

Chuquiraga leucoxylon Poepp. ex Less.

Dasyphyllum diacanthoides (Less.) Cabrera

Flotovia diacanthoides Less.

Flotovia stiftioides Speg.

Piptocarpha diacanthoides (Less.) Hook. & Arn.

Now known correctly as *Archidasyphyllum diacanthoides*. [1] Common names in Mapudungun: Trevo and Tayu and in Spanish Palo Santo ('holy tree') and Palo Blanco ('white tree') is a species of tree belonging to the family Asteraceae and endemic to Chile and Argentina. It occurs from Curico to Chiloe (35 to 42°S) between 200 and 800 m above sea level. It grows in both moist and shaded sites and more open and arid areas.

D. diacanthoides is an evergreen tree or shrub reaching up to 15 m (50 ft) in height with a trunk which can reach a diameter of over 2 m (80 in). The genus *Dasyphyllum*, to which the species belongs, is unusual in being one of the few genera of Asteraceae to include species which are trees, rather than herbs or shrubs. The soft, thin, brown bark is deeply fissured with longitudinal cracks. The glossy, leathery, leaves, dark green above and paler on the underside and borne alternately, are elliptical in shape with entire margins, and acute apices bearing a single, terminal spine. They are 2–6 cm in length and 1-2.5 cm wide, glabrous on both surfaces and pubescent on the margins, the petioles are 1–4 mm in length. [2]

Provided with two thorns (modified stipules), deciduous at the base of the leaves, the flowers are clustered in inflorescences (terminal Flower heads) resembling the hard, scaly flower heads of the familiar, European wildflowers the knapweeds (also members of the Asteraceae). The flowers are white and hermaphrodite, 5 stamens with the anthers attached. The fruit is a cylindrical achene about 3-3.5 mm long and 1 mm wide, pubescent, reddish pappi 5 mm long. [2]

The genus name *Dasyphyllum* is a compound of the Greek elements δασύς (dasus) 'hairy' and φύλλον (phyllon) 'leaf', while the specific name *diacanthoides* means 'resembling' (Greek suffix -ειδής (o-eidos)) plants of the genus *Diacantha* ', the name of which is a compound of the Greek elements δύο (duo) 'two' and ἀκανθα (acantha) 'thorn' / 'spine'. The scientific name in its entirety thus means 'the hairy-leaved plant resembling the plant bearing spines in pairs'. [3]

[Note: *Diacantha* is a synonym of the genus *Barnadesia* - to which the genus *Dasyphyllum* is closely related.]

Despite its inconspicuous flowers, of little ornamental value, the plant is occasionally grown as a street tree in urban areas of Argentina, because of its dense crown of evergreen foliage. [4]

The bark of *Dasyphyllum diacanthoides* is used in its native Chile as a folk remedy (both topical and oral) for blunt trauma: [5]

Palo santo or Palo blanco (*Flotowia diacanthoides*) .— It grows from Ñuble to Valdivia. The bark is used against bruises and blows, either by taking it as an infusion or applying it as external use. It also dissolves warts. [5]

When not in flower, however, the plant is easily confused with the highly toxic Solanaceous species *Latua pubiflora* and this ease of confusion has been responsible for many cases of anticholinergic, tropane alkaloid poisoning by *Latua* in the Los Lagos Region of southern Chile to which both plants are native.[6]

One of his [Philippi's informant Señor Juan Renous's] woodcutters had suffered a strong blow with the blunt end of his axe and went into the forest to get some bark of *tayu* for it. He took instead *latúe* [*Latua*] and drank a concoction of this poison. He became insane almost immediately and wandered into the mountains. He was found three days later in an unconscious state. Several days were required for his recovery, although he suffered severe headaches for several months.[7]

The unusual Asteraceae subfamily Barnadesioideae, to which the genus *Dasyphyllum* belongs, has yielded phenolic compounds, flavonoids and triterpenoids.[8]

Coloured plate (under older name of *Flotovia diacanthoides*) from botanical work on Chilean plants by Poeppig and Endlicher

Young, non-flowering, Autumn shoot showing hairiness of young foliage - as described in Greek-derived genus name

Undersides of leathery, mature leaves, showing terminal spines and characteristic venation

Young infructescence, showing withered, brown florets

Fruiting shoot: infructescence open to reveal pappus-tufted fruits ready for wind-dispersal

Pappus-tufted fruits starting to be dispersed by the wind

Empty involucre of hairy, brown bracts after wind dispersal of all pappus-tufted fruits

Bursting Spring leaf buds of flowering shoots

Main trunk (circa 1cm diameter) of young (circa 5yrs) cultivated shrub. Note remains of cauliflorous infructescence (top right)

Peeling bark of mature trunk of full-grown arborescent specimen, (circa 9m)Curacautín, Chile

Crown of full-grown arborescent specimen growing in Curacautín, Chile

