

Posudek školitele na diplomovou práci

školitelský posudek

Jméno školitele: Paula García Fraile

Datum: 6.09.2016

Autor: Anna Fabryová

Název práce (title of the thesis):

Study of culturable anaerobic bacterial communities living in symbiosis with bark beetles; its isolation, taxonomy and biotechnical potential

Zadané cíle práce, včetně tématu literárního přehledu (Proposed aims, incl. the topic of the literature review):

1. Isolation of bacteria from bark beetles guts under anaerobic conditions.
2. Analysis of biodiversity of the isolated bacterial community.
3. Screening of biotechnological potential for biomass degradation.
4. Quantification of cellulases and hemicellulases produced by the best isolates

Přístup studenta k práci s literaturou (An evaluation of students' attitudes towards the work with the literature).

The student has searched for several book chapters and research articles related with the research theme. She has therefore reviewed a quite significant amount of literature and adquired good knowlege about the state of the art and methods related with her work. As a summary, she has adquired good skills for the searching of literature to find methods and informations related with the knowledge she needs to adquire.

Přístup studenta k práci v laboratoři (přístup při učení se nových metod, aktivita, samostatnost, systematičnost práce i docházky do laboratoře) (An evaluation of students' attitudes towards the method learning, his activity, independence, systematics of the work and frequency of the lab visits)

The student was quite active and positive to the innovation, setting new methods in the lab which had not been done before in our laboratory. She has also positively interacted with people form other research groups and learn from them new techniques and the handling of new equipment. She has been quite active and independent, giving suggestions and ideas to develop her experiments. Due to other responsibilities, her assistance to the lab has been irregular, but quite fine for the academic degree she tries to obtain and enough to gain appropriate training in basic microbial methods, molecular microbiology techniques, data analysis and data interpretation.

Přístup studenta přisepisování práce (An evaluation of students' attitudes towards the writing of the thesis):

The writing process was probably her weaker point. Despite the fact that she put a huge effort before the submission of the diploma thesis, she probably should have started sooner,

to better process all the information and carefully correct it. Nevertheless, I reckon that after the process she got a good base for scientific writing.

Splnění cílů práce a celkové hodnocení (Fulfilling of the aims and the general evaluation):

The student fulfilled most of the aims that had been established. She isolated bacteria from bark beetles guts under anaerobic conditions, learning several basic microbiology techniques for that, she also identified and analysed the diversity of bacterial strains isolated from the beetles, learning several molecular microbiology techniques -including those related with microbial identification, as well as the complementary bioinformatic tools- and she also realized and learnt how to screen the production of several microbial enzymes. The aim related with the enzyme quantification of some of the produced enzymes was partially reached. The student actually learnt how to perform enzymatic quantifications of cellulases and xylanases, nevertheless, due to the lack of time (partially related with the need of using equipment of other laboratories), she did not make enough number of replicas in order to perform statistical analysis and, also for the same reasons, she did not repeat the quantifications under different temperature and pH condition, in order to find the optimal for each of the studied microorganisms, which were some of the planned tasks related with this enzymatic quantification objective. Nevertheless, I consider she got the knowledge and experience about how to perform this enzymatic quantifications. On the other hand, she obtained in general a good amount of significant data and many of them will be included in a scientific paper which will be submitted to the journal *New Biotechnology* with the tentative title *On the bright side of a forest pest -the biotechnological potential of bark beetles bacterial endosymbionts*, in which Anna Fabryová will be the first author.

As a summary, I consider that the work that the student Anna Fabryová has performed for this diploma thesis has been quite productive. The enzymatic quantification data are a bit poor and lack replicas and statistical analysis. Nevertheless, she has learnt several different laboratory techniques, learnt lot of information from the literature that she has reviewed, acquired writing skills, participated in several collaborations with other research groups and obtained valuable data for our group.

Návrh hodnocení školitele:

výborně velmi dobře dobře nevyhověl(a)

Podpis školitele:

