



# THE MODULE HANDBOOK

## FACULTY OF BIOLOGY

### Paleozoology

<b>Module code</b>	BID 41108IUP
<b>Module level</b>	3 <sup>rd</sup> year of Undergraduate Program in Biology
<b>Abbreviation, if applicable</b>	-
<b>Sub-heading, if applicable</b>	-
<b>Courses included in the module, if applicable</b>	-
<b>Semester/term</b>	Odd
<b>Module coordinator(s)</b>	Drs. Bambang Agus Surtpto, S.U., M.Sc.
<b>Lecture(s)</b>	Drs. Bambang Agus Surtpto, S.U., M.Sc.
<b>Language</b>	English
<b>Classification within the Curriculum</b>	Elective course
<b>Teaching format/class hours per week during the semester</b>	This course is organized into one class and planned to have 14 teaching weeks and 2 weeks of examination.
<b>Workload</b>	Estimated working hour: 10,5 hours/week.
<b>Credit points</b>	2-1 credits
<b>Requirements</b>	(BIB 30005IUP), Plant Systematics (BIB 21001IUP)
<b>Learning goals/competencies</b>	<p><b>1. Learning achievement</b></p> <p>After studying these subjects in general students are expected to describe the whole of the diversity of vertebrate animals that once inhabited the territory of Indonesia , to know where they came from, why some of them extinct and the types of any of their descendants are now surviving and where they now reside. Specifically , students are expected:</p> <ol style="list-style-type: none"><li>To understand the paleogeography and paleoecology Indonesian reconstruction in Sub - era Quarter / Period Pleistogen.</li><li>To be able to explain the place of origin, time, route and manner of vertebrate animals migrate from the outside into the territory of Indonesi.</li><li>To be able to explain the findings of fossils of fish , amphibians, reptiles, birds and mammal in Indonesia; especially the taxonomic identity, the site is found and the age of the geological and reconstruction paleoecology.</li><li>To understand the reason Indonesia has vertebrate animals with high levels of endemicity, and</li></ol>



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- e. Capable of performing the preparation method - observation and identification of fossils found in paleontological sites in Java.

### 2. Learning materials

This course is held as many as 13 face to face meetings with the following subject:

- a. A brief history, the significance and usefulness for the development of another field of studies
- b. Reconstruction of paleogeography and paleoecology of Indonesia in Quarter Sub-era/ Pleistogen Periode: Pleistocene Epoch
- c. Reconstruction of paleogeography and palaeoecology of Indonesia in Quarter Sub-era/ Pleistogen Periode: Holocene Epoch
- d. The place origin, time, route and way of vertebrate animals migrated from the Indian territory to the territory of Indonesia
- e. The place of origin, time, route and manner of vertebrate animals migrated from Indochina region into Indonesia
- f. Place of origin, time, route and manner of vertebrate animals migrated from areas of Australia into Indonesia
- g. The findings of fish and amphibian fossils in Indonesia: taxonomic identity, the sites, the age of the geological and paleo ecological reconstruction
- h. The findings of reptile fossils in Indonesia: taxonomic identity, the site, the age of the geological and paleo ecological reconstruction
- i. The findings of fossil birds in Indonesia I: taxonomic identity, the sites and the age of the geological and paleo ecological reconstruction
- j. The findings of bird fossis in Indonesia II: taxonomic identity, the sites, the age of the geological and paleo ecological reconstruction
- k. The findings of fossil mammal in Indonesia I: taxonomic identity, the site is found and the age of the geological and paleo ecological reconstruction
- l. The findings of fossil mammal in Indonesia II: taxonomic identity, the sites, the age of the geological and paleo ecological reconstruction
- m. The high of vertebrate animal endemicity in Indonesia

### Content

Paleozoology lecture is more emphasis on knowledge of vertebrate fossils found in Indonesia which are already extinct, still survive in Indonesia, or already extinct in Indonesia but still living in another country. Paleozoology course in the Faculty of Biology is a branch of the rare if not the only one in Indonesia. This option course is intended for upper level students who want to open up



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	<p>opportunities for him to join the community of paleontologists in Indonesia whose members are mostly just not background biologist. In this course include an introduction that discusses the short history, significance and usefulness paleozoology for the development of other sciences; reconstruction of the paleogeography and paleoecology Indonesia in Sub-era Quarter / Period Pleistogen; vertebrate animal migration from outside Indonesia to Indonesian territory: the place of origin, time, route and manner; age and location finding fossils of fish, amphibians, reptiles, birds and mammal in Indonesia: taxonomic identity, the site is found and the age of the geological and reconstruction paleoecology; and the reason Indonesia has vertebrata animals with a high degree of endemism. In the exercise practicum taught how-preparation techniques of observation and identification of fossil vertebrates, especially the fossils found in paleontological sites in Java.</p>
<b>Study/exam achievements</b>	<ol style="list-style-type: none"><li>1. Midterm: 25 %</li><li>2. Final examination: 50%</li><li>3. Field trip/laboratory work: 30 %</li><li>4. Project report: 10 %</li><li>5. Assignment: 5 %</li><li>6. Quiz: 10 %</li></ol>
<b>Forms of media</b>	White board, notebook, LCD
<b>Literature</b>	<ol style="list-style-type: none"><li>1. Bergh, van den G.D., J. de Vos, and P.Y. Sondaar, 2001. The late quaternary paleogeography of mammal evolution in the Indonesian Archipelago. <i>Paleogeography, Paleoclimatology</i>, 171 (2001) 385-408.</li><li>2. Colbert, E.H., 1955. <i>Evolution of the Vertebrates: A history of the backboned animals through time</i>. John Wiley &amp; Sons., New York. 479 pp.</li><li>3. Gupta, S.S., and B.C. Verma, 1988. Stratigraphy and vertebrate fauna of the siwalik group, Mansar-Uttarbaini Section, Jammu District, J &amp; K. <i>Journal of the Palaeontological Society of India</i> Vol. 33. 1988, P.P. 117 – 124.</li><li>4. Meijer, H.J.M., 2014. The avian fossil records in Insular Southeast Asia and its implications for avian biogeography and paleoecology. <i>PeerJ</i> 2:e295.</li><li>5. Mishra, S., C. Gaillard, C. Hertler, A. Moigne, and T. Simanjuntak, 2009. India and Java: contrasting records, intimate connections. <i>Quaternary International</i> 223-224 (2010) 265 – 270.</li><li>6. Romer, A.S., 1962. <i>Vertebrate Paleontology</i>. The University of Chicago Press, Chicago.</li><li>7. Tougaard, C. 2000. Biogeography and migration routes of large mammal faunas in South-East Asia during the</li></ol>



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- Late Middle Pleistocene: focus on fossil and extant faunas from Thailand. *Paleogeography, Paleoclimatology*, 168 (2000) 337-358.
8. Zittel, K.A., 1964. *Text Book of Paleontology*. MacMillan and Co., Limited, London.
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