



The EURL “insects and mites” reference collection

Content, usage and management

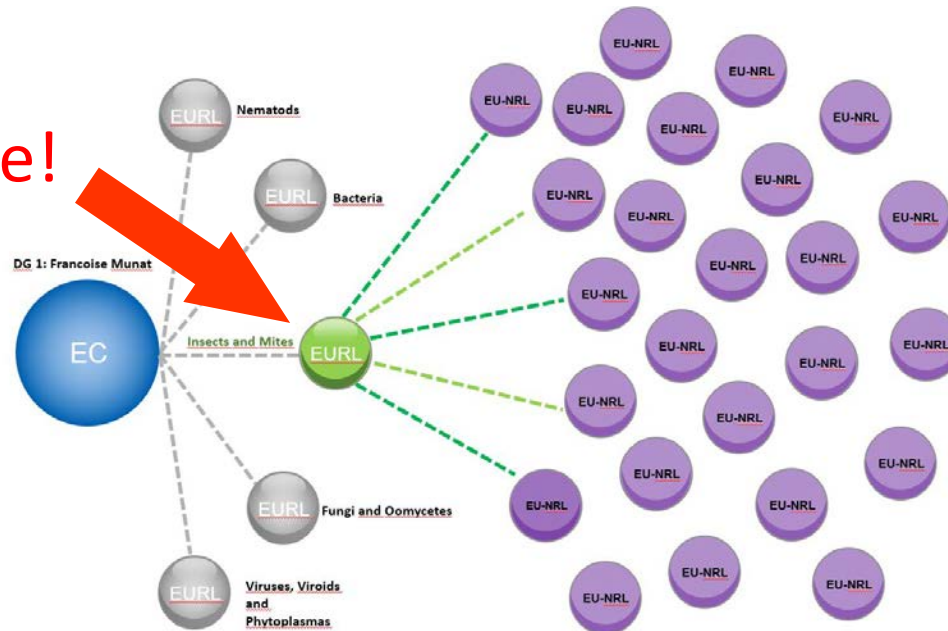
AG CBGP/plateau collection

22nd March 2024 – Montpellier (France)

Reminder

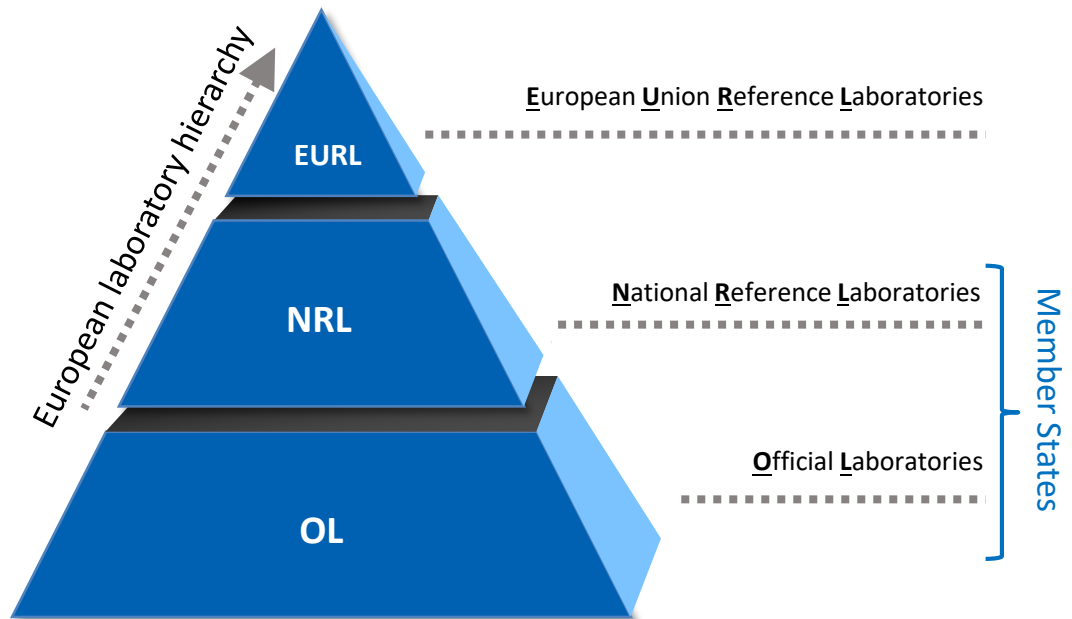
- EURL : European Union Reference Laboratory
- Mandate shared by Anses (France) & Ages (Austria)
- Main mission : assist, coordinate and harmonize the action of the 26 NRLs in European Union

Here we are!



Reminder

- NRL : National Reference Laboratory
- Designated by each member state (delegation to DK by SW)
- Main mission : implement the EU regulation for Quarantine Organisms (EU 2019/2072 + amendments)



Reminder

- EU 2019/2072 lists regulated organisms:
 - 244 insects and mites in annex II (**Quarantine Organisms**)
 - Of which 16 are **priority QO**
 - + 18 in annex III (protected zone Quarantine Pests)
 - + 22 in annex IV (regulated not Quarantine Pests)
- Reporting of these QO in EU area has major economic and sanitary consequences: relevant official identification is critical
- EURL builds a reference collection as a tool for NRLs



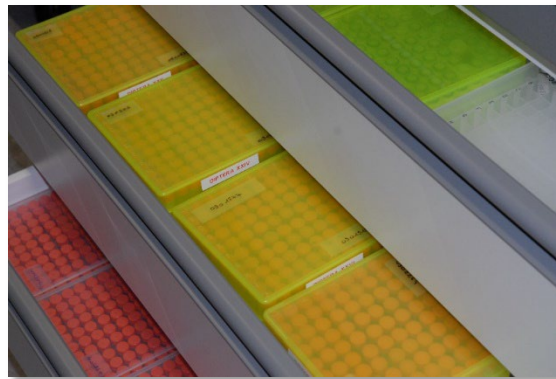


European Union Reference Laboratory

— for Insects & Mites —

Reference collection

Current content



- About 9400 individuals or individual parts of 110 taxa (CO + taxonomically or morphologically close relatives)
- Mostly in Montpellier, some in Vienna
- Ethanol, slides, pin-mounted, dehydrated or frozen (DNA)
- 632 collection objects sorted in three levels:
 - L1: primary references, no loan to NRLs
 - L2: for loans to NRLs as reference specimens
 - L3: for other EURL activities
- L1 belongs to EU, L2 and L3 are lent to EURL collection by ANSES/AGES

Usage (2020-2024)



- 39 loans to NRLs and partner institutions
- 15 Proficiency Tests (assessment of NRL abilities for morphological or molecular identification)
- 6 validation studies (crash-tests of official protocols)
- 8 training sessions

Management

- Initially “databased” on Excel
- Currently being transferred to Specify 7
- Legal issues (solved): US software referencing specimens in France/Austria and data owned by EU and housed on a German server
- Technical issues (about solved): design database and input interface to fit EURL requirements



Sp

Specify 7

Management



- Specifically designed for collection management
- Used by numerous Museums & universities
- External housing with technical support
- Highly customizable
- Link individuals to attachment (.pdf, .fas, .jpg...) and output files (loan sheets)

Management

1. Registration of new collection object

One object
= one taxon x one collection event
= one catalog number

CO New Registration: 21-029-2ME

EURL Catalog Number: 21-029-2ME (##-###-##AA) Level: 2

Depositor: Rousse, Pascal Date of Deposit: Full Date 01/04/2021 Collection: Entomology

Provision: Loan Previous Collection Code: LSV-0901007

Link to agents database

Traceability to providing institution

Management

The agents database

Registering persons
& organizations

New Agent: Rouse, Pascal

Agent Type: Person | Title: Dr.

Last Name: Rouse | First Name: Pascal | Middle Initial: []

Institution: ANSES-LSV Unité Enton | Email: pascal.rousse@anses.fr

Addresses + -

New Agent: ANSES-LSV Unité Entomologie et Botanique

Agent Type: Organization | Title: Dr.

Last Name: ANSES-LSV Unité Entomologie et Botanique | First Name: [] | Middle Initial: []

Institution: [] | Email: montpellier.lsv@anses.fr

Addresses + -

Is Primary

Address: 755 avenue du Campus Agropolis

Address2: CS 30016

City: Montferrier sur Lez | State: [] | Postal Code: 34988 | Country: France

Room/Building: [] | Phone1: [] | Phone2: [] | Fax: []

Management

2. Taxonomy

The screenshot displays a web-based interface for managing taxonomic determinations. It features several sections: 'Determination' with fields for Taxon, Preferred Taxon, Method, Date, and Determinator; 'Determination Citations' with a Reference Work field; and a 'Remarks' field. Annotations in red boxes point to specific elements: 'Link to taxonomy tree' points to the 'Bactrocera invadens' taxon field; 'Synonymy' points to the 'Bactrocera dorsalis' preferred taxon field; 'If successive determinations' points to a pagination control showing '1 / 1'; and 'Link to bibliographical database' points to the 'White & Elson-Harris, 1992. Fruit flies of economic' reference work field. The interface includes search icons, edit icons, and expand/collapse buttons for each section.

Link to taxonomy tree

If successive determinations

Synonymy

Determination + -

Taxon Bactrocera invadens

Preferred Taxon Bactrocera dorsalis

Determination Method Morphological

Determined Date Full Date 08 / 06 / 2007 Determinator Balmès, Valérie

Determination Citations + -




Reference Work White & Elson-Harris, 1992. Fruit flies of economic

Remarks

Link to bibliographical database

Management

The bibliographical database

 New Reference Work: White & Elson-Harris, 1992. Fruit flies of economic significance: their identification and bionomics  

Type

Title

Journal/Publisher

Attachments



Clone

Add

Save

.pdf joinable

Management

The taxonomy tree

The screenshot shows a web-based taxonomic tree interface. At the top, there is a search bar labeled "Search Tree" and a "Taxon" button. Below the search bar is a horizontal menu with taxonomic ranks: Life, K, P, S, Class, Subclass, Infraclass, Superorder, Order, Suborder, Infraclass, Family, Subfamily, Tribe, Subtribe, Genus, Subgenus, and Species. The tree structure is as follows:

- Life
 - incertae sedis
 - Insecta
 - Coleoptera
 - Diptera
 - Agromyzidae
 - Anthomyiidae
 - Cecidomyiidae
 - Drosophilidae
 - Tephritidae
 - Acanthiophilus (0, 0)
 - Acanthonevra (0, 0)
 - Acanthonevroides (0, 0)
 - Acidia (0, 0)
 - Acidia (0)
 - Acidiella (0, 0) (highlighted with a blue box)

Below the tree, a list of species names is displayed, each followed by a count in parentheses (0). The species listed are: abdominalis (0), ambigua (0), angustifrons (0), arisanica (0), bimaculata (0), caudata (0), circumvaga (0), consobrina (0), contraria (0), didymera (0), dilutata (0), disjuncta (0), diversa (0), formosana (0), funesta (0), fuscibasis (0), and iustitiae (0).

Downloaded from Catalog of Life...

Management

The taxonomy tree

Life K P S Class Subclass Infraclass Superorder Order Suborder Infraclass Family Subfamily Tribe Subtribe Genus Subgenus Species

Life

Taxon: Bactrocera invadens

Parent of Taxon: Bactrocera

Name: invadens Taxonomic Rank: Species

Full Name: Bactrocera invadens

Preferred Taxon: Bactrocera dorsalis Priority Quarantine Organism?

Common Name: EU Current Regulation Status: Annex IIA

Author Name: Drew, Tsuruta & White, 2005

EPPO Alert List: A1 Alert List

GUID: QB6CF

Synonyms + -
No Data.

Child Taxa + -
No Data.

Attachments

Tax 0

Delete Cancel Clone Add Save

... but fully customizable

disjuncta (0)
diversa (0)
formosana (0)
funesta (0)
fuscibasis (0)

Management

3. Collection event

CO New Registration: 21-029-2ME

Collecting Information + -

Collection Method: **Interception** (circled) | Date of Collection: Full Date | 06 / 05 / 2009

Locality Details: [Text Field]

Country of Origin: **Togo** (circled) | Locality details: [Text Field] | Source: Host plant

Country of detection: **France** (circled) | Original Preservation: Ethanol ??%

Collecting Information Comments: [Text Area]

Collectors (1) +

Agent: **SIVEP PCF Roissy** (circled) | Remarks: [Text Area]

Host Plant + -

Host Plant Name: **Mangifera indica** (circled) | Host Plant Part: Fruits

Customized for interceptions

Link to geography tree

Link to taxonomy tree

Management

The geography tree

With search engine

Geo Geography

Earth	Continent	Country	State	County
Earth	Africa	Algeria		
		Angola	Bengo Province (0, 0)	
			Benguela (0, 0)	
			Cabinda (0, 0)	Município Belize (0)
				Município Buco Zau (0)
				Município Cabinda (0)
				Município Landana (0)
			Cuanza Norte Province (0, 0)	
			Cunene Province (0, 0)	
			Huambo (0, 0)	
			Huíla Province (0, 0)	
			Kuando Kubango (0, 0)	
			Kwanza Sul (0, 0)	
			Luanda Province (0, 0)	
			Lunda Norte Province (0, 0)	
			Lunda Sul (0, 0)	
			Malanje Province (0, 0)	
			Moxico (0, 0)	
			Namibe Province (0, 0)	
			Provincia do Bie (0, 0)	
			Provincia do Uíge (0, 0)	
			Zaire (0, 0)	
		Ascension, and Tristan da Cunha Saint Helena		
		Benin		
		Botswana		
		Burkina Faso		
		Burundi		
		Cameroon		
		Cape Verde		

Also fully editable and customizable

Management

4. Object detailed content

Splittable into subsamples of different stages, conservation, location...

Specimen(s) Details (4)

Conservation	Location	Quantity	Current Count:	Stage	Sex	Current Status	Subsample Number	MTA	Specimen comment
As original preservation	Montp	12		Adult	Mixed		0		
Ethanol 96%	Montp	1		Larva	Undetermined	On loan	1	2022-03	LSV-1900223
Slide mounted	Vienn	1		Genitalia	Male	Validation study	1		

Generate Label on Save

Mother sample

Subsample 1

Subsample 2

With distinct attachment

Management

4. Object detailed content

Splittable into subsamples of different stages, conservation, location...

Specimen(s) Details (4) +

Conservation	Location	Quantity	Current Count:	Stage	Sex	Current Status	Subsample Number	MTA	Specimen(s) details comments
Conservation	As original preservation	Quantity	12	Location	Montp	Quantity	12	Current Count:	
Stage	Adult	Sex	Mixed	Current Status					
Subsample Number	0	MTA		DNA Reference				Acc 0	
Specimen(s) details comments									

Conservation	ethanol 96%	Location	Montp	Quantity	1	Current Count:			
Stage	Larva	Sex	Undetermined	Current Status	On loan				
Subsample Number	1	MTA	2022-03	DNA Reference	LSV-1900223			Acc 0	
Specimen(s) details comments									

Conservation	Slide mounted	Location	Vienn	Quantity	1	Current Count:			
Stage	Genitalia	Sex	Male	Current Status	Validation study				

Generate Label on Save Generate Label

Mother sample

Link to loans database

Subsample 1

Link to DNA database

Subsample 2

Management

The loans database

New Loan (=collection output): 2022-09

Loan Number: 2022-09 Loan Date: 19/09/2022 Current Due Date: 19/09/2025 Is Closed

Original Due Date: jj/mm/yyyy Date Closed: jj/mm/yyyy Overdue Noti Sent Date: jj/mm/yyyy Extension Granted

Total Preps: Total Items: Resolved Preps: Resolved Items: Unresolved Preps: Unresolved Items:

Remarks

Loan Agents + - 1 / 1

Agent: Cean, Mirela Role: Remarks:

Shipments + -
No Data.

Loan Preparations + -
No Data.

Source Geography: Source Taxonomy:

Attachments

Loa 0 Return Loan Generate Invoice on Save

Clone Add Save



Management

The DNA database

DNA Sequence

DNA Reference: LSV-1900223 DNA Sequence:

Primers: COI Collection Object: +

BOLD Last Update: 01 / 02 / 2019

Sequence Date: 28 / 01 / 2019

Extraction Date: 27 / 01 / 2019

Comments:

Nucleotide Sequence

Gene Sequence: AACACTATATTTATTTTGGAGCATGAGCTGGTATAGTAGGAACATCTCTAGAATCCTAATTCGAACTGAATTAGGTCACCCAGGAGCCTTAATTGGAGATGATC
AAATTTACAATGTAATTGTAACAGCACACGCATTTGTAATAATTTTTTTATAGTAATACCTATCATAATTGGTGGATTGCGAAATTGACTAGTACCCTTGATATTAGG
GGCACCTGATATAGCATTCCCACGAATAAATAATAAGATTTTGATTATTGCCTCCTCTTACATTACTACTAGTAAGTAGTATAGTAGAAACCGGGGCTGGTAC
AGGTTGAACTGTTACCCTCATTATCATCTTAATTGCTCATGGAGGAGCTTCAGTAGACTTAGCTATTTTTTCATTACACCTAGCTGGAATTCATCAATCTAGG
GGCGGTAATTTTATCACACAGTAATTAATATACGATCTACTGGTATAACATTTGACCGAATACCATTATTGTATGAGCTGTAGTATTAACAGCACTATTATTACTT
CTATCCTTACCAGTACTAGCAGGTGCAATTACAATATTGTTAAGAGATCGAATTTAACAACCTCGTTTTTGACCTGCTGGAGGAGGAGACCAATTTTATACC

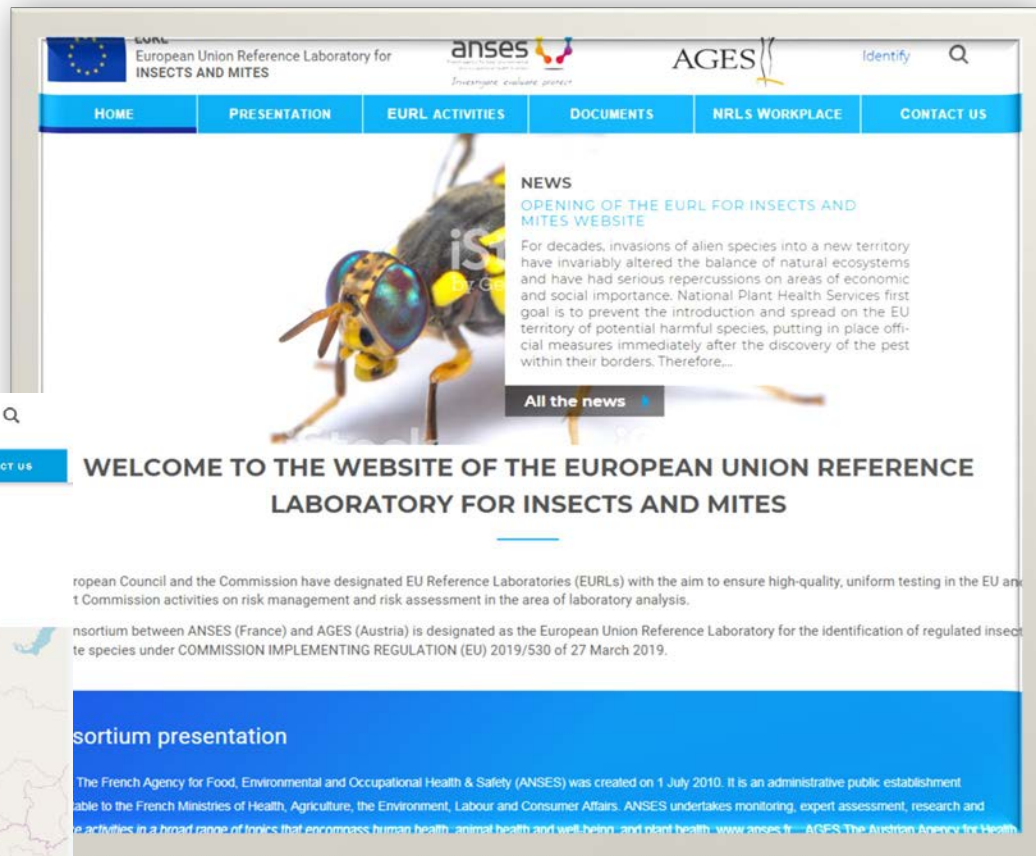
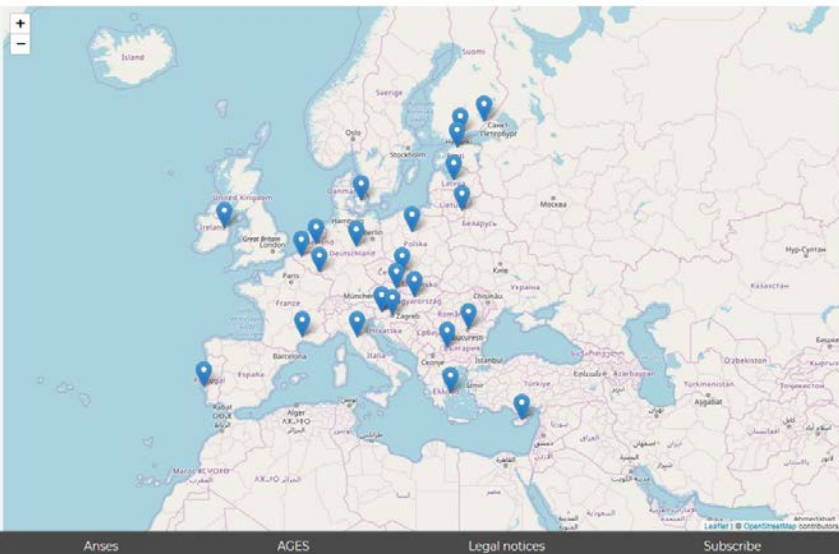


To be continued...



NRLS NETWORK

Find here location and contact persons for the National Reference Laboratories of the European Union



<https://eurl-insects-mites.anses.fr>

Thanks for your attention !