WOAH Collaborative Centre Reports Activities 2023
Activities in 2023
This report has been submitted: 22 juillet 2024 14:35

Centre Information

<table>
<thead>
<tr>
<th>Title of WOAH Collaborating Centre</th>
<th>Food-Borne Parasites from the Asia-Pacific Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address of WOAH Collaborating Centre</td>
<td>Ministry of Education Institute of Zoonosis Jilin University 5333 Xian Road 130062 Changchun CHINA (PEOPLES REP. OF China)</td>
</tr>
<tr>
<td>Tel:</td>
<td>+8613019125996</td>
</tr>
<tr>
<td>E-mail address:</td>
<td><a href="mailto:liumy@jlu.edu.cn">liumy@jlu.edu.cn</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="https://report-ir-cc.woah.org/">https://report-ir-cc.woah.org/</a></td>
</tr>
<tr>
<td>Name Director of Institute (Responsible Official):</td>
<td>Liu Mingyuan, Ministry of Education Institute of Zoonosis Jilin University 5333 Xian Road 130062 Changchun China</td>
</tr>
<tr>
<td>Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):</td>
<td>Liu Mingyuan, Ph.D Director of Institute of Zoonosis Jilin University</td>
</tr>
<tr>
<td>Name of the writer:</td>
<td>Xuelin Wang and Yang Wang</td>
</tr>
</tbody>
</table>

TOR1 AND 2: SERVICES PROVIDED

<table>
<thead>
<tr>
<th>Category</th>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease control (true)</td>
<td>Immunological and serological diagnosis for Trichinella spiralis, Clonorchis sinensis, Toxoplasma and Cryptosporidium</td>
<td>Farm pigs, dogs, mice, pet cats in China, Fish and Caracals in Southeast Asia</td>
</tr>
<tr>
<td>Epidemiology, surveillance, risk assessment, (true)</td>
<td>Prevalence of meat-transmitted Taenia and Trichinella parasites in the Far East countries</td>
<td>meat-transmitted Taenia and Trichinella parasites, Giardia duodenalis</td>
</tr>
<tr>
<td>Training, capacity building (true)</td>
<td>Training staff of Parasitic Diseases</td>
<td>Work in Institute of Parasitic Diseases of Asia-Pacific Region</td>
</tr>
</tbody>
</table>

| ryanosoma evansi evades host innate immunity by releasing extracellular vesicles to activate TLR2-AKT signaling pathway. Effects of Trichinella spiralis and its excretory/secretory products on autophagy of host muscle cells in vivo and in vitro. The |
Zoonoses (true) | dynamics of select cellular responses and cytokine expression profiles in mice infected with juvenile Clonorchis sinensis, MicroRNA profiling of Neospora caninum tachyzoites (NC-1) using a high-throughput approach and Protective Immunity Against Neospora caninum Infection Induced by 14-3-3 Protein in Mice | Trypanosoma evansi, Trichinella spiralis, Clonorchis sinensis and Neospora caninum

Aquatic animal diseases (true) | Neospora caninum and Unique Tubulin-Based Structures in the Zoonotic Apicomplexan Parasite Cryptosporidium parvum | Cryptosporidium parvum

Animal welfare (true) | Animal health product consultation | Prof Liu Mingyuan, Wang Xuelin and Liu Zengshan worked in OIE Collaborating Center for Food-borne Parasites from Asian-Pacific Region serve for farm animal and pets

Diagnosis, biotechnology and laboratory (true) | Food-Borne Parasites from the Asia-Pacific Region - Key Laboratory for Zoonoses OIE Collaborating Centres Reports Activities, 2021 3 Zoonoses Title of activity Scope Trypanosoma evansi evades host innate immunity by releasing extracellular vesicles to activate TLR2-AKT signaling pathway. Trypanosoma evansi Effects of Trichinella spiralis and its excretory/secretory products on autophagy of host muscle cells in vivo and in vitro. Trichinella spiralis The dynamics of select cellular responses and cytokine expression profiles in mice infected with juvenile Clonorchis sinensis. Clonorchis sinensis MicroRNA profiling of Neospora caninum tachyzoites (NC-1) using a high-throughput approach. Neospora caninum Protective Immunity Against Neospora caninum Infection Induced by 14-3-3 Protein in Mice. Neospora caninum Aquatic animal diseases Title of activity Scope A Single-Pass Type I Membrane Protein from the Apicomplexan Parasite Cryptosporidium parvum with Nanomolar Binding Affinity to Host Cell Surface Cryptosporidium parvum Unique Tubulin-Based Structures in the Zoonotic Apicomplexan Parasite Cryptosporidium parvum Cryptosporidium parvum Animal welfare Title of activity Scope Animal health product consultation Prof Liu Mingyuan, Wang Xuelin and Liu Zengshan worked in OIE Collaborating Center for Food-borne Parasites from Asian-Pacific Region serve for farm animal and pets. Host defense against Neospora caninum infection via IL-12p40 production through TLR2/TLR3-AKT-ERK signaling pathway in C57BL/6 mice. Comparative analysis of excretory-secretory products of muscle larvae of three isolates of Trichinella pseudospiralis by the iTRAQ method. Development of a rapid and sensitive immunochromatographic strip based on EuNPs-ES fluorescent probe for the detection of early Trichinella spiralis-specific IgG antibody in pigs. Development of a rapid and sensitive immunochromatographic strip based on EuNPs-ES fluorescent probe for the detection of early Trichinella spiralis-specific IgG antibody in pigs and Recombinant cystatin-like protein-based competition ELISA for Trichinella spiralis antibody test in multihost sera | Trichinella spiralis
### Tor 3: Harmonisation of Standards

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated:

<table>
<thead>
<tr>
<th>Proposal title</th>
<th>Scope/Content</th>
<th>Applicable area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration with WOAH Reference Laboratories</td>
<td>Members of WOAH</td>
<td>Laboratory expertise, Training and education, health management, Animal production, Veterinary products</td>
</tr>
<tr>
<td>Coordinate scientific and technical studies in collaboration with other centres, laboratories or organisations</td>
<td>Members of WOAH</td>
<td>Laboratory expertise, Training and education, health management, Animal production, Veterinary products, Wildlife health and biodiversity</td>
</tr>
</tbody>
</table>

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?  
No

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?  
Yes

<table>
<thead>
<tr>
<th>Name of WOAH CC/RL/other organisation(s)</th>
<th>Location</th>
<th>Region of networking Centre</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOAH CC for Food-borne Parasites in European and North America</td>
<td>France and Canada</td>
<td>Americas, Asia and Pacific, Europe</td>
<td>Cooperation in controlling and epidemiology food borne zoonotic parasite</td>
</tr>
</tbody>
</table>

### Tor 4 and 5: Networking and Collaboration

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?  
Yes
TOR6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?
Yes

<table>
<thead>
<tr>
<th>NAME OF EXPERT</th>
<th>KIND OF CONSULTANCY</th>
<th>SUBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liu Mingyuan</td>
<td>Parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis and Surveillance of epidemiology.</td>
<td>Nematodes, trematodes, cestodes and protozoan</td>
</tr>
<tr>
<td>Wang Xuelin</td>
<td>Parasitosis morphology diagnosis, serology diagnosis and molecular typing diagnosis.</td>
<td>Trichinella sp, Anisakidae, Clonorchis, Cysticercus, Toxoplasma, Cryptosporidium and Giardia</td>
</tr>
<tr>
<td>Zhu Guan</td>
<td>Parasitosis morphology diagnosis, serology diagnosis and molecular typing diagnosis.</td>
<td>Parasitosis morphology diagnosis, serology diagnosis and molecular typing diagnosis.</td>
</tr>
<tr>
<td>Pascal Boireau</td>
<td>Parasitosis morphology diagnosis, serology diagnosis and molecular typing diagnosis.</td>
<td>Nematodes, trematodes, cestodes and protozoan</td>
</tr>
<tr>
<td>Xiao lei Liu</td>
<td>Parasitosis morphology diagnosis, serology diagnosis and molecular typing diagnosis.</td>
<td>Nematodes</td>
</tr>
<tr>
<td>Yang Wang</td>
<td>Parasitosis morphology diagnosis, serology diagnosis.</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Jing Ding</td>
<td>Parasitosis morphology diagnosis, serology diagnosis.</td>
<td>Trematodes, cestodes and protozoan</td>
</tr>
</tbody>
</table>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?
Yes

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?
No

TOR8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?
No

TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH
a) Articles published in peer-reviewed journals:
28

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1.16th International Conference on Trichinellosis, August 30th-1st September, 2023, SERBIA

b) International conferences:

10.1371/journal.pntd.0011217. PMID: 36972284; PMCID: PMC10079235.


b) International conferences: 2

1.16th International Conference on Trichinellosis, August 30th-1st September, 2023, SERBIA

Report: Role of intestinal flora in host immune response induced by Trichinella spiralis, The 18th National Conference and the 9th International Symposium on Parasitology
c) National conferences:

1. The 18th National Conference and the 9th International Symposium on Parasitology of the Chinese Zoological Parasitology Committee, April, 2023, Shenyang, CHINA. Report: TLRs activation by Clonorchis sinensis excretory/secretory proteins and extracellular vesicles regulated the fluke-induced liver fibrosis.

2. National Zoosan Conference, May, 2023, Qingdao, CHINA. Report: To understand the mechanism of liver fibrosis induced by Clonorchis sinensis from the perspective of TLRs and probe into the adjuvant treatment strategy.

3. 18th National Academic Conference of Chinese Zoological Parasitology Committee, April, 2023, Shenyang, CHINA. Report: Novel secretory proteins and cytoskeletal structures in the zoonotic parasite Cryptosporidium parvum: implication of their roles in the parasite invasion.


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

1. Jihua Li, The invention of a chitosan/nanoparticle preparation method related to Eimeria tenella, July 2023, CHINA, CN11304134B

2. Mingyuan Liu, B-cell epitope polypeptide, hybridoma cell line, clonal antibody and application of serine protease inhibitor in muscle larva stage of Trichinella spiralis, September 2023, CHINA.

3. Xuelin Wang, DC vaccine induced by ES complex for prevention, treatment and diagnosis of trichinosis in pigs, April 2023, CHINA, CN110420322B

4. Xichen Zhang, Preparation method and application of yolk antibody against trichinella spiralis excreted/secreted antigen, November 2023, CHINA, CN114163525B

5. Mingyuan Liu, B-cell epitope polypeptide, hybridoma cell line, clonal antibody and application of serine protease inhibitor in muscle larva stage of trichinella spiralis, April 2023, US 1163481B2

6. Xiaolei Liu, a Kit, preparation method and application in animals trichinosis detection, December 2023, CHINA, ZL202210048741.1

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

Molecular Typing Diagnosis

1. Study on isolation, identification and molecular mechanism of the fast-initiating molecule of Trichinella type II immune response, Supported by Key Project of NSFC, Execution time: 2023-2027, 32230104 Mingyuan Liu.


4. Establishment and application of CRISPR-Cas12a rapid detection system for experimental sheep parasitic disease, Supported by Supplies bureau of Jilin Province science and technology department, Execution time: 2024-2025, Pengtao Gong.
12. Additional comments regarding your report:

*Our work schedule only include the field of our report. More work detail will be execute in next workschedule.*