

Programme and Abstracts

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but a slight positive one on bird abundance. Furthermore, this decrease in species richness was most expressed at the urban-suburban interface, whereas the non-linear analysis showed that abundance peaked in suburban areas. Thus this study emphasized the importance of suburban areas, where most birds occurred with a relatively high richness. Then I present the results of a case study, where we investigated urbanization effects on song bird communities in allotments and parks of mid-size green German city. We found that these green infrastructures effectively buffered urbanization in this mid-size green city, and allotments harboured bit different, but valuable bird fauna compared to parks. In the end I give a summary and highlight future directions.

11:00	WEDNESDAY, 28TH AUGUST, 2019	WHITE STORK	S10-2
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Is there a link between socio-economic status and bird diversity in cities? A meta-analysis of the Luxury Effect

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The Luxury Effect refers to the positive correlation between urban biodiversity and wealth status within urban areas. It also represents environmental injustice, whereby poorer areas have less access to nature and the benefits it provides. We undertook a systematic review and meta-analysis of studies analysing a link between wealth and biodiversity in cities to assess the degree of support for the Luxury Effect on urban terrestrial diversity. The majority of the 97 studies considered were conducted on birds and plants. There was a geographical bias in that 61% of studies were from North America, and only 15% were from the developing world. Measures of the relationship between wealth and biodiversity from the sample of studies were converted to standardized effects which were then analysed in a random effects meta-analysis. There was a significant overall positive association between wealth status and measures of species diversity. The strength of the Luxury Effect increased significantly with increasing aridity, suggesting that availability of water resources is a key driver. Whilst we find overall evidence for the Luxury Effect, most of the research carried out has been in wealthier countries, yet developing countries are showing the greatest rates of urbanization and maintain high levels of income inequality, thus sustainable development to minimise environmental injustice is of a higher priority. Our results suggest that more equitable provision of water resources across different socioeconomic levels could increase overall urban biodiversity and reduce environmental injustice.

11:15	WEDNESDAY, 28TH AUGUST, 2019	WHITE STORK	S10-3
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Consequences of artificial light at night exposure for mounting an immune response in wild great tit nestlings

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Increasing exposure to artificial light at night (ALAN) in urbanized habitats has been found to affect the physiology and behaviour in wildlife. Especially, impacts during the developmentally critical phase as a nestling could persist throughout life and might have long-lasting effects on survival and fitness. Exposure to ALAN was found to change physiological processes like hormone secretion and immune function, possibly through trade-offs created by differential energetical and/or nutritional allocation. However, experimental evidence of how ALAN affects the capacity to mount an immune response against a pathogen in wild birds is scarce. Here we exposed seven-day old great tits (*Parus major*) nestlings for a week to ALAN and subsequently studied the physiological changes induced by an experimental immune activation. We predict that melatonin levels of