P16.
Species composition of reptiles in three different habitats

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Species composition and abundance of reptiles was examined in three different habitats on the island of Cres (Croatia) adjacent to the town of Osor in May 2013. The aim of our study was to examine the sensitivity of biodiversity and similarity indices in reptiles. In each habitat visual observations of reptiles were made by groups of 10 people for 1 hour along a 1 km sampling path. In the first habitat, overgrown pastures surrounded by stone walls, 5 lizard (*Podarcis melisellensis*, *Algyroides nigropunctatus*, *Podarcis muralis*, *Lacerta viridis* and *Pseudopus apodus*) and 2 snake species (*Hierophis gemonensis* and *Elaphe quatuorlineata*) were observed. In the second habitat, a gravel road on Osorščica hill surrounded by macchia, 3 lizard (*P.melisellensis*, *A. nigropunctatus* and *L. viridis*) and 2 snake species (*H. gemonensis* and *E. quatuorlineata*) were found. In the final habitat, stone buildings and walls in the town, 3 species of lizards (*P. melisellensis*, *A. nigropunctatus* and *Dalmatolacerta oxycephala*) were recorded. The dominant species in all three habitats was the Dalmatian Wall Lizard (*P. melisellensis*). Two biodiversity indices were applied to the data. Simpson's diversity index indicated that that the second habitat (0.56) had the greatest diversity in terms of species and their abundance, while the Margalef's index indicated that the first habitat had more diversity (1.69). In addition, Jaccard's index of similarity indicated that the urban habitat was dissimilar to the other two, while the Bray-Curtis dissimilarity index showed a weak differentiation between the overgrown pastures and the other habitats. The discrepancy in the outputs from the indices highlights the importance of choosing an appropriate mathematical construct to examine biodiversity and habitat similarities.

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