Hrvatsko biološko društvo
SOCIETAS BIOLOGORUM CROATICA
Croatian Biological Society

14. HRVATSKI BIOLOŠKI KONGRES
s međunarodnim sudjelovanjem

14th CROATIAN BIOLOGICAL CONGRESS
with International Participation

Pula, 12 - 16. 10. 2022.

14. Hrvatski biološki kongres
Pula 12.-16.10. 2022.

ZBORNIK SAŽETAKA
BOOK OF ABSTRACTS

14th Croatian Biological Congress
Pula, October 12 -16 , 2022

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BOOK OF ABSTRACTS
OF THE 14th CROATIAN BIOLOGICAL CONGRESS

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preservation of the starfish can be attributed to the sedimentation process that took place relatively quickly and in a calm environment. The analysis of the rock on which the star cores are located concluded that these are soot deposits with elements of carbonate sedimentation that belong to the Lower Triassic (Induan). The structure of such organisms are quite sensitive, and it is very difficult to preserve their fossils. Possession of the star fossil makes the Natural History Museum in Split, i.e. its holdings richer for this extremely valuable and interesting paleomaterial. This way, as well as the planned museum exhibitions, we present this valuable find to the public.

Keywords: fossilized starfish, Gornji Muć, Republic of Croatia

P-17

POSTEMBRYONIC DEVELOPMENT IN *Megaphyllum bosniense* (Verhoeff, 1897) (DIPLOPODA, JULIDA)

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In this study, we examined postembryonic development of julidan millipede *Megaphyllum bosniense* (Verhoeff, 1897). Aims of this study were to determine the mode of postembryonic development, the number of postembryonic stadia, to determine the first postembryonic stadium when males and females can be distinguished and to determine when the adulthood is reached in our study species. All individuals examined in this study were sampled from Mt. Avala, Belgrade, Serbia. Apart from field collected millipedes, animals were bred and reared in laboratory in order to examine younger postembryonic stadia. Following characters were used for stadia separation: total number of body rings, numbers of podous and apodous body rings, number of rows of ocelli and number of ocelli. In *M. bosniense*, we determined that postembryonic period of life cycle consists of twelve stadia and sexes can be distinguished starting from the stadium VII. This is the first stadium where primordia of gonopods (modified legs of males that are used for sperm transfer) can be found. The presence of fully developed gonopods in males and eggs in ovaria in females implies that adulthood is reached at the stadium X. *Megaphyllum bosniense* undergoes euanamorphic mode of postembryonic development. Observed patterns of changes in morphological characters used in our study represent reliable system for stadia determination in *M. bosniense* and show that this species shares similar developmental pathways with other Julida.

Keywords: millipedes, postembryogenesis, anamorphosis, morphology

P-18

EFFECTS OF CADMIUM ON NATURAL SELECTION IN GYPSY MOTH (*Lymantria dispar* L.)

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Natural selection has significant effect on phenotypic changes in organisms exposed to chronic environmental stress induced by pollutants such as cadmium. The adaptation to such a stress comes as a direct result of natural selection in traits that will induce the evolution of tolerance to stressful environment both directly and indirectly. A statistic method was used in this experiment to determine the standard linear selection gradients (β') and standard linear selection differentials (i') used to estimate the intensity of the natural selection to certain traits of the adaptive values (LD – larval development; PM – pupae mass; PD – pupae development) in control group (C) and treatments ((T1 – 10 μg/g Cd; T2 – 30 μg/g Cd; iT3 – 50 μg/g Cd) where adults lifespan (AL) was considered to be the measure of the adaptive value. Significant negative selection gradients and differencials in males to LD in group T3 were determined in our experiment, as well as positive selection gradients and differentials in females to PM in groups C, T1 and T2. Females showed significant selection gradients and differentials to PM in grpoups C, T1 and T2 while the same occured with males from group C. Positive selection gradients and differencials to PD were determined in females from group T1 and males from groups C and T2. When exposed to stressful enviroments, larger females and males with shorter larval and pupal development seem to be favoured by natural selection.

Keywords: cadmium, gypsy moth, directional selection, fitness-related traits

P-19

FLORA OTOČIĆA MAJSAN, MAJSANIĆ I GOJAK U KORČULANSKOM ARHIPELAGU (JUŽNA HRVATSKA)

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Na temelju istraživanja provedenog tijekom 2020. godine, izrađen je cjeloviti popis flore otočića Majsana, Majsanića i Gojaka smještenih u korčulanskom arhipelagu. Zabilježeno je 155 vrsta i podvrsta, od kojih 149 pripada kritosjemenjačama, pet golosjemenjačama i jedna papratnjača. Ukupna flora otočića je raspoređena u 48 porodica. Najveći broj svojti pripada porodici Poaceae (32,73 %), zatim Asteraceae (10,32%), Fabaceae (7,1%), Lamiaceae (6,45%) i Liliaceae (6,45%). Najzastupljeniji životni oblici su terofiti (26,45%), hemikriptofiti (23,24 %) i fanerofiti (20,00%), a od geoelemenata najveći broj vrsta pripada mediteranskom (69,67%) i južnoeuropskom (16,13%) flornom elementu. Utvrđene su četiri endemične, tri ugrožene i osam strogo zaštićenih svojti. Među endemima se ističu *Carduus micropterus* (Borbás) Teyber ssp. *micropterus* i *Vincetoxicum hirundinaria* Medik. ssp. *adriaticum* (Beck) Markgr. Sve zabilježene endemične svojte pripadaju ilirsko-jadranskim endemskim biljkama. Ugrožene svojte su *Desmazeria marina* (L.) Druce,. *Elymus pycnathus* (Godr.) Melderis i *Narcissus tazetta* L.. Od strogo zaštićenih svojti ističu se *Chenopodium murale* L. i *Posidonia oceanica* (L.) Delile. U flori otočića Majsana zabilježena je invazivna vrsta *Conyza canadensis* (L.) Cronquist.

Ključne riječi: floristička analiza, jadranski otočići, Mediteran, stjenoviti obalni pojas