

Palynological Research Related to the Oaxaca Project by
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1. FISCAL YEAR 1966-67

Fieldwork. Two months of field research were undertaken involving (A) collection of 175 floral specimens for the pollen reference collection, (B) ecological study and preliminary analysis of 17 floristic zones in the Mitla arm of the Valley, (C) collection of 26 surface sediment samples from the various floristic zones and other locales, and (D) establishment of palynological sampling programs at the archaeological sites of Bala'h Bisye, La Playa, Bala'h Gubesh, Cueva Blanca and Hierve el Agua.

Technical Processing. Twenty-six surface and 140 sub-surface sediment samples were chemically processed to extract contained pollen. Ninety-six modern floral specimens were treated to prepare them as reference pollen types. Ninety pollen spectra were obtained from the sediment samples as successful analyses, and 92 pollen reference slides were prepared from the floral specimens.

Analysis. A report was submitted on the analysis of field records and plans for the palynological project shortly after the fieldwork was completed. A second report, dealing with the analysis of pollen spectra from 18 surface sediment samples and six archaeological sites, was submitted at the end of the period. This report presented an outline pollen chronology for the past 11,000 years in the Valley and was supplemented by a special report on the recovered economic pollen flora of the six sites. The major conclusions of this report were presented at the national meetings of the Society for American Archaeology in May 1967.

2. FISCAL YEAR 1967-68.

Fieldwork. Fieldwork was limited to approximately one month, some of which time was spent on archaeological surveying rather than palynological research. Principal research was the establishment of sampling programs for Martínez Rockshelter, Gheo-Shih, Bala'h Gui Wap and Huitzo. Some surface pollen sampling was accomplished, and a mutual assessment of modern environmental patterns was established by myself and Dr. M. Kirkby. A sampling program for the assessment of wild food resources in the Guilá Naquitz district was also established.

Technical Processing. 142 floral specimens were treated to prepare them as

reference pollen types, and pollen was extracted from four surface sediment samples and 264 sub-surface samples. Analysis of 132 pollen spectra was accomplished in this year, representing the sites of Huitzo, Gheo-Shih, Bala'h Gui Wap, Martínez Rockshelter and Cueva Blanca, and the re-analysis of a series of surface
pared from the floral materials.

Analysis. A number of preliminary reports were submitted: (A) a synthesis of results of the palynological research on sites of the non-ceramic period (Guilá Nacuitz, Cueva Blanca, Martínez Rockshelter and Gheo-Shih); (B) an interim report on the quantity and basic results of pollen records obtained during the September-April period of this fiscal year; (C) a first draft and a second draft of my contribution to the joint paper by Flannery and Schoenwetter scheduled for April 1970 publication in Archaeology; (D) an extensive analysis of the results of the palynological research of the fiscal year stressing the results of the surface sample control analysis; and (E) a report on the analysis of pollen spectra from Huitzo and their relationships to the palynological records of other Formative sites. This last report was read at the national meetings of the Society for American Archaeology in May of 1968.

3. FISCAL YEAR 1968-69

Fieldwork. Limited to pollen surface sampling; see report of S. Kitchen.
Technical Processing. In addition to the results reported by Miss Kitchen, 285 modern floral specimens were treated to prepare them as reference pollen types and six sub-surface sediment samples were processed to extract contained pollen. The six sediment samples were analyzed (site of first Abasolo well), and 251 pollen reference slides were prepared from the floral materials.
Analysis. Because of the limited amount of analysis accomplished on sub-surface samples, no reports were issued during this fiscal year. The reduced production was a direct reflection of the imposition of budget ceilings by NSF during this fiscal year. Lack of funds curtailed the planned analysis of sub-surface samples from Hierve el Agua, which we hoped would establish a detailed pollen chronology for the 300 B.C.- 1500 A.D. horizon. About 4/5 of the technical processing accomplished in this fiscal year was supported not by the granting agency or the University of Michigan, but by the Department of Anthropology of Arizona State University.

4. FISCAL YEAR 1969-70

Fieldwork. Palynological sampling programs were established for the sites

of Abasolo, Tomaltepec, San José Mogote and Tierras Largas. Also see report of S. Kitchen.

Technical Processing. Forty sub-surface samples were chemically processed to extract contained pollen and were analyzed during this period. See report of S. Kitchen for data on the extensive surface sample research undertaken.

Analysis. A report was prepared on the sub-surface pollen analysis accomplished during the 1969 calendar year, and a report was prepared for publication dealing with the palynological data from Guilá Naquitz. Also see report of S. Kitchen.

SUMMARY OF RESULTS

SAMPLES	NUMBER PROCESSED	YIELDED DATA
Modern Floral	523	463
Surface sediment controls	191	182
Archaeological sub-surface	350	230

The Pollen Surface-Sampling Program for the Oaxaca Project by

Suzanne Kitchen, Arizona State University

A group of 154 surface pollen samples was collected, extracted and analyzed to provide controlled data with which to compare the archeological pollen spectra. These samples represent a range of environmental situations in the Valley of Oaxaca, grading from the loci of specific cultural activities to the least-disturbed areas available today.

Periodic collecting trips with botanist C. Earle Smith, Jr., in the early summer of 1968 provided a general knowledge of the typical vegetation units within the valley and the variation which should be sampled. Careful records kept for each sampling site on geological zone, water table depth, soil type, natural vegetation, crops, and irrigation practices were supplemented by information on altitude and further water table data gathered previously by Michael and Anne Kirkby. One hundred fifty-one samples were collected in approximately three weeks of travel throughout the valley for this purpose in the late summer of 1968. The surfaces of most Formative-age sites were sampled as part of this collection. In the summer of 1969, three further samples from houses in the villages of Disz Ordaz were collected with the aid of ethnographer T. Downing.

Three hundred grains have been tabulated in the counting of each of the