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The COLOURFUL leaves of *Netsetse* -Croton and its *significance* in Vanuatu's culture



If you trek through any native forest, almost every plant you encounter will have green leaves. The colour green is associated with a plant's ability to make its own food through a process called photosynthesis, which relies on green pigments known as chlorophylls. But in the villages of Vanuatu, like those throughout the Pacific Islands, you will notice that local people love to cultivate certain varieties of plants whose leaves sport highly colourful patterns of red, purple, yellow, orange or white. These colourful leaf patterns, called "variegations", are due to the partial suppression

of green chlorophylls in favor of pigments with these other colours. Orange, yellow, and some red colors are caused by carotenoid pigments (the same pigments that make carrots orange), while purples and purplish-reds are due mainly to anthocyanin pigments, which make blueberries blue and give the distinctive purple colour to eggplants and red cabbage.

One of the most common of these colourful cultivated varieties is a plant called "croton", or "Joseph's coat" in English. This species belongs to the spurge family

(Euphorbiaceae), which also includes rubber trees and poinsettias. The leaves of croton offer an explosion of colours, shapes, and sizes, which is expressed in its scientific name, *Codiaeum variegatum*, based on the Latin word *variegatus*, meaning "varied". Croton can be found in just about every village in Vanuatu, where it is valued not only because of its beauty, but also for a host of important cultural uses. Yet, lurking in the native forests just outside these villages, you can find its wild progenitor, the croton plant with entirely green leaves. This green "wild type" is native to forests found



This page: Reuben Neriam discussing the uses of inlopot on Aneityum Island with Greg Plunkett. *Next page top:* Monument of Fr. Walter Lini, founding father and first Prime Minister of Vanuatu, outside his gravesite on Pentecost Island. Croton has been planted in front (to the right) of the statue. *Middle:* Close-up of the “wild type” (green leaf) form of *Codiaeum variegatum*, found native in Vanuatu’s forests. *Bottom:* Houses in Vanuatu commonly have croton planted around them.

across the western Pacific islands, stretching from Indonesia to Fiji, including Vanuatu. The selection of colorful varieties from green progenitors is done through a process of selective breeding, much the same way we generate hundreds of dog and cat breeds. No one knows who first selected for the brightly colored crotons, but from the Pacific, they were then carried by humans throughout the world, where they are grown everywhere in the tropics and even in cold climates as house plants.

In Vanuatu, colourful plants like croton are often grown close to the house, in pots or in the ground, sometimes as individual specimens or planted in hedges to mark a person’s yard. In our studies of Vanuatu’s plants, we have interviewed over a dozen people on Tanna, Futuna, and Aneityum about the fascinating cultural uses of this plant. Its importance is reflected in the fact that it has a local name in every indigenous language. For example, we have recorded names from four of Tanna’s seven languages,

where croton is known as *niaput* in the Naka language, *neapar* in Nafe, *reper* in Nawai, and *neapet* in the Natuar language. In nearby Anietyum, it’s called *inlopjap* and *inlopot*, and in the Polynesian language of Futuna it’s known as *inlojjaep*. Across Vanuatu, the plant is called *netsetse* in Bislama.

Traditional life in Vanuatu revolves around the family, the garden, and the nakamal (representing kastom). Croton plays an important role in all three. In family life, the plant is used as an ornamental around the house due to its beautiful colouration. It can be used in traditional cooking, as well. For special occasions, food may be prepared using an earth oven. In this method, a fire is prepared in a shallow pit dug into in the ground, and then stones are placed on top of the flaming firewood. As the flames die down, the rocks absorb and store the heat. Food is wrapped in a packet using clean, non-toxic leaves (such as *Heliconia*) and cooked on these

super-heated stones. These leaves of croton are not used to wrap the food because they contain toxic compounds that cannot be eaten, but they may be used as a layer of insulation, to keep the red-hot stones from burning the food packet.

Codiaeum variegatum is also used as a medicinal plant in Vanuatu, especially for toothaches. In one such use, the latex (a kind of milky-white sap) from its leaves or stems is dripped into the area of the toothache to reduce pain. In another method, the leaves are boiled in seawater, along with a number of other plants, and this liquid is used as a mouthwash three times a day until the pain subsides. Croton is also used medicinally in other Pacific Island nations. In Palau, located in the western Caroline Islands of Micronesia, latex from croton leaves is used to treat skin rashes by breaking the bases of older leaves and dripping the sap directly on the rash. This use seems paradoxical, however, because the plant is rich in compounds known as diterpene esters,

which can be quite irritating and even cause eczema. The toxicity of this plant has attracted the attention of some plant breeders, who have attempted to develop non-irritating forms of *Codiaeum variegatum* to help protect people working in commercial nurseries and those who grow this species as a houseplant in their homes.

In the gardens of Vanuatu, croton is often used as a "shelter plant" for crops such as taro, bananas, and yam, to protect these tender plants from damage by wind and rain. It can also serve as a fertilizer. When digging a taro patch, for example, the colourful leaves of croton may be placed in the bottom of the hole. As these leaves decompose, they fertilize and promote the growth of the crop plant. In addition, the croton leaves also keep the bottom of the young taro rhizome from rotting, by keeping it away from the very moist soil until it has a chance to become established. Some of the agricultural uses of *Codiaeum variegatum* also involve cultural beliefs. For example, pigs are often raised within a fenced area, and in setting up this enclosure, Ni-Vanuatu will plant a young croton tree in each corner. This traditional practice is thought to keep the pigs from trying to escape and protects them from "bad luck", which is believed to cause the pigs to suffer and not grow strong enough to reproduce. For example, in Aneityum, if a man sleeps with his wife during her menstrual period, he is said to be affected by a kind of magical curse. Should he look upon a pig in this state, he could harm the animal. The presence of croton in the pig pen provides protection against this bad luck.

The plant also has traditional *kastom* uses as well. Because of the beautiful palate of colours found in croton leaves, they are often rolled up and strung along a thin rope or string to make a neck-garland, known locally as a *salu-salu*. Any visiting dignitary in Vanuatu is likely to be honored by the presentation of such a *salu-salu* by the young ladies of the village. Many different plants can be used for this purpose, including those with pleasant scents or attractive flowers, but croton makes an especially nice option because of its leathery leaves, which allows the garland to maintain its freshness for several days without wilting. That said, for some people, the sap can irritate the skin around the neck. In a separate *kastom* use, cuttings of *Codiaeum var-*

iegatum are often brought to decorate new gravesites, along with fresh flowers. It may also be planted and grown around the grave, where its brightly coloured leaves serve as a long-lasting marker that this area is a burial site.

Like many plants in the villages, *Codiaeum variegatum* is easily cultivated. For readers who would like to cultivate croton, its growth requirements are quite simple. This tropical species thrives in warm, humid environments, requiring temperatures above 15° Celsius (60° Fahrenheit) and a steady source of water. Outdoors, it flourishes in shadier locations with diffused light, which helps the plants produce their most colorful leaves. In stronger, direct sunlight, the leaves could become blanched or pale. As an indoor houseplant, croton can be grown anywhere in the world, as long as the proper conditions are met. These houseplants should never be placed in direct sunlight for long periods of time, but should be kept in a well-lit area with indirect light, ideally between temperatures of 15–30°C (60–85°F). Indoor plants can be frequently misted with water to mimic humid tropical environments, but shouldn't be overwatered during the winter period, when light is reduced and growth can slow. This plant will thrive in a well-drained pot filled with rich soil, but can also tolerate being rootbound in their pots as the plant ages. This species is easily propagated by use of stem-cuttings, which are 15-cm (6-inch) pieces of stem with a few leaves that are cut from an existing plant, then inserted to about 7 cm (3 inches) deep in a fresh pot, and kept moist until new roots form. The ease with which these plants can be vegetatively propagated in the villages often leads to their function as "living fences". Villagers cut pieces of the stem from older plants, stick them into the ground to form a fence, and in a few weeks, these fences send out new leaves forming a dense hedge.

Croton, like so many of the colourful plants of Vanuatu's villages, has a number of interesting and culturally-important uses. We encourage you to ask the people you know about how they use it, and they will no doubt share some interesting stories with you!

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