



Next Steps in the Catalogue of Life



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Species 2000 & ITIS Catalogue of Life programme

- Compiling a **unified** and **validated** comprehensive index to the world's known species
- Involves ~3,000 taxonomists around the world
- Just over 1/2 complete
- Used as a practical baseline tool for inventorying and monitoring biodiversity worldwide
- e.g. as the species index in the Global Biodiversity Information Facility (GBIF) portal



How did we reach One Million Species?

- Initially, we found existing Global Species Databases (GSDs) for individual higher taxa, and appended them end-to-end

e.g. FishBase (fishes), SpidCat (spiders), and ICTVdb (viruses) and many ITIS GSDs

= well-defined, taxonomically distinct taxa, so no overlap between their GSDs and so easy to add to the *Catalogue of Life* as *GSD sectors* for those groups



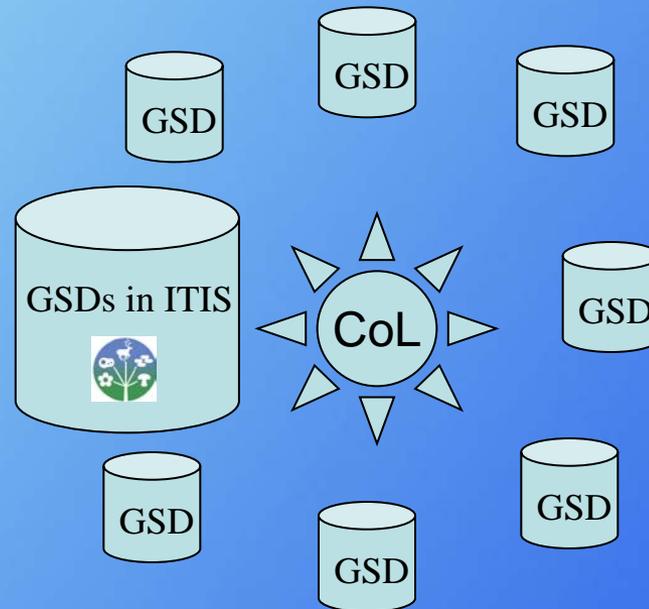
Gaps in coverage: no GSD

- Where no GSD exists, there is a gap in the global taxonomic coverage
- To partly fill such gaps, we presently use the non-GSD sectors of ITIS as interim sectors to provide at least regional data for those groups until a GSD is available



Catalogue of Life Architecture I

Global Hub





The strategy of using GSDs has worked well

- Has allowed us to proceed with assessing and connecting databases with limited extra resources, in partnership with the taxonomists of the world
- Our funding has brought pressure to speed up preparation of the *Catalogue of Life*
- This strategy allows the real work on global taxonomic integration to run in parallel, as 100–200 separate projects around the world. We have thus been able to speed up with a massive build-up of activity as needed



Future challenges

- Completing the *Catalogue of Life* by compiling species from regional checklists, nomenclators and other sources requires much more complex informatics, and much more taxonomic and system management, than the initial strategy of compiling GSDs
- But it may be the only way to cover the remaining fraction of the world's named species by June 2011, at least in a basic catalogue that can be edited by taxonomists to improve the taxonomic quality.



Next phase – towards completion of the Catalogue of Life

- Initial strategy of bringing together Global Species Databases has worked well
- BUT GSDs only cover a portion of the world's species!
- Most existing GSDs will have been included in the *Catalogue of Life* in the next year or so
- Other, more complex, strategies using regional checklists and nomenclator databases are needed to complete coverage of the world's 1.75 million known species by 2011



Regional Hubs – the future

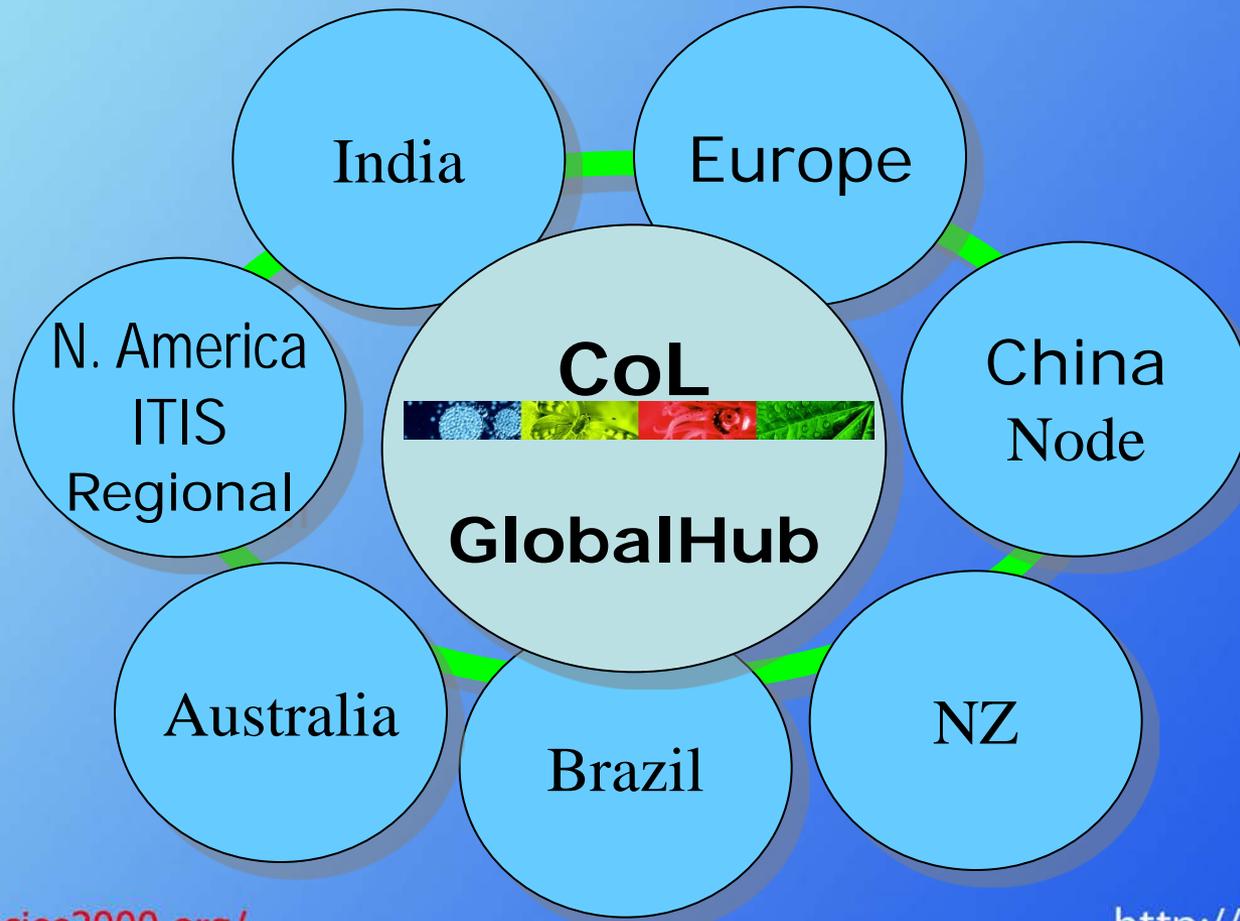
Models already exist for establishing *regional hubs*:

- A centralised regional taxonomic database (e.g. ITIS for North America and US Pacific Territories)
- A true distributed hub to which a number of regional databases are connected, e.g. the Species 2000 *European Hub*, which can then ‘move’ species names to the *Catalogue of Life* (or vice versa)

We are discussing the possibility of other regional hubs with taxonomists and databasing projects in other regions



Catalogue of Life Architecture II





How can we fill the many remaining gaps?

Help people to develop new GSDs by:

- Provide 'data starter kit' for rapid development of new GSDs, based on entries in relevant nomenclators (*Index Fungorum*, *Index Kewensis*, *Zoological Record*, etc.). This 'first-draft' GSD will then need editing by taxonomists to improve the standard.
- Tap more directly into the many regional databases and nomenclators. We shall achieve this by using the content available in Regional Hubs



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