

# Maple conservation in the 21st Century

Douglas Gibbs

Botanic Gardens Conservation International

[www.bgci.org](http://www.bgci.org)

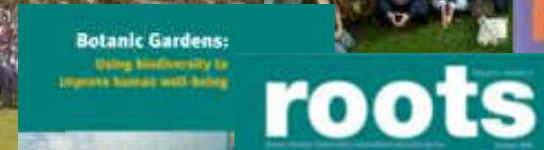


# Botanic Gardens Conservation International



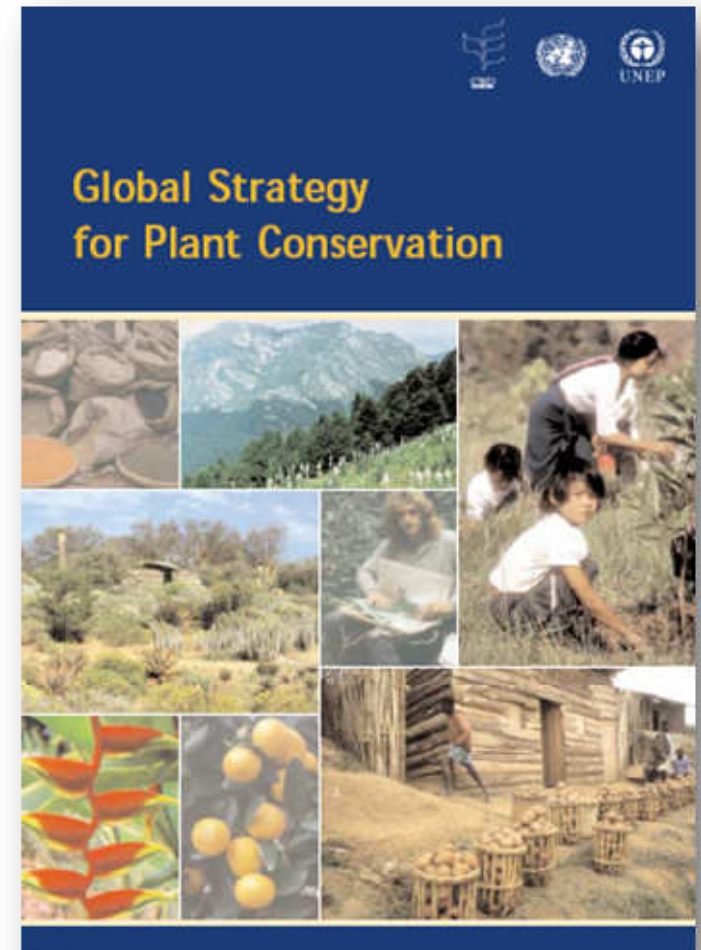
# Botanic Gardens Conservation International

BGCI – links together 800 botanic gardens in 118 countries

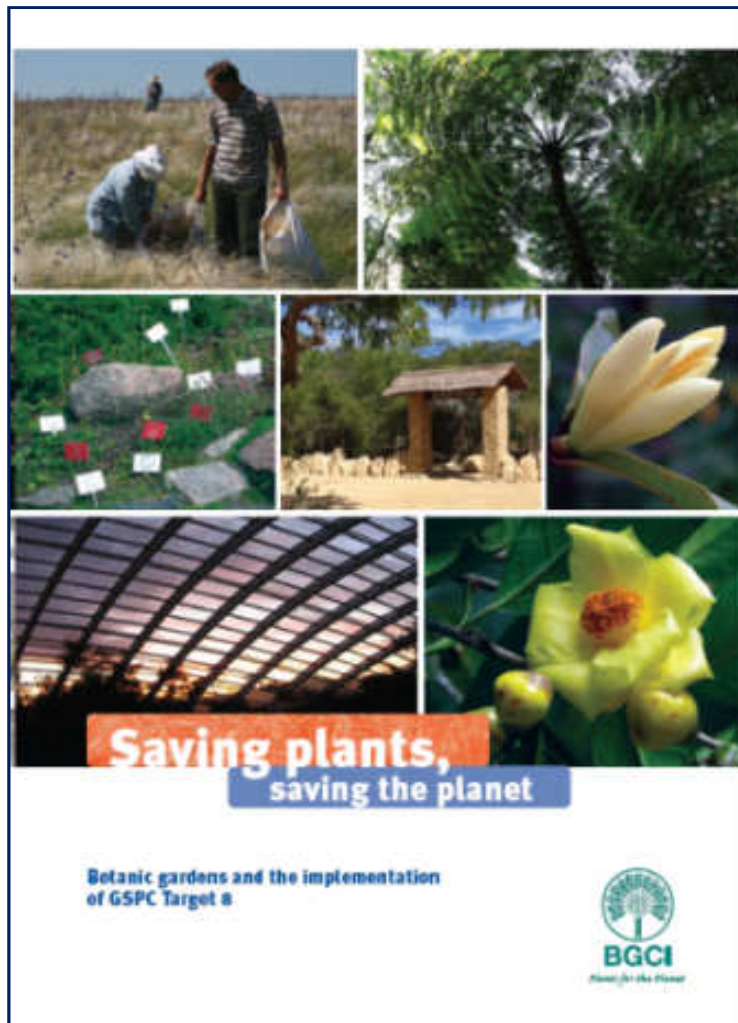


# The Global Strategy for Plant Conservation

- Understanding and documenting plant diversity
- Conserving plant diversity
- Using plant diversity sustainably
- Promoting education & awareness about plant diversity
- Capacity building for plant diversity



# Botanic gardens and the GSPC



Documenting the response to Target 8:

“60% of threatened plants in *ex situ* collections, 10% in recovery and restoration programmes”

“75% of threatened plants in *ex situ* collections, 20% in recovery and restoration programmes”

# BGCI – Monitoring Target 8

## *PlantSearch* database:

- A list of plants in cultivation in botanic gardens around the world
- Open access via [www.bgci.org](http://www.bgci.org)
- Includes lists provided by >850 botanic gardens
- Includes records for 105,000 species

**We have accurate information on the location in cultivation of almost one third of the world's plants**

# GSPC Target 8 – Global Progress



- > 9,000 globally threatened species in BGCI database
- 40,000 globally threatened species known (IUCN 1997, 2010)
- 23% known to be in BG collections

# 2011 IUCN Red List



THE IUCN RED LIST  
OF THREATENED SPECIES™

12,624 plants listed as  
threatened in 2011 Red List

- c.7,922 trees

# How many are at risk?

## Global Flora:

400,000 plants

100,000 tree species

## Current estimates of threatened spp.:

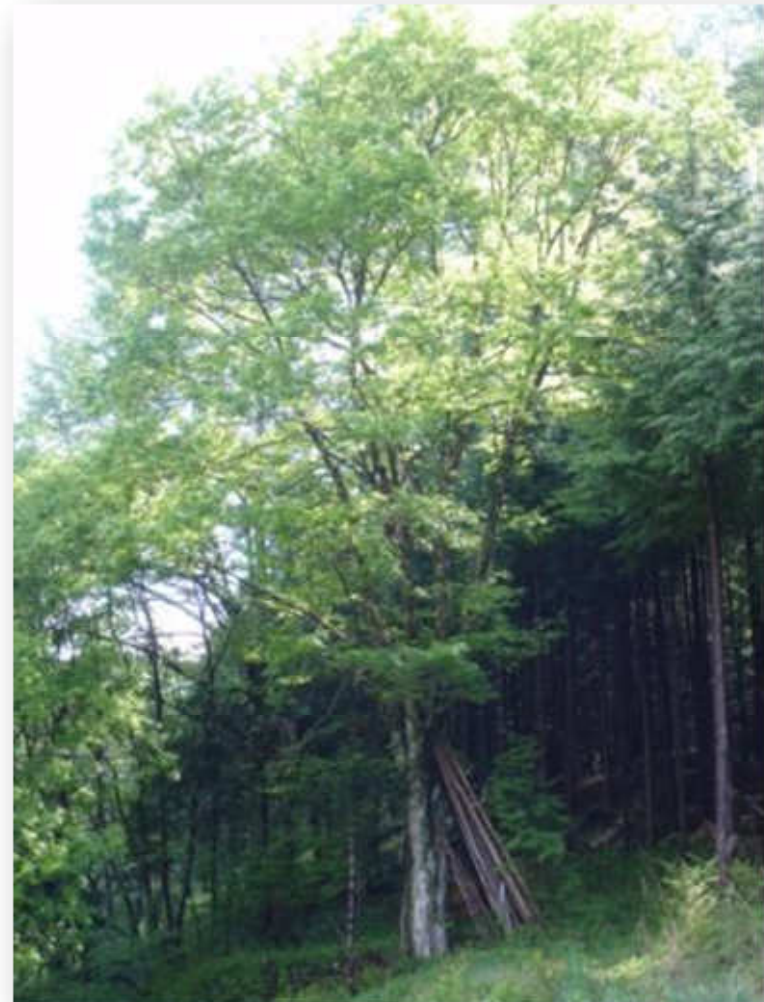
100,000 plants

25,000 trees species

## In light of the impact of climate change:

50% of all plants maybe at risk

50,000 tree species



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*Acer miyabei* var. *shibatai*

# The main drivers of loss of biodiversity

- Habitat transformation
- Climate change
- Invasive alien species
- Over-exploitation of species
- Pollution



# What can be done?

## ***In situ* conservation**

- identify and protect key areas that will provide refugia for maximum species diversity
- strengthen biodiversity corridors
- monitor existing wild populations
- restoration and rehabilitation programmes

## ***Ex situ* conservation**

- seed banking
- living *ex situ* collections
- propagation protocols

# Global Trees Campaign

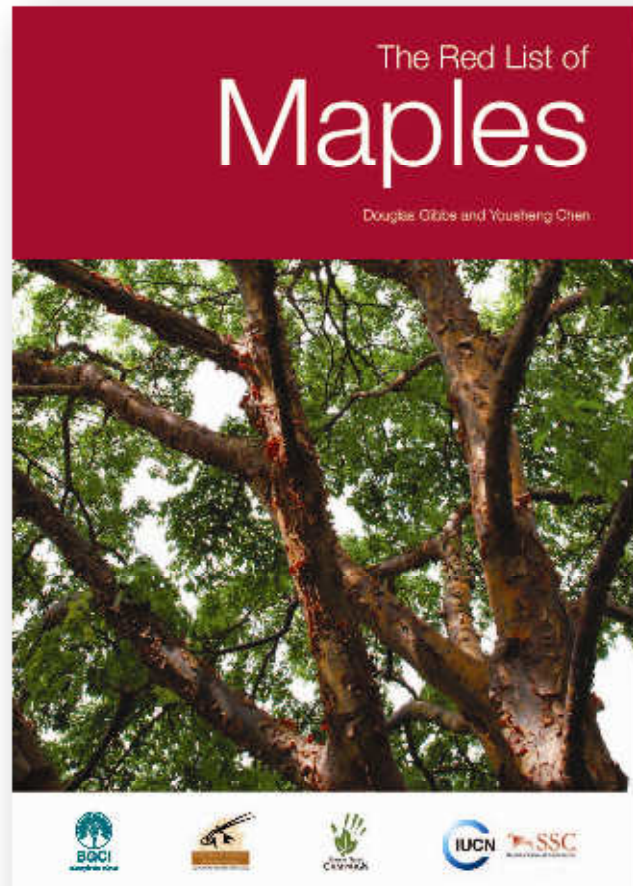


# Why trees?



- Trees constitute around 25% of all plant species.
- Socio-economic value – timber, fuel, fibre, food, flowers, medicine
- Ecological value – carbon sinks, producers of nearly half the world's oxygen, major structural component of terrestrial biomes
- Key potential role in ecological restoration initiatives

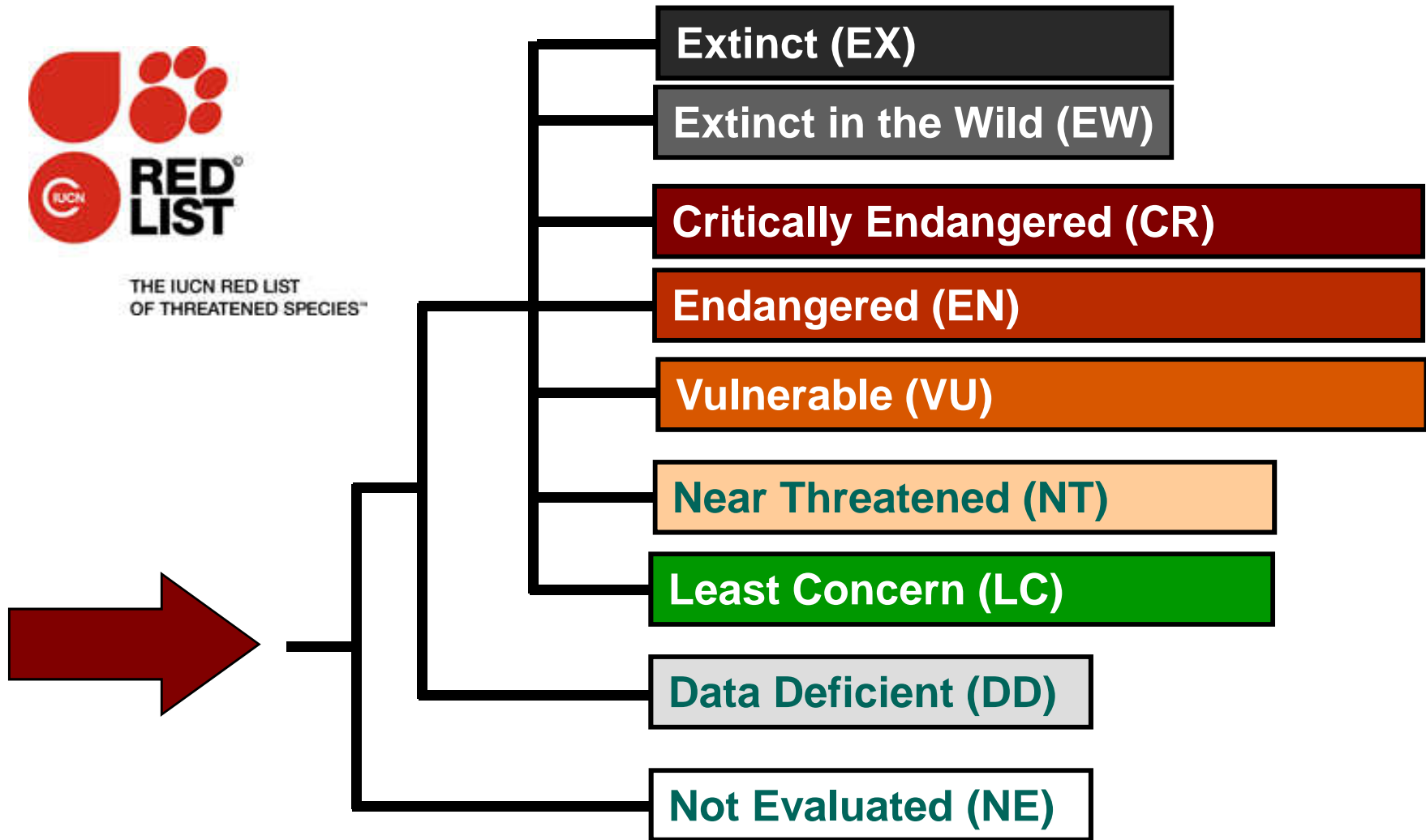
# Red List of Maples



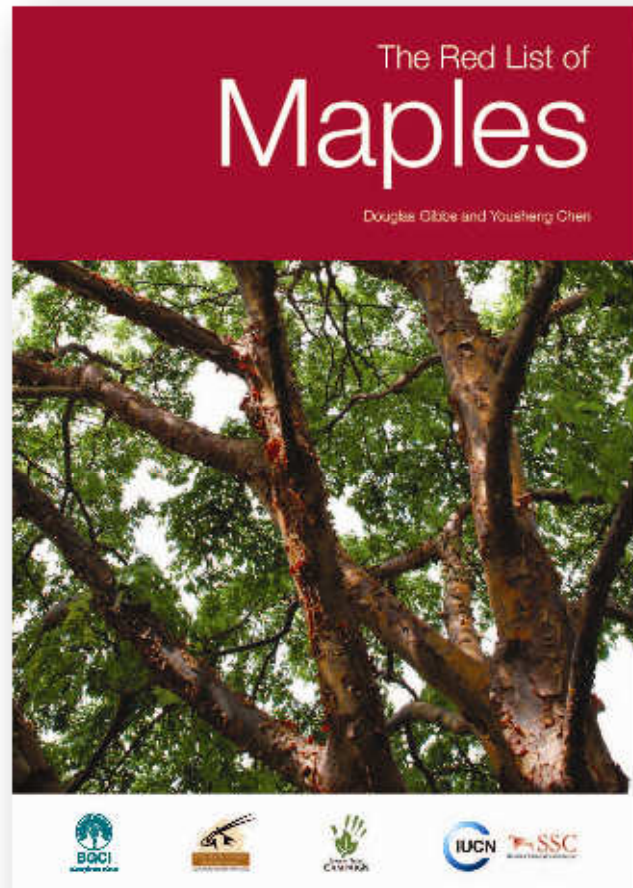
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# Red List of Maples

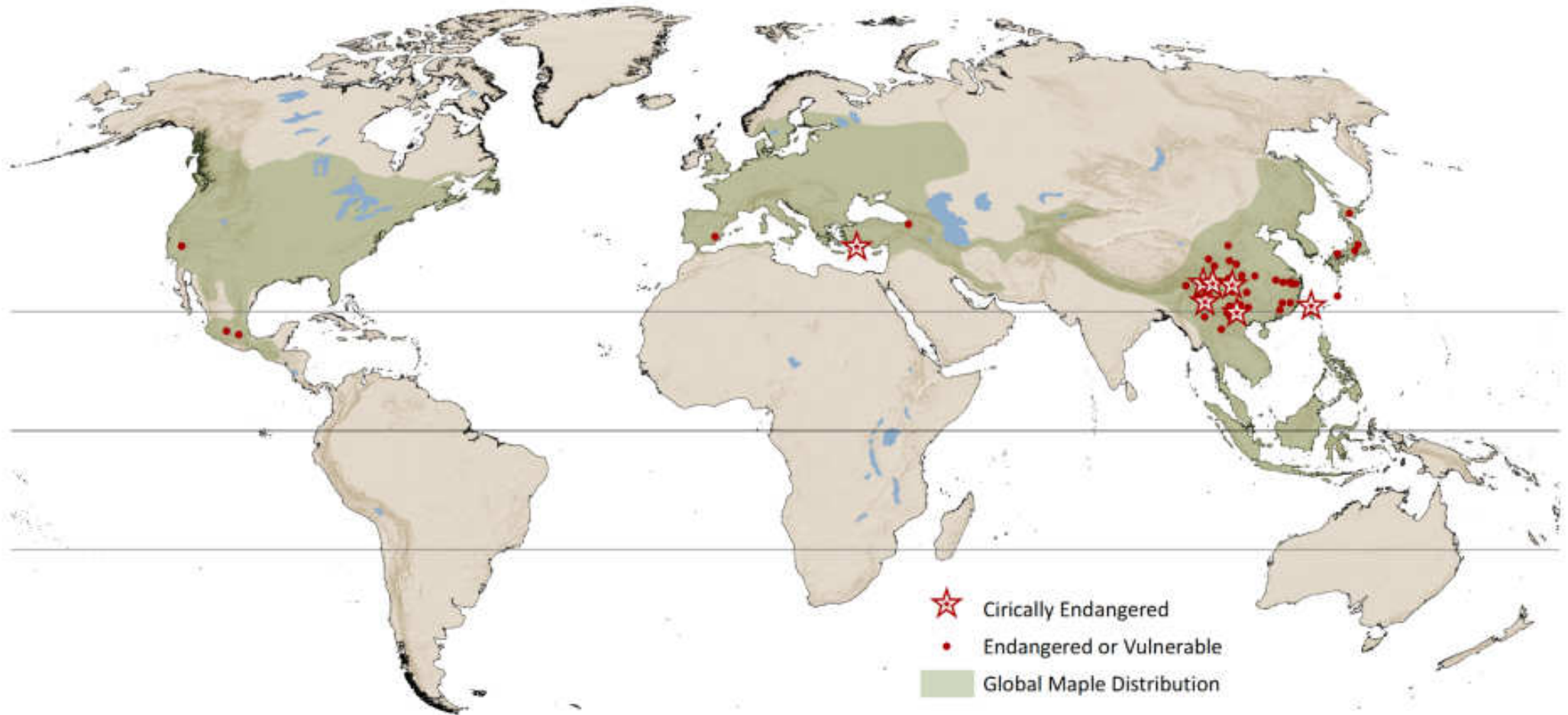


RDL Category	No. of taxa
Critically Endangered (CR)	7
Endangered (EN)	19
Vulnerable (VU)	28
Near Threatened (NT)	8
Data Deficient (DD)	22
Least Concern (LC)	107
<b>Total</b>	<b>191</b>

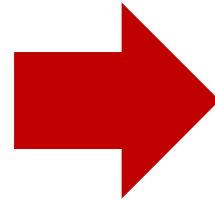
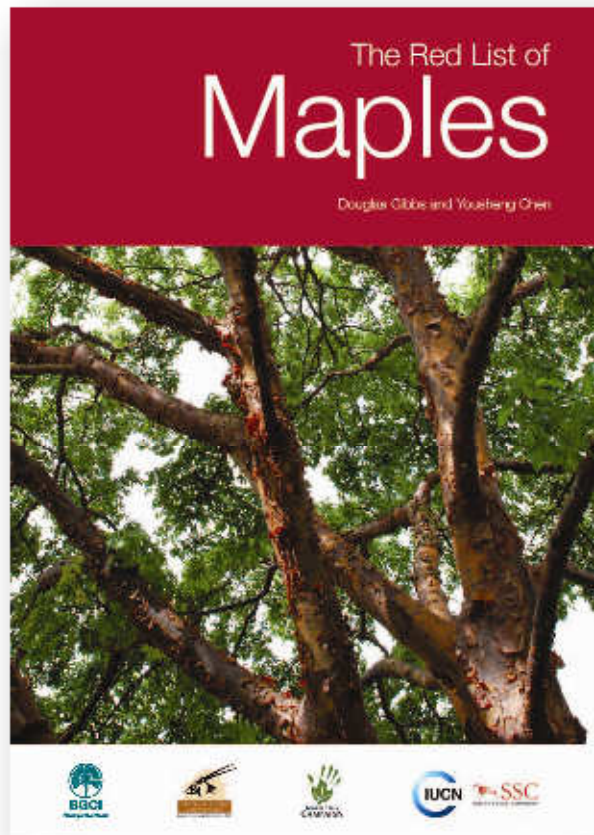
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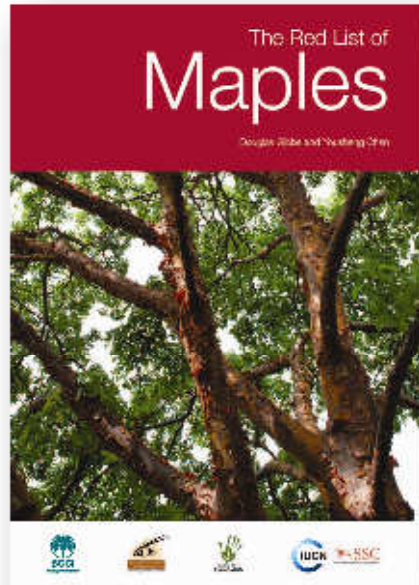
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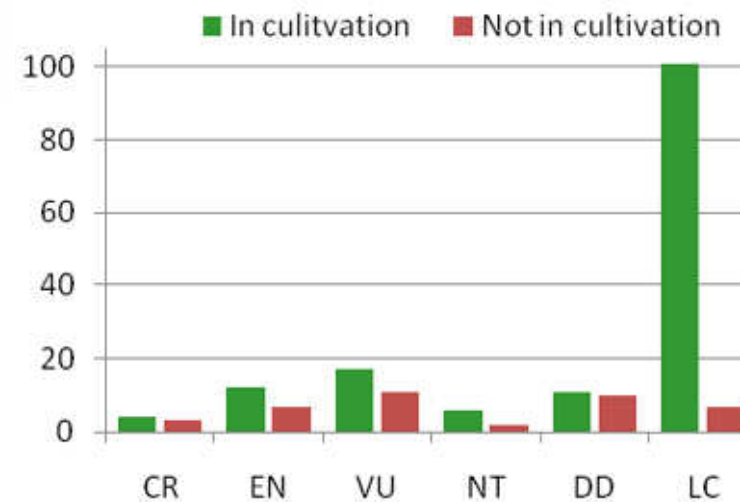
# What next?



# Ex situ survey of maple collections

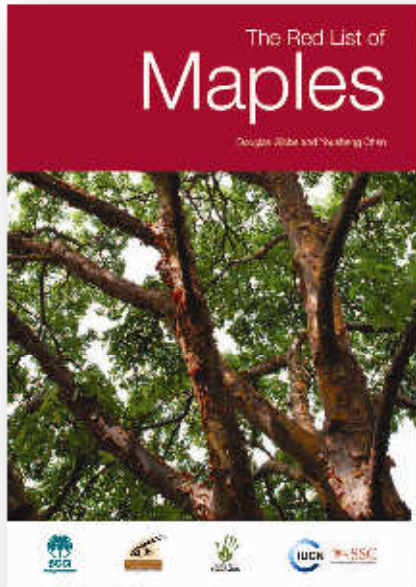


	In Cultivation	Not in Cultivation	Total
CR	4	3	7
EN	12	7	19
VU	17	11	28
NT	6	2	8
DD	11	10	21
LC	101	7	108
<b>Total</b>	<b>151</b>	<b>40</b>	<b>191</b>

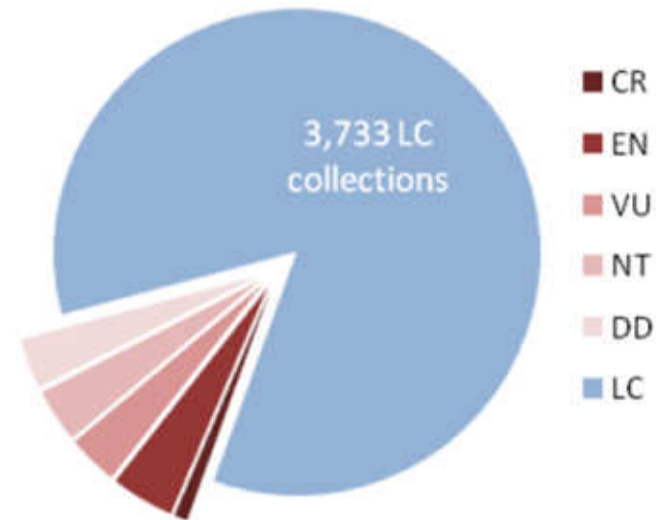


4,405 maple records, from 228 institutions in 37 countries.

# Ex situ survey of maple collections

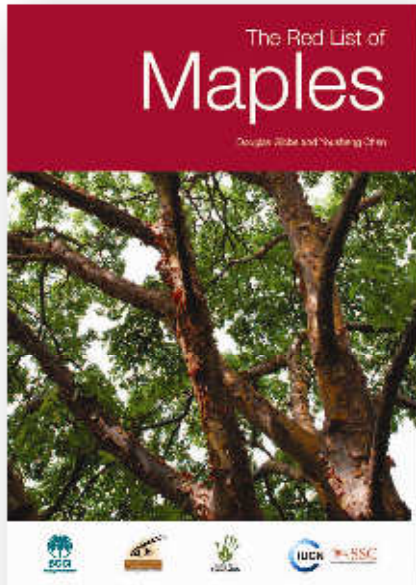


No. of collections by RDL Category



4,405 maple records, from 228 institutions in 37 countries.

# Ex situ survey of maple collections



	Unknown or horticultural source	Known wild source	
	No. of collections	No. of collections	No. of species
CR	31	8	3
EN	162	22	8
VU	122	25	10
NT	140	17	4
DD	113	32	8
LC	3187	546	94

4,405 maple records, from 228 institutions in 37 countries.

# *Ex situ* survey of maple collections

## ***Critically Endangered (CR) taxa currently absent from ex situ collections:***

*Acer leipoense*

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*Acer tenellum* var. *septemlobum*

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*Acer undulatum*

## ***CR taxa currently in very few ex situ collections and therefore still a priority for new collections:***

*Acer paihengii*

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*Acer yangbiense*

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# Ex situ survey of maple collections

## **Endangered (EN) taxa currently absent from ex situ collections:**

*Acer buergerianum* var. *yentangense*

*Acer crassum*

*Acer gracilifolium*

*Acer kwangnanense*

*Acer oblongum* var. *omeiense*

*Acer poliophyllum*

*Acer tibetense*

## **EN taxa currently in very few ex situ collections and therefore still a priority for new collections:**

*Acer miyabei* var. *shibatai*

*Acer sutchuenense*

*Acer sycopseoides*

*Acer yui*

*Dipteronia dyeriana*

# *Acer yangbiense*



2002 – 10 trees

Described in 2003

# *Acer yangbiense*



2002 – 10 trees

Described in 2003

Single location

2007 – 4 trees

# *Acer yangbiense*



