

FADA in the Biodiversity Information World

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FADA workshop
Bruges, December 5-7 2009



Acronyms unlimited

The Freshwater Animal Diversity Assessment what we're talking about

FADA Data today:

- What: Taxonomy / nomenclature data
- Where: Biogeographical information / Georef'd data (minimal)

Focus on *taxonomy, taxon diversity, biogeography*

The Freshwater Animal Diversity Assessment what we're talking about

FADA METADATA (data on the data):

- Who, When, What (references)?
- Responsible taxonomist : Author

The Freshwater Animal Diversity Assessment and other global cataloguing initiatives

- Global lists of species
- Taxonomic scope
- Tool for science, conservation, management
- A (1) *topical*, (2) *global* species database
- Contributes to the **Catalogue of Life**

Catalogue of Life

- ✓ Goal: a catalogue of all known species of organisms (by 2011)
- ✓ Partnership of:
 - ✓ Species2000: federation of taxonomic database custodians, largely EUR and Asia-Oceania
 - ✓ Integrated Taxonomic Information Service (ITIS - US, Can, MX)
- ✓ CODATA's (Committee on Data for Science and Technology, ICSU) Global Species Data Networks (Sp2000)
- ✓ Brings together 47 databases, most GSDs; 1M+

Species
2000

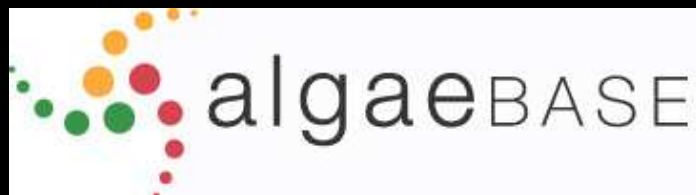


Catalogue of Life: 2007 Annual Checklist
indexing the world's known species



Global Species Databases

1350 citations, 1460 collaborators
25 M hits/month



Regional Species Databases



European Nature
Information System (EUNIS)

European Environment Agency



FAUNA EUROPAEA



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Topical Species Databases



GLOBAL INVASIVE SPECIES DATABASE



But there's more: GBIF



The *Global Biodiversity Information Facility*

- ✓ Goal: free and open access to biodiversity information
- ✓ Participants: countries, economies, organizations
- ✓ Programs: DADI, DIGIT, ECAT, OCB
- ✓ Gives access to 120 M+ occurrence records, 1000+ data providers

For the oceans



The Ocean Biogeographic Information System

- ✓ Goal: make marine biogeographic data, from all over the world, freely available (incl. depth, vert. distribution,...)
- ✓ Established by the Census of Marine Life (CoML) program, an alliance of people and organizations
- ✓ Participant in GBIF, specialized in ocean data

Names...

International Commission on Zoological Nomenclature



- ✓ world register of published animal names
- ✓ based on *zoological record* (Thompson zoological)
- ✓ In cooperation with ICZN

...and literature



universal Biological indexer and organizer

- ✓ Taxonomic name server
- ✓ *Namebank* contains undisputed nomenclature metadata, *classificationbank* stores alternative classifications
- ✓ Includes and links between scientific and vernacular names
- ✓ Initiative within science library community (Woods hole, Massachusetts)

Something on nuts and bolts...

Biodiversity
Information
Standards
T D W G

- IUBS commission for taxonomic databases, the standardization body for biodiversity informatics
- Cooperates with CODATA's Access to Biological Collections Data (ABCD) task group
- **Standards!** ABCD, ABCDEFG, TAPIR (TDWG Access Protocol for Information Retrieval), geographical,

Society for the Management of European Biodiversity Data

- Foster electronic publication of biodiversity data
- Archiving of electronic biodiversity data
- Networking between databases
- Professional society; members: database custodians of ERMS, Fauna Europaea, Euro+Med plantbase

**Society for the
Management of European
Biodiversity Data (SMEBD)**



Future developments

(From the website of the European Commission > Research > International Cooperation)

Environment ministers want a GSIS

During their meeting from 15-17 March 2007, G8+5 Environment Ministers support the “Potsdam Initiative – Biological Diversity 2010”, which encourages the development of a 'Global Species Information System'.

Three major global 'backbones' of a GSIS

- The Catalogue of Life (CoL) partnership (Species2000, ITIS)
- The Global Biodiversity Information Facility (GBIF)
- The Biodiversity Heritage Library (BHL)
(provides access to biodiversity relevant publications. More than 1.25 million pages already scanned)

Future developments



« an electronic page for each species of organism on Earth available everywhere by single access on command »

- ✓ EO Wilson's « TED prize » wish
- ✓ Launched May 9, 2007; budget 50M\$
(NSF, Sloan F, MacArthur F);
- ✓ Focus on bioinformatics infrastructure
- ✓ First pages 2008, 10yrs

Future developments



A free directory of life

- ✓ An open, free directory of species by the Wikimedia foundation
- ✓ Content: 108,797 articles

Wikispecies is free, because life is public domain!

Future developments



- ✓ An e-science and technology infrastructure for biodiversity data and observations, to be supported by the EU Member States
- ✓ Selected by the *European Strategy Forum on Research Infrastructures* (ESFRI).
- ✓ Start design phase: end 2007/early2008
- ✓ Compare with: CERN

Global Earth Observations System of Systems (GEOSS)

- ✓ Global network, all environmental data, started 2005
- ✓ 71 countries, EC, 46 organisations

*Towards an impact factor and citation
index for databases...*