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Data Article

Potential distribution dataset of honeybees in Indian Ocean Islands: Case study of Zanzibar Island

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ABSTRACT

Honeybees (*Apis mellifera*) are principal insect pollinators, whose worldwide distribution and abundance is known to largely depend on climatic conditions. However, the presence records dataset on potential distribution of honeybees in Indian Ocean Islands remain less documented. Presence records in shape format and probability of occurrence of honeybees with different temperature change scenarios is provided in this article across Zanzibar Island. Maximum entropy (Maxent) package was used to analyse the potential distribution of honeybees. The dataset provides information on the current and future distribution of the honey bees in Zanzibar Island. The dataset is of great importance for improving stakeholders understanding of the role of temperature change on the spatial distribution of honeybees.

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Specifications Table

Subject area	Climate change and Biology
More specific subject area	Ecological modeling
Type of data	Maps and figures
How data was acquired	Field survey was carried out to collect presence data on honeybees in managed apiaries and wild nests across Zanzibar Island. Also, downscaled data of the Representative Concentration Pathways Scenarios, Fifth Assessment Report (RCPs-AR5) from AFRICLIM database was used to get temperature data in the sample locations.
Data format	Shape file (.shp) and raster
Experimental factors	We make use of AFRICLIM temperature dataset
Experimental features	The maximum entropy (Maxent) software version 3.3.3k and ArcMap version 10.1 which are geographic information system (GIS) and ecological niche modeling software, respectively were used for modelling and generating honeybees spatial distribution maps
Data source location	Unguja and Pemba Islands in Zanzibar
Data accessibility	Data are available in this article

Value of the data

- The data provide information on the potential spatial distribution of honeybees in both Unguja and Pemba Islands in Zanzibar and which is accessible for reuse.
- The data provide interesting and important information on future honeybee's distribution expansion in both Unguja and Pemba Islands in Zanzibar.
- The data can be used for modeling the effect of climate change and land use/ cover on honeybee's distribution in Indian Ocean Islands, in particular Zanzibar Island.
- The data can be useful for study genetic diversity of honeybees in Zanzibar Island.
- The data are important to different stakeholder include beekeeper communities, policy makers, international and local non-government organization engaged in apiculture intervention, researchers, scholars and academics.

1. Data

Fig. 1 shows the study areas and locations of the occurrence records of honeybees in Unguja Island (M) and Pemba Island (N). Fig. 2 shows an example of honeybee's data collection in a wild nest (G) and apiaries (H). Probability of occurrence for honeybees according to temperature conditions in Pemba and Unguja Islands is shown in Figs. 3 and 4, respectively. Under the current temperature conditions, the probability of occurrence shows that southern parts of Pemba have areas that are more suitable for honeybees than the northern parts in Pemba Island (Fig. 3A). In Unguja under current temperature conditions, the western parts and some parts of northern A and northern B of Unguja Island are more suitable compared to the southern and central parts (Fig. 4C). However, an area predicted as suitable does not mean that populations of the honeybee species will necessarily become successfully established there, but it is useful information for identifying areas of potential spread. The probability occurrence is predicted to decrease in both Islands in future by 2055 (Figs. 3B