

Functional Foods based on Medicinal Plants of the Family *Lamiaceae*: a patent analysis overview

Reda El Boukhari, Ahmed Fatimi*

Chemical Science and Engineering Research Team, Department of Chemistry, Polydisciplinary Faculty of Beni Mellal, Sultan Moulay Slimane University, Beni Mellal 23000, Morocco

* a.fatimi@usms.ma

INTRODUCTION & AIM

- ❖ Medicinal plants from the *Lamiaceae* family offer significant potential as functional foods, providing both essential dietary fiber and numerous health benefits.
- ❖ These plants are rich in bioactive compounds such as phenolic acids, flavonoids, and alkaloids, which contribute to their antioxidant and anti-inflammatory properties.
- ❖ Studies on *Lamiaceae* seeds have revealed substantial levels of starch and fiber, suggesting their potential as alternatives to cereals in food applications.
- ❖ The phenolic-rich extracts of *Lamiaceae* species have demonstrated anti-hemolytic and anti-mutagenic potentials, making them suitable for functional food and nutraceutical formulations.
- ❖ By incorporating *Lamiaceae* plants into functional foods, consumers can benefit from a combination of dietary fiber and therapeutic compounds. This synergy may lead to improved digestion, enhanced cardiovascular health, and reduced inflammation.
- ❖ The antioxidant properties of these plants help combat oxidative stress, while their anti-inflammatory effects contribute to overall well-being.
- ❖ As functional food ingredients, *Lamiaceae*-based products could serve as practical and effective additions to a balanced diet, potentially reducing the risk of chronic diseases and promoting overall health.
- ❖ In this study, we present an overview of functional foods derived from medicinal plants of the family *Lamiaceae*.
- ❖ By utilizing dietary fiber as a functional component and employing the cooperative patent classification (CPC) system, we conducted a comprehensive patent analysis to identify trends and innovations in this field.

METHOD

- ❖ The databases used in this study were The Lens and Google Patents.
- ❖ The search was conducted by using CPC codes related to Dietetic products and food compositions, function, processes or qualities modification, linked to the *Lamiaceae* species codes.

RESULTS & DISCUSSION

- ❖ 84% of the granted patents linking the use of *Lamiaceae* to dietary interests have been published in the last decade.

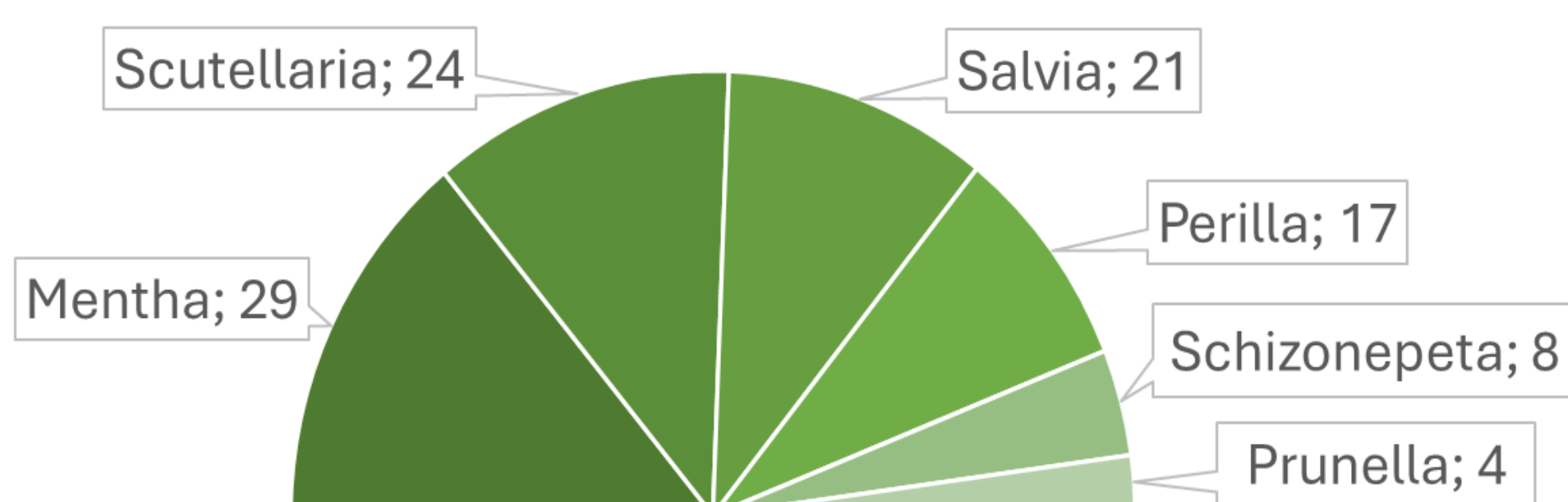


Figure 1. Main *Lamiaceae* genera concerned by the collected patent

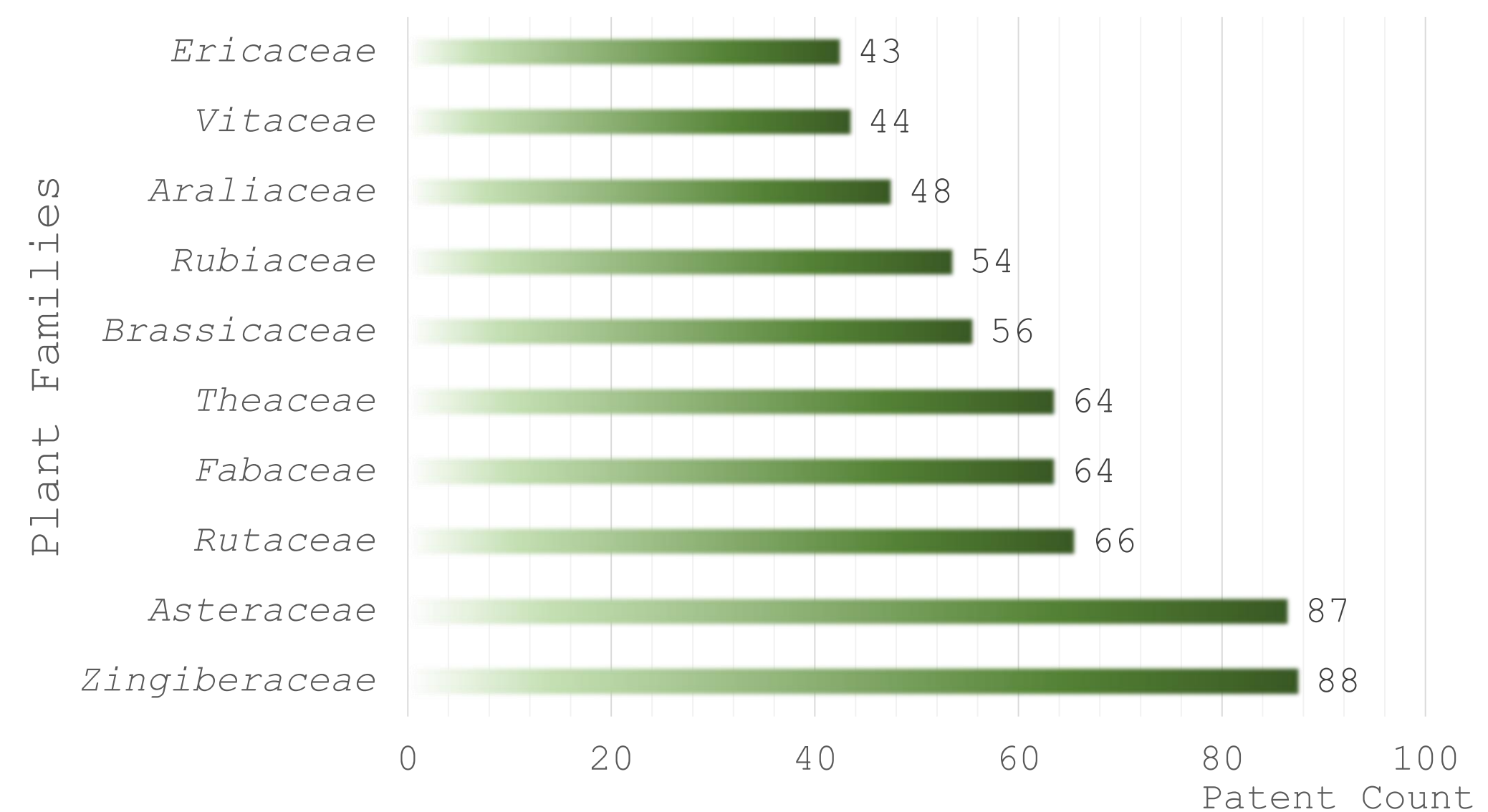


Figure 2. Top 10 plant families associated with *Lamiaceae* in the collected patent documents

Most cited dietary supplement target:

- Focus on obesity, weight loss, and improving lipid metabolism. **Metabolic Health**
- Products claim to improve skin conditions and promote youthful appearance. **Anti-Aging**
- Dietary supplements aimed at enhancing memory, and preventing cognitive decline. **Cognitive Functions**
- Formulations aimed at promoting bone growth and joint health. **Bone Health**
- Compositions for detoxification and liver regeneration. **Liver Health**

CONCLUSION

- ❖ The evolution of the number of patents granted over the last decade demonstrates the growing interest in plants, particularly in *Lamiaceae* in dietary applications.
- ❖ The genera of *Lamiaceae*, cited by the collected patents, as having a particular interest in dietary applications are *Mentha*, *Scutellaria*, *Salvia*, and *Perilla*.
- ❖ Innovation findings reflect a broad range of health benefits targeted by the patented compositions, focusing on preventive and therapeutic nutritional approaches.

FUTURE WORK / REFERENCES

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- 3.The European Patent Office. Cooperative Patent Classification. Available online: www.cooperativepatentclassification.org