Mammal database identifies species destined for trouble

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What would happen to polar bears if people built towns in the deep Arctic? Or to tiger populations, if India's grasslands turned to desert?

A new database that allows users to explore the factors that predispose different mammalian species to extinction – from human encroachment to slow reproductive rate – could be useful in planning conservation schemes, its developers say. Anyone can access the online system, YouTHERIA, which allows users to manipulate parameters including habitat ecology, litter size and diet, and test their own hypotheses.

It relies on a vast database of all known and recently extinct mammals, called PanTHERIA, which lists details of the species' ecology, behaviour, diet, geographical range and habitat, based on more than two decades of published research. The database also records the extent to which each of the 5000-odd species is being impacted by humans and habitat degradation.

Warning signs

Analysis of the database has already highlighted a set of key characteristics – slow reproductive rate being one – which predispose mammals to extinction.

"For example, the Seychelles flying fox isn't declining in abundance now because its habitat is intact," says Andy Purvis, a biodiversity researcher at Imperial College London, who helped produce the tools. "But our database suggests that its slow reproductive rate will predispose it to extinction if and when its habitat is disturbed."

Purvis also recommends that conservationists focus on protecting the tundras of Siberia and Canada, where mammals predisposed to extinction because of slow reproduction, are currently thriving in healthy habitat.

Until now, the database has been restricted to the team of biologists who developed it, but Kate Jones at the Zoological Society of London and colleagues have made it freely available to other researchers, hoping that they will contribute to the data.

Encyclopedia of Life, another collaborative database of species, launched two years ago, has already seen contributions from 2 million people from 200 countries. This week it reached its 150,000th entry.

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