



# Ethnobotanical Research at Analalava, Madagascar: A Photo Essay

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## Introduction

Ethnobotanists and other scientists spend much of their time taking photographs that become critical parts of presentations made at conferences, in the classroom, and to a limited extent in publication of articles and books. With the advent of digital photography the number of photographs a researcher can produce has dramatically increased while the cost of production has greatly decreased. The Internet has become a venue for presentation of photographs although current bandwidth limitations prevent most people from presenting or viewing full-size images. Despite these advancements and the value of photographs as scientific evidence, the majority of photographs seem to fall into cracks in the system and are rarely seen by anyone beyond the researcher.

Photographs represent forms of raw data that are invaluable permanent records open for the interpretation of future researchers (usually lacking the interpretation of current researchers except for composition). It therefore seems odd that more of these are not published and/or stored in public access fora. To a certain extent photographic data can be compared with DNA data in that with limited exceptions both are “unpublishable” because they represent vast amounts of uninterpreted data. DNA libraries are becoming common and are referenced in scientific publications as permanent archives. Similar storage of film photographs has occurred in the past in museums, libraries, and archives, yet these are rarely referenced within the literature in the same way that voucher samples of plants, artifacts, etc. are cited as evidence of research.

While photographic collections are available on the Internet, we note three common problems with these serving as models for research. First, the photos are usually disjuncted from the research context. For instance, web sites with images of plants or cultural scenes do not clearly indicate when the photos were taken or other aspects of the context that are easily stored within photographic meta-

data or other articulated files. Second, images are fixed in their interpretation (therefore authoritative), lacking a means for updating information perceived by others to be incorrect or outdated interpretations. For instance, when an herbarium specimen is cited within an article, it refers to a physical specimen in an herbarium that can be accessed by other researchers. Information can be added to the physical specimen that allows future researchers to see changing perspectives on the data. Similar amendments are possible but not apparently used with Internet photographic collections (although archival paper and glass photographs are sometimes annotated by subsequent researchers). Third, photograph collections are often mixtures of quality, source, etc. and do not represent cohesive bodies of research. Common examples of this may be seen in sites with photographs of plants where the images are derived from multiple photographers (sometimes copied from or linked to other web sites). Images in these sites are linked by scientific binomial names without regard to the accuracy of the content or quality of the image.

Vogl-Lukasser & Vogl (2005) have discussed other aspects

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**Ethnobotany Research & Applications 3:391-403 (2005)**

of ethnobotanical photographs and their usefulness. Photographs are noted as particularly useful because they convey complex information that is closer to the richness of actual cultural context than any of the reduced forms of written information that are typical of research reports. The following is therefore presented as a thumbnail sketch of part of our work in Madagascar. Viewers with further interests in the photographs presented here are encouraged to contact the authors.

## Context

Research was conducted in March-April 2005 as part of an ethnobotany research training workshop in Madagascar (McClatchey & Gollin 2005). Initial work took place in Antananarivo, with actual data collection work in communities in the edges of the Analalava forest.

While the workshop participants conducted their research, the authors documented the process with photographs. Attempts were made to photograph the educational process (participants and instructors conducting various training tasks) as well as each participant working on a variety of research tasks in the field. Images were taken of the physical environment (soils, water features, and other geographical context elements), biological environment (parts of plants used, whole plants, animals, ecosystems, landscapes), cultural environment (artifacts, villages, crop fields, and other anthropogenic landscapes, individuals and groups interacting with each other or the researchers, and people conducting daily tasks of life such as weaving mats, processing rice, or purchasing food). Most of the photographs were taken opportunistically although a few were "staged" such as Figure 2.

Prior to conducting research, the workshop participants developed hypotheses and selected methods to gather and evaluate data to test the hypotheses. The authors reviewed the combination of hypotheses and methods in order to develop a list of photographs that needed to be taken in order to illustrate the research processes used by each participant. These were then taken as early as possible during the process in order to be sure that they were not missed. This proved to be easy in the first day or work because the participants worked in only two groups and one camera and photographer could work with each group. On the second and third days of research this became more difficult because the participants worked in five to eight groups so there was always work being conducted without a camera being present. Despite this difficulty, all of the participants were photographed conducting research and multiple images were successfully produced addressing each of the other elements desired.

Children between the ages of 10-14 were taught how to use the Canon camera (Figure 19) and were then encouraged to wander around their community taking photos of

anything they desired. Printed photographs taken by the children were returned to them. The resulting images are among the more interesting and demonstrate a different perspective than those composed by the authors. Figure 20 is an example of an image taken by children during this project.

Photographs presented in this essay represent a limited sample of hundreds that we would like to present. The primary limitation is the size of files made and limits on uploading the resulting document for most readers.

## Photos

Photos presented were primarily taken by the authors with the exception of figure 20 that was taken by the children featured in figure 19. In each case, permission was granted by those featured (or their parents in the case of children) to use the photographs for research and non-profit presentations such as this. Copies of these and other photographs were printed and distributed within the community.

Photos used for figures 1-6, 10, 14-15, 17-18 and 20 were taken using a Canon EOS10D with EF 16-35mm zoom lens. Each photo was saved in the highest pixel .jpg format (approximately 36 inches X 48 inches). Each original file is 3-6 megapixels in size.

Photos used for figures 7-9, 11-13, 16, 19 and 21 were taken using a Sony Cybershot DSC 5 megapixel camera with each saved in the highest pixel .jpg format (approximately 36 inches X 48 inches). Each original file is 1-4 megapixels in size.

An original, un-altered copy of each photo presented here is saved by the authors and *Ethnobotany Research and Applications*. In addition, the authors keep on file approximately 6,000 more digital photos taken of all aspects of this project. The published and unpublished images may be requested from the authors for non-profit uses. Requests for profitable uses of the photos will require additional permission of the individuals featured in the images.

Each photograph has been altered using Adobe Photoshop CS2 version 9.0 in the following ways:

1. Rotated slightly if needed.
2. Cropped.
3. Color balance altered toward red from cyan, toward green from magenta, and toward blue from yellow.
4. Image edges sharpened.
5. Image size altered to 6.5 inches wide.
6. Image saved in slightly smaller (high quality) format.

No data has been added nor removed from the images beyond the alterations listed above.

## Summary

Photographs taken during the course of the ethnobotany training workshop are useful for documentation and examination of the processes involved. Participants and community members appreciated receiving printed photos.

The authors plan to produce a web site with the range of images. The site will address the issues raised above and will be linked to this essay through a link in the *Ethnobotany Research and Applications* web site.

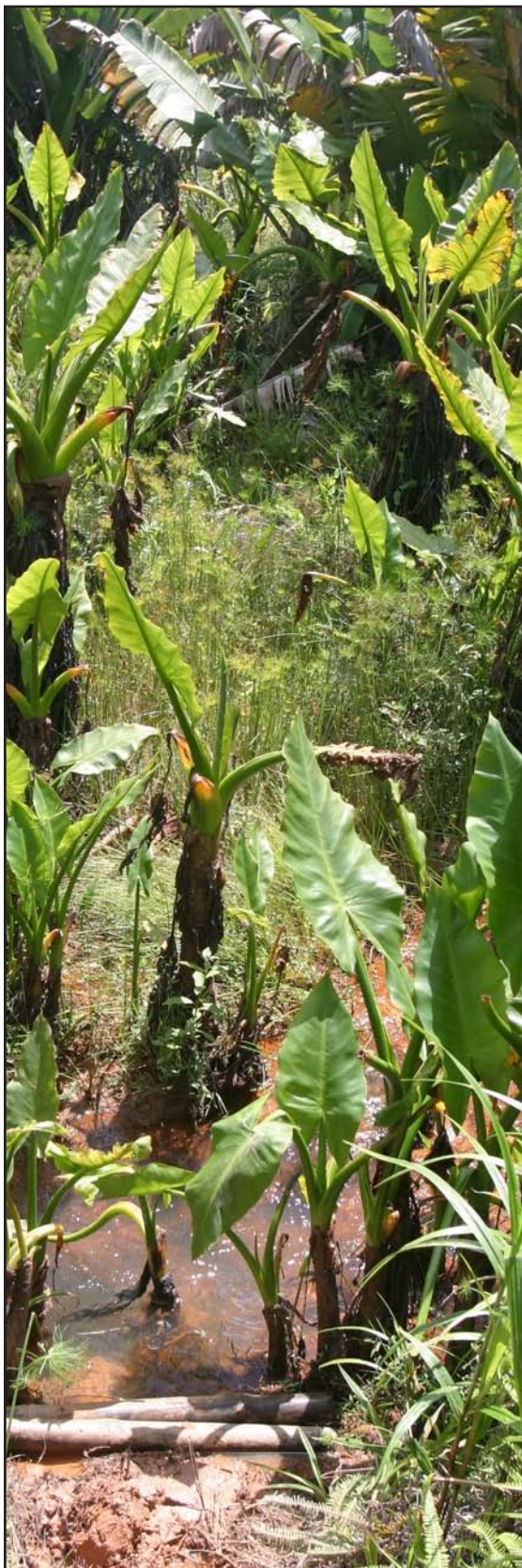
## Acknowledgements

The authors thank the workshop participants and sponsors (see acknowledgements in McClatchey & Gollin 2005) for their generous hospitality and friendship. We thank the communities living in the edges of Analalava forest for their cooperation and contributions to the success of the training workshop. We are hopeful that this and subsequent work in the area will help the communities meet their needs and aspirations.

## Literature Cited

McClatchey, W. & L.X. Gollin. 2005. An Ethnobotany Research Training Workshop in Madagascar. *Ethnobotany Research and Applications* 3:309-328.

Vogl-Lukasser B. & C.R. Vogl. 2005. Ethnobotanical Research in Homegardens of Small Farmers in the Alpine Region of Osttirol (Austria): Photo Essay. *Ethnobotany Research and Applications* 3:78-87.



**Figure 1.** A typical wetland in the low-lying areas in and around Analalava, Madagascar.



**Figure 2.** Some of the ethnobotany research training workshop participants and instructors in Antananarivo, Madagascar. (From left to right: Front: C. Birkenshaw, S. Rakotonandrasana, J. Veloso, B. Ranjevasoa, and J. Miller, Back: D. Ramanitrahasimbola, P. Rakotomalaza, E. Toto, F. Raharimalala, L. Gollin, W. McClatchey and H. Rabarison.)

**Figure 3.** Fidèle Raharimalala collecting data in a market in Antananarivo, Madagascar.





**Figure 4.** Workshop participants practicing a card sorting exercise in Antananarivo, Madagascar. (From left to right: Chris Birkenshaw, Stéphane Rakotonandrasana, Harison Rabarison and Fidy Ratovoson.)

**Figure 5.** Pasture at the edge of Analalava forest. View from the community of Sahamamy. This picture is representative of the highly anthropogenic landscape including zebu cattle grazing atop fallow wetland fields in the foreground and dryland swidden fields and patches of forest in the background.





**Figure 6.** The community of Sahamamy at the edge of Analalava forest.

**Figure 7.** Fidy Ratovoson and David Ramanitrasimbola conducting a plant interview in Sahamamy, Madagascar.





**Figure 8.** Two sisters being interviewed about plant knowledge in Sahamamy, Madagascar.

**Figure 9.** Young girl being interviewed by Fidy Ratovoson





**Figure 10.** Stéphan Rakotonandrasana conducting interviews about wild harvested plant materials used for food and crafts in the vicinity of Analalava forest, Madagascar.

**Figure 11.** Pascal Rabeson and David Ramanitrasimbola interviewing a village elder in Sahamamy community about plants and healing.







**Figure 12.** Fidèle Raharimalala conducting a survey of non-timber forest products being extracted from Analalava, Madagascar.

**Figure 13.** Children standing before a playhouse they have constructed from plant materials from Analalava forest.





**Figure 14.** Preparation of rice using a mortar and pestil in Sahamamy, Madagascar.

**Figure 15.** Richard Randrianaivo presents his preliminary findings (on plants used for production of crafts used locally and sold at the market) to Sahamamy villagers for their review.





**Figure 16.** Pierre (Coca) Rakotomalaza and Bako Ranjevasoa preparing pressed plant voucher specimens at an hotel in Mahavelona used as the base for research in Analalava, Madagascar.

**Figure 17.** Adolphe Lehavana verifying research results with members of Murarano community, Madagascar.





**Figure 18.** Woman teaching how to remove toxins from starchy aroid seeds during a participant observation interview conducted by workshop participants in Analalava, Madagascar.

**Figure 19.** Children taking pictures in communities next to Analalava forest, Madagascar.





**Figure 20.** Children posing for other children taking photos in communities next to Analalava forest, Madagascar.

**Figure 21.** Boy and dog in Sahamamy, Madagascar.



