## LOCAL NAMES

Fijian (natoro,baumuri); Samoan (poumuli); Tongan (poumuli)

## BOTANIC DESCRIPTION

Securinega flexuosa is a deciduous, shrub or small or rarely mediumsized tree up to 10(-30) m tall; bole often irregular, branchless for up to 6 m, up to 30(-50) cm in diameter, sometimes with indistinct buttresses; bark surface smooth, becoming fissured and scaly with age, peeling in small, thin strips, lenticellate, pale grey to pale brown.

Leaves arranged spirally but distichous on twigs, simple, entire, with short petioles; stipules small.

Flowers in an axillary fascicle, unisexual, small, whitish or greenish-yellow; sepals 5; petals absent. Male flowers with 3-5 stamens; disk composed of 5 glands; pistillode present. Female flowers with an annular, crenate disk; ovary superior, 3-locular with 2 ovules in each cell, styles short, connate at base, stigmas deeply 2-lobed or double 2-lobed.

Fruit drupaceous, many in clusters, fleshy, red turning black when ripe.

### Seed angled.

### BIOLOGY

In the Philippines flowering has been observed in January and in May-June, fruiting in January and May. In the Pacific it flowers and fruits several times a year and has been recorded to bloom in January, April, July and September. The fruits are taken and dispersed by birds.

# ECOLOGY

S. flexuosa has been found in primary forest at low altitudes and in dense shrub savanna. It is often a pioneer growing in river floodplains, fallowed fields and abandoned coconut plantations. S. flexuosa is a light-demanding tree.

## BIOPHYSICAL LIMITS

Soil types: It grows well on nutrient-poor soils.

# DOCUMENTED SPECIES DISTRIBUTION

Native: Fiji, New Caledonia, Papua New Guinea, Philippines, Samoa, Solomon Islands, Vanuatu Exotic:



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

# PRODUCTS

Fuel: It also yields a good fuelwood.

Timber: S. flexuosa yields a heavy hardwood with a density of 810-935 kg/m cubic at 15% moisture content. Heartwood pale yellowish-brown, hardly distinguishable from the up to 3 cm wide pale sapwood; grain straight; texture moderately fine; wood fairly lustrous; wood with a bitter taste. The wood is hard and strong but somewhat brittle. It finishes well, is durable and not susceptible to fungal or dry-wood termite attack. The sapwood is non-susceptible to Lyctus. In the Philippines the wood of S. flexuosa is locally highly valued for house and fence posts, and additionally used for joists, rafters and tool handles.

Tannin or dyestuff: The leaves are used for staining.

Medicine: The bark is applied medicinally in a fever-reducing drink.

### SERVICES

Apiculture: Pollen and nectar (honey) can be obtained from the flowers.

TREE MANAGEMENT

GERMPLASM MANAGEMENT

PESTS AND DISEASES

# FURTHER READNG

Airy Shaw HK, 1980. The Euphorbiaceae of New Guinea. Kew Bulletin Additional Series VIII, 243 pp.

Airy Shaw HK, 1982. The Euphorbiaceae of Central Malesia (Celebes, Moluccas, Lesser Sunda Is.). Kew Bulletin. 37(1):1-40.

Chaplin GE, 1987. Insect pests and fungal diseases of trees in Solomon Islands: recent identifications. Forest Research Note, Forestry Division, Solomon Islands. No. 29-1-87. 10 pp.

Chaplin GE, 1988. Notes on the use of mixture and nurse crops in the establishment of plantations of high value species. Forestry-Note -Forest-Division,-Solomon-Islands. No. 30-7-88. 4 pp.

Chaplin GE, Ngoro ML, 1988. The status of Securinega flexuosa in Solomon Islands - an appropriate species for small scale community forestry. Forest Research Note, Forestry Division, Solomon Islands. No. 46-14-88. 14 pp.

Chaplin GE. 1993. Silvicultural manual of the Solomon Islands. Overseas Development Administration Series, UK.

Foliga T, Blaffart H, 1995. 20 Western Samoan species. Watershed management and conservation education project working paper. Apia, Samoa: Government of Western Samoa/UNDP/FAO.

Forster Br S, Galvin Rev. JD, Chaplin GE, 1988. Notes on honey sources and bee keeping at Vanga Point and Tenaru. Forestry Note No. 29-6/88. Solomon Islands: Ministry of Natural Resources/ Forestry Division.

Henderson CP and Hancock IR. 1988. A guide to the useful plants of Solomon Islands, Research Dept., Ministry of Agriculture and Lands, Honiara, Solomon Islands.

Kininmonth JA, 1982. Properties and uses of the timbers of Western Samoa. Indigenous hardwoods. Rotorua, New Zealand: Forestry Research Institute. 56 pp.

Maenu'u L, 1979. An indicative list of Solomon Islands medicinal plants. Unpublished monograph. Munda, Solomon Islands: Forestry Division Research Station, 46 pp.

Martel F, 1998. Rapid rural assessment survey in Samoa, final report. South Pacific Regional Initiative on Forest Genetic Resources (SPRIG).

Neil PE, 1987. Notes on potential multi-purpose and community forest tree species. Forest-Research-Report-Vanuatu. No 11-87, 2 pp.

Reyes LJ, 1938. Philippine woods. Technical Bulletin, No. 7. Philippines Department of Agriculture and Commerce. Manila, Philippines: Bureau of Printing. pp. 536.

Salvosa FM, 1963. Lexicon of Philippine trees. Laguna, Philippines: Forest Products Research Institute. Bulletin No. 1. pp. 136.

Siwatibau S, Bani C, Kaloptap J, 1998. SPRIG Rapid Rural Appraisal Survey of selected tree species in Vanuatu. Report by Island Consulting to CSIRO Division of Forestry/SPRIG Project.

Smith AC, 1981. Flora Vitiensis nova: a new flora of Fiji (spermatophytes only). Volume 2. 818 pp.

Sosef MSM, Hong LT, Prawirohatmodjo S, eds. 1998. Plant Resources of South-East Asia. No. 5(3). Timber trees: lesser-known timbers. Backhuys Publishers, Leiden.

Thaman RR, Whistler WA, 1996. A review of uses and status of trees and forests in land-use systems in Samoa, Tonga, Kiribati and Tuvalu with recommendations for future action. Working paper 5. South Pacific Forestry Development Programme, RAS/92/361.

Walker FS, 1948. The forests of the Solomon Islands Protectorate. The Government of the British Solomon Islands Protectorate. pp. 106.

Webster GL, 1994. Synopsis of the genera and suprageneric taxa of Euphorbiaceae. Annal of the Missouri Botanical Garden. 81: 33-144.

Wheatley JI, 1992. A guide to the common trees of Vanuatu with lists of their traditional uses & ni-Vanuatu names. 308 pp.

# SUGGESTED CITATION

Orwa C, Mutua A, Kindt R, Jamnadass R, Simons A. 2009. Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/af/treedb/)