Aspergillus Section Nigri in Indoor Environments: A Silent Sentinel for Occupational and Public Health

Renata Cervantes, Claúdia Rodrigues, Pedro Pena, Carla Viegas

Renata Wellenkamp de Cervantes, MSc, PhD Student
Renata.Cervantes@estesl.pil.pt
H&TRC- Health & Technology Research Center
CHRC- Comprehensive Health Research Centre
CISP - Centro de Investigação em Saúde Pública

Funded by the European Union

Australian Government National Health and Medical Research Council NHMRC

UK Research and Innovation

Project funded by

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI

Introduction

Aspergillus section *Nigri*

Aspergillus section Nigri: Filamentous fungus, dark spores, metabolic versatility

Health Risks

Allergies, respiratory disease, mycotoxins production (ochratoxin A)

High-risk environments

Occupational (factories, labs) and humid/temperature-controlled spaces

Objective

Determine Prevalence

Identify distribution patterns across occupation environments

Compare Environments

Assess the distribution of Aspergillus section Nigri in indoor environments

Establish Baseline

Create reference data for future monitoring

Methods

Sampling

866 samples from 8 sites

Isolation

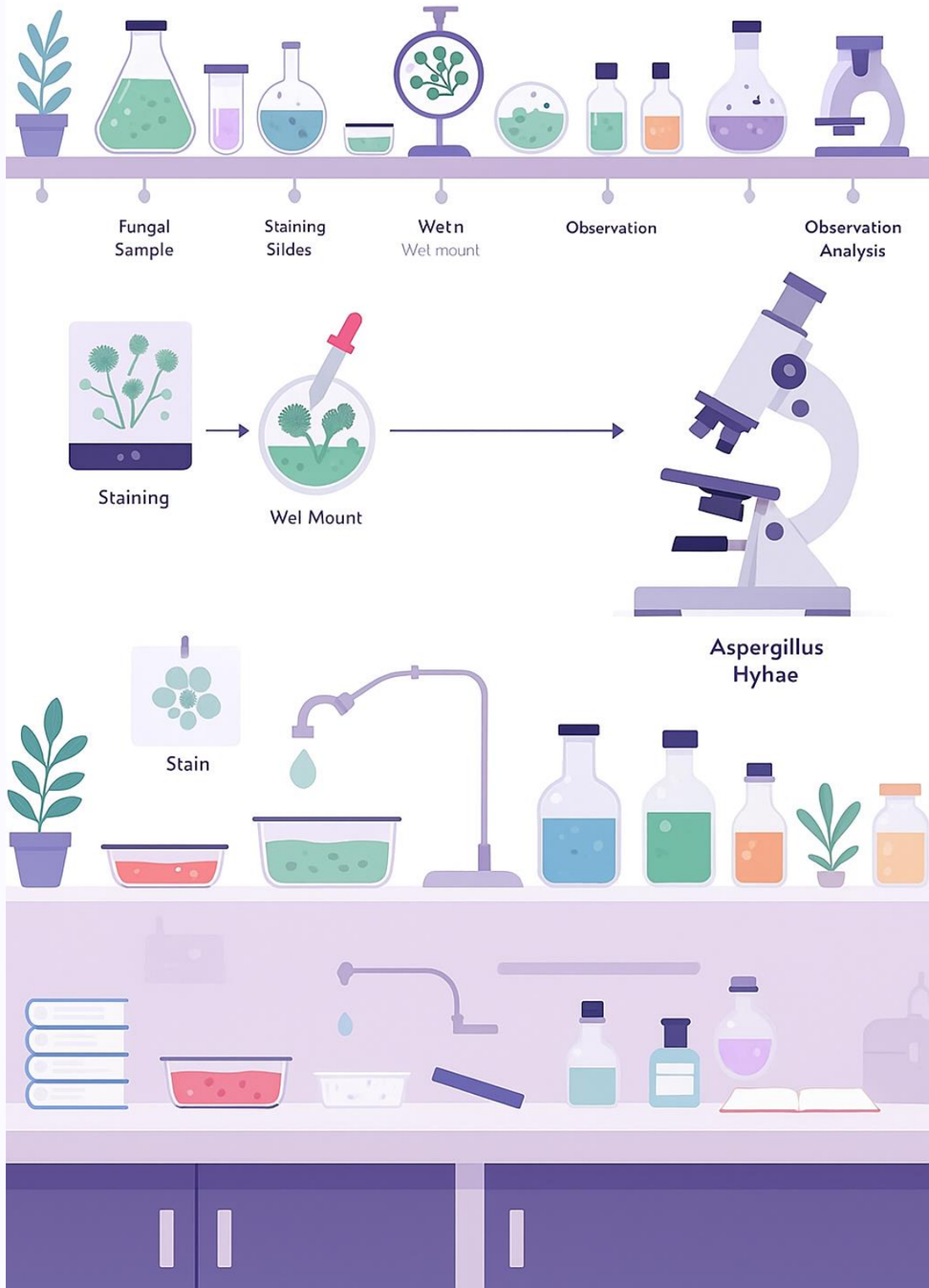
Selective media, morphology/macro and microscopic ID

Analysis

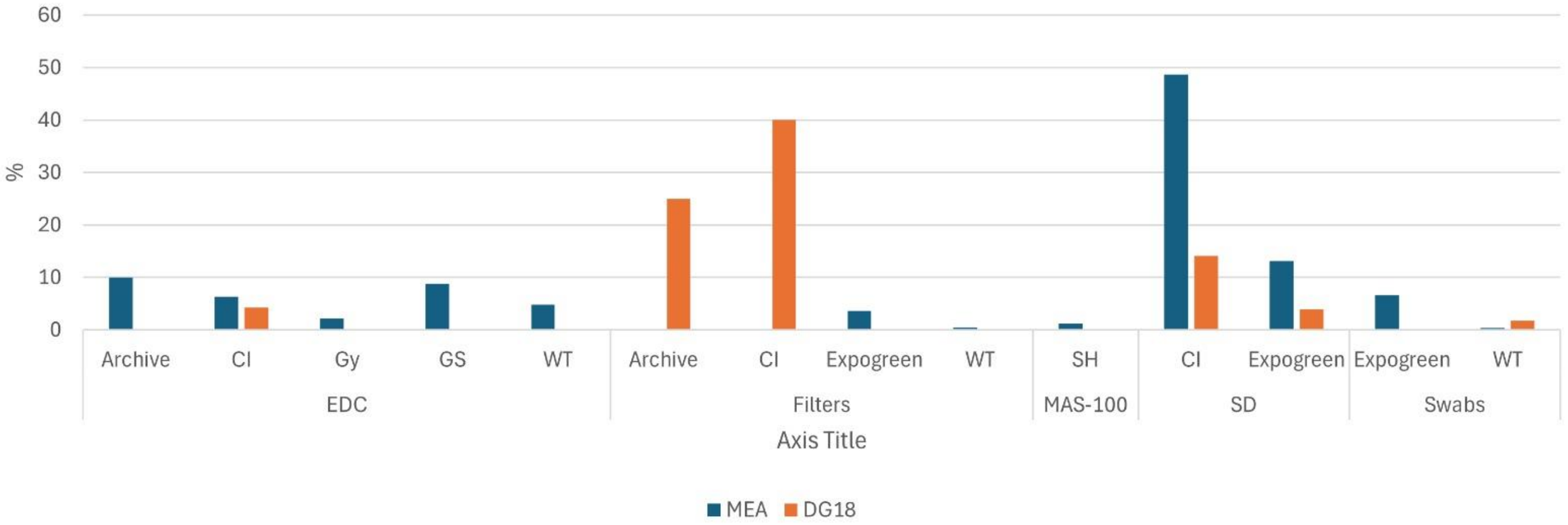
Prevalece per environment

Reporting

Documentation of findings



Results



- **Highest: coffee 49% MEA, 40% DG18**
- **No detection: fire stations, cemeteries**

Conclusions

High-Risk Areas

Aspergillus section Nigri is **most prevalent in the Coffee Industry** project, especially in SD and Filters matrices.)

Continuous Exposure

MEA media generally **favors Nigri detection in organic-rich environments** (e.g., Coffee Industry, EXPOGREEN).

DG18 media shows **higher Nigri prevalence in air filters** (Filters) across multiple projects.

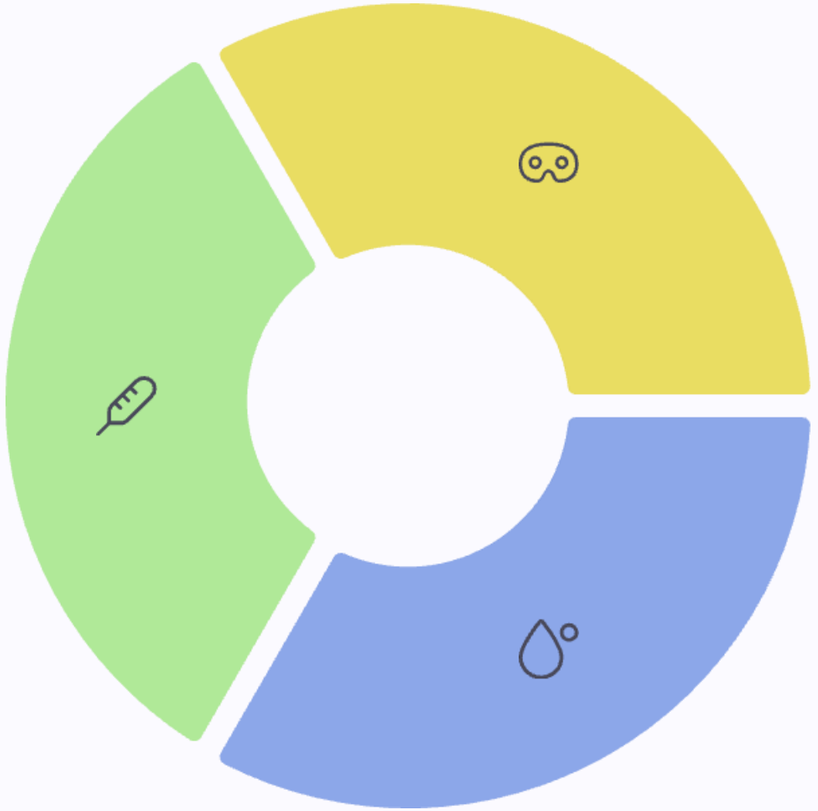
Targeted Action Needed

Storage and archival sites require intervention

Recommendations

Monitor

Regular air/surface sampling in high-risk areas



Protect

PPE for workers in contaminated environments

Control

Maintain low humidity in storage areas

Thank you

Scan the QR code to access the full references

Renata Wellenkamp de Cervantes, MSc, PhD Student
Research Fellow
Renata.Cervantes@estesl.ipl.pt

Funded by the European Union

Australian Government National Health and Medical Research Council NHMRC

UK Research and Innovation

Project funded by

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI