Mining and Metallophytes: Conservation of Biodiversity

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What is a metallophyte?

• Grow on (toxic) metalliferous soils

• Metal tolerance mechanisms

• Evolved over 10’s to 1,000,000’s of years

• Unique, often endemic
Metallophytes:

- Current numbers/status unknown
- Valuable...
  - Biologically significant
  - Ecological restoration
  - Bioindicators
  - Phytoremediation / Phytomining

Are under threat!
AIMS:

• Current status of metallophytes?
• Conservation of Biodiversity?
• Applications and risks?
• Access to resources and benefits?
Seven Key Issues Identified:

1. Who should be aware of metallophytes?

- Identify consortium of interested companies
- Promote awareness
- Involve local researchers
2. Develop policies for metallophyte conservation

- To ensure effective conservation
- Consistent with Convention on Biological Diversity
- Fair and equitable benefit sharing with provider countries
3. Identification of metallophyte diversity

• Where to survey? - priority areas
• When to survey? - before development
• How to survey? - ecological methodologies
4. Development of resource base

- Database information - internet/CD’s
- Germplasm storage - seed banks, herbaria
- Living collections - botanic gardens, reserves, seed orchards
5. Access to metallophytes resources

- Mechanisms to promote access
- Prior informed consent of provider country
- Fair and equitable access
6. Commercial and non-commercial uses for metallophytes

- “Green” technologies
- Bioindicators, ecological restoration, phytoremediation, phytomining
- Future research needs?
7. **Assessment and management of environmental risk**

- **Consequences of using metallophytes?**
• Next steps?

• Ideas are consonant with tenets of Sustainable Development

• MMSD – perfect vehicle for promoting conservation and use of metallophyte biodiversity
Metallophytes:

- Current numbers/status unknown
- Valuable...
  - Biologically significant
  - Remedial applications
  - Commercial applications

* Are under threat!