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Review Article

Ethnomedicinal uses of *Combretum* Loefl., and *Terminalia* L., species (Combretaceae)

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Abstract: The Combretaceae family comprises several plant species traditionally used to treat various health issues. This study highlights the ethnomedicinal uses of plants such as *Terminalia arjuna, Terminalia bellirica, Terminalia chebula, Combretum albidum, Combretum roxburghii,* and *Terminalia anogeissiana*, which are used to address gastrointestinal, skin, respiratory, and other health problems. The documented traditional knowledge provides a foundation for further research and potential development of new treatments.

Keywords: Ethnomedicine, medicinal plants, traditional knowledge

Introduction

The prevalence of chronic diseases like diabetes, cancer, rheumatism, and asthma is increasing in urban areas, largely due to factors such as climate change, sedentary lifestyles, unhealthy diets, and excessive stress (Cacciatore et al., 2025). According to the World Health Organization (WHO), non-communicable diseases (NCDs) account for 70% of global deaths, with cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes being the primary culprits (Roth et al., 2017). Day by day data says that it is increasing and there is a need of lot of therapeutic agents for screening of effective bioactive compounds in near future (Riaz et al., 2023). Screening is a time taking process and usual hit and trial method is used but the process can be reduced if researchers screen the family. Combretaceae is a suitable family of plant science to screen the therapeutic bioactive compounds (Sinha et al., 2024; Mukherjee et al., 2025). It is a large group of flowering plants predominantly tree, shrub, and lianas. It is distributed in tropical and sub-tropical region of the world. Combretaceae consists

of about 600 species (Silen et al., 2023). The largest and important genera of this family are *Combretum* and *Terminalia* (de Morais Lima et al., 2012). Ethnomedicinal and pharmacological values of plants belongs to Combretaceae family are well known ((Silen et al., 2023). The popular formulation, 'Triphala" consist of 2 important combretum species (*Terminalia bellirica* and *Terminalia chebula*; Peterson et al., 2017). Keeping the importance of this family in medicinal aspect, an attempt has been made together the ethnomedicinal uses of selected of this family and presented in this article. The present study draw attention towards the importance of this family in ethnopharmacological research.

Methodology

For present study, different types of published reports, research papers, review papers and exploration reports were used to gather the information. Platforms like Springer, ScienceDirect, ResearchGate, Academia or also used to search the information (Patil and Gaikwad, 2011; Aneja et al., 2012; Kandari et al., 2012; Upadhyay, 2013).

Results and discussion

Literature survey revealed that 6 common plant species of Combretaceae family have several ethnomedicinal uses. The study highlights the ethnomedicinal uses of six plant species from the Combretaceae family, revealing a diverse range of traditional applications. *Terminalia arjuna, Terminalia bellirica*, and *Terminalia chebula* are found to be used in treating various health issues, including gastrointestinal problems, skin issues, and respiratory ailments. The documented uses of these plants demonstrate their significance in traditional medicine. The results also show that different parts of the plants are used to prepare remedies, such as bark decoctions, leaf pastes, and fruit powders. *Terminalia bellirica* fruits are used in herbal medicine, while Combretum albidum seed oil is used to cure eczema. The varied preparation methods and uses of these plant parts underscore the complexity and richness of traditional knowledge (Table 1).

Table 1: Ethnomedicinal uses of different plants of Combretaceae family

Plant Name	Ethnomedicinal uses	Source
Terminalia arjuna (Roxb. ex DC.) Wight & Arn. (Figure 1)	The leaves and bark extracts used against ear infections.	Aneja et al., (2012)
	The bark powder is used for bone fracture.	Upadhyay, (2013)
	1cup of bark infusion is taken in the morning and evening to cure diarrhea and vomiting	Upadhyay, (2013)
Terminalia bellirica (Gaertn.) Roxb. (Figure 2)	1 cup of bark decoction is taken in the morning and evening for 3 days to cure abdominal pain.	Upadhyay, (2013)

	Fruits are used in herbal medicine like 'Triphala' to cure constipation and indigestion.	Kandari et al., (2012)
	The leaf decoction is used for the treatment of ulcer.	Akter et al., (2019)
	The dried fruit powder is taken orally to treat cold, cough and asthma.	Al-Harrasi et al., (2022)
	The fruits are used to treat parasitic infections.	Shaba et al., (2008)
Terminalia chebula Retz. (Figure 3)	Fruits are used to reduce stomach pain	Kandari et al., (2012)
	The fruit is used as an astringent.	Jokar et al., (2016)
	The fruits are useful in the treatment of fever and psychological issues.	Jokar et al., (2016)
Combretum albidum G.Don (Figure 5)	The leaves and stem bark are used for jaundice.	Sharma et al., (2021)
	The fruit decoction is used to treat diarrhoea and dysentery.	Sharma et al., (2021)
	The seed oil is used to cure eczema.	Sharma et al., (2021)
	The bark paste is used to treat various skin diseases.	Sharma et al., (2021)
Combretum roxburghii Spreng. (Figure 4)	The bark paste is used by Sabar community for reducing inflammation.	Rout et al., (2023)
	The matured leaf paste is useful for treating skin infections.	Rout et al., (2023)
	The young leaves are used to make a juice for diarrhoea.	Rout et al., (2023)
	The fruit paste is applied to reduce inflammation caused by accident.	Rout et al., (2023)
Terminalia anogeissiana Gere & Boatwr.	The bark paste is applied externally for wound healing.	Patil and Gaikwad, (2011)
	The bark decoctions are used to treat diarrhoea.	Patil and Gaikwad, (2011)
	The plant's extracts are used to manage diabetes.	Shalini et al., (2013)
	The gum is used to treat snake and scorpion bites.	Patil and Gaikwad, (2011)

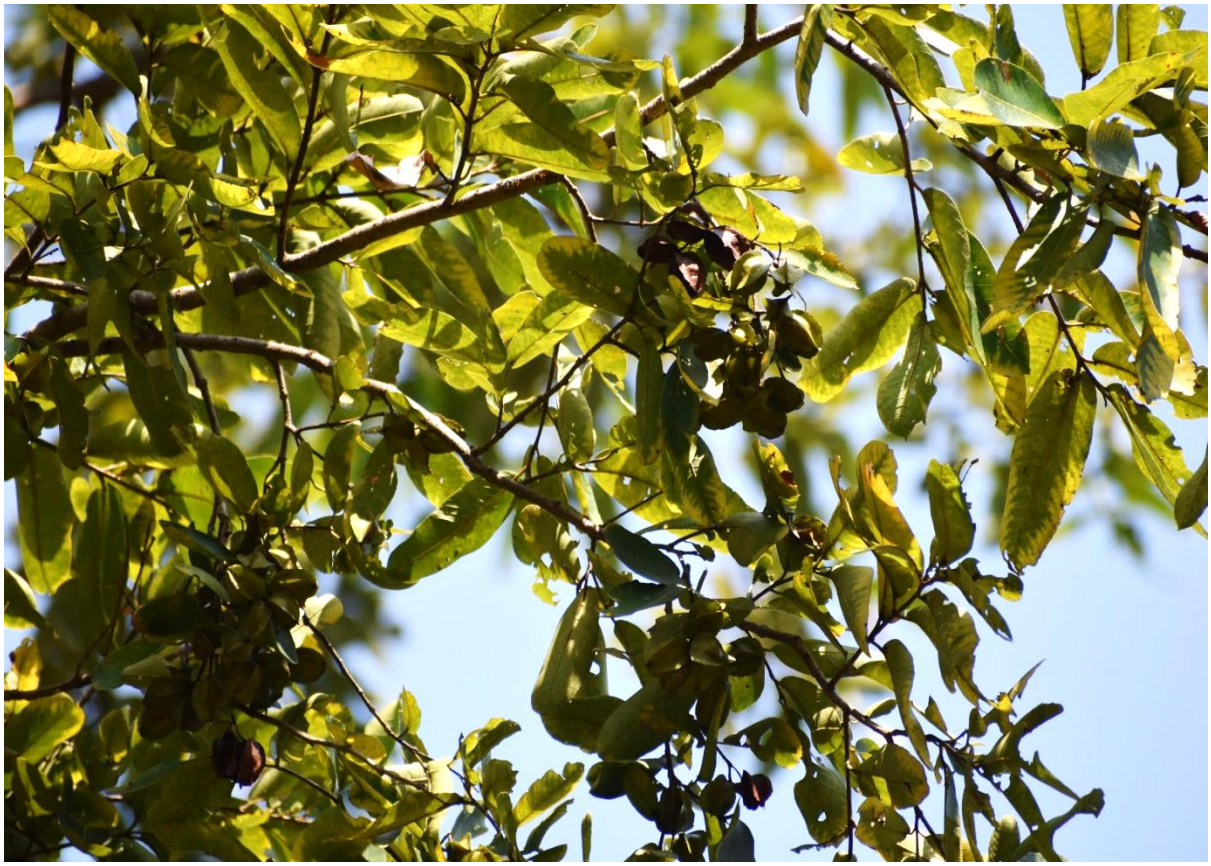

Figure 1: Leaves and fruits of *Terminalia arjuna*

Figure 2: Fruits of *Terminalia bellirica*

Figure 3: Fruits of *Terminalia chebula*

Figure 4: Flowers of *Combretum roxburghii*

Figure 5: Fruits of *Combretum albidum*

Conclusion

The study concludes that the Combretaceae family, particularly species like *Terminalia arjuna, Terminalia bellirica*, and *Combretum albidum*, possess significant ethnomedicinal value, with diverse traditional uses in treating various health issues. The documentation of this traditional knowledge provides a foundation for further research, potential development of new treatments, and preservation of cultural heritage. Scientific validation of these plants' ethnomedicinal uses could lead to novel therapeutic discoveries, highlighting the importance of continued exploration and conservation of traditional knowledge and plant resources.

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