

**Review of the thesis of  
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When started to read the 250 pages dissertation my very first impression was „this is a huge work, how can I go through of it with the necessary elaboration”? It was no question that taking into consideration the background of the candidate, the list of co-authors, his supervisor, that the work what he put on the table will be an outstanding combination of the traditional morphometry-based taxonomy and the cutting-edge molecular biological methodologies.

My work, finally, proved to be much easier what I thought. The chapters provides a nicely collated overview of eight scientific publications, six of them peer reviewed, which gives the reviewer the comfortable feeling that most probably no serious mistakes left in those papers. I had the privilege to review one of the two “under review” status papers and my only substantial remark on that manuscript is repeated herewith (see below).

*Formal aspects*

The dissertation fits the requirements of the “cumulative” type thesis; the sectioning of the work (intro, aims, summary of publications) is satisfactory, easy to follow.

*Linguistic aspects*

Only minor linguistic errors but these have no effect on the scientific value; the text is fine, clear, and academic.

*Professional aspects*

I always admire the huge work the bat research group of the Charles University and the National Museum (Natural History) invest to each of their publications. The research infrastructure and this scientific environment guarantees the high level outputs.

*Specific (and minor) comments*

Abstract

The second sentence seems to be unnecessary/misplaced.

## Introduction

There is no direct correlation between diminishing unexplored regions and the elevation of subspecies to species rank.

There is some redundancy when the suborders and families are listed (twice in the Intro) and it wasn't always clear what is the logic behind the contents of the subchapters/paragraphs.

Check the spelling of Rhinonycteridae (in one case it was Rhynonycteridae).

I don't clearly understand the meaning of the sentence "However, the largest number of unresolved relationships persist at both inter- and intraspecific levels, with ongoing descriptions of new genera and species". Does it have the implications that new descriptions add to the systematic confusions?

## Aims of the study

It wasn't evident that the echolocation analyses were done by the candidate or by his colleagues.

## Paper 7 (Lesotho horseshoe bats)

Morphometric comparisons: I miss here an external morphological comparison. Details of the horseshoe anatomy is thought to have a high power to separate cryptic taxa (see Chornelia et al 2022 but contrary see Jacobs et al 2013). So, why the authors don't provide descriptions and /or visual clues for the analysed taxa beside the images of Lesotho bats, i.e. *R. augur*, *R. damarensis*? Based on fig 9. I feel *R. cervenyi* has a less elevated connecting process than those of *R. ferrumequinum* and *R. augur*; comparative photographs definitely would help the field ID of these species.

## *Questions*

The descriptive nature of pure taxonomy renders it as a "basic research". What opportunities does the candidate see for the use of taxonomic research in applied research?

How does knowledge sharing and knowledge transfer work in the countries where the research was carried out? Does he see a chance for the establishment of natural history collections in these countries, with their own independent research programmes?

*Final evaluation*

The dissertation entitled “Phylogeographic and systematic studies of selected bat taxa of the western part of the Old World” perfectly fulfils the expectations, and I wholeheartedly recommend it for defence.

Budapest, 5 March 2024

A handwritten signature in blue ink, appearing to read 'Csorba G', is written over the printed name.

Gabor Csorba PhD

Hungarian Natural History Museum