





**Current information about teaching and research  
in veterinary parasitology in Hungary.**

# PARAZITOLÓGIAI ÉS ÁLLATTANI TANSZÉK DEPARTMENT OF PARASITOLOGY AND ZOOLOGY

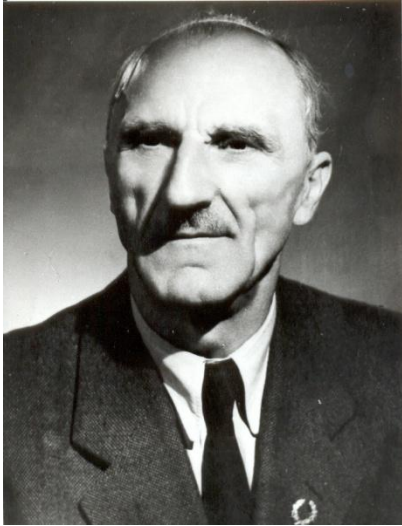
DR KOTLÁN SÁNDOR  
1887 - 1967

A MAGYAR ÁLLATORVOSI  
PARAZITOLÓGIA MEGTEREMTŐJE





- The department was established in 1929 by the world-famous parasitologist, Sándor Kotlán, who led education and research until 1966.

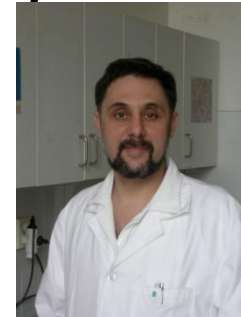


- From 1966 Tibor Kobulej, and from 1981 Tibor Kassai became the head of the department. They were followed by István Varga (1995–2001).
- The level of education is indicated by the fact that two books, *Parasitologia* by Sándor Kotlán (1944), and *Veterinary helminthology* by Tibor Kassai (1999) were translated into several languages and are still internationally acknowledged.

**Head:** Prof. habil. Róbert Farkas DVM PhD DSc Dipl EVPC

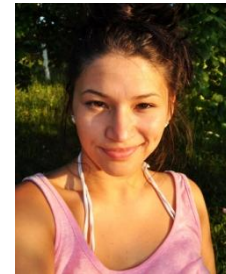
**Associate professor:** Dr. habil. Sándor Hornok DVM PhD; Dr habil. Gábor Földvári MSc, PhD

**Senior researchers:** (Dr. Éva Fok DVM PhD); Dr. habil. Gábor Majoros DVM PhD



**PhD-students:** Dr Alexandra Juhász DVM; Dr. Flaisz Barbabrá DVM;

Sándor Szekeres MSc in biology; Krisztina Szőke MSc in biology

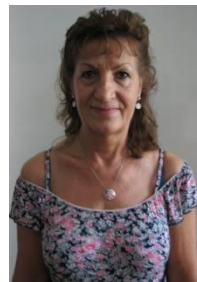


**Bioengineer:** Nóra Takács

**Laboratory technicians:** Mónika Gyurkovszky; Veronika Tóth



**Secretary:** Istvánné Balázs







# Teaching

- **Obligatory courses**
  - **Zoology** (in Hungarian, German and English)
    - 30 lectures in the 1st semester
  - **Parasitology** (in Hungarian and English)
    - 45+30 lectures and 30+30 practicals in the 6th and 7th semesters
  - **Honey Bee Diseases** (in Hungarian and English)
    - 12 lectures in the 8th semester
- **Elective courses**
  - Arthropod vectors and vector-borne pathogens of veterinary and public health importance in Europe (in Hungarian and English)
    - 30 lectures from the 7th semester
  - Parasitic zoonoses (in Hungarian and English)
    - 15 lectures from the 8th semester
  - Parasitoses of different companion and zoo, safari park and biofarm animals and their importance in the practice (in Hungarian and English)
    - 15 lectures from the 8th semester

**In Hungarian: ca 150 lectures and 400 practicals/per year**

**In English: 117 lectures, 360 practicals/year**

**In German: 30 lectures/year**

In the last 4 years:

- 9 theses (including 5 in English) were defended at the Department
- 20 students (including 7 English) participated in the Students' Scientific Congresses



# Research

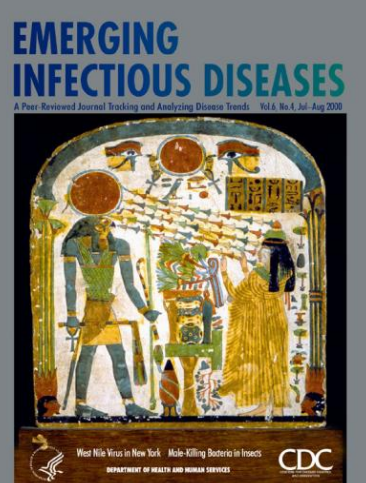
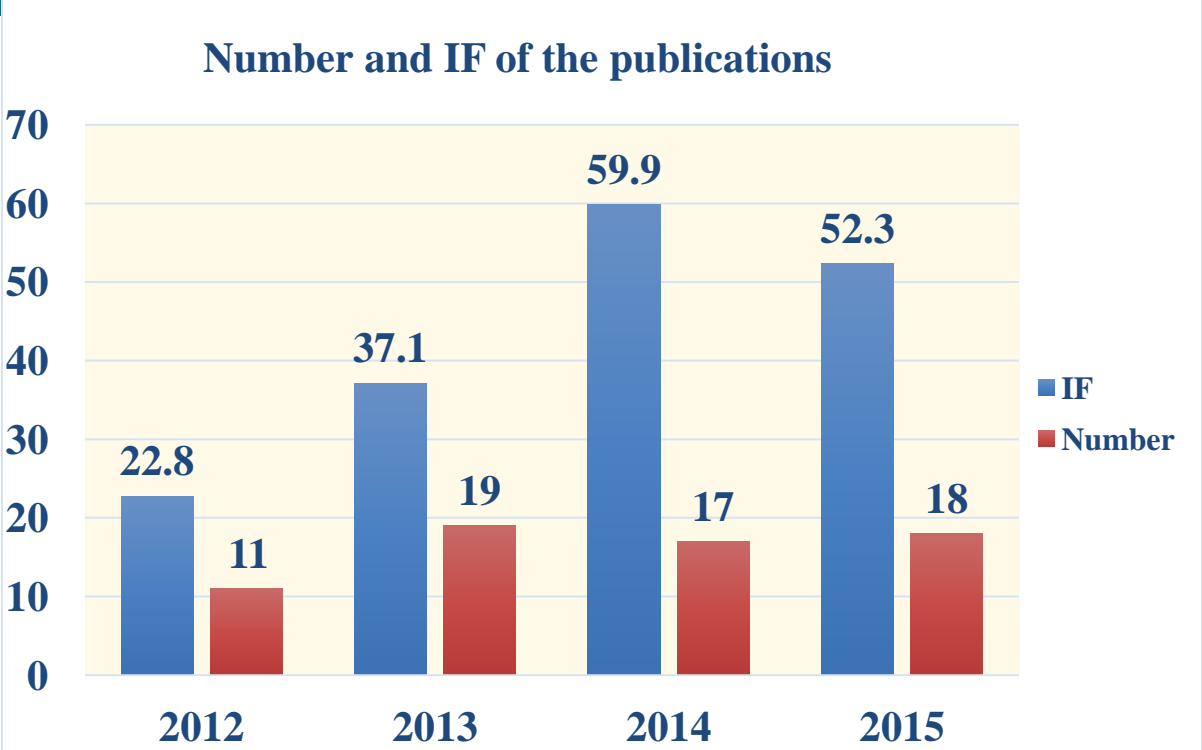
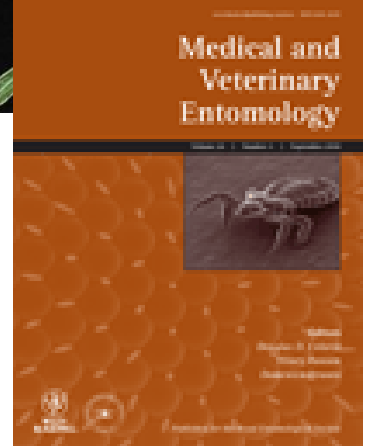
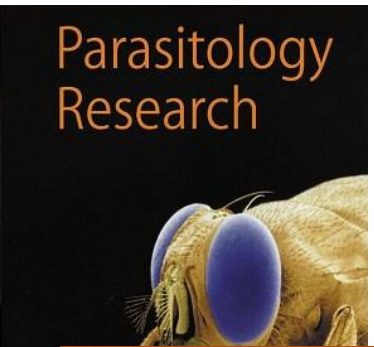
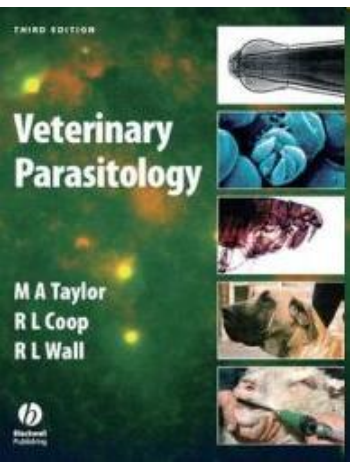
- **Major research projects of the department**

- **EDENext** (Biology and control of vector-borne infections in Europe).FP7-HEALTH-2010-Single-stage Grant agreement number 261504
- **EurNegVec**: European Network for Neglected Vectors and Vector-borne Infections: (COST TD1303)



- **Research topics**

- Vectors and vector-borne diseases of domesticated and wild animals
- Traumatic myiasis
- Epidemiology and ecology of hard ticks and tick-borne pathogens
- Development of protostrongylid larvae in the intermediate host and mode of infection of the final host
- Biocontrol of arthropods of veterinary importance
- Nematode infections of livestock
- Helminthoses of companion animals
- Larval toxocarosis
- Biocontrol of helminth infections of veterinary importance



# Professional collaborations

- Lóránd Eötvös University, **Budapest, Hungary**
- Béla Johan National Center for Epidemiology, **Budapest, Hungary**
- Institute for Veterinary Medical Research, Hungarian Academy of Sciences, **Budapest, Hungary**
- University of Veterinary Medicine, Vienna, **Austria**
- Banat's University of Agricultural Sciences and Veterinary Medicine, Timisoara, **Romania**
- Parasitological Institute, Slovak Academy of Sciences, Kosice, **Slovakia**
- **University of Novi Sad, Serbia**
- University of Veterinary and Pharmaceutical Sciences, Brno, **Czech Republic**
- Utrecht University, **The Netherlands**
- National Institute of Public Health and Environment, Bilthoven, **The Netherlands**
- The Natural History Museum, London, **UK**
- Kingston University, Kingston upon Thames, **UK**
- University of Zurich, Zurich, **Switzerland**
- Instituto de Investigación en Recursos Cinegéticos, Ciudad Real, **Spain**
- Università degli Studi di Milano, **Italy**
- USDA Center for Medical, Agricultural & Veterinary Entomology, Gainesville, Florida, **USA**

# Diagnostic and laboratory services

## Service for veterinarians and public

- detection of parasites (qualitative and quantitative examinations)
- control of antiparasitic treatments of animals
- applied methods: morphological inspections and identification , serological and molecular biological

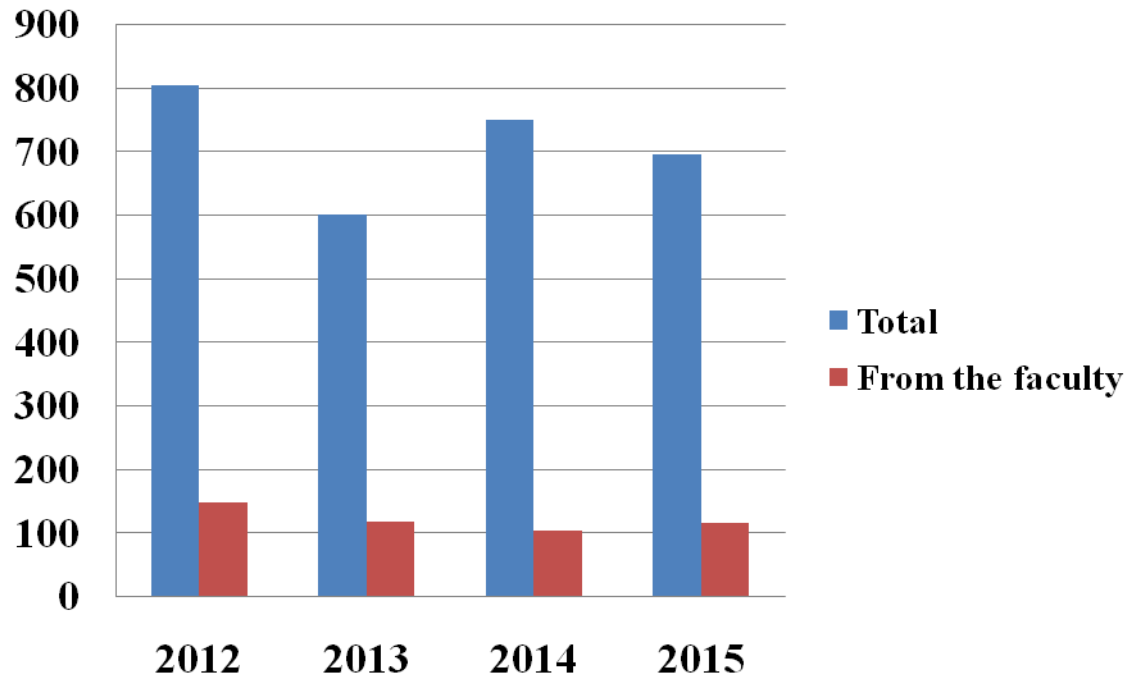
## Collaboration with researchers

- monitoring of parasites and joint experiments

## Consultancy and supervision

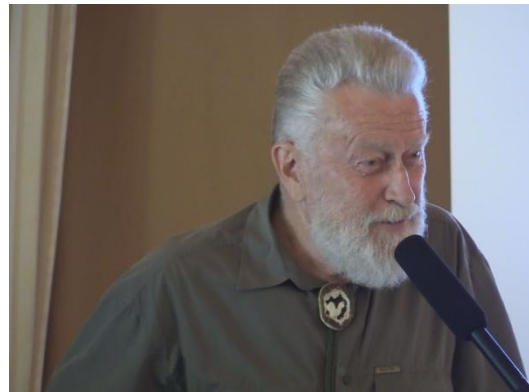
- professional help to practitioners, farmers, pet owners

## Diagnostic service of the department





Prof. Dr. Egri Borisz  
University of West Hungary



Dr. László Sugár prof. emeritus  
University of West Hungary



Dr. Tamás Sréter PhD  
NÉBIH Diagnostic Laboratory

## Fish Pathology and Parasitology Research Team



Institute for Veterinary Medical Research,  
Centre for Agricultural Research,  
Hungarian Academy of Sciences, Budapest



Hungarian-Serbian Parasitologist Meeting, Szeged, 14th October 2016



## Fish Pathology and Parasitology Research Team

At the Veterinary Medical Research Institute of the Hungarian Academy of Sciences, fish pathology research looks back upon a past of 56 years.

At present the Fish Pathology and Parasitology Research Team comprises 7 researchers, 1 retired scientific adviser and 1 institute engineer.

The research conducted by the team comprises the fields of fish pathology and parasitology.

Head: **Csaba Székely**, fisheries engineer, PhD, scientific adviser, honorary professor

Members: **László Egyed**, DVM, PhD, senior researcher

**Gábor Cech**, biologist, PhD, research associate

**Boglárka Sellyei**, molecular biologist, PhD, research associate

**Réka Borzák**, biologist, PhD student, junior researcher

**Diána Sándor**, biologist PhD student

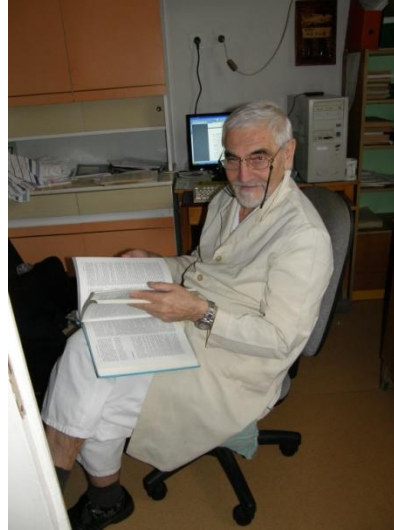
**Ádám Varga**, agricultural engineer, institute engineer

Founder of the team: **Kálmán Molnár**, DSc, DVM, retired scientific adviser

## Members of the Fish Pathology and Parasitology Team (IVMR CAR HAS)



Csaba Székely



Kálmán Molnár



Ádám Varga



Réka Borzák



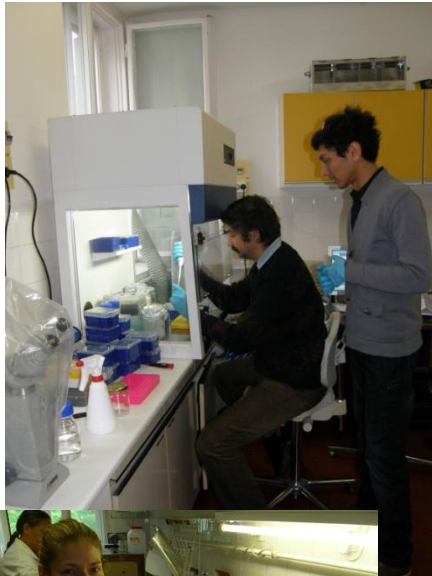
Boglárka Sellyei



Gábor Cech

# Work in the lab and at the field

## laboratory



## Samplings Lake of Balaton



## Lake of Kis-Balaton



## Danube River



## Research Activities

**The major task is to study diseases causing damages and mortalities of fishes, but investigation of parasitic infections has a priority.**

- › General parasitological character on pond cultured and natural water fishes
- › Development and pathomechanism of metazoans belonging to the Myxozoa
- › Occurrence, host specificity, adaptation to hosts and treatment of fish coccidia
- › Gill diseases caused by monogeneans infecting the common carp, Chinese carps and the European catfish
- › Development and pathomechanisms of Dracunculoid (Philometra, Skrjabillanus) and Anguillicoloid nematodes with a special attention to Anguillicoloides crassus caused mass mortality in Lake Balaton
- › Description of new, unknown fish parasites in Hungary, and evaluation of their pathogenic importance
- › Connections between unfavourable environmental effects and diseases caused by fish parasites
- › New treatments against economically important parasites of fish
- › Ulcerative disease - associated bacteriological studies of cultured and natural water fishes focusing on *Aeromonas* and *Flavobacterium* species
- › Investigation of viruses involvement in mass mortality of the farmed and natural water fishes

## **Current and recent Projects**

- **OTKA K-100132: Fish-parasitological monitoring of Lake Balaton and its tributaries (2012-2017)**
- **OTKA PD – 108813: Investigation of fish infecting trematodes and their developmental stages in molluscs by molecular methods (2014-2017)**
- **FCT (Fundacao para a Ciencia e a Tecnologia): IDASS Myx Infection dynamic of Aquacultured Seabass and Seabream by Myxozoa (2012-2015)**
- **Malaysian Cooperation: Brain Gain Malaysia, Malaysian PhD student**
- **BIOCLIMATE Project (2013-2015) KTIA-AIK-12-1-2013-0017**
- **ParaFishControl (2015-2020) – EU Horizon 2020**
- **GINOP-2.3.2-15 (2016-2020) .- Balaton Fish Research Project**

## Recent major publications of the team (2015-2016)

- Székely C., Cech G., Atkinson SD., Molnár K., Egyed L., Gubányi A.: A novel myxozoan parasite of terrestrial mammals: description of *Soricimyxum minuti* sp. n. (Myxosporea) in pygmy shrew *Sorex minutus* from Hungary. *FOLIA PARASITOLOGICA* 62: Paper 045. 5 p. (2015)
- Cech, G., Borzák R., Molnár K., Székely C.: Three new species of *Myxobolus* Bütschli, 1882 (Myxozoa: Myxobolidae) infecting the common nase *Chondrostoma nasus* (L.) in the River Danube. *SYSTEMATIC PARASITOLOGY* 92: pp. 101-111. (2015)
- Molnár K., Gibson DL., Cech G., Papp M., Deák-Paulus P., Juhász L., Tóth N., Székely C.: The occurrence of *Petasiger metacercariae* (Digenea) in an unusual site, within the lateral line scales of cyprinid fishes. *FOLIA PARASITOLOGICA* 62: Paper 017. (2015)
- Székely C., Molnár K., Cech G.: Description of *Myxobolus balatonicus* sp. n. (Myxozoa: Myxobolidae) from the common carp (*Cyprinus carpio* L.). *SYSTEMATIC PARASITOLOGY* 91: pp. 71-79. (2015)
- Hallett SL., Atkinson SD., Bartholomew JL., C Székely: Myxozoans exploiting homeotherms. In: Okamura Beth, Gruhl Alexander, Bartholomew Jerri (ed.). *Myxozoan Evolution, Ecology and Development*. London: Springer International Publishing, 2015. pp. 125-135.
- Székely C., Atkinson S.D., Molnár K., Egyed L., Gubányi A., Cech G.: A synopsis of records of myxozoan parasites (Cnidaria: Myxozoa) from shrews, with additional data on *Soricimyxum fegeti* from common shrew *Sorex araneus* in Hungary and pygmy shrew *Sorex minutus* in Slovakia. ***FOLIA PARASITOLOGICA* 63:(021)** pp. 1-5. (2016).
- Borzák R, Molnár K, Cech G, Papp M, Deák-Paulus P, Székely C.: Description of two new *Myxobolus* species (*M. peleci* n. sp. and *M. cultrati* n. sp.) detected during an intensive mortality of sichel [*Pelecus cultratus* (L.)] in Lake Balaton, Hungary. ***SYSTEMATIC PARASITOLOGY* 93:(7)** pp. 667-677. (2016)