

Name of the subject: INTEGRATIVE TAXONOMY		
Teacher(s): Dr. Ante Vujić, Dr. Jelena Ačanski		
Status of the subject: elective		
Number of ECTS points: 15		
Condition: none		
Goal of the subject The main objective of the subject is to emphasize the importance of taxonomy as a biological discipline with an important role in biodiversity conservation, as well as a species as a basic unit of taxonomy. The subject focus is on an integrative taxonomy approach which is using several different methods in species identification (molecular marker analysis, comparative morphology, geometric morphometrics, as well as data on species distribution and habitat biogeographic features). Besides this, the subject will provide basic knowledge of collecting and storage of zoological material, its classification, terms in zoological nomenclature, and evaluation of taxonomic characters.		
Outcome of the subject The course Integrative taxonomy will provide the basis of integrative taxonomy principles and students will learn to independently apply integrative taxonomy methods to address specific taxonomic issues		
Content of the subject <i>Theoretical lectures</i> - The basics of zoological nomenclature, systematics and integrative taxonomy. Significance and types of taxonomic characters. Morphological matrix and its application. Application of geometric morphometric and molecular markers in taxonomic studies. Basics of DNA Barcoding. Molecular methods in defining cryptic species. <i>Practical lectures</i> - Understanding the most common methods used in integrative taxonomy: traditional morphological analyzes and the use of taxonomic keys for species identification, geometric-morphometric and molecular data analyzes.		
Recommended literature <ol style="list-style-type: none"> Knapp S. In: The New Taxonomy. Wheeler QD, editor. CRC Press, Taylor and Francis Group; 2008. Taxonomy as a team sport; pp. 33–53. The International Code of Zoological Nomenclature. http://iczn.org/iczn/index.jsp# Verma, A. Principles of Animal Taxonomy. Morgan & Claypool, 2015, UK; pp. 404. Balfour, A. & Fasso, D. Principles of Plant and Animal Taxonomy. Syrawood Publishing House, 2016, USA; pp. 263. Templeton AR. Species and speciation: Geography, population structure, ecology, and gene trees. In: (Howard DJ, Berlocher SH (eds.) Endless Forms: Species and Speciation. New York, NY:Oxford University Press;1989. p.32-41, de Queiroz K. The general lineage concept of species, species criteria, and the process of speciation. In: DJ Howard, Berlocher SH (eds.) Endless Forms: Species and Speciation. Oxford University Press;1998. p.57-75. Zelditch, M.L., Swiderski, D.L. and Sheets, H.D., 2012. Geometric morphometrics for biologists: a primer. Academic Press. Selected scientific papers published in international journals 		
Number of active classes	Theory: 5	Practice: 5
Methods of delivering lectures Video presentation, interactive discussion, consultations.		
Evaluation of knowledge (maximum number of points 100) Oral exam (40), Term paper (60).		