

UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER 2020/21

TITLE OF PAPER: Mammalian Conservation

COURSE CODE: BIO633

TIME ALLOWED: THREE HOURS

INSTRUCTIONS:

1. THE EXAMINATION HAS FOUR (4) QUESTIONS. ANSWER ANY THREE (3).
2. EACH QUESTION CARRIES 30 MARKS.
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE.

SPECIAL REQUIREMENTS: NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATORS

QUESTION 1

Discuss the evolutionary history of African mammals. Explain how the mammalian fauna of the African continent has arising. Make sure to describe the various colonization events, and the groups that evolved *in situ*.

[30 Marks]

QUESTION 2

The IUCN has defined a number of categories to describe the conservation status of plants and animals. Describe these various categories and explain what each category means. Then compare the IUCN Red List system with any two other systems that have been proposed for categorizing conservation value.

[30 Marks]

QUESTION 3

“Large carnivores are incompatible with humanity and are therefore doomed to extinction”. Discuss this statement.

[30 Marks]

QUESTION 4

Bats provide valuable ecosystem services. Describe these services and provide real-life examples to illustrate your answer. Do these positive services out-weigh the negative impacts of disease transmission and crop damage (by fruit bats)?

[30 Marks]

Protein

COVID-19 is an emerging, rapidly evolving situation.
 Get the latest public health information from CDC: <https://www.coronavirus.gov>.
 Get the latest research from NIH: <https://www.nih.gov/coronavirus>.
 Find NCBI SARS-CoV-2 literature, sequence, and clinical content: <https://www.ncbi.nlm.nih.gov/sars-cov-2/>.

GenPept

cytochrome b, partial (mitochondrion) [Stigmochelys pardalis]

GenBank: CBI83378.1

[Identical Proteins](#) [FASTA](#) [Graphics](#)

Go to:

LOCUS CBI83378 378 aa linear VRT 25-JUL-2016
 DEFINITION cytochrome b, partial (mitochondrion) [Stigmochelys pardalis].
 ACCESSION CBI83378
 VERSION CBI83378.1
 DBSOURCE embl accession [FN646155.1](#)
 KEYWORDS .
 SOURCE mitochondrion Stigmochelys pardalis (leopard tortoise)
 ORGANISM *Stigmochelys pardalis*
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Archelosauria; Testudines; Cryptodira; Durocryptodira;
 Testudinoidea; Testudinidae; Stigmochelys.
 REFERENCE 1
 AUTHORS Fritz,U., Daniels,S.R., Hofmeyr,M.D., Gonzalez,J.,
 Barrio-Amoros,C.L., Siroky,P., Hundsdoerfer,A.K. and Stuckas,H.
 TITLE Mitochondrial phylogeography and subspecies of the wide-ranging
 sub-Saharan leopard tortoise *Stigmochelys pardalis* - a case study
 for the pitfalls of pseudogenes and GenBank sequences (Reptilia:
 Testudines: Testudinidae)
 JOURNAL J. Zool. Syst. Evol. Res. 48, 348-359 (2010)
 REFERENCE 2 (residues 1 to 378)
 AUTHORS Mueller,A.
 TITLE Direct Submission
 JOURNAL Submitted (18-DEC-2009) Mueller A., Senckenberg Naturhistorische
 Sammlungen, Koenigsbruecker Landstrasse 159, 01109 Dresden, GERMANY
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In plants and cyanobacteria; cd00290"
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