



## **A Reinvestigation of La Casa de Machado y Stewart, Old Town State Historic Park, San Diego, California**

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### **Overview**

This article addresses the important role that archaeological field and laboratory techniques play in preserving and restoring an historic San Diego landmark, La Casa de Machado y Stewart. Two separate archaeological excavations were undertaken by two local universities almost thirty-five years apart in an attempt to help the California State Department of Parks and Recreation historically renovate the dilapidated residence and recreate the gardens surrounding it with flora appropriate for the period. The recovery of olive and grape pollen during the latter excavation provided evidence for the continued presence of Spanish and Anglo-American agricultural enterprises in Old Town San Diego. Furthermore, statistically significant amounts of *Zea mays* (maize) and *Phaseolus* sp. (bean) pollen suggest the existence of pre-contact Native American agriculture.

### **Background**

Ever since 74-year old Jose Manuel Machado built it in the 1830s, the Machado-Stewart residence has stood in the area now commonly referred to as Old Town San Diego State Historic Park. In February of 1845, Jack/John Stewart married Jose Manuel Machado's youngest daughter Rosa and moved into the Machado home. Rosa subsequently gave birth to eleven children in this residence. Descendents of this union continued to live in the single-story adobe dwelling until the final resident, Mrs. Carmen Meza, was forced to leave due to severe damage caused by the rains of 1966 (Ezell and Broadbent 1968). In 1967, an ad-hoc committee acquired the historical adobe and prevented its destruction. La Casa de Machado y Stewart was incorporated into the newly developed Old Town State Park that was created to preserve some of the historical Mexican structures in San Diego (Ezell and Broadbent 1968).

Although this particular historic landmark has been restored to some degree, a few of the renovations to the structure are historically inaccurate. As a result, in September of 1967, the California State Department of Parks and Recreation formally requested that Dr. Paul H. Ezell, a professor of anthropology at San Diego State University, conduct an "exploratory archaeological excavation" at the adobe residence in order to answer questions about the methods used to construct it (Ezell and Broadbent 1968:1). Since funds were limited, the President of the San Diego State College Anthropology Society, Noel Broadbent, asked members of the Society to carry out the excavations (Ezell and Broadbent 1968).

The primary purpose of the San Diego State excavation was to discover the methods that Jose Machado employed in building his family's home. In addition, the team of young anthropology students was hopeful that it would discover notable artifacts from the Mexican period as well as some from the Spanish period, brought in by Corporal Machado when he moved to this area (Ezell and Broadbent 1968:26). Three of the four trenches and one of the four test pits the students excavated yielded cultural items (Ezell and Broadbent 1968:10-22), including charcoal, buttons, metal and glass fragments, ceramics, and nails. Ezell suggested that there was a correlation between the location of these artifacts on the southwest side of the house and the placement of the kitchen in this part of the residence (Ezell and Broadbent 1968:10). Trench III on the east side of the house also yielded a significant number of prehistoric objects, including Tizon Brownware sherds and a cutting tool of flaked quartzite (Ezell and Broadbent 1968:11).

A nearby trash pit located off the home's northeast corner contained items of a more contemporary nature, including bricks, tin cans, hinges, glass, whitewash stain, a metal blade, railroad spikes, fish remains, and ceramics. The most culturally rich deposit was found within Trench IV located on the north side of La Casa de Machado y Stewart. Ezell believed that the area on this side of the house retained many items because it, unlike the other sides, was partially protected by the front porch. The cultural remains included bones, toys, an old lock, bits of plastic and glass, crucifixes, cartridge cases, and beads (Ezell and Broadbent 1968:11-12). The student team dug Test Pit 4 near the southeast corner of the Machado-Stewart residence because this was along where Mrs. Meza said the outhouse was originally located. This pit, like the aforementioned trenches, yielded artifacts in the form of glass and metal, along with several nails (Ezell and Broadbent 1968:14).

Although San Diego State students were rewarded by the discovery of many artifacts, none of the items could be dated with any certainty to the Mexican period of occupation. Ezell hypothesized that the lack of artifacts from the Mexican period was due to the lowering of the ground level outside of the Machado-Stewart home that had occurred over the years. He believed that there were several factors contributing to the erosion of the soil. Ezell suggested that once the clay was loosened by the feet of people and the hooves of animal, it was carried off by rain, floodwater, and wind (Ezell and Broadbent 1968:27).

Ezell theorized that the Tizon Brownware sherds were once part of a jar used for drinking water. He noted that this type of item was commonly used in the area into the middle 20<sup>th</sup> century, especially in homes lacking plumbing (Ezell and Broadbent 1968:25-26). There is no way to date the quartzite cutting tool discovered in Trench III. It is believed to predate the time of Mexican occupation because the members of the Machado-Stewart residence used similar items made from metal. The possible means by which it might have been deposited are so numerous that any deductions based on its final location would be mere speculation (Ezell and Broadbent 1968:26).

It was difficult to date the cultural items removed from Trench IV because questions remained about the date of the construction of the structure's front porch on the north side of La Casa de Machado y Stewart. There was a discrepancy between the memory of a Machado-Stewart descendent and a photograph from an insurance company. Whereas Mrs. Mustain claimed that

the porch was built in 1911 by her uncle Frank, the photograph with the porch in question, is dated 1890 (Ezell and Broadbent 1968:12).

### **Pollen recovery at La Casa de Machado y Stewart**

In 2002, nearly thirty-five years after the first group of local anthropology students excavated several units around the foundation of the well-known residence, a team of five senior interns—Kristie Anderson, Anna DeYoung, Jill Jones, Isabelle Nogueira, and Mary Paulet—from the Anthropology Program at the University of San Diego were recruited by CRM archaeologist and University of San Diego researcher Patrick Geyer. They were to excavate and obtain fossil pollen samples from the garden area located on the southeast side of La Casa de Machado y Stewart. The excavation was initiated by the California State Department of Parks and Recreation as part of a project to create a database that would list plant species present during past periods of occupation. Such a database would pave the way for a gradual reintroduction of historically accurate native species.

### **Methods**

The USD anthropology students excavated the unit adjacent to La Casa de Machado y Stewart to a depth of 50 cm (Figure 9.1). Four historical levels were identified, from which multiple pollen samples were taken. After reaching sterile soil, five additional samples were taken for environmental and comparative analysis purposes by coring to a final depth of 100 cm. A full account of the methodology and analysis for this unit is given in the field and laboratory report submitted to California State Parks (Geyer 2002a). The main economic species, along with associated artifacts, recovered from the Stewart unit are presented level by level in Figure 9.2.

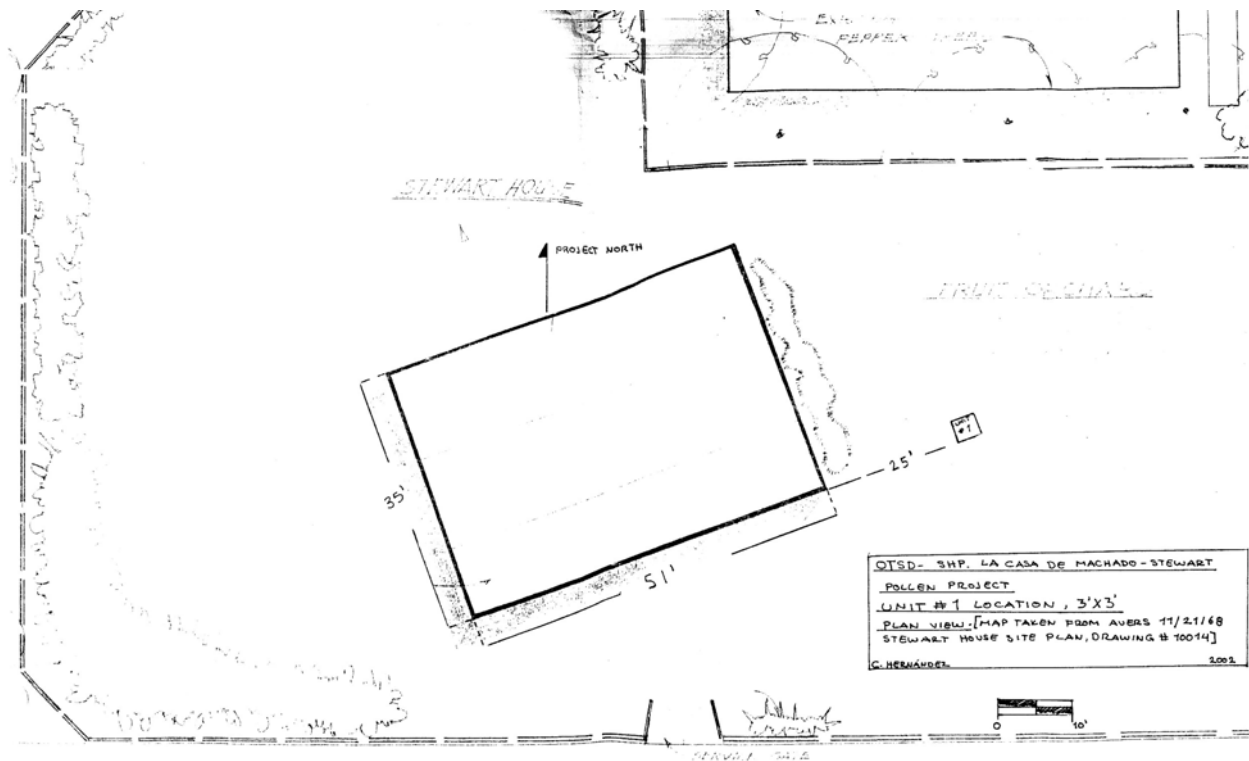


Figure 9.1. Pollen project site map, plan of La Casa de Machado-Stewart. Courtesy Patrick Geyer.

Pollen samples were taken from strata below the 50 cm depth of excavation by means of a soil corer. Such a device consists of a hollow metal tube threaded onto a perpendicular handle. The corer is twisted into the soil, filling the interior with the soil sample in the process. Once the desired depth has been reached, the corer is pulled out and the sample is removed from the tube with a dental pick. Deeper sample depths may be reached by adding two-foot rod extensions between the corer handle and the coring tube.

### Artifact analysis

The USD group, like the team of San Diego State anthropology students, did not initially set out in search of artifacts. However, the single unit excavated in the garden of the Machado-Stewart residence did yield some material remains. Pottery with diagnostic characteristics was discovered in three of the four historical levels (H-2, H-3, and H-4) within the unit. Ironstone pottery was found in Level H-2 (see Figure 9.2). C.J. Mason introduced this type of pottery in 1813. Assorted small pieces of historical glass and part of the bottom of a ceramic cup were found in Level H-4.

Pottery found at various levels in the unit at La Casa de Machado y Stewart and researched by Isabelle Nogueira enabled the corresponding pollen to be dated. The maker's mark on the Ironstone pottery sherd revealed that the pottery was manufactured sometime between 1843 and 1855 by England's Mayer Bros. Company, owned by T.J. & J. Mayer. The date range for this ceramic fragment corresponds with Old Town's post-1846 Anglo-American Period. One of the

pottery sherds discovered in Level H-3 also included a maker's mark. Ralph Hall manufactured this vessel at Sytch Pottery in Burslem, England, sometime between 1822 and 1841. The pattern

Figure 9.2: La Casa de Machado y Stewart

Depth (cm)	Ceramics	Determining Pollen			Period of Occupation	Historical Level
Surface					Modern	H-1
5 cm	None				Modern	H-1
10 cm	Mayer Ceramics (1843-1855)		2 Olive		Anglo-American	
20 cm		2 Grape	10 Olive	12 Maize		H-2
30 cm	Hall Ceramics (1822-1841)	16 Grape	4 Olive	16 Maize	Anglo-Mexican	H-3
40 cm		8 Grape	8 Olive	8 Maize		
50 cm	Cup Fragment and Other Sherd	2 Grape	2 Olive	2 Maize	Spanish	H-4
60 cm	Core-1		8 Olive	8 Maize	Spanish	H-4
70 cm	Core-2			1 Maize	Native American	N.A.
80 cm	Core-3	12 Bean	12 Chia	2 Maize	Native American	N.A.
90 cm	Core-4		8 Chia		Native American	N.A.
100 cm	Core-5		4 Chia		Environmental	E

Figure 9.2. Table of stratigraphic, artifactual, ecofactual evidence from La Casa de Machado y Stewart.

is likely from his Picturesque Scenery Series. The manufacturing timeframe falls within the Mexican Period of Old Town (1821-1846). Consequently, corresponding pollen from that level can be closely dated.

## **Pollen analysis**

The unit at La Casa de Machado y Stewart provided evidence for the continued presence of Spanish and Anglo-American agricultural enterprises in Old Town San Diego, with the presence of olive and grape pollen detected (Figure 9.2). The levels of olive pollen spiked at three different times within the historical periods of the unit. Olive is still present in the park today. The single spike in the values for grape pollen (Historical Level 3) was preceded and followed by a 1% reading, representing a brief interlude when grape vines were introduced and then disappeared. Olive and grape pollen were found in the lowest excavated levels of the unit, but dwindle down to values of 1% or less at the lowest level. Usually, a pollen species representing less than 2% of the total pollen count is deemed statistically insignificant (Faegri and Iverson 1989), suggesting that the observed presence of olive and grape at the lower levels be disregarded. They likely appear at these lower levels as false positives due to percolation (Dimbleby 1985), the downward washing of pollen grains through soil layers. Cultivation and irrigation within the boundaries of the garden allowed the pollen to reach levels lower than that at which they were originally deposited. Thus, Spanish and Anglo-American agriculture in the area likely does not extend to any time period prior to Historical Level 3 (Figure 9.2).

Palynological evidence points to the presence of a Native American polyculture of corn, squash, and beans. Maize shows its highest percentiles in the historical periods. Percentages of maize at La Casa de Machado y Stewart ranged from 1-8% (Figure 9.2). However, evidence of maize cultivation extends past those periods into the pre-contact levels and thus was probably used by both Native Americans and European settlers. There were also notable amounts of bean pollen, although only a single occurrence at a significant level of 6%. Evidence of beans only appears in the pre-contact soil levels indicating that Native Americans were the sole cultivators of beans at this site.

Among the Native American triad of corn, squash, and beans, only squash is missing from the La Casa de Machado y Stewart pollen signature. However, squash does appear within pre-contact levels elsewhere in the park, in samples taken from a unit excavated in the center of the walled garden of La Casa de Estudillo (Geyer 2002a). Squash occurs only in two of the pre-contact levels: Core 5 and Core 10 (Figure 9.3). In Core 10, squash precedes the occurrence of maize. In Core 5, it occurs at the end of the pre-contact progression of maize.

## **Interpretation**

Southern Californian tribes who practiced marginal agriculture planted maize, beans, and squash (Bean 1974), the so-called “CBS” crop grouping. Of these, only maize and bean pollen are present in any significant percentage at La Casa de Machado y Stewart, although squash appears at nearby Casa de Estudillo. Maize pollen was recovered from both the historical and prehistoric periods, suggesting a continuation in use, while bean pollen was only found within the pre-contact levels. If the presence of maize in the pre-contact levels is dismissed as merely representing an importation of this grain from other sources for local consumption, then the occurrence of maize, beans, and squash at the overall site could be the basis for a counter argument for the presence of marginal agriculture in pre-contact San Diego County.

Figure 9.3: La Casa de Estudillo

Depth (cm)	Ceramics	Determining Pollen	Period of Occupation	Historical Level
Surface			Modern	H-1
15 cm	None	7 Maize	Anglo-American	H-2
20 cm			Anglo-Mexican	H-3
30 cm		24 Maize		
40 cm	None	12 Maize	Spanish	H-4
50 cm	4 Chia	1 Maize 2 Maize		
60 cm	Core-1		Native American	N.A.
70 cm	Core-2	6 Maize		
80 cm	Core-3		Native American	N.A.
90 cm	Core-4			
100 cm	Core-5	4 Squash	Native American	N.A.
	Core-6	8 Maize		
	Core-7		Native American	N.A.
	Core-8	6 Chia	8 Maize	
	Core-9	6 Chia	8 Maize	Native American
	Core-10	2 Squash		N.A.

Figure 9.3. Table of stratigraphic, artifactual, and ecofactual evidence from La Casa de Estudillo.

## Conclusion

Palynological evidence of Spanish, Mexican, and Anglo-American horticulture at La Casa de Machado y Stewart allows for a more accurate historical reconstruction of the gardens of Old Town San Diego. In addition, the pre-contact levels of pollen detected in core samples extend the growing body of evidence for Native American maize culture within San Diego County (Geyer 2002b; Geyer 2003; Cheever and Collett 2004). The presence of such a maize culture is well documented to the north among the Cahuilla, near present-day Palm Springs (Bean et al. 1962). It is also present to the east among the Yuma, near present-day Yuma, Arizona (Casterter and Bell 1951). The evidence presented here suggests that there was an expansion of maize culture from the banks of the Colorado River west to the Pacific coast of Southern California.

The analysis of recovered artifacts carried out by the USD team allowed for more precise dating of the strata and exemplified the complementary nature of ecofactual and artifactual data. It provided data upon which to base historical reconstruction of the Old Town gardens and offered a more detailed picture of historical life at La Casa de Machado y Stewart.

## References

Bean, John Lowell and William H. Mason

1962 *Diaries and Accounts of the Romero-Estudillo Expeditions in Arizona and California in 1823-1826*. Palm Springs Desert Museum: Palm Springs.

Bean, John Lowell

1974 *Mukat's People, The Cahuilla Indians of Southern California*. University of California Press: Berkeley and Los Angeles.

Castetter, Edward F. and Willis H. Bell

1951 *Yuman Indian Agriculture: Primitive Subsistence on the Lower Colorado and Gila Rivers*. The University of New Mexico Press: Albuquerque.

Cheever, D. and Russ Collett

2004 Final Results of National Register Eligibility Evaluation for CA-SDI-4426 on the Lower Santa Margarita River, on Marine Corps Base Camp Pendleton San Diego County, California (IDIQ#N6811-98-D-5763 D.O. 0009). RECON: 1927 Fifth Avenue, Suite 200, San Diego, CA 92101-2358.

Dimbleby, G. W.

1985 *The Palynology of Archaeological Sites*. Academic Press, Inc., New York.

Ezell, Paul H. and Noel D. Broadbent

1968 Archaeological Investigations at the Casa De Jose Manuel Machado (The Stewart House) 2724 Congress Street, Old Town San Diego, 1967. Department of Anthropology, San Diego State University, San Diego.

Faegri, Knut and Johannes Iverson

1989 *Textbook of Pollen Analysis*. John Wiley and Sons: Chichester.

Geyer, Patrick Scott

2003 Camp Pendleton Intra Site Pollen Analysis, Santa Margarita River. Cultural Resource Management Report. Submitted to RECON, Contract No. N68711-98-D-5763. RECON, 1927 Fifth Avenue, Suite 200, San Diego, CA 92101-2358.

2002a University of San Diego Palynology Investigation: Reconstructive Pollen Study of the Old Town San Diego Gardens. Submitted to California State Parks, State of California, Dept. of Parks and Recreation, 9609 Waples Street, Suite 200, San Diego, CA 92121.

2002b Pollen Analysis of Site CA-SDI-10156/12599/H, Marine Corps Base Camp Pendleton, California. Submitted to EDAW, Contract No. N68711-98-D-5724. Stan Berryman, AC/S, Environmental Security, Archaeological Resources Branch, Marine Corps Branch, Box 555008, Camp Pendleton, CA, 92055-5008.