



VABILO

Nacionalni inštitut za biologijo Vas vabi, da se udeležite seminarja,

**»Biodiversity assembly across space and time –
Metabarcoding analysis of arthropod communities
sampled across the Hawaiian island chronosequence
and a 35-year time series of German forest
ecosystems«,**

ki ga bo predstavil

prof. dr. Henrik Krehenwinkel

Trier University

Seminar bo v sredo, 26. februarja 2020, ob 14.00 v Biološkem središču, Večna pot 111, v Ljubljani, v predavalnici B3.

Abstract:

»In my presentation, I will highlight two ongoing projects in my laboratory at Trier University, in which we use DNA metabarcoding to understand the assembly of arthropod communities over different time scales. First, I will present a metabarcoding analysis of arthropod community assembly in native rainforest ecosystems of the Hawaiian Archipelago ranging in age from 40 to 6*106 years of age. We measured total abundance and diversity of all arthropods across the different snapshots in time, controlling for elevation, precipitation, and type of rainforest (all dominated by *Metrosideros polymorpha* trees). This sampling effort led to a collection of > 106 arthropod specimens. We developed a semi-automatized multilocus metabarcoding protocol to process such large community samples. Using the resulting dataset, I will show some emerging patterns of community evolution across the island chronosequence, including changes in diversity, specialization, and resilience to biological invasion. Secondly, I will present work on the effect of anthropogenic change on arthropod communities. Using time series samples of leaves collected by the German environmental specimen bank (ESB), we use eDNA approaches to reconstruct the diversity and abundance of tree canopy associated arthropod communities over the past 35 years. For more than three decades, the ESB has collected leaf samples from different tree species across land use gradients in Germany. eDNA traces of leaf associated arthropods can be recovered and sequenced, allowing to reconstruct time series of tree associated communities. Our work shows worrisome losses of diversity in German agricultural and forest ecosystems in the past decades. «

Vljudno vabljeni! Seminar bo potekal v angleškem jeziku. / **You are cordially invited to attend this lecture, which will be delivered in English.**

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