



Ethnobotany of the Saguaro, An Annotated Bibliography

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... these Indians live free from drunkenness, more so than others. Only during the season of the pitahaya, in such localities where it may be found, do they happen to make wine out of it. This might last them two or three days. They do not use it to the excess that other nations do.

—Father Juan Velarde, S.J., writing in 1716—

When I'toi gave the Indian people the saguaro cactus wine, he gave it to them for only two days, to have a dizzy effect for only two days, to use as medication. I'toi knew that to stay dizzy for days was not good for man.

Anglos made wine for every day. Now the Indian people stay drunk for days. When our god gave the cactus wine, it was for a sacred purpose, not to abuse it. Even the women were allowed to take a sip during the feast day for medication. Now the Indian women lie to themselves. When they take a drink, they say it is for their medication. Next day, there they were, passed out from over medication.

—Papago elder, speaking in 1979—

Frontispiece. Indians passing by saguaros, one of which has died and is decaying. A scene depicted by Baldwin Möllhausen in *Diary of a journey from the Mississippi to the coasts of the Pacific with a United States exploring expedition*, published in 1858. Reproduction made possible by Special Collections, University of Arizona Library.

The following is a list of published references relating to the use made of the saguaro cactus (*Cereus giganteus* or *Carnegiea gigantea*) by members of the various Indian groups whose aboriginal territories encompass this outstanding plant of the Sonoran Desert. Papagos are pre-eminent in this respect, but the saguaro was utilized as well by Pimas, South-eastern Yavapais, Northeastern Yavapais, Western Yavapais, Walapais, Western Apaches, Chiricahua Apaches, Seris, Maricopas, Halchidomas, Opatas, and Yaquis. It is likely, although not clearly documented, that the saguaro was utilized occasionally by Quechans (Yumas), Mohaves, Mayos, and Warihios.

What is not included here is a list of published sources concerning the modern relationship between the saguaro and non-Indians, admittedly an important aspect of any ethnobotany. The ongoing concern human beings have for the saguaro is evidenced by such phenomena as Saguaro National Monument near Tucson, Arizona (with both an east and west unit); by laws protecting the saguaro from vandalism and removal; by the sale of saguaro seeds and the popularity of the plant as an ornamental; by the fact that its blossom is the state flower of Arizona; and by its use in all manner of promotional literature relating to southern Arizona. This is not to mention non-Indian specialists such as botanists and plant pathologists who devote considerable time and effort to the study of this single cactus.

What becomes clear, however, as one peruses the bibliography, is that nearly all of the reporting concerning the saguaro, including its use by Indians, has been done by non-Indians. Accounts of the harvesting, preparation of food, fermenting of wine, and of the ceremonial wine feast have been written almost exclusively by outside observers. The data suffer accordingly. One looks forward to the day that someone, preferably a Papago Indian, will give us an "insider's" view of the saguaro and its uses.

In the list that follows, I have made no attempt to cite more than one edition of any book. And in all cases, I have tried to cite the edition most likely to be available in a public library, usually the most recent.

The Bibliography

Anonymous

- 1929 The sahuaro cactus. *Science*, new series, Vol. 70, no. 1821 (November 22), p. xii. New York, Science Press. [A seven-paragraph summary of Thackery and Leding (1929).]
- 1930 Cactus orchards. *Masterkey*, Vol. 4, no. 3 (August-September), p. 94. Los Angeles, Southwest Museum. [Papago saguaro fruit harvest discussed, with note that women gather fruit and prepare syrup while men haul water and wood. Syrup stored in sealed clay jars. If wheat ripens at the same time, half the family works in the wheat harvest and the other half in the saguaro harvest.]
- 1948 Arizona jam session. *Magazine Tucson*, Vol. 1, no. 7 (October), pp. 32-33. Tucson, The Magazine Tucson, Inc. [Six paragraphs deal with the Papago use of saguaro fruit.]
- 1955 The saguaro cactus. Arizona's state flower. *Saguaroland Bulletin*, Vol. 9, no. 5 (May), pp. 52-59. Tempe, Arizona, Desert Botanical Garden of Arizona. [Includes mention of the fact that the saguaro harvest marks the Pima and Papago New Year and that it has been an important item of food for them.]

Arizona Writers Project, W. P. A.

- 1942 Children of the desert. *Arizona Highways*, Vol. 18, no. 1 (January), pp. 34-37. Phoenix, Arizona Highway Department. [Six paragraphs concern the Papago harvest and use of saguaro fruit.]

Austin, Mary

- 1924 *The land of journey's ending*. New York & London, Century Company. [An account of the Papago saguaro fruit harvest, preparation of the syrup and wine, and wine ceremony is on pages 152-154.]

Barlow, J. W., D. D. Gaillard, and A. T. Mosman

- 1898 Report of the boundary commission upon the survey and remarking of the boundary between the United States and Mexico west of the Rio Grande, 1891 to 1896. Parts 1 and 2. *Senate Executive Documents*, no. 247, 55th Congress, 2nd session. Washington, Government Printing Office. [Saguaro fruit harvested by Papago "squaws." Some is eaten fresh, some is dried for winter use, some is boiled into preserves; some is made into syrup; "and not a little is consumed in the manufacture of a highly intoxicating fermented drink" (p. 22).]

Bartlett, John R.

- 1965 *Personal narrative of explorations and incidents in Texas, New Mexico, California, Sonora, and Chihuahua, 1850-1853*. Two volumes. Chicago, Rio Grande Press, Inc. [Reprint of the 1854 edition. On July 1, 1852, Bartlett reported that he and his fellow boundary surveyors were visited by Pimas who brought them "the fruit of a *petahaya* rolled up in masses or balls as large as one's fist. ... All became very fond of it, and our Indian friends found a ready sale for all they brought. Jars of molasses extracted from the

same were also offered for sale" (Vol. 2, pp. 217–218). Bartlett also asserted that Pima boys used the tops of saguaros for bow-and-arrow practice, a scene illustrated in the book (Vol. 2, pp. 237–238).]

Beals, Ralph L.

1934 *Material culture of the Pima, Papago, and Western Apache*. Berkeley, California, U.S. Department of the Interior, Field Division of Education. [Data from Russell (1908), Hrdlička (1908), and Kissell (1916) concerning Pima and Papago use of saguaro for food, drink, and in their basketry (see pp. 11, 21, and 27).]

1945 The contemporary culture of the Cáhita Indians. *Bulletin of the Bureau of American Ethnology*, no. 142. Washington, Government Printing Office. [The Cáhita are the Yaqui and Mayo Indians. The Yaquis gathered fruit of the "pitahaya," which may or may not include saguaro (pp. 10–11).]

Bigelow, John M.

1856 General description of the botanical character of the country. In *Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean . . .*, Vol. 4, part 5, no. 1, pp. 1–16. *Senate Executive Documents*, no. 78, 33rd Congress, 2nd session. Washington, Beverly Tucker. [Bigelow was in Walapai Indian country in 1854 where he described the saguaro. He says the "Indians," probably Walapais, "collect large quantities of it (i.e., saguaro fruit) by tying a fork to the little end of a long willow pole. . . They make a syrup, or conserve, from the juice" (p. 13).]

Boggs, Stanley H.

1936 A survey of the Papago people. Master's thesis, Department of Anthropology, University of Arizona, Tucson. [The Papago saguaro wine ceremony is described on pages 57–59; the fruit harvest is mentioned on page 99.]

Bohrer, Vorsila L.

1970 Ethnobotanical aspects of Snaketown, a Hohokam village in southern Arizona. *American Antiquity*, Vol. 35, no. 4 (October), pp. 413–430. Washington, D.C., Society for American Archaeology. [This is the outstanding discussion of the presence of saguaro seeds in an archaeological context. Saguaro seeds constituted 29.7% of all seeds found in trash deposits at Snaketown, and they occurred from the earliest through the latest levels of the site. Pima Indian use of saguaro fruit is also thoroughly considered.]

1971 Paleoecology of Snaketown. *The Kiva*, Vol. 36, no. 3 (Spring), pp. 11–19. Tucson, Arizona Archaeological and Historical Society. [Brief mention made of saguaro seeds found in prehistoric archaeological contexts at Snaketown in southern Arizona.]

Bourke, John G.

1895 The folk-foods of the Rio Grande Valley and of northern Mexico. *Journal of American Folk-*

Lore, Vol. 8, no. 28 (January–March), pp. 41–71. Boston and New York, Houghton, Mifflin and Company. [Bourke, who went out with Apaches to help harvest saguaro fruit in Pima Indian country, says the ripening of saguaro fruit "used to be the signal . . . for the downcoming from the mountains of bands of Apache Indians." The women made a preserve by boiling down the pulp, placing the product in "jars" (p. 52).]

Bowden, Charles

1977 *Killing the hidden waters*. Austin, University of Texas Press. [Bowden uses data from McGee (1971) to calculate the annual consumption of saguaro and other cactus fruits by Seri Indians (pp. 41–42); he summarizes the Papagos' uses of saguaro (p. 51); and he quotes Underhill (1973) in writing about the Papagos' saguaro wine feast.]

Bowen, Ruby

1939 Saguaro harvest in Papagoland. *Desert Magazine*, Vol. 2, no. 8 (June), pp. 3–5. El Centro, California, Desert Publishing Company. [Information collected from Papagos living at San Xavier. Includes description of harvesting and preparation of the fruit, manufacture of wine, and legends concerning the saguaro. Illustrated.]

Bowen, Thomas, and Edward Moser

1968 Seri pottery. *The Kiva*, Vol. 33, no. 3 (February), pp. 89–132. Tucson, Arizona Archaeological and Historical Society. [Includes a discussion of the use of earthenware vessels in the preparation by Seri Indians of saguaro fruit wine (pp. 115, 120).]

Browne, John R.

1974 *Adventures in the Apache country. A tour through Arizona and Sonora, 1864*. Tucson, University of Arizona Press. [A re-edition of the Arizona and Sonora portions of the 1869 book. Browne says that the Indians—Pimas and Maricopas—make "a kind of molasses" out of saguaro fruit, and he follows Bartlett (1965) in asserting that Indians shoot at saguaros with bows-and-arrows. He also says, "A difference of opinion exists as to whether the petayah is not a distinct species from the suaro; but I never could find any two persons who could agree, after exhausting all their erudition on the subject, upon any point except this—that neither of them knew anything about it" (pp. 77–78).]

Bruder, J. Simon

1975 Historic Papago archaeology. *Anthropological Research Paper*, no. 9, pp. 271–337. Tempe, Arizona State University. [Also see Goodyear (1975). Discussion of Papago archaeology, including "features of saguaro harvest camps" (pp. 285–286), in the northwestern quadrant of the Papago Indian Reservation.]

1977 Changing patterns in Papago subsistence strategies: archaeology and ethnohistory compared. *The Kiva*, Vol. 42, nos. 3–4 (Spring–Summer), pp. 233–256. Tucson, Arizona Archaeological and Historical Society. [Emphasis in the study is on the archaeological correlates of saguaro harvesting camps. A camp is mapped

- and the harvesting equipment is illustrated. The study area was at the southern end of the Slate Mountains of the Papago Indian Reservation.]
- Bruhn, Jan G.**
1971 *Carnegiea gigantea*: the saguaro and its uses. *Economic Botany*, Vol. 25, no. 3 (July–September), pp. 320–329. Lawrence, Kansas, Society for Economic Botany. [Using other published sources, the author makes a very thorough listing of uses made by Indians of the saguaro: food, wine, oil, tanning, shelter, fences, cups, gathering sticks, and “ceremonial uses.”]
- Bryan, Kirk**
1925 The Papago country, Arizona. *United States Geological Survey Water Supply Paper*, no. 499. Washington, Government Printing Office. [The saguaro is discussed in some detail on page 46. Bryan says, “The fruit is prized by the Papagos, who use it for making sahuaro sirup and wine; the seed is used for making flour. The spines of the sahuaro are dry and will burn ... with startling rapidity and with a bright flare. This quality leads to the occasional use of the sahuaro for signalling at night.” He also mentions use of the ribs by Indians in the construction of huts and corrals.]
- Cain, H. Thomas**
1962 *Pima Indian basketry*. Phoenix, The Heard Museum of Anthropology and Primitive Arts. [Saguaro ribs are used in framing for the Pima burden basket (pp. 25–26).]
- Castañeda de Najera, Pedro de**
1940 Narrative of the expedition to Cibola, undertaken in 1540, in which are described all those settlements, ceremonies, and customs. In *Narratives of the Coronado expedition, 1540–1542*, translated and edited by George P. Hammond and Agapito Rey, pp. 191–283. *Coronado Cuarto Centennial Publications, 1540–1940*, Vol. 2. Albuquerque, University of New Mexico Press. [In what could be either Pima or Opatá country of northern Sonora, Castañeda says the Indian men and women “are inveterate sodomites. They drink the juice of the pitahaya (possibly, but not certainly, saguaro), a fruit of big thistles which opens like the pomegranate. They become stupefied with this drink” (p. 251).]
- Castetter, Edward F.**
1935 Ethnobiological studies in the American southwest. I. Uncultivated native plants used as sources of foods. *University of New Mexico Bulletin*, no. 266, *Biological Series*, Vol. 4, no. 1. Albuquerque, University of New Mexico Press. [Pimas use the saguaro fruit for food; Papagos use the fruit for food, including preserves, and the seeds for flour and oil. They also make a syrup from the fruit (pp. 7, 12, 19, and 44).]
- Castetter, Edward F., and Willis H. Bell**
1937 Ethnobiological studies in the American southwest. IV. The aboriginal utilization of the tall cacti of the American southwest. *University of New Mexico Bulletin*, no. 307, *Biological Series*, Vol. 5, no. 1. Albuquerque, University of New Mexico Press. [A thoroughly researched ethnohistorical and ethnobotanical survey of the saguaro appears on pages 6–27.]
- 1942 *Pima and Papago Indian agriculture*. Albuquerque, University of New Mexico Press. [References occur throughout concerning the Pima and Papago uses of the saguaro. See the index of the book (p. 243, “sahuaro”).]
- 1951 *Yuman Indian agriculture*. Albuquerque, University of New Mexico Press. [The authors say that the saguaro fruit was less important in the diet of Maricopas than in that of the Pimas and Papagos. Even so, the Maricopas enjoyed the “celebration and debauch” which went with the drinking of saguaro wine, a custom they apparently got from the Pimas. The Mohave and Cocopa did not use saguaro, but the Yumas (Quechans) obtained it in trade and used it to a small degree (pp. 205–206).]
- Castetter, Edward F., and Morris E. Opler**
1936 Ethnobiological studies in the American southwest. III. The ethnobiology of the Chiricahua and Mescalero Apache. A. The use of plants for foods, beverages, and narcotics. *University of New Mexico Bulletin*, no. 297, *Biological Series*, Vol. 4, no. 5. Albuquerque, University of New Mexico Press. [The Chiricahua Apaches used saguaro syrup as a sweetening substance in their corn beer. They formerly gathered and used saguaro fruit using methods much like those of the Papagos.]
- Castetter, Edward F., and Ruth M. Underhill**
1935 Ethnobiological studies in the American southwest. II. The ethnobiology of the Papago Indians. *University of New Mexico Bulletin*, no. 275, *Biological Series*, Vol. 4, no. 3. Albuquerque, University of New Mexico Press. [AMS Press of New York reprinted this study in 1979. It lists dozens of uses made of the saguaro and its various parts by Papagos. See the listing in the index on page 82 (“sahuaro”).]
- Chesky, Jane**
1942 The wiikita. *The Kiva*, Vol. 8, no. 1 (November), pp. 3–5. Tucson, Arizona Archaeological and Historical Society. [Mention made of a mock hunt in which the hunters feign getting drunk on wine from saguaro fruit as part of the Papago Indian wiikita ritual (p. 5).]
- 1943 The nature and function of Papago music. Master's thesis, Department of Anthropology, University of Arizona, Tucson. [A first hand account of the saguaro wine ceremony held at Gu Achi on the Papago Indian Reservation in August, 1942, appears on pages 73–79. Music for the wine songs is transcribed on pages 95–96. And the mock drunkenness in the wiikita ceremony is alluded to on pages 79–81.]
- Clark, Ann N.**
1969 *Along sandy trails*. Photographs by Alfred A. Cohn. New York, Viking Press. [A children's book about Papago Indians with superb color photographs, including those of the saguaro harvest on pages 7, 25, and 26. The text about the harvest is on pages 25–26.]

Cremony, John C.

- 1969 *Life among the Apaches*. Glorieta, New Mexico, Rio Grande Press, Inc. [Reprint of the 1868 edition. Cremony, who was among the Pimas and Maricopas in 1850, describes the Pima and Maricopa saguaro fruit harvest and annual wine "revelry," and says that "it is also a universal custom among them to take regular turns, so that only one-third of the party is supposed to indulge at one time, the remainder being required to take care of their stimulated comrades, and protect them from injuring each other or being injured by other tribes" (pp. 111-112). He also says that the Yumas, knowing of this Maricopa and Pima custom, make raids on them at this time.]

Culin, Stewart

- 1975 *Games of the North American Indians*. New York, Dover Publications. [Reprint of the 1907 edition. Papago dice made of saguaro rib segments described on pages 146-148.]

Curtin, L. S. M.

- 1949 *By the prophet of the earth*. Santa Fe, San Vicente Foundation, Inc. [Includes discussion of Pimas' use of saguaro fruit: gruel used to make milk flow after childbirth; seeds used for chicken feed and as lard substitute; wine; ribs used as splints for broken bones; seeds used in tanning (pp. 53-54). Also, ribs used in house construction, for shelves, and in carrying baskets and cradles (pp. 112, 114, 115-116, and 119). Legend of bird getting drunk on saguaro fruit wine recounted (p. 136). Papago wine ceremony alluded to.]

Curtis, Edward S.

- 1908 *The North American Indian*. Vol. 2. Cambridge, Massachusetts, The University Press. [Mention made of use of saguaro ribs in burden baskets among Pimas (p. 33) and of saguaro fruit as food and wine among the Maricopas, the latter "a deplorable custom" presumably acquired from the Pimas (p. 82). Artistic photos of saguaro harvesting by Pimas and "Qahatika" (i.e., Kohatk Papagos) facing page 4 and preceding pages 41 and 109.]
- 1909 Village tribes of the desert. *Scribner's Magazine*, Vol. 45, no. 3 (March), pp. 275-287. New York, Charles Scribner's Sons. [Curtis says of Pimas and saguaro fruit that "they use it fresh, dried, made into a thick, heavy jelly; and lastly, but by no means least, is the making of it into wine" (p. 284). Photo of women harvesting saguaro fruit on page 281.]

C[utak], L[adislaus]

- 1939 Sacred tree of the Papago Indians. *Missouri Botanical Garden Bulletin*, Vol. 27, no. 10 (December), pp. 196-201. St. Louis, Board of Trustees of the Missouri Botanical Garden. [Papago saguaro fruit harvest, making of syrup and wine, and annual wine ceremony are discussed.]

Davidson, D. S.

- 1935 Knotless netting in America and Oceania. *American Anthropologist*, Vol. 37, no. 1 (January-March), pp. 117-134. Menasha, Wis-

consin, American Anthropological Association. [Mention made of Pima and Papago burden baskets being constructed on saguaro rib frames (p. 123).]

Davis, Edward H.

- 1920 The Papago ceremony of Vikita. *Indian Notes and Monographs*, Vol. 3, no. 4, pp. 158-178. New York, Museum of the American Indian, Heye Foundation. [This detailed account of the summer vikita ceremony held annually at Quitobac, Sonora, Mexico, describes the preparation and use of saguaro wine in the ceremony (pp. 174-176).]

[Densmore, Frances]

- 1921 Music of the Papago and Pawnee. *Smithsonian Miscellaneous Collections*, Vol. 72, no. 6, pp. 102-107. Washington, The Smithsonian Institution. [In November, 1920, Densmore visited the Papago village of Santa Rosa to learn about the summer saguaro wine rain making ceremonies. She photographed a saguaro harvesting camp and the wine house and collected a sample of saguaro syrup and a wine basket.]

Densmore, Frances

- 1929 Papago music. *Bulletin of the Bureau of American Ethnology*, no. 90. Washington, Government Printing Office. [Mention made of saguaro wine in viikita ceremonies (p. 137). And the rain (saguaro wine) ceremony, including the harvest of the fruit and making of wine as well as its consumption, is described in detail on pages 148-163. Words and music for songs and texts of speeches are included. Myths of the origins of the saguaro and of the rain ceremony are given, and the photos mentioned in [Densmore] (1921) are published (Plate 19). Densmore also mentions that the Papago name for the Big Dipper is "Cactus Hook," because of its resemblance to the saguaro harvesting pole and hook.]

DeWald, Terry

- 1979 *The Papago Indians and their basketry*. Tucson, Terry DeWald. [The Papago saguaro fruit harvest and wine feast are discussed, and the former is shown in photographs (pp. 9-10); saguaro wine pots are mentioned (p. 25); a basket is illustrated which has as its design a repeated woman harvesting saguaro fruit (p. 45).]

Díaz, Juan

- 1930 Diary kept by Father Juan Díaz ... In *Anza's California expeditions*, translated and edited by Herbert E. Bolton, Vol. 2, pp. 245-290. Berkeley, University of California Press. [Díaz, who was among Papagos in 1774, says of them that they "wander almost continually, ... at ... times in the arroyos to live on the bean of the mesquite, and again in the plains, seeking the pitaya, the tuna, the saguaro and other wild fruits" (pp. 260-261).]

Diguet, L.

- 1928 Les cactacées utiles du Mexique. *Archives d'Histoire Naturelle*, Vol. 4. Paris, Société Nationale d'Acclimatation. [Mention is made of the use by Papagos of saguaro ribs in building their houses (p. 395).]

Dobyns, Henry F.

- 1972 *The Papago people*. Phoenix, Indian Tribal Series. [Frontispiece is color photo of Papago woman harvesting saguaro fruit. Saguaro harvest and wine feast discussed on pages 3–4; importance of fruits and syrup in trade with Pimas mentioned on page 5.]

Dodge, Natt M.

- 1942 Mi amigo ... saguaro. *Arizona Highways*, Vol. 18, no. 5 (May), pp. 8–13, 39. Phoenix, Arizona Highway Department. [Mentions Papago saguaro fruit harvest, wine ceremony, and use of ribs for ramada roofs (pp. 10–11).]

Doelle, William H.

- 1976 Desert resources and Hohokam subsistence: the Conoco Florence project. *Arizona State Museum Archaeological Series*, no. 103. Tucson, Arizona State Museum. [In attempting to understand the behavior of prehistoric Indians who lived and worked in an area near Florence in southern Arizona, Doelle draws on Pima and Papago ethnographic analogy. Saguaro fruit harvesting is one activity considered in great detail, including four photographs of a Papago saguaro harvest (Plates 8–11, p. 75). See pages 70–77 and 94–99.]

Doyel, David E.

- 1976 Reply to Raab's A prehistoric cactus camp in Papageria. *Journal of the Arizona Academy of Science*, Vol. 11, no. 1 (February), pp. 42–43. Tempe, Arizona Academy of Science. [Criticism of the work of Raab (1973) is based on the latter's presumed failure to take into account different ways in which archaeological sites are formed and his assumption that tempering material in pottery correlates with intended pottery use. The prehistoric sites considered are presumed saguaro harvesting camps on the Papago Reservation.]

Drucker, Philip

- 1941 Culture element distributions: XVII. Yuman-Piman. *Anthropological Records*, Vol. 6, no. 3, pp. 91–230. Berkeley, University of California Press. [This checklist of the presence or absence of various cultural traits among Pimans and Yumans, including a discussion of same, mentions saguaro wine and fruit on pages 97, 153, 169–170, and 211–212. Groups considered are Pima, Papago, Maricopa, Yaqui, Walapai, and Yavapai.]

Emory, William H.

- 1951 *Lieutenant Emory reports: a reprint of Lieutenant W. H. Emory's Notes of a Military Reconnaissance*. Introduction and notes by Ross Calvin. Albuquerque, University of New Mexico Press. [Emory, who was in the Pima villages in November, 1846, makes passing mention of the "molasses expressed from the fruit" of the saguaro and its being "put up in large jars, hermetically sealed" (pp. 133, 135). He says the fruit is much prized by Mexicans and Indians (p. 117). This account is a reprint, with notes added, of the 1848 publication.]

Engelmann, George

- 1856 Description of the cactaceae. In *Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean ...*, Vol. 4, part 5, pp. 27–58. Washington, Beverly Tucker. [Says that the fruit of saguaro is important to Mexicans and Indians in regions where it grows; describes Indian method of harvesting the fruit with a hooked pole (p. 36).]

Enos, Susie I.

- 1945 Papago legend of the sahuaro. *Arizona Quarterly*, Vol. 1, no. 1 (Spring), pp. 64–69. Tucson, University of Arizona. [A Papago version of the origin of the saguaro; a rare account by a Papago Indian.]

Euler, Robert C., and Volney H. Jones

- 1956 Hermetic sealing as a technique of food preservation among the Indians of the American southwest. *Proceedings of the American Philosophical Society*, Vol. 100, no. 1 (February), pp. 87–99. Philadelphia, American Philosophical Society. [Other published sources are cited in discussing Papago methods of sealing saguaro syrup inside ceramic vessels (pp. 90, 91, 94, and 97).]

Ezell, Paul H.

- 1937 Shell work of the prehistoric southwest. *The Kiva*, Vol. 3, no. 3 (December), pp. 9–12. Tucson, Arizona Archaeological and Historical Society. [It is possible that prehistoric Indians used a mild acid made from saguaro fruit to etch marine shells. Papagos made a vinegar from saguaro fruit (p. 12).]
- 1961 The Hispanic acculturation of the Gila River Pima. *Memoirs of the American Anthropological Association*, no. 90. Menasha, Wisconsin, American Anthropological Association. [In depicting Pima life in the late 17th and during the 18th centuries, Ezell notes the sex division of labor and cooperative nature of the saguaro harvest (pp. 25, 42, and 105); the importance of saguaro fruit as a food source (pp. 11, 41, and 131); eaglet cages made of saguaro ribs (p. 77); and saguaro wine drinking (pp. 86–87).]

Felger, Richard S., and Mary Beck Moser

- 1974 Columnar cacti in Seri Indian culture. *The Kiva*, Vol. 39, nos. 3–4 (Spring–Summer), pp. 257–275. Tucson, Arizona Archaeological and Historical Society. [Seri Indians use saguaro fruit for food and wine; fruit skins in games; ribs in house walls and staves for blind, elderly, or steadying poles in the foot drum dance; and portions of the stem as a cure for rheumatism and to stop rain. The placenta of a newborn child is traditionally buried at the base of a saguaro or cardon cactus.]
- 1974 Seri Indian pharmacopoeia. *Economic Botany*, Vol. 28, no. 4 (October–December), pp. 414–436. Bronx, New York Botanical Garden for the Society for Economic Botany. [Saguaro is listed as one of the plants whose slice of fresh stem is used by Seri Indians as a cure for rheumatism and aching parts of the body.]

Fisher, Karen

- 1977 Papago harvest. *Arizona Highways*, Vol. 53, no. 6 (June), pp. 2–5. Phoenix, Arizona Department of Transportation. [This account of Papago fruit harvesting and processing is based on interviews with and observations of Juanita Ahill and her son Warren in their cactus camp.]

Font, Pedro

- 1930 Diary of an expedition to Monterey by way of the Colorado River, 1775–1776. In *Anza's California expeditions*, translated and edited by Herbert E. Bolton, Vol. 4. Berkeley, University of California Press. [In recounting a myth told to him by a Pima, Font writes, "He said also that once The Drinker became angry with the people, and killed many of them and changed them into saguaros, and this is why there are so many saguaros in that country" (p. 40). This is the earliest recounting of the Pima myth of the origin of the saguaro thus far encountered.]

Fontana, Bernard L., William J. Robinson, Charles W. Cormack, and Ernest E. Leavitt, Jr.

- 1962 *Papago Indian pottery*. Seattle, University of Washington Press. [Use of pottery in wine ceremony outlined on page 14; saguaro syrup and saguaro boiling vessels discussed on pages 37 and 47; saguaro wine house illustrated on page 41; and process of sealing syrup in a jar illustrated on pages 38–39.]

Freedman, Robert L.

- 1976 Native North American food preparation techniques. *Boletín Bibliográfico de Antropología Americana*, Vol. 38 (no. 47), pp. 101–159. México, Instituto Panamericano de Geografía e Historia, Comisión de Historia. [Includes four paragraphs on the preparation of saguaro syrup by Papagos, with all data from Thackery and Leding (1929) (pp. 148–149).]

Gaillard, Donald D.

- 1896 The perils and wonders of a true desert. *The Cosmopolitan*, Vol. 21, no. 6 (October), pp. 592–605. Irvington-on-the-Hudson, New York, Cosmopolitan Press. [Gaillard, who was among Papagos in 1893, writes of their use of saguaro fruit for food, syrup, and wine. He says they use ribs in their architecture and to make chicken coops, traps, and items of household furniture. The ribs "form a covering for their graves when they die. So in death, as in life, the Papago is near his beloved 'Saguaro'" (p. 600).]

Garcés, Francisco

- 1900 *On the trail of a Spanish pioneer. The diary and itinerary of Francisco Garcés in his travels through Sonora, Arizona, and California, 1775–1776*. Translated and edited by Elliott Coues. Two volumes. New York, Francis P. Harper. [A one-volume version of this diary was published in 1965 by John Howell—Books, in San Francisco. Garcés describes a saguaro wine party held in his honor on the Gila River among the Pimas in late August or early September 1776. No women got drunk (Vol. 2, pp. 439–440). And in a footnote, Coues quotes Father

Juan María Salvatierra, S.J. concerning cactus wine feasts in general to the effect that they "resemble the carnival in some parts of Europe, when men are in a great measure stupefied or mad. The natives here, also, throw aside what little reason they have, giving themselves up to feasting, dancing, entertainment of the neighboring rancherias, buffooneries, and comedies, such as they are; and in these whole nights are spent to the high diversion of the audience" (Vol. 2, p. 439, note 32).]

- 1930 Garcés's diary of his detour to the Jalchedunes. In *Anza's California expeditions*, translated and edited by Herbert E. Bolton, Vol. 2, pp. 373–392. Berkeley, University of California Press. [On June 23, 1774, Father Garcés encountered a group of Pimas from a Gila River village "who were gathering saguaro, a fruit very much like the pitaya" (p. 388).]

Gasser, Robert E.

- 1976 Hohokam subsistence: a 2,000 year continuum in the indigenous exploitation of the lower Sonoran Desert. *Archaeological Report*, no. 11. Albuquerque, United States Department of Agriculture, Forest Service, Southwestern Region. [Papago cactus camps are discussed from an archaeological perspective as are data from Ross (1944) on nutritional value of the saguaro.]
- 1979 Seeds, seasons, and ecosystems: sedentary Hohokam groups in the Papageria. *The Kiva*, Vol. 44, nos. 2–3 (Winter–Spring), pp. 101–111. Tucson, Arizona Archaeological and Historical Society. [Brief consideration is given to possible prehistoric saguaro harvesting camps in the Papago country (pp. 104–105).]

Gifford, Edward W.

- 1932 The Southeastern Yavapai. *University of California Publications in American Archaeology and Ethnology*, Vol. 29, no. 3, pp. 177–252. Berkeley, University of California. [The Southeastern Yavapai harvested saguaro fruit with a hooked pole and ate the fruit and drank the juice. Apparently they made no wine. Seeds were eaten as well. Preparation details given (pp. 210–211).]
- 1936 Northeastern and Western Yavapai. *University of California Publications in American Archaeology and Ethnology*, Vol. 34, no. 4, pp. 247–354. Berkeley, University of California Press; London, Cambridge University Press. [Both these groups harvested saguaro fruit; the Northeastern Yavapai carried on the warpath with them small cakes made of ground saguaro seeds; no record of either group making wine (p. 260).]

Gladwin, Harold S., Emil W. Haury, E. B. Sayles, and Nora Gladwin

- 1965 *Excavations at Snaketown. Material culture*. Tucson, University of Arizona Press. [Re-edition of the 1937 publication. There is some evidence at Snaketown, a prehistoric site on the Gila River, that saguaro fruit was harvested in prehistoric times (p. 158).]

Goddard, Pliny E.

- 1918 Myths and tales from the San Carlos Apache. *Anthropological Papers of the American Museum of Natural History*, Vol. 24, part 1, pp. 1-86. New York, The Trustees. [The saguaro is included in the mythology of the San Carlos Apaches (p. 66).]

Goodwin, Grenville

- 1935 The social divisions and economic life of the Western Apache. *American Anthropologist*, Vol. 37, no. 1 (January-March), pp. 55-64. Menasha, Wisconsin, American Anthropological Association. [Saguaro fruit is listed as one of the staple wild foods of the Western Apaches (p. 62).]
- 1969 *The social organization of the Western Apache*. Tucson, University of Arizona Press. [Reprint of the 1942 edition. Writes Goodwin: "Saguaro, growing in the low country of the Gila Valley, ripened in July, when some people went to gather it. Parties such as this even penetrated as far as the Arivaipa country along the Lower San Pedro River. The crop was not so important as others, however, and only a limited number went after it" (p. 165). He is referring to unspecified bands of Western Apaches.]

Goodyear, Albert C., III

- 1975a Hecla II and III: an interpretive study of archaeological remains from Lakeshore project, Papago Indian Reservation, south central Arizona. *Anthropological Research Paper*, no. 9. Tempe, Arizona State University. [This is a version of the author's Arizona State University Ph.D. dissertation, 1975. It includes a very thorough consideration of the archaeological evidence for the location and size of saguaro harvesting camps, including data from ethnographic comparisons. Nutritional information are from Ross (1941). See pages 77-119 and 383-384.]
- 1975b *The historical and ecological position of protohistoric sites in the Slate Mountains, south central Arizona*. Columbia, Institute of Archaeology and Anthropology, University of South Carolina. [The Pima house with saguaro rib walls mentioned on page 17; speculation concerning prehistoric saguaro fruit gathering, based on Papago ethnographic models, is on pages 31-33, 43-48, and 50. The region under discussion is on the Papago Indian Reservation.]

Goodyear, Albert C., III, and Alfred E. Dittert, Jr.

- 1973 Hecla I: a preliminary report on archaeological investigations at the Lakeshore project, Papago Reservation, south central Arizona. *Anthropological Research Paper*, no. 4. Tempe, Arizona State University. [An archaeological site survey of the region at the south end of the Slate Mountains in Arizona disclosed saguaro fruit gathering camps.]

Greene, Robert A.

- 1936 The composition and uses of the fruit of the giant cactus (*Carnegiea gigantea*) and its products. *Journal of Chemical Education*, Vol. 13

(July), pp. 309-312. Easton, Pennsylvania, Division of Chemical Education of the A.C.S. [A discussion of Papago uses of saguaro fruit, with analytical data concerning the fruit, rag, syrup, preserve, seeds, and wine. Some information on harvesting and eating dried caterpillars with saguaro wine.]

Gregonis, Linda M., and Karl J. Reinhard

- 1979 *Hohokam Indians of the Tucson Basin*. Tucson, University of Arizona Press. [Includes scattered mention of the likelihood, here presented as a certainty, that the Hohokam utilized the saguaro for food in the Tucson Basin of southern Arizona in prehistoric times.]

Grossmann, Frederick E.

- 1873 *The Pima Indians of Arizona. Annual Report of the Board of Regents of the Smithsonian Institution ... for ... 1871*, pp. 407-419. Washington, Government Printing Office. [Grossmann says of Pimas that they are "inordinately fond" of Saguaro wine, "and old and young partake of it until the whole nation are wildly dancing about in a drunken frenzy, until at last they drop to the ground overcome by the stupefying effect of the liquor" (p. 419).]

Group Work, Pima boys

- 1953 Pima farming. In *The new trail*, edited by Ann Clark, pp. 28-33. Phoenix, Arizona, Phoenix Indian School Print Shop. [A one-paragraph account by Pima boys of the saguaro harvest and uses of the fruit, including pudding, syrup, jam, preserves, and wine (p. 32). The first edition of this book was published in 1941.]

Gunst, Marie L.

- 1930 Ceremonies of the Papago and Pima Indians, with special emphasis on the relationship of the dance to their religion. Master's thesis, College of Letters, Arts, and Sciences, University of Arizona, Tucson. [Includes information from a Papago concerning the rain ceremony, describing the making of the wine and the dances. Fairly detailed. See pages 38-43.]

Hackenberg, Robert A.

- 1962 Economic alternatives in arid lands: a case study of the Pima and Papago Indians. *Ethnology*, Vol. 1, no. 2 (April), pp. 186-196. Pittsburgh, University of Pittsburgh Press. [The importance of saguaros to Pimas and Papagos mentioned on page 188.]

Haefler, J. Richard

- 1977 Papago music and dance. *Occasional Papers*, Vol. 3, *Music and Dance Series*, no. 4. Tsailie, Arizona, Navajo Community College. [Songs sung during the annual saguaro wine ceremony are discussed on page 11, 25-26, and 30-31. Saguaro rib bullroarers are illustrated on page 12.]

Hall, Sharlot M.

- 1907 The story of a Pima record rod. *Out West*, Vol. 26, no. 5 (May), pp. 413-423. Los Angeles, Out West Magazine Company. [In 1835, Pimas gather saguaro fruit in the Estrella Mountains to make syrup; they stay two weeks before going

home. In 1836 Apaches momentarily capture a Pima girl while Pimas are harvesting saguaro, and in 1837 a Pima woman is killed by Apaches while harvesting saguaro fruit.

Hardy, Robert W. H.

1977 *Travels in the interior of Mexico, in 1825, 1826, 1827, & 1828*. Glorieta, New Mexico, Río Grande Press, Inc. [Reprint of the 1829 edition. Somewhere near the Yaqui River in Sonora, Hardy's Mexican guide harvested "petaya," possibly saguaro fruit, by cutting a sharp point at the tip of the harvesting pole, "and at the distance of about three inches from it, he secured a small bit of stick across, in order to prevent the point from entering too far" (p. 212).]

Harshberger, John W.

1926 The sahuaro, or giant cactus. *General Magazine and Historical Chronicle*, Vol. 28, pp. 122-125. Philadelphia, Pennsylvania University, General Alumni Society. [I have not examined this article, but presumably mention is made of the Indians' use of saguaro.]

Hart, Elisabeth

1937 Native foodstuffs as a supplement to the food budget of Arizona desert Indians. *Indians at Work*, Vol. 5, no. 3 (November 1), pp. 14-15. Washington, D.C., Office of Indian Affairs. ["... the seeds of the saguaro are carefully collected and used to furnish fat for gravy and gruels. (One 4-H boy produced prodigious growth in his poultry flock with these seeds.)" (p. 14)]

Haury, Emil W.

1976 *The Hohokam: desert farmers & craftsmen*. Tucson, University of Arizona Press. [Includes discussion of possible prehistoric manufacture of saguaro wine (pp. 113, 120, and 156); use of fruit to make an acid for etching shell (pp. 113, 318); and use of fruit as food (p. 113).]

Haury, Emil W., Kirk Bryan, Edwin H. Colbert, Norman E. Gabel, Clara Lee Tanner, and T. E. Buehrer

1950 *The stratigraphy and archaeology of Ventana Cave, Arizona*. Tucson, University of Arizona Press; Albuquerque, University of New Mexico Press. [Ventana Cave on the Papago Indian Reservation was used in historic times by Papagos as a place to get water and near which to camp while harvesting saguaro fruits. The report includes photos of the harvesting camp and Papago harvesters (Plate 8) as well as numerous references to saguaro throughout. Consult the index, p. 594, "sahuaro."]

Havard, Valery

1895 Food plants of the North American Indians. *Bulletin of the Torrey Botanical Club*, Vol. 22, no. 3 (March 27), pp. 98-123. New York, Torrey Botanical Club. [A one-paragraph note included to the effect that Apaches, Pimas, and Papagos used saguaro and that Indians made a syrup and wine from its fruit (p. 116).]

1896 Drink plants of the North American Indians. *Bulletin of the Torrey Botanical Club*, Vol. 23, no. 2 (February 29), pp. 33-46. New York, Torrey Botanical Club. [Mention that Indians and

Mexicans who live in the region of the saguaro "prepare a clear light-brown syrup [from the fruit] ... and a fermented liquor having the taste and smell of sour beer."]

Hayden, Julian D.

1937 The Vikita ceremony of the Papago. *Southwestern Monuments Monthly Report*, supplement for April, pp. 263-277. Coolidge, Arizona, National Park Service. [This account of a 1936 vikita ceremony mentions saguaro being represented in the costuming of some Papago participants; of saguaro ribs being used to support floats; and of a pantomime of getting drunk, presumably on imaginary saguaro wine.]

Herbert, Charles W.

1955 Saguaro harvest in the land of the Papagos. *Desert Magazine*, Vol. 18, no. 11 (November), pp. 14-17. Palm Desert, Desert Press, Inc. [Six excellent photos illustrate the major events in the saguaro camp. Described are harvesting, preparation, and use of fruit, including sorting and storage. The cactus camp was near Santa Rosa on the Papago Reservation.]

1969 Papago saguaro harvest. *Arizona Highways*, Vol. 45, no. 1 (January), pp. 2-7. Phoenix, Arizona Highway Department. [Very similar to Herbert (1955).]

Hine, Robert V.

1968 *Bartlett's West. Drawing the Mexican boundary*. New Haven and London, Yale University Press. [Scattered references to saguaro throughout, including quotations from Bartlett (1965) on its use by Pimas and Maricopas. Included are reproductions of water colors by Henry Pratt showing saguaros (Plates 12 and 35) and a pencil and sepia by Bartlett of Tucson which shows saguaros in the foreground.]

Hrdlička, Aleš

1904 Notes on the Indians of Sonora, Mexico. *American Anthropologist*, new series, Vol. 6, no. 1 (January-March), pp. 51-89. Lancaster, Pennsylvania, American Anthropological Association. [Author says Opatá Indians made fermented liquor out of the fruits of various cacti, including that of saguaro (p. 73).]

1906 Notes on the Pima of Arizona. *American Anthropologist*, new series, Vol. 8, no. 1 (January-March), pp. 39-46. Lancaster, Pennsylvania American Anthropological Association. [Author says that the only native drink of the Pimas, "now rarely made, is a wine manufactured from the juice of the saguaro" (p. 45).]

1908 Physiological and medical observations among the Indians of the southwestern United States and northwestern Mexico. *Bulletin of the Bureau of American Ethnology*, no. 34. Washington, Government Printing Office. [Includes a discussion of saguaro fruit as a food for Maricopa (p. 265), Pima (p. 261), and San Carlos Apache (p. 257) Indians; saguaro wine among the Maricopa, Pima, and Papago Indians (p. 28); and the use of saguaro ribs by Pimas for splints (p. 247).]

Johnson, Jean B.

- 1950 The Oyata: an inland tribe of Sonora. *University of New Mexico Publications in Anthropology*, no. 6. Albuquerque, University of New Mexico Press. [Johnson says the Opatas used the fruit of the saguaro less than did other Indians because of its distribution's being limited to the Pimeria Alta (p. 11).]

Johnston, Bernice

- 1969 I'll take the low road. *Desert Magazine*, Vol. 32, no. 5 (May), pp. 6–11. Palm Desert, California, Desert Magazine. [Papago Indian saguaro harvest mentioned as well as the uses made of the fruit (p. 8).]

Jones, Alden W.

- 1937 Additional information about the Vikita. *Southwestern Monuments Monthly Report*, supplement for May, pp. 338–341. Coolidge, Arizona, National Park Service. [Includes a good discussion of the mock hunt and wine drinking by Papagos at the vikita ceremony. The liquor, presumably saguaro wine, is imaginary.]

Jones, Richard D.

- 1969 An analysis of Papago communities 1900–1920. Ph.D. dissertation, Department of Anthropology, University of Arizona, Tucson. [This study includes by far the most detailed listing of contemporary cactus harvesting areas on the Papago Reservation (pp. 177–201) as well as detailed discussion of the Wi'igita ceremonies and wine feasts (pp. 313–408). Outstanding for its comprehensiveness.]
- 1971 The wi'igita of Achi and Quitobac. *The Kiva*, Vol. 36, no. 4 (Summer), pp. 1–29. Tucson, Arizona Archaeological and Historical Society. [“Teswin,” i.e., saguaro wine, in the Papago wi'igita ceremony at Quitobac alluded to.]

Joseph, Alice, Rosamund Spicer, and Jane Chesky

- 1949 *The desert people*. Chicago, University of Chicago Press. [The annual Papago rain ceremony—starting with the harvesting of saguaro fruit and including the making of wine—is described on pages 73–77. Two photos by Chesky showing the saguaro harvest are on page 75.]

Keasey, Merritt S., III

- 1975 Harvesting-time in the saguaro forest. *Pacific Discovery*, Vol. 28, no. 2 (March–April), pp. 25–29. San Francisco, California Academy of Sciences. [A detailed, step-by-step description of what happens in a Papago saguaro harvesting camp. Keasey says that some of the ground seeds are mixed with water to make a gravy “for use on tortillas or bread.” Others are mixed with sugar to make a candy for the children; the rest are fed to chickens.]

Kiefer, Mildred S.

- 1952 *Our Papago neighbors*. Phoenix, Arizona, Phoenix Elementary Schools. [Here are condensed versions of the saguaro fruit harvest and annual wine ceremony of the Papagos, written for children (pp. 16–25).]

Kilcrease, A. T.

- 1939 Ninety-five years of history of the Papago calendar stick. *Southwestern Monuments Monthly Report*, supplement for April, pp. 297–310. Coolidge, Arizona, National Park Service. [Papago calendar record collected at Covered Wells on the Papago Reservation. Published without the author's name in *The Papago Indian Reservation and the Papago people* (edited by William Tatom, 1974). For 1844: Pima woman killed near Sacaton while harvesting saguaro fruit; 1869: vikita held at which saguaro wine was drunk; 1907: saguaro wine mentioned.]

Kino, Eusebio F.

- 1948 *Kino's historical memoir of Pimeria Alta*. Two volumes in one. Translated and edited by Herbert E. Bolton. Berkeley and Los Angeles, University of California Press. [Re-edition of the 1919 volumes. In September and October, 1698, Papagos living near Caborca, Sonora, presented Father Kino with “many of their very plentiful pitajayas”—either saguaro or organ pipe fruit (Vol. 1, p. 187). And between April, 1700, and April 1701, many cattle had strayed from San Xavier del Bac “on account of the neglect of the few cowboys, especially when they had gone to eat pitajayas” (Vol. 1, p. 291).]

Kirk, Ruth

- 1955 A year among the giant cactus. *Audubon Magazine*, Vol. 57, no. 1 (January–February), pp. 18–21. New York, National Audubon Society. [Brief mention made of the relationship between Papago Indians and the saguaro.]
- 1973 Life on a tall cactus. *Audubon*, Vol. 75, no. 4 (July), pp. 12–23. New York, National Audubon Society. [Mention is made of the fact that the traditional calendar year of the Papagos begins with the ripening of saguaro fruit. Kirk also writes of a Shoshoni woman in Death Valley, California, who “spoke of traveling to the Colorado River to trade for ripe saguaro fruit and join in the harvest. It was a trip she had made only a time or two, and one that possibly dated no farther back than the transportation convenience of automobiles; yet her experience indicates the widespread importance attached to saguaro fruit by the aboriginal people of the desert” (p. 19).]

Kissell, Mary L.

- 1972 *Basketry of the Pima and Papago Indians*. Glorieta, New Mexico, Rio Grande Press, Inc. [Reprint of the 1916 edition. Saguaro ribs are used in Papago and Pima coops, cages, hanging shelves, doors, cradles, house walls, and burden baskets. These are variously discussed and illustrated on pages 134–135, 142–144, 146–147, 232, and 237–243.]

Kroeber, Alfred L.

- 1931 The Seri. *Southwest Museum Papers*, no. 6. Los Angeles, Southwest Museum. [In the Seri calendar, May is given as the month when

pitahaya, including saguaro fruit, ripens (p. 11). Series, like Pimas and Papagos, refer to the constellation Ursa Major as a saguaro or pitahaya fruit-gathering stick, a pole with a bar diagonally across the end.]

Kroeber, Alfred L., editor

- 1935 Walapai ethnography. *Memoirs of the American Anthropological Association*, no. 42. Menasha, Wisconsin, American Anthropological Association. [Saguaro grows in the lower Big Sandy area of Walapai country. Various uses made of saguaro by Walapai include its use for food and drink, but not as a fermented drink. Coyote is said to have made the giant cactus (pp. 50–51, 247).]

LaBarre, Weston

- 1938 Native American beers. *American Anthropologist*, Vol. 40, no. 2 (April–June), pp. 227–234. Menasha, Wisconsin, American Anthropological Association. [Includes a one-paragraph summary of the saguaro wine ceremony, with data from published sources (p. 232).]

Lapham, Macy H.

- 1948 The desert storehouse. *Scientific Monthly*, Vol. 66, no. 6 (June), pp. 451–460. Lancaster, Pennsylvania, American Association for the Advancement of Science. [Includes mention of the use of saguaro ribs by "southern desert Indians."]

Larson, Peggy

- 1970 *Deserts of America*. Englewood Cliffs, N. J., Prentice-Hall, Inc. [Chapter 15, dealing with the "Desert People," discusses the fruit harvest and wine making and includes original photographs of fruit processing.]

Lloyd, John W.

- 1911 *Aw-aw-tam Indian nights*. Westfield, New Jersey, the Lloyd Group. [This is the Pima origin story. Lloyd tells how Pimas harvested the saguaro and treated the fruit, including making it into "tis-win," when "they had 'big drunks' ... in which all the tribe joined in a general spree" (pp. 123–124). He says the Pima name for Ursa Major is the same as the name for the saguaro harvesting pole. He also prints the story of Corn and Tobacco, which includes the story of the origin of the saguaro and its distribution (p. 229).]

Lumholtz, Carl

- 1971 *New trails in Mexico*. Glorieta, New Mexico, Rio Grande Press, Inc. [Re-edition of the 1912 book. Lumholtz toured Papago country in 1909–1910, and his book includes detailed descriptions of the saguaro, its harvest by Papagos, and the wine feast (he participated in one at Noria, the modern Nolic on the Papago Reservation). See "Sahuaro" in index, p. 409.]

Lumholtz, Carl, and I. N. Dracopoli

- 1912 The Sonora desert, Mexico. *Geographical Journal*, Vol. 40, no. 5 (November), pp. 503–518. London, Royal Geographical Society. [A one-

paragraph summary of the Papago use of saguaro and the annual rain ceremony appears on page 509. Says Lumholtz, "Even the wooden tissue bags, produced inside the stem by the woodpeckers, are made to serve as water bottles or drinking vessels."]

MacDougal, Daniel T.

- 1905 The suwarro, or tree cactus. *Journal of the New York Botanical Garden*, Vol. 6, no. 68 (August), pp. 129–133. Lancaster, Pennsylvania, New York Botanical Garden. [Saguaro fruit is said to be an important food among the "Papago, Maricopa, Yaqui, and other Indians" (p. 133).]
- 1908a Across Papaguera. *Bulletin of the American Geographical Society*. Vol. 40, no. (December), pp. 1–21. New York, American Geographical Society. [MacDougal notes that Indians make use of the fruit of the saguaro, "fresh, fermented, and preserved." He exaggerates when he says, "Scores of tribal battles have been fought in Papaguera over the sahuaro harvest," and he notes the use by Papagos of saguaro ribs in house walls, corrals, and barriers around small gardens (pp. 17–18).]
- 1908b Across Papaguera. *Plant World*, Vol. 11, no. 5 (May), pp. 93–99; no. 6 (June), pp. 123–131. Tucson, Arizona. [Same as MacDougal (1908a).]

McGee, William J.

- 1898 Papaguera. *National Geographic Magazine*, Vol. 9, no. 8 (August), pp. 345–371. Washington, National Geographic Society. [Mention is made of the use of saguaro ribs in Papago architecture (p. 363) and of the saguaro fruit harvest (p. 371).]
- 1971 *The Seri Indians*. Glorieta, New Mexico, Rio Grande Press, Inc. [Reprint of the 1898 book. McGee discusses Seri harvesting and consumption of saguaro fruit on page 206; he mentions use of saguaro ribs in Seri shelters on page 221.]

Mark, Albyn K.

- 1960 Description of and variables relating to ecological change in the history of the Papago population. Master's thesis, Department of Anthropology, University of Arizona, Tucson. [Mention is made of Papago movement to cactus camps as being "an important kind of seasonal movement" in June or early July (p. 53).]

Mason, J. Alden

- 1920 The Papago harvest festival. *American Anthropologist*, Vol. 22, no. 1 (January–March), pp. 13–15. Lancaster, Pennsylvania, American Anthropological Association. [This is a description of the winter vikita ceremony. Mason notes the use of saguaro ribs in the construction of the vikita enclosure (p. 19); the use of fetishes representing saguaros (p. 21); and the mock making of saguaro wine and its drinking (p. 23). He also asserts that the ritual clowns, or *nanawitcu*, "represent sahuaros ... and wear turkey feathers on their heads to represent the fruit" (pp. 17–18). Mason is the only investigator to make this assertion.]

- Mason, Otis T.**
 1896 Primitive travel and transportation. *Annual Report of the Board of Regents of the Smithsonian Institution for 1894*, pp. 237–593. Washington, Government Printing Office. [Papago burden baskets, with saguaro rib frames, are described on pages 469–472; a Papago cradle, which uses saguaro wood in its construction, is listed on page 537.]
 1970 *Aboriginal American basketry*. Glorieta, New Mexico, Rio Grande Press, Inc. [Reprint of the 1904 book. The Pima burden basket, with its saguaro rib frame, is discussed and illustrated on pages 294, 339, and 520.]
- Mathiot, Madeleine**
 1973 *A dictionary of Papago usage*. Language Science Monographs, Vol. 8, nos. 1 and 2. Bloomington, Indiana University, Research Center for Language and Semiotic Studies. [This two-volume dictionary, Papago to English only, comes close to being the Papago equivalent of the Oxford English Dictionary. The orthography differs from that in Saxton and Saxton (1969), so that "saguaro" in Mathiot is *haaxañig* rather than *hahshani* and the saguaro fruit harvesting pole is *ku'ipaḍ* instead of *kuipaD*, as examples.]
 n.d.
- Michler, N.**
 1857 From the 111th meridian of longitude to the Pacific Ocean. In *Report on the United States and Mexican boundary survey*, by William H. Emory, Vol. 1, part 1, pp. 101–125. *House Executive Documents*, no. 135, 3th Congress, 1st session. Washington, Cornelius Wendell. [This report, written in 1856, briefly discusses the Papagos' use of saguaro fruit on pages 121–123.]
- Mitich, Larry W.**
 1972 The saguaro—a history. *Cactus and Succulent Journal*, Vol. 44, no. 3 (May–June), pp. 118–129. Reseda, California, Cactus and Succulent Society of America. [This is a history of the discovery of and reporting on the saguaro by non-Indians. Included is a discussion of the importance of the saguaro to Papagos; a photo of a Papago woman harvesting the fruit is included.]
- Möllhausen, Baldwin**
 1858 *Diary of a journey from the Mississippi to the coasts of the Pacific with a United States exploring expedition*. Translated from the German by Mrs. Percy Sinnett. Two volumes. London, Longman, Brown, Green, Longmans & Roberts. [Includes a detailed description of the saguaro near the Bill Williams Fork in west central Arizona, including an illustration of saguaros with Indians walking beneath them. The author says the fruit "... is a kind of favorite food of the Indians, who also prepare a syrup from it by boiling it in earthen vessels" (Vol. 2, pp. 218–221).]
- Monthan, Guy, and Doris Monthan**
 1979 *Nacimientos. Nativity scenes by Southwest Indian artisans*. Flagstaff, Northland Press. [Included are nativity scenes made by Papago Indians Domingo and Chepa Franco, all of them using saguaro rib in their construction.]
- Moore, Kirke T.**
 1902 Quajaiti, a village on the desert. *University of Arizona Monthly*, Vol. 4, no. 6 (April), pp. 183–187. Tucson, University of Arizona. [Includes a very brief description of brewing "teswin" (i.e., saguaro wine) at the village of Kohatk on the Papago Reservation. He says those "who indulge in it" become "very quarrelsome" (p. 187).]
- Moser, Mary B.**
 1970 Seri: from conception to infancy. *The Kiva*, Vol. 35, no. 4 (April), pp. 201–210. Tucson, Arizona Archaeological and Historical Society. ["In former times the placenta (of a newborn Seri) was then buried at the base of a giant cactus, either (saguaro) or (cardon)" (p. 205).]
- Murbarger, Nell**
 1948 Saguaroland. *Frontiers*, Vol. 12, no. 5, pp. 144–148. Philadelphia, Academy of Natural Sciences of Philadelphia. [Mention is made of the importance to Papagos of saguaro for food, drink, and shelter. The wine feast is discussed as are Papago religious beliefs concerning the saguaro.]
- Niethammer, Carolyn**
 1974 *American Indian food and lore*. New York, Collier Books; London, Collier Macmillan Publishers. [Contains good discussions of gathering saguaro fruit; preparing the seeds and making syrup; nutrition; medicinal uses; pudding, jelly, jam, seed bread; and the wine feast. Data from Papago Indians.]
- Och, Joseph**
 1965 *Missionary in Sonora. The travel reports of Joseph Och, S.J., 1755–1767*. Translated and annotated by Theodore Treutlein. San Francisco, California Historical Society. [Father Och served in the Sonoran missions of San Ignacio (among Pimans), Cumuripa, Baserac, and Bavispe. He says the Indians made an "agreeable beverage using Indian fig or ... pitahaya fruit whose juice is pressed out by hand in astonishing quantities by old women using mortars hollowed out in the rocks. This juice is blood-red in color and if it were not squeezed and pressed under such filthy conditions would be found palatable even by the finest gentlemen" (p. 155). Och also refers to the fact that Indian manufacture of any intoxicating beverages has "been forbidden and the making of them is punishable."]
- Opler, Morris E.**
 1965 *An Apache life-way*. New York, Cooper Square Publishers, Inc. [Reprint of this 1941 ethnography of the Chiricahua Apaches. A brief account of the harvesting and consumption of the fruit of the "giant cactus" by these Apaches is given on page 360.]

- Ortiz, Alfonso**
1974 Farmers and raiders of the Southwest. In *The world of the American Indian*, prepared by the National Geographic Book Service, pp. 156–201. Washington, D.C., National Geographic Society. [The Papago saguaro harvest is illustrated in five excellent color photographs on pages 185–187. A six-paragraph "caption" accompanies the photos.]
- Palmer, Edward**
1871 Food products of the North American Indians. *Report of the Commissioner of Agriculture for the year 1870*, pp. 404–428. Washington, Government Printing Office. [Palmer writes about drying saguaro pulp by placing it in the sun tied between corn husks and using it for winter or in trade. He tells of selling it in earthen pots, and mentions a sample kept in Washington for three years which has retained its sweetness. He says syrup is sold for \$2.00 to \$5.00 in one-gallon jugs; that Pimas make a wine from the fruit "in every respect superior to much of the wine on sale" and enjoy an annual wine feast which involves getting drunk and going after Apaches (pp. 416–417, Plate XXIV).]
- Pfefferkorn, Ignaz**
1949 *Sonora: a description of the province*. Translated and annotated by Theodore E. Treutlein. *Coronado Cuarto Centennial Publications, 1540–1940*, Vol. 12. Albuquerque, University of New Mexico Press. [Father Pfefferkorn served among the Pimas at Ati in Sonora from 1756 to 1763, and elsewhere in Sonora until 1767. He says that Indians were forced into mission settlements in dry years when saguaro fruit and other wild foods failed (p. 30); he describes the "delectable honey" prepared from the blood-red juice of saguaro fruit (p. 77). He describes the wine feasts on pages 176–177, saying the wine is prepared from "pitahayas, tunas, and maize."]
- Pomeroy, J. Anthony**
1959 Hohokam etched shell. *The Kiva*, Vol. 24, no. 4 (April), pp. 12–21. Tucson, Arizona Archaeological and Historical Society. [Marine shells may have been etched in prehistoric times using an acid made from saguaro fruit.]
- Procter, Claire M.**
1948 Saguaro: majesty of the desert. *Arizona Highways*, Vol. 24, no. 12 (December), pp. 8–13. Phoenix, Arizona Highway Department. [The Papago harvest of saguaro fruit and preparation of the wine are discussed on pages 12–13. Four photos by Charles Herbert—the same as in Herbert (1955)—are included.]
- Pumpelly, Raphael**
1965 *Pumpelly's Arizona*. Edited by Andrew Wallace. Tucson, Palo Verde Press. [Reprint of Southwest portions of Pumpelly's 1869 book, *Across America and Asia*. He says Papagos use the saguaro fruit for food and make a syrup of it "which seems to be as much prized among these Indians as the sugar and syrup of the maple are among the northeastern tribes" (p. 76).]
- Queen, Laurinda**
1978 Southwestern Indian musical instruments. *The Smoke Signal*, no. 35, pp. 1–24. Tucson, Arizona, Tucson Corral of the Westerners. [Double bullroarers made of saguaro wood are illustrated on page 14. They are Papago from the San Xavier Reservation.]
- Raab, L. Mark**
1973 AZ. AA:5:2: a prehistoric cactus camp in Papagueria. *Journal of the Arizona Academy of Science*, Vol. 8, no. 3 (October), pp. 116–118. Tempe, Arizona Academy of Science. [Discussion of presumed prehistoric (ca. A.D. 1200–1400) saguaro fruit gathering camps near the Slate Mountains on the Papago Reservation. Analogies are drawn from Papago data. This article was challenged by Doyel (1976).]
- Reagan, Albert B.**
1929 Plants used by the White Mountain Apache Indians of Arizona. *Wisconsin Archaeologist*, Vol. 8, pp. 143–161. Milwaukee, Wisconsin Natural History Society. [Reagan says the White Mountain Apaches (part of the Western Apache tribe) made saguaro fruit into a kind of butter but did not eat the fresh fruit (pp. 143, 147, and 156).]
- Ross, Winifred**
1944 The present-day dietary habits of the Papago Indians. Master's thesis, School of Home Economics, University of Arizona, Tucson. [Ross quotes Pfefferkorn (1949) and Hrdlička (1908) concerning saguaro fruit and wine (pp. 8, 9). Most important, however, she presents very thorough nutritional data concerning the fruit and seeds as well as results of a survey among Papago youth concerning their consumption of saguaro fruit.]
- Russell, Frank**
1903 Pima annals. *American Anthropologist*, Vol. 5, no. 1 (January–March), pp. 76–80. Lancaster, Pennsylvania, American Anthropological Association. [A greatly abbreviated version of the Pima calendar stick accounts in Russell (1975). The saguaro harvest and saguaro wine are mentioned here for the years 1836–37 and 1881–82.]
1975 *The Pima Indians*. Tucson, University of Arizona Press. [Re-edition of the 1908 book. This is the basic ethnography of the Gila River Pimas, and it contains discussions of saguaro in terms of its harvest (p. 35); as a food (pp. 66, 71, 103); liquor from the fruit (p. 72); products of it used in trade (p. 93); seeds used in tanning (p. 118); in mythology (p. 213); in tales (pp. 245, 247, 250); and in song (p. 331). It is also part of the Pima calendar (p. 36) and appears in the calendar stick records (pp. 38–66). A dried saguaro fruit cake is illustrated on page 73; the use of saguaro ribs in the burden basket and in the Pima weaving loom is discussed on pages 141 and 149, and in the game of *kints* on page 175.]

Russell, Luella H.

- 1930 The primitive religion of the southwest. Master's thesis, College of Letters, Arts, and Sciences, University of Arizona, Tucson. [Included is what seems to be a nonsensical account of the mythical origin of the Papago wine ceremony (pp. 66-67).]

Safford, William E.

- 1909 Cactaceae of northeastern and central Mexico, together with a synopsis of the principal Mexican genera. *Annual Report of the Board of Regents of the Smithsonian Institution ... for ... 1908*, pp. 524-563. Washington, Government Printing Office. [Includes brief mention of saguaro as providing a "food staple of the Indians." Of more interest is the fact that Safford here offers an etymology of the word "pitahaya," deriving it from Carib spoken in Haiti. He cites a passage written by Oviedo in 1535 which used the term, a general name throughout Mexico for the fruit of many species of *Cereus* and allied genera (p. 555). Unfortunately, he cites no reference for the Carib origin of the term.]
- 1917 Narcotic plants and stimulants of the ancient Americans. *Annual Report of the Board of Regents of the Smithsonian Institution ... for ... 1916*, pp. 387-424. Washington, Government Printing Office. [On page 400, Safford gives the etymology of the word "tiswin," deriving it ultimately from the Nahuatl word "teyuinti." It is a term used to refer to native-brewed intoxicating drinks, especially corn beer, but also occasionally to saguaro wine.]

Saunders, Charles F.

- 1976 *Edible and useful wild plants of the United States and Canada*. New York, Dover Publications. [Reprint of Saunders' 1934 *Useful wild plants of the United States and Canada*. Pages 110-112 have a discussion of the saguaro and its uses by Papagos, drawing on data from Davis (1920) and Lumholtz (1971).]

Saxton, Dean, and Lucille Saxton, compilers

- 1969 *Dictionary. Papago & Pima to English; English to Papago & Pima*. Tucson, University of Arizona Press. [Contains most of the basic words relating to saguaro and its harvest. Also see Mathiot (1973-n.d.).]
- 1973 *O'othham hoho'ok a'agitha; legends and lore of the Pima and Papago Indians*. Tucson, University of Arizona Press. [Text of these legends and stories is published in both Papago and English. Pages 79-84 have the story called "Coyote scatters saguaro seed," an explanation of how the saguaro came to be distributed around the desert landscape.]

Shantz, Homer L.

- 1937 The saguaro forest. *National Geographic Magazine*, Vol. 71, no. 4 (April), pp. 515-532. Washington, D.C., National Geographic Society. [Brief mention of the use of saguaro fruit by Papagos on page 532.]

Shaw, Anna M.

- 1974 *A Pima past*. Tucson, University of Arizona Press. [This Pima Indian author alludes briefly to the saguaro harvest and wine ceremony, and a photo of a Papago woman harvesting the fruit accompanies the text (pp. 70-71).]

Shreve, Margaret B.

- 1943 Modern Papago basketry. Master's thesis, Department of Anthropology, University of Arizona, Tucson. [Includes discussions of use of baskets in the wine ceremony (p. 26); saguaro rib doors (pp. 38-39); basketry strainers for saguaro wine (pp. 39-40); saguaro rib shelves (p. 40); saguaro ribs in architecture, cradles, and burden baskets (pp. 41, 42, 132-136); basketry saguaro fruit strainers (p. 45a); and illustrations of saguaro wine baskets (Figures 16, 26; pp. 94-95). Also see Kissell (1972).]
- 1943 Modern Papago basketry. *The Kiva*, Vol. 8, no. 2 (January), pp. 9-16. Tucson, Arizona Archaeological and Historical Society. [Includes mention of basketry strainer for saguaro fruit and use of ribs in cradles and burden baskets.]

Smith, Edna E.

- 1935 Ceremonials of the Papago and Pima Indians with special emphasis on the relationship of the dance to their religion. Master's thesis, University of Iowa, Iowa City. [Included here only for bibliographic completeness. This thesis is plagiarized, word for word, from Gunst (1930).]

Smith, Ruth D.

- 1977 Cacti. *Field Notes*, Vol. 7, no. 7 (November), p. 3. El Paso, El Paso Centennial Museum. [Mention is made of use of saguaro fruit by the Western Apaches, Seris, Pimas, Yavapais, Papagos, Walapais, and Maricopas.]
- 1977 The desert supermarket—cactus. *Field Notes*, Vol. 7, no. 3 (April-May), pp. 1-2. El Paso, El Paso Centennial Museum of the University of Texas at El Paso. [Survey of uses of saguaro taken from Castetter and Underhill (1935).]

Spicer, Edward H.

- 1954 Potam. A Yaqui village in Sonora. *Memoirs of the American Anthropological Association*, no. 77. Menasha, Wisconsin, American Anthropological Association. ["Pitahaya," species of cactus not identified, is said in addition to fruits of other cacti to constitute "a regular and important addition to the usual diet of cultivated foods" of the Yaquis (p. 49).]

Spier, Leslie

- 1978 *Yuman tribes of the Gila River*. New York, Dover Publications, Inc. [Reprint of the 1933 edition. Includes a detailed discussion of the use of saguaro by Gila River Yumans (the Maricopas and Halchidhomas): as a fermented drink; saguaro syrup pots described (pp. 105-106); went to gather fruit when the Pleiades appeared on the eastern horizon in the evening (p. 146); saguaro wine-drinking songs (pp. 258, 262, 269).]

Standley, Paul C.

- 1924 Trees and shrubs of Mexico Passifloraceae—Scrophulariaceae]. *Contributions from the United States Herbarium*, Vol. 23, part 4. Washington, Government Printing Office. [On page 909 there is a one-paragraph listing of various uses made by Indians of the saguaro, including the use of ribs for lances and the use of seeds for a butter to spread on tortillas. Standley, without citing any authority, also says that Papagos—although the referent is ambiguous—collected and ate saguaro seeds that had already passed through the body.]

Steen, Charles R.

- 1937 More about the vikita ceremony. *Southwestern Monuments Monthly Reports*, supplement for April, pp. 278–283. Coolidge, Arizona, National Park Service. [Mention is made of mock drinking of wine at this ceremony (p. 280).]

Steen, Charlie R., Lloyd M. Pierson, Vorsila Bohrer and Kate Peck Kent

- 1962 Archaeological studies at Tonto National Monument, Arizona. *Technical Series*, Vol. 2. Globe, Arizona, Southwestern Monuments Association. [Mentions saguaro ribs in house construction (pp. 10–11, 43), as a door lintel (p. 42), in fire making (p. 82), and made into a tablet of unknown use (p. 42), also a bundle of spines possibly used for tattoo needles (p. 83) and possible use of saguaro seeds (p. 49).]

Stone, Margaret

- 1943 Bean People of the cactus forest. *Desert Magazine*, Vol. 6, no. 11 (September), pp. 5–10. El Centro, California, Desert Publishing Company. [Includes one photo and a discussion of a trip with Papagos to visit a saguaro harvesting camp.]

Strong, William D.

- 1927 An analysis of southwestern society. *American Anthropologist*, Vol. 29, no. 1 (January–March), pp. 1–61. Menasha, Wisconsin, American Anthropological Association. [Data from Lumholtz (1971) concerning the saguaro wine ceremony (p. 38).]

Tallon, James

- 1968 Saguaro. King cactus of the desert. *National Wildlife*, Vol. 6, no. 1 (December–January), pp. 24–27. Washington, D.C., National Wildlife Federation, Inc. [Includes passing mention of importance of saguaro fruit to Papagos and Pimas.]

Tanner, Clara Lee

- 1965 Papago burden baskets in the Arizona State Museum. *The Kiva*, Vol. 30, no. 3 (February), pp. 57–76. Tucson, Arizona Archaeological and Historical Society. [Saguaro ribs are used to make the frame on which these baskets are constructed.]

Thackery, Frank A., and A. R. Leding

- 1929 The giant cactus of Arizona; the use of its fruit and other cactus fruits by the Indians. *Journal of Heredity*, Vol. 20, no. 9 (September), pp. 400–

414. Baltimore, American Genetic Association. [This is the seminal and still one of the outstanding studies on the entire subject of the ethnobotany of the saguaro. There are good illustrations in the text, and the gathering, preparation, and uses of the fruit are considered, as is the saguaro wine ceremony.]

Toumey, James W.

- 1897 The giant cactus. *Popular Science Monthly*, Vol. 51 (September), pp. 641–644. New York, D. Appleton Company. [Mention of use of saguaro by Mexicans and Indians. Toumey says the fruit was harvested by Indians who “mounted on ponies, pass from tree to tree, armed with long poles, with which they detach the fruit and bring it to the ground.” And he refers to the wine as a “rank, intoxicating drink.”]

Trossel, Henry

- 1927 Cactus provides the Papago Indians with nourishing food and refreshing drink. *The American Indian*, Vol. 2, no. 1 (October), p. 15. Tulsa, Society of Oklahoma Indians. [Reprinted in 1970 by Liveright Publishing Corporation of New York. Henry Throssell, the later spelling of his name, was a Papago Indian. He briefly describes the harvesting of saguaro fruit and its use for jam, syrup, and a fresh drink. He also laments the raucus wine ceremony. “The old people said it was necessary to drink the tizwin to make the rain come but we educated Papago know that no patriotic American can use it because it is unlawful and harmful” (p. 15).]

Underhill, Ruth M.

- 1938 A Papago calendar record. *University of New Mexico Bulletin*, no. 322, *Anthropological Series*, Vol. 2, no. 5. Albuquerque, University of New Mexico Press. [Report on events inscribed on two saguaro rib calendar sticks kept by Papagos at San Xavier del Bac. Various references to saguaro: gathering stores of the seed (1850–51); speech saying that saguaros belong to the Papagos (1856–57); medicine men killed at a wine feast (1859–60); wine spoils (1867–68); ramada in cactus camp (1874–75); saguaro wine feast held at Topawa (1890–91); and a man killed enroute to the cactus camp (1920–21).]
- 1939 *Social organization of the Papago Indians*. New York, Columbia University Press. [This is the basic ethnography of the Papago Indians. Saguaro is mentioned throughout. See especially the discussion about the annual migration to cactus camps and to the ownership of harvesting rights (pp. 97–98). The first Papago month on their calendar is given as “giant cactus ripe” (July; see p. 124).]
- 1946 *Papago Indian religion*. New York, Columbia University Press. [The basic work on the subject. Included are detailed presentations of the rainmaking ceremony (saguaro wine feast) on pages 41–67; mention of fetishes carved from saguaro rib (p. 77); a song to promote saguaro growth (p. 82); the prayer-stick festival (vikita,

- pp. 135–161), including the use of saguaro wine in the Quitovac observance.]
- 1951 *People of the crimson evening*. Riverside, California, United States Indian Service. [An intimate account of the saguaro fruit harvest and preparation of the syrup is on pages 40–49. An equally intimate description of the saguaro wine feast is on pages 50–58.]
- 1966 Papago rain festival. *Quarterly of the Southwestern Association on Indian Affairs, Inc.*, Vol. 3, no. 3 (Spring), pp. 3–5. Santa Fe, New Mexico. [Summary description of the summer saguaro wine feast.]
- 1973 *Singing for power. The song magic of the Papago Indians of southern Arizona*. New York, Ballantine Books. [Reprint of the 1938 book. Includes many songs relating to saguaro wine.]
- 1979a *The Papago and Pima Indians of Arizona*. Palmer Lake, Colorado, Filter Press. [Reprint of the 1941 edition, *The Papago Indians of Arizona and their relatives the Pima*. The Papago saguaro harvest is summarized on page 8; the Papago uses of saguaro ribs are listed on pages 22–23; and the saguaro wine feast is described on pages 43–44.]
- 1979b *Papago woman*. New York, Holt, Rinehart, and Winston, Inc. [Includes re-publication of Underhill's 1936 *Autobiography of a Papago woman*, with additional materials. Includes discussion of the saguaro harvest in which Underhill participated as well as the story of the creation of saguaro and coyote's scattering the seeds (pp. 19–23) and photos of harvesting and making the syrup. The wine feast is also described in first person detail (pp. 23–27). A wine feast is also described by Chona, the Papago woman (pp. 40, 69–70).]
- Underhill, Ruth M., Donald M. Bahr, Baptisto Lopez, Jose Pancho, and David Lopez**
- 1979 Rainhouse and ocean. Speeches for the Papago year. *American Tribal Religions*, Vol. 4. Flagstaff, Museum of Northern Arizona. [A whole section is devoted to the Papago cactus, rain, and wine feast seasons, including a study of the calendar and various songs and speeches. Many illustrations. See pp. 16–35 and index on page 152 for additional references to saguaro.]
- Velarde, Luis**
- 1954 [Description of the Pimería Alta]. In *Unknown Arizona and Sonora, 1693–1721*, by Juan Mateo Mange, translated into English by Harry Karns, pp. 221–267. Tucson, Arizona Silhouettes. [Published many times in Spanish, this is the only version in English. Father Velarde worked among Pimans from 1714 until his death in 1737. The quotation at the beginning of this bibliography is from this work.]
- Viele, Egbert L.**
- 1878 Our southern frontier. The east and west boundary line between the United States and Mexico. *Frank Leslie's Monthly*, July, pp. 725–738. New York, Frank Leslie's Publishing House. [I have not seen this article, but it presumably has data on Papago ethnobotany and probably includes some discussion of the saguaro.]
- Waddell, Jack O.**
- 1973 *The place of the cactus wine ritual in the Papago Indian ecosystem*. Chicago, IXth International Congress of Anthropological and Ethnological Sciences. [By far the best and most detailed discussion of the saguaro wine feast among Papagos. It is based on observations of the feast held at Little Tucson on the Papago Reservation in 1970 and 1972.]
- Whittemore, Isaac T.**
- 1893 The Pima Indians, their manners and customs. In *Among the Pimas or the mission to the Pima and Maricopa Indians*, pp. 51–96. Albany, New York, Ladies' Union Mission School Association. [Includes a discussion of the saguaro fruit harvest by Pimas and their use of fruit. Of the wine feast, he says: "All dressed in their best, the women sitting or standing on top of their huts, from ten to twenty huddled together for safety, and the feast is kept up until universal intoxication ensues; and one or more are often killed" (pp. 55–56).]
- Wickham, Woodward**
- 1971 Letter to Richard H. Nolte. *Institute of Current World Affairs*, September, pp. 1–12. New York. [This is perhaps the best of the recent discussions of the saguaro fruit harvest, written by a visitor who was a participant for two days. Many excellent photos included.]
- Woodbury, Richard B., and Nathalie F. S. Woodbury**
- 1964 The changing patterns of Papago land use. *Actas y Memorias*, Vol. 2, pp. 181–186. Mexico City, 35th Congreso Internacional de Americanistas. [The statement is made that as of 1962 saguaro fruit "provides delicacies rather than any significant part of the food" for Papagos.]
- Wright, Harold B.**
- 1929 *Long ago told: legends of the Papago Indians*. New York, D. Appleton & Company. [Included is the Papago legend of the giant cactus, i.e., the saguaro (pp. 107–122). It accounts for the creation and distribution of the cactus.]