



Přírodovědecká
fakulta
Faculty
of Science

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

MASTER'S THESIS ASSESSMENT. SUPERVISOR'S REPORT

Title master's thesis: New insights in the morphology and phylogeny of heterocytous cyanobacteria from Peru, including the description of new taxa.

Student's name: Leonardo Humberto Mendoza Carbajal

MT Supervisor: Esther Berrendero Gómez, Ph. D

Acad. year: 2017/2018

The aim of this master thesis is to discover new, so far undescribed species and/or genera of heterocytous cyanobacteria in Perú, a tropical country with one of the most important biodiversity hotspots, The Tropical Andes, and to compare their morphology, ecology, and genetic information with similar populations from the temperate zone. For this, the student has isolated 33 strains from different habitats and have carried out its characterization using molecular techniques. Based on the results, it has been discovered at least two potential new genera and several species although here only the complete description of the new cryptic genus of *Calothrix* called *Skacelovkia* has been included. This master thesis contributes to increase the knowledge on the cyanobacterial diversity in Peru as well as to solve some taxonomic issues inside to the family Nostocales. These discoveries are not only important for Peru but also suppose a valuable contribution in the cyanobacterial knowledge in the worldwide.

The student has done a wide bibliographic review, including recently published articles and he has used these references to support his arguments, discussion and analysis correctly. In relation to the methodology, it has been used suitable although the life cycle assessment should be improved, since the cultures should have been observed more frequently, not each three or seis months, to obtain a more complete view of the morphological changes experienced in culture.

The master thesis is too long, and the writing style is not maintained the same throughout of the all manuscript, distinguishing easily the sections that have been reviewed several times from those reviewed only one time. The organization of the text has been improved after the preliminary review but a revision of the complete of the thesis would have been necessary for being be more precise, clear and short. In addition, part of my comments and suggestions have not been considered due to lack of time.



Přírodovědecká
fakulta
Faculty
of Science

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

The student has required more supervision than average for getting some progress in the work and it was necessary to spend much time on the written report before it reached its final state. Unfortunately, I haven't been able to review the complete thesis before its delivery, only the different sections separately, because the student to send me the complete thesis four days before the deadline.

Although a timeline and regular meetings were fixed for getting the proposed aims and reach the term with guarantees, the student has usually submitted the things late. Besides this last year has been specially complicated due to the student has spent more of the time in Perú (only three months in CB, one of which corresponded to the Christmas holidays) so communication between us has not been as flowed as it should be. The student could have dedicated more time and amount of work by to the project.

Despite everything, I think the student has carried out a good research and the thesis meets the criteria for the defense of the master thesis.

In České Budějovice, 14th May 2018

Esther Berrendero Gómez, Ph.D.
Signature of Master's thesis supervisor