



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: Izbrana poglavja iz predatorskega vedenja
Course title: Selected Topics in Predatory Behaviour

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 st or 2 nd	1.- 4.; 1 st -4 th
Doctoral Study Ecological Sciences, 3 rd cycle			

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	5		10		150	6

Nosilec predmeta / Lecturer:

Vesna KLOKOČOVNIK

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

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

Poznavanje fiziologije in ekologije na ravni univerzitetnega programa ter eksperimentalnih metod v fiziologiji na ravni drugostopenjskega programa

Prerequisites:

Knowledge of physiology and ecology at graduate level, and Knowledge of experimental methods in physiology at master level

Vsebina:

Content (Syllabus outline):

Obravnavana so izbrana poglavja iz naslednjih sklopov.

- Zaznavanje plena in njegovo prepoznavanje
- Teorija optimalnega iskanja hrane
- Predator in učinkovitost iskanja hrane
- Vpliv predatorjev in kompetitorjev na optimalno iskanje hrane
- Lov plena; socialnost in lov večjega plena
- Prilagoditve plena na predatorje: zmanjšanje možnosti zaznavanja; zmanjšanje možnosti napada; zmanjšanje možnosti ulova; zmanjšanje možnosti konzumiranja

- Detecting prey and its recognition
- Theory of optimal foraging
- Predator and foraging efficiency
- Role of predators and competitors in optimal foraging
- Capturing prey; Sociality and the capture of large prey
- Coping with predators adaptively: Making detection less likely. Making an attack less likely. Making capture less likely. Making consumption less likely.

Temeljni literatura in viri / Readings:

- 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.
- Davies, N. B., Krebs, J. R., West, S. A. (2012). An Introduction to Behavioural Ecology. Fourth edition. Wiley-Blackwell.
- Foelix, R. F. (2011). Biology of spiders. Oxford University Press.
- Herberstein, M. E. (2011). Spider behaviour : flexibility and versatility. Cambridge University Press.
- McFarland, D. (1999). Animal Behaviour : Psychobiology, ethology and evolution. Pearson: Prentice Hall.
- Dugatkin, L. A. (ed.), (2001). Model systems in behavioral ecology. Princeton University Press, Princeton

Cilji in kompetence:

Po opravljeni učni enoti naj bi bili študentje zmožni:

- predstaviti metode študija vedenja
- na primerih razložijo teorijo optimalnega plenjenja
- razložijo evolucijsko spreminjanje predatorskega vedenja
- prepoznajo vlogo predatorjev za evolucijo/ selekcijo plena
- navedejo primere strategij obrambe plena pred plenilci

Objectives and competences:

Students:

- present advanced methods used in behavioural studies
- explain optimal foraging theory
- explain detail evolutionary trends in predatory behaviour
- recognize the role of predators in prey evolution/selection
- give examples of antipredator strategies of prey

Predvideni študijski rezultati:

Znanje in razumevanje:
Študenti:

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

Intended learning outcomes:

Knowledge and understanding:
Students:

- Understand advanced connection between predatory behaviour and evolution
- Become advanced knowledge of the complexity of predatory behaviour
- Understand in detail the neural basis of behaviour
- Understand in detail the adaptive role of plasticity of predatory behaviour

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost načrtovati in izvesti kompleksne eksperimente za testiranje odzivov živali na kontrolirane spremembe v njenem okolju
- Sposobnost ovrednotiti rezultate kompleksnega etološkega poskusa

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 complex behavioural experiment

Metode poučevanja in učenja:

- Predavanja
- Seminar
- Laboratorijske vaje – individualno eksperimentalno delo

Learning and teaching methods:

- Lectures
- Seminar
- Laboratory excersises – individual experimental practice

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

- Kolokvij iz vaj	30 %	- Partial exam of experimental practice
- Seminarska naloga	30 %	- Seminar essay
- Pisni izpit	40 %	- Written exam

Reference nosilca / Lecturer's references:

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](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

KLOKOČOVNIK, Vesna, PODLESNIK, Jan, DEVETAK, Dušan. Occurrence of the antlion tribe Acanthaclisini in the Balkan Peninsula : (Neuroptera, Myrmeleontidae). *Spixiana*, ISSN 0341-8391, 2016, bd. 39, h. 1, str. 99-104, ilustr. [COBISS.SI-ID [22594568](https://www.cobiss.si/id/22594568)], [JCR, SNIP, WoS do 12. 11. 2016: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 29. 10. 2016: št. citatov (TC): 0, čistih citatov (CI): 0] ZM - zoology ; 117/161 ; četrtina: 3 ; x=1.262 ; IFmin: 0.615 ; IFmax: 0.971