

SOUTHWEST TRADITIONAL ETHNIC GROUP PLANT USE DATABASE:

Historical Sources of Southwestern Ethnobotany

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Historical Background to the Database

Professor Volney H. Jones submitted a grant application to the University's Horace H. Rackham School of Graduate Studies in February 1954 to fund a research project entitled "Preparation of a Compendium of Data on Economic Botany of the Southwest." The purpose was to compile published information about useful, botanically identified plants in the ethnographic Southwest. It would provide a taxonomic list of economic plants that was cross-indexed by tribe and by category of usage. The end product would be a complete bibliography of literature from the Southwest about ethnobotany and economic botany. In his application Jones saw the final product as benefiting scholars in many disciplines – ethnology, botany, agriculture, archaeology, and geography.

The project would provide support for Vorsila L. Bohrer, a MA candidate student in the University's Department of Botany. She enrolled at Michigan in 1953 after receiving a bachelors' degree from the University of Arizona where she combined botany with anthropological field experience. She arrived at Michigan with a professional level interest in ethnobotany. More significantly, however, she had developed the concept for a punch card system for managing ethnobotanical data (see Bohrer 1954). Based upon the McBee punch card system, the methodology for compiling data was the basis for the project (Jones 1954).

The initial grant started July 1, 1954 and lasted for a year (Letter from Ralph A. Sawyer to Volney H. Jones, May 26, 1954). Vorsila Bohrer was responsible for most of the typing and research related to the production of the McBee cards. The card was designed to have multiple punches on all sides, representing plant families on top, categories of use on the right side, archaeological geographic localities on the bottom, and tribes or groups on the left side. The front of the card had the genus and species, bibliographic source, and verbatim copy of the text about the plant. By the end of the first project year, a total of 9,000 punch cards had been created covering botany references to material spanning from 1850 to 1955, two papers having already resulted from the information (see Jones 1960).

The following year, Jones submitted a grant renewal to continue to produce McBee punch cards for information on botanical plants and their uses from the Great Basin, southern California, western Texas, and northern Mexico. He also desired to include archaeological site data for all areas. The geographical and chronological expansion of the information would offer a greater basis for the interpretation of continuity and change through time and space of useful plants (Jones 1955).

At the end of the first year of the project, Vosila Bohrer left Michigan to become an assistant to Dr. Bertha Button at the Museum of New Mexico. Although physically absent from Michigan, she continued to work with Jones, creating punch cards and sending them back to Michigan for inclusion in the project. Jones also continued producing punch cards and adding them to the files.

Vosila Bohrer held positions in both New Mexico and Arizona after she left Michigan, also working on several ethnobotanical field projects in New Mexico. She established a similar punch card system at the Museum of New Mexico and intended to extend it to “other ethnographic information.” (Letter to Volney H. Jones from Vorsila L. Bohrer, August 29, 1956). In 1964, she began doctoral work at the University of Arizona where she completed her degree in 1968, specializing in archaeological palynology and paleoethnobotany. The inception of the plant use file, the development of the format of the punch cards, the production of the core sources in the file, and the first extensive use of the file for publication purposes are all credited to Vorsila Bohrer. Without her diligence and interest in the project, the “Southwest Indian Plant Use Database” would never have been realized.

Continued Efforts to Expand the Database

After Vosila Bohrer left Michigan, Volney Jones kept the file updated with new material in the form of historical references, new field notes, and recently published research. The “Southwest Ethnobotanical File,” as it is now called, received renewed emphasis when Jones received a four year NSF grant, “Regional Patterns in Pueblo Ethnobotany,” (1965 National Science Foundation Grant 659). The grant project proposed to continue his efforts to investigate a comparative basis for ethnobotanical understanding of the Pueblos and their archaeological predecessors. Richard I. Ford conducted new ethnobotanical fieldwork under the auspices of the grant, and brought back considerable archival material, including many of Edward Castetter’s unpublished notes, notes from Bertha Dutton, and his own field observations which were added to the ever expanding file. By the end of the grant period in 1969, the Southwest Ethnobotanical File had grown to approximately 16,000 punch cards.

After Jones retired in 1969, Richard I. Ford was hired to replace him as Director of the Ethnobotanical Laboratory. Although additional grants aimed specifically at keeping the Southwest Ethnobotanical File current were not obtained, Ford continued work on the file with the help of the laboratory’s research assistants and undergraduate students. The information in the database again expanded with the addition of Spanish American and northern Mexican plants when Karen C. Ford received a Wenner-Gren Foundation grant (#1956-1829) to produce a monograph about the collections from both of these groups curated in the Ethnobotanical Laboratory (Ford 1975). By 1980, the file contained about 18,000 entries.

Throughout the next two decades, ethnobotany graduate students, research assistants and work study students continued to add entries to the file under the guidance of Ford. By the time the total exceeded 20,000 cards, the manual manipulation to retrieve and refill the cards had become cumbersome and time consuming. Ford decided it was time to computerize the file and to make it more widely available to students and researchers. Beginning in 1995, a major responsibility of the Ethnobotanical Laboratory’s research assistants was data entry of the punch card information into a Microsoft Access database designed by Robert Manley, Patrick Livingood and Bob Dively. Research assistants Sunday Eiselt, Elizabeth Bridges, Jason Sherman, and Daphne Gallagher brought the project to fruition. Gallagher and work-study student, Yoshimi Yamakawa, completed the data entry and bibliography, and proof-read the entire file in 2005 making it ready for distribution.

Use of file

The basic and most significant historical Ethnobotanical references were put into the McBee card system by Vorsila Bohrer. Her work was so comprehensive that by the end of the first year Volney Jones began a comparative summary of Southwest ethnobotany based upon compiled information about key native plant species, e.g., Asclepias and Psoralea. Although he never completed this project, he was able to demonstrate the usefulness of the file for examining cross-cultural similarities and differences in the plant uses of the greater Southwest.

The first extensive use of the file was done by Vorsila Bohrer in her publication of prehistoric ethnobotanical material from Tonto Cave in southern Arizona (Bohrer 1962). Jones followed her lead, using the file extensively to interpret plants that he and his research assistants had identified and, that were reported in the Museum's Ethnobotanical Laboratory Reports.

After 1970, the file was used more extensively than ever before. For internal reference in the Ethnobotanical Laboratory, Ford compiled a cross index of plants used by different ethnic groups cited in the file and identified archaeological plant genera (Ford 1977). Karen Ford added Hispanic plant uses and compiled many of them in her 1975 book. Wilma Wetterstrom used it for her dissertation and subsequent book about prehistoric nutrition at the Arroyo Hondo Pueblo site, which was excavated by Doug Schwartz and the School of American Research (Wetterstrom 1976, 1986). The file also contains helpful information for investigating specific ethnobotanical topics. For example, Paul Minnis referred to it while researching famine foods of the Borderlands of the Southwest (Minnis 1991). Ford used it to compile plant information that was important for his expert witness legal work on behalf of southwestern Pueblos. It also served as the basis for his report of Zuni land use in its land claims case against the federal government (Ford 1985). The plant data was important for the Hopi Nation (Ford 1989) and Taos Pueblo in their respective water rights cases. Extensive plant details were assembled for Ohkay Owinge (San Juan Pueblo) water right and future land claims cases (Ford 1990). It was even the basis of a potential subsistence model in a study of plant productivity as part of a CRM archaeological survey near Raton, New Mexico (Ford, Currey, and Viklund 2000).

At the same time that Michigan ethnobotanists and students were querying the file, the Ethnobotanical Laboratory staff received an average of one request per week for information regarding paleoethnobotany, ethnology and botany. At this time, the expansion of Cultural Research Management (CRM) projects in the Southwest and the introduction of flotation techniques in southwestern archaeology as means to recover small seeds and minute plant parts from the increasing number of CRM supported excavation projects, led to many external investigators' requests for plant information in order to assist site interpretations. The range of topics that were coded in the file was of benefit to ethnologists who were researching specific botanical problems. Kate Peck Kent, for example, requested details about plants other than cotton that were woven into textiles in the Southwest. There were also several requests for information about native dye plants. Professional botanists, such as Hugh Cutler, Thomas Whitaker, and Charles Heiser, and the distinguished avocational ethnobotanist Leonard Blake, requested information about archaeological plants and ethnographic references to plants about which they were researching. Botany and archaeology students also frequently consulted the file for background information for dissertations, theses and term papers.

It is noteworthy that requests for information contained in the file decreased with the publication of Wild Plants of the Pueblo Province and Wild Plants and Native Peoples of the Four Corners by Dunmire and Tierney (1995, 1997). However, there are additional references about plant uses in the traditional greater Southwest that are not included in those fine books. Therefore, making the file available is of considerable utility.

Limitations to the Ethnobotanical Historical Resources

The availability of this useful plant file has limitations that all investigators should note before they begin their queries.

First, it is limited to plant information that has been obtained from Indian (Native American) groups and Spanish speaking communities in the greater Southwest.

Second, it contains published and unpublished original plant source material before 1980. It is a document of historic plant references and is **not** comprehensive of all published ethnobotanical material. Many fine papers and books have appeared in the past twenty years that are not included. Fortunately most of them remain in print and can be consulted in libraries or purchased for research collections. The majority of the sources included in this index are no longer readily available.

Third, this Ethnobotanical Resource is a starting point for research about useful plants of the greater Southwest. After consulting it, additional library sources are necessary for comprehensive research. It is a beginning and it complements many published and internet indices.

Fourth, although it does contain archaeological plant data, the collections were mostly identified by researchers associated with the University of Michigan Ethnobotanical Laboratory. The number of published and “gray” literature reports that contain archaeological plant information now greatly exceeds ethnographic references to plants in the Southwest. These are not included in this database. Archaeologists and paleoethnobotanists who want to find other sites that yielded the same plants as they found will likely **not** find those details in this reference. However, they will find it valuable for learning how the plants might have been employed and for generating testable hypotheses based upon their identifications. Otherwise, it is not sufficiently comprehensive for comparing plants from a large corpus of carefully excavated archaeological sites.

Fifth, there are no plans at present to update or to expand this Ethnobotanical Resource. It is valuable as a compendium of historical published and unpublished plant uses in the greater Southwest.

It is the authors’ desire, no matter what the resources’ limitations, that many researchers and advocates for the preservation of useful traditional plant resources will find it helpful for their interests. The late Professor Volney H. Jones, who began this project and watched it expand, would be delighted to learn that it is still useful and stands as an encyclopedic testimony to the extensive botanical knowledge of the traditional people of the Southwest.

Notes on Database Orthography

Since the sources included in this database span more than 100 years of research, it was necessary to strike a balance between the maintenance of original terminology and the standardization necessary to facilitate record location.

Outdated botanical names and alternative spellings of accepted names frequently occur in the sources. The original botanical names and spellings used by the authors are retained in the “Scientific Name” field. Family affiliations were updated using the *Flora of North America* and genus spellings are standardized in the “Generic Name” field using Kearney and Peebles (1951). To find all references to a specific plant it may be necessary to include synonyms in your search.

As with the botanical terminology, spellings of native group names may vary significantly between sources. While the original spellings are present in the direct quotes, the “Local Group” and “Ethnographic Group” fields use modern spellings.

This database does not accommodate most diacritical marks, and consequently these are omitted from many native terms. Please keep in mind that although every effort has been made to ensure accuracy, most entries are two transcriptions removed from the original sources and should be verified before quoting directly.

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