

Symptomatic and Biological Observations of Grapevine Gall Mite (*Eriophyes vitis*)

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INTRODUCTION & AIM

Gall mites of the family Eriophyidae represent an important group of microscopic phytophagous organisms capable of producing characteristic deformities on grapevine leaves and young shoots. Among them, *Eriophyes vitis* is one of the most common species encountered in European vineyards, including those in Romania, where it can induce galls, blistering, and distortions that affect photosynthesis and vegetative development. Accurate and early identification of symptoms is essential for vineyard management and for assessing the susceptibility of different *Vitis vinifera* cultivars.

The present study aimed to describe the symptomatic manifestations associated with *E. vitis* infestation, to document the biological characteristics of the species through macroscopic and microscopic examinations, and to analyze the variability in symptom severity depending on cultivar and growth stage.

METHOD

The research was conducted in vineyards located in eastern Romania during the active vegetative period. Observations included several *Vitis vinifera* cultivars representing various developmental stages. Visual inspections were carried out periodically and were accompanied by high-resolution photographs to document symptoms on leaves and young shoots. Samples displaying galls were collected and examined microscopically to confirm the presence of mites, to observe their characteristic morphology, and to evaluate their distribution and population density within the affected tissues.

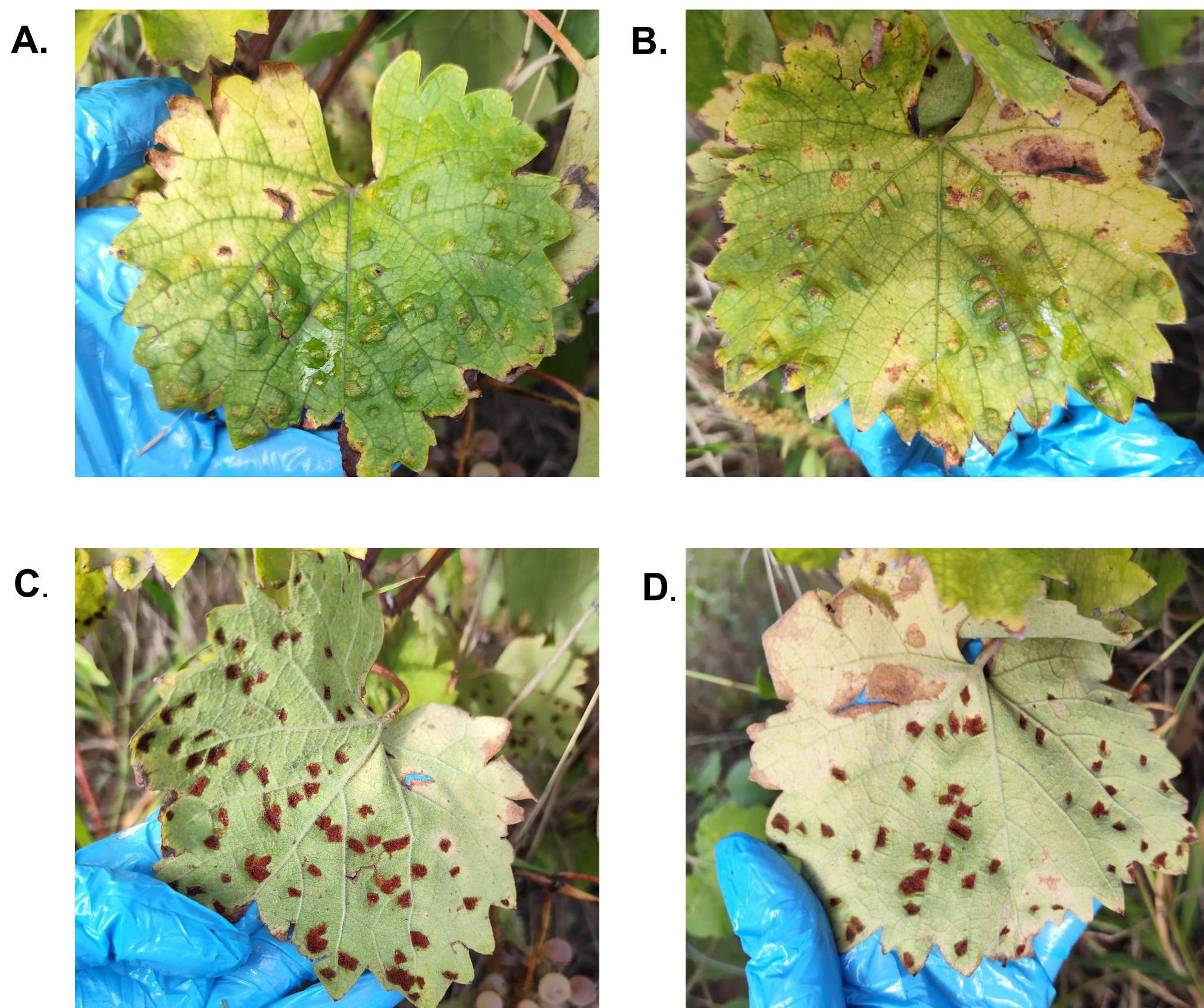


Figure 1. Symptoms of *Eriophyes vitis* on grapevine leaves: (A–B) upper surface showing blister-like galls; (C–D) lower surface showing corresponding depressions and hypertrophied tissues.

RESULTS & DISCUSSION

Macroscopic observations revealed the formation of prominent galls on both the upper and lower leaf surfaces, frequently associated with curling, blistering, or deformation of young shoots. The intensity of these manifestations varied considerably depending on the cultivar examined and the age of the plant organs. Microscopic examinations confirmed the presence of *E. vitis* individuals within the galls, displaying the vermiform morphology typical of eriophyid mites. Populations were unevenly distributed within the hypertrophied structures, with areas of higher density corresponding to more advanced stages of gall development. Comparison between cultivars demonstrated clear differences in symptom severity, suggesting variable susceptibility depending on the biological material.

The symptomatology produced by *E. vitis* can sometimes be confused with other biotic or abiotic disorders, which is why microscopic confirmation plays a crucial role in diagnosis. Observations on mite distribution within galls provide insights into population dynamics and the stages of colonization of young leaves. The substantial variability in symptom intensity among cultivars suggests the existence of physiological and structural differences in plant tissues, which may influence both susceptibility and the progression of infestation. These findings represent a valuable starting point for studies aimed at selecting tolerant cultivars or developing adapted preventive strategies.

CONCLUSION

The study provides a detailed description of the main symptoms and biological characteristics of grapevine gall mites under the pedoclimatic conditions of eastern Romania. Correlating visual observations with microscopic analysis proved essential for confirming the presence of *E. vitis* and for obtaining a complete characterization of the manifestations produced by this species. The results constitute a solid basis for future research focused on evaluating cultivar susceptibility, quantifying economic impact, and developing efficient monitoring and prevention measures.

FUTURE WORK / REFERENCES

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