

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 6 janvier 2026 09:42

LABORATORY INFORMATION

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

No

*Our laboratory is based in the North East of Germany, where *A. tumida* is luckily not yet present. Its occurrence in Europe is currently limited to Italy, which significantly restricts opportunities for direct work on this pathogen in my region.*

However, I am actively involved internationally as co-chair of the COLOSS SHB Task Force (<https://coloss.org/activities/shb/>), a global network of currently 109 researchers from 32 countries. We meet at least twice a year to coordinate research and response strategies.

*Additionally, I am regularly in contact and collaborate with the EURL and the ANSES WOAHO Reference Laboratory on *A. tumida*. Together with the ANSES WOAHO Reference Laboratory we also updated Chapter 3.2.4. Infestation of Honey Bees with *Aethina tumida* of the Terrestrial Manual and Chapter 9.4. of the Terrestrial Code.*

*While the regional absence of *A. tumida* limits my local activities, I am fully engaged in international networks and initiatives relevant to the disease.*

*Furthermore, in the beginning of 2024 I was invited to La Reunion to evaluate the introduction of *A. tumida* to the island and to advise local authorities and beekeeping associations on containment measurements to limit the further spread of *A. tumida*.*

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHO 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
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 all the methods that we have validated and wait for further progress
UKRAINE	the State Scientific Research Institute of Laboratory Diagnostics and Veterinary and Sanitary Expertise of Ukraine asked for reference material of Aethina tumida	We offered to ship adult small hive beetles in ethanol.

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAHS Member Countries involved other than your country
Control of the preimaginal stages of the hive weed Aethina tumida by means of variations in soil humidity and the use of entomopathogenic nematodes.	December 2023 - November 2025	The aim of this project is to study, in vitro, the influences of soil moisture variations and the action of entomopathogenic nematodes especially on pupal development	IZS ME, LT & VE; UNICZ; ENEA (IT); FLI (DE); Swiss Bee Research Centre Agroscope (CH)	GERMANY ITALY SWITZERLAND

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 WOAH 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 <i>Aethina tumida</i> (visual)	Deutsche Akkreditierungsstelle GmbH (DAkkS)
Identification of <i>Aethina tumida</i> by PCR	Deutsche Akkreditierungsstelle GmbH (DAkkS)

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 gainoffunction/ 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 <i>Aethina tumida</i>	Member	3	FLI (Germany), ANSES (France)

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
Identification of <i>Aethina tumida</i> by morphological examination	Organizer	2	FLI (Germany), ANSES (France)

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?

No

I am always willing to provide scientific and technical support to colleagues from other WOAHP Member laboratories. In previous years, we have hosted visitors from other labs, but not in the last 2 years.

However, during my visit to La Réunion in January 2024, I worked closely with Dr. Margot Camoin (veterinarian at GDS Réunion) from the local laboratory, including joint field assessments and ongoing email consultations.

*Furthermore, in the reported project with the Italian and Suisse colleagues ("Control of the preimaginal stages of *Aethina tumida* by means of variations in soil humidity and the use of entomopathogenic nematodes") I provided scientifically and technical advice in virtual meetings and via email.*

Although no formal training sessions were held at our lab in the last 2 years, I remain proactive in providing support and advice through international collaborations and remote consultations.

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Revisions of the Terrestrial Manual and Code for <i>Aethina tumida</i>	Not applicable	The revisions were carried out in collaboration with ANSES (France), the WHOA reference laboratory for <i>Aethina tumida</i>

29. Additional comments regarding your report:

No

*Our laboratory is based in the North East of Germany, where *A. tumida* is luckily not yet present. Its occurrence in Europe is currently limited to Italy, which significantly restricts opportunities for direct work on this pathogen in my region.*

However, I am actively involved internationally as co-chair of the COLOSS SHB Task Force (<https://coloss.org/activities/shb/>), a global network of currently 109 researchers from 32 countries. We meet at least twice a year to coordinate research and response strategies.

Marc O. Schäfer - - GERMANY

Additionally, I am regularly in contact and collaborate with the EURL and the ANSES WOAHA Reference Laboratory on A. tumida. With the ANSES WOAHA Reference Laboratory we also updated Chapter 3.2.4. Infestation of Honey Bees with Aethina tumida of the Terrestrial Manual and Chapter 9.4. of the Terrestrial Code. While the regional absence of A. tumida limits my local activities, I am fully engaged in international networks and initiatives relevant to the disease. Furthermore, in the beginning of 2024 I was invited to La Reunion to evaluate the introduction of A. tumida to the island and to advise local authorities and beekeeping associations on containment measurements to limit the further spread of A. tumida.