

Australian Faunal Directory (AFD) and Australian Plant Census (APC): Content, Architecture and Services

Documenting and delivering
nomenclature and taxonomy for the
Australian Fauna & Flora

Greg Whitbread¹, Helen Thompson², Matthew Hand³

¹ Australian National Botanic Gardens, ² Australian Biological Resources Study, ³ Answerz Pty Ltd

Australian National Herbarium
Australian National Botanic Gardens
Australian Biological Resources Study



The

Australian Faunal Directory (AFD), the
Australian Plant Census (APC) and the
Australian Plant Name Index (APNI)

are the most complete information resources
available online for the taxonomy and
nomenclature of Australian plants and
animals.

AFD and APNI/APC are

of **high quality**,

authoritative, and widely accepted as the

single point of truth

for these Australian taxa. They are to contribute a

nomenclatural and taxonomic core

for the

Atlas of Living Australia (ALA).



... Housed within the

Department of the Environment, Water,
Heritage and the Arts (DEWHA) and
maintained by the

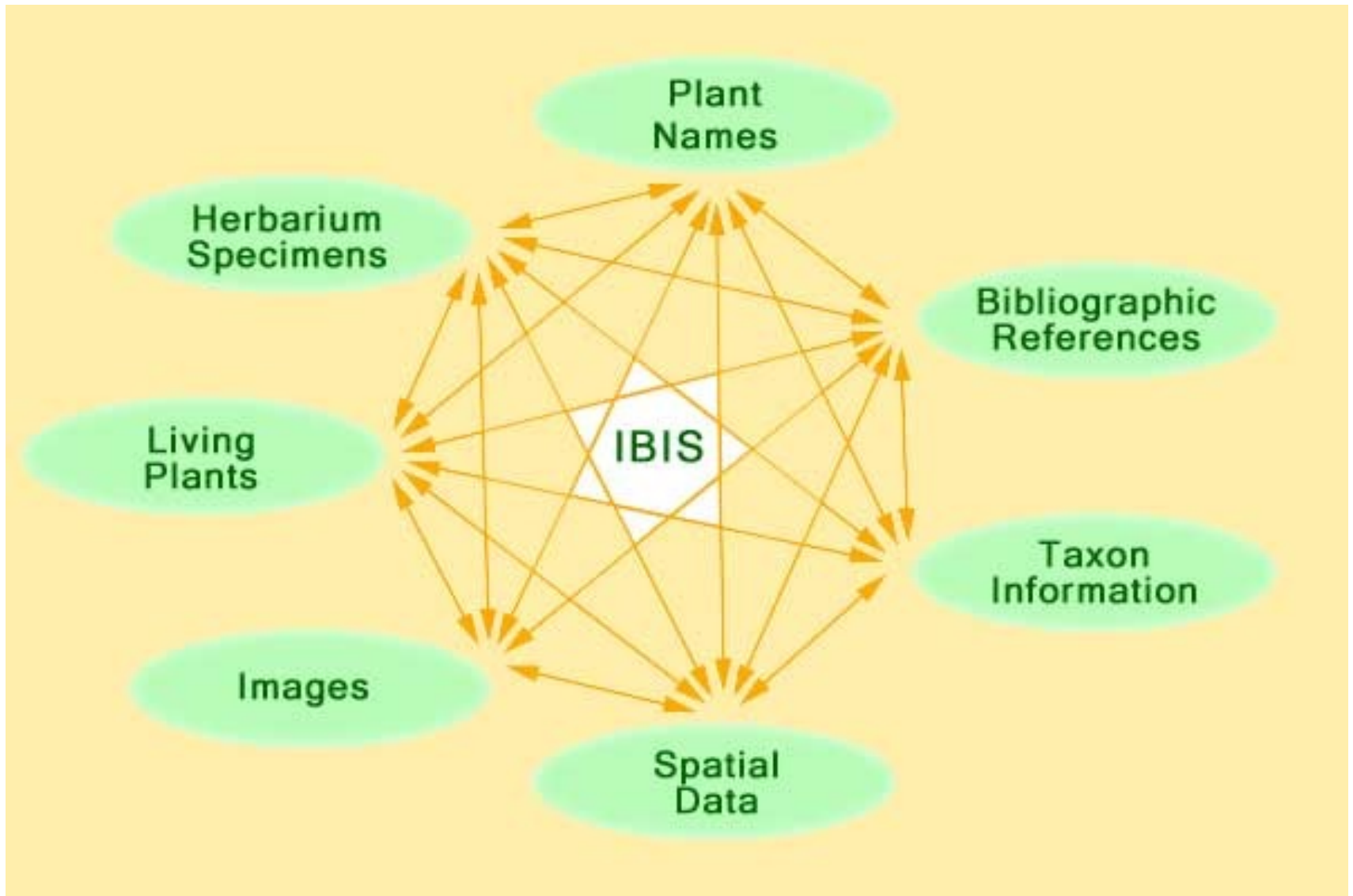
Australian Biological Resources Study (ABRS)
and the

Australian National Herbarium (CANB).

APC operates under the auspices of CHAH
(Council of Heads of Australasian Herbaria).



<http://www.anbg.gov.au/ibis>



AFD Aims

- 1. To include in a dynamic online database **at least** valid names of all species in the Australian fauna, and all of their synonyms.
- 2. To provide outside access to specialists for updating of checklists, associated with a data-verification facility for ABRS staff.
- 3. To make available downloads of names lists, records, and bibliographic details for sections as required by outside users.
- 4. To conserve unique identifier codes.

... So far:

- Includes **>75,000** valid species names
- In-house edits, immediately available online

AFD Editor

AFD Version 1.2 - Windows Internet Explorer

http://155.187.10.18:8080/afd-editor/taxon-taxa.do?GUID=7bcd6aa-4eb0-4184-bbd1-ca2b518b749f

File Edit View Favorites Tools Help

AFD Version 1.2 Australian Faunal Direc...

Main Checklist (ANIMALIA) Publications Administration Search results (1)

***Tachyglossus aculeatus* (Shaw, 1792)**

Last updated 09-Oct-2008 16:11:37

Valid Name Synonyms Common Names (1) Generic Combinations Other Names Region More Information... Authorisation

Child Taxa

[Add Child Taxon »](#) | 4 items found, displaying all items. 1

Rank	Name	
Subspecies	<i>Tachyglossus aculeatus acanthion</i> (Collett, 1884)	Edit
Subspecies	<i>Tachyglossus aculeatus aculeatus</i> (Shaw, 1792)	Edit
Subspecies	<i>Tachyglossus aculeatus multiaculeatus</i> (Rothschild, 1905)	Edit
Subspecies	<i>Tachyglossus aculeatus setosus</i> (Geoffroy, 1803)	Edit

Taxonomic Arrangement References

[Add Reference Link »](#) | One item found. 1

Reference	
Mahoney, J.A. in Walton, D.W. (ed.) 1988. <i>Zoological Catalogue of Australia. Vol. 5 Mammalia</i> . Canberra : Australian Government Publishing Service pp. x 274	Edit

AFD AFD 0.6 (69)

Logged in as alice | [Logout](#) | [User Options](#) | [A+](#) | [A-](#)

Done

Local intranet 100%

start

Inbox - ... Fauna 3 Micr... Microsoft... AFD Vers... EN 8:36 AM

http://www.environment.gov.au/apps/afd/home

Australian Faunal Directory - Windows Internet Explorer

http://155.187.10.18:8080/afd/taxa/Tachyglossus_aculeatus/checklist#selected

File Edit View Favorites Tools Help

AFD Version 1.2 Australian Faunal DI...

Skip to content Change contrast Change text size

Australian Government
Department of the Environment, Water, Heritage and the Arts

Australian Biological Resources Study
Australian Faunal Directory

Environment home About us Contact us search

You are here: Environment home » Biodiversity » ABRS » AFD » *Tachyglossus aculeatus* (Shaw, 1792) » Checklist

Checklist for *Tachyglossus aculeatus* (Shaw, 1792)

- Higher Taxon [GNATHOSTOMATA](#) [»]
- Higher Taxon [MAMMALIA](#) [»] Mammals
- Subclass [PROTOTHERIA](#) [»] Echidna, Platypus
- Order [MONOTREMATA](#) [»]
- Family [TACHYGLOSSIDAE](#) [»]
- Genus [Tachyglossus Illiger, 1811](#) [»]

Species *Tachyglossus aculeatus* (Shaw, 1792) Short-beaked Echidna

- Subspecies [Tachyglossus aculeatus acanthion](#) (Collett, 1884)
- Subspecies [Tachyglossus aculeatus aculeatus](#) (Shaw, 1792)
- Subspecies [Tachyglossus aculeatus multiaculeatus](#) (Rothschild, 1905)
- Subspecies [Tachyglossus aculeatus setosus](#) (Geoffroy, 1803)

Return to [Tachyglossus aculeatus](#) (Shaw, 1792) profile page.

[Accessibility](#) | [Disclaimer](#) | [Privacy](#) | [© Commonwealth of Australia](#)
Last updated: Monday, 29-Oct-2007 14:50:11 EST

Department of the Environment, Water, Heritage and the Arts
GPO Box 787
Canberra ACT 2601 Australia
+61 (0)2 6274 1111 [ABN](#)

Our land. Our plan. Our future.
[Australian Government](#)

Local intranet 100%

start Inbox ... Fauna 3 Mic... Microso... Australl... EN 8:07 AM

Australian Faunal Directory - Windows Internet Explorer

http://155.187.10.18:8080/afd/taxa/Aconophora_compressa

File Edit View Favorites Tools Help

AFD Version 1.2 Australian Faunal Di...

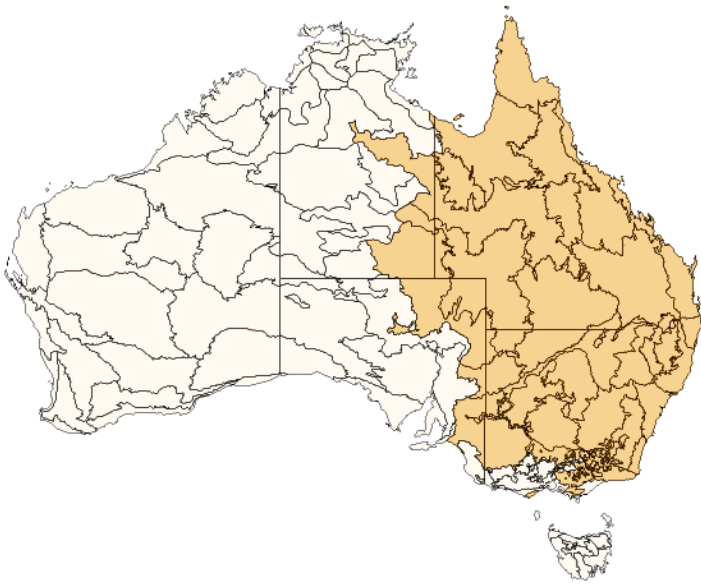
Species ***Aconophora compressa* Walker, 1851** [View Taxonomic Placement](#)

Aconophora compressa Walker, F. 1851. *List of the Specimens of Homopterous Insects in the Collection of the British Museum*. London : British Museum (Natural History) Vol. 2 pp. 261-636 [541].

Type data: Holotype BMNH sex unknown (presented by E.P. Coffin, esq.), Mexico.

Distribution


Note that conversion of the original AFD map of states, drainage basins and coastal and oceanic zones to IBRA and IMCRA regions may have produced errors. The new maps will be reviewed and corrected as updates occur.



IBRA
Australian Alps (AA), Brigalow Belt North (BBN), Brigalow Belt South (BBS), Broken Hill Complex (BHC),

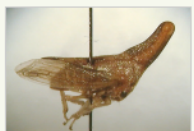
Species ***Aconophora compressa* Walker, 1851**

- [Checklist](#)
- [Statistics](#)
- [Host Taxa](#)
- [Bibliography](#)
- [Names List](#)
- [Complete Preview](#)



Aconophora compressa
Walker, male

© Copyright Murray Fletcher. NSW Dept Primary Industries.



Aconophora compressa
Walker, female

© Copyright Murray Fletcher. NSW Dept Primary Industries.

Museums

- [Museum list](#)

start

Inbox - Mi... Fauna 3 Micros... Microsoft ... Australian ... EN 8:40 AM

Australian Plant Name Index (APNI)

A Nomenclator

Aims to capture *all* names (including misapplications, excluded names, names of uncertain placement, phrase names, autonyms, isonyms, etc) used in an Australian context

All names and name usages are treated **equally**

Presents information about plant names (e.g. author, date, publication, any nomenclatural status, etc)

DOES NOT OFFER ANY TAXONOMIC OPINION

Australian Plant Census (APC)

Taxonomic census

Aims to present *all* names (as per APNI) in a taxonomic and nomenclatural context

Names are not treated equally

Layered over APNI

PRESENTS A CONSENSUS TAXONOMIC OPINION



Australian Plant Name Index (APNI)

Myrtaceae

Corymbia aparrerinja K.D.Hill & L.A.S.Johnson

Hill, K.D. & Johnson, L.A.S. (1995) Systematic studies in the eucalypts. 7. A revision of the bloodwoods, genus *Corymbia* (Myrtaceae). *Telopea* 6(2-3): 453 [tax. nov.]

Type: Northern Territory: Gosse Range, S.W. McDonnell Ranges, H. Basedow, May 1925 (holo: NSW 10075).

nomenclatural synonym: *Eucalyptus papuana* var. *aparrerinja* **Blakely** nom. inval.

Brooker, M.I.H. (2000) A new classification of the genus *Eucalyptus* L'Her. (Myrtaceae). *Australian Systematic Botany* 13(1): 137

basonym of: *Eucalyptus aparrerinja* (K.D.Hill & L.A.S.Johnson) **Brooker**

Ladiges, P.Y. & Udovicic, F. (2000) Comment on a New Classification of the Eucalypts. *Australian Systematic Botany* 13(1): 149-152

nomenclatural synonym: *Eucalyptus aparrerinja* (K.D.Hill & L.A.S.Johnson) **Brooker**

CHAH (2006), *Australian Plant Census*

nomenclatural synonym: *Eucalyptus aparrerinja* (K.D.Hill & L.A.S.Johnson) **Brooker**

synonym: *Eucalyptus papuana* var. *aparrerinja* **Blakely** nom. inval.

APC Dist.: WA, NT, Qld

APC Comment: A member of the *C. dallachiana* complex, and variously treated as distinct or as synonymous with one other of that group. Treated as a distinct species in WA, NT and Euclid, but as a synonym of *C. dallachiana* in Qld. A hybrid between '*C. blakei*' and *C. aparrerinja* was recorded by Hill & Johnson (1995) from Qld. Hybrids are known in Qld between *C. dallachiana* and *C. aparrerinja* (Hill & Johnson (1995). Intergradation/hybridisation is also known between *C. flavescens* and *C. aparrerinja* (Hill & Johnson, 1995). A hybrid between *C. aparrerinja* and *C. candida* ('subsp. dipsodes') was recorded by Hill & Johnson (1995).

73420 , [Map CANB collections](#) .



<http://www.chah.org.au/apc>



Integrated Botanical Information System (IBIS)
Australian National Botanic Gardens
Australian National Herbarium



Australian Plant Census

[Corymbia aparrerinja](#) K.D.Hill & L.A.S.Johnson sensu CHAH (2006).

[Eucalyptus aparrerinja](#) (K.D.Hill & L.A.S.Johnson) Brooker

[Eucalyptus papuana](#) var. [aparrerinja](#) Blakely

A member of the *C. dallachiana* complex, and variously treated as distinct or as synonymous with one other of that group. Treated as a distinct species in WA, NT and Euclid, but as a synonym of *C. dallachiana* in Qld. A hybrid between '*C. blakei*' and *C. aparrerinja* was recorded by Hill & Johnson (1995) from Qld. Hybrids are known in Qld between *C. dallachiana* and *C. aparrerinja* (Hill & Johnson (1995). Intergradation/hybridisation is also known between *C. flavescens* and *C. aparrerinja* (Hill & Johnson, 1995). A hybrid between *C. aparrerinja* and *C. candida* ('subsp. dipsodes') was recorded by Hill & Johnson (1995).

WA, NT, Qld

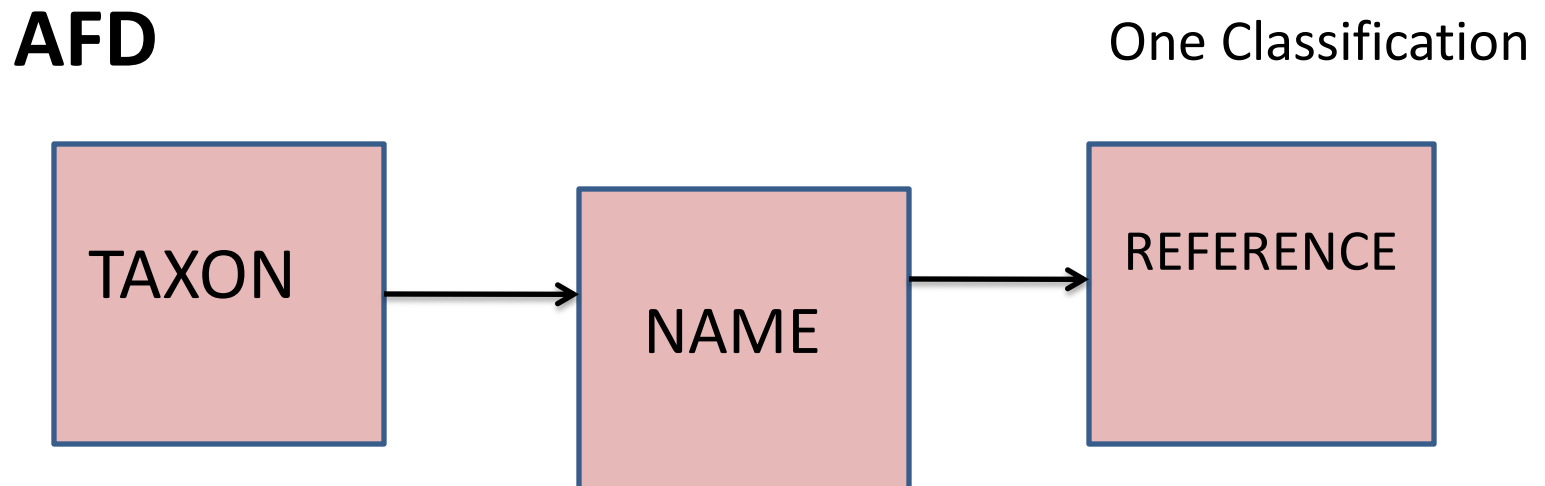
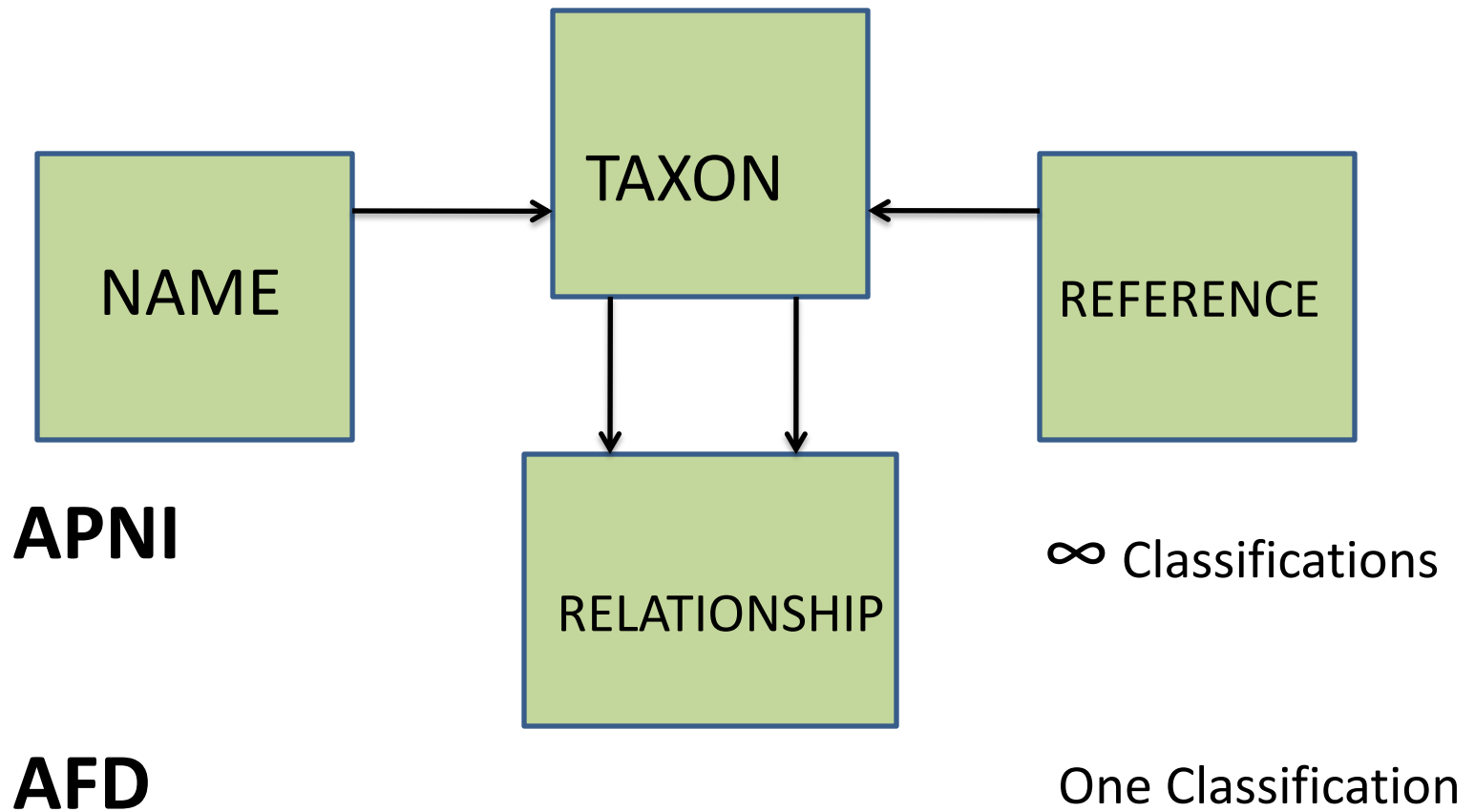
1 row found.

References

CHAH (2006) *Australian Plant Census*

APNI/APC and AFD

- Taxon (concept) based ...
- APNI = repository of nomenclatural usage and associated facts. small incremental changes, authoritatively coupled. Always up-to-date
- AFD = current concepts, comprehensive synonymy and profile detail. Requires revision to be up-to-date
- APNI/APC + ABRS Flora-online = AFD
- Simple services aimed at end user



In partnership with the ALA we are building the services required for distribution using TDWG standards.

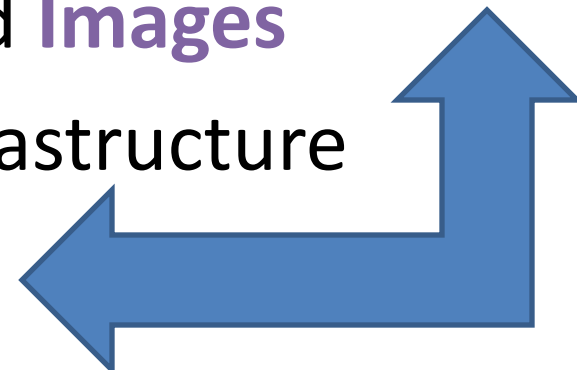
- **TAPIR & TCS**

To deliver slices of the data set into client systems in a way that enables maintenance of data quality and update of extracts in place.

- **LSID & Date last modified**

For **Names, Taxa, References** and **Images**

... platform for a collaborative infrastructure



The foundation for these services is a generic layer providing for

- **XML-RPC, SOAP and REST** services to handle all of the protocols we are asked to support including
- **TAPIR, OAI-PMH, SRW/U, LSID and XQUERY** and data models specified using the TDWG core ontology.

Provide a path to participation in the Semantic Web.

Initial Iterations ...

XML Java framework to mimic the operation of existing providers implementing TAPIR to SQL translation over hibernate like mappings between provider objects and the underlying database.

TCS not well suited to SQL processing and the resulting TAPIR solution demands considerable dedicated code for each service and data model supported.

Little possibility of a generic solution.

Current iteration ...

eXist-DB - an XML database framework

provides the required services, query processing and database layers

The strong procedural capability of the XQUERY language and the ease with which TAPIR queries can be taken to XPATH expressions reduces TAPIR implementation to near declarative simplicity

In the EXIST service layer ...

Support for our mandatory protocols is pluggable using easy to write translation modules.

Code is reduced to a minimum.

All required services are bundled

Semantic technologies supported

Integrated XSLT capabilities for local content delivery.

Current Issues

TCS over TAPIR.

- specify scope of return document

- local or external references

Open source

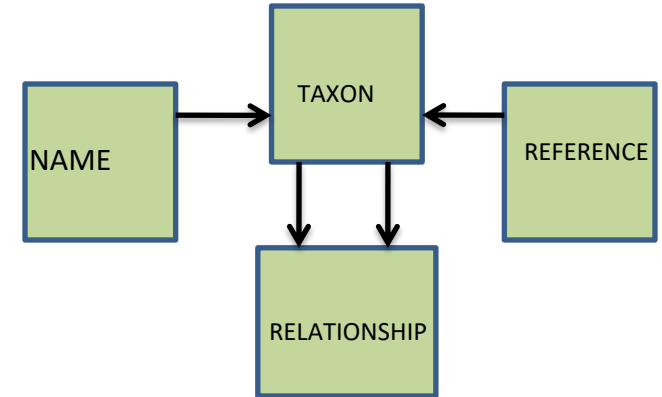
Common data store ...

- TDWG ontology?

- evaluating CDM

... Current Issues

AFD concept history
multiple classifications



Rich client ...
high expectations of Plazi and EDIT

Performance of XML data base

Relational to XML transformation

Acknowledgements

- *Department of the Environment, Water, Heritage and the Arts;*
 - *Australian Biological Resources Study*
- *Director of National Parks*
 - *Australian National Herbarium*
 - *Australian National Botanic Gardens*
- *National Collaborative Research Infrastructure Strategy*
- *Atlas of Living Australia*