



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: Vedenjska ekologija
Course: Behavioural Ecology

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Academic year	Semester Semester
Biologija in ekologija z naravovarstvom, 2. stopnja	/	1/2	Poletni/ zimski
Biology and Ecology with Nature Conservation, 2 nd cycle	/	1/2	Summer/ Winter

Vrsta predmeta / Course type

Izbirni/Elective

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Druge oblike študija	Samost. delo Individ. work	ECTS
15	15		15		135	6

Nosilec predmeta / Lecturer:

Vesna Klokočovnik

**Jeziki /
Languages:**

**Predavanja /
Lectures:** Slovensko / Slovenian

Vaje / Tutorial: Slovensko / Slovenian

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

Jih ni.

Prerequisites:

None.

Vsebina:

Content (Syllabus outline):

Uvod v vedenjsko ekologijo
Naravna selekcija, ekologija in vedenje
Plenilsko vedenje: Interakcija med plenilcem in plenom, Evolucijska oborožena bitka
Spolni izbor, kompeticija sperme in spolni konflikt
Starševska skrb in družinski konflikti

behavior
- An introduction in Behavioural Ecology
- Natural selection, ecology and behavior
- Predatory behavior, Predator-prey interactions, Evolutionary Arm Races
- Sexual selection, sperm competition and sexual conflict
- Parental care and family conflicts

Temeljni literatura in viri / Readings:

Temeljna literatura/ Basic literature:

- Davies, N. B., Krebs, J. R., West, S. A. (2012). An Introduction to Behavioural Ecology. Fourth edition. Wiley-Blackwell.

Priporočena literatura/ Recommended literature:

- MacKay, J. R. D. (2018). Animal Personality: The Science Behind Individual Variation. 5m Publishing

- Rubenstein, D.R., Alcock, J., (2018). Animal behavior. 11th ed. Oxford University Press.

- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press

- Martin, P. R., Bateson, P. P. G. (2010). Measuring behaviour : an introductory guide. Cambridge University Press.

Cilji in kompetence:

- na posameznih primerih razložijo, kako se je vedenje spreminjalo skozi evolucijski razvoj
- razumejo, kako je vedenje živali prilagojeno na okolje v katerem živijo;
- znajo razložiti razlike med vzrokom in funkcijo vedenja;
- razložijo interakcije med plenom in plenilcem
- na primerih razložijo spolni izbor ter njegov pomen;
- razložijo evolucijo starševske skrbi pri posameznih skupinah organizmov ter navedejo kakšne so koristi ter slabosti starševstva ter vloga posameznega spola;
- znajo poiskati ustrezno literaturo;
- znajo zasnovati, izvesti vedenjski poskus ter ustrezno interpretirati rezultate;

Objectives and competences:

- on study cases explain how behaviour has changed through evolutionary development;
- understand how behaviour of animals is adapted to the environment in which they live;
- explain the differences between the cause and the function of behaviour;
- explain predatory-prey interactions;
- on study cases explain sexual selection;
- explain the evolution of parental care in different groups of animals and understand the costs and benefits of parental care;
- search for basic literature;
- know how to design behavioural experiment and interpret the results.

Predvideni študijski rezultati:

Intended learning outcomes:

<p>Po uspešno opravljene učne enote so študentje zmožni:</p> <ul style="list-style-type: none"> - razložiti povezavo med vedenjem in evolucijo ter okoljem; - navesti primere interakcij med plenom in plenilcem; - navesti primere starševske skrbi; - na primerih razložiti, kako poteka spolni izbor; - razlikovati med vzrokom in funkcijo vedenja; - zasnovati in izvesti eksperiment; - predstaviti ter interpretirati svoje rezultate. <p>Prenesljive/ključne spretnosti in drugi atributi: Sposobnost načrtovati ter izvesti vedenjski poskus Uporabiti ustrezno metodologijo dela Sposobnost interpretirati rezultate poskusa Povezati pomen in spreminjanje vedenja v povezavi z evolucijo in okoljem.</p>

<p>After the course, students are able to:</p> <ul style="list-style-type: none"> - explain relations between behaviour vs. evolution and environment; - give examples of predator-prey interactions; - give examples of parental care; - on the study cases explain sexual selection - differ between the cause and function of behavior; - design and perform an experiment; - present and interpret the results. <p>Transferable/Key Skills and other attributes: Ability to design and perform behavioural experiment; Ability to use appropriate methods of work Ability to interpret the results of experiment Understand the connection between behaviour vs. evolution and the environment.</p>
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<p>Metode poučevanja in učenja:</p> <p>Predavanja Seminarji Laboratorijske vaje - individualno eksperimentalno delo</p>
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<p>Learning and teaching methods:</p> <p>Lectures Seminars Laboratory exercises – individual experimental practice</p>

	Delež (v %) / Weight (in %)	Assessment:
<p>Načini ocenjevanja:</p> <ul style="list-style-type: none"> - Individualno raziskovalno delo s predstavitvijo (seminarska naloga) - Pisni izpit <p>Pozitivno opravljena predstavitvev (seminarska naloga) individualnega eksperimentalnega dela je pogoj za pristop k izpitu.</p>	<p>50</p> <p>50</p>	<ul style="list-style-type: none"> - Individual experimental work with presentation (seminar essay) - Written exam <p>A positive result of individual experimental work (presentation) is a prerequisite for the written exam.</p>

<p>Reference nosilca / Lecturer's references:</p> <p>KLOKOČOVNIK, Vesna, DEVETAK, Dušan, ORLAČNIK, Marina. Behavioral plasticity and variation in pit construction of antlion larvae in substrates with different particle sizes. <i>Ethology</i>, Nov. 2012, vol. 118, iss. 11, str. 1102-1110, doi: 10.1111/eth.12012. [COBISS.SI-ID 19324936]</p>

KLOKOČOVNIK, Vesna, DEVETAK, Dušan. Pit-builder vs non-pit-builder : advantage of trap building strategy in antlion larvae does not mean greater behaviour diversity. *Behaviour*, ISSN 0005-7959, 2014, vol. 151, issue 5, str. 653-668, ilustr.

<http://booksandjournals.brillonline.com/content/journals/10.1163/1568539x-00003156>, doi: 10.1163/1568539X-00003156. [COBISS.SI-ID 20356872]

KLOKOČOVNIK, Vesna, HAUPTMAN, Gregor, DEVETAK, Dušan. Effect of substrate temperature on behavioural plasticity in antlion larvae. *Behaviour*, ISSN 0005-7959, 2016, vol. 153, issue 1, str. 31-48, doi: 10.1163/1568539X-00003322. [COBISS.SI-ID 21695496]

KLOKOČOVNIK, Vesna, ŠORGO, Andrej, DEVETAK, Dušan. Hands-on experiments on predatory behaviour with antlion larvae. *Journal of Biological Education*, ISSN 0021-9266, 2016, vol. 50, no. 4, str. 384-394, ilustr., doi: 10.1080/00219266.2015.1117513. [COBISS.SI-ID 21928200]