

Phytol™ *Natural Oils*



Chaulmoogra Oil



THE PLANT AND ITS HISTORY

Many of our current medicines are derived from plants and fungi. The use of medicinal plants is found in all cultures.

Chaulmoogra Oil has long been known in India and worldwide for its use in the treatment of leprosy. The seeds of several species of *Hydnocarpus* and some other species of the family *Flacourtiaceae* yield Chaulmoogra oil.

It has been used extensively in the treatment of leprosy and cutaneous eruptions, including herpes, eczemas, psoriasis, ulcers, and stiff joints. It is said to destroy pediculi and itch of insect bites. Both internal and external treatments were used.

A tree up to 5 ft in height with a tall trunk and a narrow crown of hanging branches, commonly found in evergreen forests throughout upper Assam and in Tripuri, often forming gregarious patches. Leaves oblong or elliptic 7-8 inches long accumulates at the upper end and the fruit is chocolate brown and 2-3 inches across with numerous seeds. *H. Kurzii* the source of the true Chaulmoogra oil bears fruit about once every two to three years. A tree can bear about 300 fruits and the seed kernels are 48-55 % oil and are 1-2 grams each with an appearance of brown pebbles.

Among the best known oils of chaulmoogra are from *Hydnocarpus Kurzii* (KING) and *Hydnocarpus Laurifolia* from the *Flacourtiaceae*, the Indian plum family that occurs in South India. They are refined in Belgium and France and Borneo.

In 1873 Norwegian Doctor, Hansen discovered leprosy was caused by bacillus, *Mycobacterium Leprae*. In the late 1800 and until about 1920, chaulmoogra oil was the only effective treatment for early stage of leprosy. It reduced the swelling of nodules due to its steroid like activity and the chaulmoogric and hydnocarpic acids helped to combat the infections through its antibacterial action.

RECENTLY CHAULMOOGRA HAS SEEN A VARIETY OF COSMETIC APPLICATIONS AND USES.

Anti-Acne - Healing Compositions for infections and regulating sebaceous activity. (French patent 2518402)

Lipsticks for healing and repairing chapped lips. (Erno Laslo)

After shave lotion to reduce burning and itch. (Erno Laslo)

Treatment of Hypopigmentation

The use of chaulmoogra oil is used to harmonize pigmentation where there is uneven pigmentation by extending the melanocytes and melanin from pigmented sites into the unpigmented sites through daily application for 5-8 weeks. Applications in tanning and uneven pigmentation due to disease are implicated. (Shisedo patent 5514712)

Dandruff Treatment

Commercial products have used chaulmoogra in dandruff treatment lotions to slow down desquamation, and calm burning and itching. (Phytosqualame)

PHYSICAL AND CHEMICAL COMPOSITION

The oils of Chaulmoogra group are characterized by the presence in predominating amounts of unsaturated cyclic fatty acids, mainly chaulmoogric and hydnocarpic.

The acids' structure is characterized below.

Hydnocarpic acid is believed to have anti-bacterial properties.

The oil and its' acids are listed in the Indian Pharmacopeia, Merck Index, and in the British Pharmacopodia.



Chaulmoogric Acid



Hydnocarpic acid

Chaulmoogra oil is a brownish yellow soft butter with an acid taste and a bitter odor.

The oil is soluble in ether, aromatics esters and some vegetable oils, sparingly in alcohol.

Specific Gravity at 20 degrees C

0.937- 0.970

Melting point

42 C (107.6 F)

Saponification Value

196- 213

Acid Value

8- 20

Iodine value

96- 104

Typical composition of fatty acids

Chaulmoogric

22.5 %

Hydnocarpic

34.0 %

Gorlic

20.6 %

Palmitic

4.0 %

Oleic

14.6 %

Lower homologues

0.4 %

