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Tempus project EDUVET
Study visit at Faculty of Veterinary Science
Univerzity Szent Istvan, Budapest, Hungary

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Report for Tempus project

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Study visit at Faculty of Veterinary Science in Budapest was conducted in period from 15th to 29th of November 2014. The aim of the visit was the exchange of experience regarding teaching process from in parasitology, parasitic diseases and diseases of small ruminants and compliance of teaching process with the recommendations of EAEVE.

Nine working days were spent at the Department of Parasitology and Zoology and one day at Mobile clinic for food animals which is a part of Department and Clinic of production animals (for cattle, small ruminants, pigs and rabbits).

At the beginning of the school year, the information regarding program of lectures and practicals for each course is available to students and it can be found on the website of the Faculty or the website of the appropriate Department (Appendix 1).

After analyzing the curriculum, I report that the subjects "Parasitology" and "Parasitic Diseases" do not exist separately, but were merged into one subject that are taught for two semesters: "Parasitology I " attended by the students of the third year (summer semester, number of classes 45 + 30, value: 3 credits), and "Parasitology II" attended by the students of the fourth year (winter semester, number of classes 30 + 30, value: 5 credits).

Department of Parasitology and Zoology employs 12 people:

- Five PhDs (three at teaching position responsible for lectures, and two at scientific position which are, together with teaching staff, responsible for practical classes).
- Three PhD students
- Three laboratory technicians and a secretary

Teaching is conducted in two languages, in Hungarian and English. Lectures take place in a small lecture room using modern audiovisual techniques (Figure 1), where the speaker emphasizes the most important facts without insisting on a lot of details.



Figure 1. Parasitology II- lectures

For Hungarian students there are authorized textbook and practicum in Hungarian language, and for foreign students modern textbooks of parasitology in English language are recommended (Appendix 2). Practical classes are held in well equipped practical room (Appendix 3), where each student works on one microscope, and preparation maps are shared

between two students. Before the practicals, the student should be familiar with the topic that will be studied that day. At the beginning of the practical, the teacher asks students a number of questions and checks their theoretical knowledge, but that is not included in the final evaluation. During practicals, microscopic and macroscopic preparations of the parasites are mainly examined. Also, there is a microscope, which is connected to the projector, and the



Figure 2. Parasitology II- practicals

teacher explains exactly what students need to recognize at some of the preparations (Figure 2). It is not mandatory to have notes or workbook, but all the students draw preparations. The sampled material students usually do not prepare by themselves, but is rather prepared in advance by laboratory technicians and/or teaching or research staff. Also, dispositives with pictures of the causative agents of parasitic diseases, their development stages as well as the pathological changes in various organs and tissues caused by parasites, are shown to students during practicals.

The combination of microscopic and macroscopic preparations together with diapositives and some theoretical questions make practical exam that students need to pass after the written exam and before the oral exam. The final goal of the practical classes is to learn which methods to use

for the diagnosis of parasitic disease of domestic and wild animals, what can be diagnosed with particular method and which findings during the diagnostic process should not be missed.

In addition to teaching, Department of Parasitology and Zoology provides examination of samples for commercial purposes (Figure 3). The samples are often received from the Clinic for small animals, which is located in the Faculty campus, or from the Clinic for large animals, which is located in the town of Üllő. Also,



Figure 3. Examination of sheep intestines for parasites

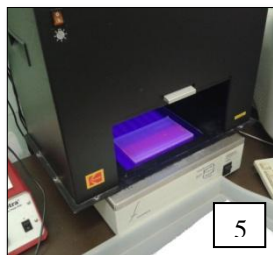
often the samples are sent by veterinarians who have their own private practice or are employed in some other institution (e.g., during our stay a sample from the Zoo had arrived) and sometimes the owners themselves bring the samples for examination. There are animal breeders (e.g. sport horses) who make an agreement with the Department of annual routine parasitological examination.

According to available data, about 1000 of different samples (sample types) are examined annually. There is a special form to be filled in by the person who brings the sample or it is sent together with the sample by a veterinarian. Findings are then recorded separately in another form together with other relevant data (data about the animal, type of sample, methods of examination, name of the parasitologist and the date). All this, along with the receipt and confirmation that the owner/veterinarian received results is stored in the appropriate folder (Appendix 4).

For the purposes of diagnosis, the Department has a diagnostic laboratory for sample examination (coprology, standard parasitological methods for the examination of urine, blood, different organs, soil and other materials). In addition to standard methods of diagnosis, the Department offers special services since it has equipment for serology and molecular diagnostics (Figures 4-6). Students usually do not routinely work in these laboratories; working there is reserved for students who show a particular interest in science, or decide to choose a graduate thesis in the field of Parasitology or Zoology.



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5



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Figure 4. PCR thermocyclers
Figure 5. Transilluminator
Figure 6. ELISA reader (left)
and Real Time PCR (right)

Another part of the assignment was related to the visit to the Clinic for large animals, in order to familiarize with the teaching process within diseases of ruminants.

Clinic for large animals is recently divided to Clinic for horses and Clinic for production animals. The Clinic for horses employs 35 people, while the Clinic for production animals employs 14 people. At the Clinic for production animals there is Diagnostic laboratory that provides different examination services: necropsy, histological examination, bacteriology, parasitology, serology and molecular diagnostics; there is also a Mobile clinic that visits different farms for student teaching.

Diseases of small ruminants are studied in the fourth and fifth year of study within the following subjects: Pathology, Surgery, Obstetrics and Internal Medicine. Within practical teaching, there are clinical rotations where students spend one week at the Clinic for production animals, Clinic for horses, and the Clinic for small animals. Practical classes are conducted in small groups of 5-7 students. Recommendation given by personnel responsible for practicals is to form even smaller groups of three students. Practical classes are held partly in the Mobile clinic where students during the week and have at least three visits to farms. Farms available for practices have a contract for monthly service which is free of charge for farmers (except for major interventions) or it is a University farm located near Clinic.

On the visited farms, students observe, record relevant facts and discuss with the teacher about the organization of the farm, production technology, hygiene of animal keeping, etc.; they also discuss about the disadvantages that were noticed during the visit with special reference if those can lead to emergence and spread of diseases of different etiology at the farm (Figures 7-9).



Figure 7. Calving in unhygienic conditions - risk for postpartal infections
Figure 8. Free dogs on the farm – risk for neosporosis
Figure 9. Calf boxes placed on soil – lack of proper disinfection

Furthermore, under the supervision of teaching/research staff, students in practicals have the opportunity to examine the animals themselves (Figure 10), and, if it is a minor intervention, to participate in therapy. There is a special form in which the responsible teacher, beside the list of present students, notes how many were observed or treated that day (Appendix 5). One part of the procedures (eg, surgical procedures) is performed



Figure 10. Rectal examination of cattle

on cadavers/organs brought from the slaughterhouse or the farm instead on live animals. During the semester, for some subjects, the students have to record a minimum number of cases within the mandatory diagnostic or therapeutic interventions in their "clinical card" (Appendix 6). In addition to clinical rotations during the semester, students perform mandatory summer practice for a period of two weeks.

The report is supplemented with photographs of certain forms and practical room where Parasitology I and II are taught. These are located in a separate attachment, in the order as marked in the text of this report.

Novi Sad, 03. December 2014.

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