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Acacia Pollen Associated with the Abandonment of a Prehistoric Mimbres Archeological Site.

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A high concentration of *Acacia* pollen grains was recovered from a soil sample taken from Room 60, one of the last rooms occupied at the NAN Ranch Ruin, a prehistoric Mimbres archeological site occupied from 550 to 1150 A.D [1]. One hundred and twenty-eight soil samples were tested from eleven rooms at the NAN Ranch Ruin for pollen grains and spores [2].

Lycopodium spores were added to each 20 ml soil sample to enable pollen and spore concentration levels to be calculated. Soil samples were placed in hydrochloric acid, rinsed, and screened through 200 micrometer mesh. Following treatment in hydrofluoric acid, rinsing, and sonication, the residues were placed in zinc bromide with a density of 2.0 and the heavy fraction was discarded. The light fraction containing pollen and spores was then acetolysed, rinsed in alcohol, and mounted on slides. The extracted pollen grains were identified by observation with a Swift compound light microscope at 100x to 1000x magnifications.

The concentration of *Acacia* pollen recovered from sample 12 in Room 60 at the NAN Ranch Ruin was far greater than the average concentration of *Acacia* pollen of other samples taken from Room 60 (Fig. 1). Such a high pollen concentration implies that *Acacia* flowers were associated with sample 12. Moore notes that *Acacia* flowers and leaves were used by southwestern Indians as a very effective sedative [3]. Because psychoactive plant materials such as harvested *Datura* seeds have been recovered at another Mimbres archeological site [4], this discovery of *Acacia* pollen may also indicate prehistoric psychoactive alkaloid utilization. While the species of *Acacia* pollen recovered from sample 12 cannot be determined, three alkaloids have been extracted from an *Acacia* species currently found in northeastern Mexico [5]. It is not clear what association may be made between the use of *Acacia* flowers and site abandonment [6].

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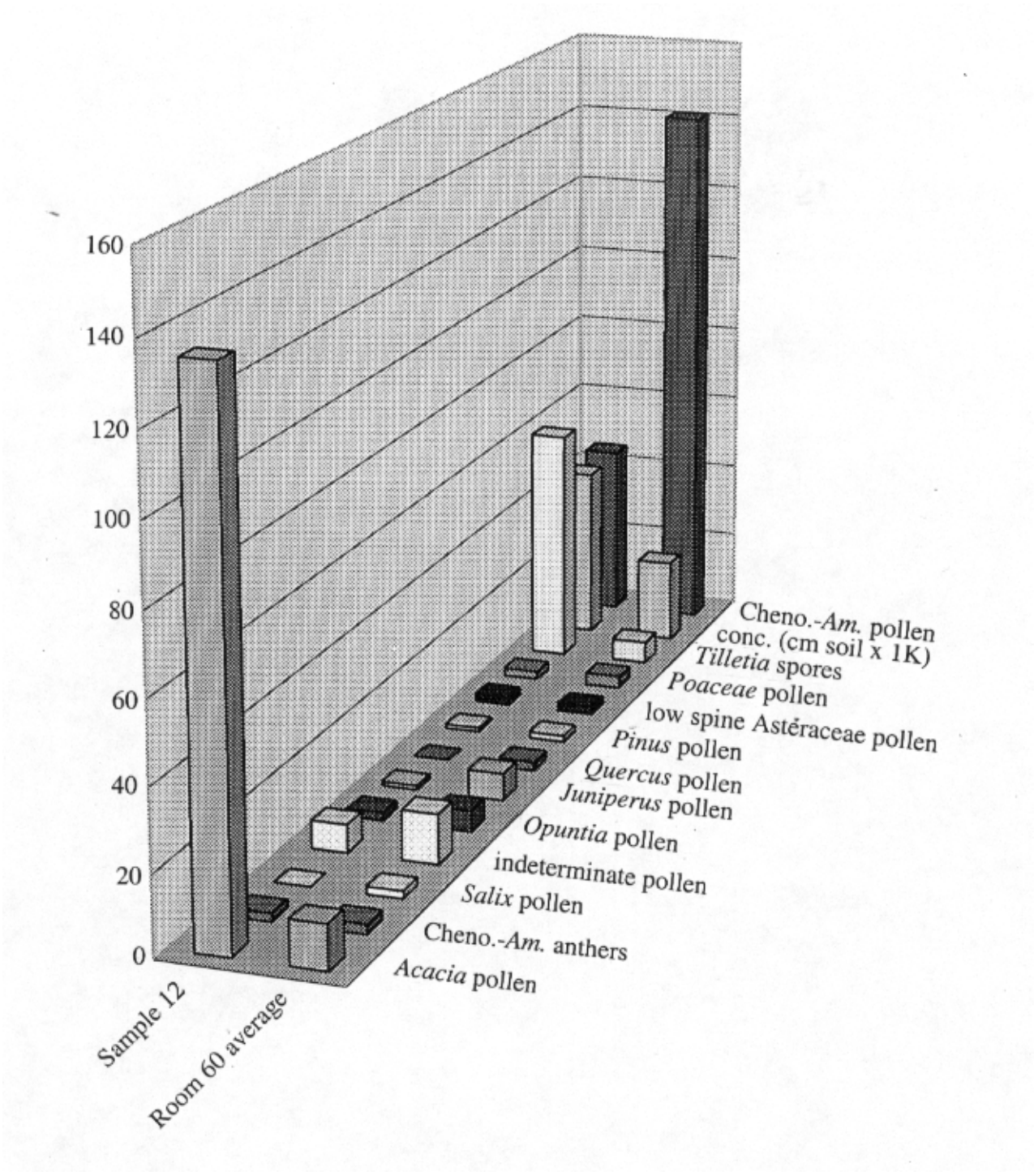

FIG. 1. Graph of pollen and spore total counts and concentration levels for sample 12 and the average for room 60. Cheno.-*Am.* designates pollen of the Chenopodiaceae family and the *Amaranthus* genus which are not distinguishable from one another using light microscopy.

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