

13th EUROPEAN MULTICOLLOQUIUM OF PARASITOLOGY

emop 20^{XIII}
21




changing climate
changing parasites




Programme
& Abstract
Book

Belgrade, Serbia
October
12-16, 2021





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PROGRAMME
&
ABSTRACT BOOK

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Layout and prepress:
Olivera Popović

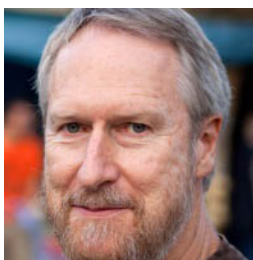


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EDITORIAL



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**Olga Djurkovic-
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President of the
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Committee

Serbian Society for
Parasitology

Dear colleagues,

On behalf of the Organizing Committee, the Serbian Society for Parasitology and the European Federation of Parasitologists (EFP), it is our great pleasure to welcome you to the 13th European Multicolloquium of Parasitology (EMOP XIII, Belgrade, Serbia, 12-16 October 2021). Here, you will find the programme and the abstracts of all communications to be presented.

At the heart of this edition of the EMOP is CHANGE. Changes that the world is currently going through, including climate change, migrations of both people and animals, and changes in food habits, favour the persistence and contribute to the re-emergence of parasitic infections at the global level. We tried to capture this in the motto of EMOP 2021, back when it was supposed to be EMOP 2020. The mere fact that this is the first time in its 50-year long tradition that an EMOP has had to be postponed (for more than a year after the originally set dates), speaks even louder about the changes that we are living through. In this case, of course, changes caused by the covid-19 pandemic that has claimed more lives and disrupted life like no other peacetime event in a hundred years.

So, we should all be proud that there will be an EMOP at this time, and that we are meeting, whether on-site or online, to exchange knowledge and ideas, and even share some hugs, or smiles at least. And there is an exciting programme to benefit from, on the latest discoveries and technological developments, tackling major current global issues such as Climate change and parasite re-emergence, Migrations and parasites, Food and Water-borne parasitology, the One Health approach to combatting parasitic diseases, to mention just a few. In addition, because of the geographical position of the host country, developments in the field in the region of South East Europe are under the spotlight.

The number of papers submitted to EMOP 2021 that you can find in this volume may not be as large as would have been expected before the “new normal”. But it has been an endeavour to reach this point, both from us as organizers and from you as participants. Moreover, whatever the programme has lost in quantity may have been made up in quality, since the structure of the conference consists largely of symposia on particular topics organized by leaders in the field, with invited talks by top experts. This means our programme represents not only a rich learning experience, but also an excellent cross-section of current developments and perspectives in the broad field of parasitology in Europe and beyond.

We wish you all a stimulating and fulfilling congress.

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CLINTP1

ZONOTIC INFECTIOUS DISEASES IN TRANSPLANTED IMMUNOCOMPROMISED PATIENTS

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Background. Immunocompromised patients, like transplant recipients, are a particularly vulnerable group being at higher risk of developing several infectious diseases. Among them, zoonotic diseases, such as visceral leishmaniasis, bartonellosis, Q fever and leptospirosis are a growing concern in immunosuppressed patients as they are more susceptible to develop severe symptoms of the diseases.

Objectives. The study aimed at the detection of *Leishmania infantum*, *Bartonella* spp., *Leptospira* spp. and *Coxiella burnetii* DNA in immunocompromised hosts through molecular methods.

Material and Methods. The study included fifty-eight transplanted subjects with suspected zoonotic infections, hospitalized at ISMETT from 2016 to 2021. Genomic DNA extraction was carried out from EDTA blood or tissue biopsy, using commercial kits. On the basis of clinical suspicion, samples were analyzed to search for DNA of *Leishmania infantum* by a Taqman Real Time PCR targeting the kinetoplast DNA, *Bartonella* spp. by both a PCR (16S-23S rRNA intergenic transcribed spacer) and a SYBR Green RT-PCR (16S-23S rRNA intergenic region), *C. burnetii* by a PCR (*htpB*) and a TaqMan RT-PCR (*IS1111*), *Leptospira* spp. by a multiplex TaqMan RT-PCR (*16S rDNA*, *lipL32*).

Results. Overall, out of the 55 transplanted patients subjected to analysis for different zoonotic agents following clinical suspicion, 10 (18.2 %) were positive for one of the examined pathogens. In detail, five patients resulted positive to *Leishmania infantum*, four patients were positive to *Bartonella* spp., one to *C. burnetii*. The only patient with clinical suspicion of leptospirosis resulted negative for the pathogen.

Table 1. Examined immunocompromised patients for each pathogen and relative results

	<i>Leishmania infantum</i>	<i>Bartonella</i> spp.	<i>Coxiella burnetii</i>	<i>Leptospira</i> spp.
Examined pathogens	42	12	3	1
Positive results	5	4	1	0

Conclusion. Our results suggest that a correlation can be found between immunosuppression and susceptibility to infectious zoonotic diseases and that immunosuppression due to a transplant may predispose patients to these infectious agents. Diagnosis of zoonotic diseases should be thus considered in the differential diagnosis of transplant recipients and may be useful in the management of patients in post-transplant phase.

CLINTP2

NOSOCOMIAL AND COMMUNITY ACQUIRED MYIASIS

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Background. Myiasis (B87 (2021 ICD-10-CM)) is the invasion of living tissues of humans and other vertebrates by dipterous larvae (maggots). Though most prevalent in tropic countries, there is a rise in literature data that testify the occurrence of myiasis in temperate countries as well. The first case that we present is a nosocomial

myiasis in an unconscious patient on mechanical ventilation, treated in a specialized part of the hospital ward for 4 months. Fast moving maggots were detected and removed from his left axilla. The second case was a community acquired myiasis in a patient treated for COVID-19 in OTPs. Although the COVID-19 symptoms resolved, the stuffy nose, irritation sensation, anosmia, sinusoidal headache and sticky thick white discharge remained for 2 months. The patient discharged 4 alive maggots from the nose.

Material and Methods. The collected maggots were analyzed by macroscopic and microscopic examination. Photographs were taken using Olympus SZX9 and Carl Zeiss Stemi 508 Stereo Microscope with an integrated high-resolution digital camera. Maggots from nosocomial myiasis were cleared in order to visualize the morphological details of the cephalon-pharyngeal skeleton and the integument. The species identification was performed by using well established identification keys.

Results. The maggots from the patient with nosocomial myiasis were identified as *Sarcophaga argyrostoma* (Diptera: Sarcophagidae) second instar larvae (length: 6-8mm). Unfortunately, we failed to perform more detailed examination of the larvae discharged from the nose of the post COVID-19 patient. However, MRI ruled out further infiltration of the larvae into the nose, sinus, orbit, face or brain.

Conclusion. Infestation by dipterous larvae reveals a broad range of symptoms depending on the anatomical location and maggots' burden. Its outcomes banks on host health status and medical staff awareness and experience. Collaborative approach is essential for its proper identification, managing and prevention.

CLINTP3

EFFICACY OF THE CRUDE EXTRACT OF *Holarrhena pubescens*, AGAINST COMMON TAPEWORM INFECTION OF FOWL

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Background: Indigenous Rajbanshi and Koch communities of Cooch Behar district of West Bengal, India use plant materials as curative for various infections/diseases of veterinary significance. Cestodes constitute one of the most important groups of poultry helminths, both in terms of number of species as well as pathology. Globally, traditional medicinal systems have taken advantage of the various useful natural products in controlling or eradicating various types of helminth diseases, of both humans and animals with lesser or no side effects.

Objective: The current communication focuses on depicting the anthelmintic efficacy of ethanolic extract of the stem bark of *Holarrhena pubescens* through ultra structural and histochemical studies against a model tapeworm infecting country fowl.

Material and Methods: Live parasites (*Raillietina spp.*) were collected in 0.9% phosphate buffer saline (PBS) from the intestine of domestic fowl slaughtered in local market. The parasites were treated with various dosages of ethanolic plant extract and reference drug Praziquantel in PBS for efficacy testing and further studies. Ultrastructural studies (SEM) and histochemical localization of some tegumental enzymes like Acid Phosphatase, Alkaline Phosphatase, Adenosine triphosphatase, 5'- Nucleotidase were performed.

Results: The results of efficacy were based on 1mg/ml, 2mg/ml, 5mg/ml, 10 mg/ml, 15mg/ml and 20mg/ml doses of plant extract used to treat the parasites. Significant ultrastructural changes in the tegumental architecture of the worms treated with the most efficacious dose were noted, compared to their controls. Histochemical studies indicated a marked reduction in the activities of the enzymes.

Conclusion: From the ultrastructural and histochemical studies, it can be concluded that the ethanolic extract from stem bark of *Holarrhena pubescens* seems to be anthelmintic in nature.