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Profiling the *Arion rufus* snails with computer vision

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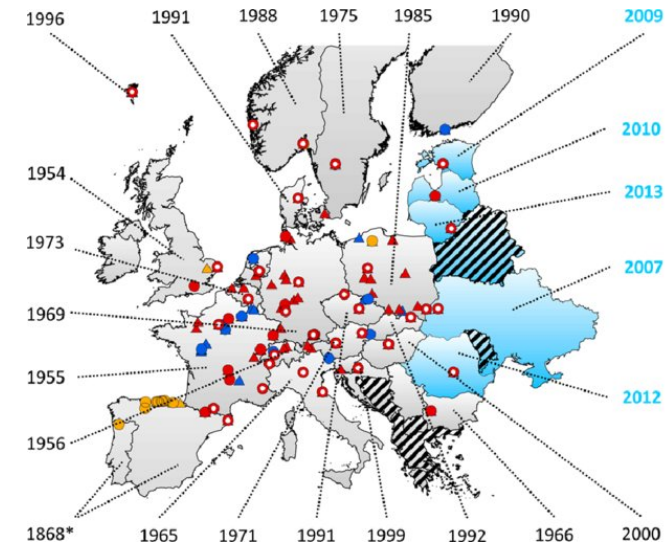
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Outline

- Introduction
- Snails dataset
- Object detection
- Experiment
- Results
- Conclusion

Introduction

- Agriculture is one of essential domains for dealing with the challenge of feeding people
- Challenge of providing such a large amount of food encourages higher production of food
- Emerging smart farming
 - Searching for natural solutions against different pests that prevent the expected growth of crops
- Slugs (*Arion vulgaris*, *Arion rufus*, *Arion ater*) are one of the most destructive pests in Europe
 - Invasive species with practically no natural enemies
 - Can also host lungworms
 - If accidentally eaten, there is a significant disease risk
- Farmers usually use different baits
 - Harmful effects on fertile soil
 - Not following ecological food production
- Environmentally friendly is physically removing the snails



Source: Zemanova, Miriam A., Eva Knop, and Gerald Heckel.

"Phylogeographic past and invasive presence of *Arion* pest slugs in Europe." *Molecular Ecology* 25.22 (2016): 5747-5764.