

## ECOLOGICAL CHARACTERIZATION OF CHROMOSOMAL RACES OF THE HOUSE MOUSE FROM THE ISLAND OF MADEIRA

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Chromosomally divergent populations of the house mouse (*Mus musculus domesticus*), characterized by a reduction in the standard diploid number  $2n=40$  (due to the presence of Robertsonian (Rb) fusions) are present in the island of Madeira (North Atlantic, Portugal). Geographical isolation and fragmentation of the house mouse habitats are believed to have favoured the extraordinarily rapid and diversified in situ chromosomal evolution fixed in 500-1000 years, which resulted in the establishment in the island of six distinct chromosomal races (20 distinct fusions). The marked topography of the island, with steep mountains and deep, narrow valleys and the land use for agricultural activity, along with its oceanic position, contribute for marked climatic contrasts, creating particular habitat conditions. The strong climatic and ecological contrasts of the island along with the observations that the house mouse occurs mainly in human-modified outdoors, suggests an impact of ecological factors such as climate on mice populations of Madeira.

The present study aimed to update the distribution of the house mouse chromosomal races in the island and to characterize the races in ecological terms (at macro and micro-ecological level).

Sampling followed the main roads around the island, at altitudes below 700m, in human-modified habitats. A set of variables were used to characterize the trapping sites: altitude, temperature, precipitation, and type of soil; and ecological features related with agriculture land exploitation.

The boundaries of each race are well defined; the races São Vicente, Ponta Delgada and Lugar de Baixo are restricted to small areas, due to the presence of marked geographic barriers. Races can be found in a large range of altitude, between 0 and 700m.

The distribution range of each race habitat features results from local climate characteristics and soil quality.