

The Palmetto

**A Bog by
the Highway**

**Unique Flora
Faces an
Uncertain Future**
Pages 2 and 6



**American Black
Nightshade**

**The Wildflower
Garden Series**
by Rufino Osorio
Page 9





In the early 1970s, bloodberry (*Cordia globosa*) was one of the rarest shrubs in the pinelands of Miami-Dade and Monroe Counties. Then, the butterfly enthusiasts discovered the plants and *C. globosa* appeared everywhere in cultivation. These devotees may well have invented the name bloodberry, because it is not in any of the older literature. The same people, or their horticultural friends, surely created the more recent name, butterfly sage.

Bloodberry is perhaps based on *yerba de la sangre* (blood herb, Cuba) or maybe *sanguinaria* (for the blood, Cuba). The red fruits following the small clusters of white flowers make the names seem appropriate. However, the Spanish versions were based on medical uses. In Cuba and Hispaniola, a decoction of the plants is highly esteemed as an astringent and hemostat in case of pulmonary hemorrhages. Throughout the range of the species, the main application is for lung problems (Roig 1945, Liogier 1974, Morton 1981). That use holds through the range of *C. globosa* in southern Florida, the Bahamas, Cuba, Hispaniola and Puerto Rico to Aruba, Bonaire, Curaçao, and Margarita, from there onto mainland Venezuela, Colombia, and in Central America through Belize, Guatemala,

ABOVE: Close-up of the flower of *Cordia globosa*, traditionally called blood-berry. Popular naturalist and flower lover Roger Hammer has taken credit for the newer, more attractive common name: butterfly sage.

El Salvador, Honduras, Nicaragua, Costa Rica, and north to Mexico (Yucatán, Chiapas, Campeche, Morelos, Quintana Roo). Jamaicans use a tea for colds and tightness of the chest. The same use is made in the Grenadines as a remedy for colds, chest congestion, and for menstrual cramps (Morton 1981).

The name *butterfly sage* is also related to black sage (Caymans, Jamaica), man black sage (Jamaica), and wild sage. Those are simply English variants on Spanish *salvilla cimarrona* [*savilla cimarrona*] (wild sage). People everywhere have learned that *Salvia* (LAMIACEAE) is a useful medicine, and any plant that resembles it may have “sage” applied. The leaves of bloodberry are somewhat fragrant, providing some rationale for using this common name.

Many of the other common names have more or less obvious references to medical applications. Several plants in the French Antilles are called *bonbon* (candy), with different modifiers, and some are medicinal. *Cordia globosa* is *bonbon rond* (round candy, Guadeloupe and Martinique). The Jamaican gout tea may be a valid name (and use), or it may be a misunderstanding of the French *guérit-tout* (cure all, Guadeloupe, Martinique, Trinidad). Several Caribbean medicinal plants are named after people, maybe because they were renowned healers. For bloodberry, it is John Charles [John Charley] (Jamaica) or *Juan prieto* (black John, Dominican Republic).

There may be more than one message in *rompe camisa hembra* (female torn shirt, Cuba). That is especially true since the antonym is *rompe camisa macho* (*Turnera diffusa*). *Turnera*, known in the herbal industry as *damiana*, is touted as an aphrodisiac. Maybe *C. globosa* is also used that way.

Several other names are probably allusions to herbal medicines. Avocado (*Persea americana*) is used medicinally and so the Venezuelan name for cordia, *aguacatico* (little avocado), surely denotes the plant's use in medicines. Some names comparing the shrubs with VERBENACEAE include *caraiquito negro* (black Lantana, Venezuela), and *caraiquito de sabana* (savana lantana, Venezuela). Maybe the inclusion of indigenous words such as *saraguaso prieto* (black saraguaso, maybe Taino, Puerto Rico) complicates this imperfectly known name. No translation has been found for *ateje* (Taino?, Cuba), but it is used for more than one *Cordia* species.

Both *copillo* (little cup, Puerto Rico) and Curaçao bush (British Antilles) allude to medicines. However, it is not clear what is meant by *cuajajinta* (coagulates ink [or coffee], El Salvador), unless it is an allusion to a terrible



Cordia globosa (left). a. Flowering branch. b. Flower. c. Fruit. d. Flower longitudinally dissected. e. Pistil. f. Flower on right. Drawn by Priscilla Fawcett. From Correll and Spongberg, 1963, in *Flora of the Virgin Islands*, University of Florida Press.

taste. Other names with obtuse allusions are *herbe à boue* (filth herb, Guadeloupe and Martinique), *muñeco* (doll, Dominican Republic), *palo negro* (black stick [tree]), and *papita* (little potato, Cuba).

Bloodberry is also used against fever (Ayensu 1981). For that problem, a decoction is made with it, fever grass (*Andropogon citratus*) and bamboo (*Bambusa vulgaris*). A



Photo by J. Lange



a. Bud. b. Flower from above. c. Flower, side view. d. Longitudinal section diagram. e. Fruit in cluster on left, enlarged fruit on right. f. Enlarged fruit. (Lange and Correll 1982. Reproduced here with permission.)

simple decoction of bloodberry has been used in Cuba and elsewhere as a depurative for troublesome skin eruptions (Roig 1945). This mixture is used internally and in baths. In Jamaica, the plant decoction is used as a beverage. People in Yucatán employ the leaves as seasoning in cooking armadillo to improve its flavor.

It is hard to see how *mierda de gallina* (chicken feces, Cuba) or *zompopo* (simpleton or a species of ant, El Salvador) might indicate any human use, but perhaps they do. *Cenigal* (*ceniza*, ash, with the suffix *-al*, an ash-colored thicket, Dominican Republic) may also suggest a use or simply be descriptive. The names *diente de chucho* (dog's tooth) and *diente de perro* (dog's tooth) surely refer to the distinctive leaves. In Maya, the name is simply a mention of a pest, *hauche* (*hau* [haw], open the road, *che'*, tree, Maya). This is given because the trees grow frequently in paths and need to be removed.

No further information was found on *achehive* [*achechibe*]; it seems to be an indigenous name. I would not be surprised if the name had not been derived from *anacabuite*, a Mexican name originally given to *C. boissieri* and then to *C. sebestena*.

Cordia globosa is not the only *Cordia* species that people have used. Linnaeus placed three species in *Cordia* in 1753, and two of these had reputations as medicines. The one best known in Europe was the Old World *C. myxa* (Grigson 1986), which Linnaeus had grown at the botanical garden in Uppsala. He had previously reported on it in his book *Materia Medica* in 1749.

A first-hand report of American species was made by Hans Sloane, from the time he

spent in Jamaica. Although Linnaeus visited Sloane in Chelsea in 1736, he was dismayed that the herbarium was bound up in books and could not easily be studied. Linnaeus created names based on Sloane's publications work and not from his herbarium.

Due to the difficulty and time needed to browse through the 265 volumes of Sloane's specimens, perhaps it is understandable that Linnaeus did not mention what is now called

Cordia

Trees or shrubs with entire (in Florida), persistent petiolate leaves and persistent naked buds. Flowers in terminal determinate inflorescences with the seemingly lateral flowers borne alternately on opposite sides of a pseudoaxis and sometimes appearing like a raceme (scorpioid) or branched cymes, the 5-lobed calyx tubular or bell-shaped, the 5-lobed corolla funnel-shaped (or tubular outside Florida), white or colored. Ovary with 4-locules, the style two-branched near the middle, each branch two-parted. Fruits drupes (or dry outside Florida) that are partly enclosed in the calyx.

This is a pantropical genus in the family BORAGINACEAE containing ca. 320 species. The West Indies has perhaps 100 species, with 80% of them endemic. There are two well-known species in Florida: *C. globosa* and *C. sebestena*. Although *C. globosa* is listed as endangered by the Florida Department of Agriculture and Consumer Services, it is widely cultivated. Oddly, the less well known, and even rarer, native

ABOUT THE NAME, CORDIA: The *Cordia* genus was named by Linnaeus in honor of the German botanist and pharmacist Valerius Cordus, 1515-1544, one of the fathers of pharmacognosy. The original title of this article was Bloodberries and Dog Tits, two of the more colorful common names for *C. globosa* and *C. sebestena*.

C. globosa being among them. On the other hand, perhaps he did not know what to do with it. In such cases, he simply kept quiet.

Sloane's illustration of *Caryophyllus spurius inodorus, folio subrotundo scabro* [false odorless carnation, with almost round scabrous leaves] served as the basis of what Linnaeus called *C. sebestena*. We have to wonder if Linnaeus knew the meaning of the Arabic name *sebestena* (from *seg pistan*, dog tits, Grigson 1986), but I will bet he did.

The other reference Linnaeus used for *C. sebestena* was Mark Catesby. In his text, Catesby (1734-1747) reported that the wood of that tree, "...contains much Gum, in Smell and Appearance resembling Aloes, and is by the Inhabitants of the Bahama Islands (where it grows) called Lignum Aloes." Even today, aloe-wood remains a common name for *C. sebestena* in the Bahamas.

The tree's similarity with the Mexican species, *C. boissieri*, has caused it to be known by the Náhuatl name for that species, *anacahuite* [*anacahuita*, *anacagüita*, *anaconda*] (paper-tree, Yucatán,



A. Edwards

A fulvous hairstreak butterfly nectars on butterfly sage. The host plant for this introduced butterfly is one of our most prominent pest plants, Brazilian pepper.

Cuba, Puerto Rico). The Maya of Yucatán call it *kopté* [*copté*, *sak-k'opté*, *zak-k'opté*, *zac-copté*] (*sak*, white, *k'opté*, with a hard center). The Spanish *siricote* [*ciricote*, *zircote*] (Yucatán, Guatemala, Belize) or *siricote blanco* (white *ciricote*, Yucatán) is surely a corruption of the Maya. These names are used for the tree whose wood is hard, and whose fruits are used for food (Rico-G et al. 1990). To be eaten, they are made into preserves or jam, and have a good flavor. The fresh fruits directly from the tree are considered edible, but are not good. Apparently, sweetening and preserving fruits improves the taste.

In the Lesser Antilles, *C. sebestena* is called *bois râpe* (rough tree, because of the sandpaper leaf surface, Guadeloupe and Martinique), *manhage* (Aruba, Bonaire, Curaçao), scarlet accordia (Dutch Antilles), scarlet flower (Dutch Antilles), *sébastien* (Guadeloupe and Martinique), and *ti-soleil* (little tea, French Antilles). It is also called *caujaro Español* [*cawara spaño*, *karawaara spanjool*] (Spanish *caujaro*, Aruba, Bonaire, Curaçao). *Cordia alba* in Venezuela was the original *caujaro*, perhaps a name of Arawakan language origin.


Cordia sebestena is also in Florida, but it is questionably native. The legend says that John James Audubon gave it the name "Geiger tree" because of the specimens that 19th century ship captain John Geiger planted at Key West (Little 1979). According to Acevedo-Rodriguez (1996), the species is only native to the Greater Antilles, the Bahamas, and the Virgin Islands. He considers it introduced elsewhere as an ornamental. Indeed, it has been taken widely through the Americas and elsewhere where it is cultivated for its orange-red flowers and white fruits. Some of the plants may also have been grown for the edible fruits and medicinal traits. Certainly, the species has a venerable reputation for both. *Cordia sebestena* is listed as non-native in the Flora of Florida development and currently represented in the Florida Plant Checklist to the Vascular Plants of Florida by Darlin & Hansen,

REFERENCES

- Acevedo-Rodriguez, P. and Collaborators. 1996. *Flora of St. John U.S. Virgin Islands*. The New York Botanical Garden, Bronx, NY.
- Akhtar, A.H. and Ahmad, K.U. 1995. *Anti-ulcerogenic evaluation of the methanolic extracts of some indigenous medicinal plants of Pakistan in aspirin-ulcerated rats*. JOURNAL ETHNOPHARMACOLOGY 46(1): 1-6.
- Ayensu, E.S. 1981. *Medicinal Plants of the West Indies*. Reference Publishers, Algonac, Michigan.
- Basu, N.G., Ghosal, P.K. and Thakur, S. 1986. *Some structural features of an arabinoglucon from the fruits of Cordia dichotoma Forst.* CARBOHYDRATE RESEARCH 146(2): 350-351.
- Bieber, L.W., Krebs, H.C., and Schafer, W. 1994. *Further meroterpenoid naphthoquinones from Cordia corymbosa*. PHYTOCHEMISTRY 35(4): 1027-1028.
- Bieber, L.W., Messana, I., Lins, S.C.N., Silva Filho, A.A. da, Chiappeta, A.A., and Mello, J.F. de. 1990. *Meroterpenoid naphthoquinones from Cordia corymbosa*. PHYTOCHEMISTRY 29(6): 1955-1959.
- Coile, N.C. and Garland, M.A. 2003. *Notes on Florida's Endangered and Threatened Plants*. Florida Department of Agriculture and Consumer Services, Contribution No. 38, 4th edition, Gainesville, FL.
- Fun, C.E. and Svendsen, A.B. 1990. *The essential oil of Cordia cylindrostachya Roem. and Schult. grown on Aruba*. JOURNAL OF ESSENTIAL OIL RESEARCH 2 (4): 209-210.
- Grigson, J. 1986. *Exotic Fruits and Vegetables*. Henry Holt and Co., New York.
- Hayashi, K., Hayashi, T., Morita, N., and Niwayama, S. 1990. *Antiviral activity of an extract of Cordia salicifolia on herpes simplex virus type 1*. PLANTA MEDICA 56(5): 439-443.
- Hodge, W.H. and Taylor, D. 1957. *The Ethnobotany of the Island Caribs of Dominica*. Webbia 12(2): 513-644.
- Isoet, J.R., Marston, A., Gupta, M.P., and Hostettmann, K. 1998. *Antifungal and larvicidal meroterpenoid naphthoquinones and a naphthoxirene from the roots of Cordia linnaei*. PHYTOCHEMISTRY 47(5): 729-734.
- Liogier, A.H. 1974. *Diccionario Botanico de Nombres Vulgares de la Espaniola*. Impresora University Nacional Pedro Henriquez Ureña, Santo Domingo.
- Little, E.L.J. 1979. *Checklist of United States Trees (Native and Naturalized)*. United States Department of Agriculture, Washington, D.C.
- Marston, A., Potterat, O., and Hostettmann, K. 1988. *Isolation of biologically active plant constituents by liquid chromatography*. JOURNAL OF CHROMATOGRAPHY 450(1): 3-11.
- Morton, J.F. 1981. *Atlas of Medicinal Plants of Middle America, Bahamas to Yucatán*. Charles C. Thomas, Springfield, Ill.
- Nakamura et al. 1997. Nakamura, N., Kojima, S., Lim, Y.A., Meselhy, M.R., Hattori, M., Gupta, M.P. and Correa, M. 1997. *Dammarane-type triterpenes from Cordia spinescens*. PHYTOCHEMISTRY 46 (6): 1139-1141.
- Rapisarda, A., Ragusa, S., and De Pasquale, A. 1993. *Hepatotoxic effect of the leaves of some Cordia species*. ACTA HORTICULTURAE 332: 237-242.
- Rico-G., V., Garcia-F., J. G., Chemas, A., Puch, A., and Sima, P. 1990. *Species composition, similarity, and structure of Mayan homegardens in Tixpeual and Tixcacaltuyub, Yucatán, México*. ECONOMIC BOTANY 44: 470-487.
- Roig y Mesa, J.T. 1945. *Plantas Medicinales Aromáticas o Venenosas de Cuba*. Ministerio de Agricultura, Habana.
- Sertie, J.A.A., Basile, A.C., Panizza, S., Matida, A.K., and Zelnik, R. 1990a. *Anti-inflammatory activity and sub-acute toxicity of artemetin*. PLANTA MEDICA 56(1): 36-40.
- Sertie, J.A.A., Basile, A.C., Panizza, S., Oshiro, T.T., Azzolini, C.P., and Penna, S.C. 1990b. *Pharmacological assay of Cordia verbenacea. III. Oral and topical antiinflammatory activity and gastrotoxicity of a crude leaf extract*. JOURNAL OF ETHNOPHARMACOLOGY 31(2): 239-247.
- Srivastava, S.K. and Srivastava, S.D. 1979. *Taxifolin 3,5-dirhamnoside from the seeds of Cordia obliqua*. PHYTOCHEMISTRY 18(12): 2058-2059.
- Tiwari, K.P. and Srivastava, S.S.D. 1979. *Chemical investigation of the stem bark of Cordia obliqua*. PLANTA MEDICA 36(2): 191-192.
- Velde, V.V., Lavie, D., Zeinik, R., Matida, A.K., and Panizza, S. 1982. *Cordialin A and B, two new triterpenes from Cordia verbenacea DC*. JOURNAL OF THE CHEMICAL SOCIETY. Perkin transactions I. Organic and Bio-organic Chemistry 11: 2697-2700.

2nd Ed., 2003. — Ed.]

While no chemical studies seem to have been made on either of these Florida plants, several other *Cordia* species have been examined. There are multiple biologically active compounds in those species, including arabinoglucan, essential oils, terpenes, meroterpenoid naphthoquinones, and taxifolin (Srivastava and Srivastava 1979, Velde et al. 1982, Basu et al. 1986, Bieber et al. 1990, 1994, Fun et al. 1990, Nakamura, N. et al. 1997). Other studies have shown these and other cordia extracts to be antifungal, anti-inflammatory, anti-ulcer, anti-viral, hepatotoxic, and larvicidal (Tiwari and Srivastava 1979, Marston et al. 1988, Hayashi et al. 1990, Sertie et al. 1990a, b, Rapisarda et al. 1993, Akhtar and Ahmed 1995, Ioset J.R. et al. K. 1998).

A Lesser Antillean name summarizes the utility of cordia (although it refers directly to *C. sebestena*): *Mapou rouge* (red *mapou*, Guadeloupe and Martinique), which contains a Cariban 

ABOUT THE AUTHOR : A member of FNPS since 1981, Dan now lives in Tucson, Arizona, where he works in the Conservation & Science Dept. of the Arizona-Sonora Desert Museum and serves as the Book Review Editor for ECONOMIC BOTANY

ADDITIONAL THANKS : for the great photos to Palm Beach member Alana Edwards (a Florida butterfly guru),
Broward

Note: Dr. Austin passed away in 2015. A scholarship fund for ethnobotany has been established by FNPS in honor of his services to botanical science, ethnobotany, and the Florida Native Plant Society