

Plant in Focus, October 2019
Peumus boldus Boldo



Peumus boldus Boldo male flower, GBG July 2015. Photo: DJ

Peumus boldus, the only species in the genus *Peumus*, is commonly known as Boldo (from the Mapudungun name folo). This tree, in the family Monimiaceae, is endemic to the central region of Chile, occurring from 33° to 40° southern latitude. Together with Litre, Quillay, Peumo, Bollén and other indigenous plants, it is a characteristic component of the sclerophyllous forest of central Chile. Boldo is a shrubby evergreen tree growing 6 to 8 metres in height, in cultivation. It has separate male and female plants ie. is dioecious. Boldo is grown in Ecuador, Argentina, Bolivia, and Peru, and is naturalised in the Mediterranean. Boldo is cultivated in parts of Italy, Brazil and North Africa to meet market demand for its medicinal leaves. According to the French Pharmacopoeia, the leaves should contain at least 0.2% boldine. Boldo has also been introduced to Europe and North Africa, though it is not often seen outside botanical gardens.

The Boldo tree in Geelong Botanic Gardens can be found on entering the 21st Century Garden on the right hand (south western) side near the Cycads. Being male, it bears no fruit. A Chilean woman I was guiding told me in her country they use it for tea.

I found that Boldo is a shrubby evergreen tree whose leaves have a history of medicinal use for general indigestion, and in formulas to relieve constipation. Its leaves, which have a strong, woody and slightly bitter flavor and camphor-like aroma, are used for culinary purposes, primarily in Latin America. The leaves are used in a similar manner to bay leaves and also used as an herbal tea, primarily in Chile, Bolivia, Argentina, Paraguay, Peru, Uruguay, Brazil and bordering countries in South America.



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Map on page 4

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Peumus boldus Boldo female flowers.
Photo: Dick Cuthbert, Flickr, CC BY 2.0

Medicinal History

An excavation of Monte Verde in Southern Chile revealed the use of medicinal plants by people who inhabited that region 12,500 years ago. Archaeologists found Boldo wrapped in seaweed.

Boldo is used throughout Europe, South America and to a lesser extent in North America, as a remedy for gallstones and gallbladder inflammation, and for various types of liver disorders.

Boldo is used in tonic and diuretic preparations, and for flatulence, and heartburn.

In Chile, Boldo has been used as an anthelmintic against worms. This activity has been attributed to the presence of the anti-parasitic ascaridole, part of the essential oil found in the leaves.

In Peru the leaves have been employed by indigenous tribes against liver diseases and to treat gallstones as well as a diuretic.

Boldo was first investigated for medicinal uses by a French physician in 1869. From that time, its anti-parasitic and liver-stimulating properties became better known. Boldo was used for a time as a substitute for quinine in cases of malaria. In 1875 Boldo was introduced to British and American pharmacists for the treatment of stomach, liver and bladder disorders. Studies since that time confirm these uses, and explain them on the basis of various phytochemicals found in the plant.

Although not well known, Boldo fruits, which appear between December and February, are very tasty, nutritious, small, green, edible spheres. Boldo's assertive flavor comes primarily from the presence of the chemical ascaridole, which is also present in the epazote plant.

Uses

In Brazil, Argentina, Chile, Uruguay, and Paraguay Boldo is mixed with yerba mate or other teas to moderate its flavor. Some families keep a Boldo plant at home for this purpose, although Boldo teabags are readily available in nearly all supermarkets.

Boldo and plants with similar properties are widely used as mild folk medicine in various South American countries in both urban and rural areas, even among people who do not usually drink herbal teas other than mate beverage. Boldo is officially listed as phytotherapeutic plant as cholagogue and choloretic, for treatment of mild dyspepsia in Brazilian pharmacopoeia. Boldo is in the family Monimiaceae, which is closely related to the family Lauraceae (which includes many other plants used for their aromatic leaves, such as Cinnamon *Cinnamomum*, Cassia (*Cinnamomum cassia* and members of the genus *Cassia* [Family Fabaceae]), Bay leaf *Laurus nobilis*, and Camphor laurel *Cinnamomum camphora*.)

Toxicity - Boldo may be unsafe for medicinal use

In 2009, the European Medicines Agency found that Boldo leaf contains the alkaloid Boldine. It also contains 2-4% of volatile oil. Major constituents of the oil are Ascaridole (16-38%) and other chemicals. Ascaridole is highly toxic, and this raises concerns about the suitability of Boldo leaf in traditional herbal medicinal products. Most investigations have been carried out using Boldine. Limited information is available on herbal preparations of Boldo leaf and where studies have been reported, details of the preparations are usually lacking.



Peumus boldus Boldo
 Top: Fruit. Photo: Dick Cuthbert,
 Wikimedia Commons, CC BY 2.0

Bottom: Upper surface of leaf, GBG.
 Photo: DJ

Claimed Health Benefits

There are many rumored health benefits of Boldo tea. Most commonly the herbal drink is credited with: detoxing the liver, eliminating gallstones, and boosting gallbladder health. But it is also promoted as a health tonic for other conditions including: upset stomach, rheumatism/achy joints, cystitis, liver disease, gonorrhoea, fluid retention, sleep problems, anxiety and constipation. Boldo has also been promoted as an antiseptic, as a bile stimulant, and as a weight loss aid.

However Side Effects

According to several health sources, there is insufficient evidence to support the use of Boldo tea for any of these conditions. Furthermore, Boldo may be unsafe for medicinal use. Boldo is generally recognised as safe (GRAS) by the U. S. Food and Drug Administration when consumed in amounts typically found in food. However, Boldo leaf contains Ascaridole, a volatile oil that is toxic to the liver. According to several health sources, if you use Boldo for health purposes, only Ascaridole-free preparations should be used. Also, Boldo applied directly to the skin may cause rashes. It is also important to be aware that consuming Boldo may put you at risk for certain side effects, especially if you are on certain medications. These are just some of the concerns noted by medical sources: Boldo may be unsafe during pregnancy and breastfeeding, may be harmful to people with blocked bile ducts, should not be taken with alcohol, should not be consumed for at least two weeks prior to surgery, may not be safe for people taking lithium, should not be consumed if you are taking any medication that can harm the liver including Tylenol, Diflucan, Zocor, and several others and should not be taken with medications that can slow blood clotting (Advil, Motrin, warfarin, and others). Because Boldo can interact with many different medications and may interfere with the treatment or management of medical conditions, you should speak to your doctor before consuming Boldo tea.

Other uses

The oils from the leaves have been tested and proposed as an insecticide. As with all herbal drugs and chemicals, the composition varies according to climate, time of year, genetic variation and recency of insect attack.

The timber from Boldo is used for furniture.

Summary

Family: Monimiaceae, a pan-tropical and southern family that includes *Hedycarya* with 2 endemic species in all 4 eastern states of Australia. Like *Peumus boldus*, timber from *Hedycarya angustifolia* Austral Mulberry, Djelwuck, is used for furniture.

Species: *Peumus boldus* (the only species in the genus)

Common name: Boldo

Distribution: Endemic to the central region of Chile, from 33° to 40° south.

References

Wikipedia

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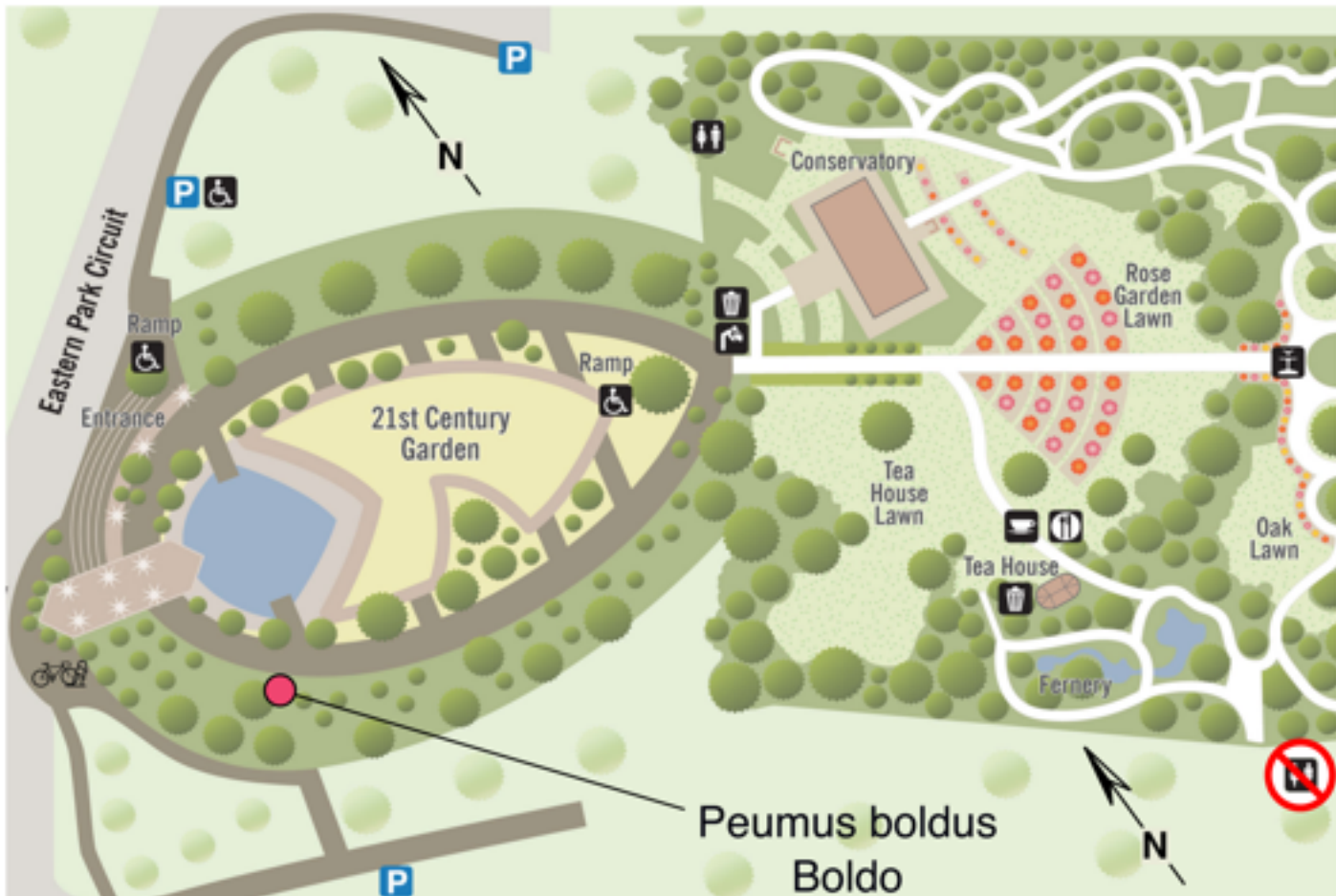
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Bradley, 2006 Committee on Herbal Medicinal Products (HMPC) (2009). "Assessment Report on *Peumus boldus* Molina, Folium"). European Medicines Agency.

"Boldo leaves (*Peumus boldus* Molina)". Gernot Katzer's Spice Pages.

"Pictures and information of Boldo tree, leaves and flowers".

"Plantas de la flora de Chile cultivadas en España"





Peumus boldus Boldo. A: male plant; B: female plant with flowers and fruits; 1: bud; 2: male flower viewed from the inside; 3: the same from the outside (stem and sepals in front); 4, 5, 6: stamens; 7: female flower from the inside; 8: pistil in longitudinal section; 9: three fruit stalks surrounded by the rest of the axis cupula; 10: fruit; 11: longitudinal section of the fruit; 12: seeds. A, B natural size. 1-12 enlarged.

Image: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen, 1897, Wikipedia. Public domain.