ISTITUTO SUPERIORE DI SANITA'

DIPARTIMENTO MALATTIE INFETTIVE

REPARTO: MALATTIE TRASMESSE DA VETTORI (MTV)

Re: Review of habilitation thesis submitted by Dr. Jovana Sádlová, PhD

Dr. Sádlová's thesis, having its general subject in the complex interactions of the kinetoplastid protozoan *Leishmania* with invertebrate and vertebrate hosts, consists of a relatively short Introduction (26 pages including References) and an impressive list of 21 selected publications (235 pages).

Research subjects and their comparative importance in a global scientific context

The majority of past and current/future Dr. Sádlová's studies are broadly addressed to the life cycle of *Leishmania* in phlebotomine vectors (sand flies) or in potential alternative vectors. These studies are made possible by the good breeding capacity for sand flies and other insects developed for a long time under the guidance of Prof. Petr Volf. On this respect, current lines of research include sand-fly vector competence vs recently discovered *Leishmania* entities, new factors influencing parasite/vector interactions at biomolecular and biochemical level, and investigations on sexual reproduction of *Leishmania* within competent vectors.

A relatively recent subject of Dr. Sádlová's research is also addressed to vertebrate hosts, namely specific studies on wild mammals as potential natural reservoir hosts of different *Leishmania* species, and the evaluation of novel rodent models for human leishmaniasis pathology.

Control of human and veterinary leishmaniasis is undoubtedly a major issue of worldwide interest. With regards to the above mentioned research topics, it appears that Dr. Sádlová and colleagues have always been on the forefront of timely scientific questions arising globally about *Leishmania* transmission, and always eager to collaborate with top-level international groups as evidenced by published papers' authorship.

Analysis of publications

The selected publications include articles published in 12 peer-reviewed international journals, being the current (2018) Impact Factor in the range from 41.063 (a letter to Science) to 1.907 (J Med Entomol).

Not always the contribution of Dr. Sádlová to each published work could be extrapolated, however this is self-evident from 8 publications in which she is the first author. In this case, quite a constant contribution was noted over the years: Sádlová & Volf 2009 Cell Tissue Res (IF 3.360); Sádlová et al 2010 Cell Microbiol (IF 4.288); Sádlová et al 2011 PLoS One (IF 2.776); Sádlová et al 2013 and 2015 Parasites Vectors (IF 3.031); Sádlová et al 2017 Parasitology (IF 2.456); Sádlová et al 2018 PLoS Negl Trop Dis (IF 4.487); Sádlová et al 2019. Int J Parasitol-Parasit Wildl (IF 2.075).

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Other articles in which Dr. Sádlová is not first author, mention about "Author contributions" by journal default; Dr. Sádlová is reported among those who "conceived and designed the study/experiments" in additional 4 papers: Maia et al 2011, and Seblova et al 2015 PLoS Negl Trop Dis (IF 4.487); Pruzinova et al 2015 PLoS One (IF 2.776); Pruzinova et al 2018 Parasites Vectors (IF 3.031).

Skills in field and laboratory methods

Although field work is a common prerogative of parasitologists and medical entomologists, the lack of phlebotomine vectors and *Leishmania* transmission in Czech Republic have probably limited the Dr. Sádlová experience in this sense. Apart from the rodent trapping in the tropics (as shown by the photo on page 239) it appears that her greatest skills are in the laboratory and in teaching/supervising students. Excellence is shown in laboratory infections of vectors followed by dissections and microphotographs, and in handling both standard and "unusual" rodent models for experimental challenge. For this reason, it appears that Dr. Sádlová represents a reference for international teams to carry out experiments on vector-borne kinetoplastid diseases.

Rome, 26th October 2019

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