

3rd International Conference on Biodiversity & Sustainable Energy Development

June 24-26, 2014 Valencia Conference Centre, Valencia, Spain

Small mammals (*Myosorex species*) in South Africa are feeling the heat

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The work focussed on the potential impacts of climate change on *Myosorex* species endemic to South Africa. The study investigated the potential impacts of climatic variables (temperature and rainfall) on the distribution of *M. cafer*, *M. varius*, *M. sclateri*, and *M. longicaudatus* in space and time. Ecological niche modelling using Maxent was applied to predict current and future distribution of these species. Eight bioclimatic variables for current and future projected scenarios together with occurrence data from South African Museums, new field collections from Soutpansberg Mountains and published data were used to build the models. Equal sensitivity and specificity threshold were used to map suitable habitat and the number of pixels were counted to get the present and future range including percentage decrease or increase in range. The current distributions and the future distributions for all the species were compared to determine the range shifts. The model results for range shifts revealed that the more temperate species such as *M. cafer*, *M. longicaudatus* and *M. varius* will suffer high profound contractions while those from the subtropical or coastal lowland ranges (*Myosorex cf. tenuis*, and *M. sclateri*) will even increase the range of suitable conditions, but given their poor dispersal capability and the absence of suitable habitat such as forest in the new ranges, these increases may not be realised. The northern and southern lineages of *M. varius* will suffer minimal range contraction. *M. longicaudatus* showed greatest contraction of suitable habitats, consequently, will experience the highest risk of extinction, at least in some parts of its range as a result of global warming associated with climate change by the year 2070. The results showed that global warming is an important factor that results in range shifts, thus affecting the distribution of *Myosorex* species in South Africa.

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