Technical Data Report

for

Huanarpo Macho

(Jatropha macrantha)

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Huanarpo Macho

Family: Euphorbiaceae
Taxon: *Jatropha macrantha* Mull. Arg
Synonyms: *Jatropha aphrodisiaca*
Common Names: higos del duende, huanarpo, huanarpo macho, huanarpo de Canta, guarnarpo macho, mitocala, palo de grado, sangre de drago, simayuca, urco huanarpo, vanarpo, wanarpo
Part Used: young branch stems

Herbal Properties & Actions		
Main Actions:	**Other Actions:**	**Standard Dosage:** Branch stem
stimulates libido	calms coughs	**Tincture:** 3 ml twice daily
supports sexual function		**Capsules:** 2-3 g twice daily
increases energy		**Decoction:** 1 cup 2-3 times daily
supports renal function		
calms nerves		
fights free radicals		

Huanarpo macho is medium shrubby tree (10 to 12 m in height) with pretty reddish-orange flowers. It is indigenous to Peru and can be found in abundance in the Marañon river valley in the Amazon and in the Puno district in Peru. Huanarpo macho is a plant that follows, what is termed in botany and ethnobotany as, the “Doctrine of Signatures.” The Doctrine is based on that, by observation, one can determine from the color of the flowers or roots, the shape of the leaves, the place of growing, or other “signatures,” what the plant should be used for. The young branch stems of the huanarpo macho tree are shaped like a man’s anatomy and for centuries these young branch stems have been used in traditional medicine systems to support, aid, and enhance male sexual function.

The *Jatropha* genus is a large tribe of plants with approximately 175 species of trees and shrubs in the tropics and subtropics of both hemispheres.

TRIBAL AND HERBAL MEDICINE USES

In herbal medicine systems in Peru, Huanarpo macho is considered aphrodisiac, anti-asthmatic, anti-diabetic, antitussive, anti-ulcerous, and nervine. It is widely used to restore male sexual potency, for premature ejaculation, erectile dysfunction, and as a male sexual tonic and aphrodisiac. It has recently been called “Peruvian Viagra” in various marketing programs and is as popular in Peru as a male aphrodisiac as muira puama is in Brazil for the same purpose. In addition, the branches and/or tree bark is also used in Peruvian herbal medicine for asthma, bronchitis, coughs, and diabetes in Peru. Herbalists and practitioners in Peru believe that huanarpo macho can block alpha-adrenoreceptors which reduce the effect of hormones that cause vasoconstriction of blood vessels in penile tissues and augment the production of norepinephrine which is essential in maintaining erectile function. Based on the chemistry of the plant, there is some support for that type of mechanism of action.

A different plant in the *Jatropha* family is also called “huanarpo” (*Jatropha cilliata*) in Peru. Although this plant also used as an aphrodisiac, this is a small perennial herb and the leaves and root are used to prepare a “huanarpo aphrodisiac” and it shouldn’t be confused with the huanarpo macho

tree.

PLANT CHEMICALS

Huanarpo macho contains sapogenins, steroids, flavonoids, ethereal oils, and alkaloids. It also contains a large amount of proanthocyanidins.[1] Proanthocyanidins are compounds, naturally occurring in various plants, with anti-inflammatory[2,3] and anti-arthritic activities.[4] They are reported to prevent skin aging and heart diseases, to scavenge oxygen free radicals, and inhibit UV radiation-induced peroxidation.[5-11]

Several researchers reported in the last few years the possible role of proanthocyanidins as sexual stimulants, specifically able to correct erectile dysfunction and infertility.[12-15] Thus, the high amount of these chemicals in huanarpo macho is in agreement with the traditional use of this plant as an aphrodisiac. The Italian researchers documenting the proanthocyanidins in huanarpo macho stated: "On the basis of these spectrometric data in *J. macrantha* stems extract proanthocyanidins exist with an extremely wide molecular weight range, from 290, corresponding to catechin, to 3144, corresponding to the oligomer generated from the condensation of 11 catechin units, and all the MW intermediates are present. This finding is very interesting considering that extracts rich in condensed tannins have been recently reported in literature to exert sexual stimulant activity and therapeutical activity in infertility; this is in agreement with the traditional use as an aphrodisiac of the plant under investigation."[1] A Peruvian researcher however, attributed the aphrodisiac effect of a tincture of huanarpo macho to its alkaloid content.[16]

One of the main proanthocyanidins in huanarpo macho is one called proanthocyanidin B-3 and it occurs in large quantities in the young branch stems.[1] Other researchers studying this antioxidant chemical report that it is capable of interacting with and regulating bradykinin (a hormone in the body).[17] Both human and animal studies have demonstrated that the corpus cavernosum is capable of relaxing in the presence of bradykinin and impairment of endothelium-dependent cavernosal smooth muscle relaxation occurs in vascular-associated diseases, such as diabetes, hypertension, and hypercholesterolemia which cause erectile failure.[18] Regulating bradykinin, in the manner which proanthocyanidin B-3 does, has also been suggested as a possible treatment for erectile dysfunction and/or achieving and maintaining an erection for longer periods of time.[19]

BIOLOGICAL ACTIVITIES AND CLINICAL RESEARCH

With such a high amount of antioxidant proanthocyanidins, it's not surprising that crude extracts of huanarpo macho root and bark were reported with antioxidant actions.[20] In a study conducted with mice in 2003, researchers mixed 5 grams of huanarpo macho ground powder in 100 ml of water and gave it to mice to drink as their drinking water at will. At the end of thirty days, the group of mice receiving the huanarpo macho had increased their testosterone levels significantly over the control group which only received regular water.[21] Progesterone and estrogen levels did not increase. These researchers attributed some of these hormonal effects to huanarpo macho's sapogenin chemicals.

CURRENT PRACTICAL USES

While scientists are still hypothesizing whether huanarpo macho's beneficial effect on male sexual function stems from its alkaloid, proanthocyanidin, or sapogenin chemicals, it remains to be one of the most popular natural remedies in Peru for erectile dysfunction and as an overall male sexual stimulant and libido aid. It is gaining in recognition here in the United States and showing up in several male sexual stimulant products, and in combination with other plants such as maca, muira puama and catuaba (other South American aphrodisiac plants). Huanarpo macho can now be found in capsules, tinctures, and in combination products sold in the U.S. natural products industry.

Huanarpo Macho Plant Summary
Main Actions (in order): aphrodisiac, erectile enhancer, tonic, stimulant, antioxidant
Main Uses: 1. as a male sexual stimulant, libido enhancer and aphrodisiac 2. for erectile dysfunction 3. for renal and adrenal support 4. as a nervine to calm and support the central nervous system 5. as an antitussive; for coughs, asthma and bronchitis
Properties/Actions Documented by Research: antioxidant, hormone stimulant (testosterone), cytotoxic (*Artemia*)
Properties/Actions Documented by Traditional Use: aphrodisiac, anti-asthmatic, anti-diabetic, anti-tussive, antiulcerous, nervine
Cautions: None reported.

Traditional Preparation: The young branch stems are typically prepared in alcoholic tinctures for its sexual stimulant actions. The branch stems and/or the tree bark are usually decocted in water for remedies pertaining to the upper respiratory system and lungs.

Contraindications: None reported.

Drug Interactions: None reported.

WORLDWIDE ETHNOMEDICAL USES	
Argentina	as a blood depurative
Peru	as an aphrodisiac, anti-asthmatic, anti-diabetic, antitussive, depurative, and nervine; for asthma, blood cleansing, bronchitis, coughs, diabetes, erectile dysfunction, erectile function, libido stimulation, premature ejaculation, and sexual stimulant (male)
United States	as an aphrodisiac; for erectile function and dysfunction

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Ethnomedical Information on Huanarpo Macho *(Jatropha macrantha)*

Part / Location	Documented Ethnomedical Uses	Type Extract / Route	Used For	Ref #
Branch / Peru	Used as an aphrodisiac; for impotency.	Tincture / Oral	Human Male	ZZ1093
Branch / Peru	Used as an aphrodisiac (1 cup of a decoction taken three times daily.)	Decoction / Oral	Human Adult	HM1001
Branch / Peru	Used as an aphrodisiac.	Maceration / Oral Tincture / Oral	Human Adult	HM1001
Branch / Peru	Considered antitussive and anti-asthmatic; for asthma, bronchitis, and coughs. Used for diabetes. Used for skin ulcers.	Maceration / Oral Decoction / Oral Poultice / External	Human Adult Human Adult Human Adult	HM1001
Branch / Peru	Used as an aphrodisiac and for premature ejaculation.	Tincture / Oral	Human Adult	ZZ2013
Branch / Peru	Used as an aphrodisiac.	Tincture / Oral	Human Adult	L04137
Branch / Peru	Used as an aphrodisiac.	Tincture / Oral	Human Adult	ZZ1027
Branch / Peru	Used as an aphrodisiac.	Tincture / Oral	Human Adult	ZZ1105
Branch / Peru	Used as an aphrodisiac.	Tincture / Oral	Human Adult	ZZ1101
Branch / Peru	Used as an aphrodisiac.	Decoction / Oral	Human Adult	T15323
Root / Argentina	Used as a blood depurative.	Infusion / Oral	Human Adult	K28202
Root / Peru	Used as a blood depurative.	Maceration / Oral	Human Adult	L03868

Presence of Compounds in Huanarpo Macho *(Jatropha macrantha)*

Compound	Chemical Type	Plant Part	Plant Origin	Quantity	Ref #
Catechin	Tannin	Branch stem	Peru	3.13%	HM1002
Catechin-7-O-beta-glucopyranoside	Tannin	Branch stem	Peru	2.88%	HM1002
Epigallocatechin	Tannin	Branch stem	Peru	Not stated	HM1002
Proanthocyanidin B-3	Tannin	Branch stem	Peru	8.71%	HM1002
Proanthocyanidins, polymeric	Tannin	Branch stem	Peru	Not stated	HM1002
Proanthocyanidins, trimeric	Tannin	Branch stem	Peru	Not stated	HM1002

Biological Activities for Huanarpo Macho *(Jatropha macrantha)*

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Root - Peru	Antioxidant Activity	H2O ext MEOH ext 2CLMETH ext	In vitro	IC50:>1000 mg/ml IC50: 154.2 mg/ml IC50: 73.7 mg/ml	Inactive Active Active	Measured by quenching of luminol-enhanced chemiluminescence.	L03868
Root - Peru	Anticrustacean Activity	MEOH ext CH2CL2 ext	*Artemia salina*	ED50: 667.0 mcg/ml ED50: 149.0 mcg/ml	Active Active	Assay system is intended to predict for antitumor activity.	K28202
Root - Peru	DNA Binding Effect	MEOH ext	In vitro	1.0 mg/ml	Inactive	DNA-Methyl Green Assay	K28202
Branch+sap Peru	Hormone Enhancement	Maceration	PO Mouse	5 g / 100 ml	Active	Significantly increased testosterone levels over controls.	HM1021

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