

PLANTS USED IN TRADITIONAL MEDICINE OF CHINA AND BRAZIL

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Eventhough the rationale behind the use of medicinal plants in Brazil and China is different, twenty four species are used in both countries.

Scientific name, vulgar name and uses in both countries along with their chemical constituents are listed.

Key words: medicinal plants – Brazil – China

According to the World Health Organization, 3.2 billion people, mainly in the third world use plants cataloged by the traditional medicine for the treatment of various diseases (Farnsworth et al., 1986).

At present, China and Japan are the countries where medicinal plants are being studied more deeply as sources of new medicines. However it is in the third world, specially in Brazil, due to its flora with great variety and abundance of species where more possibilities of technological and scientific advances are expected in this area (Farnsworth et al., 1986).

Therapeutic uses of plants in Brazil and China are based on somewhat different general principles but, in spite of these differences, it was possible to find 24 species used in traditional medicine in both countries (Dhew, 1977; Dias da Rocha, 1946).

Although over 50% of these species have been studied chemically the literature does not correlate their pharmacological and therapeutic uses with their chemical composition.

Data from literature involving Chinese and Brazilian plants (Northeast) are presented in the list bellows with the botanical names, vulgar names and therapeutic uses in both countries along with their chemical constituents registered in literature. The several itens of the list are organized keeping the same order of subjects with each item separated by the sign “//”, as follows: scientific name // Chinese name // Brazilian name // Chinese uses //

Brazilian uses // chemical constituents (references related only to the chemical composition).

Extension of this work will be published in the near future involving the 11 species listed below along with 31 others belonging to the same genus but of different species which are also used as medicinal plants in Brazil and China.

Cannabis sativa L., *Capsela bursa-pastoris* Medc., *Caryophyllus aromaticus* L., *Cinnamomum chinensis* L., *Cyperus rotundus* L., *Eclipta prostrata* L., *Ficus pumila* L., *Oryza sativa* L., *Phyllanthus urinaria* L., *Sesamum officinale* L., and *Zingiber officinalis* Roscoe.

NAMES AND POPULAR USES OF SOME SPECIES OF MEDICINAL PLANTS FROM CHINA AND BRAZIL (NORTHEAST) AND THEIR CHEMICAL CONSTITUENTS

AMARANTHUS SPINOSUS L. // TZ'U HISTEN TS'AI // BREDO DE ESPINHO // Dysentery, Enteritis, Poisonous Snake Bites // Hydropisia, Cistitis, Difficult Urination // Oleanolic Acid saponoside (Banerji, 1979), α -spinasterol and hentriacontane (Banerji, 1973).

ARTEMISIA VULGARIS L. // AI // ARTEMÍSIA // Fetal Hiperactivity, Post-Partum Abdominal Cramps, Hematemesis, Epigastric Pain, Irregular Menstruation // Poor Menstruation, Diarrhea, Enterites, Rheumatism, Epilepsy, Chorea // Essential Oil with β -thujone, camphor, borneol, terpinen-4-ol (Hwang et al., 1985) and coumarins (Ikhsanova et al., 1986).

CASSIA TORA L. // CH'EU – MING TZU // MATA-PASTO // Headache, Swolen and Red Eyes, Dizziness, Pterygium // Irregular Menstruation, Constipation (Laxative), Nervousness, Externally in Boils Ulcers and Ringworm // Chryso-obtusin (Thomson, 1971).

CELOSIA CHRYSATA L. // CHI-KUAN HUA // CRISTA-DE-GALO // Dysentery, Bleeding Hemorrhoids, Metrorrhagia, Red Eyes // Bronchites, Cough, Laringitis, Pertusis // α -spinasterol and other sterols (Xu et al., 1986).

CHENOPODIUM AMBROSIODES L. // T'U CHING-CHIE // MASTRUÇO // Anthelmintic (Ancylostomiasis), Poisonous Insect and Spider Bites // Anthelmintic (Ascaridiasis), Tonic, Cronical Bronchitis, Traumatic Injuries // Essential Oil with ascaridol, camphor, d-limonene, α -terpineno (Costa, 1975).

CITRUS BIGARADIA L. // CH'ING-P'I // LIMÃO-BRAVO // Epigastric pain, Hepatic congestion, Hernia, Breast congestion, Chronic malaria // Gastro enterites, Indigestion, Abdominal pain // Essential Oil with d-limonene, octyl aldehyde, decyl aldehyde, citral, linalol, citronellol (Guenther, 1947).

COIX LACRYMA-JOBI L. // I-I // CAPIM DE CONTAS // Lung abcesses, Lobar Pneumonia, Appendicitis, Rheumatoid arthritis // Difficult Urination, Rheumatic pain // Coixol, 2-hydroxy-7-methoxy-1,4 (2H)-benzoxazin-3-one glucoside (Shigematsu et al., 1981), 3,4-dihydroxy benzaldehyde glucoside (Suzuki & Okuyama, 1977).

COMMELINA COMMUNIS L. // YA-CHIH TS'AO // MARIANINHA // Ascitis, Difficult Urination, Gonorrhoea, Malaria, Laryngitis, Snake and Insect Bites, Boils and Abcesses // Difficult Urination, Rheumatism, Abdominal pain, Poor Lactation // Flavocommelin (Takeda et al., 1966).

CORIANDRUM SATIVUM L. // YAN-SUI // COENTRO // Measles. Stomach-Ache, Nausea, Painful Hernia // Stomach-Ache, Nausea, Carminative, Metrorrhagia // Essential Oil with linalol and trans-2-trideceno-1-al (Costa, 1975).

DATURA METEL L. // MAN-T O-LO // ZABUMBA // Rheumatic pain, Prolapse of

Rectum, Wheezing, Dermatophytosis, Rabies // Wheezing, Abdominal pain // Hyosciamine, scopolamine, atropine (Shah & Khanna, 1965).

ELEPHANTOPUS SCABER L. // TI TAN-T'OU // LÍNGUA DE VACA // Cold and Influenza, Pharyngitis, Dysentery, Gastroenteritis, Edema, Acute Gonorrhoea, Snakebites // Gonorrhoea, Dermatoses, Lack of Menstruation, Difficult Urination, Metrorrhagia, Herpes // Elephantopin, deoxyelephantopin, isodeoxyelephantopin, elephantol methacrylate (Govindachari et al., 1972), 11,13-dihydrodeoxyelephantopin (De Silva et al., 1982).

EMILIA SONCHIFOLIA (L.) DC // YANG-T' I TS'AO // CAPIM PÉ-DE-CABRA // Cold and Influenza, Pharyngitis, Laryngitis, Enteritis, Dysentery, Traumatic Injuries, Poisonous Snake bites // Wheezing, Fever, Conjunctivitis // Flavonoids, ursolic acid, hexacosanol, triacontane (Srinivasan & Subramanian, 1980), senkirine and doronine (Cheng & Roeder, 1986).

EUPHORBIA HYRTA L. // FEI-YANG TS'AO // ERVA DE LEITE // Enteritis, Dysentery, Athlete's Foot, Dermatoses // Dermatoses, Wart (Verruca), Ringsworm // Triterpenoids, steroids, 1-hexacosanol, tinyatoxin, anthocyanins (Baslas & Agarmal, 1980), flavonoids, leucocyanidol (Blanc & De Saquisannes, 1972).

FOENICULUM VULGARE MILL. // HSIAO-HUI // FUNCHO // Gastroenterites, Hernia, Indigestion, Abdominal pain // Gastroenterites, Indigestion, Abdominal pain, Poor Menstruation, Poor Lactation // Essential Oil with anetol and d-fenchone (Costa, 1975).

JUSSIAEA REPENS L. // SHUI LUNG // MÃO DE SAPO // Urinary Tract Infections Boils and Abcesses, Snake bites // Scalp Diseases (Externally) // No reports on chemical constituents.

LANTANA CAMARA L. // MA YING TAN // CAMARÁ CHUMBINHO // Epidemic Parotiditis (Mumps), Neurodermatitis, Traumatic Injuries, Fever // Wheezing, Cronic Bronchitis, Cough, Cold and Influenza // Essential oil with α -pinene, β -elemene, β -caryophyllene, α -cubebene (Craveiro et al., 1981), lantadene A and B (Buckingham (Ed.), 1982).

MENTHA ARVENSIS L. // PO-OH // HOR-TELÃ, VIQUE // Headache, Cold, Influenza,

Cough, Incomplete Measles Eruption, Pharyngitis, Pruritus // Stomach pain, Nausea, Cold, Influenza, Cough, Carminative // Essential oil with α -mentol, menthone (Costa, 1975).

PHYSALIS ANGULATA L. // SUAN CHIANG // CAMAPUM // Penphigus, Sor Throat, Diabetis, Abcesses // Jaundice, Difficult Urination, Abdominal pains // Vamonolide (Vasina et al., 1987), 14 α -hydroxy isocarpanolide and 24,25-epoxyvitanolide D (Vasina et al., 1986).

PLANTAGO MAJOR L. // CH'E-CH'IEN // TANCHAGEM // Urinary Tract Infections, Prostatites, Acute Conjunctivites, Ureteral Stones, Difficult Urination // Sore throat, Laryngitis, Cough, Bronchitis, Aphtha and Other Mouth Injuries // No reports on chemical constituents.

PORTULACA OLERACEA L. // MA-CH'IH HSIEN // BELDROEGA // Dysentery, Enterites, Urinary Tract Infections, Leukorrhoea Hemorrhoids, Erysipelas, Snake and Insect bites // Urinary Tract Infections, Difficult Urination, Methorrhagia, Boils // Noreportson chemical constituents.

RICINUS COMMUNIS L. // P'I-MA // CARRAPATEIRA // Constipation, Gunshot Wounds, Enlarged Lymph Nods, Strabismus, Facial Palsy, Anal Prolapse, Prolapse of Uterus // Constipation, Headache, Boils and Abscesses, Rheumatism, Traumatic Injuries // Ricinoleic acid, ricinine, ricin, steroids and tocoferois (Costa, 1975).

SOLANUM NIGRUM L. // LUNG KUEI // ERVA-MOURA // Leukorrhoea, Cancer of the Cervix, Abcesses, Open Sores // Traumatic Injuries, Head Louse (Externaly), Abcesses // Uttronin B (Sharma et al., 1982), solamargine, solasonine, desgalactotigonin (Saijo et al., 1982).

TYPHA LATIFOLIA L. // HSIANG P'U // TABUA // Hemoptysis, Epistaxis, Blood Stools, Hematuria, Vaginal Bleeding, Bleeding Hemorrhoids, Cystitis, Urethritis, Metrorrhagia, Leukorrhoea // Skin Injuries, Traumatic Injuries // No reports on chemical constituents.

VITEX CANNABIFOLIA SIEB. ET ZUCC. // MU-CHING // PAU D'ANGOLA // Dysenteries, Enterites, Malaria, Heat Stroke, Arthral-

gia // Sexual Excitation (Anaphrodisiac) // No reports on chemical constituents.

REFERENCES

- BANERJI, N. & CHAKRAVARTI, R. N., 1973. Constituents of *Amaranthus spinosus*. *J. Inst. Chem., Calcutta* 45 pt. 6: 205-206.
- BANERJI, N., 1979. Chemical constituents of *Amaranthus spinosus*. *Indian J. Chem., Sect. B*, 17(B) 2: 180-181. In: CA 91: 171658 d.
- BASLAS, R. K. & AGARWAL, R., 1980. Isolation and characterization of different constituents of *Euphorbia hirta* L. *Curr. Sci.*, 49: 311-312. In: CA 93: 3926n.
- BLANC, P. & DESAQUISANNES, G., 1972. Flavonoids of *Euphorbia hirta*. *Plant. Med. Phytother.*, 6: 106-109.
- BUCKINGHAM, J., 1982. *Dictionary of organic compounds*. 5nd ed. Chapman & Hall, New York, v. 4, 1082 p.
- CHENG, D. & ROEDER, E., 1986. Phymolizidine alkaloids from *Emilia sonchifolia*. *Planta med.*, 6: 484-486.
- CRAVEIRO, A. A.; FERNANDES, A. G.; ANDRADE, C. H. S.; MATOS, F. J. A.; ALENCAR, J. W. & MACHADO, M. I. L., 1981. *Óleos Essenciais de Plantas do Nordeste*. Edições UFC, Fortaleza, 209 p.
- COSTA, A. F., 1975. *Farmacognosia*. 3 ed. Fundação Calouste-Gulbenkian, Lisboa, V. 1. 1031 p.
- DE SILVA, L. B.; ERATH, W. M. W.; JENNINGS, R. C.; MAHENDRAN, M. & WANNIGAMA, G. E., 1982. A new sesquiterpene lactone from *Elephantopus scaber*. *Phytochemistry*, 21: 1173-1175.
- DHEW, 1977. *A Barefoot Doctor's Manual*. Running Press, Philadelphia, 945 p.
- DIAS DA ROCHA, F., 1946. *Formulário terapêutico das plantas medicinais cearenses, nativas e cultivadas*, Fortaleza, 25-7 p.
- FARNSWORTH, N. R.; AKEREJE, O.; BIGEL, A. S.; SOEJARTO, D. D. & ZHENGANG, G., 1986. *WHO Bulletin*, 64: 159-165.
- GOVINDACHARI, T. R.; VISWANATHAN, N. & FUEHRER, H., 1972. Isodeoxyelephantopin, a new germacrane diolide from *Elephantopus scaber*. *Indian J. Chem.*, 10: 272-273.
- GUENTHER, E., 1974. *The Essential Oils*. Krieger Publishing Company, New York, V. III, 777 p.
- HWANG, Y. S.; WU, K. H.; KUMAMOTO, J.; AXELROD, H. & MULLA, M. S., 1985. Isolation and identification of mosquito repellents in *Artemisia vulgaris*. *J. Chem. Ecol.*, 11: 1297-1309. In: CA 103: 175478 j.
- IKHSANOVA, M. A.; BEREZOVSKAYA, T. R. & SERYRH, E. A., 1986. Coumarins of *Artemisia vulgaris*. *Khim. Prir. Soedin.*, 110. In: CA 104: 203928 x.
- SAIJO, R.; MURAKAMI, K.; NOHARA, T. & TOMINATSU, T., 1982. Studies on the constituents of *Solanum* plants. *Yakugaky Zasshi*, 102: 300-305. In: CA 97: 20704 p.
- SHAH, C. S. & KHANNA, P. N., 1965. Alkaloids estimation of roots of *Datura metel* and *D. metel* var. *fastuosa*. *Lloydia*, 28: 71-72. In: CA 63: 3313 d.

- SHARMA, S. C.; CHAND, R. & SATI, O. P., 1982. Uttronin B – a new spirostanoside from *Solanum nigrum* L. *Pharmazie*, 37: 870. In: CA 98: 122832s.
- SHIGEMATSO, N.; KOUNO, I. & KAWANO, N., 1981. The root constituents of *Coix lacryma-jobi* L. *Yakugaku Zasshi*, 101: 1156-1158. In: CA 96: 100919 g.
- SRINIVASAN, K. K. & SUBRAMANIAN, S. A., 1980. Chemical investigation of *Emilia sonchifolia*. *Fitoterapia*, 51: 241-243.
- SUZUKI, M. & OKUYAMA, K., 1977. A substance having adstringent taste: glycoside of 3,4-dihydroxybenzaldehyde in "hatomugi" *Coix lacryma-jobi* L., var. *ma-yuen* Stapf. *Eiyo To Shokujo*, 30: 419-421. In: CA 89: 58522a.
- TAKEDA, K.; MITSUI, S. & HAYASHI, K., 1966. Structure of a new flavanoid in the blue complexed molecule of commelinin. *Botan. Mag.*, 79: 578-587.
- THOMSON, R. N., 1971. *Naturally occurring quinones*. 2nd ed. Academic Press, London, 734 p.
- VASINA, O. E.; ABDULLAEV, N. D. & ABUBAKIROV, N. K., 1987. Vitasteroids of *Physalis*. *Khim. Prir. Soedin.* 6: 856-858. In: CA 108: 201718 n.
- VASINA, O. E.; MASLENNIKOVA, V. A.; ABDULLAEV, N. D. & ABUBAKIROV, N. K., 1986. Vitasteroids of *Physalis*. *Khim. Prir. Soedin.*, 5: 596-602. In: CA 106: 13523 K.
- XU, S.; PATTERSON, G. W., & SCHMID, K., 1986. Sterols of Amaranthaceae. *Phytochemistry*, 25: 1883-1886.