

Reviewer's report on Ph.D. thesis of Mgr. Vendula Rašková entitled “Characterisation of novel mitochondrial proteins in *Trypanosoma brucei*”

The thesis under consideration has a typical structure and organized into the following chapters:

Introduction, Objectives, References, Results, and Concluding remarks. My main concern about this work is its patchiness. I do understand that all the results are united under the umbrella of “mitochondrial proteins”, but this is a bit broad and the presented papers are not very related. This patchiness is also apparent in the Introduction: the subchapters are not logically connected and seem disjointed. Before going into specifics, I would like to comment on formalities. The writing is generally OK, but there are numerous “little things”, which are indeed subpar and should have been fixed.

- 1) sp. On page 9 should not be Italicized.
- 2) All the empty spaces at the bottom of almost every page in the introduction and after virtually every subchapter suggest that the author has tried to make the text look longer than it really is.
- 3) Title of the subheading 1.1.1 is missing.
- 4) Some wording is indeed weird: “Trypanosomes are monophyletic and it belongs to the genus *Trypanosoma*”, etc.
- 5) The first word in the sentence should not be abbreviated – *Trypanosoma*, not *T.*
- 6) I believe that the reference in Fig. 1 should include mentioning of Adl et al. 2012.

- 7) The references are not formatted properly. In some cases, Journal names are abbreviated (also in two different ways!), and in some they are not; page range is not consistently presented; what about Arimura et al. or Berrisford et al.?

Now, on a more positive note, the Objectives are well defined and clearly fulfilled as judged by the papers attached. I also appreciated chapter summaries – they are very helpful! I will not comment on the papers that have been already published, after all they were thoroughly peer-reviewed, and will focus on unpublished works.

Questions for Chapter III “Orthologues...”

III.1. Please show the antibody-specificity control for Fig. 1. The size of TbPam16 is below 15 kD and this is confusing.

III.2. Do you have data on non-specific RNAi?

III.3. A scheme for Fig. 7B would help.

III.4. Please speculate why antibody against TbPAM18 could not be produced?

Questions for Chapter IV “Novel protein complex...”

IV.1. I found this part to be extremely succinct and suggest that its extended version is properly presented at the oral defense.

Finally, I have one more general question. Please elaborate on future work directions for all the projects presented in the thesis.

All in all, I found the work of Mgr. Vendula Rašková of high quality and recommend the committee to award her the title of Ph.D. provided that oral defense is successful.

With best regards,

Prof. Vyacheslav Yurchenko, Ph.D.
Life Science Research Centre, Faculty of Science
University of Ostrava
Chittussiho 10, 710 00 Ostrava, Czech Republic

vyacheslav.yurchenko@osu.cz
Office: +420 597 092 326
Cell: +420 731 422 166