Canterbury, while I was in Cameroon, to my “good good friend” Djeouli, who has lured me from my life of adventure onto the path of Africa, culture and academic ambition, and to the “Islington Twins” for guiding me through the lows.

Thank you Mark Nesbitt for your encouragement with my fieldwork, Xander Van de Burgt and Laura Pearson for all your kind help and patience, and for allowing me to be part of the “Kew Herbarium family”.

I wish to thank everyone who graciously facilitated my fieldwork in Cameroon; this project would not have been possible without the goodwill, generosity and patience of a number of individuals in Yaounde and in and around the village of Somié, especially the many participants in my study, and the friends I was privileged to make in the village.

May our paths cross again in future projects and discoveries!

Finally, this project was gratefully facilitated by the financial support of the Mambila Dictionary Project and the Kay Williamson Educational Fund.

Chapter 1. Introduction

1.1 Theoretical context and background

Traditional knowledge embodies ecological adaptations of humans to diverse environments and has the potential to serve as a basis for the preservation of biological and cultural diversity (Brush 1993, Maffi 2001). Many of the ecological relations recognized by traditional peoples are often little, if at all, known to Western science because they tend to be place-specific and shared only by the resident cultural groups. The concept of culture as “shared knowledge” (Kroeber and Kluckholm 1952) or a “pool of shared information” (D’Andrade 1987, in Reyes-Garcia 2001) is well established in anthropology and implies that people differ in the amount of information they share. Scholars have studied intra-group variability of knowledge (Romney, Weller and Batchelder 1986:325; Berlin 1992, Boster 1986, Ellen, 1979, Hunn 1982) and have found that this distribution is not random, but patterned. Among the variables that have been found to pattern the intra-cultural variation of ethnobotanical knowledge, in particular, are age (Phillips et al. 1993), gender (Boster 1986), kinship (ibid), acculturation (Zent 2001), level of integration with the market economy (Benz et al. 2000, Caniango et al. 1998, Reyes-Garcia 2001), national language (Benz et al. 2000, Zent 2001) ethnicity, and informants’ type of activities. Studies on the intra-cultural variation of ethnobotanical knowledge in various cultures have given clues to the reasons and the extent of knowledge loss and decay (Zent 2001, Hill 2001), the patterns of ethnobotanical knowledge transmission (Lozada et al, 2006) the implications for the conservation, protection and resilience of traditional knowledge and biodiversity (Nemoga 2004; Zent, 2004; Ghimire et al, 2005), and to mechanisms of adaptation to environmental changes (Muller-Schwarze 2005) in various populations.

Since the 1990s, numerous studies have raised our awareness of the fact that “the ongoing loss of biodiversity is paralleled and interlinked with the “extinction crisis” affecting linguistic and cultural diversity” (Maffi, 2001:601; Turner, 1995).

Many of the knowledge systems of the innumerable traditional cultures in resource-rich African countries such as Cameroon have not been documented and are currently facing growing threats of knowledge erosion related to language loss, acculturation, migration,

growing population densities and rapid changes in social structure. This dissertation approaches 'traditional' ethnobotanical knowledge as the body of plant knowledge shared and orally transmitted among the Mambila in Somié village, constantly produced and reproduced as a "consequence of a practical engagement with everyday life" (Ellen, 2003: 65). It aims to examine individual ethnobotanical knowledge shared and orally transmitted among the Mambila of Somié in order to potentially contribute to " a systematic understanding of humanity's most widespread and ancient form of knowledge" (Reyes-G. 2007:introduction).

To date, only a few ethnographic works exist about the Mambila (Rehfishch, 1956; Zeitlyn, 1994). Ethnobotanical surveys in the wider area have mainly focussed on the ethnobotanical lore and management practices of the Tikar (Zapfack, 1999; Dounias et al, 2001) and the Fulbe (Blench, 2006), and the only existing Mambila plant names documented in Mona Perrin's dictionary of the dialect of Atta village (Perrin and Mouh 1995) were more linguistically than ethnobotanically informed. Considering this lack of scholarly literature and the differences in dialects between the Mambila villages, it is of interest both for the disciplines of ethnobotany and linguistics to document valuable ethnobotanical knowledge as well as the factors that influence its variation and sharing within a community. There is consensus among linguists and educators that mother tongue education is vital for effective teaching, and it is stated in the UNESCO resolution of 1952 that "mother- tongue education on the formative level is most desirable" (Batibo, 2001). Bearing in mind that a large percentage of any traditional language is related to plant and animal names (Pawley, 2001: 236), properly prepared literacy materials such as a dictionary are of urgent necessity for language preservation and, consequently, the preservation of biocultural diversity, especially in areas with high language endangerment such as the Cameroon- Nigeria borderland. "Nigeria and Cameroon are recognized as being the two most linguistically heterogeneous countries in Africa; indeed with 700 - 800 languages between them (roughly 12% of the world's languages), they constitute one of the most linguistically diverse areas in the world, despite having well below 1% of the world's population. The borderland shared by these countries is perhaps their most densely populated area, linguistically speaking. It might come as no surprise then that today we find this to be a region with a relatively high incidence of language endangerment" (B. Connell, pers. communication, and <http://lucy.ukc.ac.uk/dz/connell/Mori/Moribundlngs.html>).

The Mambila Dictionary Project has been carried out by Bruce Connell from York University, Canada in collaboration with David Zeitlyn from Kent University and the local Mambila language committee. It began as a spin-off of other funded research on Mambila and related languages (e.g. Connell 1998), in part as it related to that work, and in part because it was seen by both the researchers and the local community as a means of contributing something to the community" (B. Connell, pers. communication 2009). Based on the data of this ethnobotanical "groundwork", future studies interested in the preservation of biocultural diversity will be able to examine how new independent variables such as socio-economic change or increased ethnic and religious mixing affect the intra-cultural variability of ethnobotanical knowledge among the Mambila of Somié.

1.2. Aims and objectives

The objectives of this dissertation are:

- to document Mambila domains of plant knowledge and identify culturally salient plants.
- to find out the variance in naming (theoretical knowledge), and identifying plants, their habitats and their uses (practical knowledge).
- to find out the variance in the knowledge of preparing and using plants .
- to study the relationship between this variability and independent variables such as age, gender and level of education (measured in years spent at school).
- to collect voucher specimens of approximately 80 named Mambila plants and supply their uses and scientific names for the Mambila Dictionary Project.

1.3. Hypotheses

My working hypotheses at the onset of the study were:

- older women/men are expected to have a higher level of ethnobotanical knowledge than younger women/men.
- individual ethnobotanical knowledge will be influenced by gender; names and knowledge of plant use might show differences due to different gender roles.
- level of formal education measured by years spent in school is expected to be negatively associated with ethnobotanical knowledge.

1.4. Chapter contents

After the introduction of theoretical context and background, aims, objectives and hypotheses stated at the onset of the study, chapter two introduces geography and history of the area, and describes the ethnographic background of the Mambila in Somié village. Ethical background to the project and methodologies used in sampling informants, collecting, storing and analysing data, and in collecting and identifying voucher specimens, are explained in chapter three. The following chapter describes the local system of plant classification, and focuses on basic plant categories, nomenclature and ethnoecological categories established through free lists and questionnaires. Chapter five gives an overview over the basic domains of Mambila plant knowledge, which were established through quantitative and qualitative methods. The next section of the dissertation aims to examine patterns in the variation of ethnobotanical knowledge with regards to lexical and substantive knowledge and the levels of consensus within and among the focus groups. In the final chapter, I present a discussion of the factors that influence patterns of knowledge variation established in chapter six, followed by a final conclusion of the outcomes of the project.