



Pao Pereira Monograph

NB: This monograph is designed to provide historical background and an overview of past and current scientific research. This information should not be interpreted as medical advice.

Consult with a qualified healthcare provider regarding therapies, diagnosis and possible treatment.

Related Terms

Alkaloid; Flavopereirine; Geissospermine; PB 100; Beta-Carboline; Produit Beljanski; a Beljanski Product

Background

On December 7, 1848, Ezequiel Correa Dos Santos presented his thesis “Monographia do Geissospermum vellosii vulgo Pao Pereira” at the Faculty of Medicine of Rio de Janeiro. This document has come to be regarded as the first official monography on the benefits of Pao pereira.

In 1879 the journal Medical Times (Vol. X p. 276 – Philadelphia) published a two-page article devoted to Pao pereira. After a description of the method for extracting the alkaloid pereirina, Dr. Torres Homem, Professor of Clinical Medicine at the Academy of Rio de Janeiro state, “There is not a doctor in Brazil who has not obtained good results from the use of this bark” .

Reference

[Monographia Do Geissospermum Vellosii Vulgo Pao Pereira](#)

Ezequiel C. Dos Santos

Typographia do Archivo Medico Brasileiro, Faculdade de Medicina do Rio de Janeiro, sustentada em 7 de dezembro de 1848.

Scientific Name and Taxonomy

Geissospermum vellosii Allemão (Apocynaceae)

Synonyms: *Geissospermum laeve* (Vell.) Miers, *Geissospermum martianum* Miers, *Tabernaemontana laevis* Vell., *pao pereira*, *pau pereira*, quinarana.

Reference

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Botanical Description

A leafy tree, reaching a height of 22m. The trunk is 25cm to 50cm, ranging from light brown to yellow in color. The bark peels off continuously. Lorenzi (2002) reports that this genus produces latex in the fruit and in the extremities of the branches. Numerous bright flowers appear at the apex of these branches. The fruits are elongated berries, fleshy pulp, bitter taste, containing from 5 to 15 seeds.

References



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[A Description Of G.Laeve Bark Is Found In The First Edition Of The Brazilian Pharmacopeia.](#)

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Geolocalization

Pao pereira is native to Bolivia, Brazil, French Guyana, Guyana, and Suriname.

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Management and Harvesting

Pao pereira is a perene specie, which grows spontaneously ⁽¹⁾. The seedlings can be obtained directly from seed, requiring no treatment. The shoots emerge from between 30 and 50 days and should be kept in half light, the germination rate is generally above 50 %. ⁽²⁾. The bark naturally sheds and constantly regenerates ⁽³⁾, therefore there is no need to cut the tree to collect the bark.

References

⁽¹⁾ [Incidência De Pragas E Doenças Em Agroecossistemas De Café Orgânico De Agricultores Familiares Em Poço Fundo-Mg.](#)

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Ciênc. agrotec., Lavras, v. 28, n. 6, p. 1306-1313, nov./dez., 2004 - page 1308

⁽²⁾ [Arnivores brasileiras: manual de identificação e cultivo de plantas arbóreas do Brasil.](#)

H. Lorenzi

Vol 2, 4. ed. Nova Odessa, 2002, SP: Instituto Plantarum. V. 2.



(3) [A description of *G.laeve* bark is found in the first edition of the Brazilian Pharmacopeia.](#)

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Traditional Use

Considered one of the 10 most useful Brazilian trees in phytomedicine.⁽¹⁾ This plant is part of Brazil's history of natural products because the first alkaloid in the country was isolated from its bark by Ezequiel Corrêa dos Santos, the patron of Brazilian pharmacists.⁽²⁾ In South America, the bark of *Geissospermum laeve* (Vell.) Miers either in powder or splinter form, is sold in markets, newsstands and herbal stores as febrifuge to relieve indigestion and stimulate appetite.⁽³⁾ It is also used as an alternative treatment for malaria.⁽⁴⁾

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Modern Use

In Europe, it has been recommended as a tonic and a febrifuge since 1933.⁽¹⁾ In South America, it is used preventively to reinforce the immune system.⁽²⁾ In the USA it is distributed as a dietary supplement by Maison Beljanski and statements of nutritional support have been filed with the FDA.⁽³⁾ There is also recent interest in a possible improvement of memory deficit⁽⁴⁾ as well as antiF cancer activity⁽⁵⁾ and antiF viral properties.⁶

References

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V. Munoz, M. Sauvain, G. Bourdy, J Callapa, et al.



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(4) [Geissospermum Vellosii Stembark Anticholinesterase Activity And Improvement Of Scopolamine-Induced Memory Deficits.](#)

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D. Donadio, et al.

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Toxicity

The bark of *Geissospermum* contains numerous alkaloids⁽¹⁾, and the extraction process is key to the safety of the extract.⁽²⁾ The most important alkaloid isolated from *G. laeve* is geissospermine. Isolated for the first time by O. Hesse in 1877.⁽³⁾ Geissospermine was subjected to acid hydrolysis and yielded cleavage products geissoschizine, apogeissoschizine and geissoschizoline. Geissospermine is considered poisonous by subcutaneous, intravenous, and intraperitoneal routes. Moderately toxic by ingestion.⁽⁴⁾ Geissospermine rich extracts have been used as one of the ingredients of Indian arrow-poisons by native Indian tribes in Brazil.⁽⁵⁾ M. Beljanski was first to extract Flavopereirine from *G. Laeve* bark.⁽⁶⁾ Beljanski's Flavopereirine-rich extract has a good safety record. Toxicity studies were submitted to the FDA by Natural Source International (Viva) as part of a New Dietary Ingredient notification⁽⁷⁾ and the good tolerance of the product was also demonstrated in preclinical studies⁽⁸⁾, as well as in humans, including immunodeficients.⁽⁹⁾ No public data available from other suppliers.

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Mechanism of Action

Pao pereira exerts three different mechanisms of action:

- It selectively induces apoptosis in destabilized cells.¹
- It also seems able to reduce inflammation.²
- It has anti-viral activity.³

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Journal of Oncology, 1994, Vol 26, No.6 (145-149).

Possible Interactions

There are no reports of adverse effects in humans in current literature.

High doses (200 mg/kg) of *Pao pereira* extracts have anticholinergic activity and caused convulsions and death in animals. ⁽¹⁾

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Side Effects/Contraindication

- Side Effects: none known
- Contraindications: none known
- Interactions:
 - Interactions with Herbs & Supplements: none known
 - Interactions with Drugs: *Pao pereira* offers a synergistic effect that may enhance the effect of chemotherapy and allow for reduced toxicity. ^(1,2)
 - Interactions with Lab Tests: none known

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Allergies and Warnings

Avoid with known allergy or hypersensitivity to *Pao pereira*, its constituents, or other members of the Apocynaceae family



Interaction with food, other drugs or other dietetic products
No known interactions

Statement of the manufacturer that there are no GMO or BSE/TSE issues:
No GMO/BSE/TSE with PAO V[®] or PAO V “FM”[®]

Dosage/Administration

Protocols have been published. ⁽¹⁾

Reference

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Author Information

This information is based on a systematic review of scientific literature edited and peer-reviewed by contributors to The Beljanski Foundation.