

- Guzman, E., Umali, R.M. and Sotalbo, E.M. (1986) *Guide to Philippine Flora and Fauna*. Volume III. Natural Resources Management Center, Ministry of Natural Resources and University of the Philippines, Manila, the Philippines.
- Hensleigh, T.E. and Holaway, B.K. (eds) (1988) *Agroforestry Species for the Philippines*. US Peace Corps, Manila, the Philippines.
- Hyland, B.P.M. (1983) A revision of *Syzygium* and allied genera (Myrtaceae) in Australia. *Australian Journal of Botany* Supplementary Series No. 9, 164 pp.
- Jensen, M. (1999) *Trees Commonly Cultivated in Southeast Asia. An Illustrated Field Guide*, 2nd edn. RAP (Regional Office for Asia and the Pacific) Publication, Food and Agriculture Organization (FAO), Bangkok, Thailand, 235 pp.
- Martin, F.W., Campbell, C.W. and Ruberté, R.M. (1987) *Perennial Edible Fruits of the Tropics – an Inventory*. Agriculture Handbook No. 642. US Department of Agriculture (USDA) Agriculture Research Service (ARS), US Government Printing Office, Washington, DC.
- Mbuya, L.P., Msanga, H.P., Ruffo, C.K., Birnie, A. and Tengnas, B. (1994) *Useful Trees and Shrubs for Tanzania*. Regional Soil Conservation Unit (RSCU), Swedish International Development Authority, Nairobi, Kenya.
- Miller, J.S. (2000) New taxa and nomenclatural notes on the flora of the Marojejy Massif, Madagascar. IV. Myrtaceae: new species of *Eugenia* L. *Adansonia* 22, 111–116.
- Morton, J.F. (1987) *Fruits of Warm Climates*. Creative Resource Systems Inc., Winterville, North Carolina, 505 pp.
- Nakasone, H.Y. and Paull, R.E. (1998) *Tropical Fruits*. CAB International, Wallingford, UK, 445 pp.
- Neal, M.C. (1965) *In Gardens of Hawaii*. Special Publication 50. Bishop Museum Press, Hawaii, 924 pp.
- Panggabean, G. (1992) *Syzygium aqueum* (Burm f.) Aeston, *Syzygium malaccense* (L.) Merr. & Perry, *Syzygium samarangense* (Blume) Merr. & Perry. In: Verheij, E.W.M. and Coronel, R.E. (eds) *Edible Fruits and Nuts. Plant Resources of South East Asia No. 2*. PROSEA Foundation, Bogor, Indonesia, pp. 292–296.
- Ridley, H.N. (1967) *The Flora of the Malay Peninsula*. Vol. 1. L. Reeve, London, pp. 718–755.
- Schmid, R. (1972) A resolution of the *Eugenia*–*Syzygium* controversy (Myrtaceae). *American Journal of Botany* 59, 423–436.
- Subhadrabandhu, S. (2001) *Under-utilized Tropical Fruits of Thailand*. RAP (Regional Office for Asia and the Pacific) Publication 2001/26. Food and Agriculture Organization (FAO), Rome.
- Van Lingen, T.G. (1992) *Syzygium jambos* (L.). Alston. In: Verheij, E.W.M. and Coronel, R.E. (eds) *Edible Fruits and Nuts. Plant Resources of South East Asia No. 2*. PROSEA Foundation, Bogor, Indonesia, pp. 296–298.
- Verheij, E.W.M. and Coronel, R.E. (eds) (1992) *Edible Fruits and Nuts. Plant Resources of South East Asia No. 2*. PROSEA Foundation, Bogor, Indonesia.
- Wagner, W.L., Herbst, D.R. and Sohmer, S.H. (1990) *Manual of the Flowering Plants of Hawaii*. University of Hawaii Press and Bishop Museum Press, Honolulu, Hawaii, 1853 pp.
- Wiersema, J.H. and Leon, B. (1999) *World Economic Plants: a Standard Reference*. CRC Press, Boca Raton, Florida, 749 pp.

Ugni molinae ugni

Ugni, *Ugni molinae* Turcz. (Myrtaceae), is native primarily to southern Chile with some populations in Bolivia. Other common names include murtila or Chilean guava and its synonym is *Murtis ugni*. The aromatic, somewhat seedy, dark red fruit are primarily harvested from the wild for fresh consumption, processing and limited shipping. The species grows as an evergreen shrub to about 2 m tall. The dark green leaves are small but the new growth can be a very attractive red. Ugni blooms in late spring to early summer with a profusion of white to pink urn-shaped flowers with fused petals. The flowers are self-fertile but insect pollinated. In late summer and autumn, the 1.0–1.5 cm diameter fruit ripen to a deep red, cranberry colour. The fruit are probably most comparable to a dry blueberry (*Vaccinium* sp.) in texture. The fruit is very aromatic with a distinctive and appealing resinous aroma and flavour. The plant grows best in full sun on well-drained, moist soils but will tolerate partial shade and, once established, droughty conditions. This temperate species is not very winter hardy, tolerating temperatures down to –7 to –12°C.

The fruit has been locally harvested for fresh consumption and processing. Typically the fruit is preserved in sugar syrup or made into jams and jellies. The fruit is also used to make tea or is fermented. Ugni plants are commonly found in family gardens. While fresh consumption is mostly local, periodically fruit-packing companies in Chile have attempted to develop markets in the northern hemisphere. In this case, wild harvested fruit was packed in plastic ‘clamshells’ and shipped via air or boat. While the fruit ships well and arrived in the market in good condition, it has yet to develop a consistent market. While a few attempts have been made at establishing managed planting, to this point, nearly all the fruit for shipping has been hand harvested from wild stands. This would seem to be a crop that is well adapted to commercial production in managed plantings and perhaps machine harvesting.

In addition to ugni’s fruit quality, the plants have been used in landscaping in mild temperate climates such as the UK, New Zealand and California, USA.

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Further reading

- National Research Council (USA) (1989) *Lost Crops of the Incas: Little-known Plants of the Andes with Promise for Worldwide Cultivation*. National Research Council (USA) Advisory on Technology Innovation. National Academy Press, Washington, DC.