

Jana Říhová: Genome evolution of endosymbiotic bacteria in blood-sucking insects

Supervisor's evaluation of PhD thesis

Jana Říhová started in our laboratory “many years ago” as bachelor student, and today, after all those years she is defending her PhD Thesis. I am stating this to stress the fact that she has already a long history of investigation into symbiosis between bacteria and insects. As a student in the Parasitology department, she has been working on this topic in relation to blood-feeding insects. Her publication record is part of the thesis itself; I only briefly mention that the results of her work were published in three studies of which Jana is the first author.

During the study, Jana managed to master an array of modern methods including metagenomic assemblies and genomic characterization of the symbionts, metabolic reconstructions, phylogenomic analyzes by several different approaches, etc. (and also the necessary preparatory steps: sampling of parasites, material processing). She also spent some time abroad, working in the laboratory of Jessica Light, a renowned expert on lice. This collaboration resulted in one of the publications, describing a new symbiotic lineage and its coevolution with the louse host. In the laboratory, she proved to be hard working member of the team and participated in several grant projects (still team member on one of them).

Jana's thesis encompasses in my opinion an above-average amount of work and results, some of them already published, some in the preparatory stage of a publication. Together, they provide a consistent, complex insight into bacterial symbiosis in blood-feeders. If I should give Jana any advice for her further career, I would probably point out improvement in writing style (interpretation of the results and their discussion in relation to other data/knowledge). The final form of this thesis indicates that in this, Jana is on the right track, and as supervisor, I am fully satisfied with the work Jana did, as well as with the thesis itself.

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Václav Hypša