

## **As apples blossom in the UK their wild ancestors face extinction**

*'Red List of Trees of Central Asia' states 44 species threatened with extinction. The wild cousins of domesticated apples face extinction in the wild. Losing these wild trees poses direct threat to global food security.*

**May 7, 2009** - [PRLog](#) -- Several of the world's fruit and nut trees, wild ancestors of the fruits we eat today, are seriously threatened with extinction, a new 'Red List' released by tree experts warns today.

Many of these species occur in the unique fruit and nut forests of Central Asia – an estimated 90% of which have been destroyed in the past 50 years.

The Red List of Trees of Central Asia<sup>1</sup> identifies 44 tree species in Kyrgyzstan, Kazakhstan, Uzbekistan, Turkmenistan and Tajikistan as globally threatened with extinction. The region is home to over 300 wild fruit and nut species, including wild apple, plum, cherry, apricot, walnut and many other important food trees from which domesticated varieties are thought to originate.

Owing to the often fragmented, mountainous geography of the landscape, these plants display exceptionally high genetic diversity, which could prove vital in the development of new disease-resistant or climate-tolerant fruit varieties. This could be of huge importance to future food security as the global climate changes.

The fruit and nut forests have been described as a biological Eden<sup>2</sup>, and have long held an important role in human culture. It is believed that many of the fruit and nut trees familiar in cultivation today were domesticated from these forests, and were then distributed by people along the Silk Road long ago. For example, domestic apples are now known to be derived from the wild species *Malus sieversii* <sup>3</sup>, which is native to Central Asia and is identified as threatened in the report.

The Red List of Trees of Central Asia<sup>1</sup> was compiled by international scientists and published by Fauna & Flora International in collaboration with Botanic Gardens Conservation International as part of the Global Trees Campaign<sup>4</sup>. It identifies over-exploitation, human development, pests and diseases, overgrazing, desertification and fires as the main threats to the trees and forests in the region. Lack of financial resources and infrastructure since the break-up of the Soviet Union has also had a negative impact on the forests of the region.

Dr Antonia Eastwood, lead author of The Red List of Trees of Central Asia, said: "Central Asia's forests are a vital storehouse for wild fruit and nut trees. If we lose the genetic diversity these forests contain, the future security of these foods could be jeopardized, especially in the face of unknown changes in global climate."

Fauna & Flora International (FFI) is already working in Kyrgyzstan to save and restore one of the most highly threatened apple species identified in the report, the Niedzwetzky apple (or *Malus niedzwetzkyana*), as part of the Global Trees Campaign. FFI is also working with local communities and government forest services in Kyrgyzstan and Tajikistan to encourage sustainable use and more effective protection for forest resources, including providing training for community groups and grants for eco-friendly small businesses to assist local livelihoods.

To build on this work, a new collaborative project is being launched in Kyrgyzstan this year, led by Prof. Adrian Newton of Bournemouth University, UK (a co-author of The Red List of Trees in Central Asia) and

involving Fauna & Flora International, Botanic Gardens Conservation International and several institutions in Kyrgyzstan. With funding from the UK Government's Darwin Initiative, the project will conduct research on threatened trees, provide training to Kyrgyz scientists and involve local communities in forest use planning.

Prof. Newton said: "In a year when we are celebrating the anniversary of the birth of Charles Darwin, it is a great privilege to have the opportunity to help conserve these forests, which have been of such evolutionary importance. Given their extraordinary role in human history and culture, it is hard to think of any native forests more worthy of conservation. We very much look forward to working with colleagues, both in the UK and in Kyrgyzstan, to help prevent extinction of these wild fruit and nut tree species".

Notes to editors:

1. The Red List of Trees of Central Asia by Antonia Eastwood, Adrian Newton and Georgy Lazkov, was compiled from information from regional experts who attended a workshop in Kyrgyzstan, and subsequent research. It is published by Fauna & Flora International in collaboration with Botanic Gardens Conservation International (BGCI) as part of the Global Trees Campaign. The report is produced under the auspices of the Global Tree Specialist Group of the International Union for the Conservation of Nature (IUCN) Species Survival Commission (SSC). The region concerned covers Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan and Tajikistan. The report is available to download from [www.globaltrees.org](http://www.globaltrees.org) – a Russian version will be available shortly.

2. In his critically acclaimed book *Wildwood* (2007), the late Roger Deakin referred to this region as "Eden". He also described the tale of the *Malus sieversii* – of its origins, propagation along the Silk Road, then dispersal to the rest of the world – as "a cross between the Book of Genesis and the Just So stories: How the apple began".

3. *Malus sieversii* has recently been judged to be the genetic progenitor of all domestic apples in cultivation today, by scientists from the University of Oxford (see Barrie Juniper and David Mabberley, 'The Story of the Apple', Timber Press, 2006).

4. The Global Trees Campaign, a partnership between Fauna & Flora International, Botanic Gardens Conservation International and many other organisations around the world, aims to save threatened tree species through provision of information, conservation action and support for sustainable use. See [www.globaltrees.org](http://www.globaltrees.org)

Further information:

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About Fauna & Flora International (FFI) ([www.fauna-flora.org](http://www.fauna-flora.org))

FFI protects threatened species and ecosystems worldwide, choosing solutions that are sustainable, based on sound science and take account of human needs. Operating in more than 40 countries worldwide – mainly in the developing world – FFI saves species from extinction and habitats from destruction, while improving the livelihoods of local people. Founded in 1903, FFI is the world's longest established international conservation body and a registered charity.

About Botanic Gardens Conservation International (BGCI) ([www.bgci.org](http://www.bgci.org))

BGCI is the world's largest plant conservation network, linking over 600 botanic gardens in over 120 countries in a shared commitment to biodiversity conservation, sustainable use and environmental education. BGCI mobilises botanic gardens and works with partners to secure plant diversity for the well-being of people and the planet. BGCI provides the Secretariat for the IUCN Global Tree Specialist Group that is responsible for compiling information on the conservation status of trees worldwide.

About Bournemouth University ([www.bournemouth.ac.uk/conservation/](http://www.bournemouth.ac.uk/conservation/))

In the recent Research Assessment Exercise (RAE), Bournemouth University recorded one of the largest improvements in research performance in the UK. The ranking means that BU is now in the top ten for research amongst the UK's new universities – those institutions which have become universities since 1992. The Centre for Conservation Ecology and Environmental Change is one of the research centres within the University, and undertakes internationally recognised research on environmental change and its impacts on biodiversity. It is also a leading provider of education and training in conservation science.

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