

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	ARAHNOLOGIJA: UVOD V TERENKE IN LABORATORIJSKE RAZISKAVE
Course title:	ARACHNOLOGY: INTRODUCTION TO FIELD AND LABORATORY RESEARCH

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Okoljske in regionalne študije, doktorski študij 3. stopnje	Biodiverziteta in ekologija		
Environmental and Regional Studies, doctoral study 3 rd level	Biodiversity and ecology		

Vrsta predmeta / Course type

Izbirni/ Elective

Univerzitetna koda predmeta / University course code:

DIB06

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
5	10	40		5	120	6

Nosilec predmeta / Lecturer:

doc. dr. Matjaž Gregorič

Jeziki /

Predavanja / Lectures:

slovenščina, angleščina / Slovene, English

Languages:

Vaje / Tutorial:

slovenščina, angleščina / Slovene, English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Opravljen prva ali druga stopnja študija biologije ali ekvivalentne smeri

Prerequisite:

Finished bachelor's or master's degree in Biology or equivalent program of study

Vsebina:

- Uvod v arahnologijo, osnove biologije pajkovcev
- Terensko vzorčenje specifično za favne pajkov, suhih južin, ščipalcev, paščipalcev
- Identifikacija vseh družin ter tipičnih srednjeevropskih rodov in vrst pajkov, suhih južin, ščipalcev, paščipalcev
- Terenske in laboratorijske eksperimentalne raziskave
- Seminar

Content (Syllabus outline):

- Introduction to arachnology, fundamentals of arachnid biology
- Field sampling specific for faunas of spiders, harvestmen, scorpions, and pseudoscorpions
- Identification of all families, and typical central European genera and species of spiders, harvestmen, scorpions, and pseudoscorpions
- Field and laboratory experimental research
- Seminar

Temeljna literatura in viri / Readings:

- Foelix, R. (2011). *Biology of spiders*. Oxford University Press.
- Herberstein, M. E. (2011). *Spider behaviour: flexibility and versatility*. Cambridge University Press.
- Jocqué, R., Dippenaar-Schoeman, A.S. (2006). *Spider families of the world*. Musée royal de l'Afrique centrale.
- Primarna taksonomska literatura / Primary taxonomic literature.

Cilji in kompetence:

Namen predmeta je seznaniti študente s koncepti in metodami v arahnologiji, torej biologiji pajkovcev. Skupina pajkovcev, kamor uvrščamo pajke, suhe južine, ščipalce, paščipalce, klope in pršice ter druge manj znane redove, je svetovno razširjena, ekološko pomembna in s preko 100 tisoč znanimi in mnogimi neznanimi vrstami izjemno raznolika. Podiplomski študenti, ki želijo raziskovati pajkovce, pogosto naletijo na nepremostljive ovire povezane z njihovim vzorčenjem in identifikacijo. Tekom intenzivnega 15 dnevnega poletnega tečaja se bodo študenti seznanili z dnevnim in nočnim vzorčenjem pajkovcev, njihovo identifikacijo s tradicionalnimi morfološkimi metodami ter črtnimi kodami DNA, z osnovami njihove biologije ter koncepti laboratorijskega in terenskega eksperimentalnega dela.

Objectives and competences:

The course aims to introduce students with the concepts and methodology in arachnology, the biology of arachnids. The Arachnida, comprising spiders, harvestmen, scorpions, pseudoscorpions, ticks and mites, as well as other minor orders, is a global, ecologically important, and with over 100 thousand known and many unknown species an extremely species rich animal group. Post graduate students wishing to conduct arachnid research often experience insurmountable obstacles related to arachnid sampling and identification. During this intensive 15 day summer course the students will become familiar with diurnal and nocturnal sampling of arachnids, their identification via traditional morphological methods as well as through DNA barcoding, the basics of their biology, and with the concepts of arachnid experimental research both in the field and in the laboratory.

Predvideni študijski rezultati:

- Poznavanje metod in konceptov v terenski in eksperimentalni arahnologiji.
- Uporaba originalno pridobljenih favnističnih, ekoloških in molekulskih podatkov v obliki seminarja.
- Usmeritev v raziskovalno delo na področju arahnologije.

Intended learning outcomes:

- Understanding of methods and concepts in field and laboratory based arachnid experimental research.
- The use of original faunistic, ecological, and molecular data within a seminar.
- Introduction into arachnological research.

Metode poučevanja in učenja:

- Predavanja
- Terensko vzorčenje
- e-učenje
- Laboratorijske vaje
- Seminar

Learning and teaching methods:

- Lectures
- Field sampling
- e-learning
- Laboratory practicum
- Seminar

Načini ocenjevanja:

Delež (v %) /
Weight (in %)

Assessment:

<ul style="list-style-type: none"> ● Predstavitev seminarske naloge ● Seminarska naloga (pisni izdelek) 	<p>20</p> <p>80</p>	<ul style="list-style-type: none"> ● Presentation of a seminar ● Class papers
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Reference nosilca / Lecturer's references:

1. Luo Y., Goh S. P., Li D., Gonzaga M. O., Santos A. J., Tanikawa A., Yoshida H., Haddad C. R., May-Collado L. J., **Gregorič M.**, Turk E., Kuntner M., Agnarsson I. (2020). Global diversification of *Anelosimus* spiders driven by long distance overwater dispersal and Neogene climate oscillations. *Systematic Biology* syaa017.
2. Garb J. E., Haney R. A., Schwager E. E., **Gregorič M.**, Kuntner M., Agnarsson I. & Blackledge T. A. (2019). The transcriptome of Darwin's bark spider silk glands predicts proteins contributing to dragline silk toughness. *Communications Biology* 2: 275.
3. **Gregorič M.**, Šuen K., Cheng R. C., Kralj-Fišer S. & Kuntner M. (2016). Spider sexual behaviors include oral sexual encounters. *Scientific Reports* 6:25128.
4. **Gregorič, M.**, Agnarsson, I., Blackledge, T. A., & Kuntner, M. (2015). Phylogenetic position and composition of Zygiellinae and *Caerostris*, with new insight into orb-web evolution and gigantism. *Zoological Journal of the Linnean Society*.
5. **Gregorič, M.**, Agnarsson, I., Blackledge, T. A., & Kuntner, M. (2011). How did the spider cross the river? Behavioral adaptations for river-bridging webs in *Caerostris darwini* (Araneae: Araneidae). *PloS one*, 6(10), e26847.