

A Review on Apakwa Bilva Phala (Unripe Bael Fruit): The Magical  
Medicinal Fruit of AyurvedaTrishul Dev TA<sup>1\*</sup>, Shivakumar<sup>2</sup>

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Aegle marmelos Corr. also known as Bilva, is a significant plant in the medical field, belonging to the Rutaceae family and known for its medicinal properties. It has been used for centuries to treat a variety of health conditions. Every part of the plant, including the fruit, leaves, bark, stem, and roots, is utilized to address various health issues.[1] But in which the fruit is the most valuable part. Ancient texts describe the different medicinal properties of both the unripe (Apakwa) and ripe (Pakwa) Bilva fruit. The unripe Bilva fruit is specifically used for medicinal purposes.[2] Apakwa Bilva Phala, the unripe fruit of Aegle marmelos Corr. holds significant importance in Ayurvedic medicine for its therapeutic benefits, including its anti-inflammatory, antimicrobial, and digestive effects. Modern scientific studies are increasingly validating its traditional uses, highlighting its effectiveness in addressing gastrointestinal issues, boosting immune function, and aiding in detoxification, thereby bridging the gap between ancient Ayurvedic knowledge and contemporary medical practices. The unripe Bael fruit is valued for its detoxifying properties, enhancing liver function, and promoting overall health by helping to balance the body's systems. Its high nutritional value and therapeutic qualities make it a crucial component of traditional natural medicine, and it also helps in managing digestive disturbances, such as diarrhoea and dysentery. Support overall well-being by harmonizing bodily functions. The present is a review on Apakwa Bilva Phala (Unripe Bael Fruit): The Magical Medicinal Fruit of Ayurveda.

**Keywords:** Apakwa Bilva Phala, Unripe Bael Fruit, Aegle marmelos Corr., Gastrointestinal issues, Ayurveda

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## Introduction

*Bilva* (*Aegle marmelos* Corr.), medium-sized tree from Rutaceae family, thrives in tropical & subtropical regions & is native to Indian subcontinent. This tree is widely recognized by various names, including Stone Apple, Wood Apple, Bengal Quince & Japanese Bitter Orange. Known for its distinct aromatic fruit, *Bilva* holds significant cultural & medicinal value, especially in India, where it is used in traditional practices, including religious rituals.[2] It has been used for centuries in traditional medicine to treat conditions such as diarrhoea, dysentery, peptic ulcers & respiratory infections. The key medicinal properties of Bael include being antidiabetic, antimicrobial, anti-inflammatory, antipyretic, analgesic, cardioprotective, anti-spermatogenic, anticancer, and radioprotective.[3] *Bilva* is often referred to as “*Shiva Druma*” as its fruits and leaves are not only seen as offerings to *Lord Shiva* but also as a symbol of continuous blessings and rewards. *Bilva* fruit is regarded as *Sadaphala* because it bears fruit throughout the year, symbolizing constant and uninterrupted benefits. It is also called *Karkata*, due to its tough rind, which protects the pulp inside. This hard outer shell not only gives the fruit durability but also allows it to be stored for extended periods. Additionally, the rind holds various medicinal properties, further enhancing the fruit's value. It is also known as *Mahaphala* - as fruits are large in size and *Gandhagarbha* - as the fruit pulp is aromatic. The Unripe fruit of *Aegle marmelos* Corr. Is in high demand in the food industry because of its nutritional and medicinal benefits. In India, the fruit pulp is used to prepare Murabba, Syrup, Jam, and Toffee. The sweet pulp is also utilized in making 'Sharabat' for a refreshing drink. Even fully grown but unripe fruits are processed into jam.[4]

The unripe or half ripe fruit is stomachic, anti-scorbutic, and digestive and it is perhaps, the most effective food remedy for chronic diarrhoea and dysentery.[5]

## Materials and Methods

About *Apakwa Bilva Phala* material was gathered from a variety of publications, *Ayurvedic* Text Books, Authoritative Websites, Authoritative Literatures, *Sanskrit* Dictionary, and other sources.

## Review of Literature

### *Bilwa*

*Aegle marmelos* Corr.

*Aegle* - Goat-one of the Hesperides daughters of the evening golden apple

*Marmelos* - is a Portuguese word meaning acid pear-shaped fruit.[6]

Fruit - It can have a round, oval, pear-like, or oblong shape, with a diameter ranging from 5 to 20 cm. The fruit contains sweet pulp and is a berry with a hard, woody rind. When unripe, the woody shell is grey-green, but it turns yellowish when fully ripe. Wild tree fruits are smaller than those of cultivated varieties. The fruit shell has aromatic tiny oil glands that appear as dots. Despite this, the fruits have a high moisture content, close to 60%. [4]

*Apakwa Bilva Phala*

Synonym of *Bala Bilwa* (*Apakwa Bilva*) - Acc to *Bp.Ni*. [7]

- *Bala Bilva Peshika*
- *Bala Bilva Phala*
- *Bilva Karkati*

### *Apakwa Bilva Phala* References in Various Samhitha's and Nighantu's

References	Rasa	Guna	Veerya	Vipaka	Karma	Effect on Doshas
Charaka Samhitha[8]		Snigdha Teekshna	Ushna		Deepana	Vata-Kapha hara
Sushrutha Samhitha[9]	Katu Tikta Kashaya	Tikshna Snigdha	Ushna		Grahi Deepana	Vata-Kapha hara
Ashtanga Hrudaya[10]					Deepana Grahi	Vata-Kapha hara
Ashtanga Sangraha[11]		Tikshna Snigdha Laghu	Ushna		Grahi Deepana	Vata-Kapha hara-Pittala
Bhavaprakasha Nighantu[12]	Katu Tikta Kashaya	Laghu Snigdha	Ushna		Grahi Deepana -Pachana	Vata-Kapha hara
Dhanwantari Nighantu[13]	Katu Tikta Kashaya	Tikshna Snigdha			Grahi Deepana	Vata-Kapha hara
Raja Nighantu[14]		Snigdha Guru			Sangrahi Deepana	
Madanaphala Nighantu[15]	Kashaya Tikta	Laghu	Ushna	Katu	Grahi Deepana Pachana	Vata-Kapha hara
Kayyadeva Nighantu[16]	Katu Tikta Kashaya	Laghu, Snigdha Tikshna	Ushna		Grahi Deepana Pachana Hridya	Vata-Kapha hara

*Snigdha* (Unctuous), *Ushna* (Hot), *Teekshna* (Piercing), *Deepana* (promoting digestion / to increase appetite), *Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent), *Grahi* (absorb liquid from stool), *Laghu* (light for digestion), *Pachana* (The process of digestive / metabolic transformation occurring mainly because of the action of *Agni*, *Guru* (Heavy for digestion), *Hridya* (promoting cheerfulness or relish), *Vata-Kaphahara* (Pacifies *Vata* and *Kapha*).

#### Pakwa Bilva Phala References in Various Samhitha's and Nighantu's

References	Rasa	Guna	Veerya	Vipaka	Karma	Effect on Doshas
Charaka Samhitha[8]					Durjara Pooti Marutha	Doshala Aggravates all the Doshas
Sushrutha Samhitha[17]	Madhura Anurasa	Guru			Vidahi Vishtambi Pooti Marutha	Doshakruth Aggravates all the Doshas
Ashtanga Hrudaya[18]					Durjara Pooti Marutha Grahi	Doshala - Aggravates all the Doshas
Ashtanga Sangraha[19]		Guru			Agnisada Pooti Marutha Grahi	Doshala Aggravates all the Doshas
Bhavaprakasha Nighantu[20]	Madhura	Guru Snigdha	Ushna		Durjara Pooti Marutha Vidahi Vishtambi Vanhi Mandyakruth	Aggravates Tridosha
Dhanwantari Nighantu[21]	Madhura (Anurasa)	Guru			Vidahi Vishtambi Pooti Marutha	Expels Dosha
Raja Nighantu[22]	Katu Tikta Kashaya Madhura Anurasa	Guru	Ushna		Grahi	Tridoshajith- Alleviates all the three Dosha
Madanaphala Nighantu[23]	Madhura	Guru			Vidahi Vishtambi Pooti Marutha Durjara- Vanhi Mandyakruth Vrishya	Tridoshakara Aggravates all the Doshas
Kayyadeva Nighantu[24]	Madhura (Anurasa)	Guru			Vidahi Vishtambi Pooti Marutha Durjara Grahi Agnisada	Doshala Aggravates all the Doshas

*Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent), *Grahi* (absorb liquid from stool), *Madhura* (Sweet), *Guru* (Heavy for digestion), *Snigdha* (Unctuous), *Ushna* (Hot), *Vidahi* (Substances that produces burning sensation), *Vishtambi* (Stopping, impeding, what hinders or obstructs), *Pooti Marutha*- Produces foul smelling flatus, *Durjara* - Difficult for digestion, *Agnisada* - Lack of digestive power, *Vanhi Mandyakruth* (Decreases the digestive fire), *Vrishya* (aphrodisiac)

## Discussion

After referring to the *Brihatrayi* and various *Nighantus*, it is clearly evident that *Apakwa Bilva Phala* possesses a combination of astringent *Kashaya* (astringent), *Katu* (pungent), and *Tikta* (bitter) *Rasa*. It has a *Ushna Veerya* (Potency), *Katu* (Pungent) *Vipaka* and its qualities are *Laghu* (light), *Tikshna* (sharp), and *Snigdha* (unctuous). The fruit is known for its digestive properties, *Deepana* (appetizer), *Pachana* (promoting digestion), and having a *Grahi* (absorb liquid from stool), *Hridya* Property. Additionally, it helps in balancing and reducing the *Vata* and *Kapha Doshas*. Properties of *Pakwa Bilva Phala* includes *Madhura Anurasa*, *Guru* (Heavy for digestion),

*Vidahi* (Substances that produces burning sensation), *Vishtambi* (Stopping, impeding, what hinders or obstructs), *Pooti Marutha* (Produces foul smelling flatus), *Durjara* (Difficult for digestion), *Agnisada* (Lack of digestive power), and aggravates *Tridosha*. Normally ripe fruits are considered to be superior as compared to unripe but *Bilva* is exception to this rule. Here unripe fruits are considered to be superior as compared to ripe.[25]

*Apakwa Bilva Phala* which was used in tribal folk medicine[26] and also as folklore practice in Kerala and in Sri Lanka, where *Apakwa Bilva Phala* has been used in *Amlapitta*. The *Deepana*, *Pachana* and *Amahara*. [4] property of the *Dravya* helps in overcoming the condition of *Amlapitta* and bringing the *Agni* to normalcy, thereby clears the basic *Samprapti* of *Amlapitta* wherein *Agnimandya* is in the initial stage. *Apakwa Bilva Phala* is very useful in Digestive Disorders Due to its *Deepana* (appetizer) and *Pachana* (digestive) properties, unripe *Bilva* is useful for improving digestion, treating indigestion, and promoting appetite. It is also useful in *Atisara* due to its *Grahi* (binding) property makes it effective in controlling diarrhoea and dysentery, as it helps absorb excess moisture in the intestines.

Because of its *Deepana-Pachana*, *Grahi* and *Kashaya Rasa* it is useful in *Grahani Roga*, Unripe *Bilva* fruit helps in treating respiratory disorders by balancing *Kapha* and *Vata*, reducing inflammation (*Tikta* (bitter) and *Katu* (pungent) *Rasa* have anti-inflammatory properties), clearing excess mucus, acting as an expectorant (The *Katu* (pungent) *Rasa* acts as a natural expectorant)., These actions make it particularly effective in treating conditions like asthma, chronic cough, bronchitis, and other respiratory issues linked to *Dosha* imbalances. Beneficial for Skin disorders due to its ability to balance *Vata* and *Kapha Doshas*, reduce inflammation, fight infections, and purify the body. Its astringent and healing properties help in managing conditions like acne, eczema, dermatitis. Unripe *Bilva* is known for its *Krimighna* (anti-worm) property, which helps in expelling intestinal worms (like roundworms, tapeworms, and pinworms) from the digestive system. Its *Tikta* (bitter) and *Katu* (pungent) tastes are known to have a vermifugal effect, helping to eliminate parasitic infections in the intestines.

Unripe *Bilva* fruit is indicated for several conditions such as digestive health, respiratory disorders, skin issues, fever, urinary problems, liver disorders [improving liver function due to its *Tikta Rasa* (bitter taste) and *Pachana* (digestive) property It helps detoxify the liver], intestinal worms, and chronic inflammation, and also in Obesity (Due to its *Tikshna* (sharp) and *Ushna* (heating) qualities, unripe *Bilva* is useful in promoting fat metabolism and reducing obesity by balancing the *Kapha Dosha*).

Medicinal plants are well-known for being rich in natural antioxidants, which help combat oxidative stress linked to inflammation. These plants offer several benefits, including lower toxicity, affordability, and both medicinal and traditional significance. One such plant that has been used traditionally for a long time is *Bilva*. [27] Numerous research studies have demonstrated that *Bilva* fruit has pharmacological properties, including antidiarrheal, ulcer-healing, cardioprotective, anthelmintic, radioprotective, anti-inflammatory, antioxidant, and hepato-protective effects. [28]

Phytoconstituents present in Unripe fruit are Marmeline, Aegeline, Tannin and in Ripe fruit- Xanthoxol, B-sitosterol, Tannin, Riboflavin, Vitamin's. [29]

The analgesic (pain-relieving) effects of ethanolic extracts from unripe *Aegle marmelos* fruits, comparing them with standard painkillers, pentazocine and diclofenac, in albino rats. When the rats were given 200 mg/kg of the extract, there was a noticeable increase in the time it took for them to respond to pain on a hot plate test, indicating pain relief. Additionally, the rats showed a decrease in the number of writhing movements, a common indicator of pain, suggesting that the extract had a significant analgesic effect. [30]

The hot aqueous extract (decoction) made from the dried pulp of unripe *Aegle marmelos* Corr. Fruit was tested for its antibacterial, anti-giardial, and anti-rotaviral effects. The decoction showed the ability to kill both *Giardia* and rotavirus. Additionally, it significantly reduced the bacteria's ability to stick to and invade Hep-2 cells. [30]

A study was conducted to assess the impact of *Aegle marmelos* Corr. Unripe fruit extract (AMFE) on inflammatory bowel disease (IBD) in Wistar albino rats. The results showed that AMFE exhibited anti-inflammatory, antioxidant, and mast cell-stabilizing effects, offering protective benefits against inflammatory bowel disease. [31]

## Conclusion

*Apakwa Bilva Phala* (*Aegle marmelos* Corr.) is a potent medicinal fruit revered in *Ayurveda* for its anti-inflammatory, antimicrobial, digestive, and detoxifying properties, bridging the gap between ancient healing traditions and modern scientific validation. In *Ayurveda*, it is highly valued for its ability to balance *Vata* and *Kapha Doshas*, making it effective in treating gastrointestinal disorders, respiratory conditions, skin diseases, and intestinal worms. Its *Deepana* (digestive stimulant), *Pachana* (digestive), and *Grahi* (binding) properties help alleviate diarrhoea, dysentery, and indigestion, while its *Ushna* (hot) nature aids in clearing excess *Kapha* and *Ama* (toxins).

Modern research supports these traditional uses, validating its role in improving digestion, boosting immunity, and treating infections. By combining *Ayurvedic* principles with contemporary scientific findings, *Apakwa Bilva Phala* offers a natural, holistic remedy with broad therapeutic potential, reaffirming its enduring relevance in modern wellness practices.

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