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### **Personal evaluation of Glenda Alquicer for PhD defence**

I personally know Glenda Alquicer since October 2006, when she started to work in my laboratory. She comes from Puebla, Mexico, where she has obtained the Master of Science degree from Animal physiology in the University of Puebla. The topic of her Master thesis concerned vertebrate neurophysiology. I was quite pleased by her interest to work in my lab, because it is not so common to move from vertebrate to insect physiology. Her stay here was supported by a doctorate scholarship from Mexican government, and also by my grant No. 522/07/0788 provided by the Czech Science Foundation.

Her topic of research in my lab was focused on a role of an adipokinetic hormone (AKH) in stress situations in insects. Incidentally, at the time when Glenda started to work on the topic, our former colleague Dr. Krishnan introduced a study of oxidative stress into our laboratory. We jointed these two topics together and Glenda participated on the project as well. The results revealed that the AKH as typical stress hormone participates also in activation of anti-oxidative stress reactions. Later on, also another hormone - glucagon was involved into the studies. A choice of glucagon was not random - AKH is sometimes designated as insect glucagon, and glucagon is well-known as important vertebrate hormone which was a topic close to Glenda's previous studies. Glenda's work with glucagon resulted in a first proof of immunological presence of this hormone in *Pyrrhocoris apterus*, and revealed that glucagon similarly as AKH participates in activation of anti-oxidative stress reactions. This was very interesting founding because a real role of glucagon or rather glucagon-like hormone in insects is unclear. Within her PhD study Glenda participated also in the investigation of relationship between AKH and juvenile hormone, which apparently interplay.

During the PhD study Glenda managed basic and some special methods of insect biochemistry and physiology. They involve insect maintaining and dissection, hormonal application, evaluation of oxidative stress markers, measuring of hormonal and metabolite levels in insect body by spectrophotometric, chromatographic and immunological methods and incubation of insect organs under *in vitro* conditions. This work resulted in a publication of 3 papers which underlie the thesis, 2 published abstracts and 6 presentations on

international meetings. Glenda also participated in the European PhD course on Insect Biotechnology where she presented her results on the common meetings.

Since the time I have known Glenda, I have found her to be a diligent and accommodating student, who has been ready to learn new methods and procedures, and to work on her field. Glenda has completed all requirements of the PhD study on the Faculty of Science, which include specified exams inclusive of the final one, and participation on a teaching. Also her PhD thesis meets the criteria of the Study and Examination Rules of the University of South Bohemia. **Due to those facts I recommend the Glenda's thesis for defence.**



České Budějovice, 11th November 2009

Dalibor Kodrık  
supervisor