



Přirodovědecká
fakulta
Faculty
of Science

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

OPPONENT'S REVIEW ON BACHELOR/DIPLOMA* THESIS

Name of the student: Palavinnage D. Sanchila Kumaranatunga

Thesis title: Diversity and distribution of particulate methane monooxygenase enzyme in known methanotrophic bacteria

Supervisor: Dr. Anne Daebeler

Referee: doc. Ing. Jiří Bárta, Ph.D.

Referee's affiliation: University of South Bohemia in Ceske Budejovice

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Extent of the thesis (for bachelor theses min. 18 pages, for masters theses min. 25 pages), balanced length of the thesis parts (recommended length of the theoretical part is max. 1/3 of the total length), logical structure of the thesis	0-3	2
Quality of the theoretical part (review) (number and relevancy of the references, recency of the references)	0-3	3
Accuracy in citing of the references (presence of uncited sources, uniform style of the references, use of correct journal titles and abbreviations)	0-3	3
Graphic layout of the text and of the figures/tables	0-3	3
Quality of the annotation	0-3	3
Language and stylistics, complying with the valid terminology	0-3	3
Accuracy and completeness of figures/tables legends (clarity without reading the rest of the text, explanation of the symbols and labeling, indication of the units)	0-3	2
Formal requirements – points in total		19
(2) PRACTICAL REQUIREMENTS		
Clarity and fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	2
Discussion quality – interpretation of the results and their discussion with the literature (absence of discussion with the literature is not acceptable)	0-3	2
Logic in the course of the experimental work	0-3	2

* Choose one

¹ Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

Completeness of the description of the used techniques	0-3	2
Experimental difficulty of the thesis, independence in experimental work	0-3	1
Quality of experimental data presentation	0-3	2
The use of up-to-date techniques	0-3	3
Contribution of the thesis to the knowledge in the field and possibility to publish the results (after eventual supplementary experiments)	0-3	3
Practical requirements – points in total		20
POINTS IN TOTAL (MAX/AWARDED)	39	(0-48)²

Comments of the reviewer on the student and the thesis:

The introductory theoretical part is written in a readable and careful manner. It draws on relevant current literature. The thesis focuses purely on the bioinformatic processing of pmo and pmx gene sequences. The results and the dossier are of a sufficient level. From a formal point of view I would like to comment on the inflection of orders and classes of bacteria, I think that according to the agreed terminology they should not be inflected. Furthermore, it is not clear to me why the phylogenetic trees for each subunit are presented twice?

Suggestions and questions, to which the student has to answer during the defense.

Mistakes, which the students should avoid in the future:

Could the author evaluate the advantages and disadvantages of using genes from MAGs? How many of these genes were used in the comparison and whether analyses were also done without MAGs?

What does the author see as the use of the information obtained in her bachelor thesis in microbial ecology? Can the results be used to improve some molecular methods?

Conclusion:

In conclusion, I r e c o m m e n d the thesis for the defense and I suggest the grade very good.³

In **České Budějovice** date **14.9.2023**

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² Enter the number of points awarded.

³ You can suggest a grade, which can be modified during the defense based on the presentation. However, if the reviewer is not present at the defense, the grade will not be counted. Grades: excellent (1). Very good (2), Good (3), Unsatisfactory/failed (4).

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