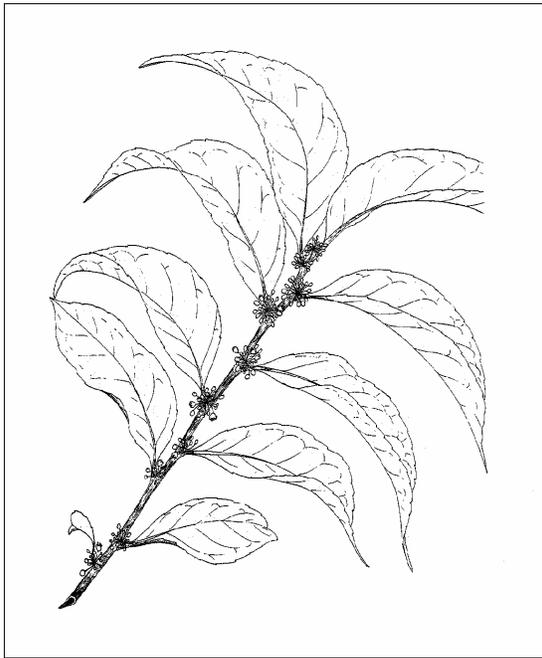


Casearia sylvestris Sw.
FLACOURTIACEAE

wild-coffee

Synonyms: *Samyda parviflora* L.
Casearia parviflora L.
Anavinga samyda Gaertn. f.



General Description.—Wild-coffee, also known as crack-open, caféillo, café silvestre, sarnilla, corta-lengua, guayabillo, guassatonga, and papelite, is a shrub or small tree usually 2 or 3 m in height, but occasionally reaching 10 m or more. On clay soils, the plant relies for absorption and support on extensive lateral roots that are white, moderately stiff, and have a corky bark. The plant may have a single or multiple stems with nearly smooth, thin gray bark and a moderately branchy habit. The sapwood is light brown and the heartwood is dark-brown, fine-textured, hard, heavy, and strong. The twigs are long and slender, often horizontal or drooping. The previous year's growth often has tufts in the leaf axils of what were the fruit stalks. The alternate leaves have petioles 2 to 8 mm long and ovate to lanciolate blades 4 to 13 cm long by 2 to 5 cm broad with a wavy edge and a long-pointed tip. Tiny white, cream, or greenish flowers are crowded (20 to 50) on short stalks in the leaf axils. The flowers smell like a mixture of honey and urine. The fruits are globose or slightly flattened, 3 to 4 mm in diameter, splitting open on three valves to reveal

usually three brown seeds covered with a red or red-orange aril (author's observations, Croat 1978, Howard 1989, Liogier 1994, Little and Wadsworth 1964).

Range.—Wild-coffee is native to Cuba, Jamaica, Hispaniola, Puerto Rico, the Virgin Islands, the Lesser Antilles, Trinidad and Tobago, Mexico through Central America, and South America as far south as northern Argentina, Uruguay, and Bolivia (Howard 1989, Instituto de Botánica Darwinion 2002, Killeen and others 1993, Little and Wadsworth 1964).

Ecology.—Wild-coffee grows on soils of all textures derived from nearly all parent materials. However, it does not grow on swampy ground and usually not on excessively drained sites. In Puerto Rico, wild-coffee grows in areas receiving from about 900 to over 3000 mm of annual precipitation (author's observation). However, in southern Brazil, wild-coffee grows even in annually flooded areas called várzeas (Universidade do Extremo Sul Catarinense 1999). In Nicaragua, the species grows from near sea level to 1,300 m in elevation (Stevens and others 2001). Wild-coffee demonstrates an intermediate tolerance to shade, being able to survive and grow slowly under a forest canopy that is not too dense but requiring partial sunlight to reproduce. Plants growing in pine plantations and natural secondary forests in Puerto Rico held similar concentrations of N, P, and ash in their leaves, but K levels were nearly twice as high in natural forest (Lugo 1992). Wild-coffee is common in brushy pastures, early secondary forests, roadsides, fence rows, and gallery forests of stream bottoms (author's observation, Little and Wadsworth 1964). It is one of the principal arborescent species of the Llanos (plains) of the Orinoco area of Venezuela (van Os 2000).

Reproduction.—Under favorable conditions, wild-coffee is able to flower and fruit at a young age, about the second year as a sprout or at about 1 m in height. Although individual plants do not

flower continuously, members of the population may be seen flowering throughout the year (Little and Wadsworth 1964, Stevens and others 2001). In Panama, the species flowers principally in August to December with sporadic flowering during the dry season. The fruits mature in about 1 month (Croat 1978). A collection of fresh fruits (seed + aril) from Puerto Rico weighed an average of 0.0286 ± 0.0021 g/fruit. They vary considerably in size (coefficient of variation = 60.5). Air-dry seeds from the same collection averaged 0.0011 ± 0.0001 g/seed or 909,000 seeds/kg. Sown on peat, these seeds germinated at 31 percent between 20 and 103 days after sowing (author's observation). In southern Brazil, 84,000 seeds/kg were reported and a low rate of germination (Universidade do Extremo Sul Catarinense 1999). Germination is epigeal. Just one or two fruits per inflorescence are ripe at any time. The only method of seed collection known to the author is to hand-pick the tiny ripe fruits (capsules split exposing the red aril) and wet sieve to separate the seeds. Birds disburse the seeds. Natural seedlings are rare to common. Plants past the seedling stage have a high survival rate. Damaged plants coppice readily.

Growth and Management.—Wild-coffee has a moderate growth rate and lives for at least 20 years. Artificial reproduction is usually by seeds, but cuttings can also be rooted. Recommended spacing for plantings in Brazil is 4 by 4 m (Universidade do Extremo Sul Catarinense 1999). Because it becomes established as part of the early secondary forest or in disturbed openings of more advanced forest, management to promote regeneration of the species might include the use of clearcuts or group selection in closed forest and protection of open land from fires.

Benefits.—The wood of wild-coffee is used for or is suitable for fuel, fence posts, stakes, small poles, rustic carpentry, and tool handles (Little and Wadsworth 1964). The species is recommended for urban planting as a food source for birds (Rio Grande Energia 2002). It is a honey plant (Little and Wadsworth 1964). Leaves of wild-coffee contains 2.5 percent essential oils with a pleasant aroma. They also contain capronic acid, saponins, alkaloids, flavonoids, and a host of other chemicals. Extracts (particularly of the leaves) are used in traditional herbal medicine to treat a large number of different ailments (Universidade do Extremo Sul Catarinense 1999). Laboratory experiments have confirmed antiseptic, antitumor, antiulcer, and abortive activity (Basile and others 1990, Carvalho, and others 1999, Itokawa and

others 1990, Silva and others 1988). A commercial perfume and a weight-loss product contain extracts of wild-coffee (Fontovit 2002, Multinivel do Brasil S.A. 2002).

References

- Basile, A.C., J.A.A. Sertie, S. Panizza, T.T. Oshiro, and C.A. Azzolini. 1990. Pharmacological assay of *Casearia sylvestris*. I. Preventive anti-ulcer activity and toxicity of the leaf crude extract. *Journal of Ethnopharmacology* 30(2): 185-197.
- Carvalho, J.C.T., V.V. Vignoli, G.H.G. de Souza, K. Ujikawa, J.J. Neto, and G.H.B. de Souza. 1999. Antimicrobial activity of essential oils from plants used in Brazilian popular medicine. *Acta Horticulturae* 501: 77-81.
- Croat, T.B. 1978. *Flora of Barro Colorado Island*. Stanford University Press, Stanford, CA. 943 p.
- Fontovit. 2002. Porangaba Fontovit. <http://fontovit.com.br/produtos/porangaba.htm>. 1 p.
- Howard, R.A. 1989. *Flora of the Lesser Antilles, Leeward and Windward Islands*. Vol. 5. Arnold Arboretum, Harvard University, Jamaica Plain, MA. 604 p.
- Instituto de Botánica Darwinion. 2002. Catálogo de las plantas vasculares de la Argentina: Flacourtiaceae. <http://www.darwin.edu.ar/Catalogo/Flacourtiaceae.pdf>. 3 p.
- Itokawa, H., N. Totsuka, H. Morita, K. Takeya, Y. Itaka, E.P. Schenkel, and M. Motidome. 1990. New antitumor principles, casearines A-F, for *Casearia sylvestris* Sw. (Flacourtiaceae). *Chemical and Pharmaceutical Bulletin* 38(12): 3,384-3,388.
- Killeen, T.J., E. García E., and S.G. Beck. 1993. *Guía de árboles de Bolivia*. Herbario Nacional de Bolivia and Missouri Botanical Garden, St. Louis, MO. 958 p.
- Liogier, H.A. 1994. *Descriptive flora of Puerto Rico and adjacent Islands*. Vol. 3. Editorial de la Universidad de Puerto Rico. Río Piedras, PR. 461 p.
- Little, E.L., Jr. and F.L. Wadsworth. 1964. *Common trees of Puerto Rico and the Virgin*

- Islands. Agriculture Handbook 249. U.S. Department of Agriculture, Washington, DC. 548 p.
- Lugo, A.E. 1992. Comparison of tropical tree plantations with secondary forests of similar age. *Ecological Monographs* 62: 1-41.
- Multinível do Brasil S.A. 2002. Uma nova geração de colônias. http://www.multiniveldobrasil.com.br/bio_collection.html. 2 p.
- van Os, M. 2000. The Llanos de Orinoco. Wageningen Agricultural University, Wageningen, Netherlands. http://www.wau.nl/rpv/ond_proj/dirjongm/Llanos/teksten/objectives/chapter03.html. 8 p.
- Río Grande Energia. 2002. Manual de arborização e poda: espécies recomendadas. http://www.rgers.com.br/manual_poda/esp_recomendadas.asp. 5 p.
- Silva, F.A., A.L.M. Baisch, B. Oliveira, A.M. Battastini, F. Torres, G. Rocoski, E.S. Silva, M.F. Alam, J.C.G. Apolinario, and A.J. Lapa. 1988. Preliminary pharmacological studies on extracts from *Casearia sylvestris* Swartz. *Acta Amazonica Suplemento* 18(1-2): 219-229.
- Stevens, W.D., C. Ulloa-U., A. Pool, and O.M. Montiel, eds. 2001. *Flora of Nicaragua*. Monographs in Systematic Botany Vol. 85, No. 2. Missouri Botanical Garden Press. St. Louis, MO. p. 945-1,910.
- Universidade do Extremo Sul Catarinense. 1999. Jornada Catarinense de plantas medicinais: Guaçatonga. http://www.unesc.rct-sc.br/plantas_medicinais/guaca.htm. 4 p.

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