

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 17 janvier 2025 14:45

LABORATORY INFORMATION

| | |
|---|---|
| *Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory: | Small hive beetle |
| *Address of laboratory: | Friedrich-Loeffler-Institut, Südufer 10, 17493 Greifswald - Insel Riems |
| *Tel: | +493835171246 |
| *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)

Yes

| Diagnostic Test | Indicated in WOAHO Manual (Yes/No) | Total number of test performed last year | |
|---------------------------|------------------------------------|--|-----------------|
| Indirect diagnostic tests | | Nationally | Internationally |
| Direct diagnostic tests | | Nationally | Internationally |
| visual identification | Yes | 1 | |

Marc O. Schäfer - - GERMANY

| | | | |
|-----|-----|---|---|
| | | | 0 |
| PCR | Yes | 3 | 0 |

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOA?H Members?

Not applicable

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?H Standards for the designated pathogen or disease?

No

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

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

| Name of WOA?H Member Country seeking assistance | Date | Which diagnostic test used | No. samples received for provision of diagnostic support | No. samples received for provision of confirmatory diagnoses |
|---|------------|-------------------------------|--|--|
| GERMANY | 2024-03-18 | PCR | 3 | 0 |

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

Yes

| Name of the WOA?H Member Country receiving a technical consultancy | Purpose | How the advice was provided |
|---|--|---|
| SRI LANKA | They asked for diagnostic methods of honey bee diseases | I offered help on all kind of diagnostic methods that we are using. However, in the end they were interested only in diagnosis of sacbrood virus and I provided |

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

| Title of the study | Duration | Purpose of the study | Partners (Institutions) | WOAH Member Countries involved other than your country |
|---|-------------------------------|--|---|--|
| Control of the preimaginal stages of the hive weed <i>Aethina tumida</i> 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 WOA?

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:

3

1) *Allele Frequencies of Genetic Variants Associated with Varroa Drone Brood Resistance (DBR) in Apis mellifera Subspecies across the European Continent*, Lefebvre et al. *Insects* 2024, 15, 419. <https://doi.org/10.3390/insects15060419>

2) *Reliable molecular detection of small hive beetles*, Orlando Yañez, Marga van Gent-Pelzer, Anna Granato, Marc Oliver Schäfer, Peter Neumann, *NeoBiota* 95: 279–290 (2024) DOI: 10.3897/neobiota.95.124673

b) International conferences:

3

1) *Control of SHB with in-hive traps & control in the soil*, Miel Vert, La Reunion, 7.1.2024

2) *Overview of Aethina tumida in Europe*, Apimondia webinar on invasive species in Europe, 26.3.2024, online

3) *Small hive beetle task force*, COLOSS, Wageningen, 12/13.11.2024

c) National conferences:

2

1) Methodenspektrum NRL & aktuelle Situation meldepflichtiger Bienenseuchen, Beratung der AG Bienengesundheit M-V, Rostock, 18.4.2024

2) Neue invasive Feinde der Honigbiene, 150 Jahre Greifswalder Imkerverein, HGW 23.11.2024

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

1

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/>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOA H 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 "bio-risk 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 WOA H?

No

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

Yes

| Title of event | Date | location | Role (speaker, presenting poster, short communications) | Title of the work presented |
|---|------------|----------|---|--------------------------------------|
| Apimondia webinar on invasive species in Europe | 2024-03-25 | online | Speaker | Overview of Aethina tumida in Europe |

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOA Reference Laboratories designated for the same pathogen?

Yes

| NETWORK/DISEASE | ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC) | NO. PARTICIPANTS | PARTICIPATING WOA REF. LABS |
|--|---|------------------|-------------------------------|
| WOA Reference Laboratories designated for Aethina tumida | Organizer | 3 | FLI (Germany), ANSES (France) |

25. Did you organise or participate in inter-laboratory proficiency tests with WOA 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 WOA Ref. Labs/ organising WOA Ref Lab |
|---|--|--------------------------------|---|
| Identification of Aethina tumida by morphological examination and PCR | Participant | 2 | FLI (Germany), ANSES (France) |

26. Did your laboratory collaborate with other WOA 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 WOA Reference Laboratories for the same pathogen during the past 2 years?

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No