Revista ARACÊ
ISSN: 2358-2472

POPULAR KNOWLEDGE AND ENVIRONMENTAL EDUCATION: THE USE OF MEDICINAL PLANTS IN THE COMMUNITY OF BARRA DO JUCÚ (ES)

https://doi.org/10.56238/arev7n4-042

Submitted on: 03/06/2025 **Publication date:** 04/06/2025

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ABSTRACT

This article presents the results of an ethnobotanical research developed in the community of Barra do Jucú, in Vila Velha (ES), whose objective was to rescue the traditional knowledge about the use of medicinal plants and promote their feedback through educational actions with the school public. The investigation was conducted in two stages: an ethnobotanical survey with 50 residents of the community, identifying 32 plant species with medicinal uses; and development of pedagogical activities with students from the 4th and 5th year of elementary school in a local school. The activities included illustrated booklets, herborization practices and application of diagnostic and evaluative questionnaires. The data reveal a strong relationship between traditional knowledge and the daily use of plants, with predominantly oral and family transmission. Educational actions based on this knowledge proved to be effective in valuing local culture and encouraging sustainable practices in health and the environment. It is concluded that the articulation between ethnobotany, environmental education and school intervention can strengthen citizenship formation, cultural identity and ecological awareness.

Keywords: Ethnobotany. Traditional knowledge. Medicinal plants. Environmental education. Elementary school.

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Revista ARACÊ
ISSN: 2358-2472

INTRODUCTION

Traditional knowledge related to the use of medicinal plants represents a cultural heritage built over generations, in processes of coexistence between human communities and the natural environment. Inserted in daily care practices, this knowledge, generally transmitted orally, reflects the interaction between elements of local biodiversity, empirical experiences, beliefs and cultural values. In Brazil, this knowledge has plural roots, with influences from indigenous, African, and European matrices, composing a complex and dynamic framework of healing practices (Freire, 1996; Sarquis et al., 2019; Moura & Oliveira, 2022).

Ethnobotany, as an interdisciplinary field, has been dedicated to understanding these relationships between communities and plants, valuing popular knowledge as legitimate sources of knowledge and action. When articulated with ethnopharmacology and environmental education, ethnobotany allows not only to document species and therapeutic uses, but also to reflect on the ways of life that sustain these practices and the threats they face in the face of urbanization, acculturation, and the devaluation of local knowledge (Albuquerque & Hanazaki, 2009; Magno-Silva et al., 2020; Santos et al., 2023).

In urban contexts, such as that of the community of Barra do Jucú, in Vila Velha (ES), the intergenerational transmission of this knowledge has been gradually compromised. The replacement of traditional practices by industrialized alternatives, combined with the loss of green areas and the distancing of new generations from the natural environment, imposes challenges to the continuity of this intangible heritage. In view of this, the public school can constitute a strategic space for the mediation and valorization of this knowledge, contributing to the construction of a critical, environmentally committed and socially situated consciousness (Morin, 2001; Branco, 2003; Borges et al., 2024).

The present research aims to investigate the use of medicinal plants by residents of Barra do Jucú and to develop, based on this knowledge, educational actions aimed at elementary school students. It is based on the assumption that integrating traditional knowledge into the formal teaching-learning processes favors the integral formation of the subjects, while strengthening cultural identity, territorial belonging, and the dialogue between science and tradition.

The ethnobotanical survey stage allowed the identification of 32 plant species with medicinal use, belonging to 24 distinct botanical families. Among the most cited families

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ISSN: 2358-2472

are Lamiaceae, Asteraceae, Poaceae, and Rutaceae, all of which are widely represented in ethnobotanical studies carried out in different regions of Brazil and Latin America (Magno-Silva et al., 2020; Cavalloro et al., 2022).

The most used part of the plant was the leaf, followed by flowers, bark, roots and seeds. The predominant forms of preparation were tea, syrup, infusion and bath. The most frequent therapeutic indications were related to respiratory disorders, digestive problems, inflammation, muscle pain, infections, and emotional conditions.

Table 1 presents the list of species mentioned by the participants, with their respective popular names, parts used, forms of use and therapeutic indications:

Table 1 – Medicinal species cited in the community of Barra do Jucú.

Scientific name	Popular name	Part Used	How to use	Therapeutic indication
Allium sativum L.	Garlic	Bulb	Tea, syrup	Infections, high blood pressure
Aloe vera (L.) Burm.f.	Aloe	Leaf sap	Outdoor use	Wounds, burns
Ruta graveolens L.	Rue	Leaf	Infusion, bath	Colic, spiritual protection
Cymbopogon citratus (DC.) Stapf	Lemongrass	Leaf	Tea	Anxiety, insomnia
Mentha piperita L.	Mint	Leaf	Tea	Poor digestion, nausea
Lippia alba (Mill.) N.E.Br.	Balm	Leaf	Tea	Stress, colic
Foeniculum vulgare Mill.	Fennel	Seed	Tea	Gas, infant colic
Chenopodium ambrosioides L.	Mastruz	Leaf	Juice, infusion	Worms, flu
Psidium guajava L.	Guava	Leaf	Tea	Diarrhoea, inflammation
Ocimum gratissimum L.	Basil	Leaf	Tea	Flu, headache
Persea American Mill.	Avocado	Leaf	Tea	Diarrhea, cough
Mikania glomerata Spreng.	Guaco	Leaf	Syrup, tea	Cough, bronchitis
Citrus aurantiifolia (Christm.) Swingle	Lemon	Fruit	Juice, tea	Flu, immunity
Cymbopogon nardus (L.) Rendle	Citronella	Leaf	Infusion, bath	Natural repellent
Rosmarinus officinalis L.	Rosemary	Leaf	Infusion, bath	Stress, poor circulation
Schinus terebinthifolius Raddi	Aroeira	Bark and leaf	Tea, bath	Inflammation, urinary tract infection
Melissa officinalis L.	Melissa	Leaf	Tea	Anxiety, insomnia
Bidens pilosa L.	Black dick	Aerial part	Tea	Liver, infections
Zingiber officinale Roscoe	Ginger	Rhizome	Tea, juice	Flu, nausea
Tropaeolum majus L.	Capuchin	Flower and leaf	Infusion, salad	Urinary tract infection, cough
Mangifera indica L.	Hose	Leaf	Tea	Diarrhoea, diabetes
Plantago major L.	Plantain	Leaf	Tea	Inflammation, Healing
Petiveria alliacea L.	Guinea	Leaf and root	Bath, tea	Spiritual, muscle aches
Justicia pectoralis Jacq.	Teriça	Aerial part	Tea	Asthma, bronchitis
Piper aduncum L.	Monkey pepper	Leaf	Tea	Infection, cramping
Eucalyptus globulus Labill.	Eucalyptus	Leaf	Inhalation, tea	Congestion, flu

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ISSN: 2358-2472

Cinnamomum verum J. Presl	Cinnamon	Bark	Tea	Gas, menstruation
Syzygium aromaticum (L.) Merr. & L.M. Perry	Clove	Flower	Infusion	Toothache, digestive
Alpinia zerumbet (Pers.) B.L.Burtt & R.M.Sm.	Colony	Leaf	Tea	High blood pressure, anxiety
Capsicum frutescens L.	Pepper	Fruit	Fresh	Circulation, aphrodisiac
Vernonia condensata Baker	Bilberry	Leaf	Tea	Liver, dewormer

The analysis of the data reveals the permanence of a significant repertoire of species used in daily health care, many of which are present in backyards and home gardens. This practice highlights the accessible and sustainable nature of traditional knowledge, in addition to the strong female presence as a transmitter of this knowledge, as reported by 84% of the interviewees.

In addition to therapeutic use, some species had symbolic and spiritual value, such as rue (*Ruta graveolens*) and guinea (*Petiveria alliacea*), used in protection rituals, baths and smoking. Such uses reinforce a broader conception of health, which articulates physical, emotional and spiritual dimensions (Albuquerque & Hanazaki, 2009; Rahman et al., 2019).

In the second stage of the research, the educational actions contributed to the appreciation of local knowledge among the students. An increase in the recognition of medicinal species was observed, as well as greater interest and respect for the knowledge transmitted by family members. Illustrated booklets, herbalization activities, and conversation circles have proven to be effective strategies to promote dialogue between tradition and science (Arik & Yilmaz, 2020; Machado & Brito, 2025).

These results are in line with studies that point to the importance of inserting traditional knowledge in school curricula as a means of strengthening cultural identity, territorial belonging, and the construction of critical and contextualized environmental education (Castro et al., 2021; Borges et al., 2024).

FINAL CONSIDERATIONS

The research carried out in the community of Barra do Jucú evidenced the richness of traditional knowledge related to the use of medicinal plants, revealing a diversified repertoire of species and care practices, mostly transmitted within the family, especially by women.

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Educational actions with elementary school students proved to be effective in integrating this knowledge into the school context, promoting the appreciation of local culture and engagement with sustainable health and environmental practices.

Although the study was limited to a single community and a specific group of participants, the results point to promising paths for public policies that strengthen the dialogue between school, community, and biodiversity.

It is concluded that the inclusion of popular knowledge in the school curriculum contributes to the formation of critical subjects, aware of their territory and committed to the diversity of knowledge. It is recommended that similar studies be expanded, capable of strengthening identity bonds and educational practices that are more sensitive to local sociocultural realities.

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ISSN: 2358-2472

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