



Reptiles Extinction: A Perspective on the Current Heat Wave

Daniya Ualiyeva^{1,2,#,*}; Zafran Khan^{2,3,#}

¹Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China.

²University of Chinese Academy of Sciences, Beijing, 100049, China.

³State Key Laboratory of Respiratory Disease, Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, 510530, China.

***Corresponding Author(s): Daniya Ualiyeva**

Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China.

Email: daniya.2010@mail.ru

These Authors Are Equally Contributed.

Received: Aug 10, 2022

Accepted: Sep 02, 2022

Published Online: Sep 05, 2022

Journal: Annals of Epidemiology and Public health

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

Copyright: © Ualiyeva D (2022). *This Article is distributed under the terms of Creative Commons Attribution 4.0 International License*

Editorial

World climate change is no longer far in the future, and its consequence has just begun. With growing temperature, it is becoming evident that the effect of heat stress on organisms trying to survive out of the temperature zones is increasing. Scientists report from different places of the planet the breaking records of the temperature that is directly impacting the biodiversity across the entire ecosystem. However, it has been neglected by human being at all levels of the society. For example, the current rise in temperature is unlikely ever observed. For the first time, the coldest location on the earth, the Antarctic, has experienced the episode of hot weather, which caused the ice sheet to soar from 50°C to 90°C above normal that unprecedented hit the previous warmth records [1].

The increase in the Earth's surface temperature is often leading to a global warming, a continuous climate change, which has drastic consequences, including extreme weather events, i.e., heat waves, tropical storms, and cold spells. These events disrupting the weather patterns on a large scale, and challenging the biodiversity of biological communities. It might accentuate the extinction rate of many species in the coming decades and possibly lead to impairment of the ecosystem [2].

When it comes to climate change, reptiles have received less attention in biodiversity conservation research than mammals, birds, and amphibians. Lizards, like other reptiles, are unable to regulate their body temperature, which fluctuates with the ambient temperature. As a result, lizards are thought to be vulnerable to weather changes [3].



Cite this article: Ualiyeva D, Khan Z. Reptiles extinction: a perspective on the current heatwave. *A Epidemiol Public Health*. 2022; 5(2): 1087.

Many reptiles are sensitive to weather fluctuation. Ectothermy is one of the behavioral adaptations of reptiles based on the environmental temperature, which maintain important physiological processes. If the heat stress will increase in the environment due to climate change, it will possibly halt the normal physiological conditions. However, the climate effects on the reptiles may vary due to climate change data and projection with location [4].

Reptiles require a precise time in the spring and summer when optimum temperature and moisture regimes are available for foraging and mating. Changes in ambient weather conditions, on the other hand, may result in reproductive failure. Furthermore, mortality linked with warm winter spells, interactive impacts of changed vegetation communities, fire regimes, invasive species, and probably illness is all effects of climate on herpetofauna [5].

Furthermore, droughts or a lack of readily available water may result from climate change, affecting plants and further limiting reptiles' ability to obtain food and water. However, reptiles like the iguanian lizards of South America and Asia's bent-toed geckos may be able to adapt to rising temperatures caused by climate change. However, the Western fence lizard, which can be found in backyards all over the San Fernando Valley, may not. This is because urban regions like the San Fernando Valley retain more heat than rural places [6].

Observing the potential threat of climate change on reptiles necessitates applied research and experimentation in order to acquire the most likely findings. As a result, it is critical to conduct research to identify the taxa most sensitive to climate change in order to limit the risk of extinction and ensure the integrity of the food chain in the biosphere, as well as to preserve the biodiversity of the herpetofauna, as they are a fragment of an ancient evolutionary branch of animal kingdom.

Conflict of Interest: The authors declare no conflict of interest.

References

1. <https://www.washingtonpost.com/weather/2022/03/18/ant-arctica-heat-wave-climate-change/>
2. Bongaarts J, Brondízio ES, Ngo HT, Guèze M, Agard J, et al. Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. *Population and Development Review*. IPBES. 2019; 45: 680-681.
3. Gumbs R, Gray CL, Wearn OR, Owen NR. Tetrapods on the EDGE: Overcoming data limitations to identify phylogenetic conservation priorities. *PLoS One*. 2018; 13: e0194680.
4. Sinervo B, Mendez-De-La-Cruz F, Miles DB, Heulin B, Bastiaans E, et al. Erosion of lizard diversity by climate change and altered thermal niches. *Science*. 2010; 328: 894-899.
5. Wake DB. Climate change implicated in amphibian and lizard declines. *PNAS*. 2007; 104: 8201-8202.
6. Araújo MB, Thuiller W, Pearson RG. Climate warming and the decline of amphibians and reptiles in Europe. *Journal of Biogeography*. 2006; 33: 1712-1728.