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**Book of Abstracts**

## Ethnomedicinal Value of Plants in a Small Community in São Miguel Island, Azores

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The knowledge of medicinal properties of plants was transmitted from generation to generation and is now the object of study of ethnobotany and ethnopharmacology.<sup>1</sup> In rural societies and developing countries, the use of medicinal plants (also known as herbal medicine, included in traditional medicine practice) is both a necessity and valuable resource, providing an alternative for primary health care systems, income generation and livelihood improvement, while in developed countries traditional medicine is used as complementary therapy and the demand for its services is increasing.<sup>2</sup> Although records of medicinal plant use exist in the Azores, ethnobotanical studies are still scarce.

The present study aims to describe the uses of plant species for medicinal purposes in the small and relatively isolated community of Sete Cidades in São Miguel Islands, Azores, to share it through published literature, as well as to promote the conservation of local flora and the precious knowledge about its medicinal use.

In the study, 28 community members 40 to 84 years old were interviewed, half of them aged 55 to 64 years. A total of 31 taxa were reported as being used for medicinal purposes, 10 of them were not reported from any other Portuguese community while the ethno-medicinal use of *Morella faya* (Aiton) Wilbur is here reported for the first time. Leaves are the part of plant most used while decoction the most common preparation mode. The reported taxa with the highest UV were *Aloysia citriodora* Palau (0.50), followed by *Mentha pulegium* L. (0.43) and *Mentha x piperita* L. (0.29). The reported medicinal plants with higher RFC values were *Mentha pulegium* L. (0.25), followed by *Aloysia citriodora* Palau (0.14). Previous literature on the phytochemical, pharmacological and toxicological aspects, in some way, support the traditional uses of the studied plants. However, a complete set of clinical trials and phytopharmacological knowledge on the studied species is not available. Therefore, it is necessary to research each plant species from the aforementioned perspectives in order to gather general conclusions on the ethnopharmacological efficacy, relationships and safe uses of traditional medicines. The results of the current study represent useful information about medicinal plants, which may preserve local knowledge of medicinal plant use in this region and attract coming generations towards traditional medicine practices.

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### References:

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## INTRODUCTION:

- In rural societies and developing countries, the use of medicinal plants (also known as herbal medicine included in traditional medicine practice) is both a necessity and valuable resource, providing an alternative for primary health care systems, income generation and livelihood improvement, while in developed countries traditional medicine is used as complementary therapy and the demand for its services is increasing.<sup>1,2</sup>
- Although informal records of medicinal plant use exist in the Azores, no scientific ethnopharmacological studies has been conducted reporting primary data for a geographically isolated rural community.
- The present study aim to describe the uses plant species for medicinal purposes, in the small and relatively isolated community of Sete Cidades in São Miguel Island, to share it through published literature, to promote the conservation of local flora and the precious knowledge about their medicinal uses.

## MATERIALS AND METHODS:

- The results were obtained in February to July 2015 from an array of information through semi-structured interviews of the traditional medicinal practitioners in the rural community of the Sete Cidades parish, Azores Island.
- The reported plants were collected during or post interviews and herbarium vouchers were prepared for reference.
- Data analysis was based on Use Value (UV) and Relative Frequency of Citation (RFC) parameters.

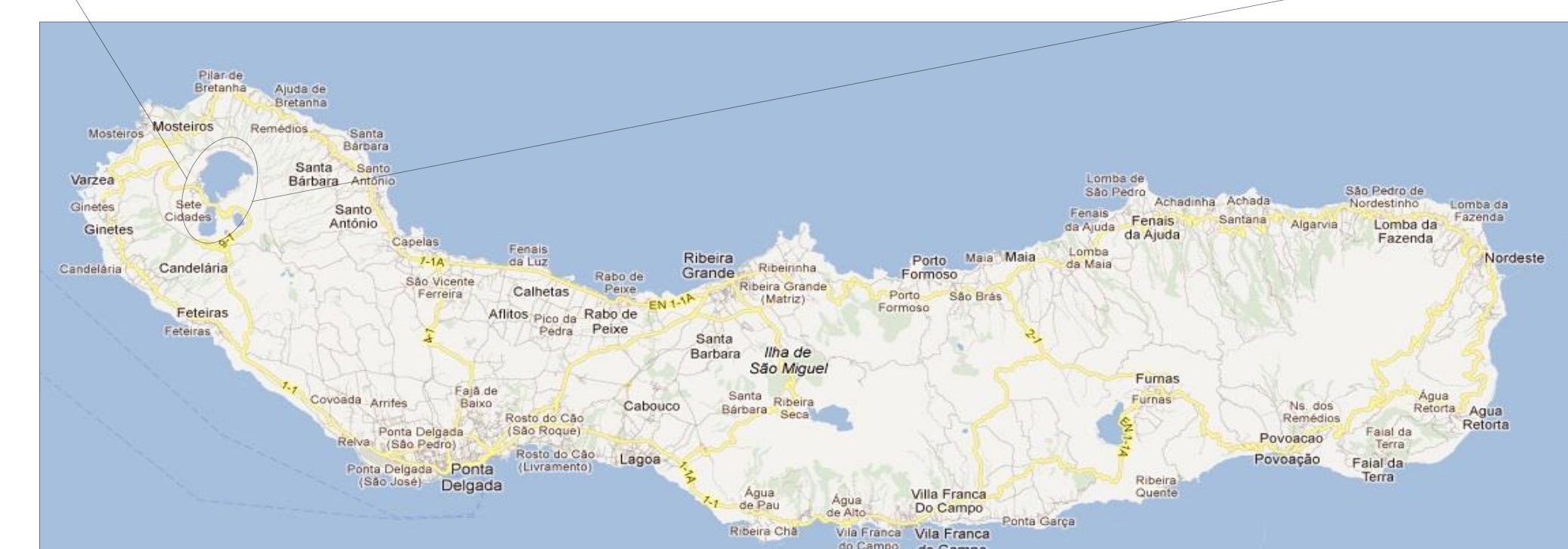


Fig. 1: Photo of Sete Cidades village and its position on the maps of São Miguel Island, Azores (Maps are not to scale).

- Leaves are the most part of plant used (Fig. 4) while decoction the most common preparation mode.
- Although in the majority of the plants only one part was used, in still many plants various parts were used.

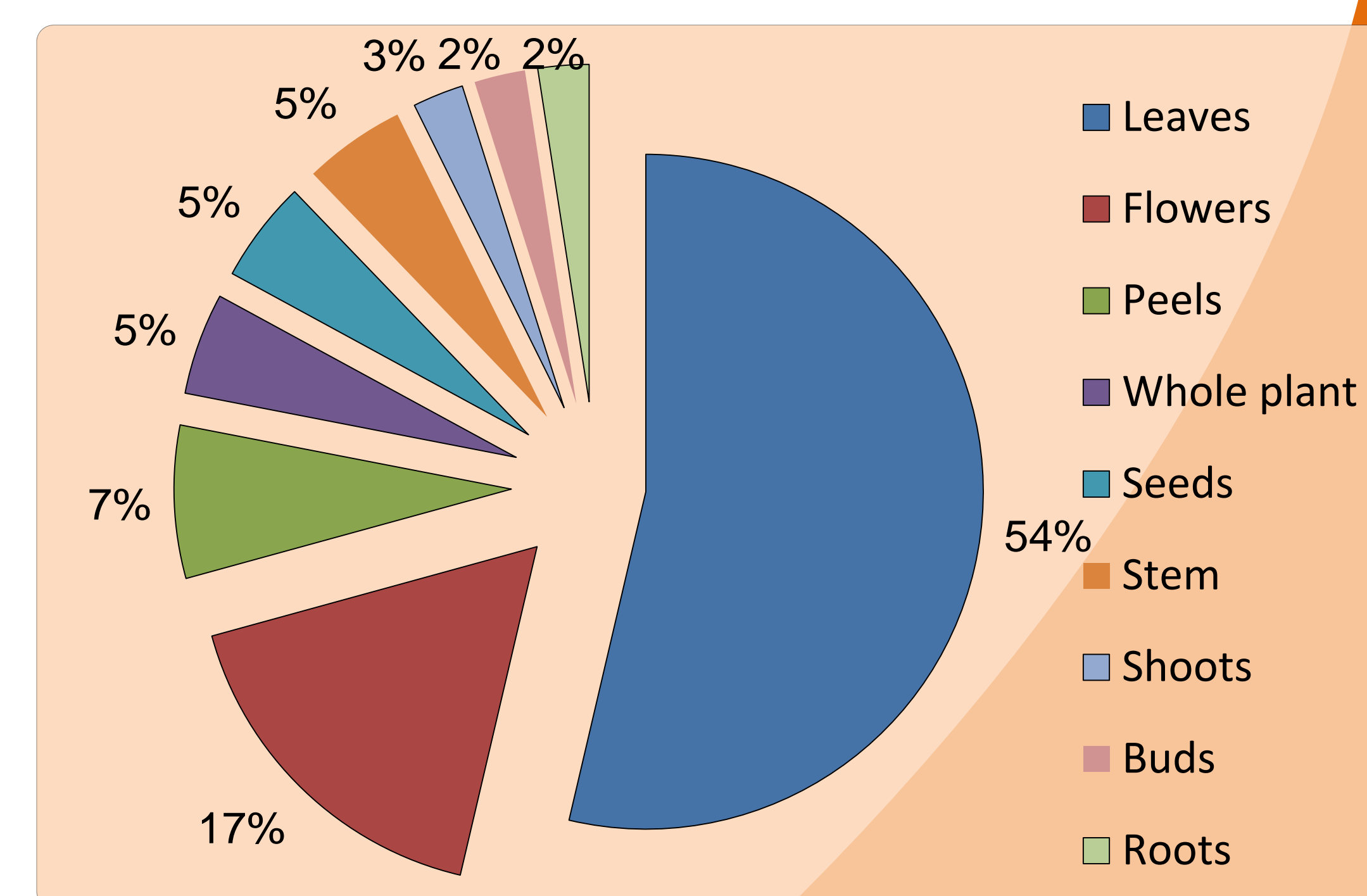


Fig. 4: Number of use-reports of the plant parts for herbal preparation in the parish of Sete Cidades.

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## RESULTS AND DISCUSSION:

- The parish of Sete Cidades is located in a volcanic massif on the West part of the São Miguel Island. The study area is located inside of the volcanic massif (Fig. 1). The area was chosen for being relatively small and isolated, far from hospitals and limited in healthcare facilities, and with a small population (793 inhabitants) with a large number of elderly people. These characteristics facilitate the preservation of the empiric knowledge, increased the chance of finding people with more knowledge regarding traditional medicinal plants.
- A total of 28 informants were interviewed, 25 female and 3 male, half of them aged 55 to 64 years (Fig. 2.)
- 30 Plant species with medicinal interest belonging to 14 families were identified as being used for medicinal purposes in Sete Cidades village.
- The ethnomedicinal use of *Morella faya* (Aiton) Wilbur (Fig. 3A) is here reported for the first time.
- 30% of all the identified species were not reported from any other Portuguese community.
- The Use Value index evidences the diversity of applications to each plant species, while RFC demonstrates the local importance of each plant species.
- 70 % Of all the species reported had UVs lower than 0.14, which means that most of the reported species have a specific traditional application.
- The set of species with higher UV values are also the ones that exhibit the highest RFC values (Table 1).
- Previous literature on pharmacological aspect support the traditional uses of some referred species.<sup>3</sup>
- The results of the current study represent useful information, which may preserve local knowledge of the medicinal plants use in this region and attract coming generations towards traditional medicine practices.

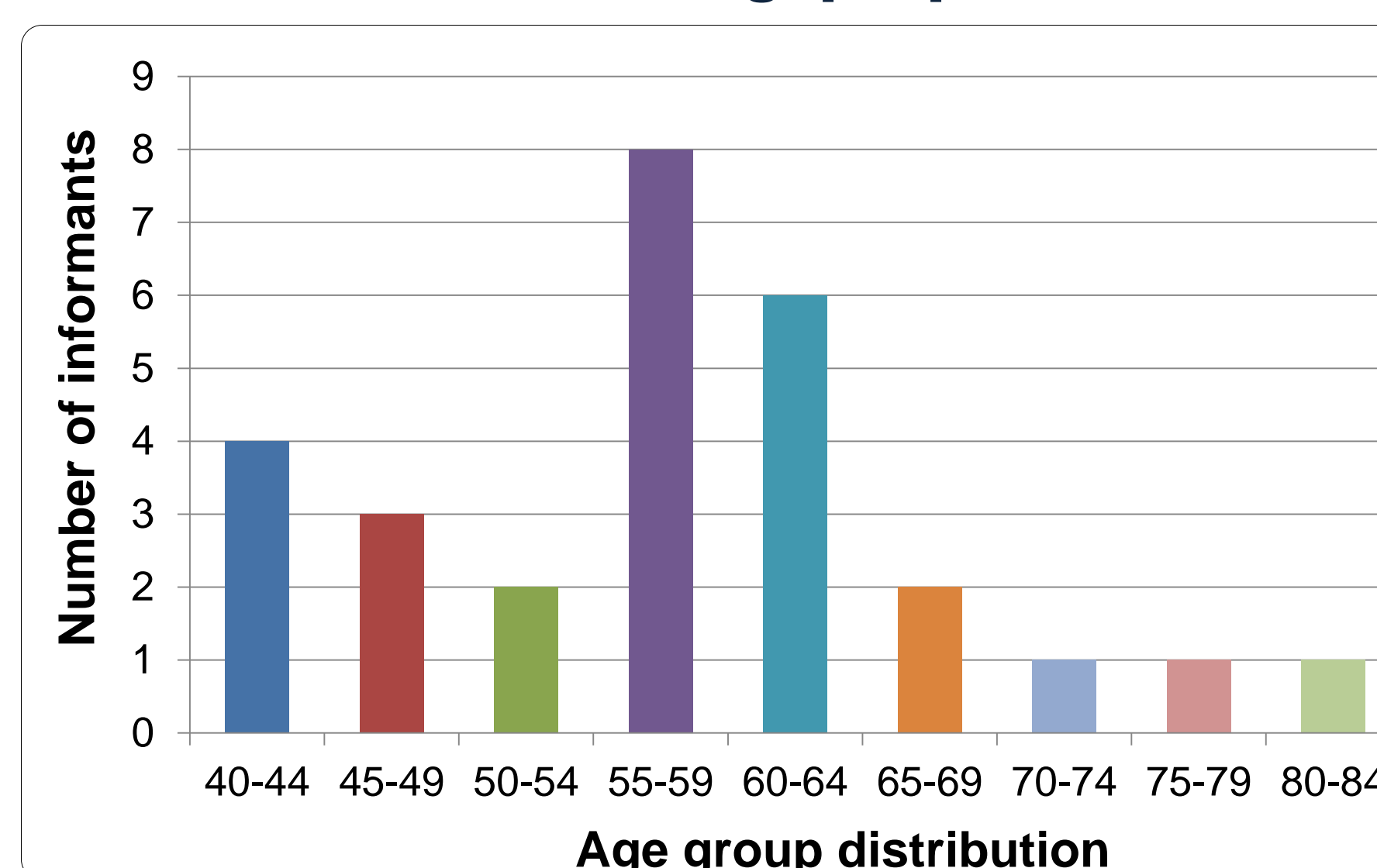


Fig. 2: Age group distribution of the informants.



Fig. 3 . *Morella faya* (A), *Aloysia citriodora* (B) and *Mentha pulegium* (C).

Table 1. – Top six of the species with higher Use value (UV) and relative frequency of citation (RFC) and their ethnomedicinal applications.

Species	Local name	Traditional applications	UV	RFC
<i>Aloysia citriodora</i> Palau (Fig. 3B)	Lúcia-Lima	The infusion is used to treat colds, nerves, tiredness and stomach pain. Decoction is used as soothing and hypotensive, and for gallstones and menstrual pain	0.50	0.14
<i>Mentha pulegium</i> L. (Fig. 3C)	Poejo	Infusion and decoction is used to treat nerves and stomach pain. Decoction mixed with ginger, honey and cinnamon stick is also used to treat colds, gallbladder pain and flu. The leaves juice topically applied treats mosquito bites and is an insect repellent. Smoking a cigarette made with the leaves is used in toothache	0.43	0.25
<i>Clinopodium menthifolium</i> (Host) Stace	Nêveda	Decoction is utilized in bladder pain and urinary problems, colics and stomach pain. Decoction mixed with ginger, honey and cinnamon stick is used in colds and flu. The infusion is used to treat colics and stomach pain	0.29	0.18
<i>Mentha x piperita</i> L.	Hortelã-Pimenta	Infusion or decoction is utilized in flu, stomach pain, as a digestive, analgesic and vermifuge. Vapors from the infusion can be inhaled to treat nasal congestion	0.29	0.11
<i>Citrus limon</i> (L.) Osbeck	Limão	The juice, the infusion and the decoction, simple or mixed with hortelã, coffee, ginger, honey and cinnamon, are used in colds, flu, arthritis and cirrhosis	0.25	0.11
<i>Rosmarinus officinalis</i> L.	Alecrim	Maceration is used to treat blood circulation. Decoction is used for stomach pain, colics and headaches	0.25	0.11