



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Izbrana poglavja iz etologije
Course title:	Selected Topics in Ethology

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1st or 2nd	1.- 4.; 1st-4th
Doctoral Study Ecological Sciences, 3rd degree			

Vrsta predmeta / Course type: Izbirni/Elective

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: Dušan DEVETAK

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

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

Poznavanje fiziologije živali na ravni univerzitetnega programa ter metod dela v fiziologiji živali na ravni drugostopenjskega študija

Prerequisites:

Knowledge of animal physiology at graduate level, and of methods in animal physiology at master level

Vsebina:

Content (Syllabus outline):

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Evolucijski pristop k študiju vedenja živali
- Raznolikost vedenja
- Vedenje in dednost
- Razvoj vedenja
- Živčne osnove vedenja
- Organizacija vedenja
- Trendi v evoluciji vedenja
- Evolucija adaptacij. Evolucija komunikacij
- Izbira habitata, migracije, teritorialnost
- Adaptivno prehranjevalno vedenje
- Adaptacije na plenilstvo
- Razmnoževalne strategije; ekologija razmnoževanja
- Skrb za potomstvo
- Ekologija socialnega vedenja
- Evolucijski pristop k študiju vedenja človeka

Selected topics in the following chapters are discussed.

- An evolutionary approach to animal behaviour
- The diversity of behaviour
- The genetics of behaviour
- The development of behaviour
- The neural basis of behaviour
- The organization of behaviour
- The evolution of behaviour: historical pathways
- The evolution of adaptations and communication
- Habitat selection, migration, territoriality
- Adaptive feeding behaviour
- Coping with predators
- Reproductive tactics; the ecology of mating system
- Care for offspring
- The ecology of social behaviour
- An evolutionary approach to human behaviour

Temeljni literatura in viri / Readings:

- Alcock, J., (2013). Animal behavior: an evolutionary approach. 10th ed. Freeman, Sunderland.
- Manning, A., Stamp Dawkins, M. (2012). An introduction to animal behaviour. Cambridge University Press
- Stamp Dawkins, M. (2007). Observing animal behaviour : desing and analysis of quantitative data. Oxford University Press
- McFarland, D. (1999). Animal Behaviour : Psychobiology, ethology and evolution. Pearson: Prentice Hall.

Cilji in kompetence:

Študenti

- Podrobno razumejo metode, ki se uporabljajo pri študiju vedenja
- Podrobno usvojijo temeljna znanja za raziskovanje kompleksnosti vedenja
- Podrobno spoznajo, da se je vedenje med evolucijo spreminjalo
- Podrobno spoznajo področja, na katerih se aplicirajo znanja etologije (npr. sociologija, filozofija, psihologija)

Objectives and competences:

Students:

- Advanced understanding methods used in behavioural studies
- Advanced knowledge necessary to study complexity of behaviour
- Advanced understanding evolutionary trends in behaviour
- Students get acquainted in detail with the areas in which ethology is applied (e. g. sociology, philosophy, psychology)

Predvideni študijski rezultati:

Intended learning outcomes:

Znanje in razumevanje:

Študenti

- Podrobno razumejo povezavo med vedenjem in evolucijo
- Podrobno spoznajo kompleksnost vedenja
- Podrobno razumejo živčne osnove vedenja
- Podrobno razumejo adaptivno vlogo plastičnosti vedenja
- Podrobno razumejo pomen socialnega vedenja

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost podrobno nacrtovati in izvesti zahtevne eksperimente za testiranje odzivov živali na kontrolirane spremembe v njenem okolju
- Sposobnost podrobno ovrednotiti rezultate etološkega poskusa

Knowledge and understanding:

- Advanced understanding of relations between behaviour and evolution
- Become aware of details of the complexity of behaviour
- Advanced understanding of the neural basis of behaviour
- Advanced understanding of an adaptive role of plasticity of behaviour
- Advanced understanding of the significance of social behaviour

Transferable/Key Skills and other attributes:

- Ability to arrange complex experiments testing behavioural responses of an animal to controlled changes of its environment
- Ability to evaluate results of a behavioural experiment in detail

Metode poučevanja in učenja:

- Predavanja
- Laboratorijske vaje – individualno eksperimentalno delo

Learning and teaching methods:

- Lectures
- Laboratory exercises – individual experimental practice

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

- Kolokvij iz vaj	50%	- Examination of experimental practice
- Pisni izpit	50%	- 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](https://www.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>. [COBISS.SI-ID [20356872](https://www.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](https://www.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](https://www.cobiss.si/id/20779528)]