

# OFENGA

**Botanical name:** *Pseuderanthemum whartonianum*; *P. carruthersii* (Acanthaceae)

**Location specific common names:** *P. carruthersii* var. *carruthersii* (green leaf): te iamaii (Kiribati); ofenga (Tuvalu, Solomons), pure, burape; *P. carruthersii* var. *atropurpureum* (red/purple leaf): te iaro (Kiribati) Carruthers' falseface, false eranthemum, (pictured below, left); *P. carruthersii* var. *reticulatum* (green lower leaves and yellowish upper leaves with obvious veins, pictured below, right).

**Plant Characteristics:** Ofenga, which originates from North Vietnam, is a tall shrub, growing up to 6m high. The leaves have prominent veins and are oval-shaped, narrowing to a point at both ends. Both species are similarly nutritious. The flowers are purple and white.

**Uses:** Young leaves can be eaten fresh, but any leaves can be cooked in soups, stews and curries, ideally with coconut cream to increase carotenoid availability and conversion to vitamin A. Some people consider this plant to have the best flavour of all of the recommended leafy vegetables. **Medicinal:** Ofenga is used, particularly in Vietnam and Thailand, to treat high blood pressure, diarrhoea, wounds, arthritis, tumours and diabetes. The study of Padee *et al* (2010) (see Factsheet 1) supports the use of *P. palatiferum* (a close relative of *P. whartonianum* and *P. carruthersii*) to combat diabetes.

**Availability:** Ofenga grows all year in the tropics and is widespread in the Pacific, especially in Solomon Islands (particularly Malaita) and Vanuatu, near the coast in gardens and as hedges, and wild in rainforest. Both species are common on South Tarawa and Funafuti and less so on outer islands. Like chaya and drumstick, it is often found in ALD nurseries in Kiribati.

**Propagation methods:** Like hedge panax, ofenga is usually grown from stem cuttings around 2cm thick and 40cm long, but can also be grown from seed. The area around the cuttings should be mulched and watered for the first 3 months to help establishment.



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**How to grow:** Ofenga is not as iron efficient as hedge panax but still grows well on atolls, especially with adequate composting.

**Threats:** Pink wax scale (*Ceroplastes rubens*) and passion vine mealybug (*Planococcus pacificus*) can affect the quality of ofenga leaves.

**Harvesting:** Young and older leaves can be harvested on a daily basis. Leaves for food can be collected at the same time as a hedge is trimmed, which helps to keep the hedge tidy.

**Post harvest and storage:** As for most leaves, ofenga, should be washed with clean water and stored in a cool, shady place. Ideally, leaves should be eaten within a day of picking, but can be frozen for later use.

**Project findings/nutritional value:** : Samples were collected in Kiribati, Tuvalu and Solomon Islands. Ofenga is an outstanding accumulator of magnesium, second only to purslane in our samples, and is also usually high in calcium and carotenoids, especially lutein (Solomon Islands samples analysed). About two handfuls (100 grams) per person for a meal serving will provide useful nutrition.

**Magnesium:** This mineral is important in bone formation, energy production, and nerve and muscle function. Furthermore, it has anti-inflammatory effects, and magnesium deficiency is a risk factor for obesity, metabolic syndrome and diabetes.

**Calcium:** The most important mineral for the growth and maintenance of bones and teeth. Calcium is also important for cellular physiology.

This table compares selected mineral nutrients in leaves of ofenga (*P. whartonianum*), drumstick and taro grown together at ALD Tanaea, South Tarawa, Kiribati in 2014 and English cabbage (average of samples bought from Honiara market, Solomon Islands and Nukualofa market, Tonga in 2012) (concentration in mg/kg dry weight, except N: % dry weight).

	Fe	Mn	B	Cu	Zn	Ca	Mg	K	S	N %
Ofenga	26	24	44	7	33	<b>22000</b>	<b>27000</b>	19600	3100	2.1
Drumstick	<b>65</b>	20	34	5	32	15800	7400	12200	<b>11600</b>	<b>5.4</b>
Taro	34	35	28	<b>12</b>	29	<b>33000</b>	6300	<b>29000</b>	2300	3.8
Cabbage	40	23	12	2	20	5700	1450	<b>29000</b>	3750	2.8

Fe: iron; Mn: manganese; B: boron; Cu: copper; Zn: zinc; Ca: calcium; Mg: magnesium; K: potassium; S: sulphur; N: nitrogen  
Analyses conducted by Waite Analytical Services, University of Adelaide, South Australia

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Compiled by G Lyons, G Dean, R Goebel, M Taylor, R Kiata, Layout by S. Tukidia.

