EPPO–NEPPO WORKSHOP · HAMMAMET 2026

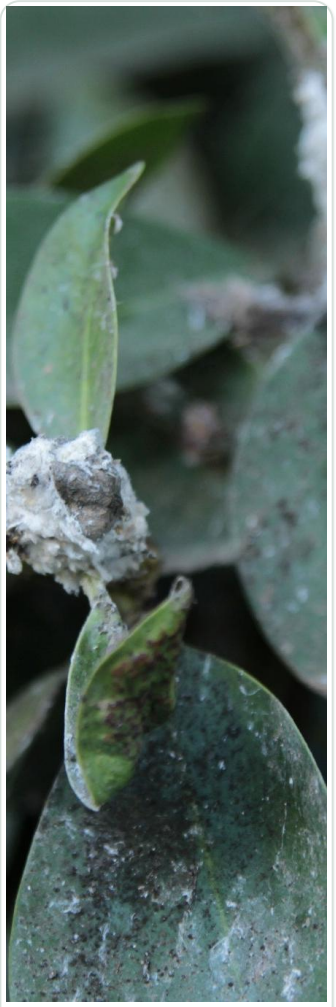
From academic detection to pest reporting

Lessons from alien insect detections on ornamental plants in Algeria

Zine Eddine Labdaoui

Higher School of Agronomy of Mostaganem · Algeria

Academic entomology · plant-health surveillance · pest reporting



M. gladiata



P. madeirensis



S. simplex

Three published experiences — one question: how can academic detections better connect with official plant-health systems?

A PERSONAL STARTING POINT

Where did this story begin?

Mostaganem · 2015



Photos: Z.E. Labdaoui, 2015

2015

***Macrohomotoma gladiate* Kuwayama, 1908**

My first involvement in an unusual alien-pest observation as a PhD student

- **University campus**
- **Mostaganem urban Ficus**
- **Oran**

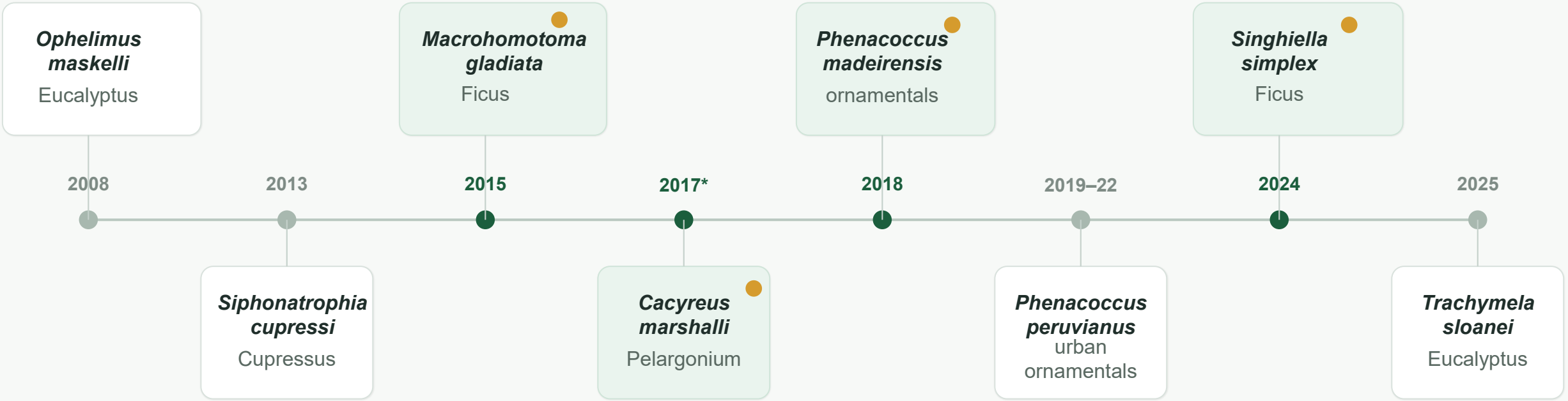
Observation → documentation → published record

Source: EPPO Reporting Service 2016; Guenaoui & Ouvrard (2016).

NATIONAL CONTEXT

Selected alien insect records in ornamental and urban vegetation in Algeria

Selected published records · non-exhaustive overview



Interpretation **Repeated detections suggest that ornamental and urban vegetation may provide useful opportunities for early detection.**

- Cases involving our research group / personal involvement

* 2017 finding led to publication; retrospective evidence documented Algerian captures from 2009–2010.

CASE 1

Cacyreus marshalli Butler, 1897

When a citizen observation triggers scientific investigation



Larva
Guenaoui et al. (2017)



Damage
Guenaoui et al. (2017)



Adult
Guenaoui et al. (2017)



Pelargonium host
Guenaoui et al. (2017)

Zeralda, near Algiers · June 2017

01 Citizen observation
Unusual larvae and damage on Pelargonium

02 Plant transferred for examination
Recent nursery purchase; plant sent for examination

03 Rearing & identification
Cacyreus marshalli confirmed

04 Scientific documentation
Published Algerian record

Retrospective evidence: the species had already been collected in Algeria during 2009–2010.

Source: EPPO Reporting Service 2017/202; Guenaoui et al. (2017), Phytoma.

CASE 2

Phenacoccus madeirensis Green, 1923

From local detection to specialist identification



Hibiscus rosa-sinensis
Photo: Z.E. Labdaoui



Aloysia citriodora
Photo: Z.E. Labdaoui



Cestrum nocturnum
Photo: Z.E. Labdaoui

Mostaganem · 2018

Local detection → **Specialist taxonomic identification**
Natural History Museum, London → **Local nursery & greenhouse surveys** → **First Algerian record**

Source: Guenaoui, Watson & Labdaoui (2019), EPPO Bulletin.

CASE 3

Singhiella simplex Sigh, 1931

From field observation to targeted local survey



Symptoms on Ficus microcarpa

Labdaoui et al., EPPO Bulletin 2025



Adult

Labdaoui et al., 2025



Puparium

Labdaoui et al., 2025

1 Observation

May 2024

2 Identification

Morphological keys + confirmation

3 Targeted survey

Public gardens + university green spaces

4 Outcome

Detected in all surveyed locations

Targeted local survey — results should not be extrapolated to the whole city or to Algeria.

Source: Labdaoui et al. (2025), EPPO Bulletin. Published survey concerned Mostaganem.

SYNTHESIS

Different pests, similar detection pathways

Different starting points — one shared information challenge

Cacyreus marshalli

Citizen observation

Ornamental Pelargonium

Phenacoccus madeirensis

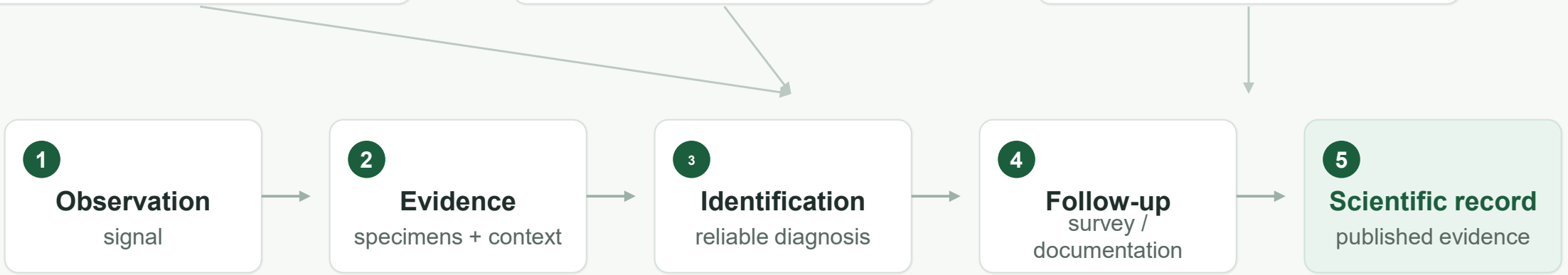
Researcher observation

Private gardens

Singhiella simplex

Researcher observation

Urban green spaces



Different starting points → common need for reliable information pathways

The next question is not only “Was the pest detected?” but also “How does reliable information enter the official system?”

KEY DISTINCTION

From scientific record to official pest reporting

Academic evidence can support the official process — but it does not replace it

ACADEMIC / SCIENTIFIC CONTRIBUTION

- Unusual observation
- Sampling & documentation
- Reliable identification
- **Documented scientific record**

HANDOFF

OFFICIAL PHYTOSANITARY PROCESS

- Communication to competent authority
- Verification / surveillance if needed — ISPM 6
- Pest-status determination — ISPM 8
- Assessment of reporting relevance
- **Official pest reporting, where applicable** — ISPM 17

Scientific first record ≠ official pest report

The competent authority evaluates pest status and reporting relevance.

INTERFACE

How can academic detections be better connected to official surveillance?

Three practical elements for a stronger two-way interface

01 CLEAR CHANNEL

A known contact point

for potentially relevant academic detections

02 MINIMUM DATASET

Evidence ready for triage

specimens · host · location · date · photographs · diagnosis

03 FEEDBACK LOOP

Researcher ⇄ authority

so additional evidence or surveys can be requested quickly

Researcher ⇄ Authority

A two-way feedback loop helps researchers know whether additional evidence, specimens or targeted surveys are needed.

ACADEMIC CONTRIBUTION

What can academia contribute?

The objective is to support existing surveillance — not create a parallel system

EARLY SIGNALS

- Field observations
- Citizen referrals
- Unusual symptoms
- Urban & peri-urban observations

EVIDENCE

- Specimens
- Host plant
- Location & date
- Photographs
- Diagnostic information

EXPERTISE & NETWORKS

- Entomologists
- Taxonomists
- University laboratories
- International collaborators
- Scientific literature

COMPETENT PHYTOSANITARY AUTHORITY

Potential early-detection environments

Ornamental nurseries | **Public gardens** | **University campuses** | **Urban trees**

Potential components of broader surveillance — not a substitute for crop surveillance

TAKE-HOME MESSAGES

Three ideas to keep

01 **Academic observations can provide valuable early pest information.**

02 **Scientific records and official pest reporting are complementary — but not equivalent.**

03 **Stronger two-way communication can better connect research with official plant-health surveillance.**

Ornamental and urban vegetation may provide useful opportunities for early detection — a hypothesis to test within broader surveillance systems.



Phenacoccus madeirensis on Hibiscus · Photo: Z.E. Labdaoui

Key references and standards

Not part of the timed presentation

Case studies

• Guenaoui & Ouvrard (2016). Macrohomotoma gladiata in Algeria. Phytoma / EPPO Reporting Service.

• Guenaoui et al. (2017). Cacyreus marshalli on Pelargonium in Algeria. Phytoma.

• Guenaoui, Watson & Labdaoui (2019). First record of Phenacoccus madeirensis in Algeria. EPPO Bulletin. DOI: 10.1111/epp.12574.

• Labdaoui et al. (2025). First record of Singhiella simplex in Algeria. EPPO Bulletin. DOI: 10.1111/epp.13055.

Phytosanitary framework

ISPM 6 — **Surveillance**

ISPM 8 — **Determination of pest status in an area**

ISPM 17 — **Pest reporting**

National context records were cross-checked against EPPO Global Database / Reporting Service.

Thank you for your attention

Zine Eddine Labdaoui · z.labdaoui@esa-mosta.dz