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New records of leaf-miner flies (Diptera, Agromyzidae) from Morocco

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INTRODUCTION & AIM

The Agromyzidae, or leaf miner flies, are a family of small flies whose larvae create tunnels (mines) in plant leaves. They are often considered agricultural pests because they can damage crops by feeding on the foliage

This dipteran family includes two subfamilies: Agromyzinae and Phytomyzinae, comprising 1303 species grouped into 23 genera (von Tschirnhaus & Groll 2024).

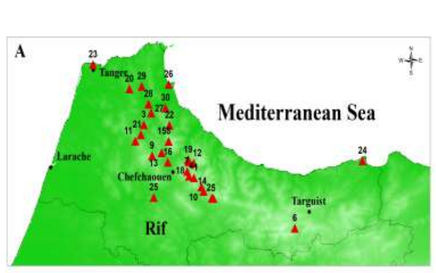
In Morocco, very few studies have been dedicated to this insect family despite its great ecological importance.

The aim of this study is to enhance our knowledge of these flies in Morocco, especially given their agricultural importance.

METHOD

➢ Study Area

- ***Surveyed regions*:** Rif, Eastern Morocco, Atlantic Plain, Middle Atlas, High Atlas, and Anti-Atlas.
- ***Study sites*:** 140 surveyed stations.
- ***Station selection*:** Based on the representativeness of different ecosystems and habitats.
- ***Study period*:** 2018–2023.



➢ Field prospecting

The sampling of the agromyzid fauna in the different surveyed natural habitats was carried out using two methods: the entomological net and Malaise traps..

Sweep net

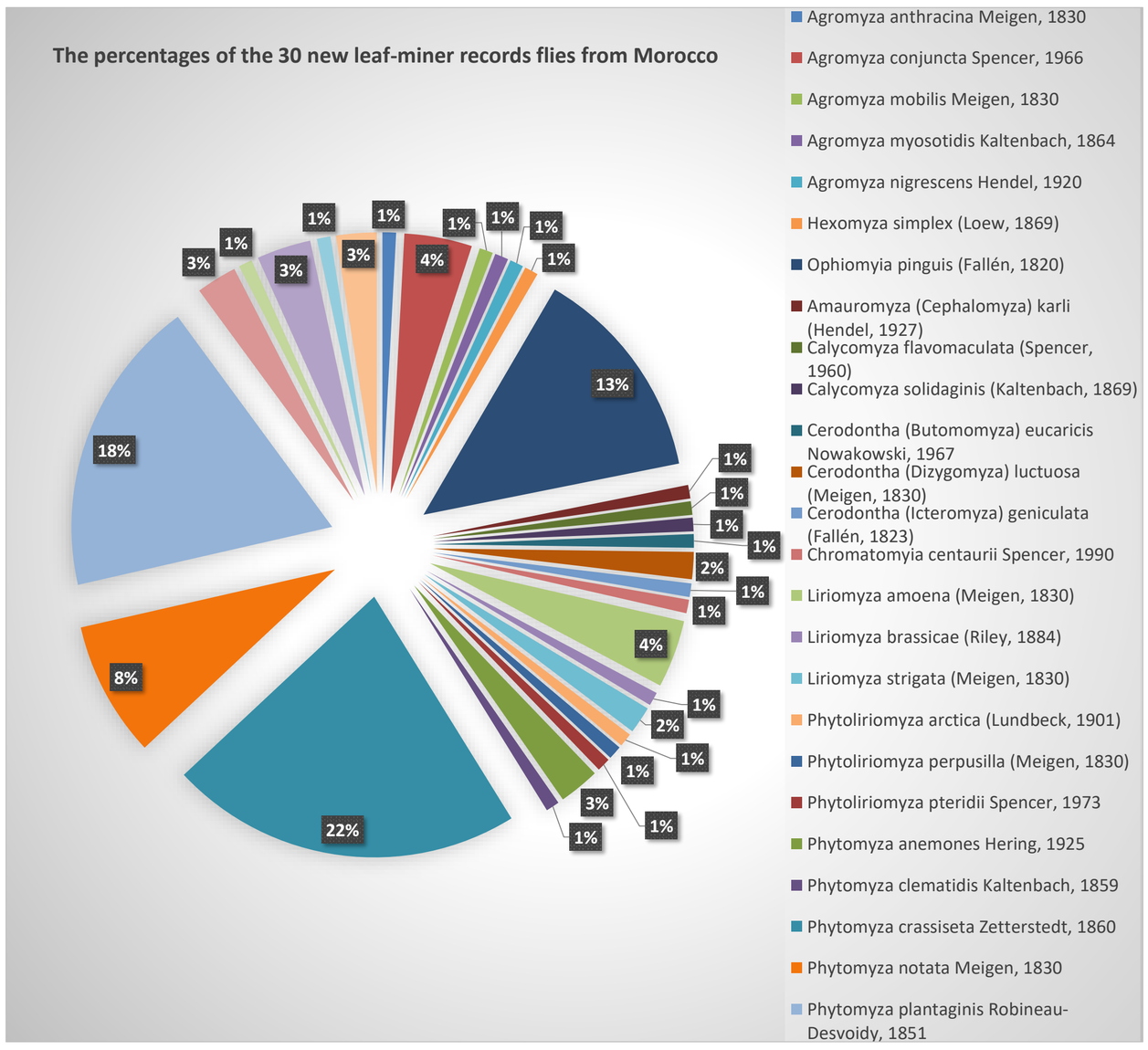
Malaise trap

➢ Laboratory work

- Processing of field-collected samples.
- Sorting is carried out using a binocular microscope.
- Specific identification was conducted by examining male genitalia using both a stereomicroscope and a standard light microscope, following the identification keys provided by Papp and Černý (2015, 2016, 2017, and 2020).

RESULTS & DISCUSSION

- A sample of **930 specimens was captured** and examined.
- This study allowed the identification of two subfamilies, 11 genera and 46 species. Of these, 16 species were previously recorded in Morocco while **30 species are newly recorded for the country**.
- The genus ***Calycomyza* Hendel is cited for the first time in Morocco**, with two species (***C. flavomaculata* and *C. solidaginis***).
- The analysis of the obtained generic composition shows that the genus ***Phytomyza* Fallén is the most dominant in both quantitative and qualitative terms**.
- ***Phytomyza crassiseta* Zetterstedt being the most frequent species** (22%).
- The analysis of the geographical distribution of the identified species reveals that **the Rif is the area that hosts the highest number of species (23 species)**, followed by the Anti-Atlas (4 species), the High Atlas (3 species), Eastern Morocco (2 species), the Middle Atlas (2 species), and the Atlantic Plain (1 species).
- This study presents additions to the Moroccan fauna bringing the total number of Agromyzidae currently known for Morocco to **92 species**.



CONCLUSION

- Our study of the Agromyzidae of Morocco revealed significant faunistic diversity within this group of dipterans in our study area.
- However, these numbers cannot be considered final because further collecting in unexplored areas will undoubtedly bring new additions to the Moroccan fauna

FUTURE WORK / REFERENCES

- Deepen our study by specifically identifying the different taxa.
- Expand our study area to other regions of Morocco to cover more habitats.
- Focus on the pest-related aspects of Agromyzid fauna.