

OzFishNet Workshop 22 July 2011 - Kingston Room, Rydges Hotel, Townsville

Participants:

Australian Museum, Sydney

Ken Graham (KG), (Research Associate, Ichthyology)

Amanda Hay (AH)

Jeff Leis (JML)

Mark McGrouther (MM)

Dave Pollard (DP), (Research Associate, Ichthyology)

CSIRO, Hobart

Daniel Gledhill (DG)

Alastair Graham (ARG)

Peter Last (PRL)

John Pogonoski (JJP)

William White (WW)

DPI, Victoria

Murray McDonald (MMcD)

Museum Victoria, Melbourne

Dianne Bray (DB)

Martin Gomon (MG)

Northern Territory Museum & Art Gallery, Darwin

Michael Hammer (MH)

Helen Larson (HKL), (Curator Emeritus, Fishes)

Queensland Museum, Brisbane

Jeff Johnson (JJ)

Apologies:

David Booth, University of Technology

Will Figueira, University of Sydney

Ralph Foster, South Australian Museum

Tony Gill, Macleay Museum, University of Sydney

Doug Hoese (DFH), Australian Museum (Senior Fellow, Ichthyology)

Barry Hutchins, Western Australian Museum (Research Associate)

Sue Morrison, Western Australian Museum

John Paxton (JRP), Australian Museum (Senior Fellow, Ichthyology)

Sally Reader, Australian Museum

Barry Russell (BR), Northern Territory Museum (Curator Emeritus, Fishes)

Alphabetical list of Abbreviations used in minutes (see participants list for name abbreviations)

- AFD** Australian Faunal Directory (hard copy commonly referred to as “ZooCat”):
<http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/taxa/Pisces>
- ALA** Atlas of Living Australia: <http://www.ala.org.au/>
- AMS** Australian Museum, Sydney: <http://australianmuseum.net.au/>
- ANFC** Australian National Fish Collection:
http://www.pi.csiro.au/aus_biological_collections/anfc.html
- AQIS** Australian Quarantine Inspection Service: <http://www.daff.gov.au/aqis>
- BOLD** Barcode of Life Database: <http://www.boldsystems.org/>
- CAAB** Codes for Australian Aquatic Biota: <http://www.cmar.csiro.au/caab/>
- CHAFC** Council of Heads of Australian Faunal Collections
<http://www.ala.org.au/about/atlas-partners/council-of-heads-of-australian-faunal-collections/>
- CSIRO** Commonwealth Scientific Industrial Research Organisation: <http://www.csiro.au/>
- FOA** Fishes of Australia Online: <http://foa.webboy.net/>
- FAO** Food & Agriculture Organisation: <http://www.fao.org/>
- Fish-BOL** Fish Barcode of Life Initiative: <http://www.fishbol.org/>
- NMV** Museum Victoria, Melbourne: <http://museumvictoria.com.au/>
- OZCAM** Online Zoological Collections of Australian Museums <http://www.biomaps.net.au/ozcam2/>
- QM** Queensland Museum, Brisbane: <http://www.qm.qld.gov.au/>
- WAM** Western Australian Museum, Perth: <http://www.museum.wa.gov.au/>

Minutes of Meeting

HL welcomed MH to the OzFishNet community and noted that he was the first curator appointed in Australia for about 30 years.

Agenda item 1: Fishes of Australia Online, including Interactive Key to Australian Freshwater Fishes - Facilitators: M. Gomon & D. Bray

- DB presented a demonstration of the Fishes of Australia Website, noting problems with design and communication with IT people and website designers as the major barriers to producing a user-friendly site.
- The mapping function utilises IMCRA regions and drainage basins, and will provide lists of species found in major bays, harbours and other regions (islands).
- Some content is on the NMV site, some is on the Fishes of Australia online site (coverage includes families and species already treated on that site)
- Items missing include: links to 'What's new', 'Facebook', 'Flickr' sites, 'RSS feeds', species pages, distributions maps (from CAAB), other links e.g. ALA, AFD, CAAB, AMS site, etc.
- Need to discuss further inclusion of information on site, e.g. desired taxonomic classification levels, institutional logos (should they appear?), fisheries info, sustainability info (e.g. links to Marine Stewardship Council)
- Options for future improvements include?
 - enhanced functionality & design
 - images – will set up a Flickr site for public to lodge images
 - LUCID key to freshwater species (no need to download software as hosted by 'UQ Lucid Central')
 - additional keys e.g. interactive dichotomous (Lucid Phoenix)
 - larval fish info
 - interactive maps – states, drainage basins, major harbours, protected areas
 - downloadable pdfs (fact sheets)
 - references incl. AFD
 - iPhone, iPad apps
 - source material for ALA

Interactive Key to Australian Freshwater Fishes demonstration

MG presented information on a recently developed key to Australian freshwater fishes that is operated using LUCID software. Main points:

- housed in a window on FOA website
- LUCID software is commercially available, but will be free online when FOA is live (hosted by University of Qld)
- Key consists of 4 panes:
 - Two left hand panes deal with features (descriptive characteristics including identified distributions) and two right hand panes deal with Australia's freshwater fish species
 - Upper two panes display features and species that are potentially there for the identification process
 - Lower left hand pane shows the features chosen for the identification
 - Lower right hand pane shows the species discarded as a result of the identification process.

- Toolbar tabs include:
 - Magic wand – advises best character to use to reduce number of species by greatest amount, i.e. drills down to lowest number of possible options in as few steps as possible

Comments on DB presentation

PRL – cohesive approach needed to make it work

MM – separate public interface for public input? Moderator required?

JML – experts in OzFishNet community have limited time and resources – is it best to direct this time to ‘moderating’ site or filling information for species account pages? (need to separate the ‘wheat from the chaff’ – i.e. what information is reliable?)

Agenda item 2: Atlas of Living Australia - Facilitator: D. Gledhill

- DG presented a demonstration of the spatial search tool that links distributional information and images (utilises images primarily sourced from Australian material, and distribution data expanded from OzFishNet input into Bioregionalisation work. Will utilise AFD names as these are already used by ALA)
- Spatial search tool has simple and advanced features, users able to create species lists for any marine area of interest (e.g. Sydney Harbour, or create your own ‘search box’), depth range, and species group (e.g. flathead)
- DG briefly summarised image selection processes (e.g. image quality, size, copyright, etc)
- To date c. 3,600 images have been selected for Australian fishes, c. 700 images are still to be sourced (no image yet found) and c. 500 species not yet examined for available images
- ALA page is currently not representative of ideal display page (enhancements needed). A bone of contention is that the ALA are trying to streamline pages across animal and plant groups to have consistency from a structure point of view

Comments & Discussion on DG presentation

PRL – quality assurance for distributions is based on Bioregionalisation I & II

PRL & DB – link to Fishes of Australia Online page for more detailed information

MG – should use FOA online proforma for detailed species accounts to keep information consistent between different sites

Other comments

- General discussion and some criticisms about Fishbase becoming more and more unreliable – we don’t want the Australian Fish site to become another Fishbase
- Genus pages not necessary for descriptive pages, but useful for mapping tool
- ALA to share images with FOA online
- Discussion of high resolution vs low resolution images (no technical definitions for each term are widely adopted in current usage)
- Specimen vs live fish images – the ideal would be to use one of each
- challenge of gathering miscellaneous images from a wide variety of sources, , including filling gaps with images held by OZFISHNET participants

Tasks still to complete

- Finalise layout, including interactive tool
- Load sharks and rays for initial demonstration project
- Additional data (e.g. length, habitat, etc)
- Species summaries for example families

- Link ALA outputs with FOA online – general acknowledgement that we need to meld packages into a single site (not yet undertaken due to different funding sources)

Agenda item 3: Australian Faunal Directory / Ozcam Demo - Facilitator: D. Bray

- DB presented history of AFD (previously known as ZooCat)
- AFD hard copy published in 2006; web version first posted in 2008 (c. 100 spp added)
- End of 2009 another c. 100 species added
- ALA provided funds for AMS & NMV to provide another update (funding until March 2012)
- Current work to add another c. 100 species + 300 spp from offshore territories (e.g. Christmas & Cocos-Keeling Islands), update names changes, synonymies, type data, distributions
- DB presented a table on OZCAM records by institution, noting the lack of data available for some collections
- Intellectual Property Issues – some taxonomists don't release data on new records or synonymies until published
- Problems with integration upon conversion to Oracle database
- Issues with provision of locality data for endangered species records

Discussion & Comments

- OZCAM has no WAM records (they were there at one stage but not now), few QM records, and there are inconsistencies with data presented by institutions (e.g. some do not include depth, identifier, etc); apparently there was some loss of data with the new OZCAM version.
- Provision of locality data for endangered species records – much discussion on this subject. Most present at the meeting conceded that the locality data can be sought by collectors if needed anyway, so probably should be available as accurate information can be important for conservation managers (e.g. freshwater ecological work). However, it was acknowledged that there are a small suite of species (e.g. handfishes) that may be worthy of special treatment (see action item below).

ACTIONS:

- Collection Managers to ensure that Identifier, Depth and Identification Date are standard fields in data provided to OZCAM
- Endangered Species list – MM to send to OzFishNet members for people to flag concerns on particular groups before sending data to OZCAM – possibly provide only approximate distributions (e.g. lat/long to nearest minute) for those species

Agenda Item 4: Fishes of Australia Book – Facilitator: P. Last

- DFH & BR both emailed their comments on the proposed Fishes of Australia Book prior to the meeting (see emails in Appendix at end of document)
- PRL outlined Shell Grant Expression of Interest from October 2010 (compiled by PRL, MG & DG): a 2-3 volume Guide to Australian Fishes was proposed with species treatments limited to a few lines. The application was unsuccessful.
- PRL flagged that a fully comprehensive guide (along the lines of Fishes of Australia's Southern Coast) would be beyond the community to achieve in any realistic timeframe.
- PRL proposed Fishes of Australia Book concept, with most critical components largely completed
 - Scientific names and hierarchy following AFD

- Standard Names
- ALA Images
- Bioregionalisation maps
- Species treatments (yet to complete)
- Challenges include QA (taxonomic issues), complementary to other products?, communal desire, critical mass of interested and available people.
- Clients would include fisheries and conservation agencies and the general public.
- Remaining costs – author time, project management costs (funds yet to be secured).
- CSIRO Publishing has agreed in principle to publishing a hard copy book on the Fishes of Australia on the proviso that the product is not made available online for a ‘to be specified’ period following the book’s publication.

Comments & Discussion

Specific comments included:

MG – will the book have sufficient information?

HKL & MM – agree with DFH & BR emails (see Appendix at end) regarding the online publication being the best approach.

PRL, WW & DG - presented different possible models including:

- the Indonesian Teleosts Fishes Book, in preparation by White et al, with 6 species treatments per double page (including images and approx. 3 lines of text per species)
- ‘mock-up’ for species of Berycidae (with images, maps and text) that was the template used in the Shell Expression of Interest.

JML – has a proposal to do an online larval fish guide. If this project is successful JL will be tied up for 3 years so could not commit to any other projects like this

HKL – also very busy over coming years with major manuscripts in the pipeline and other potential projects such as Gobioids of the World

MM – presented comments from JRP in his absence (his comments included that he agreed with DFH about preferring an online version as a hard copy book would be quickly out of date).

After much general discussion, no consensus was reached on either a hard copy book or an online guide. PRL suggested that web-based and hard-copy models need not be mutually exclusive.

ACTIONS:

ANFC, in collaboration with other willing participants, continue to pursue funding opportunities and facilitate a project. In the meantime continue to build related components (FOA, ALA fish tool) and work to bring these together as a repository for information on Australian fish species.

Agenda Item 5: Coral Sea Cruise - Facilitators: P. Last & D. Gledhill

PRL spoke about an expression of interest that was recently put in to the Marine National Facility for a ‘NORFANZ II’ type voyage in the Coral Sea. PRL & DG have more information for anyone interested, but points of note included:

- international collaboration – Australia, France, NZ research community
- inventory of outer shelf and deep slope benthic fishes and invertebrates
- identification and mapping habitat types and benthic assemblages
- determine composition and distribution of fish assemblages

Attendees expressed support for Coral Sea being the area of primary concern due to lack of sampling, and expressed interest in participating in a voyage

Agenda Item 6: Future Collaborative Fieldwork - Facilitators: M. Gomon & P. Last

PRL initiated a very brief discussion about the level of interest for collaborative fieldwork in the future. Discussion points included the increasing difficulty to collect with rotenone (difficult in most states, and rotenone use banned from Great Barrier Reef Marine Park).

Agenda Item 7: Family Numbering System / Phylogenetic order – Facilitator: J. Pogonoski

JJP spoke briefly about how the CSIRO Fish Collection Database (Texpress) copes with changes in family numbers. Catch-all families like Squalidae (family 020) have now been broken up into smaller families like Centrophoridae, Dalatiidae, Squalidae, Somniosidae and Etmopteridae as recognised by most authorities. Each of these families is now listed as 020-1, 020-2, etc in the collection database (and matches the CAAB database). When collection data is given to external researchers and provided to OZCAM, etc it now has the current family rather than the old 'catch-all' family. Other collection managers (e.g. MM & DB) noted that it was less of an issue (or not an issue) as their databases have an up to date taxonomy module incorporating changes in generic placements in families (EMU).

Agenda Item 8: Fish-BOL improvements – Facilitator: W. White

MG noted that there was a barcoding conference and associated FishBOL workshop in Adelaide in Nov / Dec 2011. MG also presented a brief talk on the taxonomy and barcoding of Chlorophthalmidae.

PL & WW noted that they will be attending the Adelaide Conference

WW presented some desired improvements to BOLD, including adding a field for clarification of ID by taxonomic experts to improve integrity of names.

JJP noted that it would also be useful to flag type status where applicable.

Agenda Item 9: Taxonomic Status Reports Online - Facilitator: W. White

WW floated the idea of doing 'short communications' online to summarise (and potentially advance) the taxonomy of particular fish groups rather than keeping information hidden away in filing cabinets.

JML – not peer reviewed so should not be made available to anyone other than OzFishNet group (i.e. 'club access only')

MM – could create a link on OzFishNet page for short communications like these (could also link to taxonomic interests list, see below)

Agenda Item 10: Taxonomic Interests List - Facilitator: M. McGrouther

MM provided a 'mock-up' of potential features to enhance this current list on the OzFishNet page.

MM is happy to send a reminder to OzFishNet community annually to update this list. Ideally, if Mark can set up the functionality, individuals could update their own interests on the list.

JJP noted that collaborating authors could also be listed in a separate column.

ACTIONS:

MM/MG to explore potential for OzFishNet enhancements and produce a 'mock-up' of revamped site to circulate to OzFishNet members.

MM to send a reminder to OzFishNet community annually to update taxonomic interests list (or this could be done by individuals if this feature is part of a revamped site).

Agenda Item 11: Standard Names for non-commercials - Facilitator: J. Pogonoski

JJP raised the issue that since the publication of the Standard Names of Australian Fishes (edited by Yearsley, Last & Hoese 2006), well over 100 species have either been described or resurrected and a Standard Name is required for each of these species for use in CAAB, AFD, Guidebooks, etc. All names need to be ratified by the Fish Names Committee. Often, names have already been used such as in *Sharks and Rays of Australia, Second Edition* or they have been recommended by the relevant authors in the publications where the species were described. For resurrected names or new Australian records that have a widespread distribution, the preference should be to use an existing FAO Standard (Common) Name (or a name used on Fishbase if already widely adopted and appropriate for the species in question).

ACTION – JJP to circulate to OzFishNet a list of Australian fishes requiring Standard Names for comments and agreement before sending to Fish Names Committee. Proposed Standard Names include those already available in the literature, e.g. recommended names in species descriptions.

Agenda Item 12: AQIS issues - Facilitator: A. Graham

ARG updated the group on AQIS problems including importation of frozen and preserved material. AQIS problems have also been raised at CHAFC. Many problems are due to AQIS inconsistencies e.g. DMSO is an approved preservative for invertebrates but not for vertebrates; vertebrate specimens are supposed to be shipped in a container 80% full of preservative, while invertebrates can be shipped fluid-free.

ACTIONS:

ARG will explore avenues for discussing problems with AQIS and report back to OzFishNet.

Agenda Item 13: Discontinuing Supplies - Facilitator: A. Graham

ARG raised the issue of discontinuing supplies, e.g. 1L jars now unavailable, dymo supplies getting harder to source, insert moulds continually changing size so don't fit well into 375ml jars, etc

ACTIONS:

MM and/ or ARG to contact Japanese and USA collections to see if they are having the same problems

NOTE on ACTION – MM contacted H. Motomura (Japan) about jar suppliers - they use polycarbonate jars due to earthquake risk, but these jars can degrade in 10-20 years if exposed to light.

Agenda Item 14: Other Business (open floor)

OzFishNet Facebook Group

MM – proposed we setup an OzFishNet Facebook Group as an alternative method for raising issues of interest.

General discussion – most present at the meeting were happy to sign up to a Facebook forum.

ACTIONS

MM to set up OzFishNet Facebook Group

NOTE on ACTION – as of 4/8/11, 12 OzFishNet members are on the Facebook site (MM pers. comm.).

Review of Taxonomy in Australia

PRL & DG reported that FRDC are to undertake a review of marine taxonomy in Australia. They were unaware of any official announcement, so don't have details of process or timing but noted this was positive news having a body such as FRDC recognising the 'taxonomic impediment'. This is especially timely given the new research vessel and associated need for ongoing (increased?) taxonomic support.

AH noted that DFH had written an opinion piece on Museums and the Environment that was relevant to this subject.

ACTIONS

AH to circulate DFH opinion piece on Museums and the Environment

Note on Action – AH circulated link (see below) to OzFishNet Group on 27 Jul 2011.
http://www.nma.gov.au/research/understanding-museums/DHoese_2011.html

Appendix

Email from Doug Hoese, 17 July 2011

From: Doug Hoese [mailto:Doug.Hoese@austmus.gov.au]
Sent: Sunday, 17 July 2011 4:02 PM
To: William.White@csiro.au; mgomon@museum.vic.gov.au;
dbray@museum.vic.gov.au; Amanda Hay; Mark McGrouther; Helen Larson;
eviotahkl@gmail.com; Sally Reader; Ralph.Foster@samuseum.sa.gov.au;
sue.morrison@museum.wa.gov.au; barry@swp.iinet.net.au;
jeff.johnson@qm.qld.gov.au; Jeff Leis; John Paxton; gill.anthony@gmail.com;
John.Pogonoski@csiro.au; Alastair.Graham@csiro.au;
Daniel.Gledhill@csiro.au; Peter.Last@csiro.au; dave.pollard@bigpond.com;
Nic.Bax@csiro.au; leanne.curry@jcu.edu.au; will.figueira@sydney.edu.au;
Gavin Dally; Barry Russell; CliveR@tepapa.govt.nz; CarlS@tepapa.govt.nz;
ttrnski@aucklandmuseum.com; Tarmo.Raadik@nre.vic.gov.au;
bertozzi.terry@saugov.sa.gov.au; rudiekuiter@optusnet.com.au;
AndrewS@tepapa.govt.nz; Chris.Burridge@utas.edu.au
Subject: RE: OzFishNet Workshop

Hi All,

Unfortunately I won't make it to the Townsville meeting.

However I will give my views about the idea of a book on the Fishes of Australia. Attempts to do a book on the fishes of Australia have gone back more than 50 years without much success and the fauna has grown to a point where the whole fauna could not be treated in a single volume or in any comprehensive way. The most useful books are ones that are comprehensive either taxonomically (like Sharks and Rays of Australia) or regionally (like Fishes of Australia's South Coast). I believe that what is needed is a comprehensive guide to fishes of Australia, along the lines of the detail of those books. Other books tend to suffer from incompleteness only treating part of the fauna and not giving details on how to separate the species. Trying to treat almost 5000 species in a book will ultimately mean making compromises that prevent it from achieving what is needed. Books have several disadvantages. One is that books rapidly become out of date. Each year at least 50 species get added to the fauna, about 5 change names and one or two get synonymised. Molecular work is challenging the current classification. Secondly trying to do a book covering only some species would tend to be another partial treatment of limited use for identification of fishes. Ultimately arbitrary decisions about what to include would be made and one would need to look closely at who the book is for. A book also has limited ability to illustrate colour variation with size, sex and geography. Another disadvantage of a book is that resources and time are limited, and a book would compete with Fishes of Australia Online for people's time and resources. For example I would personally not want to do both and prefer to see my time going into Fishes Online. I believe that museums and the taxonomic community need a big long term project to ensure viability of taxonomy. At present we are all doing our own things with limited collaboration. A book would involve collaboration for a time, but then we would go back to our own things again. The best prospects for updating and comprehensiveness would be through a Web project. We already have a lot of information and I believe we should build on what we have rather than start something new. Australian Museum Fish Facts organised by Mark McGrouther has images and information on 1100 of the almost 5000 Australian species. Fishes Online also has information on a large number of species, many different from those on the AM website. In addition fish people around Australia would have thousands of images (many

already scanned) of Australian Fishes that would be a valuable asset to have made widely available. The advantage of a web based system is that it could be built in stages, initially for identification and later adding biological and other information. Another advantage of a web based system is the people are keen to have their images displayed and that opens up a potential for images that would not be available for a book. One only needs to look at Fishpix in Japan to see how rapidly images on the web are making books obsolete and shows the limitation of using single images to illustrate species. Personally I now rarely use books for identifications, preferring to us web images. Ultimately one could build a system that would allow extraction of information by taxa or by region and delivered in a pdf format. It could start off simple as a guide for identification. The only real disadvantage I see is that people often want their names on a book as authors, but even that is changing with recognition being possible on web based products. Basically I think we have already got a good start on the Fishes of Australia and why not develop that rather than building something new.

Have a nice meeting,

Doug

Doug Hoese
Senior Fellow
Ichthyology
Australian Museum
ph 0402019172

Email from Barry Russell 20 July 2011

From: Barry Russell [Barry.Russell@nt.gov.au]
Sent: Wednesday, 20 July 2011 6:12 PM
To: 'Doug Hoese'; White, William (CMAR, Hobart); mgomon@museum.vic.gov.au; dbray@museum.vic.gov.au; Amanda Hay; Mark McGrouther; Helen Larson; eviotahkl@gmail.com; Sally Reader; Ralph.Foster@samuseum.sa.gov.au; sue.morrison@museum.wa.gov.au; barry@swp.iinet.net.au; jeff.johnson@qm.qld.gov.au; Jeff Leis; John Paxton; gill.anthony@gmail.com; Pogonoski, John (CMAR, Hobart); Graham, Alastair (CMAR, Hobart); Gledhill, Daniel (CMAR, Hobart); Last, Peter (CMAR, Hobart); dave.pollard@bigpond.com; Bax, Nic (CMAR, Hobart); leanne.curry@jcu.edu.au; will.figueira@sydney.edu.au; Gavin Dally; CliveR@tepapa.govt.nz; Carls@tepapa.govt.nz; ttrnski@aucklandmuseum.com; Tarmo.Raadik@nre.vic.gov.au; bertozzi.terry@saugov.sa.gov.au; rudiekuitier@optusnet.com.au; AndrewS@tepapa.govt.nz; Chris.Burridge@utas.edu.au
Subject: RE: OzFishNet Workshop

Dear all

I agree with Doug. A comprehensive on-line publication would have many advantages, not the least of which would be cost and access and the ability to readily update chapters as revisions occur. As Doug points out molecular work (and traditional morphological work) is challenging current notions of classification; it is also revealing many hitherto unsuspected cryptic species in both our marine and freshwater fauna that will increase our knowledge significantly as the taxonomy catches up. Hence the need for a flexible knowledge delivery medium that can be updated easily and inexpensively. An on-line publication may also have greater appeal to sponsors and be easier to fund. Having said that, a number of more 'taxonomically specialised' or limited theme print volumes (eg Commercial fishes of Australia, regional guides etc) could be derived from the information contained in a larger on-line version.

I wish your deliberations well. Unfortunately I won't be able to make it as I am preparing for a visit to India to look at types in the Kolkata Museum.

Cheers

Barry

Dr Barry Russell
Curator Emeritus of Fishes
Museum & Art Gallery of the Northern Territory
PO Box 4646 Darwin NT 0801 Australia
Email: barry.russell@nt.gov.au

Focal Point
IUCN Snappers Seabreams and Grunts Red List Authority
Adjunct Senior Research Fellow
School of Environmental and Life Sciences
Charles Darwin University
Arafura Timor Research Facility
23 Ellengowan Drive
Brinkin, NT 0810
AUSTRALIA
Phone: 61-8 89209241
Mobile: 0404045229
Web: <http://www.atrf.org.au/>