

AKTU@LITY ČPS č. 3/2017

nepravidelně pravidelné informační e-maily
o dění ve světě parazitů a parazitologů

ČESKÁ PARAZITOLOGICKÁ SPOLEČNOST

Vyšlo nové číslo Zpráv ČPS, červenec 2017.

Z obsahu:

23. Helmintologické dny (8. - 12. 5. 2017)

Nabídka parazitologických terénních kurzů na PŘF UK

Medicínský význam anisakidních hlístic

Příběhy z praxe II.

Parazitologické dezinformace aneb Metoda Ing. Hany Bláhové

Myáze a pseudomyáze

Epidemiologické aktuality ze světa

KONFERENCE

Konference s parazitologickou tematikou jsou pravidelně zveřejňovány na:

<https://www.facebook.com/Česká-parazitologická-společnost-121703457856324/>

www.parazitologie.cz

a ve Zprávách ČPS.

GRANTOVÉ SOUTĚŽE

Cena Wernera von Siemense

Šance získat prestižní ocenění je opět zde

Přihlašujte se do 27. 11. 2017

Přichází chvíle pro ocenění vašeho úsilí. Přihlaste svou absolventskou práci nebo výzkumný projekt do prestižní soutěže o Cenu Wernera von Siemense.

Oceníme talenty z řad studentů i akademiků – vědců a pedagogů. Máte tak právě šanci na vítězství v pěti vyhlášených kategoriích a dvou zvláštních oceněních.

<http://www.siemens.cz/cenasiemens>

STUDIJNÍ A STIPENDIJNÍ POBYTY, ZAMĚSTNÁNÍ, PRAXE

PARAZITI V MÉDIÍCH

PARAZITOLOGICKÉ DEZINFORMACE

Sám sebe lékařem 27.03.2017

74 Parazity — příčina chorob s neznámou etiologií

host: Ing. Hana BLÁHOVÁ, www.medicelo.cz
<https://www.youtube.com/watch?v=KnjF-7zvRhc&feature=youtu.be>

Tasemnice dokáže znavit tělo hostitele některých těžkých kovů, popisuje parazitoložka

Magazín Leonardo

19. dubna 2017

Dnes, kdy u nás nikdo netrpí hladomorem, vás jedna tasemnice ve střevě nezabije, tvrdí parazitoložka Ivana Jankovská

Jsou parazité vždy jen škůdci, nebo mohou být i prospěšní? Jak je využívá moderní věda, popsala v Magazínu Leonardo Ivana Jankovská z České zemědělské univerzity.

http://www.rozhlas.cz/leonardo/magazinleonardo/_zprava/1719565

O parazitech v talk show MUDr. Kateřiny Cajthamlové.

ČESKÁ TELEVIZE

5.4.2017

hosté: RNDr. Zuzana Hůzová a doc. MUDr. Jan Martínek, Ph.D.

Skryté nebezpečí ve vašem těle!

<http://www.ceskatelevize.cz/.../216522161070008-.../video/535420>

Obrana proti parazitům

<http://www.ceskatelevize.cz/.../216522161070008-.../video/535421>

Může mě moje kočka zabít? Nejnovější výzkumy Jaroslava Flegra o toxoplazmóze

[#psychické](#) zdraví

2.11.2016

Autor: Jan Strmiska

Sešel jsem se s profesorem Jaroslavem Flegrem z Přírodovědecké fakulty Univerzity Karlovy u rozhovoru o parazitech. Skončilo to úplně jinak, než jsem čekal.

<http://patalie.cz/muze-me-moje-kocka-zabit-nejnovejsi-vyzkumy-jaroslava-flegra-o-toxoplazmoze/>

RŮZNÉ

Zapojte se s námi do výzkumu parazitů volně žijících zvířat

Stále se rozrůstající městské prostředí poskytuje mnoha živočichům nová místa k životu. Avšak soužití s lidmi přináší volně žijícím zvířatům i časté kolize s auty a skleněnými plochami, jejichž výsledkem jsou pak mrtvolky ježků, veverek a různých ptáků. Cílem monitoringu, který z části probíhá i na katedře parazitologie PřF UK, je využít tyto „nedobrovolné sebevrahy“ k monitoringu patogenů v městských a příměstských oblastech.

podrobné informace naleznete zde:

<https://www.natur.cuni.cz/fakulta/aktuality/zapojte-se-s-nami-do-vyzkumu-parazitu-volne-zijicich-zvirat>

Teams selected to review current knowledge on Zika vectors

TDR news item

5 April 2017

Two scientific teams have been selected by TDR for a review of current knowledge on Zika mosquito vectors. The work to inform global research priorities for Zika virus disease is supported by an initiative led by the World Health Organization (WHO) to prevent and limit the impact of the disease and its complications.

<http://www.who.int/tdr/news/2017/review-current-knowledge-on-zika-vectors/en/>

SCIENCE DAILY

Scientist identify key locations for spread of pin-tailed whydahs

Posted: 11 May 2017 10:58 AM PDT

Invasive parasites are a biological oxymoron. And yet, they are in our backyards. A new study analyzes the case of a brood parasitic bird, the pin-tailed whydah (*Vidua macroura*) and its recent spread into the Americas.

<https://www.sciencedaily.com/releases/2017/05/170511135847.htm>

Patients with drug-resistant malaria cured by plant therapy

Posted: April 24, 2017

Tablets made from dried leaves of the *Artemisia annua* plant cured 18 critically ill patients in a Congo clinic. The results suggest a new and inexpensive treatment option for the mosquito-borne disease that affects 212 million people worldwide

When the standard malaria medications failed to help 18 critically ill patients, the attending physician in a Congo clinic acted under the 'compassionate use' doctrine and prescribed a not-yet-approved malaria therapy made only from the dried leaves of the *Artemisia annua* plant. In just five days, all 18 people fully recovered. This is a small but stunningly successful trial.

<https://www.sciencedaily.com/releases/2017/04/170424141222.htm>

Monkey business produces rare preserved blood in amber fossils

Posted: 03 Apr 2017 12:11 PM PDT

Two monkeys grooming each other about 20-30 million years ago may have helped produce a remarkable new find - the first fossilized red blood cells from a mammal, preserved so perfectly in amber that they appear to have been prepared for display in a laboratory.

<https://www.sciencedaily.com/releases/2017/04/170403151137.htm>

Malaria parasites soften our cells' defenses in order to invade

Posted: 03 Apr 2017 12:11 PM PDT

Malaria parasites cause red blood cells to become bendier, helping the parasites to enter and cause infection, says a new study.

<https://www.sciencedaily.com/releases/2017/04/170403151148.htm>

Raccoon dog represents a more acute risk than raccoon as vector for transmission of local parasites

Posted: 05 Apr 2017 06:07 AM PDT

The raccoon and the raccoon dog are two non-indigenous animal species that have become established in Europe in the past decades. Their increasing abundance has not only made them the most common carnivore species in some countries, but has also made them of interest to parasitologists as potential hosts for diseases. A team of researchers has now analyzed samples from both species in Austria. The raccoon dog, which is more closely related to the fox, was shown to serve as an additional host for local parasites. Like the fox, it represents a risk as a host of zoonotic parasites, such as the fox tapeworm or trichina worms, that are also of relevance for humans. The raccoons sampled, as they mainly originated from fur farms, were still largely pathogen-free.

<https://www.sciencedaily.com/releases/2017/04/170405090732.htm>

Smell helps primates flee parasites

Posted: 07 Apr 2017 11:56 AM PDT

Mandrills use their sense of smell to avoid contamination by intestinal protozoans through contact with infected members of their group, researchers have discovered. Their work shows that parasites

shape the social behavior of these primates, leading them to develop a strategy of parasite avoidance through smell.

<https://www.sciencedaily.com/releases/2017/04/170407145603.htm>

Filarial nematode infections: Symbiotic relationship between bacteria and filarial nematodes

Posted: 30 Mar 2017 11:24 AM PDT

Filarial nematodes -- microscopic, thread-like roundworms -- currently infect up to 54 million people worldwide and are the leading cause of disability in the developing world. Now, researchers have described the relationship between one species of the worm, *Brugia malayi*, and a bacteria, *Wolbachia*, that lives in the worm's body. The symbiotic relationship, they found, could represent an Achilles' heel for the nematodes.

<https://www.sciencedaily.com/releases/2017/03/170330142421.htm>

Some bed bugs show early signs of resistance to two common insecticides

Posted: 10 Apr 2017 09:39 AM PDT

Pest management professionals battling the ongoing resurgence of bed bugs are wise to employ a well-rounded set of measures that reduces reliance on chemical control, as new research shows the early signs of resistance developing among bed bugs to two commonly used insecticides, chlorfenapyr and bifenthrin.

<https://www.sciencedaily.com/releases/2017/04/170410123959.htm>

Smelling the risk of infection

Posted: 10 Apr 2017 05:53 AM PDT

Humans -- like most non-human primates -- are social beings and profit in many respects from the benefits of a community. However, their closeness to conspecifics is an opportunity for pathogens and parasites to infect new hosts. It is therefore advantageous to avoid sick individuals. Scientists investigated how mandrills recognize conspecifics infected with intestinal parasites and avoid an infection. The monkeys are able to smell an infected group member and consequently groom them less than healthy individuals.

<https://www.sciencedaily.com/releases/2017/04/170410085328.htm>

Transgenic plants against malaria

Posted: 27 Mar 2017 07:05 AM PDT

Scientists have discovered a gene that allows to double the production of artemisinin in the *Artemisia annua* plant. The artemisinin-based combination therapy (ACT) is the standard treatment for malaria worldwide. The new article presents an important step towards reducing artemisinin production costs.

<https://www.sciencedaily.com/releases/2017/03/170327100558.htm>

Malaria parasites 'walk through walls' to infect humans

Posted: 28 Mar 2017 11:52 AM PDT

Researchers have identified proteins that enable deadly malaria parasites to 'walk through cell walls' -- a superpower that was revealed using the Institute's first insectary to grow human malaria parasites. The research has identified two parasite proteins that are the key to this superpower. The proteins could be targeted to develop much-needed antimalarial drugs or vaccines.

<https://www.sciencedaily.com/releases/2017/03/170328145252.htm>

About time! Predicting midge seasonality key to reducing livestock diseases

Posted: 28 Mar 2017 07:58 AM PDT

Ecologists have completed a study which informs optimal strategies for control of devastating midge-borne diseases like bluetongue and Schmallenberg virus that affect cattle and sheep in the UK and beyond.

<https://www.sciencedaily.com/releases/2017/03/170328105858.htm>

Living 'flying syringes' could detect emerging infectious diseases

Posted: 28 Mar 2017 05:29 AM PDT

Blood-sucking flies can act as 'flying syringes' to detect emerging infectious diseases in wild animals before they spread to humans, according to new research.

<https://www.sciencedaily.com/releases/2017/03/170328082920.htm>

Mosquitoes wing it: New research shows how

Posted: 30 Mar 2017 08:52 AM PDT

The unique mechanisms involved in mosquito flight have been shared for the first time in a new collaboration, which could inform future aerodynamic innovations, including tiny scale flying tech.

<https://www.sciencedaily.com/releases/2017/03/170330115241.htm>

Primate-parasite network analyses show how germs jump from host to host

Posted: 20 Mar 2017 09:28 AM PDT

An extensive review of research on wild primate social networks and parasites underscores the importance of super-spreaders, or central individuals that play an outsized role in transmission of a pathogen.

<https://www.sciencedaily.com/releases/2017/03/170320122835.htm>

Amazingly fast, cheap genome sequencing: Zika virus mosquito genome assembled from scratch

Posted: 24 Mar 2017 07:49 AM PDT

A team of scientists has developed a new way to sequence genomes, which can assemble the genome of an organism, entirely from scratch, dramatically cheaper and faster.

<https://www.sciencedaily.com/releases/2017/03/170324104948.htm>

Biopesticide could defeat insecticide resistance in bedbugs

Posted: 22 Mar 2017 12:56 PM PDT

A fungal biopesticide that shows promise for the control of bed bugs is highly effective even against bed-bug populations that are insecticide resistant, according to research.

<https://www.sciencedaily.com/releases/2017/03/170322155608.htm>

New species discovered: Protist parasites contribute to the stability of rainforest ecosystems

Posted: 21 Mar 2017 09:38 AM PDT

Tropical rainforests are one of the most species-rich areas on earth. Thousands of animal and plant species live there. The smaller microbial protists, which are not visible to the naked eye, are also native to these forests, where they live in the soils and elsewhere. A team of researchers has examined them more closely by analyzing their DNA. They discovered many unknown species, including many parasites, which may contribute to the stability of rainforest ecosystems.

<https://www.sciencedaily.com/releases/2017/03/170321123827.htm>

Scientists use parasite's internal clock to attack sleeping sickness

Posted: 23 Mar 2017 07:58 AM PDT

The parasite that causes deadly sleeping sickness has its own biological clock that makes it more vulnerable to medications during the afternoon, according to international research that may help improve treatments for one of Africa's most lethal diseases.

<https://www.sciencedaily.com/releases/2017/03/170323105838.htm>

Mosquito monitoring has limited utility in dengue control, study finds

Posted: 23 Mar 2017 11:14 AM PDT

Cross-sectional surveys of mosquito abundance carried out in the subtropics and tropics are meant to give researchers an indication of the risk of a dengue virus outbreak in any given area. This type of entomological monitoring, however, is not a good proxy for dengue risk.

<https://www.sciencedaily.com/releases/2017/03/170323141427.htm>

Fighting malaria through mathematical analysis of parasite's metabolism

Posted: 23 Mar 2017 11:14 AM PDT

A new mathematical model, based on the deadliest malaria parasite, *Plasmodium falciparum*, could help develop antimalarials by identifying key metabolic targets, according to a new study.

<https://www.sciencedaily.com/releases/2017/03/170323141421.htm>

ODBORNÉ PUBLIKACE ČLENŮ ČPS

Jedná se o publikace uveřejněné v databázi PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/>) za dané období, tj. od vydání posledních AKTU@LIT dne 15. 3. 2017. Z publikací vyhledaných podle příjmení jednotlivých členů ČPS jsou pak vybrány ty s parazitologickou tematikou. V případě, že toto síto nezachytilo právě váš článek, pište na kolarova2011@gmail.com.

Organelles that illuminate the origins of *Trichomonas* hydrogenosomes and *Giardia* mitosomes.

Leger MM, Kolisko M, Kamikawa R, Stairs CW, Kume K, Čepička I, Silberman JD, Andersson JO, Xu F, Yabuki A, Eme L, Zhang Q, Takishita K, Inagaki Y, Simpson AGB, Hashimoto T, Roger AJ.

Nat Ecol Evol. 2017 Apr 1;1(4):0092.

doi: 10.1038/s41559-017-0092. No abstract available.

PMID: 28474007

In Vitro Inhibition of *Leishmania* Attachment to Sandfly Midguts and LL-5 Cells by Divalent Metal Chelators, Anti-gp63 and Phosphoglycans.

Soares RP, Altoé ECF, Ennes-Vidal V, da Costa SM, Rangel EF, de Souza NA, da Silva VC, Volf P, d'Avila-Levy CM.

Protist. 2017 Mar 29;168(3):326-334.

doi: 10.1016/j.protis.2017.03.004. [Epub ahead of print]

PMID: 28472733

Biting midges (Ceratopogonidae) as vectors of avian trypanosomes.

Svobodová M, Dolník OV, Čepička I, Rádrová J.

Parasit Vectors. 2017 May 8;10(1):224.

doi: 10.1186/s13071-017-2158-9.

PMID: 28482865 [PubMed - in process]

First description of *Cryptosporidium ubiquitum* XIIa subtype family in farmed fur animals.

Kellnerová K, Holubová N, Jandová A, Vejčík A, McEvoy J, Sak B, Kváč M.

Eur J Protistol. 2017 Apr 19;59:108-113.

doi: 10.1016/j.ejop.2017.03.007. [Epub ahead of print]

PMID: 28482327 [PubMed - as supplied by publisher]

Dynammin-like proteins in *Trypanosoma brucei*: A division of labour between two paralogs?

Benz C, Stříbrná E, Hashimi H, Lukeš J.

PLoS One. 2017 May 8;12(5):e0177200.

doi: 10.1371/journal.pone.0177200. eCollection 2017.

PMID: 28481934

Seroprevalence of *Neospora caninum* and *Toxoplasma gondii* in exotic ruminants and camelids in the Czech Republic.

Bártová E, Kobédová K, Lamka J, Kotrba R, Vodička R, Sedlák K.

Parasitol Res. 2017 May 11.

doi: 10.1007/s00436-017-5470-6. [Epub ahead of print]

PMID: 28497227 [PubMed - as supplied by publisher]

No impact of strongylid infections on the detection of *Plasmodium* spp. in faeces of western lowland gorillas and eastern chimpanzees.

Mapua MI, Pafčo B, Burgunder J, Profousová-Pšenková I, Todd A, Hashimoto C, Qablan MA, Modrý D, Petrželková KJ.

Malar J. 2017 Apr 26;16(1):175.

doi: 10.1186/s12936-017-1822-z.

PMID: 28446233

Tick-Pathogen Interactions and Vector Competence: Identification of Molecular Drivers for Tick-Borne Diseases.

de la Fuente J, Antunes S, Bonnet S, Cabezas-Cruz A, Domingos AG, Estrada-Peña A, Johnson N, Kocan KM, Mansfield KL, Nijhof AM, Papa A, Rudenko N, Villar M, Alberdi P, Torina A, Ayllón N, Vancova M, Golovchenko M, Grubhoffer L, Caracappa S, Fooks AR, Gortazar C, Rego ROM.

Front Cell Infect Microbiol. 2017 Apr 7;7:114.

doi: 10.3389/fcimb.2017.00114. eCollection 2017. Review.

PMID: 28439499

An eight-year survey of the intestinal parasites of carnivores, hoofed mammals, primates, ratites and reptiles in the Ljubljana zoo in Slovenia.

Kvapil P, Kastelic M, Dovc A, Bartova E, Cizek P, Lima N, Strus S.

Folia Parasitol (Praha). 2017 Apr 21;64.

pii: 2017.013.

doi: 10.14411/fp.2017.013.

PMID: 28443822

Pleomorphism and Viability of the Lyme Disease Pathogen *Borrelia burgdorferi* Exposed to Physiological Stress Conditions: A Correlative Cryo-Fluorescence and Cryo-Scanning Electron Microscopy Study.

Vancová M, Rudenko N, Vaněček J, Golovchenko M, Strnad M, Rego ROM, Tichá L, Grubhoffer L, Nebesářová J.

Front Microbiol. 2017 Apr 11;8:596.

doi: 10.3389/fmicb.2017.00596. eCollection 2017.

PMID: 28443079

Four new species of *Dactylogyrus* Diesing, 1850 (Monogenea: Dactylogyridae) parasitising the gills of northern Moroccan *Luciobarbus* Heckel (Cyprinidae): morphological and molecular characterisation.

Rahmouni I, Řehulková E, Pariselle A, Rkhami OB, Šimková A.

Syst Parasitol. 2017 Apr 21.

doi: 10.1007/s11230-017-9726-4. [Epub ahead of print]

PMID: 28432566

Trypanosoma brucei TbIF1 inhibits the essential F1-ATPase in the infectious form of the parasite.

Panicucci B, Gahura O, Zíková A.

PLoS Negl Trop Dis. 2017 Apr 17;11(4):e0005552.

doi: 10.1371/journal.pntd.0005552. [Epub ahead of print]

PMID: 28414727

Eurasian golden jackal as host of canine vector-borne protists.

Mitková B, Hrazdilová K, D'Amico G, Duscher GG, Suchentrunk F, Forejtek P, Gherman CM, Matei IA, Ionică AM, Daskalaki AA, Mihalca AD, Votýpka J, Hulva P, Modrý D.

Parasit Vectors. 2017 Apr 14;10(1):183.

doi: 10.1186/s13071-017-2110-z.

PMID: 28410591

Some nematodes, including two new species, from freshwater fishes in the Sudan and Ethiopia.

Moravec F, Scholz T.

Folia Parasitol (Praha). 2017 Apr 4;64.

pii: 2017.010.

doi: 10.14411/fp.2017.010.

PMID: 28402283

A leucine aminopeptidase is involved in kinetoplast DNA segregation in *Trypanosoma brucei*.

Peña-Díaz P, Vancová M, Resl C, Field MC, Lukeš J.

PLoS Pathog. 2017 Apr 7;13(4):e1006310.

doi: 10.1371/journal.ppat.1006310. [Epub ahead of print]

PMID: 28388690

Inducible protein stabilization system in *Leishmania mexicana*.

Podešvová L, Huang H, Yurchenko V.

Mol Biochem Parasitol. 2017 Mar 31.

pii: S0166-6851(17)30046-4.

doi: 10.1016/j.molbiopara.2017.03.008. [Epub ahead of print]

PMID: 28373094

Giardia intestinalis mitosomes undergo synchronized fission but not fusion and are constitutively associated with the endoplasmic reticulum.

Voleman L, Najdová V, Ástvaldsson Á, Tůmová P, Einarsson E, Švindrych Z, Hagen GM, Tachezy J, Svärd SG, Doležal P.

BMC Biol. 2017 Apr 3;15(1):27.

doi: 10.1186/s12915-017-0361-y.

PMID: 28372543

The intermembrane space protein Erv1 of *Trypanosoma brucei* is essential for mitochondrial Fe-S cluster assembly and operates alone.

Haindrich AC, Boudová M, Vancová M, Diaz PP, Horáková E, Lukeš J.

Mol Biochem Parasitol. 2017 Mar 30.

pii: S0166-6851(17)30047-6.

doi: 10.1016/j.molbiopara.2017.03.009. [Epub ahead of print]

PMID: 28366668

Fancy a gene? A surprisingly complex evolutionary history of peroxiredoxins.

Zíková A, Oborník M, Lukeš J.

Microb Cell. 2015 Jan 28;2(2):33-37.

doi: 10.15698/mic2015.02.189.

PMID: 28362003

Structures related to attachment and motility in the marine eugregarine *Cephaloidophora cf. communis* (Apicomplexa).

Kováčiková M, Simdyanov TG, Diakin A, Valigurová A.

Eur J Protistol. 2017 Mar 7;59:1-13.

doi: 10.1016/j.ejop.2017.02.006. [Epub ahead of print]

PMID: 28363137

The curious case of vanishing mitochondria.

Karnkowska A, Hampl V.

Microb Cell. 2016 Sep 30;3(10):491-494.

doi: 10.15698/mic2016.10.531.

PMID: 28357316

Protective immune responses against *Schistosoma mansoni* infection by immunization with functionally active gut-derived cysteine peptidases alone and in combination with glyceraldehyde 3-phosphate dehydrogenase.

Tallima H, Dvořák J, Kareem S, Abou El Dahab M, Abdel Aziz N, Dalton JP, El Ridi R.

PLoS Negl Trop Dis. 2017 Mar 27;11(3):e0005443.

doi: 10.1371/journal.pntd.0005443. [Epub ahead of print]

PMID: 28346516

Parasites of orangutans (primates: ponginae): An overview.

Nurcahyo W, Konstanzová V, Foitová I.

Am J Primatol. 2017 Mar 27.

doi: 10.1002/ajp.22650. [Epub ahead of print] Review.

PMID: 2834575

Annotated checklist of fish cestodes from South America.

Alves PV, de Chambrier A, Scholz T, Luque JL.

Zookeys. 2017 Feb 1;(650):1-205.

doi: 10.3897/zookeys.650.10982. eCollection 2017 Feb 1.

PMID: 28331385

Molecular mechanisms of thermal resistance of the insect trypanosomatid *Crithidia thermophila*.

Ishemgulova A, Butenko A, Kortišová L, Boucinha C, Grybchuk-Ieremenko A, Morelli KA, Tesařová M, Kraeva N, Grybchuk D, Pánek T, Flegontov P, Lukeš J, Votýpka J, Pavan MG, Opperdoes FR, Spodareva V, d'Avila-Levy CM, Kostygov AY, Yurchenko V.

PLoS One. 2017 Mar 22;12(3):e0174165. doi: 10.1371/journal.pone.0174165.

PMID: 28328988

Molecular analyses reveal high species diversity of trematodes in a sub-Arctic lake.

Soldánová M, Georgieva S, Roháčová J, Knudsen R, Kuhn JA, Henriksen EH, Siwertsson A, Shaw JC, Kuris AM, Amundsen PA, Scholz T, Lafferty KD, Kostadinova A.

Int J Parasitol. 2017 Mar 14.

pii: S0020-7519(17)30078-4.

doi: 10.1016/j.ijpara.2016.12.008. [Epub ahead of print]

PMID: 28315362

Changes in surface glycosylation and glycocalyx shedding in *Trichobilharzia regenti* (Schistosomatidae) during the transformation of cercaria to schistosomulum.

Římnáčová J, Mikeš L, Turjanicová L, Bulantová J, Horák P.

PLoS One. 2017 Mar 15;12(3):e0173217.

doi: 10.1371/journal.pone.0173217.
PMID: 28296924

Své příspěvky, podněty, náměty posílejte na kolarova2011@gmail.com
Pokud o tyto informační e-maily nemáte zájem, odhlašte je na kolarova2011@gmail.com

Iva Kolářová, editor webu ČPS
www.parazitologie.cz
www.facebook.com/pages/Ceska-parazitologicka-spolecnost/121703457856324