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Dear Prof. Gas,

Thank you for your message. I will be delighted to provide you with a review of the Ph.D. thesis of Mgr. Blanka Vlasakova. Please find my review enclosed.
I am very sorry for the delay in sending it to you!

Yours sincerely

Prof. Dr. Stefan Porembski

**Review of the Ph.D. thesis of Mgr. Blanka Vlasakova:**
**"Plant-Animal Interactions in an Inselberg Ecosystem: The Effect of Reproduction of Selected Species"**

Inselbergs are isolated, often monolithic rock outcrops that occur in a broad spectrum of vegetation and climate zones. Due to their harsh environmental conditions (e.g. high temperatures, strong insolation) is their vegetation clearly demarcated against their surroundings. Despite increasing numbers of floristic studies over the last decades there is still a large gap concerning various ecological aspects of this particular ecosystem.

Within the framework of her Ph.D. thesis the candidate has conducted one of the first detailed studies on plant-animal relationships on tropical inselbergs and thus provides badly needed data on reproductive strategies of selected species. The thesis begins with a concise survey on the abiotic and biotic features of inselbergs with particular emphasis on the Nouragues inselberg (French Guiana). The aims and the scope of the thesis are clearly described.

The following chapters (2 – 5) concentrate on the pollination biology and recruitment strategies of selected species that typically occur on the Nouragues inselberg. In this context two species of the large Neotropical genus *Clusia* (*C*. aff. *sellowiana*, *C*. *nemorosa*) and one bromeliad (*Pitcairnia geyskesii*) have been chosen. The candidate conducted extensive fieldwork but where applicable additional laboratory analyses were used.

Remarkably it could be shown for the first time in the Neotropics that a cockroach species acts as efficient pollinator of *C*. aff. *sellowiana* that offers liquid secretion. Moreover, a floral scent is emitted that attracts the cockroaches to the flowers. It can only be speculated that certain compounds of the scent (i.e. acetoin) act as pheromone mimics. The candidate admits that the cockroach species possesses a probably by far larger distributional area than *C*. aff. *sellowiana* and does not seem to be dependent on this species. It would be interesting to know whether the hitherto undescribed *C*. aff. *sellowiana* occurs outside of inselbergs in French Guiana and what type of pollinator might be present in e.g. forests. I am not persuaded that the cockroaches are very effective pollinators but obviously they are better than anybody else on the Nouragues inselberg. It would have been nice if the candidate could have discussed this aspect more detailed with respect to evolutionary forces that shape plant-animal interactions.

The next chapter deals with *C. nemorosa* and poses the question whether automimetism is important for the reproductive success of this species. It could be shown that as rewards both pollen and resin are of importance. This is certainly an interesting outcome of the observations of the candidate made in the field. However, it should have been explained like mentioned before of what these results mean in the context of isolated growth sites such as inselbergs.

In chapter 4 the candidate discusses the consequences of recruitment strategies of *Clusia* species which might be important for succession processes on inselbergs in the study area. The results of the experimental approach are interesting but one could have wished a more detailed discussion with respect to the spatio-temporal patterns of vegetation dynamics on inselbergs.

The last chapter deals with the reproductive success of the bromeliad *Pitcairnia geyskesii*. It could be shown that this ornithophilous species suffers heavily from pollen-robbing bees. Possibly vegetative propagation of *P. geyskesii* is a solution to this problem.

In general, the candidate has submitted an excellent thesis which provides a wealth of knew data on the reproductive biology of inselberg specific plant species. I am fully convinced that this thesis is in agreement with the quality needs for a Ph.D. degree.

Yours sincerely

Prof. Dr. Stefan Porembski