
Telosma cordata

Scientific Name

Telosma cordata (Burm.f.) Merrill

Synonyms

Asclepias cordata Burm.f., *Asclepias pallida* Roxb., *Cynanchum odoratissimum* Loureiro, *Oxystelma ovatum* P.T. Li & S.Z. Huang, *Pergularia minor* Andrews, *Pergularia odoratissima* (Loureiro) Roxb. ex Smith, *Telosma minor* (Andrews) W.G. Craib, *Telosma odoratissima* (Loureiro) Coville

Family

Asclepiadaceae

Common/English Names

Chinese Violet, Cowslip, East Coast Creeper, Fragrant Telosma, Night Fragrant Flower, Pakalana Vine, Primrose Creeper, Tonkin Creeper, Tonkin Jasmine, Tonkin Telosma

Vernacular Names

Chinese: Ye-Lai-Xiang, Yeh-Lai-Hsiang, Ye-Xiang-Hua, Yeh-Hsiang-Hua

French: Parfum Nocturne, Pergulaire

Hawaiian: Miulana Ke'oke'o, Pakalana

India: Surkilla (Hindi), Cambangikkodi (Tamil), Alapaala, Errumalle-tige, Konda Male-tige, Seethamanoharamu (Telugu), Kusiari (Uttar Pradesh), Kanjalate, Seetamanoharam

Malaysia: Bunga Siam, Bunga Tonkin, Melati Tonkin

Spanish: Fragancia Nocturna

Thai: Salit

Vietnamese: Thiên Lý, Hoa Thiên Lý

Origin/Distribution

The plant is a native of India, Burma, Indochina and South China. It is widely cultivated in Southeast Asia especially in Thailand, Vietnam and Malaysia. It was introduced and cultivated in Java from the seventeenth century.

Agroecology

In its native range, the plant is found in secondary forest, bushland and open woods in low elevation in the subtropics and tropics. It is also cultivated in home gardens. It thrives in full sun in well-drained, fertile sandy-loam soil with optimum pH 6.1–7.5. It is tolerant to drought and poor soil but sensitive to flooding and cold.

Edible Plant Parts and Uses

Opened and unopened flowers in umbels and young leaves are eaten as vegetables in China, Thailand, Vietnam, Kampuchea and Laos, cooked in soups or stir-fries with eggs and with meat (Burkill 1966; Uphof 1968; Facciola 1990; Hu 2005; Tanaka and Nguyen 2007; Yang et al. 2008). Tuberous roots are also eaten as sweetmeat by the Chinese in Java. Flowers yield an oil which is used in cooking.

Botany

Small, perennial, climber growing to 10 m long with much-branched, yellowish green stem, pubescent when young becoming pale grey and glabrescent (Plate 1). Leaves borne on 1.5–5 cm long petioles. Leaf lamina ovate, 6–11 cm long, base deeply cordate with narrow sinus, apex acuminate; basal veins 3, lateral veins to six pairs, glabrous or puberulous on the nerves (Plates 1, 2 and 3). Flowers in 15–30-flowered, umbellate cymes, puberulent, fragrant especially at night (Plates 4 and 5). Bract linear, caducous. Sepals oblong-lanceolate, puberulent on the outside. Corolla greenish-yellow to pale yellow, salver-shaped, tube 6–10×4–6 mm, puberulent outside, with ciliate, oblong-linear lobes, twisted in bud (Plates 1 and 3). Corona in one series with slightly fleshy lobes, basal part ovate, apex acuminate, often notched to deeply lobed, internal

appendage often longer than lobe proper. Pistil with two carpels with numerous ovules on sub-marginal placenta. Filaments united, anthers with two locules each with one oblong or reniform pollinia. Stigma large, capitate. Follicles lanceolate 6–12×2–3.5 cm, glabrous, somewhat



Plate 2 Close view of leaves



Plate 3 Mature, opened flowers



Plate 1 Fragrant *Telosma* vine



Plate 4 Unopened flower buds



Plate 5 Harvested flowers and buds on sale in a local market

obtuse 4-angled. Seeds broadly ovate, 1×1 cm, flat, apex truncate, margin membranous bearing 3–4 cm long silky coma.

Nutritive/Medicinal Properties

The flower bud was reported to have the following nutrient compositions: 11 g dry matter, 1.18 g fiber, 2.62 g sugar, 3.13 g protein, 0.74 mg vitamin C, 52 mg β -carotene, 19 mg Ca and 0.92 mg Fe (Kuo 2002). Flavonoid content (mg/100 g FW) of the flower bud amounted to 12.8 % dry matter made up of the following flavonoids (mg/100 g FW): quercetin 0.2 mg, kaempferol 8.7 mg and total flavonoids 8.9 mg (Yang et al. 2008). A total of 43 compounds were identified from the essential oil of *Telosma cordata* flowers (Arai et al. 1993). Geraniol, β -ionone, dihydro- β -ionone, dihydro- β -ionol and *cis*-theaspirane and *trans*-theaspirane were found to contribute largely to the characteristic scent of the flower.

Comparison of mean vitamin C concentrations resulting from different cooking methods in leaves and tender tips and flower vegetables showed conventional stir-fried pagwanpa, pagwanban and cowslip creeper (*Telosma cordata*) to be excellent sources of vitamin C (64.4–70.8 mg/100 g) (Somsu et al. 2008)

The methanol extract from the leaves of *Telosma cordata* showed in-vitro cytotoxic activity against Hep-G2 (hepatocellular carcinoma),

Fl (fibril sarcoma of uterus) and RD (rhabdosarcoma) with the ED₅₀ values of 39.0, 12.6, and 5.6 %, respectively (Le et al. 2005). Fractionation of the extracts gave compounds belonging to different classes. Four compounds lutein, 1-dotriacontanol, 24*E*-stigmasta-5,22-dien-3 β -ol and daucosterol were isolated from the n-hexane extracts.

Traditional Medicinal Uses

Fragrant *Telosma* oil is used medicinally in traditional medicine to treat conjunctivitis. The plant is used as antipyretic, an antidote to poison, tranquilizer and fatigue reducer. It is also used to relieve backbone aches and to decrease hematuria (Tanaka and Nguyen 2007).

The Kol tribes of Vindhyan region of Uttar Pradesh apply latex of the fruit and fruit paste of *Telosma pallida* externally on the localized white patches during the initial stage of leucoderma disease (Singh and Narain 2010).

Other Uses

It is also planted as an ornamental creeper. The flowers are very fragrant and yield a perfumed oil. The plant is readily propagated from stem cuttings or seeds.

Comments

Some botanists are of the view that *Telosma cordata* is possibly a cultigen of *T. pallida* selected for fragrant flowers.

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