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# The lipstick tree

MARY CAREY-SCHNEIDER grows *Bixa orellana* as an ornamental on her estate in Argentina but elsewhere it is grown commercially for the colouring agent obtained from the ripe fruit and seeds.

Locally called annatto or achiote, the fruits of *Bixa orellana* have satisfied two important areas of man's needs for many centuries, fulfilling both basic dietary demands as a spice or colorant in a myriad of recipes across the Central and Latin American continent, and his spiritual aspirations and vanity as a face and body

photograph © Mary Carey-Schneider



*Bixa orellana*, the lipstick tree, growing as an ornamental in Argentina. It is from the dark red seed and pods that dye is extracted.

For illustration of the seed, see [http://en.wikipedia.org/wiki/Image:Bixa\\_orellana\\_seeds.jpg](http://en.wikipedia.org/wiki/Image:Bixa_orellana_seeds.jpg)

paint. From the Caribbean to the Incas and the Amazon indigenous peoples, the orange-red pigment from this small tree has been used in everyday life as well as on feast-days and high days, forming part of their way of living.

The so-called lipstick tree is an easily grown shrub that bears fruit prolifically; one of four genera in the family Bixaceae, it is found from the southern Caribbean to the South American tropics. Its common name in English is derived from the pigment made from the abundant seeds that are made into face and body paints. Although it is also used as a food and fabric pigment the crushed seeds also have some medicinal use, as it is said to be hallucinogenic and a mild diuretic. Traces of the pigment have been found in remains at archaeological

sites associated with the Inca peoples, particularly in preserved remains of children or young people, dating from this pre-conquest period, who had been sacrificed in religious rites. (c.f. Llullaillaco children, Aconcagua Boy).

The tree has several synonyms such as *Bixa acuminata*, *B. urucurana*, or *B. americana*, and various common names depending on the zone; annatto, urucu, achiote, and roucou amongst the most commonly used. It is frost tender, preferring a sunny position to shade, and grows in moist soils, preferring richer loams, although it will tolerate poor acid soils. It can be easily grown from either cuttings or seeds, although trees grown from seed take longer to flower.

The small tree (up to 4 meters) has heart shaped leaves, and the flowers, flowering white – pink to deep pink with many stamens, and their subsequent seedpods, are produced on terminal panicles. It is highly ornamental. The fruit is a heart shaped capsule, covered with short stiff hairs, which turn from scarlet to brown on maturity at which point they split open to expose numerous small reddish – orange seeds. The plant is known to cause urticaria (nettle rash) in some cases, as well as being hallucinogenic.

Although the fruit is defined as non-edible, it is the reddish-orange pulp and particularly the seeds which are so widely used to produce the characteristic pigment. The active substance giving the red colour is bixin and norbixin, both apo-carotenoids found in the seed epidermis. The seeds are processed, either in oil or water, to obtain the red – orange – yellow pigment (depending on concentration of the active substance) and then used as a dye in the cosmetic, food and fabric industries, while the indigenous peoples use the pigment in an aqueous paste form.

In the cosmetic industry today, the pigment is a natural substitute for the red chemical colorant used in the industry for lipsticks as well as self-tanning oils, face powders and creams, and also luxury soaps and lotions. Furthermore, the pigment is used in dyeing textiles, having strong bonding properties with natural fabrics, and used in coloured varnishes and artificial wood finishes.

As a food additive, the dye, known as E160b, is used in dairy products, such as cheese (cheddar, red leicester and brie), yoghurt and butter, as well as in smoked fish, rice, powdered soups and custard powder amongst other well-known products. The ground seeds are the major ingredient in the preparation of a local Latin American condiment known as sazón, which is described as having an earthy flavour not unlike paprika or saffron, presented as either a paste or in powder form, and used in rubs or marinades to flavour as well as colour the food. When used in cooking or associated with food, the seeds are referred to as achiote or annatto.

For its ease of growing, use and ornamental qualities, today, and historically, *Bixa orellana* is readily found both in gardens and plantations of many tropical South American areas, wherever there is sufficient moisture and shelter from wind and frosts.