

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 13 janvier 2026 11:00

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Tropilaelaps spp. of honey bees
*Address of laboratory:	Anses (French Agency for Food, Environmental and Occupational Health and Safety) - Laboratoire de Sophia Antipolis, Unité Pathologie de l'Abeille, Les Templiers 105 route des Chappes CS 20111 06902 Sophia Antipolis France
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Website:	http://www.anses.fr/
*Name (including Title) of Head of Laboratory (Responsible Official):	Marie-Pierre RIVIERE (Head of the Anses Sophia Antipolis Laboratory)
*Name (including Title and Position) of WOA Reference Expert:	Stéphanie FRANCO (Head of the National Reference Laboratory for Honey Bee Health; Scientific Project Manager in charge of macroscopic and microscopic diagnostics at the Anses laboratories in Sophia Antipolis)
*Which of the following defines your laboratory? Check all that apply:	Governmental Research agency

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOA Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
Not applicable	No		
Direct diagnostic tests			
Identification of <i>Tropilaelaps</i> by morphological examination	Yes	1	0

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOA?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOA Member Countries	Country of recipients
PCR control	Identification of <i>Tropilaelaps</i> by conventional PCR	Plasmid (TM11 clone)	0	0.5 ml	2	GEORGIA, IRELAND,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOA Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
Identification of Tropilaelaps by morphological examination	* The method underwent a minor revision in 2025: Minor modifications to two morphological identification criteria were implemented (description of the ventrianal plate shape; the criterion concerning "elongated peritremes" was removed). The revised method was published on the website of the European Union Reference Laboratory for Honey Bee Health (https://eurl-bee.anses.fr/en/minisite/abeilles/eu-rl-methods-forms) and will be implemented in the WOA Manual at the next revision. * Validation data were supplemented with new data obtained from Thai specimens. The validation report is an internal document of the Anses laboratory in Sophia Antipolis and is not published. For any request for information, please contact the laboratory at the following email address: eurl.bee@anses.fr
Molecular identification of Tropilaelaps (PCR and sequencing)	Validation data were supplemented with new data obtained from Thai specimens. The validation report is an internal document of the Anses laboratory in Sophia Antipolis and is not published. For any request for information, please contact the laboratory at the following email address: eurl.bee@anses.fr

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOA Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
GEORGIA	Support for the implementation of PCR-based methods for the identification of Tropilaelaps	Emails
UKRAINE	Discussions regarding a collaborative project for the diagnosis and the surveillance of Tropilaelaps	Emails
IRAN	Discussions regarding a collaborative project for the diagnosis of the mite and other honey bee diseases	Emails And discussions held in the context of a scientific congress
AUSTRIA	Possibilities for access to reference material for the organization of a PT (proficiency test) Provision of Tropilaelaps photographs	Emails
THE NETHERLANDS	Discussions regarding the emergency measures implemented in the event of Tropilaelaps detection	Emails
ITALY	Possibilities for access to reference material	Emails
FRANCE	Information regarding the epidemiological situation	Emails
UNITED KINGDOM	Possibilities for access to reference material	Emails

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

No

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOA?

Yes

Research need : 1

Please type the Research need: Research aimed at better understanding the biology of *Tropilaelaps* and its modes of dispersal could help improve procedures for preventing the risk of spread via international trade and enhance surveillance protocols (Terrestrial Code). Furthermore, the development of new molecular methods (e.g., real-time PCR) would provide tools for detecting the mite in alternative matrices, such as hive debris, which could be used within surveillance systems (Terrestrial Manual).

Relevance for WOA: Disease Control, Standard Setting,

Relevance for the Code or Manual: Code, Manual,

Field: Epidemiology and Surveillance, Diagnostics,

Animal Category: Terrestrial,

Disease:

Infestation of honey bees with *Tropilaelaps* spp.

Kind of disease (Zoonosis, Transboundary diseases)

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer: Terrestrial Manual / CHAPTER 3.2.5. / Infestation of honey bees with *Tropilaelaps* spp. & Terrestrial Animal Health Code / CHAPTER 9.5. / Infestation of honey bees with *Tropilaelaps* spp.

Notes:

Answer:

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:

The laboratory conducts international surveillance on the spread of *Tropilaelaps*.

In 2025, several scientific publications reported on the presence of *Tropilaelaps* in new geographic areas, including:

* New detections in regions of Russia and the Republic of Abkhazia (Brandorf A. Z., Xing'an L., Qingsheng N., 2025).

* Evidence of its presence in Belarus (Goryachev D.S. and Kuzmich E.G., 2025).

The ongoing geographic expansion of *Tropilaelaps* constitutes an increasingly significant threat to the apiculture sector at the international level, particularly in the context of climate change, which may further facilitate its spread and establishment.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

- Anses laboratoire de Sophia-Antipolis (Laboratoire national de référence sur la santé des abeilles (Stéphanie Franco, Marion Laurent, Véronique Duquesne), Comité de rédaction de la Veille Sanitaire Internationale / VSI de la Plateforme d'Epidémiosurveillance en Santé Animale (Julien Cauchard, Céline Dupuy, Guillaume Gerbier, Sophie Molia, Carlène Trévenec), Direction Générale de l'Alimentation / DGAI (Jean-François Ravisé, Cédric Sourdeau). 2025. « Extension géographique de l'acarien exotique *Tropilaelaps* spp., parasite des abeilles : Bilan de la situation au niveau international fin 2024 ». Scientific note, available online: <https://www.plateforme-esa.fr/fr/extension-geographique-de-lacarien-exotique-tropilaelaps-spp-parasite-des-abeilles-bilan-de-la>
- Anses laboratoire de Sophia-Antipolis (Laboratoire national de référence sur la santé des abeilles (Stéphanie Franco, Marion Laurent, Véronique Duquesne), Comité de

Stéphanie Franco - - FRANCE

rédaction de la Veille Sanitaire Internationale / VSI de la Plateforme d'Epidémiologie en Santé Animale (Julien Cauchard, Céline Dupuy, Guillaume Gerbier, Sophie Molia, Carlène Trévenec), Direction Générale de l'Alimentation / DGAI (Jean-François Ravisé, Cédric Sourdeau). 2025. « Extension géographique de l'acarien exotique *Tropilaelaps*, parasite des abeilles : Bilan de la situation au niveau international au 31 juillet 2025 ». Scientific note, available online: <https://www.plateforme-esa.fr/fr/extension-geographique-de-lacarien-exotique-tropilaelaps-spp>

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

0

b) International conferences:

3

* *The laboratory shares information on *Tropilaelaps* infestation during the annual meeting of the European Union Reference Laboratory (EURL) for Honey Bee Health. This year, the meeting was held on 15 October 2025 in Sophia Antipolis, France. A presentation was specifically dedicated to *Tropilaelaps* risk (<https://sitesv2.anses.fr/en/minisite/abeilles/workshops>).*

* *Presentations at the Apimondia congress:*

*Franco, S., Del Cont, A., Cougoule, N., Gastaldi, C., Tison A., and V. Duquesne. 2025. "Harmonized Diagnostic Methods for *Tropilaelaps* Mites: Strengthening Surveillance and Control Against an Emerging Global Threat to Beekeeping." Apimondia 2025, 23–27 September 2025, Scandinavia (Copenhagen, Denmark), poster presentation.*

*Laurent, M., Duquesne, V., Franco, S., Sidi-Boumedine, K., Rivière, M.P. and M.-P. Chauzat. 2025. "The European Union National Reference Laboratories Are Ready to Diagnose Diseases and Protect Beekeeping." Apimondia 2025, 23–27 September 2025, Scandinavia (Copenhagen, Denmark), Oral presentation. The presentation summarized the activities and readiness of the EU national reference laboratories to diagnose bee diseases, notably *Tropilaelaps* spp.*

c) National conferences:

6

* *Franco, S. 2025. « Biologie, cycle de vie et répartition de *Tropilaelaps* ». National webconference organised by GDS France (Section apicole) « *Tropilaelaps* : une menace aux portes de l'Europe », 10 July 2025.*

* *Franco, S. 2025. « Présentation de *Tropilaelaps* et des méthodes de détection du parasite » Rencontres Vétérinaires Apicoles 2025: « La menace biologique *Tropilaelaps* spp. ». Webconference organised by Oniris (VetAgroBio Nantes), 16 October 2025.*

* *Franco, S. 2025. « L'acarien exotique *Tropilaelaps*, anticiper un risque sanitaire de plus en plus préoccupant pour l'apiculture européenne. » Rencontres scientifiques de l'Anses Santé des abeilles, 3 december 2025, Maisons-Alfort (France) and webconference.*

* *Franco, S. 2025. « Règlements pour les importations et échanges d'abeilles et de bourdons, exemples de risques sanitaires ». Diplôme inter écoles Diagnostic et gestion sanitaire d'une exploitation apicole, pathologie apicole. Oniris, Nantes, France. 6 February 2025. Oral conference. The presentation addressed, among other topics, the risk of *Tropilaelaps* spread through international trade.*

* *Franco, S. 2025. « Bonnes pratiques de prélèvement en vue d'analyses dans le domaine apicole ». Diplôme inter écoles Diagnostic et gestion sanitaire d'une exploitation apicole, pathologie apicole. Oniris, Nantes, France. 7 February 2025. Oral conference. The presentation covered, among other topics, available diagnostic methods for *Tropilaelaps* and recommended sampling practices for proper sample handling.*

* *L'Hostis, M. and S. Franco. 2025. « Évolution des maladies et des dangers exotiques en apiculture, comment protéger l'apiculture bretonne ? » Journée sanitaire bretonne, Rennes, France. 3 February 2025. Oral conference. The presentation focused on the spread of exotic diseases, notably *Tropilaelaps*.*

d) Other (Provide website address or link to appropriate information):

2

*The laboratory publishes information on the epidemiological situation of *Tropilaelaps* on:*

- *The EURL website: <https://sitesv2.anses.fr/en/minisite/abeilles/liste-actualites/news>*

- *The Animal Health Epidemiological Surveillance Platform website: <https://www.plateforme-esa.fr>. The laboratory contributes to a weekly international monitoring bulletin on honey bee health.*

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOA Members?

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	COFRAC certificate (n° 1-2249 rév. 16)	Attest-COFRAC_Anses_1-2249_Rev16.pdf
ISO 17043	The laboratory follows the ISO 17043 standard for the organisation of PT, but is not formally accredited.	

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Identification of <i>Tropilaelaps</i> by morphological examination	French Committee for Accreditation (Cofrac)

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

The biological risk posed by *Tropilaelaps* is low, as specimens usually arrive dead at the laboratory (see instructions provided for sending diagnostic samples). If they arrive alive, specific procedures are implemented upon sample reception, including opening the package in a contained environment and freezing the samples to quickly kill the specimens. These specific procedures complement the general biosafety and biosecurity measures in place to manage biological risks in the laboratory, such as waste management, cleaning and disinfection, access control to facilities and IT systems, technical procedures for sample reception and analyses, and staff training. All these procedures and measures are included in the laboratory's quality management system.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?H?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?H?

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
Apimondia congress	2025-09-23	Copenhagen, Denmark	Poster presentation	Harmonized Diagnostic Methods for <i>Tropilaelaps</i> Mites: Strengthening Surveillance and Control Against an Emerging Global Threat to Beekeeping
34th Emerging Risks Exchange Network meeting (EREN)	2025-10-27	Parma, Italy / webconference	Oral presentation	Detection of the honey bee exotic parasite <i>Tropilaelaps</i> near the European Union

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOA?H Reference Laboratories designated for the same pathogen or disease?

Not applicable (only WOA?H Reference Laboratory designated for the disease)

24. Are you a member of a network of WOA?H Reference Laboratories designated for the same pathogen?

Not applicable (only WOA?H Reference Laboratory designated for the disease)

25. Did you organise or participate in inter-laboratory proficiency tests with WOA?H Reference Laboratories designated for the same pathogen during the past 2 years?

Not applicable (Only WOA?H Reference Laboratory designated for the disease)

Not applicable

26. Did your laboratory collaborate with other WOA?H Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (only WOA Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
To assess the competence of a laboratory for the morphological identification methods of different honeybee parasites	Participant	2	ParaMorph - 2025	FRANCE, GERMANY,
To assess the conformity of the results obtained by participating laboratories for the identification of <i>Tropilaelaps</i> spp. by morphological examination (action funded by the European Commission under the EURL mandate).	Organiser and participant	9	TROPMORPH24	CYPRUS, CZECH REPUBLIC, ESTONIA, FINLAND, GREECE, HUNGARY, IRELAND, LATVIA, SWITZERLAND,

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOA?

Yes

Kind of consultancy	Location	Subject (facultative)
Revision of the terrestrial chapter of the WOA Manual on <i>Tropilaelaps</i>	Not applicable (emails exchanges)	Terrestrial Manual / CHAPTER 3.2.5. / Infestation of honey bees with <i>Tropilaelaps</i> spp.
Advice on the development of WOA projects on honey bee health	Not applicable (emails exchanges)	Different topics.

29. Additional comments regarding your report:

Yes

*For several years, the Anses laboratory in Sophia Antipolis has been engaged in the development and validation of robust and reliable diagnostic methods for the identification of the different *Tropilaelaps* species. These methods have been made available to WOA Member States through the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, thereby ensuring their autonomous implementation at national level. As a result, international requests for diagnostic support to the laboratory remain limited.*

*However, the evolving international epidemiological situation of this parasite, originating from Asia, resulted in an increased number of requests addressed to the laboratory in 2025, in particular for reference material. To address this need, a *Tropilaelaps* specimen collection project was carried out in Asia in 2022–2023 (funded by the European Commission under the laboratory's EURL mandate), with the objective of facilitating the provision of reference material and supporting the organisation of international inter-laboratory proficiency testing. This initiative enabled the enrichment of the laboratory's specimen collection with several hundred field samples collected from different honey bee species in Thailand. The characterisation of these samples was finalised in 2025, thereby allowing the laboratory to meet current and future requests for reference material.*

In addition, although these activities are not reflected in the sections listed above in this report, it is important to note that the laboratory has undertaken work on:

- *The development of a real-time PCR method for the detection and identification of *Tropilaelaps* spp.;*
- *The phylogenetic study of *Tropilaelaps* specimens available in the laboratory's collection, aimed at enhancing the international knowledge base and improving understanding of the mite's dispersion.*