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The Use of Medicinal Plants by the Cultural Descendants of African People in Brazil

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RESUMEN. Son presentados datos etnobotánicos sobre el uso de plantas por los herederos culturales de los africanos en Brasil. El trabajo de campo fue conducido en la ciudad de Recife, estado de Pernambuco. Se informan los nombres comunes y científicos y los usos de 60 especies. Esta nota también informa sobre la planta conocida por Jurema *[Mimosa tenuiflora* (Willd.) Poir.] y hace algunos comentarios sobre los usos de plantas alucinógenas.

SUMMARY. Ethnobotanical data on plants which are used by cultural descendants of african people in Brazil are reported. The work field was carried in the city of Recife, state of Pernambuco (Brazil). Common and scientific names and data on plant use are given for 60 species. This note also reports on the plant known as Jurema *[Mimosa tenuiflora* (Willd.) Poir.] and comments on some aspects on the use of hallucinogenic plants.

INTRODUCTION

Both african and afro-brazilian cultures show similarities in the use of several plants. The slave trade route and european colonization were responsible for the introduction and application of some species to the New World [1]. The symbolic and therapeutic use of plants in Africa and Brazil are based generally on identical principles.

Many different authors have stressed the importance and significance of plants for the cultural descendants of african people in Brazil [2-4]. In the traditional system of the afro-brazilian cults, a large number of species are used in medicine, rituals, and as food. Other uses of plants are essentially based on beliefs, values, symbols or signs. The symbolic use is a significative aspect of tradition in Africa as well as in Brazil. Several species are sacred with spiritual powers as, for example, certain *Ficus* species.

A detailed study of the use of medicinal plants by the cultural descendants of african people in Brazil remains to be carried out. Although many aspects of afro-brazilian culture have been addressed in detail, only a few reports exist on the plants currently in use. In this study an attempt was made to record the various medicinal plants currently in use by the cultural descendants of african people in the state of Pernambuco (Brazil).

MATERIAL AND METHODS

Collection of plant material

Plants were collected from different localities in the state of Pernambuco (Brazil), between 1992 and 1995. Voucher specimens were identified and deposited at the UFP herbarium, Universidade Federal de Pernambuco. With the exception of a few common cultivars, all species were collected and stored as permanent voucher specimens.

Ethnobotanical data collection

Ethnobotanical data were obtained by inter-

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viewing the priests of afro-brazilian cults in the city of Recife, based on structured and unstructured interviews with 15 people. Informants know to be knowledgeable about uses of plants were selected, and information on the use(s), plant parts used, applications and properties of the plants were thus obtained. The informants interviewed were over 30 years of age. Reports of ethnobotanical uses were documented for each plant. The priests of afro-brazilian cults were asked to demonstrate the plants which they currently use. Personal observations were recorded in different situations and rituals.

RESULTS AND DISCUSSION

General uses of the plants

The data are presented in tabular form. The species are arranged in alphabetical order of scientific names with family name in parentheses, followed by vernacular name and brief notes on plant parts and utilization form (Table 1).

Scientific name / vernacular	**Utilization form/ plant parts**	**Therapeutic indication**
Acanthospermum hispidum DC.(Asteraceae)/ espinho-de-cigano	infusion, decoction/ whole plant	inflammations
Alpinia speciosa Schum. (Zingiberaceae)/ colônia	infusion, bathing/ leaf and root	flu, heart disturbances
Anacardium occidentale L. (Anacardiaceae)/ cajueiro	infusion, decoction/ bark of the stem	inflammations
Anadenanthera colubrina (Benth.) var. *cebil* (Grish.) Altschal. (Mimosaceae)/ angico	infusion,decoction, dye/ bark of the stem	inflammations
Annona muricata L. (Annonaceae)/ graviola	infusion/ leaf	induce weight loss
Bauhinia monandra Kurz. (Caesalpiniaceae)/ pata-de-vaca	infusion/ leaf	diabetes
B. purpurea L. (Caesalpiniaceae)/ pata-de-vaca	infusion/ leaf	diabetes
Boerhavia diffusa L. (Nyctaginaceae)/ pega-pinto	infusion,decoction/ root	renal disturbances
Borreria verticillata (L.)G.F.W. Meyer (Rubiaceae)/ vassourinha-de-botão	infusion,decoction/ root	hemorrhoids
Bumelia sartorum Mart. (Sapotaceae)/ quixaba	infusion,decoction,/ bark of the stem	inflammations, gastritis, ulcer
Cassia alata L. (Caesalpiniaceae)/ café-beirão	infusion/ flower	diabetes
C. occidentalis L. (Caesalpiniaceae)/ mangeriobа	infusion/ fruit	anemia
Cereus jamacaru DC. (Cactaceae)/ mandacaru	infusion/ stem	renal disturbances
Chenopodium ambrosioides L. (Chenopodiaceae)/ mastruz	juices, syrup/ leaf	coughs, vermifuge
Citrus aurantium L. (Rutaceae)/ laranja	infusion/ leaf	nervous disturbances (sedative)
Cnidoscolus urens (L.)Arthur (Euphorbiaceae)/ urtiga	infusion,decoction/ root	inflammations
Costus spicatus Sw.(Costaceae)/ cana-de-macaco	infusion/ leaf	renal disturbances
Cymbopogon citratus (DC.) Stapf. (Poaceae)/ capim-santo	infusion/ leaf	intestinal disturbances
Dianthus caryophyllus L. (Caryophyllaceae)/ cravo-branco	infusion/ flower	nervous disturbances (sedative)
Eucalyptus globullus Labill. (Myrtaceae)/ eucalipto	infusion/ leaf	fever
Eugenia uniflora L. (Myrtaceae)/ pitanga	infusion/leaf	intestinal disturbances (diarrheas)

Helianthus annuus L. (Asteraceae)/ girassol	infusion/ seed	thrombosis
Heliotropium indicum L. (Boraginaceae)/ fedegoso	infusion/ leaf	cough
Hyptis pectinata (L.) Poit. (Lamiaceae)/ alfazema-de-caboclo	infusion/ leaf	inflammations
Justicia gendarussa Burm. (Acanthaceae) / erva-santa	infusion/ leaf	inflammation of the throat
Justicia pectoralis Jacq. (Acanthaceae) / chambá	infusion/ leaf	bronchitis, pneumonia
Kalanchoe brasiliensis Camb.(Crassulaceae)/ corona-branca	infusion, syrup/ leaf	fever, cough, headache
Lactuca sativa L. (Asteraceae)/ alface	infusion/ leaf	nervous disturbances (sedative)
Lippia alba (Mill.) Brow. (Verbenaceae)/ erva-cidreira	infusion/ leaf	intestinal disturbances
Mangifera indica L. (Anacardiaceae)/ mangueira	infusion/ leaf	asthma, cough
Matricaria chamomilla L. (Asteraceae)/ camomila	infusion/ flower	nervous disturbances (sedative)
Mentha pulegium L. (Lamiaceae)/ poejo	syrup/ leaf	coughs
Mikania hirsutissima DC. (Asteraceae)/ cipó-cabeludo, guaco	infusion/ leaf	renal disturbances
Mimosa tenuiflora (Willd.) Poir. (Mimosaceae)/ jurema-preta	Infusion/ bark	aphrodisiac, stimulant
Ocimum americanum L. (Lamiaceae)/ manjerona	infusion/ leaf	emenagoge
Ocimum basilicum L. (Lamiaceae)/ manjericão	juice, infusion/ leaf	ophthalmic
Ocimum campechianum Mill. (Lamiaceae)/ alfavaca-branca	juice, infusion/ leaf	fever, flu, emenagoge
O. gratissimum L. (Lamiaceae)/ alfavaca-de-caboclo	infusion/ leaf	flu, sinusitis
Peperomia pellucida (L.) H.B.K. (Piperaceae)/ língua-de-sapo	infusion/ leaf	hypertension
Persea americana Mill. (Lauraceae)/ abacate	infusion/ leaf	rheumatism, arthritis
Petiveria alliacea L. (Phytolaccaceae)/ guiné	dye/ leaf	pains, rheumatism
Pimpinella anisum L. (Apiaceae)/ erva-doce	infusion/ fruits, leaf	intestinal disturbances
Peumus boldus Moll. (Monimiaceae)/ boldo	infusion/ leaf	liver disturbances
Pfaffia glomerata (Spreng.) Peders. (Amaranthaceae)/ acônito	infusion/ leaf	fever
Phalaris canariensis L. (Poaceae)/ alpiste	infusion/ seed	renal disturbances
Plectranthus barbatus Andr. (Lamiaceae)/ tapete-de-oxalá	infusion, syrup/ leaf	digestive, liver disturbances
Plectranthus amboinicus (Lour.) Spreng. (Lamiaceae)/ hortelã-da-folha-graúda	infusion, syrup/ leaf	coughs, amebicide
Psidium guajava L. (Myrtaceae)/ goiabeira-vermelha	infusion/ young leaf	intestinal disturbances

Poligonum acre H.B.K. (Poligonaceae)/ pimenta-d'água	infusion/ leaf	vermifuge
Punica granatum L (Punicaceae)/ romã	infusion/ fruit	wounds (healing)
Ricinus communis L. (Euphorbiaceae)/ carrapateira	infusion/ leaf	hemorrhoids
Rosmarinus officinalis L. (Lamiaceae)/ alecrim	infusion/ leaf	heart stimulant
Ruta graveolens L. (Rutaceae)/ arruda	tintura/ leaf	emenagoge
Sambucus nigra L .(Caprifoliaceae)/ sabugueiro	infusion/ flower	flu, measles
Schinus terebinthifolius Radd. (Anacardiaceae)/ aroeira	infusion, dye/ bark of the stem	inflammations
Solanum paniculatum L. (Solanaceae)/ jurubeba	infusion, syrup/ leaf	coughs, anemia
Stryphnodendron sp. (Mimosaceae)/ barbatimão	infusion/ bark of the stem	inflammations
Syzygium aromaticum (L.) Merr. et Perry (Myrtaceae)/ cravo-da-índia	infusion/ flower	headache
Tabebuia avellanedae Lor. et Gris. (Bignoniaceae)/ pau-d'arco-roxo	infusion/ bark of the stem	back pain (spinal column)
Ziziphus joazeiro Mart. (Rhamnaceae)/ juá	infusion,decoction/ bark of the stem	flu, cold,dandruff

Table 1. Medicinal plants used in afro-brazilian communities in Recife-Pernambuco.

The present study identified 60 plant species belonging to 33 families, used by afro-brazilian communities. For some of the considered species, viz. *Boerhavia diffusa, Chenopodium ambrosioides, Cymbopogon citratus, Eucalyptus globullus, Solanum paniculatum, Tabebuia avellanedae, Ziziphus joazeiro, Alpinia speciosa, Anacardium occidentale, Plectranthus amboinicus, Ocimum gratissimum, Justicia pectoralis, Mentha pulegium,* and *Lippia alba,* the therapeutic activity has been previously documented [5-8]. Many plant species are used by afro-brazilian communities for different purposes. However, the amount of research on ethnobotany is very rudimentary. Medicinal plants are usually an important category of use for several communities, but for the descendants of african people their dependence on folk medicine is relative. The studied community seems to make greater use of the modern medicine.

Many plants utilized are exotic (european origin), native or pantropical species, with a smaller part of african origin. The africans in Brazil incorporated many brazilian plants in their practices, substituting african plants for succedaneums of the New World. Voeks [9,10], studying the Candomblés of Bahia, reports that of the ninety-four identified species, 35 percent are New World taxa, 49 percent are Old World, and 16 percent are of uncertain origin, and that the Old world species were purposely introduced or arrived inadvertently. Today, in the studied community, their pharmacopoeia reveals a strong european influence. The current use of plants belonging the indigenous pharmacopoeia *(Mimosa tenuiflora, Anadenanthera colubrina,* etc.) is a good indication of the processes of cultural influence.

The largest number of species were obtained for gastrointestinal disorders, nervous disturbances, illnesses associated with pain or fever and general inflammations. Many plant leaves are used to common illnesses such as flu, bronchitis and diarrhea. In some situations, diarrhea or other diseases may be interpreted by members of the studied community as diseases of spiritual origin. The "alfavaca-de-caboclo" *(Ocimum gratissimum),* "hortelã" *(Plectranthus amboinicus)* and "quixaba" *(Bumelia sartorum),* are highly valued medicinal species. The three species sometimes are prepared with other well-known medicinal species such as leaves of "manjericão" *(Ocimum basilicum)* or bark of "angico" *(Anadenanthera colubrina).*

Knowledge of medicinal plant utility may either have been passed to the present generation by their african ancestors or be based on experience of the native people of Brazil (rural, urban or indigenous people). The knowledge and application of medicinal plants are sometimes as-

sociated with rituals and some diseases are attributed to evil spirits or to the violation of laws of traditional gods. Illness according to people in afro-brazilian communities may be classified as "material" or "spiritual". This classification system is very important to administering the plants. When a person is treated, ritual and empirical plant use are strictly connected.

People employ several methods of administering plants. Drinking an infusion or tea from either the whole plant or some part of it is perhaps the most common. The posology varies according to the problem. Even when bathing is frequently indicated, however, this practice is commonly associated with diseases of mystic origin. The phytotherapeutic treatment is commonly used in conjunction with ritual practices.

Many of the plants in use are collected around the house of worship. Few are collected in the forests, in spite of the clear preference for that locality. Others are obtained in popular markets, which offer plants and religious objects used in afro-brazilian practices. However, plants to be used in certain practices are picked directly by the priest and handled for him, obeying certain precepts.

The informants pointed out several especially interesting plants. The species of the genus *Ocimum* are frequently used for different purposes, with coincidence of uses between Africa and Brazil [1]. In fact, most of the aromatic plants, especially of the families Lamiaceae and Verbenaceae, are used considerably. The use of those plants is not restricted to traditional medical practices, but also occurs, and perhaps more frequently, in ritual situations.

"Jurema": a very special medicinal and magic plant

The hallucinogenic plant knowed "jurema" is very important for medical or spiritual purposes. Several researchers focused the use of hallucinogenic plants by indigenous groups [11-14]. Such use is frequently interpreted in a symbolic vision, as part of the ideology of the people that use psychoactive plants, at times transforming them into guides, divinities or masters. In those specific cases, the term entheogen [15] seems more appropriate, given to the sacred aspect that involves its use as well as for its special meaning.

The jurema *(Mimosa tenuiflora* [Willd.] Poir. = *M. hostilis* Benth.) is used by indigenous groups of the Northeast Brazil and in some afro-brazilian communities [16,17]. This plant is distributed throughout Northeastern Brazil, especially in semiarid regions, such as the Caatinga (amerindian word meaning, "white forest"). N, N-dimetyltriptamine was the alkaloid isolated from the roots of *M. tenuiflora* [18]; but the triptamines are not active when taken orally [13]. The visions are said to vary greatly, with the subject experiencing great suggestibility; this conforms to my personal observations in fieldwork. Some questions on the hallucinations described remains unclear; perhaps in some situations it is possible that the beverage is not hallucinogenic *per se*. Further investigations with qualitative and quantitative analysis of the beverage are required, specially chemical and psychopharmacological studies. In the country I often heard the plant to be sung in texts that evoked its power to give "science" (knowledge) and to unmask mysteries. The drink is also used to narrow the liaisons with the spirits and ancestors entities, and is usually prepared with the roots being just soaked in water. Sometimes it is prepared with other parts of the plant and any alcoholic drink, alcohol or wine (as in many afro-brazilian communities). The leaves of the plants are also used to combat inflammations. The plant is also reported to be astringent and to cure fatigue [18].

The beverage, sometimes called "vinho da jurema" (wine of jurema), can integrate specific rituals, such as the "toré". In that ritual, the members of the tribe sing and dance, reinforcing cultural patterns and insuring their perpetuation, seeking the balance and invigoration of the group as an ethnic minority. The dances of the "toré" are accomplished with the Indians dancing in circle, which represents, to my vision, the denial of the lineal time (the historical, the concrete).

Different researchers concluded that the use of the jurema links traditions and ethnic identity [19,20]. The jurema illustrates the role of a psychoactive plant in the invigoration of an ethos and ethnic identity. Its collective use works, then, as an opportunity to transmit and to reinforce beliefs as a need of cultural survival of the group.

Many scientific (primordially ethnographic) and non-scientific (based on reports of individual experiences) reports relate experiences with hallucinogens, often from geographically distant areas, with the same visionary elements [21-24]. Those elements are generally composed of animals or plants of the specific environment of the members of the tribe. Some of those reports make clear that the hallucinogenic experience, guided by an expert member of the tribe, works

as learning key on the behavior and habit of the species of interest for the material survival of the group or of the individual. In the report of Lamb [25], for example, during the hallucinogenic experience the shaman directed the visions, teaching participants to recognize the peculiar characteristics of each one of the species of animals and plants. In such cases it is possible to suggest that the experiences with psychoactive plants can have played important role in the adaptation of the indigenous groups in theirs respective environments. I call here this hypothesis of *"psychotropic hypothesis of the adaptation"*.

Although involving different interpretative situations, the symbolic or materialistic interpretations are the two aspects of the same phenomenon. However, the symbolic interpretations largely ignore the fact that many of the activities and behaviors have a narrow relationship with biological phenomena and material needs of the people. The psychotropic hypothesis, as a materialistic point of view, suggests that many practices, rituals and myths can have been containing originally or it contains expressions of functional content induced in the hallucinogenic experiences.

Final Remarks

Most of the species recorded in this study have been reported as medicinal in other afro-brazilian communities [26]. Comparison of these use reports yields relevant data on the importance and differences in the use of the plants in the afro-brazilian medical systems. Additionally, the selection of plants and their significant uses can contribute to pharmacological, toxicological and phytochemic studies evaluating the physiological efficacy of traditional indications.

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REFERENCES

1. Albuquerque, U.P. & L.H.C. Andrade (1998) *An. Jardín Bot. Madrid* **56**: 107-18
2. Camargo, M.T.L.A (1994) *Montalban* **27**: 151-83
3. Albuquerque, U.P. & A.A. Chiappeta (1994/1995) *Biologica Brasilica* **6**: 111-20
4. Voeks, R.A. (1995) *J. Ethnobiol.* **15**: 257-80
5. Mungatiwar, A.A., A.M. Nair, V.A. Shinde & M.N. Saraf (1997) *Fitoterapia* **68**: 498-500
6. Olajide, O.A., S.O. Awe & J.M. Nakinde (1997) *Fitoterapia* **68**: 529-32
7. Matos, F.J.A. (1998) *"Farmácias Vivas"*, EUFC, Ceará
8. Sousa, M.P., M.E.O. Matos, F.J.A. Matos, M.I.L. Machado & A.A. Craveiro (1991) *"Constituintes químicos ativos de plantas medicinais brasileiras"*, EUFC, Ceará
9. Voeks, R. (1990) *Geogr. Rev.* **80**: 118-31
10. Voeks, R. (1993) *Geogr. Rev.* **83**: 66-78
11. Prance, G.T. (1970) *Econ. Bot.* **24**: 62-8
12. Bye, R.A. (1979) *J. Ethnopharmacol.* **1**: 23-48
13. Schultes, R.E. (1990) *Boletim Museu Paraense Emílio Goeldi, série botânica* **6**: 7-82
14. Bennett, B. (1992) *Brittonia* **44**: 483-93
15. Ott, J. (1995) *"The age of Entheogen & The Angel's dictionary"*, Natural Products Co., New York
16. Albuquerque, U.P. & A.A. Chiappeta (1994) *Ciência & Trópico* **22**: 197-210
17. Albuquerque, U.P. (1997) *Rev. Brasil. Farm.* **78**: 86-9
18. Duke, J.A. (1986) *"Handbook of medicinal herbs"*, CRC Press, Florida
19. Mota, C.N. (1987) *"A jurema told us: Kariri-Shoko and Skoko mode of utilization of medicinal plants in the context of modern Northeast Brazil"*, Ph.D. Thesis, University of Austin, Texas
20. Pinto, C.M. (1995) *'Saravá jurema sagrada: as várias faces de um culto mediúnico'*, Master Science Thesis, University Federal of Pernambuco, Recife (Brazil)
21. Monod, J. (1976) 'Os Piaroa e o invisível', In: *Os alucinógenos e o mundo real.* Edusp, São Paulo
22. Frikel, P. (1976) 'Morí - a festa do rapé', In: *Os alucinógenos e o mundo real.* Edusp, São Paulo
23. Reichel-Dolmatoff, G. (1976) 'O contexto cultural de um alucinógeno aborígene - Banisteriopsis caapi', In: *Os alucinógenos e o mundo real.* Edusp, São Paulo
24. Seits, G.J. (1976) 'Os waika e suas drogas', In: *Os alucinógenos e o mundo real.* Edusp, São Paulo
25. Lamb, B. (1985) *"O feiticeiro do alto Amazonas: a história de Manuel Córdova-Rios"*, Rocco, Rio de Janeiro
26. Albuquerque, U.P. (1999) *Acta Farm. Bonaerense* **18**: 299-306