*Journal of Ethnopharmacology*, 1 (1979) 89 - 94



Short Communication

# De Plantis Toxicariis e Mundo Novo Tropicale Commentationes. XXI. Interesting native uses of the Humiriaceae in the northwest Amazon

RICHARD EVANS SCHULTES

*Botanical Museum, Harvard University, Cambridge, MA 02138 (U.S.A.)*
(Received August 17, 1978)

The Humiriaceae, with the exception of one African species wholly American, is a small family of eight genera, 49 species and many subspecific concepts (Cuatrecasas, 1961). It is not an economically important family. Consequently, the several uses found amongst native groups in the northwest Amazon for the humiriaceous species enumerated below may be of special interest, especially to chemists and pharmacologists, although most of the medicinal employment of the species seems to depend on the balsamic content.

The wood of *Humiria balsamifera* (Aubl.) St. Hilaire is valued locally in Brazil for general carpentry, wheels, spokes, boats, *etc.*; it is hard and takes a high polish (Record and Hess, 1943). But this and other species are perhaps better known as sources of a highly aromatic resin called *umirí*. This resin, which exudes from the bark, is similar to and sometimes replaces *copaiba* and *Peru balsam* in the market (Hanausek, 1886; Mors and Rizzini, 1966). It is used by some Indians as hair perfume (Le Cointe, 1934). In local medicine, the resin and a tincture of the bark are considered stimulant, diuretic, balsamic and expectorant and are recommended as a taeniafuge and against leukorrhoea and blennorrhoea (Le Cointe, 1934). It is also used for bronchitis and "bleeding from the lungs": in fact, it is considered "ein Universalwundermittel" (Peckolt, 1899). A decoction of the bark is applied to heal chronic sores (Penna, 1946), and strips of the bark are employed by the Indians as torches (Peckolt, 1899).

The fruits of a number of species of Humiria are edible. The flesh and seeds often have high concentrations of fatty oils (Gibbs, 1974).

The seeds of the only Old World representative of the family — *Sacoglottis gabonensis* (Baill.) Urb. — contain 54% of fatty oils (Wehmer, 1911; von Wieser, 1927). The bark of *S. guianensis* Benth., known as *achua*, yields a red dye which, with ammonia, turns a brillliant black and which, in Brazil, is used to colour gourds (Le Cointe, 1934).

The aromatic bark of *Humiriastrum dentatum* (Casar.) Cuatrecasas (formerly *Sacoglottis dentata* Casar.) and of *H. Glaziovii* (Urb.) Cuatrecasas

(formerly *S. Glaziovii* Urb.) is considered a panacea along the coastal parts of Brazil (Peckolt, 1899).

Very detailed analyses of the oil of *uchí* from *Endopleura Uchi* (Hub.) Cuatrecasas (formerly *Sacoglottis Uchi* Hub.), known in the lower Amazon as *uchí-pucu*, and of *Duckesia verrucosa* (Ducke) Cuatrecasas (formerly *S. verrucosa* Ducke), called *uchí-curuá*, have been published (Pesci, 1941; Pereira, 1956).

The organoleptic properties of this oil resemble those of olive oil, and its chemical composition suggests its use as a salad or frying oil. The non-saturated fatty acids have oleic acid as their primary component as well as linoleic and linolenic acids (Pereira, 1956).

Except for the fatty oils in various members of the family, little is known of the chemistry of the Humiriaceae (Hegnauer, 1966). Bergenin, an isocoumarin, has been isolated from *Humiria balsamifera* (Gibbs, 1974). Alkaloids appear to be lacking in the family (Raffauf, 1970); this is surprising in view of the relationship of the Humiriaceae to the Erythroxylaceae. It appears that even the chemistry of the balsam is poorly understood (Tschirch and Stock, 1935).

The identification of the specimens cited below was done by Dr. José Cuatrecasas of the Smithsonian Institution. Specimens are deposited in one or several of the following institutions: the Gray Herbarium and the Economic Herbarium of Oakes Ames in Harvard University, the United States National Herbarium and the Herbario Nacional de Colombia in Bogotá. The illustrations have been drawn by Miss Judith Gronim.

*Humiria balsamifera* (Aubl.) St. Hilaire forma *attenuata* Cuatrecasas, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961) 97

Colombia: Comisaría del Vaupés, Río Apaporis, Raudal Yayacopi (La Playa). "On sand. Small black fruit edible. Yukuna: *wa-toó-moo-ko.*" August 18, 1952. *R. E. Schultes et I. Cabrera 16893.*

The Yukuna Indians seek the fruits in season as food. The plant is very abundant on white sands in the vicinity of rapids in the middle course of the Río Apaporis.

*Humiria balsamifera* (Aubl.) St. Hilaire var. *subsessilis* (Urb.) Cuatrecasas, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961) 102

Colombia: Comisaría del Vaupés, Río Piraparaná, Caño Teemeeña. "Large bush. Flowers white." September 6, 1952. *R. E. Schultes et I. Cabrera 17231.*

Comisaría del Vaupés, Río Kubiyú, Cerro Kañendá. "Savannahs. Small tree, bushy, 20 feet. Flowers white." November 10, 1952. *Schultes et Cabrera 18319; 18371.*

The Barasana Indians of the Río Piraparaná, who call this bush *ta-ta-weé-tee-go*, dry and pulverize the bark and apply it repeatedly to cuts and wounds to hasten healing.


Fig. 1. *Humiriastrum villosum* (Froés) Cuatrecasas: (a) habit with budded inflorescence ($\times \frac{11}{20}$); (b) bud ($\times 6\frac{3}{5}$).
*Humiria balsamifera* (Aubl.) St. Hilaire var. *subsessilis* (Urb.) Cuatrecasas: (c) habit with budded inflorescence ($\times \frac{11}{20}$); (d) bud ($\times 6\frac{3}{5}$).

*Humiria crassifolia* Martius ex Urban in Martius, *Fl. Bras.*, 12 (2) (1877) 441
Colombia: Comisaría del Amazonas, Río Kananarí, Cerro Isibukuri, near summit. "Ten feet tall; flowers white, anthers yellow." January 1952. *R. E. Schultes et I. Cabrera 15054.*

The Taiwano Indians living along the Río Kananarí boil the flowers and young leaves of *Humiria crassifolia* and apply the plant material as a cataplasm to persistent ulcers and sores.

*Humiriastrum piraparanense* Cuatrecasas, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961) 127
Colombia: Comisaría del Vaupés, Río Piraparaná, lower course. "Small tree. Fruit yellow." March, 9 1952. *R. E. Schultes et I. Cabrera 15922.*

The bark of this tree is aromatic and, when young and green, is chewed to relieve toothache. It is also made into a tea and drunk as an emetic and purgative. The Makuna name is *an-we-meé-see-ně.*

*Humiriastrum villosum* (Fróes) Cuatrecasas, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961) 126
Colombia: Comisaría del Vaupés, Río Kubiyú. Alt. 350 m. November 9 - 10, 1952. *H. Humbert et R. E. Schultes 27363.*

The bark of this tree, like that of *Humiriastrum piraparanense*, has a reputation of being a powerful purgative. The Kubeo Indians of the region of Mitú indicate that it is taken as a tea only when quick action following food poisoning is desired.

*Sacoglottis ceratocarpa* Ducke, *Bol. Tec. Inst. Agron. Norte*, 4 (1945) 13
Colombia: Comisaría del Vaupés, Río Apaporis, Jinogojé, Caño Oo-go-dja, August 26, 1952. *R. E. Schultes et I. Cabrera 17045.*
Comisaría del Vaupés, Río Piraparaná, Caño Teemeeña. "Bush. Flowers yellowish." September 6, 1952. *R. E. Schultes et I. Cabrera 17253.*

Amongst the Makunas of the Río Piraparaná, this small tree is called *nee-saw-kaŵ-kě-too*. The bark is burned and the smoke is inhaled by Indians suffering from recurrent coughing (due probably to tuberculosis).

*Schistostemon macrophyllum* (Benth.) Cuatrecasas, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961) 157
Brazil: Estado do Amazonas, Rio Negro, Barcellos. "Flood bank, Bush. Flowers pinkish." September 26 - October 14, 1947. *R. E. Schultes et F. López 1881.*

This bush, known locally as *umirí-rana*, has highly aromatic fruits which are reputedly valued amongst the inhabitants of the lower Rio Negro of Brazil as a medicine to help relieve a condition of barrenness in woman. The fruits must be eaten in large quantities.

The plant — apparently the leaves and bark in decoction — is taken to treat heavy colds, bronchial constipation and tuberculosis.

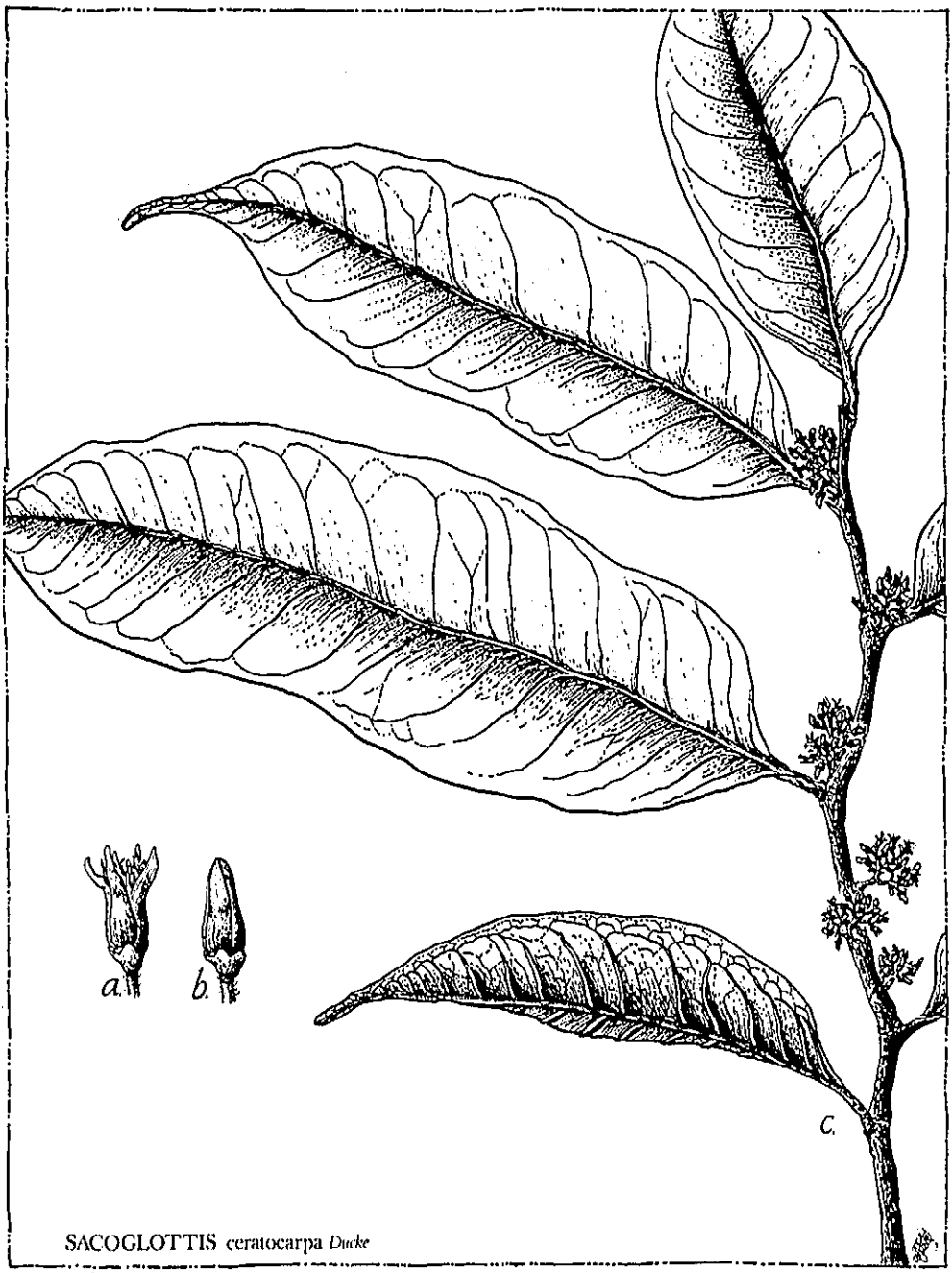


Fig. 2. *Sacoglottis ceratocarpa* Ducke: (a) flower (× $4\frac{2}{5}$); (b) bud (× $4\frac{2}{5}$); (c) habit (× $\frac{11}{20}$).

*Vantanea parviflora* Lamarck, *J. Hist. Nat. Par.*, 1 (1792) 145
Venezuela: Territorio del Amazonas, Río Negro, San Carlos and vicinity. "Tree. Flowers white." December 9, 1947. *R. E. Schultes et F. López 9267.*

Kuripako Indians along the Río Guainía above San Carlos frequently rasp the bark of *Vantanea parviflora* into fermenting *chicha* of *Manihot esculenta* Crantz to "improve the taste" and to "increase the potency" of the drink. This custom seems to be followed only at certain festivals but may be more frequent.

## *References*


Cuatrecasas, J., A taxonomic revision of the Humiriaceae, *Contrib. U.S. Natl. Herb.*, 35 (2) (1961).
Gibbs, R.D., *Chemotaxonomy of Flowering Plants*, Vol. 3, 1974, p. 1342.
Hanausek, K., *Z. Oesterr. Apoth.-Ver.*, (1886) 408.
Hegnauer, R., *Chemotaxonomie der Pflanzen*, Vol. 4, 1966, pp. 268 - 270.
Le Cointe, P., *A Amazônia Brasileira*, Vol. 3, 1934, pp. 458 - 459.
Mors, W. B. and Rizzini, C. T., *Useful Plants of Brazil*, 1966, p. 46.
Peckolt, T., Heil- und Nutzpflanzen Brasiliens, *Dtsch. Pharm. Ges.*, 9 (2) (1899) 43 - 44.
Penna, M., *Dicionario Brasileiro de Plantas Medicinais*, 3rd edn., 1946, p. 203.
Pereira, P. G., O oleo de *uchi*, *Bol. Tec. Inst. Agron. Norte*, 31 (1956) 187 - 193.
Pesci, C., *Oleaginosas da Amazônia*, 1941, pp. 108 - 109.
Raffauf, R. F., *A Handbook of Alkaloids and Alkaloid-containing Plants*, 1970.
Record, S. C. and Hess, R. W., *Timbers of the New World*, 1943, p. 192.
Tschirch, A. and Stock, E., *Die Harze*, 2 (1935) 345.
Wehmer, C., *Die Pflanzenstoffe*, 1911, p. 380.
von Wieser, J., *Die Rohstoffe des Pflanzenreiches*, 4th edn., Vol. 1, 1927, p. 743.