



FACULTY	Agriculture, Engineering and Natural Sciences		
DEPARTMENT	Environmental Science		
SUBJECT	Biosystematics II		
SUBJECT CODE	EBL3722		
DATE	November 2021		
DURATION	2 hours	MARKS	90

REGULAR EXAMINATION

Examiner: Dr. S. J. Eiseb (University of Namibia)

Moderator: Prof. I. Mapaure (University of Namibia)

This examination paper consists of **2** pages including the front page.

Instructions.

Answer **ALL** questions in Section A.

Answer **ONLY ONE** question in Section B.

UNIVERSITY OF NAMIBIA EXAMINATIONS

Section A.

Answer **all** the questions in section A

Question 1

- | | | |
|------|---|-------------|
| 1.1. | Differentiate between nomenclature and taxonomy. | 6 |
| 1.2. | Does the International Code of Zoological Nomenclature (ICZN) govern names of entities below the species level such as subspecies or populations? | 6 |
| 1.3. | Define the following terms: Holotype and Paralectotype. | 4 |
| 1.4. | Are homonyms across Codes permitted, for example between plants and animals? | 3 |
| 1.5. | Briefly describe the clade Lophotrochozoa as depicted within the “New View of Animal Phylogeny”. | 6 |
| | | /25/ |

Question 2

- | | | |
|------|---|-------------|
| 2.1. | Two different names, <i>Apis mellifera</i> Linnaeus, 1758 and <i>Apis socialis</i> Latreille, 1802 were originally described for the honey bee species. It was later discovered that <i>Apis socialis</i> is just a dark variant of <i>Apis mellifera</i> .
(a) Which one of the “Ruling Principles” will taxonomists use to determine the correct name of this species?
(b) What will be the correct name? | 3 |
| 2.2. | Why are there sometimes brackets around the author names in systematics? Answer this question with reference to the scientific name of the African lion. | 9 |
| 2.3. | Briefly describe the Morphological Species Concept (MSC) with elaborations on the advantages and disadvantages of the MSC. | 11 |
| 2.4. | Differentiate between the Subphyla: Myriapoda and Chelicerata | 12 |
| | | /35/ |
| | Total Section A | 60 |

Section B

Answer only **one (1)** question from this section.

Question 1

- | | |
|--|-------------|
| Discuss the multiple roles of taxonomy in biology. | 30 |
| | /30/ |

Question 2

- | | |
|--|---------------------------|
| Discuss the phylogeny of the African Bathyergidae, with reference to the below article.
Visser, J. H., Bennett, N. C., & Jansen van Vuuren, B. (2019) Phylogeny and biogeography of the African Bathyergidae: a review of patterns and processes. <i>PeerJ</i> , 7:e7730 DOI 10.7717/peerj.7730 | 30 |
| | /30/ |
| | Total Section B 30 |
| | Grand Total /90/ |