

LOVE POTIONS OF ANDROS ISLAND, BAHAMAS

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ABSTRACT.—The use of herbal love potions on Andros Island, Bahamas, is examined including the various species, plant parts used, methods of preparation and social and medicinal functions of the love potions. Twelve species are referred to including *Bourreria ovata*, *Bursera simaruba*, *Cassytha filiformis*, *Cordia bahamensis*, *Diospyros crassinervis*, *Erythroxylon rotundifolia*, *Eugenia axillaris*, *Phoradendron* sp., *Pinus caribaea*, *Swietenia Mahagoni*, *Tabebuia bahamensis* and *Thouinia discolor*. Information is based upon interviews with seven bush medicinal practitioners, each of whom employ a slight variation on the same basic recipe. In rural and urban sites, the use of bush medicine differs in that isolated rural areas must rely to a greater extent upon native cures while only remnant medicinal practices in the form of love potions remain in urban sites.

Although greatly disturbed, Andros Island still contains the elements of an essentially natural ecosystem. For several centuries the naturalized Africans in the West Indies have been sampling their environment and have compiled a substantial knowledge of those plants which are beneficial and harmful to man. The Caribbean island society has relied upon medicinal practitioners, in the past referred to as "grannies," who utilize the knowledge compiled by their ancestors to care for the daily medical needs of the community.

Today Andros Island is influenced to an increasing extent by the central Bahamian government as well as by contacts with travelers from other countries. Various developmental changes have brought about a gradual alteration of the traditional community life. One change accompanying development in the black communities (e.g. Great Abaco Island) is sexual infidelity, (Rodgers and Gardner 1969). Ultimately, this may explain the contradiction of the continued use of herbal love potions in urban areas while at the same time, medicinal herbal teas are being forgotten.

METHODS

Previous investigations of plants of economic importance in the Bahamas have been broad surveys resulting in lists of plants used by the native population, e.g. Anonymous (1971), Ayensu (1981), Eldridge (1975), Halberstein and Saunders (1978), Morton (1981). In this study the plants considered were only those commonly used in native love potions. Interviews were conducted with prominent medicinal practitioners on North Andros Island. The interview procedure followed that outlined by Wood (1975). All interviews, unless declined, were taped using a portable Superscope C-104 tape recorder and Scotch AVC 60 tape. The recorded tapes are deposited in the collections of the Willard Sherman Turrell Herbarium (MU).

The informants (native consultants) in this study included Mr. Doc Curry, Mr. Charlie Gilcot, Mrs. Amelia Marshall, Mr. James Thompson, Ms. Rosie Tusco, Mrs. Lona Williams and Mrs. Ena Woodside. Every effort was made to obtain complete information from the informants. When possible, in discussions with informants, plants were identified by fresh or dried samples of the species referred to rather than relying upon common names which were used inconsistently by several sources.

Bulk samples of dried plant material were obtained from at least two sites for each species including *Bourreria ovata*, *Cordia bahamensis*, *Bursera simaruba*, *Diospyros crassinervis* and *Thouinia discolor*. Two sites per species were required in order to collect

an adequate sample since the species density at any one site was relatively low. The material was field dried for later analysis.

The various chemical analyses were carried out at the National Institute of Health, Purdue University, and Miami University. The National Institute of Health, Division of Cancer Treatment, National Cancer Institute, screened the material for antitumor potential. At Purdue University the material was screened for alkaloid content in the laboratory of Dr. Jerry McLaughlin by S. Pummingura. The studies at Miami University included a screening for tannins.

Two anticancer screens used by the National Cancer Institute are the 9-KB and the P-338 tests. The 9-KB assay is an *invitro* test on a culture of human nasopharynx cancer cells. The plant extract or purified compound is applied to the culture and the amount of growth inhibition measured as a function of protein concentration. If the pure compound inhibits tumor growth at less than 4 mg/ml it is considered active. If the extract inhibits growth at less than 20 mg/ml it is active. The P-338 assay is an *in vivo* test in mice. A 20 gram mouse is administered leukemic white blood cells. Control mice die within 10 days from administration. Plant extracts are injected daily for 9 days and any life extension in the mice measured. If the T/C (treated/control) life span value is greater than 130% the extract is considered active.

Alkaloid screening at Purdue University follows a standardized procedure. Dried, powdered plant material is extracted in CHCl_3 -MeOH-NH₂OH (2:1:1) and with CHCl_3 . The CHCl_3 filtrate condensed on a rotary evaporator with an aspirator vacuum. The resulting thick syrup is extracted with 3-5, 20 ml portions of 1N HCl. The acidic aqueous solution is extracted with 2, 100 ml portions of CHCl_3 and Et₂O. At this point the acidic aqueous extract is set aside momentarily. The combined CHCl_3 and Et₂O fraction is dried over anhydrous Na₂SO₄ and condensed in the rotary vacuum until it reaches a syrupy stage. The residue is saved as fraction B.

The previously saved acidic aqueous solution is adjusted to pH 9.5 with 7.5 N NaOH and extracted with 2, 100 ml portions of CHCl_3 and Et₂O. The basic NaOH extract is saved. The CHCl_3 -Et₂O fraction is dried over anhydrous Na₂SO₄ and condensed under rotary vacuum to syrupy residue A, which should contain any alkaloids present.

The basic aqueous NaOH solution set aside in the last step is condensed on the rotary vacuum until all organic solvents are evaporated. The residue is freeze-dried and extracted with 3, 10 ml aliquots of 10% EtOH in CHCl_3 . The insoluble salt is discarded and the organic solution condensed to syrupy residue C.

Residues A, B, and C are dissolved in small amounts of EtOH and separated by thin layer chromatography. Several solvent systems may be used on silica gel G, H, or PF₂₅₄ plate. The solvent selected depends upon the compound present.

Identification of the alkaloid is made by comparison of the unknown with a standard sample, the use of spray reagents, and other analytical techniques. Spray reagents used include UV indicators, fluram, dansyl chloride, tetrazotized benzidine reagent, or I₂ vapor. Instrumentation such as GC, LC, IR, UV-Visible Spectrophotometers, NMR, MS, and X-ray crystallography are available at the Purdue University Pharmacology Department for identification and structural determination of unknown compounds.

The analysis for tannins uses one gram of dried leaves which are pulverized and extracted in boiling water. The lipophilic compounds are separated out into chloroform. An aliquot of the aqueous extract and a 5% tannic acid standard is tested with a ferric chloride test. This same aqueous extract is also tested for precipitation of a 50% gelatin solution. A second more sensitive method is used in which the pH is adjusted to 4 and .05 g NaCl is added.

DISCUSSION

Information from different sources varies because of the background of the practitioner, the location of settlements, the differing extent of reliance upon the plants as medicines and the availability of each species in the bush.

Medicinal Practitioners.—Rural practitioners included Mrs. Amelia Marshall, Mrs. Ena Woodside and Mrs. Lona Williams. Mrs. Amelia Marshall (Fig. 1) of Red Bays is one of the leaders of the most remote village on north Andros Island which is isolated geographically and politically. She and many others in Red Bays are descendants of Africans and Seminole Indians who fled to this distant part of the island in the nineteenth century to escape persecution. Amelia Marshall is the great granddaughter of Sipian Bowleg, a Seminole medicine man from Low Sound, Bahamas. As a child she attended a few years



FIG. 1.—Mrs. Amelia Marshall, a prominent “granny” or “bush medicine” woman from Red Bays on North Andros Island, Bahamas (photo C. Rowand).

of school before becoming an apprentice to the village's practicing granny. Since then, she has ventured into the bush to taste different plants to evaluate their medicinal qualities. Her axiom is, "If it doesn't kill me, it won't kill you." She is training a male apprentice, Junior, who will take her place when she is too old to carry on. Mrs. Marshall has a very extensive knowledge of the local flora which she employs daily to treat the common ailments in the village. In the village of Standard Creek, Mrs. Ena Woodside is the matriarchal leader of a village of her descendants. Ella Woodside, Ena's daughter and apprentice for years, now has taken over part of the responsibility of brewing medicinal teas. Lona Williams, from Blanket Sound, and one of the authors (SAM) chanced to meet in the middle of a tidal flat where she was hunting crabs. When she saw that one of the authors was collecting plants of love potions (Fig. 2), she offered to divulge her recipe.

In contrast, the more urban settlements of Fresh Creek and Stafford Creek primarily have male practitioners. Mr. James Thompson, Mr. Charlie Gilcot, and Ms. Rosie Tusco in Fresh Creek and Mr. Doc Curry in Stafford Creek were interviewed. James Thompson is a grandson of an Andros Island medicine man. He remarked that, "During my Grandfather's lifetime, that's (drinking medicinal teas) why they lived so long. My Grandfather lived to be 84 years old." Although his experience was mainly limited to the love potions, he spoke of the Obeah superstitions on Andros and explained how certain plants are used in ceremonial rituals to curse an enemy. Most other sources refused to comment on this subject. Unlike James, Charlie Gilcot had an extensive medicinal background. However, since the establishment of the Andros Island Medical Clinic he seldom made any teas except for love potions. Originally born on Andros, Charlie moved to Mexico in 1936 where he worked on a ranch. Since there were no doctors, Charlie learned bush medicine from the Indians. After nine years, he returned to Andros. Like others in rural areas, Charlie was training an apprentice, Rosie Tusco. Rosie's interest began with her training in Haiti where she lived until 1973. She brews love potions regularly to facilitate her profession, prostitution. Doc Curry of Standard Creek claims his old age (75) and good health are the result of the teas he brews and drinks. At one time he had a regular clientele who purchased his remedies. Now his sales are limited to occasional strength or love potion sales.

Preparation.—All Bahamians interviewed use a combination of several herbs to brew a tea for energy which is necessary for maintaining sexual stamina, a highly desirable trait in this island society which is very concerned with procreation. Other terms used to describe the desirable action of these teas are: "to build you up," "to raise the blood," "to strengthen the back" and "for strength."

The recipe for the love potions varies according to the source, but the same basic plants are used (Table 1). Some additional plants were also mentioned, but since no specimens were available for identification they are not included in this paper.

The vine of *Cassytha filiformis*, the resinous inner bark of *Pinus caribaea* and the leafy twigs of the other species are boiled when used by all practitioners except Doc Curry. The resulting tea is bottled and stored in the refrigerator to be drunk anytime. Usually the tea is taken with sweetened condensed milk, although men are known to add rum also. Unlike the others, Doc Curry brews the roots. "Your strength lay in your leg, when your leg go then you go down . . . so not branch but root do the trick . . ." (Gilcot). At the time of the interview his wife was in the hospital in Nassau, so he remarked that he ". . . had to quit drinking the root tea for he woke at night." The solution to this problem was to change to drinking leafy twig teas or coffee. Since some of his American clients feel boiling the roots is unsanitary, Doc Curry steeps one half pint of roots in one gallon of lukewarm water to make his tea. He recommends curing the root tea by leaving it on the pantry shelf for one year before opening the jar.

The practitioners recommend drinking the tea anytime when feeling weak. When used as an aphrodisiac, the potion is drunk before bed. As Doc Curry says, ". . . if feel your staff is gone, you can drink anytime." Lona Williams promised to show Susan



FIG. 2.—Four of the main plants that serve as ingredients for love potions—A, *Bourreria ovata* (Strong Back); B, *Tabebuia bahamensis* (Five Finger); C, *Cassytha filiformis* (Love Vine); and D, *Diospyros crassinervis* (Stiff Cock) (photos W.H. Eshbaugh).

TABLE 1.—Some ingredients of Andros Island, Bahamas, love potions.

| SCIENTIFIC NAME Names are arranged by family and follow the treatment of Correll and Correll (1982). | Plant part used | INFORMANT | | | | | | | NOTES Chemical components/ other areas used in love potions |
|---|--------------------|-----------|----------|----------|-------|--------|----------|-------|--|
| | | Marshall | Woodside | Williams | Tusco | Gilcot | Thompson | Curry | |
| Bignoniaceae | | | | | | | | | |
| <i>Tabebuia bahamensis</i> (Northrop) Britt. | Leafy twig | X | X | X | X | X | X | X | Lapachol in genus/ Trinidad & Jamaica |
| Boraginaceae | | | | | | | | | |
| <i>Bourreria ovata</i> Miers | Leafy twig | X | | X | X | X | X | X | |
| <i>Cordia bahamensis</i> Urb. | Leafy twig | X | | | | | | | |
| Burseraceae | | | | | | | | | |
| <i>Bursera simaruba</i> (L.) Sarg. | Leafy twig | | | X | X | X | X | | Ethereal oils, tannins, sterols/ Bahamas |
| Ebenaceae | | | | | | | | | |
| <i>Diospyros crassinervis</i> (Krug. & Urb.) Standl. | Leafy twig | X | X | X | X | X | X | X | Long & Exuma Islands, Bahamas |
| Erythroxyloaceae | | | | | | | | | |
| <i>Erythroxyton rotundifolia</i> Lunan | Leafy twig | | X | | X | X | X | X | |
| Lauraceae | | | | | | | | | |
| <i>Cassytha filiformis</i> L. | Vine | X | | | X | X | X | | Alkaloids / Long & Exuma Islands, Bahamas |
| Loranthaceae | | | | | | | | | |
| <i>Phoradendron</i> sp. | Leafy twig | | | | X | | | | |
| Meliaceae | | | | | | | | | |
| <i>Swietenia mahagoni</i> (L.) Jacq. | Leafy twig | | | | X | X | X | | |
| Myrtaceae | | | | | | | | | |
| <i>Eugenia axillaris</i> (Sw.) Willd. | Leafy twig | | X | | X | | X | | Ethereal oils / Bahamas |
| Pinaceae | | | | | | | | | |
| <i>Pinus caribaea</i> Morelet | Inner Bark | | | X | | | | X | Resin |
| Sapindaceae | | | | | | | | | |
| <i>Thouinia discolor</i> Griseb. | Leafy twig | | X | | X | | X | | |

McClure her recipe for the love potion under the condition she would not drink the tea until she rejoined her husband. The potion is also drunk as a general tonic when feeling poorly and “. . . to keep the body in really super shape . . .” (Tusco).

Geographical Range of Use.—On other islands in the Bahamas and in the Caribbean, many of the same species are used in love potions. Ayensu (1981) notes that in Trinidad and Jamaica, *Tabebuia bahamensis* is boiled with several other species including *Diospyros crassinervis*, and *Swietenia mahagoni* as a “build up” tea for men. For strength, the root of *Tabebuia bahamensis*, *Bourreria ovata*, *Cassytha filiformis*, *Diospyros crassinervis*, *Bursera simaruba* and other species are boiled with a piece of iron. On Long and Exumas Islands, Bahamas, the leaves of *T. bahamensis*, *B. ovata*, *D. crassinervis*, *B. simaruba* and

others are boiled with iron to enrich the blood and restore strength and energy (Eldridge 1975). Higgs (1969) notes *Eugenia axillaris* is used in the Bahamas as an aphrodisiac. Men in the Caicos Islands boil the roots of *E. axillaris* with several other species including *Tabebuia heterophylla* (Morton lumps *T. heterophylla* and *T. bahamensis* into a single species complex) to make an aphrodisiac tea (Morton 1981). In the Bahamas, shavings of *Swietenia mahagoni* bark are steeped in warm water and rum for 3 or 4 days and the infusion is taken as an aphrodisiac (Ayensu 1981). On Long and Exumas Islands, Bahamas, a leaf decoction is drunk to overcome weakness (probably sexual in nature) (Eldridge 1975).

Chemical and Pharmacological Aspects.—*Tabebuia bahamensis* (five finger) is used by all the practitioners interviewed in making love potions. Lapachol, isolated from the wood of some *Tabebuia* species, has been tested by the Natural Products Section, National Cancer Institute. Test results indicated inhibition of human nasopharynx carcinosarcoma (9KB) and mouse leukemia (P-338) (Lewis and Elvin-Lewis 1977). Gram positive acid fast bacteria and fungi are also inhibited by lapachol applications.

Bourreria ovata, known as strong back on Andros, tested negative in alkaloid screening at Purdue. Morton (1980) has speculated that the use of this plant for the blood may exemplify merely a symbolic cure since the decoction is blood red.

Only Mrs. Marshall used *Cordia bahamensis*, commonly called granny bush on Andros, in love potions. This reflects her former role as an unlicensed midwife. Granny bush is used primarily in teas or baths during and after birth. This practice has almost disappeared since the Progressive Liberal Party began to enforce a 1957 law requiring only registered midwives to attend births.

Bursera simaruba, known as gum elemi on Andros, is not only used frequently in love potions, but throughout the Caribbean and the Meso-American areas it is used medicinally for fever and colds, rheumatism and back pain, purgative and diarrhoea, dermatitis and tumors. Results of alkaloid screening were negative but tannins are present in aqueous solutions of leaf and twig. The National Institute of Health screened *B. simaruba* for anticancer activity. Of 27 extracts screened, nine were active (Suffness, personal comm.).

In *Bursera simaruba* several other biological actions have been recorded. The alcohol extract causes cytostatic activity in a microbiological system (Abraham et al. 1979). Fent and others (1962) screened a number of plants on specific isolated organ systems. Both the aqueous and the alcoholic extracts were tested. The aqueous fraction caused the death of two mice at a 0.5 ml dose. It was considered acutely toxic. An isolated rabbit heart was inhibited by 1 ml of aqueous solution. The alcoholic extract was not acutely toxic, but it increased the vascular flow of a rat hind limb and stimulated a rabbit duodenum. Both fractions inhibited contractions of a guinea pig ileum. These actions required relatively high doses of extract, thus the effect may be considered mild.

Diospyros crassinervis is commonly known as stiff cock on Andros which reflects the stiff, coriaceous nature of the leaves and its use in love potions as a male aphrodisiac. Alkaloid screening resulted in a negative reaction and little tannin activity was noted, yet the plant is commonly used by all practitioners.

Little pharmacological research has been focused on *Erythroxylon rotundifolia*, called bohog on Andros, but the alkaloid screening was negative.

Cassytha filiformis, known as love vine on Andros, is an orange parasitic vine that clings to many different shrubs. The common name, love vine, may reflect the clinging parasitic habit of the vine. *Cassytha filiformis* contains four tetrahydroisoquinoline alkaloids, laurotetainin, cassyfiline, cassythidine, and cassythicine (McLaughlin, personal comm.).

Little is known of the chemical properties of the native *Phoradendron* sp. and they are used only by Rosie Tusco in her love potions.

Swietenia mahagoni (mahogany) is used in love potions on Andros only in the settlement of Fresh Creek. The bark is rich in tannin and juglone (Morton 1981).

Eugenia axillaris, called iron wood on Andros, is one of the more infrequently used plants. No chemical or pharmacological research has been done on this species but fragrant ethereal oils are evident when fresh twigs are broken.

Thouinia discolor, known as hard bark on Andros, is also used alone for pain in the back, strength and fever. *Thouinia discolor* also gave a negative reaction to alkaloid screening.

Much more chemical testing must be done before any physiological basis for the use of love potions can be established. The information reported here serves only to document plant use in the Bahamas and suggest plants that might prove interesting if investigated further.

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LITERATURE CITED

- ABRAHAM, A.M., N.R. HERNANDEZ, and C.A. MISAS. 1979. Extractos de plantas con propiedades citostaticas que crecen en Cuba, part 2. *Rev. Cub. Med. Trop.* 31:105-111.
- ANONYMOUS. 1971. Bush medicine on San Salvador. Unpubl. San Salvador Pilot Program, College Center of the Finger Lakes, New York.
- AYENSU, E.S. 1981. Medicinal Plants of the West Indies. Reference Publications, Inc., Algonac, Michigan.
- CORRELL, D.S. and H.B. CORRELL. 1982. Flora of the Bahama Archipelago. J. Cramer, Vaduz.
- ELDRIDGE, J. 1975. Bush medicine in the Exumas and Long Island, Bahamas; a field study. *Econ. Botany* 29:307-332.
- FENG, P.C., L.J. HAYNES, D.E. MAGNUS, J.R. PLIMMER, and H.S. SHERRATT. 1962. Pharmacological screening of some West Indian medicinal plants. *J. Pharm. Pharmacol.* 14:556-561.
- HALBERSTEIN, R.A. and A.B. SAUNDERS. 1978. Traditional medical practices and medical plant usage on a Bahamian island. *Culture, Medicine, and Psychiatry* 2:177-203.
- HIGGS, L. 1969. Bush medicine in the Bahamas. Nassau, Bahamas.
- LEWIS, W.H. and M.P.F. ELVIN-LEWIS. 1977. Medical Botany-Plants Affecting Man's Health. J. Wiley and Sons, New York.
- MORTON, J. 1980. Caribbean and Latin American folk medicine and its influence in the United States. *Q.F. Crude Drug Res.* 18: 57-75.
- _____. 1981. Atlas of Medicinal Plants of Middle America. Charles C. Thomas, Springfield, Illinois.
- RODGERS, W.B. and R.E. GARDNER. 1969. Linked changes in values and behavior in the Out Island Bahamas. *Am. Anthropol.* 71:21-35.
- WOOD, P. 1975. You and Aunt Arie. Institutional Development and Economic Affairs Service, Inc., Washington, D.C.