

Global warming threaten the biodiversity in Canary Islands

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The global warming is one of the main environmental problems in our days, not only because they directly affect human populations but also for its connection with the loss of biodiversity in many parts of the world. Although it is perceived with greater intensity at the poles, climate change is noticeable as well in low latitudes. In the Canary Islands, the climate is strongly influenced by the North Atlantic Oscillation (NAO) -the anticyclone of the Azores- which is responsible of the mild climate of the Archipelago, instead the aridity that would correspond by latitude. However, one of the changes observed in recent decades is the shift of the NAO, which implies a higher frequency of dry and warm east winds. The implication for biodiversity is that now many African species reach the islands more easily than in the past. The local climate is also changing, in recent decades the average temperature has increased on terrestrial and marine areas, and the humidity has been growing slightly in the lowlands. The forecasts of climate models indicate increases in this century of up to 6°C in some areas in one hundred years, such as those above 2,000 m of elevation in the higher islands. Since 1970 the temperature has risen in Tenerife more of 0.1 ° C per decade. The variation in the composition of biota in the last years reflects these changes and the number of species coming from warmer territories is increasing dramatically, mainly in groups like the flora, birds and fishes, where many species move more freely than before. For this groups, global warming and globalization of transport are both a powerful driver of biotic homogenization. The Natural habitats are also susceptible to changes in their distribution, in fact, recent predictions for some of the islands of Tenerife and Gran Canaria show as the forest habitats surface could be strongly reduced. In areas where forests occupy the summits, as in the mountains of Anaga (Tenerife), the loss may be complete, meaning that extinctions may be significant considering the high degree of endemism in the biota.

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The nineteenth century and the botanical exploration of Madeira

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During the nineteenth century more than one hundred botanists or botanical naturalist visited Madeira. These visits ranged from just a few days to months or even years. Their multiple contributions are in some cases well known as for example those from Richard Thomas Lowe. During the XIX century Madeira was an almost obligatory stop for travellers across the Atlantic and many famous naturalist visited the island such as Robert Brown (1773-1858), Richard Thomas Lowe (1802-1874), Oswald Heer (1809-1883), Friedrich Welwitsch (1806-1872), Charles Lyell (1797-1875), Josef Dalton Hooker (1817-1911), T. Vernon Wollaston (1822-1878), among many others. Although Charles Darwin was unable to visit Madeira during his journey “The origin of species” includes many references to Madeira, as a result of contacts with naturalists such as Wollaston. In this brief account we analyse the nationality, duration of stay, purpose of the stay, along with a list of the main localities visited, of the botanical naturalists that visited Madeira during the XIX century.

Keywords: history, botany, Madeira.