



## Not enough hours in the day for primates as temperatures rise

CLIMATE CHANGE may cause dramatic changes in ape behaviour, resulting in a further restriction of their available habitat, according to new research published in the *Journal of Biogeography*.

As temperatures rise, apes will be forced to spend more time resting in order to avoid overheating. With less time available for other activities, such as socialising, which helps to keep groups together, and feeding, ape communities could collapse, with some presently occupied regions eventually becoming uninhabitable.

'A habitat is unsuitable if it forces the apes to spend too much time on basic survival – and a change in climate can shift the delicate balance of these time budgets,' explained lead author Julia Lehmann of Roehampton University.

Together with scientists from the universities of Bournemouth and Oxford, Lehmann modelled the effects of climate change on the behaviour and distribution of African apes using data from wild populations. They found that if temperatures rise as predicted, chimpanzees may lose up to half of their remaining habitat, while as much as three quarters of the habitat currently occupied by gorilla populations could become unsuitable.

'In reality, the effects of climate change on African apes may be much worse, as our model doesn't take into account possible anthropogenic effects, such as habitat destruction by humans and the hunting of apes for bushmeat,' said Lehmann.

'Our results highlight the fact that solving the direct local threats, such as hunting and habitat loss due to human activities, may not be sufficient to prevent the extinction of African apes. Ensuring safe havens in optimal habitat must be a critical component of any conservation strategy, lest all current conservation efforts prove to be in vain,' the study's authors warned.

KARA MOSES

### ■ Climate change may lead to mass Mexican migration:

A warming climate could cause mass migration of Mexicans into the USA, according to new research published in the *Proceedings of the National Academy of Sciences*.

Around the world, falling agricultural productivity due to climate change is expected to result in large-scale human migration. A warmer climate may result in reduced crop yields through floods, droughts and stronger storms, forcing farmers to relocate.

The present study, which was led by scientists at Princeton University, used past agricultural production, climate and census data to create a model to project how crop yields and migration may be affected by future climate change. The results suggested that for every ten per cent drop in crop yields, two per cent of Mexicans will migrate. Under current predictions for the range of climatic variations, this could mean between 1.4 million and 6.7 million Mexicans – up to ten per cent of the current adult population – migrating as a result of climate change in the next 70 years. Most of these migrants are expected to move to the USA.

The researchers used Mexico as a case study, but say that their findings are 'significant from a global perspective, given that many regions, especially developing countries, are expected to experience significant declines in agricultural yields as a result of projected warming'.

'Given the size of the numbers [of migrants] we inferred, we hope to underscore the seriousness of the climate problem to policymakers in the context of reducing greenhouse gas emissions,' said co-author Michael Oppenheimer. KARA MOSES