



Přírodovědecká  
fakulta  
Faculty  
of Science

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice

## SUPERVISOR'S STATEMENT ON BACHELOR THESIS

**Name of the student:** Bernhard Mayrhofer  
**Study program:** Biological Chemistry  
**Department/Institute:** Institute of Chemistry, Faculty of Science, University of South Bohemia  
**Thesis title:** Protein Phosphatase 2A in the circadian clock of the linden bug *Pyrrhocoris apterus*  
**Supervisor:** Mgr. Vlastimil Smýkal, Ph.D., Mgr. David Doležel, Ph.D.  
**Supervisor's affiliation:** Institute of Entomology, Biology Centre CAS

	Point scale <sup>1</sup>	Points
<b>(1) FORMAL REQUIREMENTS</b>		
Formal and graphical quality of the thesis	0-3	3
Ability to work with literature	0-3	2
Language and stylistics	0-3	3
<b>Formal requirements – points in total</b>		<b>8</b>
<b>(2) PRACTICAL REQUIREMENTS</b>		
Fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	3
Discussion quality – interpretation of results and their discussion with the literature	0-3	2
Experimental difficulty of the thesis, independence in experimental work	0-3	3
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	2
<b>Practical requirements – points in total</b>		<b>13</b>
<b>POINTS IN TOTAL (MAX/AWARDED)</b>	<b>24</b>	<b>(0-24)<sup>2</sup></b>

<sup>1</sup> Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

<sup>2</sup> Enter the number of points awarded.

**Comments of the supervisor on the student and the thesis:**

Bernhard Mayrhofer joined the Chronobiology lab in year 2017 and worked on a project focused on function of Protein Phosphatase 2A in the linden bug *Pyrrhocoris apterus* circadian clock. His project, which was in fact a small-scale RNA interference screening, was demanding given a fact that he had only one year to collect the data. He also had to learn many molecular methods that were necessary for finishing the project and which make a basic toolkit for every molecular biologist.

The goal of the project was to identify 7 Protein Phosphatase 2A genes in *P. apterus* transcriptome, design two pair of primers for each gene and clone 14 gene-fragments in total into a plasmid. Next steps were to synthesise double-stranded RNA, inject hundreds of *P. apterus* males, measure their locomotor activity and analyse the results.

Bernhard had to deal with a serious trouble of the animal survival during the 1<sup>st</sup> fragment double-strand RNA injections that resulted in necessity of the injection repetition. In other words, he had to repeat about half of the work. Nevertheless, he succeeded and got interesting, preliminary set of data that contribute to overall picture of what we know about the circadian clock in the linden bug.

Bernhard was my first student I was supervising and I am glad that my first student was smart, hardworking, careful and quite independent. But what I appreciate the most is that Bernhard was asking questions during the training and that those questions were mainly the right questions. However, he also learned that writing a thesis is a time-consuming work of its own and that also details matter.

To sum up, I believe that Bernhard is a promising young scientist and I recommend his bachelor thesis for the defence.

**Conclusion:**

In conclusion, I

**r e c o m m e n d**

**the thesis for the defense.**

In **České Budějovice** date **28. 1. 2020**

  
signature