

TRADITIONAL USE OF *CURCUMA LONGA* (ZINGIBERACEAE) IN ROTUMA¹

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Will C. McClatchey (Department of Botany and Range Science, Brigham Young University, Provo, Utah 84602, U.S.A.). **TRADITIONAL USE OF *CURCUMA LONGA* (ZINGIBERACEAE) IN ROTUMA.** *Economic Botany* 47(3):291–296. The ritual production and usage of the powder produced from the rhizomes of *Curcuma longa* L., on the tropical Polynesian island of Rotuma, prior to European contact was integral in every aspect of life, from birth to death and possibly held religious significance. The orange powder called "mena" was formerly produced on a large scale involving entire villages and several months of preparation. The mena (dry powder) and a paint (powder mixed with coconut oil) were used medicinally both internally and externally. The powder was sprinkled on the shoulders of dancers while performing the traditional dance called the maka. This usage is the only tradition involving mena which is still widely practiced, although it has been modified with the substitution of imported Gucci powder from Europe. Possible cultural implications of the substitution and subsequent loss of this traditional plant product are discussed.

E qat mot meamea het on asa Rotuma famori garua 'ak ti' pqu mena, ka fafisi kat semente surum ra se qmotq. Mena ne e oit on asa raga (Curcuma longa L.) E on mumua, famori re meanta ti' pqu. Famor atakoa ne pure'agta tau a' roa ne au het ne iris la re meanta la haitauag ma siau. Mena famori garue 'ak la vai mamosa ne hoisoliag ma lolo. Vqite, la pou la iom ne la sarau'ak se 'bu 'uli. Mena, famori garua'ak e on mumua hon se agfak rotu ma te la sui'akia e la loag ne puk hete'is. Mena la tu se uam on famori 'e av ne iris makmaka, ma te es ao het ne famori po ma garua'ak meanta, ka 'e on i' iris garua'ak Gucci powder (kefkefa) e Europa (hanua ffisi). Puk hete'is la feag 'ak av het ne famori kamati, la ma 'ak oris aga ma 'on es ne vaite.

Key Words: *Curcuma longa*; Polynesia; Rotuma; tumeric.

The use of *Curcuma longa* L. rhizomes as a source of medicine and paint is widespread across the South Pacific (Buck 1930; O'Rourke-George 1989; Burrows 1937). The plant is called 'ango in Samoa, ango or enga in Tonga, te ango in Anuta, thango, aveva, and rerenga in Fiji, and raga in Rotuma (Buck 1930; O'Rourke-George 1989; Yen and Gordon 1973; Smith 1979). The species is also used in Fiji by immigrants from India as a curry powder substitute and coloring for food preparations. In Rotuma, a high island, Polynesian outlier (12.5 degrees S, 177 degrees E), mena, which is the orange powder extracted from the rhizomes of *C. longa* (Voucher WCM 560, BRY), formerly served an important role in all stages of life from birth to death as well as in important ceremonies, traditional dances and

possibly was important in the traditional religion. The earliest Europeans to visit Rotuma noted the marked and abundant use of the mena. Lucatt (1851) noted that the Rotumans appeared to be copper colored due to the constant use of tumeric (mena) powder and oil, and that even limited contact with the Rotumans would cause a dark orange stain to appear on the visiting Europeans. The use of mena has dramatically decreased since European contact such that at the time of this study no Rotumans could be located who remembered observing or participating in its production, although many elders and, in particular, healers had used the mena when they were younger. The oldest individuals questioned were in their mid to upper 80s, and thus mena has probably not been produced on an organized basis at least since 1910. Using five different accounts by elderly healers, the production of mena was again accomplished on a small scale in the village of Feavai in June of 1992.

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METHODS

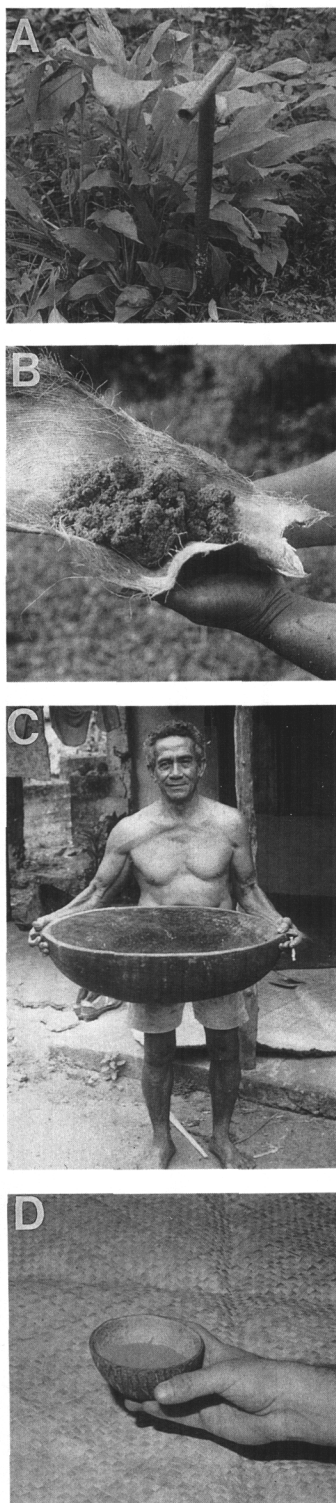
Research was conducted on the island of Rotuma with traditional healers and other local indigenous experts from Fapufa, Feavai, Saulei and Juju villages in December 1991 and June 1992. Intensive interviews using a participant observation approach were used to gather the material and subsequently verify the data collected. The production of mena was reenacted by modern Rotumans following the traditional extraction technique. Each step in the production was carried out by the author and repeated until the Rotumans declared that the task had been mastered. Documentation consists of photos (WCM 50:24–26, 51:1–12), herbarium vouchers (WCM 560, BRY), and samples of the final product (M560mena) for further study.

RESULTS

Traditional Production of Mena

The traditional production of mena was a lengthy process lasting up to 9 months and would be initiated by individuals in a village who would begin to have dreams about its production. Dreams in Rotuma are viewed as signs from spirits and/or ancestors that an event must or will take place. Dreams contain supernatural guidance and knowledge, so dreams about the production of mena by many individuals in a village are strong indicators that the process should occur.

Once a village felt the inclination to produce mena, a large tract of land would be cleared and planted with young shoots and bits of raga, *C. longa* rhizomes. The area would be cultivated for an extended period of time to allow a vast quantity of rhizomes to be produced. At some point in the growing season, the leaves of most of the plants begin to dry out and wither. The death of the raga stems is the sign that the rhizomes are ready to be harvested. The men collectively dig and break up the loose rhizomes. Raga patches (Fig. 1A) currently yield rhizome bunches as big as 40 cm across and almost entirely made up of rhizomes (the soil having been



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Fig. 1. Use of *Curcuma longa* L. in Rotuma. A. *C. longa* L. growing in a plantation. B. Pulp from rhizomes and coconut fiber strainer. C. An 'umef'ai puogo. D. Mena powder in a coconut endocarp bowl.

displaced). The size of rhizome bunches in the past may even have been larger.

The broken up pieces of raga rhizomes were transported to an area near, but not in, the village where the men have built a long shelter approximately 7 to 10 by 3 to 5 meters. The shelter consists of a thatched roof over a pole framework with no walls. Once the rhizomes had been transferred to the long house, the men would not return to the village and the village women would not be allowed to come near the men at the house. The men would eat and sleep at the long house until the mena preparation was completed.

Throughout the production of the mena the men would be building new earthen ovens, called "koua," filling them with root crops and pigs to cook, and regularly opening ovens which had finished cooking. Large quantities of food were served to visitors who came from all over the island to observe the mena production. The amount of food produced for this feasting was a great expense for the village, but being a village engaged in making mena was prestigious and honorable. The women of the village would prepare other food products and present these to the visitors. It is unclear if the village men and women presented feast foods together after making the mena or separately during the production or in both manners. Men producing the mena were not only restricted from the women but also from eating certain foods. The specific food restrictions have been forgotten. Throughout the production at the long house, the men wore ifi leaves *Inocarpus fagifer* (Parkinson) Fosberg (Voucher WCM 101, BRY, SUV), tied around the forehead and upper arms, and a belt of woven pandanus leaves with a skirt of rauji *Cordyline terminalis* (L.) Kunth (Voucher WCM 102, 146, BRY, SUV) or vasvasi *Sterculia faniaho* Setchell (Voucher WCM 408, 571, BRY) leaves hanging from it. The men would also be painted with oil and mena on their chests and faces.

The raga rhizomes that were brought to the long house were carefully cleaned of all soil, with salt water by the young unmarried men and boys. After cleaning the rhizomes, the men would set up poles of about three feet in height (Gardiner 1897) which had been previously wrapped tightly and closely with very finely made twine, produced from the fibers or sinnet of the coconut mesocarp. This pole, a "tama," was held up by the young boys while the men scraped the rhizomes over the twine on the tama. In this way

the rhizomes were shredded to a very fine pulp which fell into a rounded wooden bowl called an "umef." Once the 'umef had a sufficient quantity of pulp in it, it was taken aside and water was added. The 'umef with pulp and water in it was allowed to sit for one day. The following afternoon the men would begin to vigorously knead the pulp in the water. The solution rapidly turned bright orange and the workers became stained with it. After the pulp had been thoroughly rinsed and extracted, it was strained through loose cleaned fibers from coconut mesocarp (Fig. 1B) or through a basket lined with fern leaves (Gardiner 1897). The fern species most likely to have been used were *Cyclosorus rotumaensis* St. John, *Cyclosorus unitus* (L.) Ching, and *Tectoria stearnsii* Maxon, each of which is called sakoto (a strainer) (St. John 1954). The pulp with the straining devices was discarded.

The solution containing the extract continued to be washed several times by adding water, stirring, allowing the suspension to settle, pouring off the water and repeating. Once the precipitate had been washed, it was poured into a larger oval shaped wooden bowl called an 'umef 'ai puogo (Fig. 1C) and more water was added as the men began to vigorously stir the suspension. After several minutes of stirring a foam would appear on the surface. The stirring was continued until the foam ceased to increase in volume. The foam, called "tepog," was removed and placed in an 'umef. The tepog was considered to be very sweet and was used to make "faekei" (a pudding). This type of faekei, called "tanua," was highly desirable for its flavor and sweetness. The stirred solution was next poured into coconut shells. If the solution was not constantly stirred the starchy component would begin to precipitate. This process having been completed by late afternoon, the shells with liquid/suspension were placed in a koua and the men would stand watch over the drying of the suspension throughout the night. The following morning, the koua would be opened and each man's shell of dried starch, now called mena, would be observed. If the powder had dried evenly to a flat and smooth consistency in the shell then the production was a success. If a man's mena did not dry evenly then it was said that the man had at some point in the process returned to his wife. Before the koua had been opened it was felt that the leader of the production could identify the man or men whose shells would be found to have dried unevenly.

The dried mena powder was then distributed to those who were chiefs, religious leaders, heads of households, healers and any others who requested it. Each head of a household who received mena would place it in a coconut shell (Fig. 1D) which was then placed in the upper rafters of his house. Thus stored, mena is said not to have spoiled for many years. Gardiner (1897) recorded that "If a chief came into the house, some (mena) would be taken, and mixed with coconut oil in an *umefe puraagi mena*, and he (the chief) would be smeared over the left breast with it. It was also used for smearing the bodies for dancing, and at a feast the mat dresses also were often completely covered. The heads of kava-chewers, too, were generally thickly smeared . . ." It is unclear from current interviews what other functions the shell of mena in the rafters might have served and the report of Gardiner could not be verified by the current Rotuman experts.

An interesting aspect of the mena production is the close resemblance of the extraction to that of edible starch from "papula" *Colocasia esculenta* (L.) Schott, "tapiko" *Manihot esculenta* Crantz, "mara" *Tacca leontopetaloides* (L.) Kuntze, and "ota" *Metroxylon warburgii* (Heim) Beccarri (McClatchey and Cox 1992). In spite of this similarity, the Rotumans do not consider mena as a food (other than in the introduced Indian tradition as a curry substitute) although it is taken internally in small quantities in some medicinal preparations.

Traditional Use of Mena

Mena was used throughout the life of an individual in traditional Rotuma. Prior to giving birth the mother would apply mena over her body to encourage a successful delivery. Post-partum, mena would be applied to the umbilical cord and dabbed on to the remains of the cord each day until it fell off. On the first day after the birth of the first child, the paternal family would gather in the home with the mother and infant. The infant would spend most of the day wrapped in a white mat (woven split pandanus leaves) in the arms of paternal family members only being returned to the mother in order to be nursed. The new mother was required to sit up and not lie down, and could not lift her hands either to help or protest anything which occurred. The family applied mena to the mother's breasts as they made preparations for the birth celebra-

tion. If the child was the firstborn male, the celebration was called the "oj'aki" or celebration of the firstborn male, and mena paint (powder mixed with coconut oil) would be applied to the boy's body.

The marriage ceremony in part involved the young couple sitting on a stack of white mats, with mena painted on their bodies and in a pattern on their faces. In the period of 1837-1849, Lucatt (1851) observed that, "the happy couple are seated side by side, and their foreheads and bodies are profusely daubed with the tumeric powder (mena) and oil." Those chosen by their clan to serve as chief had mena painted on the face as a part of the installation ceremony. At death the mena powder would be sprinkled over the body and painted on the face before burial.

Medicinally, mena was used both internally and externally. Mena powder stirred in water along with crushed rhizomes of "rag'apua" *Zingiber zerumbet* (L.) Sm. and the bark of "pinau" *Thespesia populnea* (L.) Sol. ex Corr. (Voucher WCM 273, SUV, BRY) would produce a solution which was taken internally to treat "hununuak" (breathlessness, possibly asthma). A pinch of mena powder mixed with water would be drunk to relieve "mou huag" (constipation). Mena mixed with coconut oil placed in two "ura" *Morinda citrifolia* (L.) (Voucher WCM 096, BRY) leaves would be heated over a fire. The lightly heated package would then be squeezed and the resulting oil dripped over areas of skin afflicted with "mea ta koi" (a reddish skin disease which spreads over the body and if untreated leads to death). Mena mixed with oil would be applied to the skin to treat minor infections and cuts as well as to treat skin blemishes and "birthmarks" which reappear at low tides and full moons. Formerly, mena was commonly spread over the body as a mosquito repellent, "they say they use it (mena) as an antidote to the stings of mosquitoes and other insects" (Lucatt 1851). Introduced diseases such as filariasis, yaws, influenza, cholera and measles were also treated with mena and oil externally in an effort to combat these diseases for which the Rotumans had no traditional remedies or resistance (Gardiner 1897; Howard 1979).

Howard (1979) speculated that the Rotumans, like other Polynesian peoples, believed that the mena had special ritual potency as a protectant from contamination. Although the mena probably was important ritually (religiously), the

modern Rotumans rarely refer to a concept such as contamination and could not verify Howard's speculations. If mena was formerly believed to provide protection from contamination, then it would seem that the traditional uses which have survived as memories as well as modern uses would provide some indication of this nature. The medicinal uses of mena represent simple treatments with potentially verifiable results rather than unseen, unverifiable results as would be expected from treatment protecting from spiritual contamination. Traditional medications for spiritual and socially caused diseases have not been reported to date to include mena nor do any of the current healers who have been interviewed believe that mena has any special spiritual power such as they attribute to several other herbal treatments and plant species. Since the traditional religion has not been practiced in many generations, it is difficult to know the extent of the role mena played in spiritual life but it obviously was important enough to be incorporated into many ceremonies. Bennett (1831) reported "This smearing of paint [mena] seems to be considered essential in all their [Rotuman] forms and ceremonies; it is practiced on the meeting and at the parting of friends, as well as in the marriage ceremony."

The only surviving widespread use of mena is painting of the faces of dancers with mena and oil and the sprinkling of the powder on the shoulders of dancers during the traditional dance (maka). The maka occurs at special occasions, with the dancers arrayed in rows in front of an audience of other Rotumans, (including chiefs) and guests. The importance of mena comes to play within the ritual of the dance. Members of the audience and in particular the mothers of the dancers will come forward and shake a small amount of mena powder over the shoulders of their child and other dancers. The female members of the audience will slowly pass through the dancers while the dancers continue as if unaware of the interaction of the audience and the powder being sprinkled on them. The chiefs (Gagaja) who sit at the front of the observers will also have some powder sprinkled on their shoulders and necks.

Transition from Mena to Alternatives in the Maka

The traditional use of the mena in the maka has survived although the mena itself has not

survived. This has been enabled by the institution of substitutes as supplies of mena were used up in the early 20th century. The first substitutes were powders and paints made from the fruits of *Bixa orellana* L. (Voucher WCM 539, BRY), introduced from the neotropics. The fruits could be crushed to directly yield an orange/red powder which could be rubbed on the faces as paint and sprinkled on the shoulders just as the mena. The next substitute came from the British colonial importation of various powders for cosmetic use. Many different powders have been introduced but the powder which has become the most popular for this function is the relatively expensive Gucci powder imported to the South Pacific from Europe. Gucci powder, a European cosmetic, is white, not orange, but very few Rotumans remember mena, the use of the *B. orellana*, or the relationship between the sprinkling of powder on the dancers and the paint applied to the faces of the dancers. Currently, in addition to the use of Gucci powder the faces are painted with rouge or lipstick to provide the red paint formerly consisting of mena mixed with coconut oil.

DISCUSSION

The loss of Rotuman production and usage of *C. longa* has accompanied the loss of traditional religion and the transition to both Western religions and economic products. The production of mena from *C. longa* involved a heavy financial burden on those who chose to produce it and only rewarded them with the prestige of having produced a highly valued and widely desired product. In traditional Rotuman society, giving and even giving all of one's time and possessions was considered to be a great sign of respectfulness and honor. I speculate that as Rotumans have had a greater and greater exposure to Western practices of wealth accumulation and practices which do not honor but rather question the rational of giving all possessions in exchange for honor, the Rotumans have tended to follow the patterns of the West and have dropped cultural traits which are directly in conflict with the accumulation of personal wealth. The production of mena is almost entirely entwined in the system of prestige which once dominated Rotuman life; thus its production possibly represents an early victim to the European way of thinking. The transition to imported plants in the early twentieth century and later to imported cosmetic

powders allowed the Rotumans in successive generations to successfully perform life's ceremonies at a low economic cost to the community. Loss of the demand for mena allowed the expensive production process to be discontinued. The current generation has made a complete transition such that although they greatly enjoy sprinkling Gucci powder on the maka dancers, they do not know of the source or history of this tradition.

Equally significant and possibly an even greater loss is the rationale for sprinkling the powder on the dancers. The loss of the knowledge of mena may be an indicator of other greater cultural losses which have left no traces in their passing. The wearing of mena and the ritualized extraction of this single plant contrast dramatically with other Rotuman plant usages which although sometimes carrying restrictions and production guidelines never have such strict and possibly religious standards. This either signifies the former importance of mena in the socioreligious system or it indicates that the knowledge regarding other plant uses has deteriorated to such an extent that virtually no knowledge remains of their ritual uses and regulations.

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