

# WOAH Reference Laboratory Reports Activities 2025

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## LABORATORY INFORMATION

<b>*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:</b>	American foulbrood of honey bees
<b>*Address of laboratory:</b>	Südufer 10
<b>*Tel:</b>	03835171246
<b>*E-mail address:</b>	marc.schaefer@fli.de
<b>Website:</b>	<a href="https://www.fli.de/en/institutes/institute-of-infectology-imed/reference-laboratories/woah-and-nrls-for-bee-diseases/">https://www.fli.de/en/institutes/institute-of-infectology-imed/reference-laboratories/woah-and-nrls-for-bee-diseases/</a>
<b>*Name (including Title) of Head of Laboratory (Responsible Official):</b>	Dr. phil. nat. Marc O. Schäfer, head of the NRL for bee diseases
<b>*Name (including Title and Position) of WOAH Reference Expert:</b>	Dr. phil. nat. Marc O. Schäfer, head of the NRL for bee diseases
<b>*Which of the following defines your laboratory? Check all that apply:</b>	Governmental

## 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 WOAH Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
Direct diagnostic tests			
bacterial isolation	Yes	59	9
conventional PCR	Yes	211	14
rep PCR with ERIC primers	No	208	
MLVA: Multiple Locus Variable number of tandem repeat Analysis	No	105	

## TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH 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 WOAHS Standards for the designated pathogen or disease?

No

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

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

## TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

Name of the WOAHS Member Country receiving a technical consultancy	Purpose	How the advice was provided
PHILIPPINES	the Veterinary Laboratory Division of the Bureau of Animal Industry in the Philippines asked for advice on molecular techniques for detection of AFB, EFB and chalkbrood	We recommend to use methods described in the WOAHS manual or in the COLOSS beebook
ARGENTINA	the National Institute of Industrial Technology in Buenos Aires, Argentina asked for advice on the validation and accreditation of two methods to determine P. larvae in bee wax	We are usually only working with honey samples, adult bee samples, debris samples or brood samples. Therefore, we only have an in-house method for identification of P. larvae in wax samples. It is a microbiological method and we offered the possibility of an interlaboratory proficiency test between our two labs, using this method
LITHUANIA	the National Food and Veterinary Risk Assessment Institute in Lithuania, asked for having a twinning project on molecular techniques for detection of AFB, Aethina tumida and viruses	We provided information on all methods that we have validated and are now waiting for further progress
KOSOVO	the head of Bacteriology and Parasitology Unit of the Food and Veterinary Agency of Kosovo asked for SOPs for isolation of P. larvae, P. alvei and for a protocol on Varroa treatment	We provided our SOP for identification P. larvae
ESTONIA	LABRIS, the National Centre for Laboratory Research and Risk Assessment of Estonia was asking for enumeration methodology for Paenibacillus larvae	We provided our methodology to count viable P. larvae spores in samples of honey

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

No

## TOR6: EPIZOOLOGICAL DATA

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

No

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

No

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:

1

1) *Small hive beetle task force (SHB TF), COLOSS, Copenhagen, Denmark; Annual achievements of the SHB TF, 22.09.2025*

c) National conferences:

4

1) *Aktuelles zu Tropilaelaps spp. & Aethina tumida; Beratung der AG Bienengesundheit M-V, Rostock, 10.04.2025*

2) *Tropilaelaps, eine zukünftige Bedrohung für unsere Bienen?, Die Bienen unter dem Druck invasiver Feinde – ohne Bienen gibt es weder Gartenbau noch Landwirtschaft, Brandenburgische Akademie Criewen, 17.03.2025*

3) *Einfluss von Klimawandel auf Biene und Milbenbefall? Imkerversammlung Imkerverein Insel Usedom e.V., 20.02.2025*

4) *Tropilaelaps, eine zukünftige Bedrohung für unsere Bienen?, Bioland e.V., online, 12.11.2025*

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

8

1) *Member of the Advisory Board of the project "Best Practices and Innovations for A Sustainable Beekeeping- B-Thenet" funded by the Horizon Europe Program of the European Commission: HORIZON-CL6-2021-GOVERNANCE-01-28- Grant Agreement number: 101059812 for its duration (from 01/09/2022 to 31/08/2026); <https://www.bthenet.eu/>*

2) *WOAH Terrestrial Manual; Chapter on Tropilaelaps was updated together with ANSES*

3) *WOAH Terrestrial Manual; Chapter on Aethina tumida was updated together with ANSES*

4) *Poster AG Tagung, Freiburg, Germany; SEA BEE: A voyage from research to industry; Sandra Ehrenberg, Lukas Rüttinger, Alina Eilers, Stas Hans, Marc O. Schäfer, Robert Kammerer*

5) *Poster AG Tagung, Freiburg, Germany; German bee monitoring: Monitoring results from the bee season 2023/2024; Tabea Streicher, Elke Genersch, Marina Meixner, Gretje Petersen, Marc O. Schäfer; Christoph Otten, Stefan Berg, Kirsten S. Trayner et al.*

6) *Poster One Health meeting Western Pomerania, Greifswald, Germany; BIODI-OH: Biodiversität erleben; Marc O. Schäfer*

7) *Poster Apimondia, Copenhagen, Denmark; The German Bee Monitoring Project: pesticide residues in stored pollen from 2009 to 2024 reflects changes in agricultural practices; Kirsten S. Traynor, Elke Genersch, Marina Meixner, Christoph Otten, Stefan Berg, Gretje Petersen, Marc O. Schäfer, Tabea Streicher*

8) *Poster Apimondia, Copenhagen, Denmark; Diseases and parasites in managed honey bees in Europe; Severine Matthijs, Coby van Dooremalen, Dirk C. de Graaf, Marc O. Schäfer*

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA 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)	
DIN EN ISO/IEC 17025:2018	Akkreditierungsurkunde_2024.pdf	Akkreditierungsurkunde_2024.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Identification of P. larvae in honey, bee and debris samples	Deutsche Akkreditierungsstelle GmbH
Identification of P. larvae by PCR	Deutsche Akkreditierungsstelle GmbH

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

Yes

Extensive biosecurity management with monthly meetings of a biosecurity council including an ethical council for validation of gain-of-function/ DURC-related research.

## TOR9: SCIENTIFIC MEETINGS

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

No

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

No

## TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

Yes

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
WOAHP Reference Laboratories designated for AFB	Member	4	FLI (Germany), ANSES (France), MPI (New Zealand)

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

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAHP Ref. Labs/ organising WOAHP Ref Lab
Detection of Paenibacillus larvae / Melissococcus plutonius, agents of American/European foulbrood, in crushed bee larvae by: Microscopy, PCR, Culture	Participant	Network of the european NRLs for bee health and the MPI from New Zealand	FLI / ANSES / MPI

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

No

## TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAHP Member Countries
Detection of Paenibacillus larvae in honey samples	Organizer	27	AFB-2024	GERMANY, LUXEMBOURG, THE NETHERLANDS,

## TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

*As our standard laboratory methods to identify P. larvae are not including staining of microscopic slides to identify the agent, we asked the ANSES laboratory for assistance and thankfully obtained a one day training in their laboratories, to be able to perform and give advice on these techniques in the future.*