



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	<b>Izbrana poglavja iz etologije</b>
<b>Course title:</b>	<b>Selected Topics in Ethology</b>

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1 <sup>st</sup> or 2 <sup>nd</sup>	1.- 4.; 1 <sup>st</sup> -4 <sup>th</sup>
Doctoral Study Ecological Sciences, 3 <sup>rd</sup> cycle			

Vrsta predmeta / Course type:

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Terenske vaje Field work	Samost. delo Individ. work	ECTS
15	10		5		150	6

Nosilec predmeta / Lecturer:

Jeziki / Predavanja / Lectures:   
Languages: Vaje / Tutorial:

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

**Prerequisites:**

**Vsebina:**

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Vedenje in dednost
- Vpliv živčevja na vedenje
- Adaptacija vedenja v evolucijskem razvoju
- Trend evolucije vedenja
- Plenilsko vedenje ter protiplenilske strategije plena
- Iskanje plena ter optimalno prehranjevalno vedenje

**Content (Syllabus outline):**

Selected topics in the following chapters are discussed.

- Genetics of behaviour
- The neural basis of behaviour
- Adaptation of behaviour in evolutionary development
- The evolutionary trends of behaviour
- Predatory behaviour and anti-predator tactics of prey
- Foraging and optimal foraging behaviour

- Vedenjska ekologija socialnega vedenja
- Evolucijski pristop k študiju vedenja človeka
- Aplikativna etologija
- Izbrane metode preučevanja vedenja živali

- Behavioural ecology of social behaviour
- Evolutionary approach of studying human behaviour
- Applied ethology
- Selected methods in studying animal behaviour

### Temeljni literatura in viri / Readings:

Temeljni / Basic:

- Rubenstein, D.R., Alcock, J., (2018). Animal behavior. 11th ed. Oxford University Press
- Alcock, J., (2013). Animal behavior: an evolutionary approach. 10th ed. Freeman, Sunderland.

Priporočeni / Recommended:

- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press
- Stamp Dawkins, M. (2007). Observing animal behaviour : design and analysis of quantitative data. Oxford University Press
- McFarland, D. (1999). Animal Behaviour : Psychobiology, ethology and evolution. Pearson: Prentice Hall.

### Cilji in kompetence:

Študenti:

- na primerih znajo izbrati ustrezno metodo, ki se uporabljajo pri študiju vedenja
- podrobno usvojijo temeljna znanja za raziskovanje kompleksnosti vedenja
- razložijo vpliv živčevja in dednosti na vedenje
- opišejo plenilsko vedenje ter optimalno prehranjevalno vedenje
- podajo primere socialnih živali
- na primerih navedejo uporabo aplikativne etologije

### Objectives and competences:

Students:

- Advanced understanding methods used in behavioural studies
- Advanced knowledge necessary to study complexity of behaviour
- Explain neural basis and genetics of behaviour
- describe predatory behaviour and optimal foraging behaviour
- give examples of social animals
- give examples of the use of applied ethology

### Predvideni študijski rezultati:

#### Znanje in razumevanje:

Po opravljeni učni enoti naj bi bili študentje zmožni:

- razumeti povezavo med vedenjem in evolucijo
- razložiti kompleksnost vedenja
- razumeti in razložiti živčne osnove vedenja ter vpliv dedovanja
- podati primere plenilskega vedenja in optimalnega hranjenja.
- podati primere socialnih živali ter razložiti prednosti in slabosti socialnega vedenja pomen socialnega vedenja

### Intended learning outcomes:

#### Knowledge and understanding:

After the course, students are able to:

- understand of relations between behaviour and evolution
- understand details of the complexity of behaviour
- understand and explain the neural basis of behaviour and genetics
- to give examples of predatory behaviour and optimal foraging
- to give examples of social animals and explain the costs and benefits of social life.

**Prenesljive/ključne spretnosti in drugi atributi:**

- znajo načrtovati in izvesti etološke eksperimente
- znajo ovrednotiti rezultate etološkega poskusa
- Pripraviti ter opraviti predstavitev

**Transferable/Key Skills and other attributes:**

- ability to plan and perform ethological experiments
- ability to evaluate the results of a behavioural experiment
- prepare and perform presentation

**Metode poučevanja in učenja:**

- Predavanja
- Laboratorijske vaje – individualno eksperimentalno delo

**Learning and teaching methods:**

- Lectures
- Laboratory excersises – individual experimental practice

Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

- Kolokvij iz vaj
- Pisni izpit

50%  
50%

- Examination of experimental practice
- Written exam

**Reference nosilca / Lecturer's references:**

DEVETAK, Dušan, ARNETT, Amy E. Preference of antlion and wormlion larvae (Neuroptera: Myrmeleontidae; Diptera: Vermileonidae) for substrates according to substrate particle sizes. *European Journal of Entomology*, ISSN 1210-5759, 2015, vol. 112, iss. 3, str. 500-509, doi: [10.14411/eje.2015.052](https://doi.org/10.14411/eje.2015.052). [COBISS.SI-ID [21327368](#)], [SNIP, WoS do 26. 2. 2017: št. citatov (TC): 6, čistih citatov (CI): 5, Scopus do 28. 1. 2017: št. citatov (TC): 5, čistih citatov (CI): 4] IY - entomology ; 51/94 ; četrtina: 3 ; x=1.329 ; IFmin: 0.575 ; IFmax: 0.986

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](https://doi.org/10.1163/1568539x-00003156). [COBISS.SI-ID [20356872](#)], [JCR, SNIP, WoS do 17. 11. 2016: št. citatov (TC): 4, čistih citatov (CI): 1, Scopus do 27. 11. 2016: št. citatov (TC): 4, čistih citatov (CI): 1] ZM - zoology ; 65/154 ; četrtina: 2 ; x=1.336 ; IFmin: 1.015 ; IFmax: 1.727

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](https://doi.org/10.1163/1568539x-00003322). [COBISS.SI-ID [21695496](#)], [JCR, SNIP, WoS do 26. 12. 2015: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 14. 3. 2016: št. citatov (TC): 0, čistih citatov (CI): 0] ZM - zoology ; 58/161 ; četrtina: 2 ; x=1.262 ; IFmin: 0.989 ; IFmax: 1.655

DEVETAK, Dušan. Sand-borne vibrations in prey detection and orientation of antlions. V: COCROFT, Reginald Bifield (ur.), et al. *Studying vibrational communication*, (Animal signals and communication, ISSN 2197-7305, vol. 3). Berlin; Heidelberg: Springer, cop. 2014, str. 319-330, ilustr., doi: [10.1007/978-3-662-43607-3\\_16](https://doi.org/10.1007/978-3-662-43607-3_16). [COBISS.SI-ID [20779528](#)]