COST Action FA1408
European Network for Foodborne Parasites in Europe (EURO-FBP)

October 2018

WG2 Task: Mapping of labs with competence in: (i) analysing food for FBP, (ii) diagnosing FBP. Summary

Intention of task:

In the Memorandum of Understanding (MoU) of COST Action Euro-FBP (FA1408), an intended main outcome of WG2 was defined as "O2.1: Updatable maps of laboratories in Europe with (i) competence in analysing food matrices for foodborne parasites (FBP), and (ii) competence in diagnosis of different FBP."

The intention was to provide a basis for subsequent activities, specifically, "to identify techniques for analysis of different food matrices for FBP, based on solutions used in- and outside the network, with particular emphasis on reliability, efficiency, integration, harmonization, and standardization, and to identify diagnostic techniques, given the differences in available equipment, methods and occurrence of FBP, (WG2: O2.1-2.3)."

Approach to accomplishing task:

During the Action kick-off meeting it was decided that the WG2 leader would prepare a pre-designed spreadsheet for gathering baseline data of the respective expert labs in each participating country that cover diagnostics and/or analysis of food for FBP.

The data for each country would include institutional and contact details, as well as the competence of the department/group. It was also agreed that only data from reference labs or expert labs for each country would be collected. The spreadsheet was circulated by email among all the Action management committee members (MCM) and reminders were sent out frequently by email. Furthermore, the importance of contributions being sent from each participating country was highlighted during MCM meetings.

During an Action meeting in Rome in May 2017 it was further decided that the list of labs should also include data about the 25 prioritized FBPs identified during the WG1 ranking exercise of FBP [1]. Thus, the data collection cycle was repeated. The list of labs covering the stated expertise was finalized during June 2018, and a report was created in October 2018 by WG2 leader (Christian Klotz, Robert Koch Institute, Germany), with input from the Director of the European Union Reference Laboratory for Parasites, WG2 Member (Simone M. Cacciò, Istituto Superiore di Sanità, Italy) and the Chair of the Euro-FBP COST Action (Lucy J. Robertson, NMBU, Norway).

The report and database were uploaded to the Euro-FBP homepage (https://www.euro-fbp.org) in November 2018. To ensure long-term availability, the report and lab database are also available on the homepage of the European Union Reference Laboratory for Parasites, Istituto Superiore di Sanità, Rome (https://eurlp.iss.it).

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Results:

Altogether, 30 of the 31 participating countries of the Euro-FBP COST Action provided data about specialized/reference laboratories with expertise in FBP within their respective countries (see spreadsheet). These include datasets for 151 different institutions/laboratories (see Map Figure 1A). About 50% of the laboratories were classified as having expertise for FBP in the category "human disease surveillance" (76/151) and/or "veterinary disease surveillance" (76/151), whereas about 32% of the laboratories were classified as having FBP expertise in "food surveillance" (48/151) (Figure 1B).

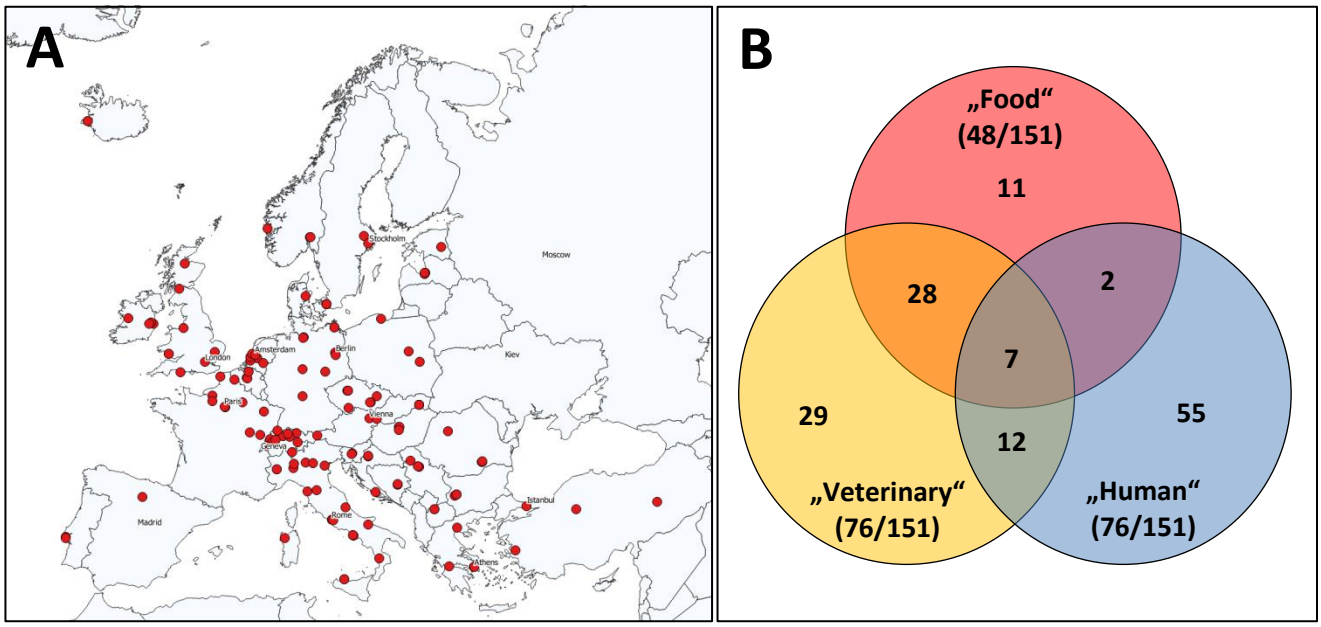

Figure 1. (A) Localization of laboratories (purple circles) with competence in detecting/ diagnosing food-borne parasites (FBPs). (B) Venn diagram illustrating the number of labs that are classified in category "Food surveillance", "Veterinary surveillance" and/or "Human surveillance".

Most laboratories with FBP expertise in "human surveillance" (72%) had only a single competence category, whereas labs classified within the category "veterinary surveillance" or "food surveillance" often had expertise in more than one category (Figure 2). Most of the labs (59%, 89 of 151) had both "research" and "diagnostics" as their designated main activities, 30% (45/151) had only "diagnostics" as their main activities, and 11% (17/151) had only "research". Also, most of the labs are reference/consultant laboratories (62%, 93/151).

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A summary of the competence of the listed labs to detect or diagnose FBPs is presented in Figure 2.

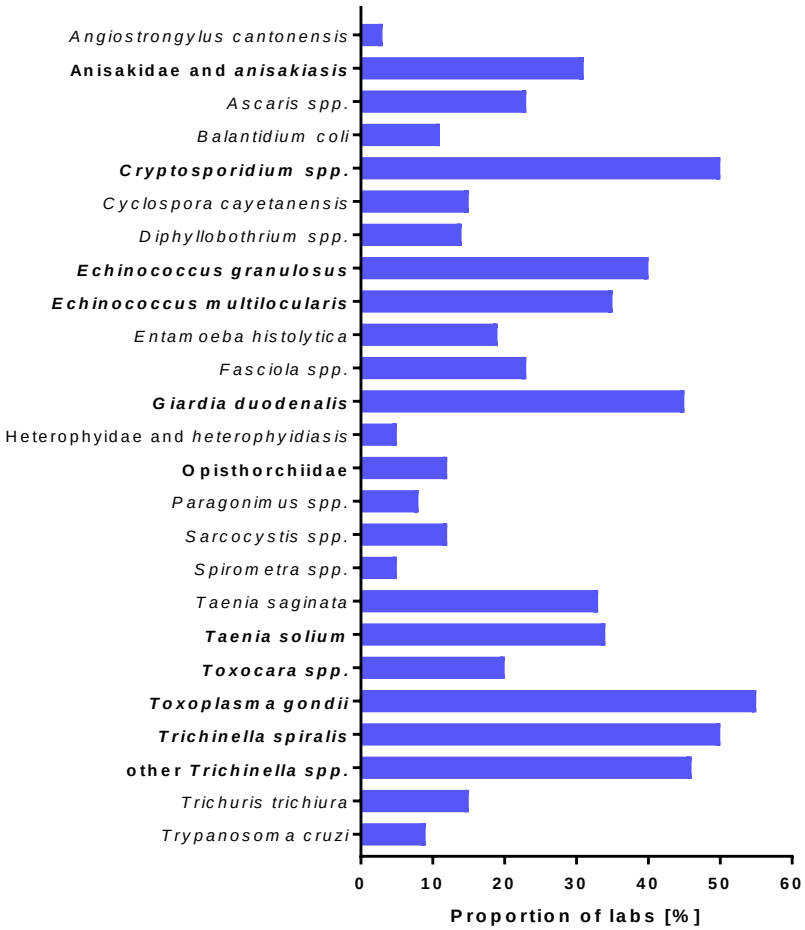

Figure 2. Proportion of labs with competence for particular food-borne parasites (FBP). [1]. The top 10 ranked FBPs, according to the ranking procedure from WG1, are shown in bold.

In order to obtain information on the different parasites used in the ranking procedure of WG1 [1], information for each lab regarding whether or not the lab had expertise for the particular FBP was requested.

The results show that each parasite is covered within the Euro-FBP consortium, although for three parasites, namely *Angiostrongylus cantonensis, Balantidium coli,* and *Trypanosoma cruzi*, less than 10% of the labs have expertise.

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Most parasites that ranked in the top 10 in the WG1 ranking survey [1] were covered by more than 30% of the labs. This indicates that FBP-responsible laboratories mostly have awareness of the most highly ranked FBP in Europe.

This overview of laboratories with expertise in FBP is intended as a tool to motivate and promote closer and broader interaction between laboratories. Not only could it be used as a means of identifying laboratories with particular expertise that may be required in cases or outbreaks, but could also be used to identify potential partners for research projects, for cooperative activities such as ring trials, and for requesting assistance for learning techniques or providing information.

Please consult the spreadsheet for detailed information and contact details.

1. Bouwknegt M, Devleesschauwer B, Graham H, Robertson LJ, van der Giessen JW; the Euro-FBP Workshop Participants. Prioritisation of food-borne parasites in Europe, 2016. Euro Surveill. 2018 Mar;23(9). doi: 10.2807/1560-7917.ES.2018.23.9.17-00161.